**Christian Krammer**

# The Sketch Handbook

**Everything you ever wanted to know about designing with Sketch.**

*For my wife, Claudia, and my son, Florian.*
*Thank you for your continuous support and*
*understanding that your husband and "Papa"*
*didn't have as much time as usual.*

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# Acknowledgements

This book wouldn't have been possible without the help of so many people:

- Peter Nowell, for providing countless in-depth articles[1] on Medium;

- Meng To for his enormous collection of Sketch tricks[2] and techniques;[3]

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- Rafael Conde for his technical review of the book and all the valuable notes (you should check out his SketchCasts);[4]

- Jasim A Basheer for providing feedback. Check out his Sketch related products.[5] Thanks to all of readers of sketchtips.info, and Daniel Leavey, Claus Medvesek, Bram Stege, Joanna Katsifaraki, Ken Taka-hashi, Scott Karstetter and Nikhil Kavimandan in particular. Thanks also to the Sketch team, for producing such a great design app, which makes the lives of so many designers easier every day.

- Finally, my biggest thank-you goes to my wife, Claudia, and my son, Florian, for their continuous support and for understanding that their husband and "Papa" didn't have as much time as usual.

# Foreword

Can you believe there was a time when a major part of the web design world used Photoshop to design everything? A photo editor for design? While Adobe's application is very powerful, you will probably only employ a fraction of its features for actual design work; the rest will quickly gather dust. So why not take something easier, something geared more towards UI design — something that can better respond to the ever-changing landscape of devices? The less you need to worry about the tool, the more you can focus on your ideas.

But apart from Adobe's own Fireworks there was really no alternative until September 2010, when a small company in The Hague decided to redefine the interface design world: Sketch 1.0 was born, made by Bohemian Coding. Six years on, it has taken the world by storm and is the design software of choice for many practitioners and companies, the most prominent being Facebook and Google. And it keeps improving, faster than ever.

# An Introduction To Sketch

Sketch is a vector-based interface design tool, which means that everything built with it is infinitely scalable — a must with today's vast array of devices. But it still has some essential bitmap editing chops, so you never need to leave its comfy environment. There's just one caveat: Sketch is Mac-only — but you knew that already, right? Fortunately, there are a few options to make your developer friends on Windows happy, but more on that later.

You can download a trial version of Sketch at [sketchapp.com](sketchapp.com). If you are ready to take the plunge (trust me, after a few pages into this book you will be) there's currently an investment of US$99 to make, which includes one year of free updates. After that, you can either keep using Sketch as is or pay the same amount for another year of updates. Please note that this book is based on Sketch 41.

## All the Features

Sketch offers a wealth of tools and features to make it the perfect application for today's designer: It lets you design interfaces, websites and icons with ease. I have also used it with success to create logos and even print material. Some notable features of Sketch include:

- It is easy to learn. You'll get the basics very quickly, and still it offers enough functions for the power user.

- Fast and lightweight: small file sizes, fast navigation and response.

- Clean and uncluttered UI: everything at a glance; no complicated submenus or dialogs.

- Vector-based: resize elements without losing quality; everything remains sharp even if you zoom in.

- Pixel-perfection: get the perfect result with various pixel-based aids.

- Copy CSS attributes and SVG code: go from design to code in no time.

- Pages and artboards: organize your designs in a single file.

- Flexible Boolean operations: combine basic shapes to create complex forms that remain editable.

- Powerful export features: export different sizes with a single click.

- Symbols and shared styles: easily reuse elements and layer styles.

- Keyboard shortcuts: efficiency is key — almost everything can be achieved with a keypress.

- Built-in grids and layouts: set them up quickly to give your work some constraints.

- Group resizing: Adapt your designs to different sizes with ease.

- Sketch Mirror: Preview designs on any device.

# About This Book

Before we start, a few words about how this book works. I actively invite you to follow me along and create your own version of the projects. This is essential to learn how to use Sketch, as it shows you every aspect of it on the go. A centerpiece of the book is workflow efficiency: you will learn how to perform actions as quickly and correctly as possible, mainly with the help of keyboard shortcuts and the clever use of the available features. Every essential part is described in the necessary detail.

The first chapters of *The Sketch Handbook* are targeted mainly at beginners — both to design apps and design in general. If this is your first time using Sketch you should follow closely. As the book proceeds, the more advanced it gets: I provide fewer and fewer instructions and rely on things already mentioned; keyboard shortcuts covered earlier aren't mentioned again and more advanced topics come to the fore. The last few chapters in particular are geared more towards intermediate users, but beginners will still get enough information that they can follow along. Last but not least, if you are interested in a condensed overview of many different topics and techniques, I suggest you take a look at chapter 12, *Mini Projects* (page 323ff.).

Between the instructions you'll find regular *info boxes* that give you a deeper understanding of a certain related aspect of Sketch. If you are interested in a certain topic you can always read them immediately, but I advise you to save them up for later and digest them once you are done with the basics of Sketch. In addition, there are also numerous *quick tips*, small portions of information at the right time, that you should memorize for an immediate productivity boost.

For updates about this book visit <u>sketch-handbook.com</u>, where you can also subscribe to the newsletter.

# Bitmaps vs. Vectors

Before we go in-depth with Sketch, let us revisit the basics a little bit. Photo-editing apps like Photoshop or Pixelmator are based on bitmaps, which means that everything is made up of a static grid of tiny, multicolored pixels. If you scale these raster images, the software either needs to fill in the gaps, which results in a blurry image, or enlarge the pixels, so that you start to notice them after a certain point and get a grainy image. On the other hand, vector-based apps like Sketch, Illustrator or Affinity Designer use collections of points connected to one another with lines: vectors. Since these points are mathematically described they can be resized infinitely and everything remains sharp.



*Fig. 1.1: Left: Raster image. Right: Vector image.*

# The Interface

The main differentiator of Sketch is its uncluttered, simple interface and ease of use, with the *canvas* taking up the most space of the app on screen. It is infinite in nature, meaning you can place as many elements on it as you want. But you are still able to organize the canvas with "Artboards", which give your designs defined boundaries and let you iterate quickly, or "Pages", which enable you to put all your different screens into one file.

**Quick tip:** You can have as many artboards on the canvas as you like, but try to separate them into pages as much as possible for performance reasons. Read more about pages on page 121.
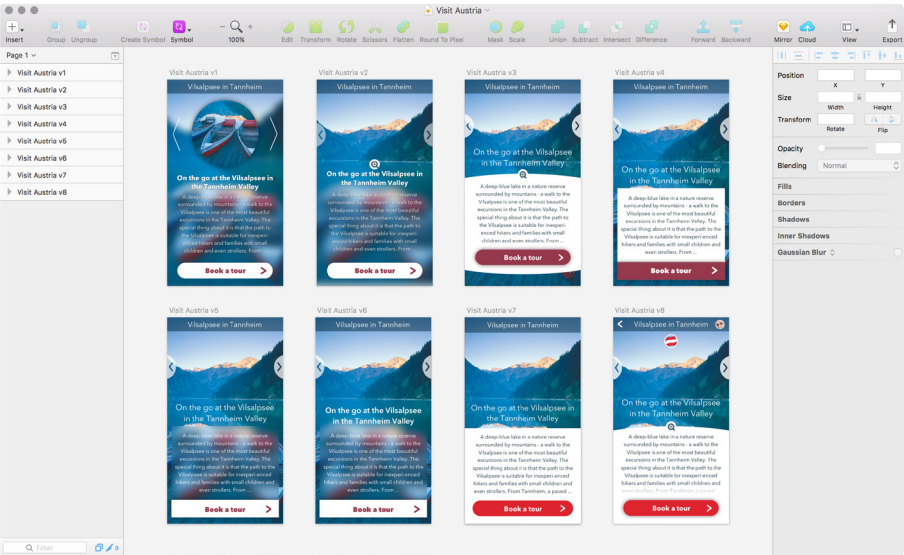


*Fig. 1.2: Artboards let you iterate quickly. Here you see all the versions that led to the final app design.*

All elements you put on the canvas also appear on the left in the layers list, where you can reorder, rename and group them. This way, you'll always have an overview of what's going on with your elements on the canvas. The higher up in the hierarchy the layer is, the higher it is stacked in the drawing area. Layer properties can be changed in the inspector on the right, where there are controls for size, position, colors and effects, like shadows and blurs.

The most important functions of Sketch can be found in the customizable toolbar at the top, in the form of icons; but the true power of the program lies in its keyboard shortcuts. Almost everything you can do in Sketch is accessible with a keystroke, and the things that aren't can easily be customized. You'll not only work faster this way, but also be more efficient — and efficiency is the key feature of Sketch.
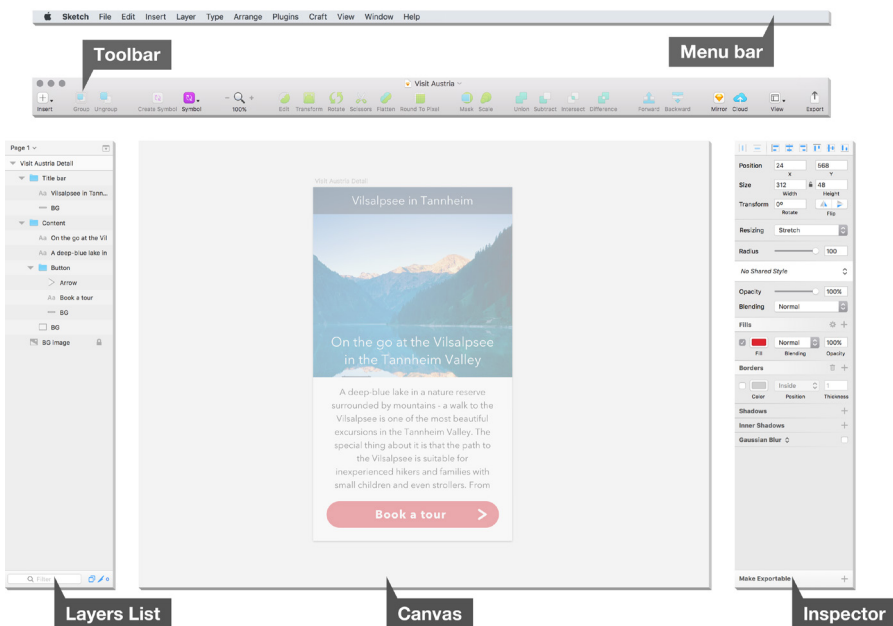


*Fig. 1.3: The layout of Sketch.*

When you hover with the mouse over a layer it gets a blue border: this helps you to identify which entry in the layers list belongs to which layer on the canvas and vice versa. It also indicates the selected layer to click on. The moment you start to organize layers into groups — and you will do that a lot — the importance of the *Cmd* key becomes apparent: holding it while you click on a layer on the canvas allows to select it even when it's nested in a group. It wouldn't be selectable on the canvas otherwise. Another key you should familiarize yourself with right from the start is *Alt*: it lets you measure distances from the selected layer to other elements, rulers or the grid.

What can't be accessed using the UI elements mentioned above is hidden away in the menu bar, but with a cleverly customized toolbar and by learning essential keyboard shortcuts you won't linger here often.

# Designing An App

E nough of theory — let's get to the meat and potatoes of Sketch with a typical workflow based on an app with two separate screens. To show some love for my homeland Austria, I have created "Visit Austria," an imaginary app that lets you take a peek at the loveliest spots of the Central European country (and there are a lot here). It consists of a details screen, which we will approach first, and an overview screen, covered in chapter 5, *Creating An Overview Page*. The Sketch files for all the covered projects can be found at http://smashed.by/sketch-files1.[6]
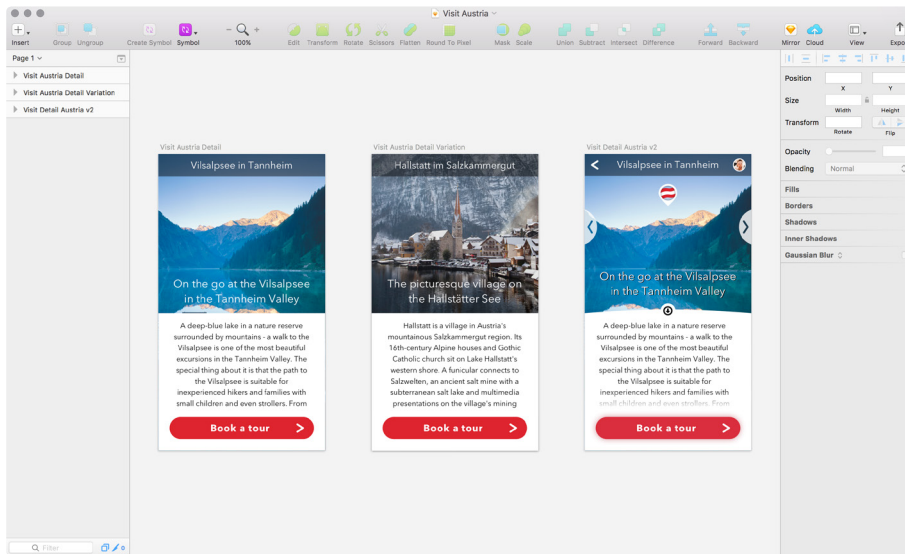


*Fig. 2.1: The iterations of the details screen.*

6    http://smashed.by/sketch-files1

# A Defined Space

After you have created a new document (*Cmd + N*) and saved it on your hard drive (*Cmd + S*), create a new artboard with *A*. Now you are presented with a nice selection of predefined sizes in the inspector, divided into useful categories like **iOS Devices, Material Design** or **Responsive Web Design.** Since we will be designing a mobile app let's choose a common size of 360×640 px with **Mobile Portrait** from **Material Design.**

For the sake of universality I won't adhere to a specific device or platform, but if you are designing an iOS or Android application you can use the built-in templates: go to **File → New From Template** and choose the type you need — there are many to choose from. If you want to go the opposite way and save something you have created as a template, you can go to **File → Save as Template…**
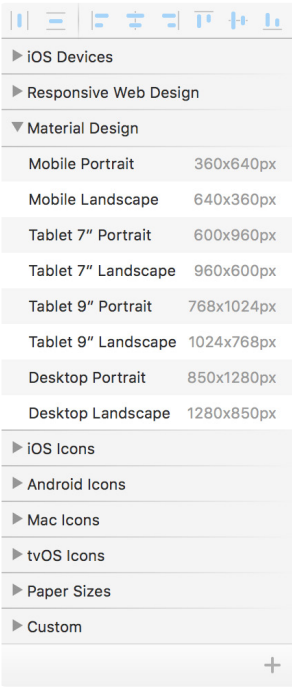


*Fig. 2.2: There's a huge selection of predefined artboard sizes available.*

**Quick tip:** If there are already elements on the canvas that you want to convert an artboard, make sure they are selected, then press A and click on the first option: **Around Selection**.
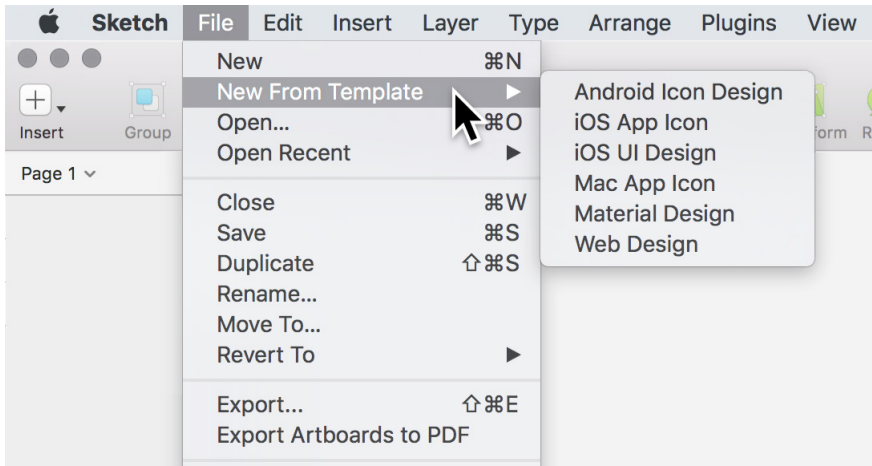
Fig. 2.3: Sketch offers different built-in templates.

Back at our new mobile screen, you'll notice that the formerly white background of the canvas has changed to gray with a defined area in the middle — our new artboard (Fig. 2.4). With it, we now also have our first entry in the layers list on the left.

To get a clean starting point, click into the input fields and enter 0 for both of the positions — you can use *Tab* to jump from one to another (and *Shift + Tab* to go back). Finally, confirm the change with *Enter* and press *Esc* to leave the field.

On the opposite side, in the inspector, you'll see that it has a width of 360px and a height of 640px, as well as a certain **X** and **Y** position. To get a clean starting point, click into the input fields and enter *0* for both of the positions — you can use *Tab* to jump from one to another (and *Shift + Tab* to go back). Finally, confirm the change with *Enter* and press *Esc* to leave the field.

You might notice that the artboard is now a little bit off center on the screen. To fix this, press *Cmd + 3*.

*Fig. 2.4: Our new artboard.*

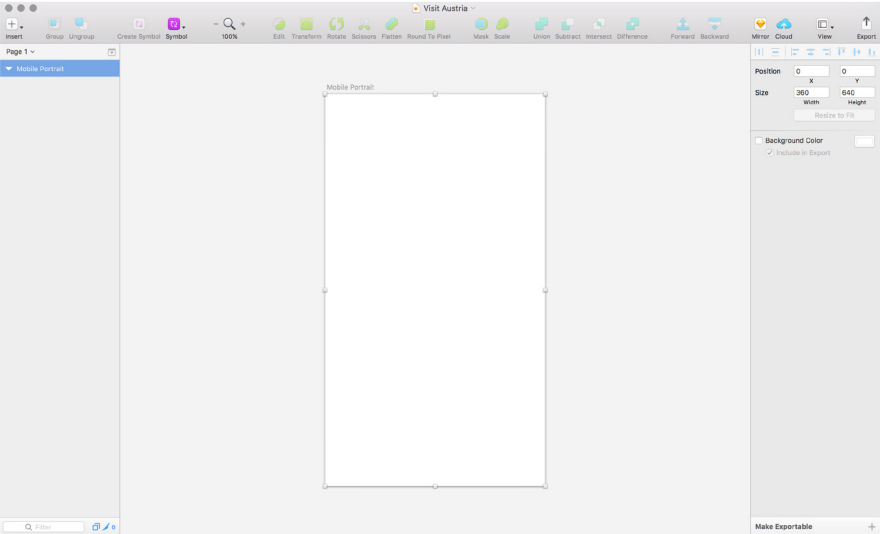Another option you'll see in the inspector is the background color of the artboard, which is white by default, but only inside Sketch. If you want to have white or another color in your exported file you need to check this box and select a color, otherwise you get a transparent background, a common pitfall.

**Quick tip:** To move an artboard on the canvas, click on its title and drag it around.

# Designing at 1x

Although most devices today have a screen with a pixel density of 2x or more, it's still a good idea to start at the basic resolution of 1x when designing an app. The iPhone 5, for example, has a resolution of 320×568px, but with a pixel density of 2x this results in a device resolution of 640×1,136px, as each of the pixels is divided into four subpixels so it can display everything in greater detail. If you started to design at 2x and need to go up to 3x, you would need to multiply everything by 1.5, and your measurements and dimensions would result in half-pixels. By starting at 1x instead, you can go up to 2x or 3x with ease as you have whole multipliers, but can still work in some extra details if you'd like.
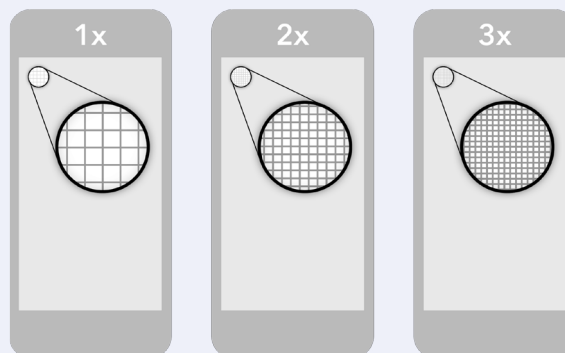


*Fig. 2.5: Pixel densities of a 1x, 2x and 3x device depicted.*

This approach also has the added benefit that the file size is smaller and you can work on the real pixels: if you need a button to be 48px high you don't need to calculate its real size for the scale of your design first.

If you need more reasons to design at 1x, read "Design at 1x — It's a Fact"[7] where Kurt Varner sets out some tangible benefits, a description, what the pixel density actually is, is given by Peter Nowell in his article "Pixel Density, Demystified."[8]

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7   http://smashed.by/sketch-designat1x
8   http://smashed.by/sketch-pixeldens

# The First Layer

Since our app's name won't be "Mobile Portrait," let's rename the artboard to "Visit Austria Detail" by pressing *Cmd + R* followed by *Enter*. You could also do that with a double-click on the artboard's name in the layers list, but using the keyboard is always faster and more convenient, so you should cultivate the habit. The first element we'll create for our app is the title bar, so press *R* for a rectangle and draw one of any size at the top of the artboard. By default it is created with a grey fill and a dark grey border. Since in future we will more likely need elements without a border than with, deselect the checkbox in the **Borders** section of the inspector and choose **Edit → Set Styles as Default** from the menu bar (Fig. 2.6).
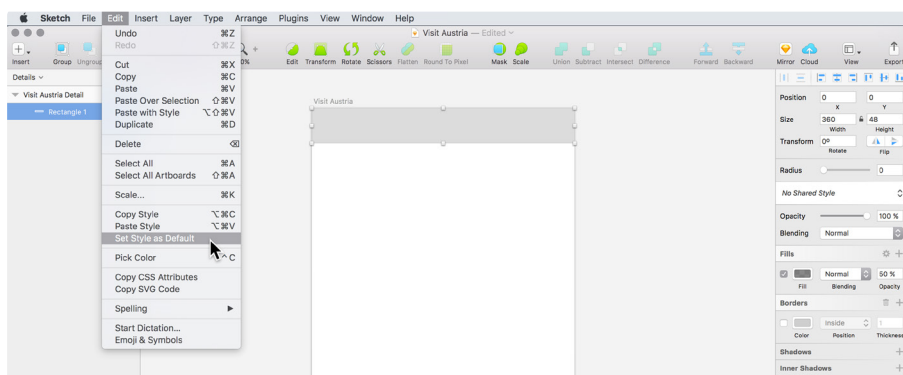


Fig. 2.6: Deselect the default border in the inspector and choose **Set Style as Default**.

What you will immediately notice when you add a shape is that Sketch automatically snaps to the artboard boundaries while drawing, and when you hit certain positions, like the center. If you add another rectangle you'll see that Sketch additionally shows some red lines when you hit certain locations on the first shape, like its edges or center: these are smart guides, which make life much easier. (You can delete this second layer with *Del*, as it just acted as an example.)

# Shapes in Sketch

Sketch has a wide range of shapes available, but the most important ones are rectangles and ovals, since almost any shape can be constructed out of these basic types. The different shapes can be accessed under **Insert →Shape** in the toolbar, but a more efficient way is use the keyboard shortcuts: *R* for a rectangle and *O* for an oval.

The less important shapes with shortcuts are *L* for a line and *U* for a rounded rectangle. I say less important, because the latter is just an ordinary rectangle with rounded corners of 8px, and the chances are pretty low that you'll need exactly this roundness. Lines, on the other hand can be useful since you are able to adjust their length within the inspector, but you get two caveats in trade: they have a weird behavior and start at odd dimensions sometimes; and the moment you adjust their border thickness you need to adjust the position anyway. I often find it more practical to use a thin rectangle instead, or a vector, as they're basically the same as a line.
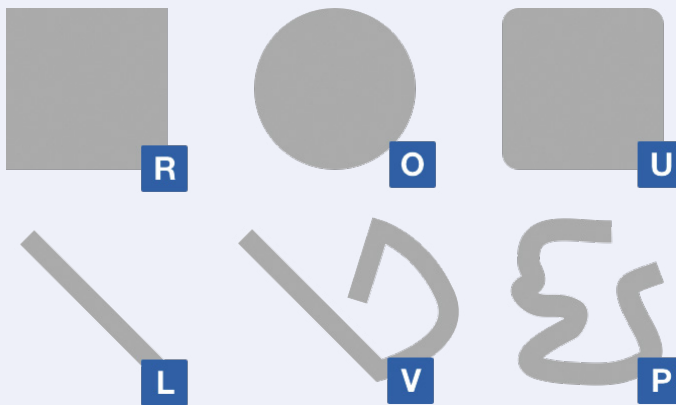
Fig. 2.7: The shapes in Sketch which have dedicated keyboard shortcuts.

Arrows fall into the same category, as the options to change them are quite poor. If you want to customize them you can use the little gear icon in the borders section of the inspector for customization. Just be sure that the **Ends** are set to the first property. A plugin that can ease the pain a little is Arrowfy:[9] it matches the properties of the arrowhead to the vector.
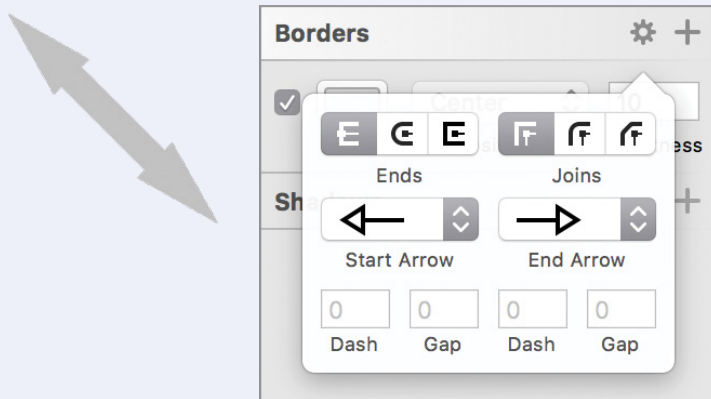


Fig. 2.8: The arrow options can be accessed with the gear icon, but they are rather limited.

The remaining shapes, which you may use just as rarely, are: star, with customizable radius and points; polygon, whose points can also be changed; and triangle. A triangle can also be created as a polygon if you set the number of points to three, which has the nice side effect of giving you an equilateral triangle if you hold *Shift* when you draw it.

9   http://smashed.by/sketch-arrowfy

Fig. 2.9: Triangle, polygon and star, which can be customized.

Under **Insert** you also find: **Vector** (*V*), which lets you insert multiple points to form a custom shape; and **Pencil** (*P*), that allows you to draw a line which is automatically smoothed at the end (I've never used it).

For all closed shapes, you can hold *Shift* to create them equilaterally, and *Alt* to start from the center (hold down both keys to perform these actions simultaneously). If you are unsure about their placement, hold down *Space* at the start to move them around on the canvas. Open shapes (lines, vectors, arrows), on the other hand, are restricted to horizontal, vertical or diagonal movement with *Shift*.

## Smart Guides

Whenever you add an element to the canvas or move it around, red smart guides are shown. They allow you to align elements to one another with ease, as they snap to the outer dimensions or center of layers; but they also show you the distance to other elements when you move them around. Furthermore, the smart guides can be used to align elements using equal spacing, as they recognize common distances and suggest them whenever you move an object. To trigger the smart guides by hand and show the distance to the currently selected group or layer, hold *Alt* and point the mouse to another element. When there are many elements on the canvas, smart guides can sometimes hinder more than they help; you can switch them off with **View → Canvas → Show Smart Guides** from the menu bar.
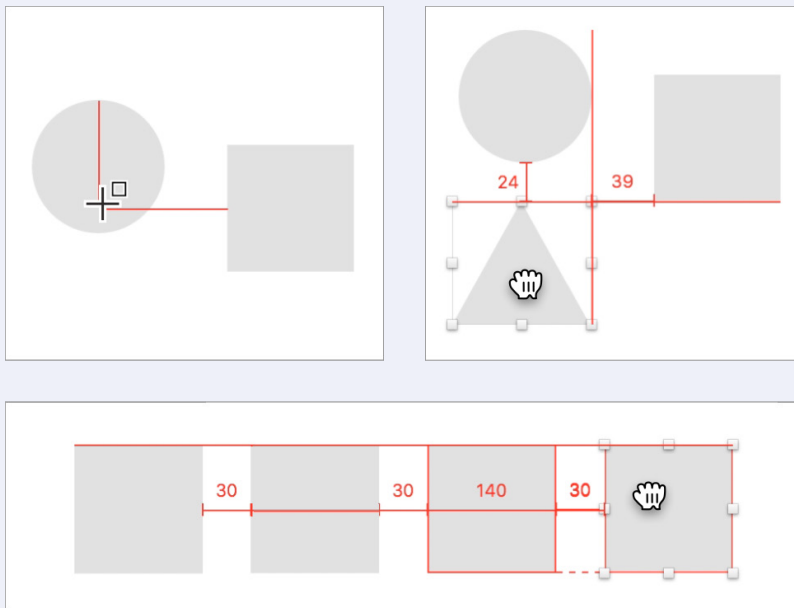
*Fig. 2.10: Left: The smart guides show you certain positions when you add layers. Right: When you drag elements around, the smart guides tell you the distance and alignment to other layers. Bottom: The smart guides can also help to get equal spacing to other elements.*

Back to our first layer, the rectangle. It doesn't matter if you didn't catch the top-left corner at first or made it the correct size: it's no problem to change these properties now. Jump into the **X** position field of the inspector with *Alt + Tab* and enter 0 for both **X** and **Y**. (Remember you can use *Tab* to jump from one field to another.) Alternatively, you can also select the shape on the canvas with a click and drag it to the top-left corner.

For the width we will use a special feature of Sketch. Instead of a defined value you can enter a percentage, like 50%, to fill up half of the artboard, or, in our case, 100% for a full-width element (Fig. 2.11). This relative width always relates to the width of the parent group (the artboard in the absence of a group).
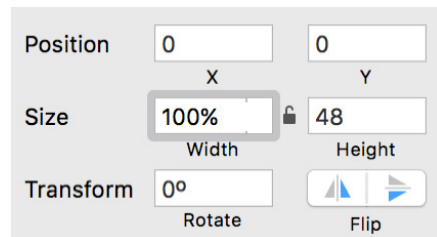


Fig. 2.11: You can also use relative dimensions, both in the **Position** and the **Size** fields.

This also works for the **Height** and the **Position** (**X** and **Y**), and can even be combined with an absolute value like "50%+10." But for now we will choose a height of 48 pixels for the title bar.

**Quick tip:** To quickly jump into the **X** position field of the inspector press *Alt + Tab* at any time. Use *Tab* to navigate to the other input fields (or *Shift + Tab* to go in reverse).

# Make Mistakes!

Don't be afraid to make an error in Sketch, as you can always undo one or several steps with *Cmd + Z*. If you overdo undoing and want to redo actions, press *Shift + Cmd + Z*. To see what you're about to undo or redo this way, have a look at the top two entries of the **Edit** menu in the menu bar (Fig. 2.12). Sketch sometimes combines multiple steps into a single action. For example, if you add a shape and resize it several times, pressing *Cmd + Z* reverts back to the initial size of the element.



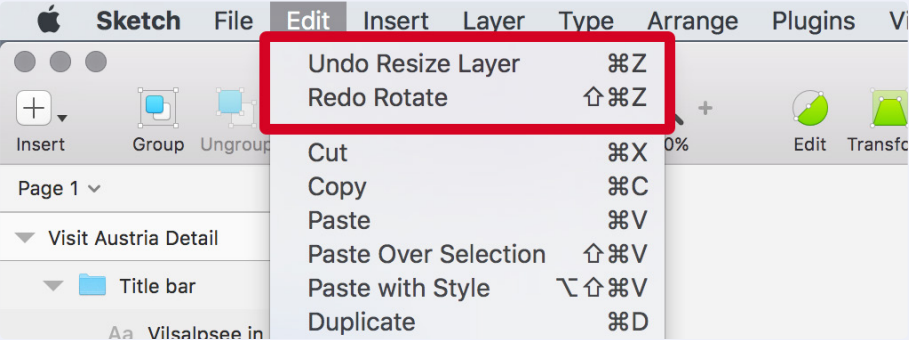*Fig. 2.12: Sketch shows what you are about to un- or redo in the **Edit** menu.*

# A Colorful Life

For the fill color of the rectangle we will choose black, so click on the box with the default gray in the **Fills** area of the inspector to bring up a color dialog. To set black as the fill color, drag the little circle indicator to the bottom-left of the color field (Fig. 2.13). If you are more familiar with hexadecimal values you could also enter "#000" or use the HSB color space to define the color. To change to this color space click on the letters "RGB."

Lastly, this dialog also lets you change the opacity (A for alpha). Let's enter "50" (for 50%) here right now (don't forget to always press *Enter* to confirm the change in an input field). However, there's quicker way to change the opacity: instead of opening the color dialog, you can use the numerical keys *1* to *0* (1 = 10%, 5 = 50%, 0 = 100%, and so on). While this changes the general opacity of a layer, the alpha value only affects the color itself, so you should ideally set either one or the other.
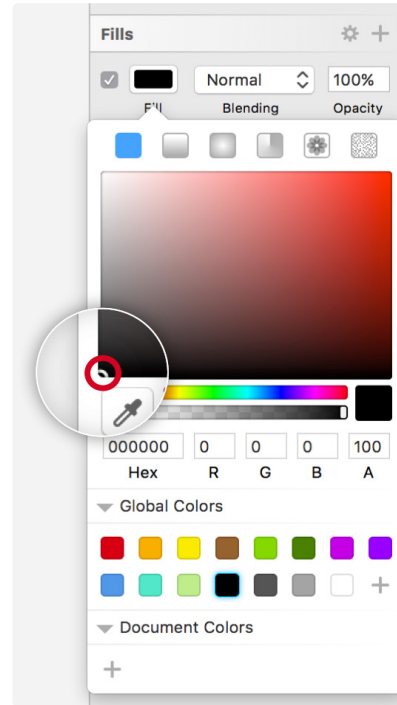


*Fig. 2.13: The color dialog gives you multiple ways to pick a color. For now drag the circle indicator to the bottom-left to get black as the fill color.*

> **Quick tip:** Layers can have multiple fills and borders. To toggle layers use *F*; for borders press *B*.

## Multiple Properties

Most of the properties in the inspector, like fills, borders or shadows, are not limited to a single type, but can be applied in various layers and stacked on top of one another. It's possible to reorder them by dragging them around, or to remove a property entirely by dragging one out to the left.

A contextual menu (right-click) also provides this, as well as the option to duplicate a property. To add a new property, simply click on the + icon; to switch it off temporarily deselect the checkbox in front of it. All disabled properties can be removed altogether with **Layer → Styles → Remove Unused Styles** from the menu bar.

Apart from the color, each property has a blending mode (more on this in chapter 7 on page 270ff.) and an opacity setting. For fills, the opacity can be changed directly in the main hierarchy of the inspector; for border and shadows you need to adapt the alpha value of their color in the color dialog, where you can also change the blending mode.
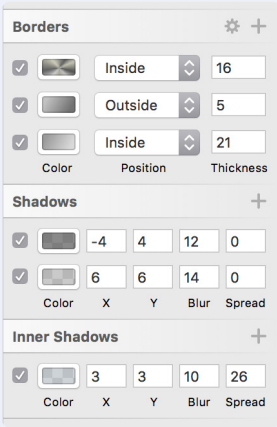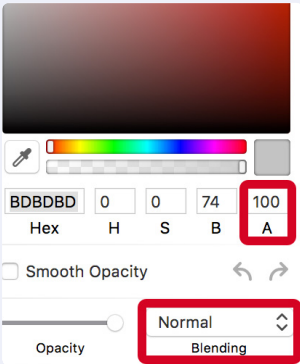


*Fig. 2.14: You can stack multiple borders and shadows on top of each other.*

**Quick tip:** Change the opacity of a layer with the numerical keys *1* to *0* (*1* = 10%, *5* = 50%, *0* = 100%, and so on). To set an intermediate value like 23%, press *2* and *3* successively.

## The Title

As the name suggests, the title bar will mostly hold the title of the app, so let's add it now. Press *T* for a new text layer, click anywhere within the title bar and enter "Vilsalpsee in Tannheim" (Vilsalpsee is the name of the Vilsalp lake in Tannheim). Leave the text edit mode with *Cmd + Enter* (or *Esc*). For the font family I chose the beautiful font Avenir Next, that comes bundled with your Mac. Click into the **Typeface** field in the inspector, enter "avenir n" and select it from the list with a double-click. Every font used in your design can be chosen here. Lastly, change the color of the text layer to white. Instead of using the color field, click on the last preset in the **Global Colors** area.

**Quick tip:** A quick way to change the properties of a text layer is to press *Cmd + T*, which enters the **Typeface** field. Enter its name (or portions of it) and select the font you need with the *down arrow* key.

The font's size should be 21px, with "Regular" as the weight. Select a centered **Alignment** using the second icon from the left. (The other icons here mean left-aligned, right-aligned and justified.) Finally, use the smart guides and drag the text layer to the horizontal and vertical center of the

background. You will probably need to move it down a bit with the arrow keys on the keyboard afterwards, as the vertical center of text and shapes is mostly not the same.



Fig. 2.16: The correct properties for the title in the title bar.

**Quick tip:** Like most apps, to underline text, press *Cmd + U*; to make it bold, use *Cmd + B*. You can also apply this styling to portions of a text layer: press *Enter* to go into the text edit mode, and select the relevant part with the mouse. If you click on the gear icon at **Options** next to the text color you can also apply a double underline or strike the text through. It's also possible to create a quick bulleted or numbered list here.

# Layer Organization

The earlier you start to organize, group and rename your layers in the layers list, the better. Trust me: you don't want to end up with a mess of "Rectangle 12" and "Oval 23", all in the main layer hierarchy. To prevent that right from the start, select both our existing layers: either hold *Shift* and click on both, or drag a selection around them on the canvas with the mouse. Then hit *Cmd + G* to create a new layer group, which contains these two layers.

> **Quick tip:** To select the contents of a group instead of the container hold *Cmd* while you drag a selection.

Groups act like folders, in that they combine various layers for better organization. They can be nested indefinitely, which means you can put as many groups inside groups as you want. Apart from combining layers, groups also let you move and resize all of their contents at once. If you want to see the contained layers of a group you can expand (and collapse) it with the little disclosure triangle on the left. Alternatively, hold *Cmd* and click on one of its layers on the canvas. An artboard is also a group, but at the highest level.

> **Quick tip:** To ungroup a layer group, press *Cmd + Shift + G*.

Use this disclosure triangle now to reveal the contents of the group and use *Cmd + R* to rename it to "Title bar." Before you confirm the change with *Enter*, press *Tab* twice to jump to the background layer ("Rectangle") and change this one to "BG." You can rapidly rename multiple layers like this. Press *Enter* to finish the renaming process.
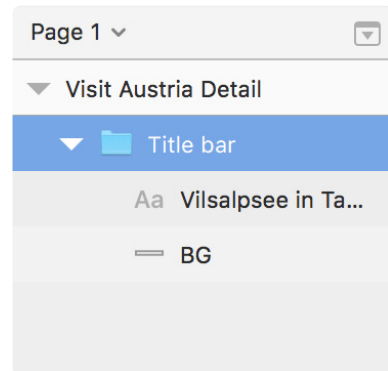
*Fig. 2.17: The layer hierarchy in the layers list so far.*

> **Quick tip:** To enter the currently selected layer group and choose the first layer, hit *Enter*. In turn, *Esc* not only leaves it again but also selects the group itself. Hitting *Tab* lets you cycle through other groups in the layers list.

## Lovely Imagery

We'll now add a beautiful eye-catching background image, one that shows the scenery around the Vilsalpsee. I got it directly from [Austria's tourism website](#)[10], and the [related image and text archive](#)[11], which lets you choose from thousands of pictures of Austria. If you are not attached to Austria's scenery like me, you can choose other beautiful imagery at [pexels.com](#), [visualhunt.com](#) or [unsplash.com](#).

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10  http://www.austria.info
11  https://views.austria.info/

Once you have found the perfect image, simply drag it from the browser to Sketch — it's as simple as that. Depending on where you were in the layers list when you inserted the bitmap image, it may cover your title bar now. It also doesn't belong in the "Title bar" group, so with the mouse drag it out above the group itself.
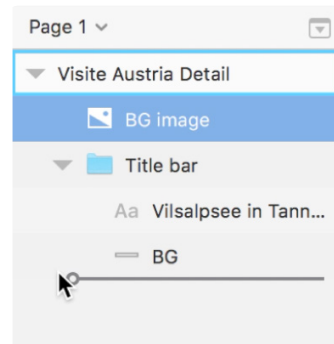


*Fig.2.18: A line with a circle on the left indicates the position where the layer ends when you finish dragging it. Moreover the respective layer group (or artboard) gets a blue border.*

Pay attention to the level of nesting, visualized by a line with a circle to the left. As an additional point of reference, the group where the dragged layer ends up if you release the mouse button is always highlighted with a blue border (Fig. 2.18). Use these indications to make sure the image layer is still within the artboard when you drag it. Rename it to "BG image" using *Cmd + R*.

**Quick tip:** Images can be added in different ways in Sketch. The most straightforward way is to drag one in from another application, like the browser or the Finder. You can also insert one with **Insert → Image…** from the menu bar, or copy it from the source (either with a right-click and the appropriate command or *Cmd + C*) and paste it with *Cmd + V* in Sketch.

In addition to the mouse you can use the keyboard to reorder layers quickly in the layers list. To move the image below the "Title bar" group, press *Alt + Cmd + Down* (*Alt + Cmd + Up* goes the other way). It's often much easier and precise to use these combinations instead of the mouse.
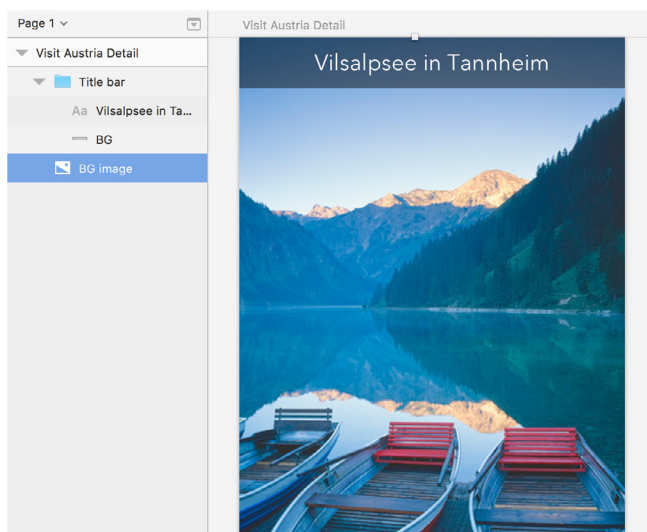


Fig. 2.19: The correct position of the background image in the layers list.

**Quick tip:** To move a layer to the absolute front (the highest possible position on the artboard or within a group) press *Ctrl + Alt + Cmd + Up*; for the back use *Ctrl + Alt + Cmd + Down*.

What you will notice on the canvas — not only for bitmaps, but also text layers and shapes — is that they have small square handles (known as selection handles) at their edges and on each side: they allow you to resize the layer from the respective side or edge with the mouse (Fig. 2.20). Use them to change the size of the image until it fits nicely into the artboard and shows the essential part. You may also need to reposition it so that it covers the whole available space.

Whenever you insert a bitmap its aspect ratio is automatically maintained when you resize it on the canvas. This is indicated by the closed lock symbol between the width and height fields in the inspector (Fig. 2.20). To change this behavior, click on the lock icon, which opens it. Now you can change the width and height independently of each other on the canvas.
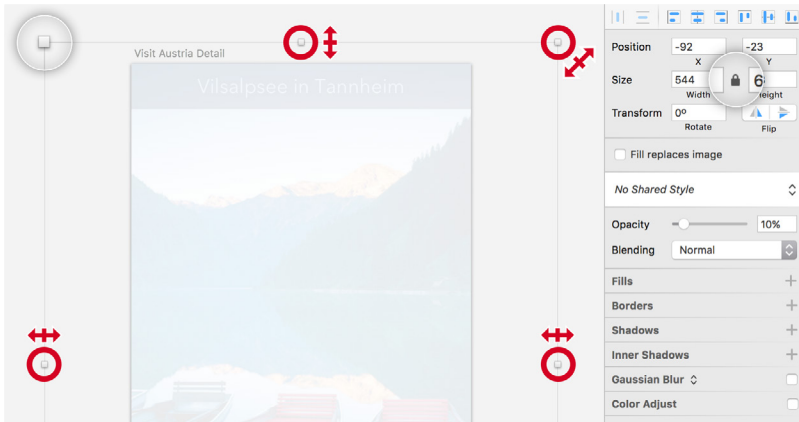


Fig. 2.20: Left: The handles, that allow you to resize layers on the canvas.
Top-right: The lock icon, which maintains the aspect ratio of layers.

**Quick tip:** To reset an image to its original size, select **Layer →
Image → Set to Original Size** from the menu bar. If you want to
replace it with another image, select **Replace...** from this menu.
Lastly, for quick image optimization, pick **Reduce Image Size**,
which reduces both the quality and the file size to keep your doc-
ument size small. For more robust image optimization, use a dedi-
cated tool like ImageOptim.[1]

https://imageoptim.com

## More Text

We'll now add two text layers: one for the heading of the attraction, and another one for its description. For the heading, make sure that the background image is selected (so that the text layer is placed above it) and press *T* to insert a new text layer with a click on the canvas. Enter something like "On the go at the Vilsalpsee in the Tannheim Valley" with a break in the middle to get two-lined text, and confirm it with *Cmd + Enter* (or *Esc*).

**Quick tip:** Note that Sketch remembers the text style of previous text layers and automatically applies them to new ones. To manually transfer the style of one element to another, right-click and select **Copy Style** and **Paste Style.** This not only works for text layers but also to duplicate the properties from one shape to another.

For the heading, select "Regular" as the weight, center its **Alignment,** and increase the size with *Alt + Cmd + =* until you reach "24" (use *Alt + Cmd + –* to make it smaller). Drag it around until it centers horizontally and vertically to the artboard with the help of the smart guides, but move it a bit up afterwards (Fig. 2.21).
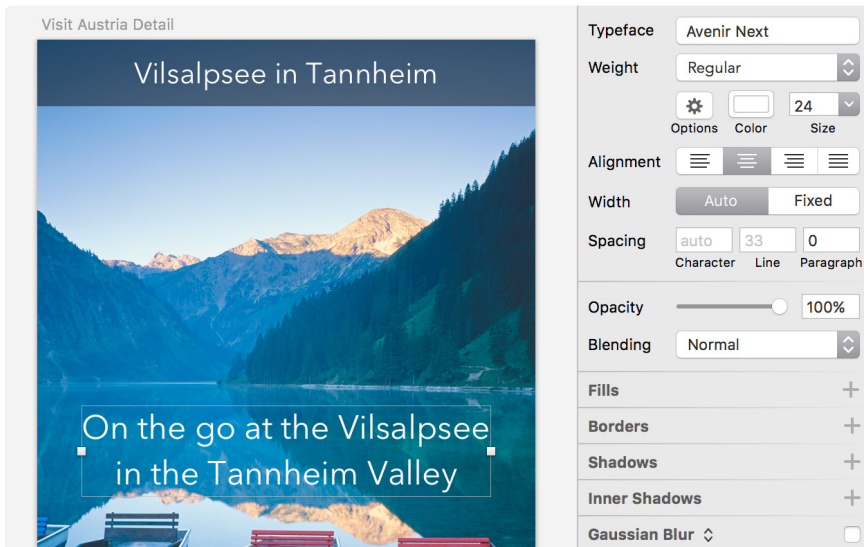
Fig. 2.21: *The properties of the heading. Choose a color that has enough contrast to the image.*

**Quick tip:** Change the font size rapidly with the mouse by dragging left or right at the **Size** label below the input field. This also works for other numerical inputs.

For the description's text layer we will take another approach. Instead of clicking after you have pressed *T*, you can also drag a text border. Start with this border just below the heading at the left edge of the artboard; go all the way down to the bottom-right, but make it a bit narrower than the artboard itself.
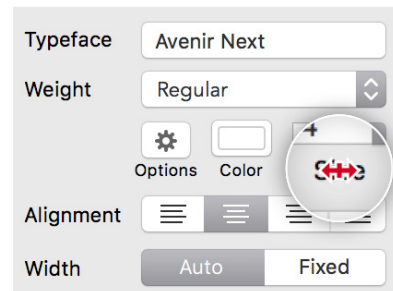


Fig. 2.22: *You can drag the label of input fields to change their value.*

This creates a textlayer with a fixed width, instead of one set to **Auto,** which is the default behavior. While you need to make manual line breaks with *Enter* for auto-width text layers, the text breaks automatically if you reach the right edge for fixed layers. You can always change between these behaviors at **Width** in the typography area of the inspector. Such a fixed text layer also ensures that the text is automatically cut off at the bottom, creating text with a defined height.

I've taken content some from another tourist website, but it's up to you to find your own appropriate text. You could visit blindtextgenerator.com[12] for dummy text. (We will look at some ways to insert blind copy right within Sketch with the help of plugins later). Set a font size of "16," color it black, and move it to the center of the artboard (with the help of the



*Fig. 2.23: The properties of the text layer. Dragging a text border automatically sets it to* **Fixed***, but you can always change the behavior with the buttons at* **Width***.*

smart guides). Finally, drag it below the heading in the layers list, and resize its text frame with the bottom handle on the canvas so that it doesn't grow out of the artboard. To finish the text layers, select both of them with a *Shift*-click, create a group with *Cmd + G* and rename this group "Content." Make sure it is below the title bar but above the image.

> **Quick tip:** For a quick way to resize auto text on the canvas, drag its bottom handle. Please note that it is reset to the default line spacing with this action.

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12  http://www.blindtextgenerator.com/

# Background

As you can see, this descriptive text is unreadable, so let's create a solid background layer for it (please note that it is already present in Fig. 2.23  for reasons of clarity). Press R for a rectangle, start at the leftmost edge just below the heading, and drag it all the way down to the bottom-right corner of the artboard. If you didn't catch the left or bottom-right edge precisely, you can drag the layer itself or its handles to resize it until you have the required result.

Let's change its fill color to white, but this time we will use the frequently used colors area of the color dialog (Fig. 2.24). You'll see it when you click on the fill color in the inspector: it's right below the color field at the right-hand side. This



Fig. 2.24: The **Frequent Colors Used** area in the color dialog.

shows all the colors that have been used in the document so far, which can come in handy. Pick the white field here. Now drag this background layer into the "Content" group in the layers list, right below the two text layers, and rename it to "BG" (Fig. 2.26).

# Fill Types, Part 1

S hapes can not only have solid fills but also a number of other fill types, half being gradients (more on them later). The remaining two modes are:

## Pattern

This lets you fill a layer with a custom image, which can be a good alternative to a separate image layer. Use the drop-down to define how the fill is applied:

- **Fill** expands the image, so that it fully covers the layer, and thus gets cut off if the aspect ratio of layer and fill don't match. It's similar to the cover keyword of the background-size property in CSS.

- **Fit** always shows the whole bitmap, possibly leaving some uncovered room. For that it is the same as the contain keyword of background-size.

- **Stretch** in turn covers the element in both dimensions and may distort the image if the aspect ratios are not the same.

- **Tile** in the end repeats the image at its original size and can be sized with the slider below, which is perfect for patterns. In each case the pattern fill is centered to the layer in both dimensions, with no way to change this alignment.

For an image fill the setting **Fill** is appropriate most of the times. To apply an image, select **Choose Image…,** paste or drag it from another application into the preview area on the left, or copy it from the layers list.

**Original**

*Fig. 2.25: The different types of a pattern fill: Fill, Fit, Stretch, Tile (from left to right).*

## Noise

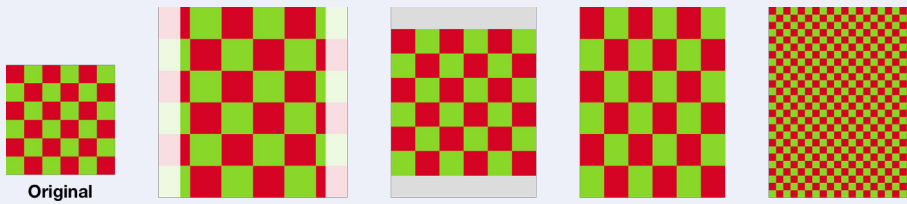This type makes otherwise solid fills more realistic and is best applied as a separate layer on top of others. Noises of varying colors are available here. **Original** retains the color of the layer below, but since you typically apply noise at a very low intensity, it doesn't matter which type you choose in the end.

From now on, when you are not within the "Content" group in the layers list but want to select one of its text layers, you need to hold *Cmd* when you click. A basic rule in Sketch: when you are within a layer group, you can select its contents with a simple click; but if you are in another group or on the artboard itself, hold *Cmd* before you make a click to select nested layers.

To prevent the background layer from being selected accidentally in future, we will lock it now. Select it with a *Cmd-click* and press *Shift + Cmd + L*.

A little lock icon to the right of the layer name in the layers list represents this state. You can also hide a layer with *Shift + Cmd + H* (represented by a little eye icon).

You won't be able to switch to these layers with *Tab* in the layers list anymore, but need to select them with the mouse until you reset these constraints.



Fig. 2.26: The progress of our design so far.
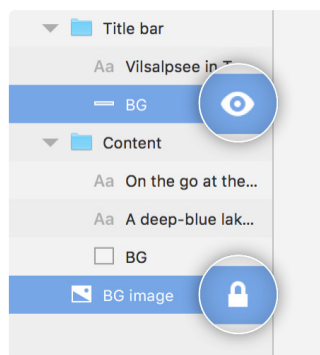


Fig. 2.27: A hidden and a locked layer in the layer list.

**Quick tip:** To measure the distance between nested layers, hold *Alt* and *Cmd* together and point to another layer. This also works across different groups.

# A Proper Grid

The final element we'll tackle for now is the red booking button, which lets you visit this lovely place and book a tour there. To prevent a random placement of the elements in the design, we will use an 8-pixel grid from now on. This means for all the dimensions and spacing of the layout, multiples of eight are used for a consistent look. A grid also makes sure that we get full pixels for all elements.

Don't confuse this, however, with a traditional grid with different columns from UI design, as that is called *layout* in Sketch. On the contrary, a grid is just a series of intersecting horizontal and vertical lines with a defined spacing.



*Fig. 2.28: Our shiny new 8-pixel grid, which we will use to align all elements to.*

Set up a grid by choosing **View → Grid Settings…** in the toolbar. In the dialog, set 8px for the **Grid block size** and 0 for **Thick lines every … blocks.** You can also customize the color of the lines, but the default setting is just fine.

**Quick tip:** To toggle the grid on and off, use *Ctrl + G*.

## Why a Grid?

Whenever you design something it's a good idea to use some kind of grid. This adds some constraints to your process, and you'll be less inclined to place elements at arbitrary positions. You'll also won't have to think about the dimensions of elements and their spacing, because they will always be multiples of each other. Furthermore, this approach helps your developers since they can build on a reliable design system and don't need to think too hard about the dimensions, but rather can decide on them autonomously as all dimensions are derived from a single value.

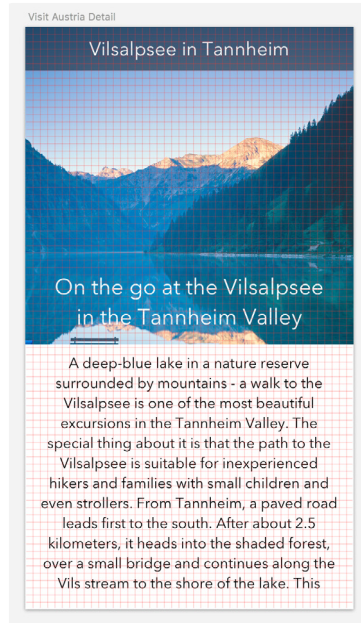For app design, an 8-pixel grid is particularly useful as many screens are based on multiples of eight; it can be easily divided and multiplied, and doesn't result in uneven numbers. However, in web design a grid with bigger units is more useful owing to larger screen sizes. Since one 1em is 16px by default, it's a good idea to start from this basic unit or use a multiple of it. Spec has [a great article about 8-point grids](#)[13] if you need more convincing.

## The Booking Button

Before you can add the button, you need to lower the text box of the description so there is enough free space. Select the text layer with a *Cmd-click* and drag its bottom handle upwards until you have a gap of about 90px between it and the bottom of the artboard. Use the smart guides with *Alt* to assess this spacing.

Now to the button itself. Add a new rectangle in the space we just freed up, but don't worry too much about size or placement, as we will change most of these properties in the inspector, often a faster and more precise way.

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13   http://smashed.by/sketch-8ptgrid

Jump to the **X** position field with *Alt + Tab* and enter "24," as it should have this spacing from the left edge (3 × 8).

To place it the same distance from the right edge, we will use the mathematical capabilities of Sketch: calculations can be made directly in the input fields. We have an artboard width of "360px" and want "24px" spacing on both sides; entering "360 − 24 − 24" gives us a width of "312" (Fig. 2.29). Remember, that absolute and relative values can also be combined, so you could also write "100%" instead of "360."

For the height, insert a multiple of 8: "48." Although we could also use the inspector to calculate the placement on the **Y** axis let's use the grid on the canvas and drag the button until it snaps at three grid units from the bottom (24px). Choose a bright red as the fill color to bring all the attention to this button (I used "#D8202D"). Save it as a **Document color** for later reference with the + icon at the bottom of the color dialog (Fig. 2.30).



Fig. 2.29: You can make calculations right in the input fields.
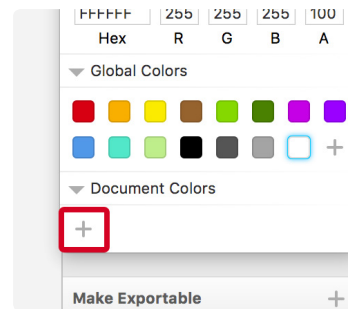


Fig. 2.30: Save colors to the **Document Colors** in the color dialog for later reference.

Whereas **Document colors** are unique to a document, **Global colors** are available in the entire application. Colors can be saved to both in the same way and deleted by dragging them out of the color dialog, or by selecting **Remove** after a right-click.
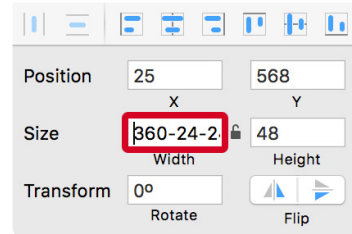
> **Quick tip:** To resize an element from a particular side in the inspector, append the following letters to the width when you change it. Add c to change the size from the horizontal center and r from the right. For the height, you can append m (middle) to resize from the vertical center, and b from the bottom.

## Easy Rounded Corners

Instead of a rectangle, we could have used a rounded rectangle with *U* from the start, but since we need to adapt its border radius anyway, this didn't make much sense. Bring your attention to the **Radius** slider in the inspector now. Drag it all the way to the right to get fully rounded, semi-circular edges for the button. Don't worry that this value is larger than the actual size of the element: Sketch won't display the roundness bigger than possible. Although the maximum size seems to be "100," you can actually enter much bigger values like "500" to account for larger elements. It's even possible to have different radii on each corner. To achieve that, press *Enter* while the shape is selected or double-click on it, which enters the vector point mode. This allows you to tweak the different points of a shape and also their border radius.

Have a look at the **Corners** field now, which is basically the same as the **Radius** input, but for individual points. Tweak it to "10" and see how the radius of the top-left point changes on the canvas (Fig. 2.31). When you leave the vector point mode by pressing *Esc* twice, you'll see that the content of the radius field changed significantly to "10/100/100/100." Just like the `border-radius` property in CSS, each value represents a corner with the order being top-left, top-right, bottom-right, bottom-left. With this little trick you don't need to enter the vector point mode at all to change

the radius of individual edges — you can do it right here. Since we need an equal radius on each side, enter "100" again. Please note that the corners slider only works for **Straight** vector points.
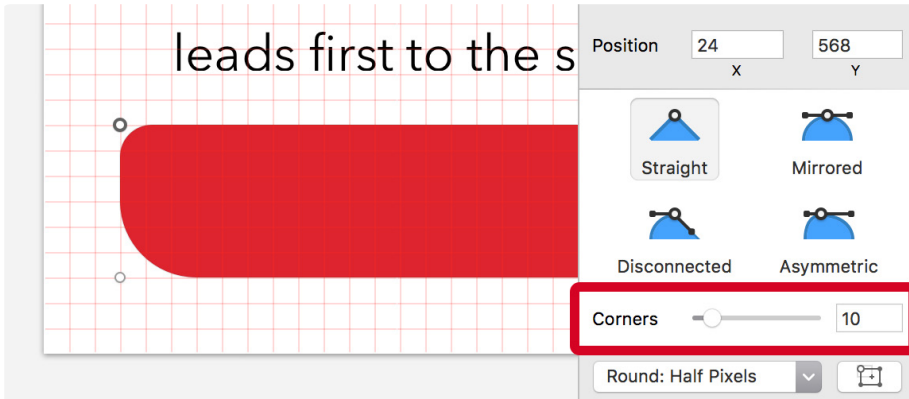


Fig. 2.31: You can use the ***Corners*** *field in the vector point mode to change the border radius of points individually*

## The Button Text

For the label of the button, add another text layer with T: type "Book a tour." Choose **Bold** for the font weight and "21" for the size. To give it more room to breath, change the **Character Spacing** to "1," which basically represents the tracking of the text. After that drag the text to the center of the button, visualized by the smart guides, but move it a few pixels down with the arrow keys afterwards for perfect alignment. Also make sure that the alignment of the text layer itself is set to **Center** with the second button at **Alignment** in the inspector, so that it remains centered if you need to change the text later. Rename the button shape to "BG" and combine it into a "Button" group with the button text. If it isn't already there, drag this new group into the "Content" group in the layers list and make sure it is above the "BG" layer. Lastly, change the text color to white so that it is more visible on the red background.

# Picking Colors

A quick way to change the color of a layer is to use the color picker (*Ctrl + C*). It lets you choose a color from anywhere on the screen, even outside Sketch. You can not only adjust the color of shapes, but also text layers, borders and shadows. However, for borders and shadows the respective color dialog needs to be open.



Fig. 2.32: The built-in color picker (accessible with Ctrl + C) is the easiest way to set the color of an element

Although Sketch offers such a great feature, I prefer to use a separate app as well. One I've trusted for years is ColorSnapper.[14] Often you'll see on a website a great color or color combination that you either want to save for later or immediately use in Sketch. With ColorSnapper, you can define a key combination (like *Alt + Cmd + C*) to open a similar color picker to Sketch. With a click, the color is saved to the clipboard in the hex format and can be easily inserted into the hex field in the color dialog of Sketch. The great thing is, you get a history of all the colors saved so far. Moreover, it gives you a handy dialog where each color can be copied in every possible form, like RGB, HSL or even Swift's NSColor format.

Use the promo code "**SKETCH-HANDBOOK**" to get 15% off when you buy ColorSnapper from colorsnapper.com. Please note that the promotion is limited to 100 users only, on a first-come, first-served basis.

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14  http://colorsnapper.com

# An Arrow to the Heart

The last element for the button is a right-pointing arrow at the right side that will be based on a triangle shape. Go to **Insert** in the toolbar, select **Triangle** from **Shape**, draw one and change its size to 16×12px to adhere to our 8px-grid. To change from a up-pointing arrow to a right-pointing one, enter "90°" into the **Rotate** field in the inspector. Alternatively you can hold *Cmd* (to temporarily enter the rotate mode) and *Shift* (to constrain to 15° steps), and change the rotation with the bottom-right handle on the canvas. Drag it until you see "–270°" at the tool tip or in the **Rotate** field.

**Quick tip:** As soon as you rotate an element, all the changes to its width and height in the inspector are also mapped to this rotation. This becomes especially apparent if you change the angle close to 90° (or 270°), as you are actually altering its height instead of its width now (and vice versa). To return to the default behavior with the correct axes, you need to flatten the element with **Layer → Paths → Flatten** from the menu bar.

To create an actual arrow change from a fill to a border (deselect the checkbox for one and select it for the other): for the **Position** select **Center**, and the **Thickness** should be "4." Change the border color to white (Fig. 2.33). Since the fill is deactivated, you can use the color picker with *Ctrl + C* right away and don't need to click on the color field first.

As we still have one line too many to represent an arrow, we need to cut away the left segment. This can be achieved quite easily with the **Scissors** tool, that is either accessible in the menu bar under **Layer → Paths → Scissors** or can be added to the toolbar as an icon.
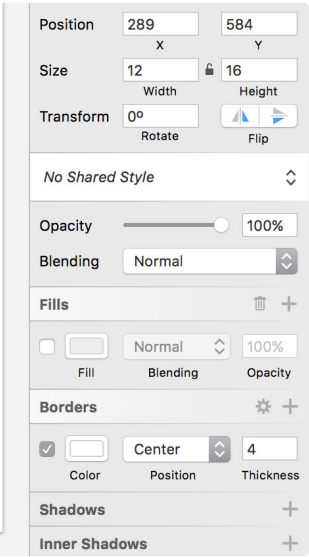


Fig. 2.33: The base of the arrow is a triangle with a border instead of a fill.

# Opening and Closing Shapes

Every element you add in Sketch consists of a series of points connected with lines — vectors. To see these individual segments, enter the vector point mode with a double-click on the shape or by pressing *Enter*. The point that is selected now represents the start point of the shape. If you want to open the path, click on **Open Path** in the top-right of the inspector to remove the segment between the start and the end point. This may be not immediately apparent if a fill is applied, as the shape stills seems to be closed, but as soon as you switch from a fill to a border you notice that this segment has been cut away.
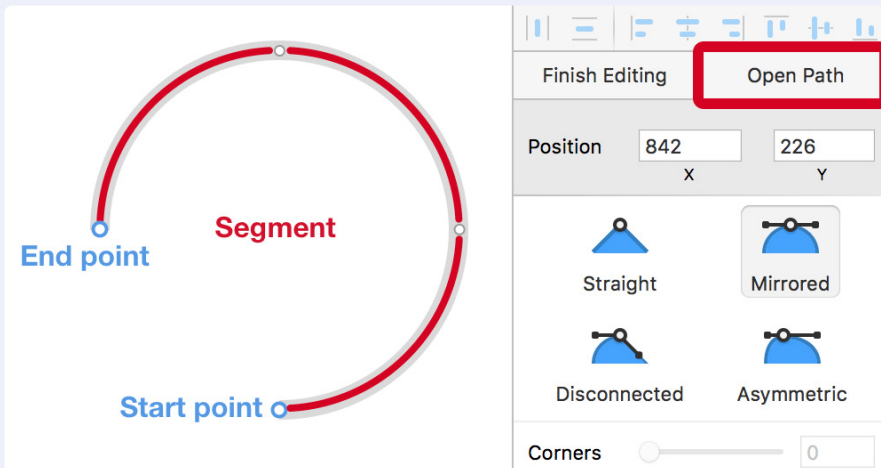


*Fig. 2.34: When you open a path/shape, the segment between the start and the end point gets removed.*

To open a path at a specific point, use the scissors tool from **Layer → Paths → Scissors** in the menu bar and click on the respective segment. Once a shape is opened and you enter its vector point mode, the end point gets selected.

A line that extends from it to the mouse pointer indicates that you can continue the path now — or close it manually by clicking on the start point. If you are unsure about the placement of this last point you can still drag it before closing the path.

The scissors tool can not only cut away just one segment but also multiple ones; for example, to create a semicircle from a circle (Fig. 2.35, left). Alternatively, you can also select individual points of the shape with the mouse and hit *Del* or *Backspace* to remove them. However, this doesn't open the shape, but only removes the adjacent segments. Instead of using the mouse to select a point you can also press *Tab* and *Shift + Tab* to cycle through them.
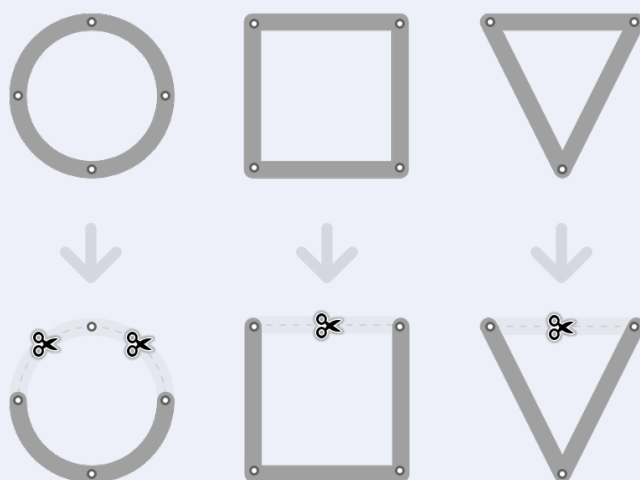
Fig. 2.35: Open shapes to create entirely new forms.

Select the scissors tool now and click on the left part of the triangle to cut away this segment and get an arrow (Fig. 2.36). Although it looks better now, we still don't have the desired result, as neither the ends nor the tip are rounded. This becomes even more apparent when you zoom in to the arrow width *Cmd + 2*: it still has sharp edges, but we have rounded edges in mind.

To compensate for that we can use the borders options, accessible through the little gear icon in the **Borders** section of the inspector. Here you can not only change the **Ends** and **Joins** (the tip in our case), but also add start and end arrows and create dashed or dotted lines. Unfortunately, the arrow options are quite limited, so you will most likely draw your own arrows or import an icon. Set both the ends and joins now to rounded, represented by the middle icons (Fig. 2.36). The last icon for the ends lets the line jut out by half of its width; the last option for the joins gives you beveled edges. Leave both the dialog and the scissors tool by pressing *Esc* twice.
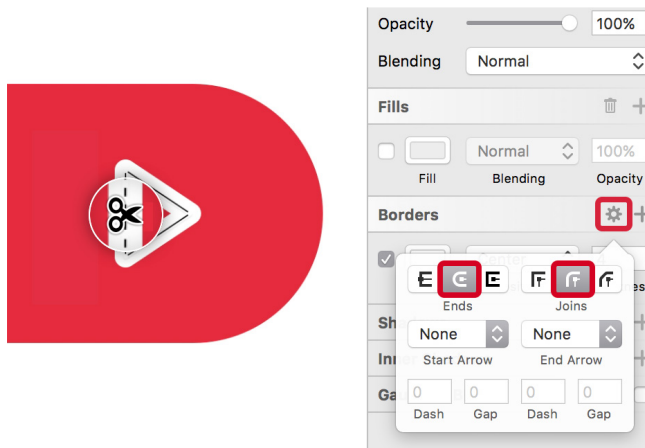
*Fig. 2.36: Cut the left segment of the triangle with the **Scissors** tool (left), and enter the border options to set both the **Ends** and **Joins** to **Rounded** (right).*

With these changes, the arrow is ready and you just need to align it to the vertical center of the background with the smart guides and move it three grid units (24px) in on the right-hand side. Then drag it into the "Button" group in the layers list and rename it to "Arrow" with *Cmd + R*. To see the full artboard again, select it in the layers list and press *Cmd + 1*. For a zoom level of 100% press *Cmd + 0* subsequently.
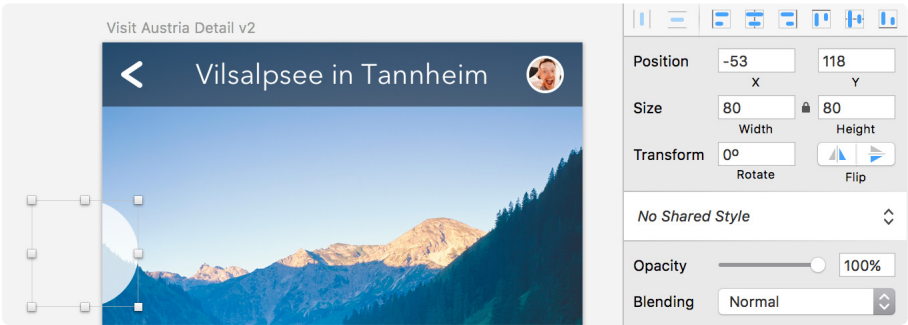


*Fig. 2.37: The finished button.*

# Dashed and Dotted Lines

Apart from the settings already mentioned, the border options also allow you to create dashed or dotted lines. After you have opened the dialog with a click on the gear icon (see Fig. 2.36), bring your attention to the bottom part with the **Dash** and **Gap** fields. The dash represents the length of the line segments in a dashed line, the gap the spacing in between. These values relate directly to the border's thickness, and are also influenced by its position. For a dashed line, set the dash to at least the same size as the border thickness. The gap should be even bigger; the larger this value, the larger the space in between the line segments (Fig. 2.38, top)

To create a true dotted line with rounded segments, switch to a center position for the border, change to rounded ends (the middle icon), set the dash to "1" and the gap higher than the border's thickness (Fig. 2.38, middle). You can also combine the values and use all four input fields to create a dot-dashed line (Fig. 2.38, bottom).
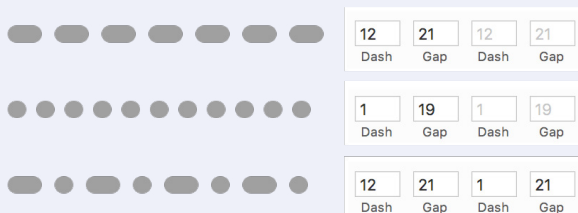


*Fig. 2.38: The required values to set a dashed, dotted or dot-dashed line are based on a border thickness of "12px".*

## Adhere to the Grid

Since we always want to adhere to the grid, let's tweak all the other elements to line up with it now. First, the background of the content, which should have a **Y** position of "344." Select it with a *Cmd-click* and enter this value into the **Y** position in the inspector. Then drag the bottom handle of the layer on the canvas all the way down to the bottom of the artboard, so that it fills the available space again. After that, select the heading and have a look at its **line spacing**. With a value of "33" it almost adheres to our 8px grid and we just need to lower it to "32" (4 × 8px). If you ever need to go back to the default, delete the current value. This also goes for the **character spacing.**

Now move the baseline of the second line of this heading three grid units (24px) up and away from the white background of the content. The easiest way is to use the arrow keys on the keyboard. You might want to combine them with *Shift* for 10px steps, but for the final alignment dismiss this key again. With the line height being a multiple of the grid you'll see now that both lines sit perfectly on the grid.

> **Quick tip:** Use the up and *down arrow* keys within input fields to change their values quickly. Add *Shift* for 10px increments, hold *Alt* instead to go up or down in steps of 0.1.

Change the line spacing of the body copy to "24" and move it with the arrow keys until its first line sits on the fourth grid line within the white background . You may also need to center this text layer and make it narrower, so that it doesn't stick to the margins of the artboard. Grab the left or right handle, but hold down *Alt* as well to resize the layer from the center.

Make sure there is a gap of three grid units (24px) on each side. Lastly, change its height to "192" in the inspector and everything is perfectly aligned to the grid. This way you not only stop yourself from placing the elements arbitrarily, but also make your developers' lives much easier.
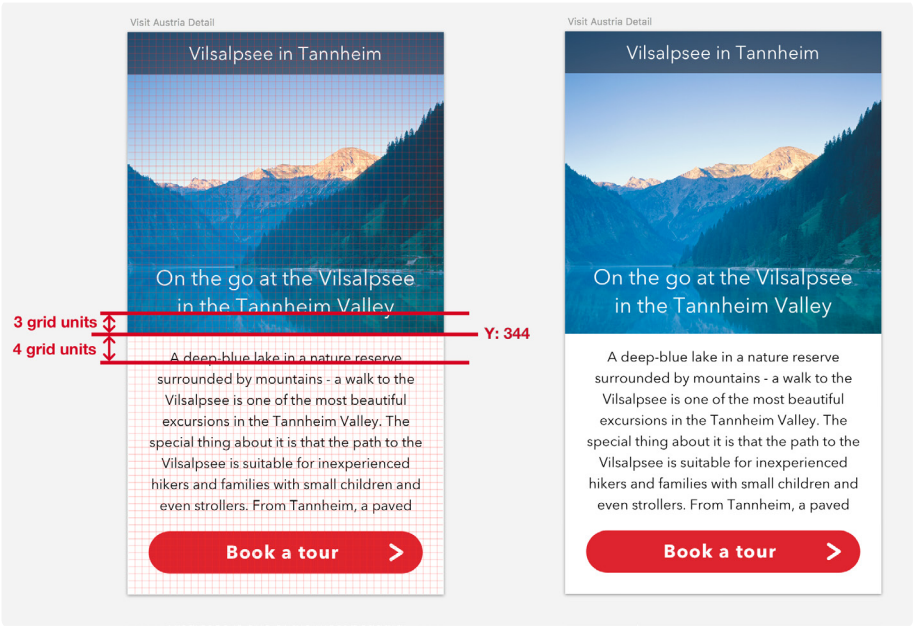


*Fig. 2.39: Left: The correct spacing of the remaining elements. Right: The finished details screen.*

# Relative Line Spacing

By default, the line spacing of text is relative to the font size and depends on the font. If you resize a text layer it adapts accordingly. However, the moment you change the line spacing manually this relationship is gone and always stays the same independently from the font size. You can't have a text layer with 24px type and an adapted line spacing of 1.5 (36px) that automatically adjusts to 28px and the same relative line spacing of 42px (28×1.5) if you resize it.

On the go at the Vilsalpsee
in the Tannheim Valley

Font size: 24
Line spacing (default): 33 = 1.375

↓

On the go at the Vilsalpsee
in the Tannheim Valley

Font size: 28
Line spacing (default): 38 ✅

On the go at the Vilsalpsee
in the Tannheim Valley

Font size: 24
Line spacing: 36 = 1.5

↓

On the go at the Vilsalpsee
in the Tannheim Valley

Font size: 28
Line spacing: 36 = 1.29 ❌

*Fig. 2.40: Top: Default, unaltered line spacing. Bottom: Line spacing altered to 36. When you resize the text layer, it stays the same and is not relative to the font size anymore.*

A workaround to maintain this custom relationship is to use the **Scale…** dialog. Press *Cmd + K* to open the dialog and use the arrow keys to adjust the size in the **Scale** field. Pay attention to the **Size** field of the text in the inspector until you reach the target font size. You can also hold *Shift* to go in increments of 10. Since Sketch doesn't allow fractional numbers here you might need to adjust the font size by hand afterwards. It's not perfect but at least it's a good starting point.

On the go at the Vilsalpsee
in the Tannheim Valley

Font size: 24
Line spacing: 36 = 1.5

↓

**Scale Layers**
Resizes the selected layers. Style attributes such as border
thickness, shadow size, etc will be scaled appropriately.

Resize To: 117%   351px   84px
          Scale    Width   Height

Scale from center          Cancel      OK

↓

On the go at the Vilsalpsee
in the Tannheim Valley

Font size: 28.08
Line spacing: 42.12 = 1.5    ✅

*Fig. 2.41: A workaround is to use the **Scale** dialog with Cmd + K. Now the line spacing changes according to the font size.*

Alternatively you can change the font size as usual and adapt the line spacing afterwards by pasting this new size into the line spacing field and multiplying it by the desired line height. To get a line height of 1.5 for 24px text, insert "28 * 1.5" into the field, which results in a value of "42."

On the go at the Vilsalpsee
in the Tannheim Valley

Font size: 24
Line spacing: 36 = 1.5

↓

28*1.5
Line

↓

On the go at the Vilsalpsee
in the Tannheim Valley

Font size: 28
Line spacing: 42 (28*1.5)    ✅

*Fig. 2.42: Alternatively you can adapt the line spacing manually later with the targeted line spacing in mind.*

# The Power Of Iterations And Artboards

You just completed the first iteration of the details screen of the app and already learned a ton about Sketch. But, as you know, a design is never finished, so let's keep iterating. Sketch makes it very easy to iterate on a design by duplicating the artboard. Select it in the layers list (or with a click on its name in the canvas) and press *Cmd + D*, which places a copy right next to it. Rename it to "Visit Austria Detail Variation" with *Cmd + R* and confirm with *Enter*.

If you share my preference for even numbers you may enjoy that an offset of 100 pixels has been used. Trust me, whenever you see a different spacing you will feel the urge to adapt it to this lovely even number. Alternatively you can also hold *Alt* and drag the current artboard in any direction to create a copy. When I duplicate artboards and iterate on a design I always follow this pattern: if I simply want to try out a new element or slight change, I will go to the right with *Cmd + D* to create a copy. For a major change or different element I will duplicate the artboard to the bottom with an *Alt*-drag and keep iterating to the right from there.
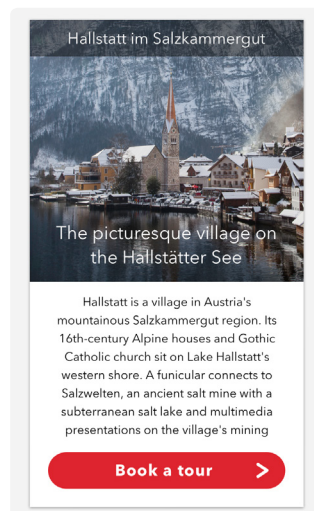


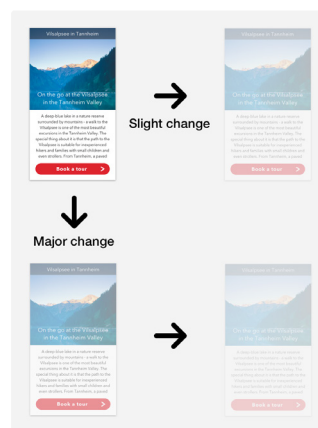Fig. 3.1: The variation of the details screen we are going to create.



Fig. 3.2: The type of modification determines in which direction the artboard should be duplicated when you iterate.

**Quick tip:** Press *Fn + Left* (arrow key) to cycle through the artboards on the canvas. Use *Fn + Right* to go in reverse.

This way I often end up with dozens of artboards, but that's OK as it lets you try out an unlimited number of ideas quickly, one of the big strengths of Sketch. Have a new idea? Make a new artboard! Just keep in mind that too many artboards on the canvas can slow down Sketch. Before things get out of hand consider making an entire new page and iterate from there. Read more about pages on page 119 in this book.

**Quick tip:** To prevent Sketch from adding "Copy" to the names of duplicated artboards and layers, go to **Sketch → Preferences** in the menu bar (or *Cmd + ,*), navigate to **Layers** and deselect **Rename duplicated layers.** I'd also advise you to do the same for **Offset duplicated layers** as it's easier to move duplicate layers from the initial position than from an offset position.

## Some Variation

For a variant of the "Details" page we will try out another tourist attraction with a different image and text to see how our design holds up (fig. 3.1). First hide the grid with *Ctrl + G* so that we have a clear view of the background image. Instead of a dedicated image layer we will take a different approach with a pattern fill. Select the former image in the layers list and delete it with *Del* (remember we can't select it on the canvas as it is locked).

Then create a rectangle that spans the upper part of the artboard, up to the content area. The easiest way to move it to this bottom position in the layers list is to press *Ctrl + Alt + Cmd + Down*. Like before, name it "BG image."

To apply the image fill, click on the fill color of this layer in the inspector and navigate to the second to last type, the pattern fill (fig. 3.4). There click on **Choose Image...** to select an image on your hard drive. Alternatively, you can drag it from another application into the preview area on the left, or copy and paste (*Cmd + C* and *Cmd + V*) a layer from the layers list. Now change the drop-down below to **Fill** or **Fit**. To show the relevant part of the picture resize the layer and move it around until you are satisfied. Alternatively you can also set it to **Tile** and use the slider below to adapt the size.

The advantage of a pattern fill is that you can easily crop it by resizing the rectangle. However, images set up this way are always centered to the shape (with the **Fill** setting) or the top-left edge (with **Tile**), with no chance to change this alignment.



*Fig. 3.3: The layer for the image should fill the upper part of the artboard.*
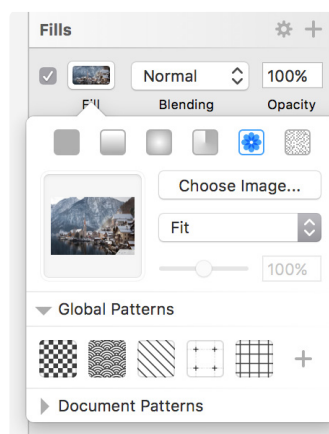


*Fig. 3.4: The correct settings for the image fill.*

Finally, it's quite hard to assess their original size, so there's the possibility that you use them at a much bigger size, which affects the image quality. To circumvent that, switch to tile temporarily to see the original size.

Change the text of the title bar, heading and body copy to something different for some variation. For the heading, we'd better switch to **Fixed** text before so we don't need to make a manual line break anymore.

Apart from that, everything looks fine and we can keep iterating, tweak the design and add some further elements. Select the initial design with the Vilsalpsee, hold *Alt* and drag it to the bottom with a spacing of 100px — remember? Finally, name it "Visit Austria Detail v2."
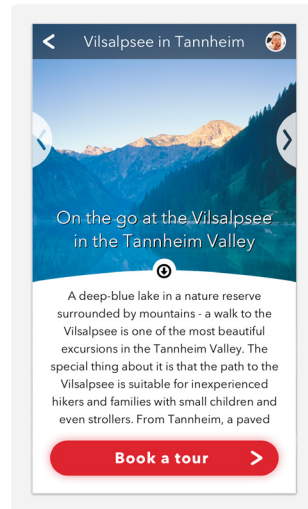


*Fig. 3.5: This is how the second iteration will look when we are finished.*

**Quick tip:** To create a quick copy of an element hold *Alt* and drag it to any side on the canvas with the mouse. Press *Cmd + D* afterwards to create a duplicate with exactly the same spacing and direction. This also works multiple times.

# App v2

The first task we will take care of for our second iteration of the design is to adapt the title bar and add some new controls: an arrow to go back to the "Overview" page, and a profile image, which enables users to change their settings. Since we already have an arrow in our design we could go down the easy route and simply copy it from the button.

## THE POWER OF SYMBOLS

But what if we decide that the arrow would look better with a different color or border width? We would need to adapt both instances for a consistent look. This is no problem with just two instances, but imagine if you were using it on six different screens. To account for that we will use one of Sketch's strongest features: *symbols*. Think of them as layer groups with superpowers. You can duplicate or insert an instance of a symbol as often as you want, but as soon as you change the master symbol all of its instances get updated immediately.

# Symbols

Symbols are the ultimate way to create reusable assets, whether small elements like icons or buttons, or entire page elements like footers, or even whole screens. As soon as the master symbol is changed, all of its instances get updated immediately. This affects properties like color, transformations or the position of nested layers.

To create such a symbol select all the layers it should consist of and click on **Create Symbol** in the toolbar. In the dialog choose a name and whether the master symbol should either be sent to the dedicated "Symbols" page (check **Send Symbol to 'Symbols' Page**), or placed right next to the last artboard on the current page (fig. 3.6). The advantage of the dedicated "Symbols" page is that all symbols are nicely arranged in a separate location and you always have an overview of all the assets. However, this way they can feel a bit detached from the current design and it's harder to assess how changes affect its appearance. But you can always remove the symbol from the dedicated page and drag it to other pages.
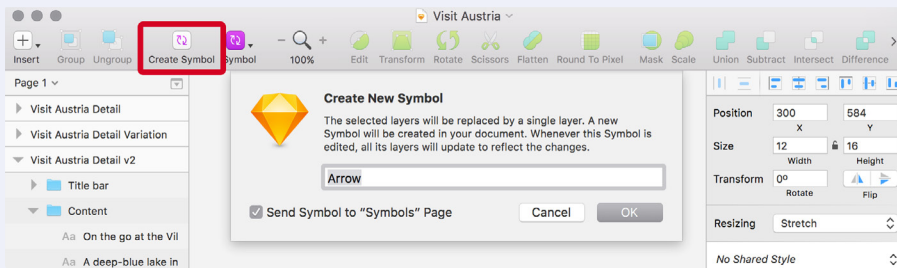


*Fig. 3.6: The creation dialog of symbols.*

After you have confirmed the dialog, a little double arrow is added to the name in the layers list, both for the master symbol and the instance. To add a new instance go to **Insert → Symbols** in the menu bar. There's a clever way to organize how symbols are listed here: If you need to select from two button states, selected and inactive, you can name one "button/selected" and the other "button/inactive"; this will group the symbols inside a "button" subfolder. If you want to swap one state to the other later, use the dedicated drop-down in the inspector (fig. 3.7), or make a right-click and select it from the **Replace With** menu. This also works for switching symbols per se.
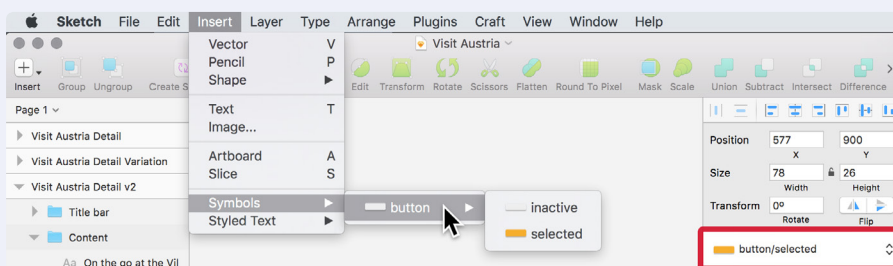


*Fig. 3.7: You can organize symbols into folders. Right: Use the drop-down in the inspector to swap one state or symbol with another.*

To alter a symbol, double-click on it to bring you to the master symbol with a handy **Back to Instance** link in the upper left corner (fig. 3.8). Everything that is changed here gets immediately drilled down to all of the instances. They can be modified in multiple ways: You could flip them, change their rotation, opacity or blending mode, or add shadows. Also, you can resize them, with multiple options available in the **Resizing** drop-down in the inspector. But more on that in chapter 8 "Going Responsive" on page 265ff.

Symbols are quite versatile, as they let you change text values and images separate to each instance with a dedicated **Overrides** input field in the inspector. (Fig. 3.9.) This way you can have a shared symbol for all the

entries in a list, but each entry can be populated with different content and still share the same appearance. That's also quite handy for buttons. Sketch is even smart enough to respect the text length of overrides and moves subsequent layers if the content gets too long.
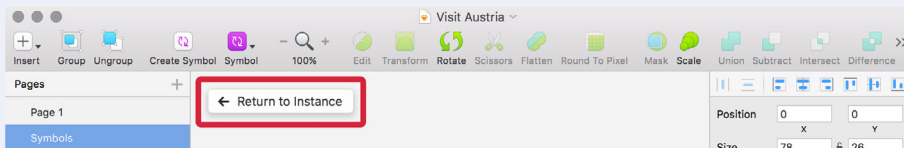


Fig. 3.8: Return from the master symbol to the instance with the dedicated button.

Furthermore symbols can be nested, which lets you have a symbol for a whole screen, with a nested footer symbol, for example, that in turn includes the symbol of an icon. Nested symbols even have a dedicated **Overrides** field, so that you can swap one symbol of the same size with another. Nothing lasts forever, so if you decide that a symbol isn't appropriate anymore select **Layer → Remove Symbol** from the menu bar; for individual instances, right-click and choose **Detach from Symbol,** which reverts it back to a simple layer group.
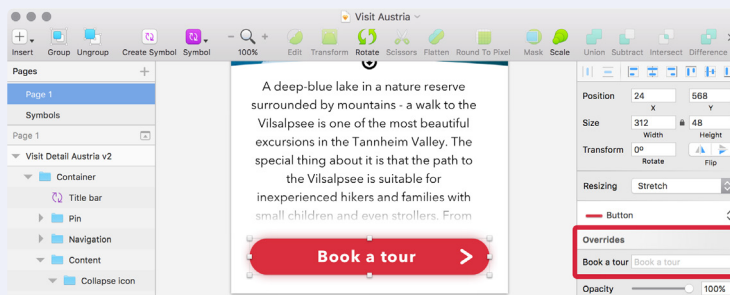


Fig. 3.9: *Overrides* let you adapt text values, images, and nested symbols per instance.

To create the arrow symbol, select it within the button with a *Cmd-click* and go to **Create Symbol** in the toolbar. In the dialog, name it "Arrow" and select **Send Symbol to 'Symbols' page** so that the master symbol is sent to a dedicated "Symbols" page (Fig. 3.6.).

After that, go to **Insert → Symbols** in the menu bar and select our new "Arrow" symbol to insert it into the artboard. For an easier workflow with symbols in future, you should also add the **Symbol** icon to the toolbar (see the quick tip below). Place this new "Arrow" instance in the title bar on the artboard and also move it to the appropriate group in the layers list. Make sure that you place it above the "BG" layer.

You will notice that this symbol has a double-arrow in front of it now. This immediately associates it with the master symbol on the "Symbols" page. You can check this out if you double-click on the instance. There it's also possible to customize the symbol and all changes get immediately propagated to the instances. To go back to the details screen, click on the handy **Return to Instance** link (or press *Cmd + Esc*).
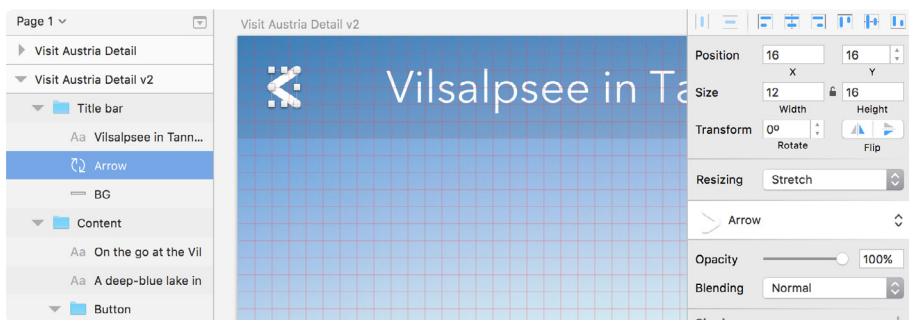


*Fig. 3.10: The correct placement of the Arrow symbol. Please note that I lowered the opacity of title bar's background to help visualizing the grid.*

To represent an actual back arrow, flip it horizontally with **Transform → Flip Horizontal** from a right-click and align it to the grid horizontally with a left offset of 16px. Use the smart guides to align it to the center of the background in the vertical direction.
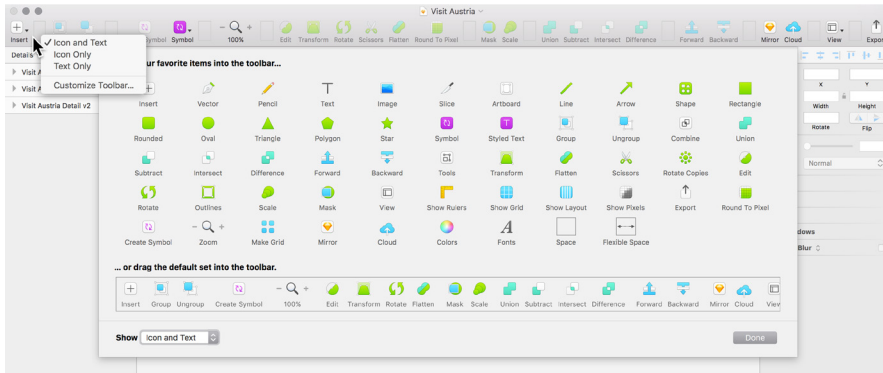


*Fig. 3.11: The customization dialog of the toolbar.*

**Quick tip:** Add more icons to the toolbar with a right-click and the **Customize Toolbar…** option (Fig. 3.11). Here you have an overview of all the available icons and can either drag them directly to the toolbar or the area at the bottom of this dialog. For better organization and categorization, insert a space or flexible space between them. If you're savvy with the meaning of the icons, you can switch off their labels with the drop-down below, as well as change their size. To rearrange the icons in the toolbar you don't need to enter this dialog at all: just hold *Cmd* and drag the icon anywhere you want. Some recommended additions to the toolbar are: Symbol, Scissors and Round To Pixel. Everything else can be accessed more efficiently with keyboard shortcuts. But with custom shortcuts (read more about them in the related info box in this chapter) in mind, even these three might be redundant.

## Important Settings

The second element to deal with is the profile icon. To prepare it, create an oval using *O*, with a size of "24px" and hold down *Shift* to get a circle. Place it in the upper right corner of the artboard and make sure it's in the "Title bar" group, above the "BG" layer. Then offset it 16px from the right edge (Fig. 3.12). The grid can be a huge aid here. For more detail and greater control on the user icon, zoom all the way in with *Cmd + 2* (*Cmd + 0* brings the canvas back to 100% again).
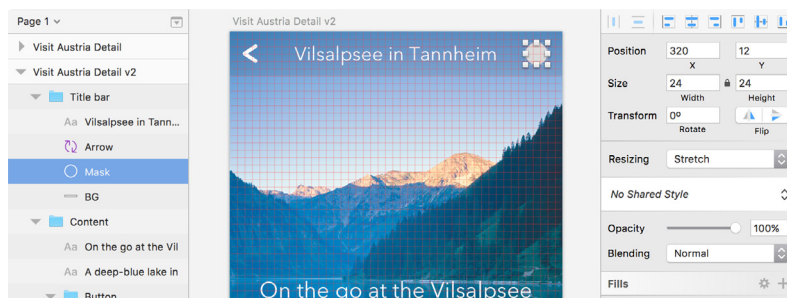


*Fig. 3.12: The properties of the mask for the user icon. Please note that I lowered the opacity of the title bar's background to help visualizing the grid.*

To align it vertically with the background layer we could use the smart guides again, but this time let's try something else and use the alignment icons at the top of the inspector (Fig. 3.13). Select both layers by holding *Cmd* (to drill into the group) + *Shift* (to select multiple layers) and click on them. Now select the second icon to the right (align vertically), which aligns them vertically to each other.

# Aligning Everything

It's quite easy to align layers to one another or the artboard in Sketch with the alignment icons in the top area of the inspector. As the first two are distribute icons (more on them later in this chapter in the related info box), let's start with the third from left: align left, align horizontally, align right, align top, align vertically, and align bottom.
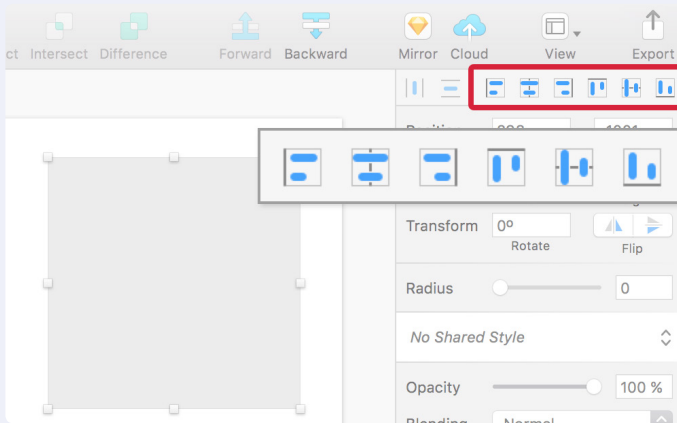


Fig. 3.13: The alignment icons at the top of the inspector. Please note that they have a light border if only a single layer is selected. This way it gets aligned to the artboard.

Depending on the number of selected layers, they slightly change their appearance and behavior. With just a single element picked, the icons have a light border, which denotes that the alignment happens relative to the artboard. But the moment you select multiple layers, the icons change their appearance and loose the border (Fig. 3.14). When you click on left, right, top or bottom now, they are aligned to each other, specifically the layer that is on the farthest end of the selected alignment direction. By clicking on align horizontally or vertically, on the other hand, the chosen layers are aligned to their shared center. However, if you want a specific layer to act as the reference point to which the remaining layers should be aligned, lock this one with *Shift + Cmd + L.*

Although it isn't immediately obvious, you can also align multiple layers to the artboard by holding *Alt* before you click on one of the alignment icons. In this case, they gain the aforementioned border again as a visual cue.
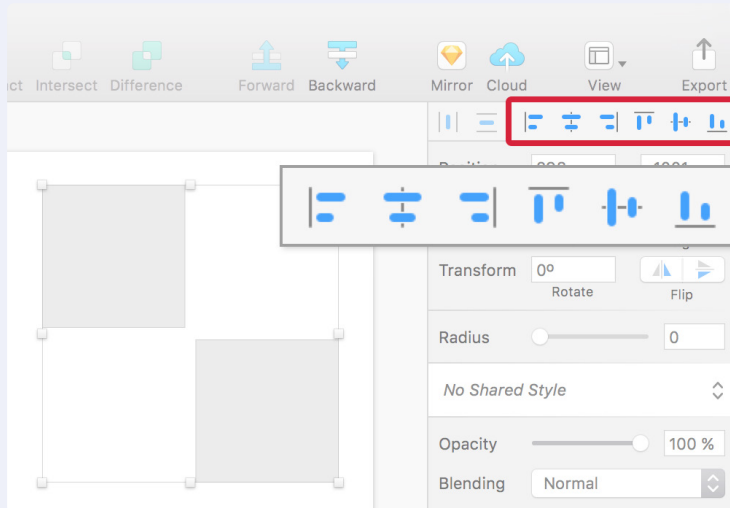


*Fig. 3.14: The moment multiple layers are selected, the icons change their appearance and lose the border. Now the selected layers are aligned to each other instead of the artboard.*

The alignment icons work not only for layers, but also for vector points when you enter the vector point mode of a layer with *Enter*. Unlike for layers, you always need to select multiple points; the alignment is always related to the points and not the object or the artboard, and it's not possible to lock them to change the reference point.

There's a good chance that the alignment icons will soon become the most clicked area inside Sketch. To apply them, you right-click and select the appropriate alignment option (if multiple layers are selected). But, wouldn't it be easier to just press a key? Read more about creating custom shortcuts on the next page.

# Custom Shortcuts

While Sketch is keyboard-accessible right from the start, there are some functions here and there that lack a related keyboard shortcut or simply don't work for you. Luckily, OS X (or its successor macOS) provides a native way to define custom shortcuts for applications. Go to **System Preferences** (the easiest way is to press *Cmd + Space* to fire up the spotlight search and enter "pref") and select **Keyboard**, followed by the **Shortcuts** tab. On the left is an entry called **App Shortcuts,** which lets you define custom shortcuts for every application on your system, including Sketch.
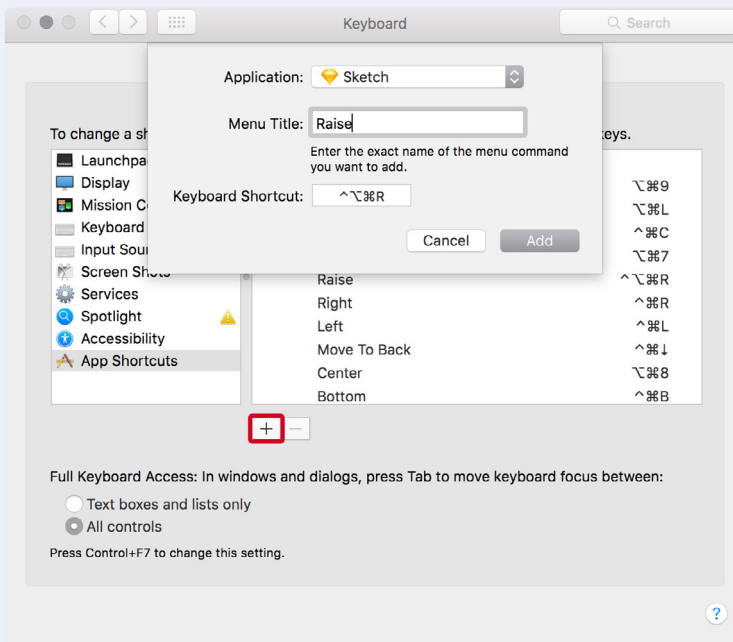


*Fig. 3.15: Enter the exact menu title from Sketch and the desired keyboard shortcut once you have clicked on the + icon.*

After selecting this option, click on the + icon below, select Sketch from the drop-down and enter the exact **Menu Title** (Fig. 3.15). This needs to noted exactly like the menu bar command in Sketch. For example, if you want to apply a shortcut to **Type → Baseline → Raise**, you have to insert "Raise" as the menu title. Then select the **Keyboard Shortcut** field and press the keys on the keyboard you want to assign, let's say *Ctrl + Alt + Cmd + R*. When you click on **Add** now, go back to Sketch, select a text portion and press the keys you've set — you'll see that the baseline is raised. Nice! This new shortcut is also shown next to the appropriate command in the menu bar (Fig. 3.16). You can not only set new shortcuts, but also redefine existing functions this way.
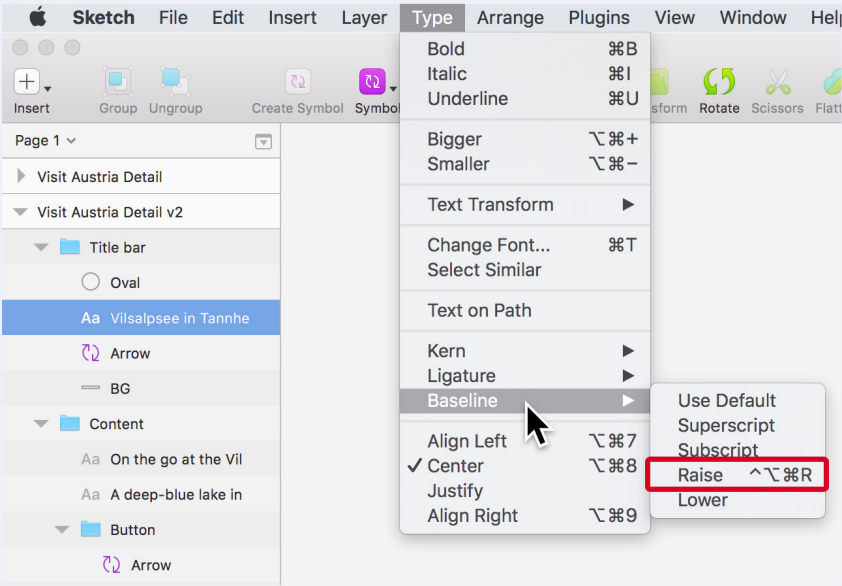


*Fig. 3.16: The keyboard shortcut is added to the appropriate command.*

For some inspiration, have a look at the keys I've assigned in this manner:

- **Arrange → Align Objects → Left:** *Ctrl + Cmd + L*

- **Arrange → Align Objects → Right:** *Ctrl + Cmd + R*

- **Arrange → Align Objects → Horizontally:** *Ctrl + Cmd + C*

- **Arrange → Align Objects → Vertically:** *Ctrl + Cmd + V*

- **Type → Text Transform → Uppercase:** *Alt + Cmd + P*

- **Type → Text Transform → Lowercase**: *Alt + Cmd + L*

- **Type → Bigger:** *Alt + Cmd + +* (instead of *Alt + Cmd + =*)

- **Arrange → Move to Front:** *Ctrl + Cmd + Up*

- **Arrange → Move to Back:** *Ctrl + Cmd + Down*

- **Edit → Collapse Artboards and Groups:** *Shift + Ctrl + Cmd + C*

The circle we just created will act as a mask for an avatar image. Good places to find free user photos are [Random User Generator](#)[15] and [uiFaces](#).[16] Pick one, drag it into Sketch (or save it and drag it from the Finder) and center it to the circle. To prevent that the circle gets moved while aligning lock it first, so that it acts as the key object. Now select it together with the image in the layers list and use the appropriate alignment icons to center the elements in both dimensions. Finally make sure that the image is above the shape, as we will set up the mask now. Select both layers and click on the **Mask** icon in the toolbar (Fig. 3.17).
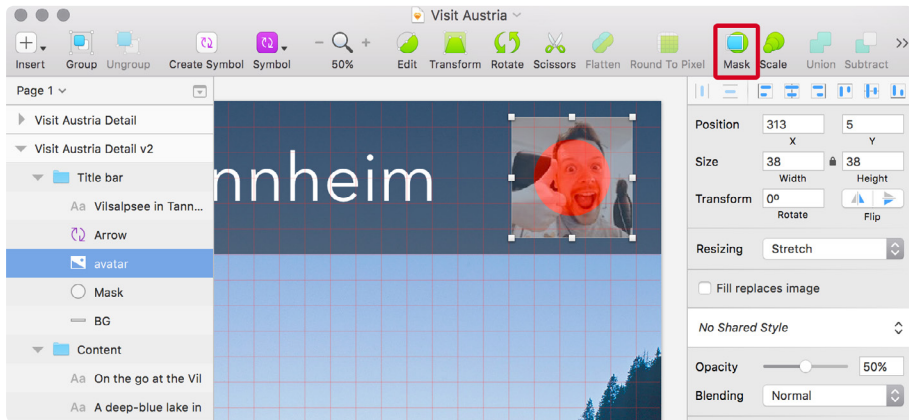


Fig. 3.17: *The image will be masked by the circle (set to red to help visualizing it) once you click on* **Mask** *in the toolbar.*

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15   https://randomuser.me/

16   http://uifaces.com/

# Masking

First the definition of a mask: it's a layer that clips other content to its shape. Everything within it and above the mask in the hierarchy of the layers list is shown, everything outside is visually removed. The easiest way to set up a mask is to select it together with the content to be masked and click on the **Mask** icon in the toolbar (or right-click and select **Mask**). This creates a group that contains both elements and sets the lowermost layer as the mask. The group is especially important here, as everything within it gets clipped, denoted by a little arrow in front of the masked layers. Alternatively you can also use the keyboard shortcut *Ctrl + Cmd + M*, but this doesn't create the group for you.
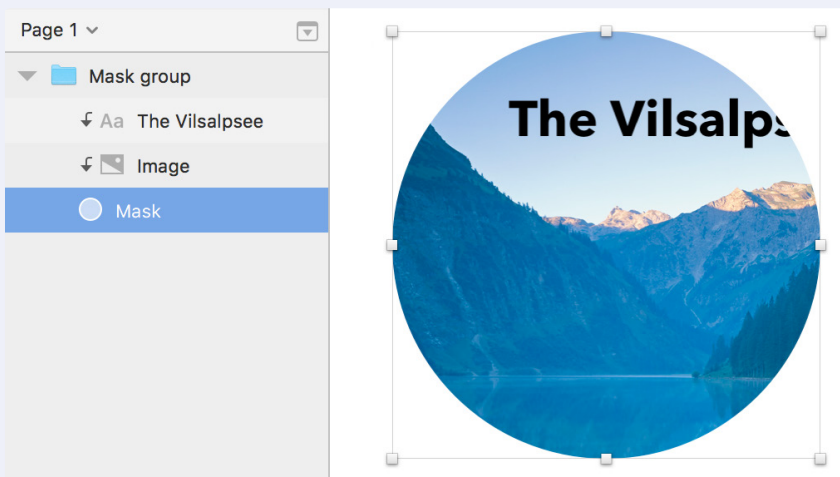


*Fig. 3.18: A mask clips everything that is in the same group and above it. The masked content is denoted by an arrow.*

You can still exclude layers from being masked by right-clicking and selecting **Ignore Underlying Mask**. The mask itself can be removed with a right-click and the option **Mask**. Simply hiding doesn't disable it. Please note that masks don't need to have a background color — they can also be

transparent so only the masked content is visible. Since masks are normal shapes they can still have a border or shadow.

Masking is not limited to images — every shape can mask another shape independent from its form. Even text can act as a mask (Fig. 3.19), but it needs to be converted to outlines with **Layer → Convert to Outlines** first, which creates a shape from every letter. Unfortunately, the text can't be edited after that anymore, but it gives you a lot of freedom over the placement of the masked content. If you just want to overlay text with an image, you can also apply a pattern fill. Read more about this technique at "Creating Textured Type" on page 333.
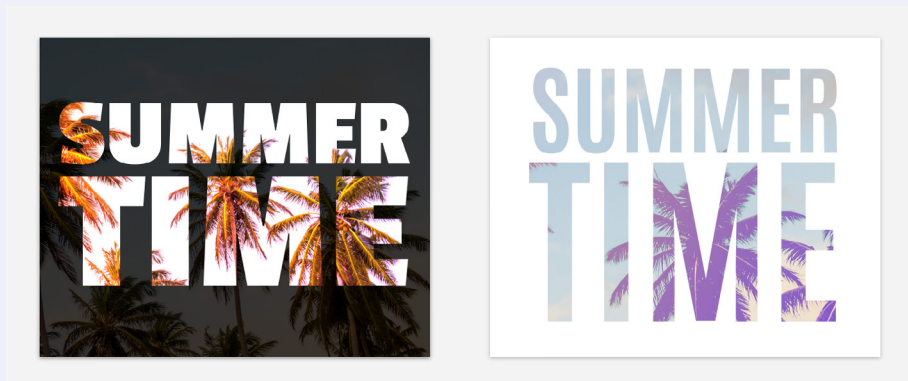


Fig. 3.19: Masking is not limited to shapes — text can also act as a mask once it is converted to outlines.

Finally, when you set up a masked image it can easily happen that you catch it instead of the mask layer when you click, so it's always a good idea to lock the image with *Shift + Cmd + L* to prevent an incorrect selection after you have set its final size.

Select the photo now and resize it from the middle by holding *Alt* and using the handles on the canvas so that it fits nicely with the circle. Give the mask a white **Outside** border with a thickness of "2." Lastly, rename its group to "User icon" and make sure that it is within the "Title bar" group, above the "BG" layer (Fig. 3.20).
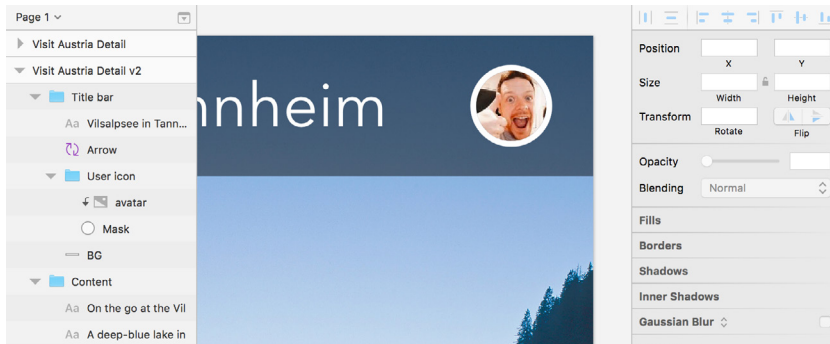


Fig. 3.20: The finished user icon.

As an alternative to a masked image you can also apply a pattern fill to the mask layer itself. A plugin that can be a huge help here is sketch-uifaces.[17] With the plugin installed, after you have selected the mask go to **Plugins → Sketch UIFaces**, which automatically loads a random user image from the uiFaces website. Remember to hide the image you first loaded into Sketch. Read more about plugins and how to handle them in the related info box later in this chapter.

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[17] http://smashed.by/sketch-uifacesplugin

## Zooming

There's a good chance you won't always work with the canvas size at 100%, so it might be necessary to zoom in with *Cmd + +* to work on some details, or zoom out with *Cmd + –* to get a broader view. Press *Cmd + 0* afterwards to go back to 100% again, and *Cmd + 1* to see an overview of all the artboards or elements on the canvas.

Since some work will need extra attention, occasionally zoom all the way in to the currently selected layer or group with *Cmd + 2*, and if you are not sure of its whereabouts press *Cmd + 3* to center it to the viewport. This move is pretty handy if you are looking for a specific artboard: use *Cmd + 1* to zoom all the way out and then, with a click on the specific artboard, *Cmd + 3* to center it to the canvas, and *Cmd + 0* to bring it to 100%. If you are getting sick of the slight animations that happen as you zoom, deselect **Animate zoom** under the **Canvas** tab of the **Preferences** (*Cmd + ,*).

If you are currently at quite a high zooming level (Sketch has a maximum zoom of 6,400%!) you can always switch to 100% temporarily with *$*. Alternate ways to zoom are: the scroll wheel of your mouse in combination with *Cmd*, the trackpad with the "pinch to zoom" gesture, or holding *Z* to zoom in with a click, and *Alt + Z* to zoom out (I accept no responsibility for any physical damage to your hand, however).

Lastly, to pan around the canvas (that is, to change the viewport) hold *Space* and drag the mouse, use the touch area of your Magic Mouse (which is one of the main reasons I still favor it over a more ergonomic model) or employ the trackpad.

# A Matter of Style

The last thing to handle for the title bar is to switch the text to a *text style*, so we can reuse it later. It also makes sure that changes in one place can be propagated to other instances with a simple click. Text styles are similar to symbols, but they only affect the styling of text layers. To convert the title, click on the drop-down in the inspector that says **No Text Style.** Pick **Create New Text Style** and name it "Title bar title" (Fig. 3.21). The icon of the text changes to purple in the layers list to represent it being a text style. Whenever you want to reuse this style anywhere else select the text and choose the style from this drop-down. Just like for symbols, you can also organize text styles into folders: just add the folder name and a slash "/" before the text style.
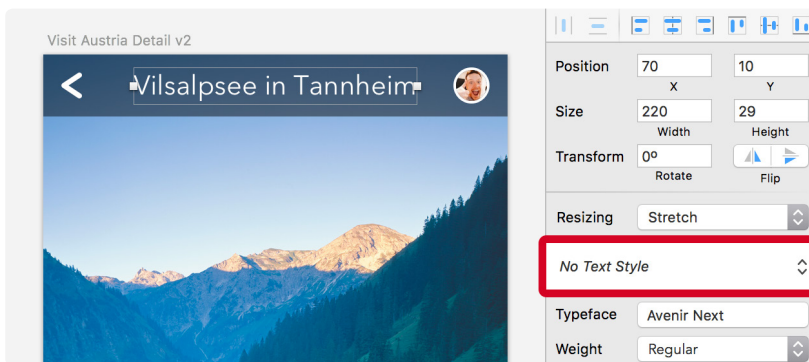


*Fig. 3.21: Create a new text style with the respective drop-down in the inspector.*

To avoid changing a text style accidentally at one of its instances, you must click on the round double-arrow when its style should be updated (Fig. 3.22 on the next page). (Funny side note: it wasn't always like this, and boy how often did I adapt a text style or symbol only to notice it much later when I'd already made a bunch of changes and screwed up all of the instances.) To create an entirely new element of this type, choose its entry from **Insert →** **Styled Text** in the menu bar.
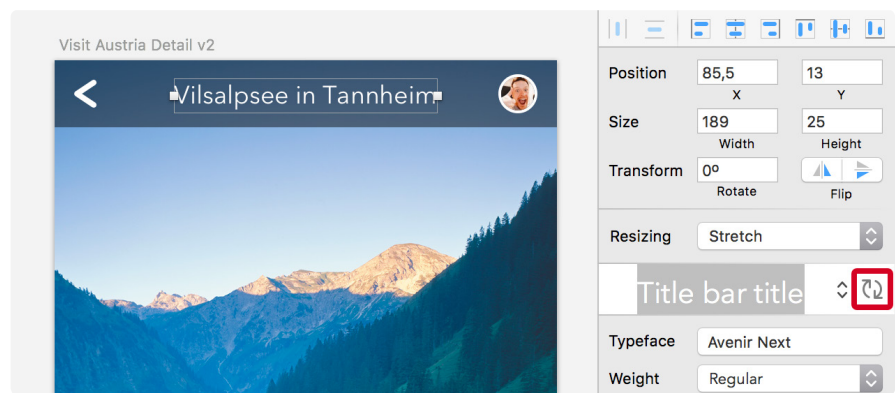
*Fig. 3.22: Once you have changed a text layer with an applied text style you need to click on the round double-arrow to update all other instances of it.*

*Shared styles* can not only be used for text but also for the properties of layers, like fills, borders, shadows and blurs. Select the relevant layer that should act as the model and choose **Create New Shared Style** from the drop-down in the inspector that says **No Shared Style**. Everything else, like the **Update** icon, or the purple appearance in the layer list, works exactly as for text styles. For a nice overview of all the styles created so far, select **Organize Shared Styles** (or **Organize Text Styles**) from the drop-down, where you can also rename and delete them (Fig 3.23).
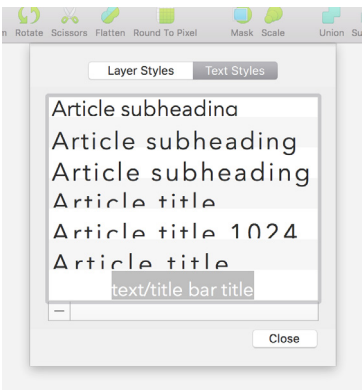


*Fig. 3.23: Choosing **Organize Shared Styles** (or **Organize Text Styles**) gives you an overview of all styles created so far.*

# From the Past to the Future

The ability to undo and redo things with *Cmd + Z* and *Shift + Cmd + Z* is a great way to try things out. It even lets you copy things from the "past" into the "future." Imagine you have added a text layer and tried out a few different colors, but decided in the end that an intermediate color was the best one. You can press *Cmd + Z* until you reach this specific point in the "past" again and keep working from there (Fig. 3.24).

Vilsalpsee → Vilsalpsee → Vilsalpsee

Cmd + Z

→ Vilsalpsee in Tannheim
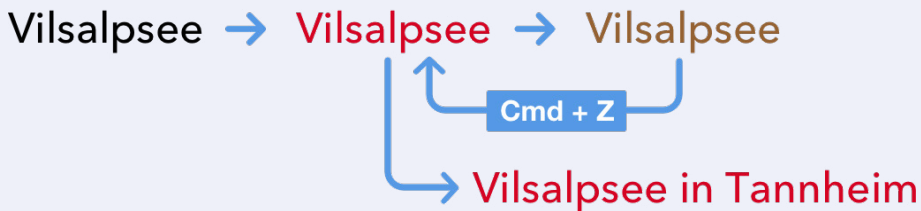
*Fig. 3.24: Go back to the "past" and keep working from there.*

Or alternatively, to compare this specific iteration from the past with the latest version, copy the layer with *Cmd + C*, press *Shift + Cmd + Z* to redo all the steps in between and insert the change from the past with *Cmd + V*. Now you have the old version and the most recent state at the same time (Fig. 3.25).

Vilsalpsee → Vilsalpsee → Vilsalpsee      Vilsalpsee

Cmd + Z

Cmd + C                                  Cmd + V

Shift + Cmd + Z
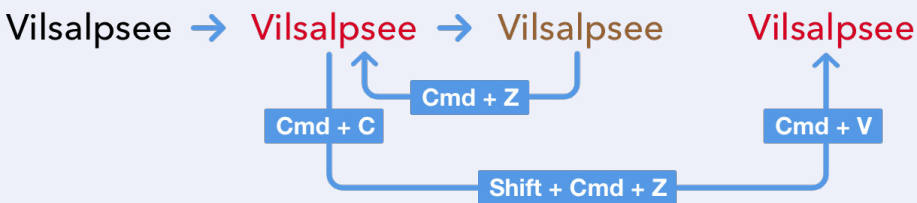
*Fig. 3.25: Compare a version from the "past" with the most recent state.*

# Nice Curves!

How about making the white background of the content a little bit more exciting with a round shape at the top? Sounds good. Select the "BG" layer in the "Content" group with a *Cmd-click* and press *Enter* to go into vector point mode. We won't alter the existing points but we will add a new one, which is just a matter of clicking on a segment of the shape. Instead of an arbitrary position let's place it in the exact middle, which is possible if you hold down *Cmd* while clicking at the top side of the rectangle.

If you have a look at the inspector now you'll see that each vector point has its own **X** and **Y** coordinates. To move this new point up by 8px just add "−8" to the **Y** field. We could have also used the *Up* arrow key to nudge it in this direction.

What you will notice now is that we didn't get a curve at this new point but a sharp edge. To give it a pleasant roundness, double-click on the point. Sketch is smart enough here to adapt this curve to the rest of the shape. Now select the outer two points of this line: first click on the one on the left, hold *Shift* and select the point on the right. Move these two down by 8px in turn, again either by adding "+8" to the **Y** field or using the arrow keys. Finally, press *Esc* twice to leave the vector point mode.
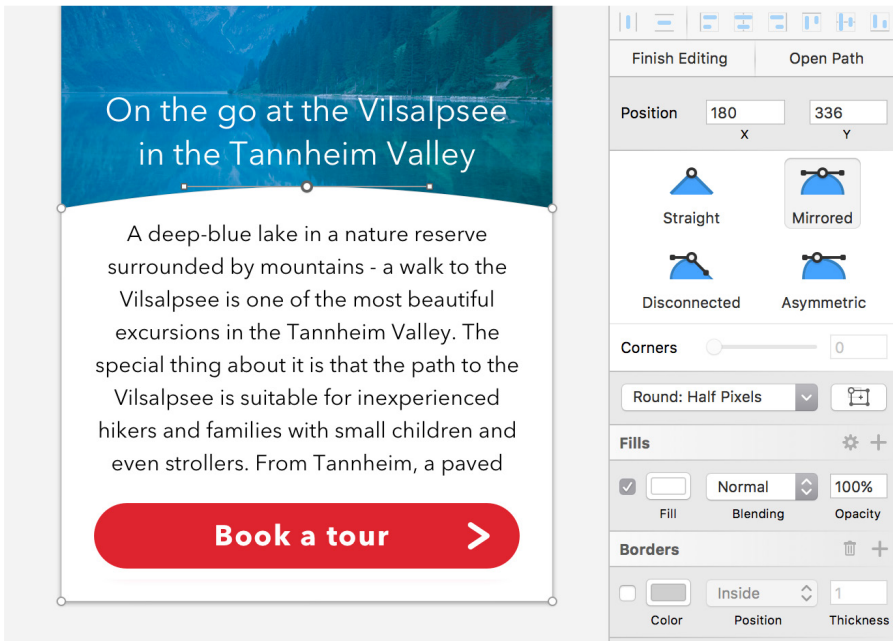
Fig. 3.26: Add a new point in the middle of the top side of the white background and change it to a curve.

## Enhance Sketch with Plugins

The third new icon for this screen is the one to make the body copy temporarily smaller and see the image in its full glory. You may want to zoom in with *Cmd + +* now to have a better view. Let's add an oval for the background of this icon: press *O*, hold *Shift*, and draw a circle with a diameter of 32px. Use the grid lines as an aid to get to these dimensions. Name it "BG." Now change its fill to white and align the circle to the center of the artboard with the fourth icon from the alignment icons (align horizontally) in the inspector.

Move it vertically to the middle of the curved line we just created. The easiest way is to use the arrow keys, probably in combination with *Shift* to span a bigger distance. In the end it should align to the grid (Fig. 3.27). To give the heading above enough room to this new shape move it up by two grid units, so that it has an **Y** position of "248."
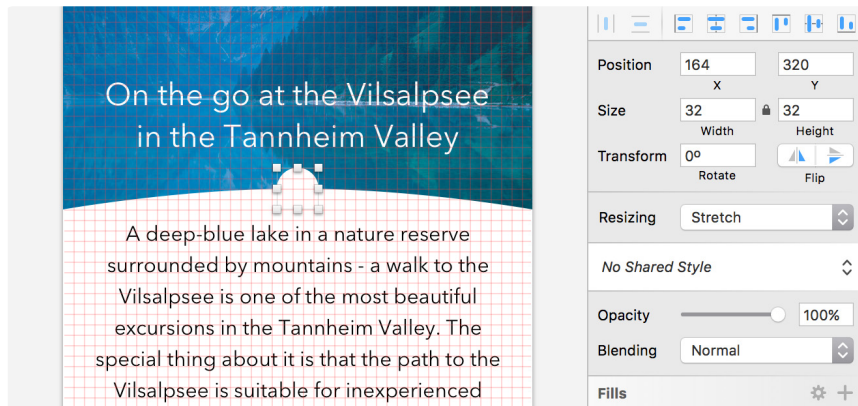


*Fig. 3.27: The circular background for the new collapse icon.*

Instead of creating the new collapse icon from the ground up, we will use our first plugin. Plugins are a great way to enhance the functionality of Sketch, created by the community to make up for missing features.

# Plugins

The easiest way to manage plugins is to use
Sketch Toolbox[18], a simple plugin manager
(Fig. 3.28). After you have unpacked and
started it, you'll see an extensive list of
plugins to choose from with a handy search
option. As soon as you've picked a plugin you
can install it right from Sketch Toolbox and
it's automatically kept up to date. It shows
up under the Installed tab and can also be
removed with Uninstall from there.



*Fig. 3.28: Sketch Toolbox is the best way to manage existing and discover new plugins.*

Natively, plugins can be handled in Sketch at
**Plugins → Manage Plugins…** in the menu
bar, which shows you a list of all the avail-
able plugins. After selecting an entry here
you have further options when you click on
the gear icon at the bottom-left of the dialog.
**Show Plugins Folder** points you to the
relevant folder on your hard drive in case
you ever need to manually install or remove
such an add-on.



*Fig. 3.29: You can also maintain the plugins inside of Sketch.*

The **Filter** field lets you search for an
installed plugin, a click on **Get Plugins…**
leads you to the official directory of the little helpers from Bohemian
Coding. For a list of interesting Sketch plugins, check out the section in the
appendix. Finally, to run (or rerun) a plugin simply select it from **Plugins**
in the menu bar. Most of them come with a separate submenu or have
predefined keyboard shortcuts.

18   http://sketchtoolbox.com/

The plugin we need right now is [Sketch Iconfont](#),[19] a great way to find and add icons to your Sketch files. After you have installed it with the help of Sketch Toolbox and added [Font Bundle](#)[20] to your system, go to **Plugins →
Icon Font → Grid Insert → FontAwesome** from the menu bar, which gives you a list of all icons from this icon set. Enter "arrow circle o," press *Enter* and click on the first icon (a down-pointing arrow within a circle), which inserts it at the top of the artboard as a text layer. Just make sure that no other element is already selected.

Click on this new icon, give it a font size of "23," a black fill color and center it to the circle we already created. The easiest way is to use the alignment icons, but lock the circle with *Shift + Cmd + L* first so that its position doesn't change. Now create a "Collapse icon" group from them with *Cmd + G* and drag it to the very top of the "Content" group.
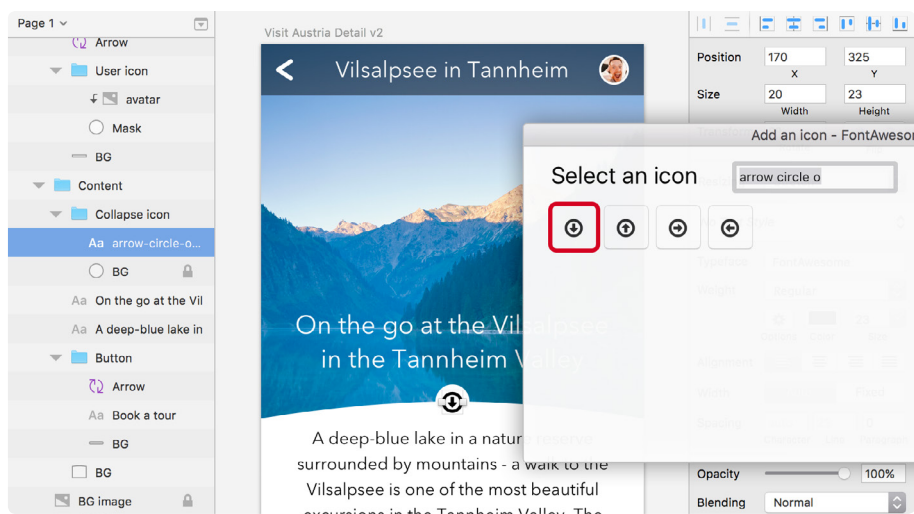


*Fig. 3.30: The icon in the dialog of the plugin (red border) and readily placed on the artboard (middle).*

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19  http://smashed.by/sketch-iconfont
20  http://smashed.by/sketch-fontbundle

**Quick tip:** Sometimes Sketch doesn't tell you the distance to a certain layer when you show the smart guides with *Alt*. This is especially true if you want to keep a certain spacing in relation to another element or the edges of the artboard while you move a layer. There's a little trick to always show you the right spacing at the right time. Select the element you need a certain distance for, hold *Alt* to trigger the smart guides and hover over the layer (or edge of the artboard) that is acting as the reference point. Now leave the mouse pointer where it is so that the smart guides keep showing and reposition the layer with the arrow keys on keyboard instead (Fig. 3.31).
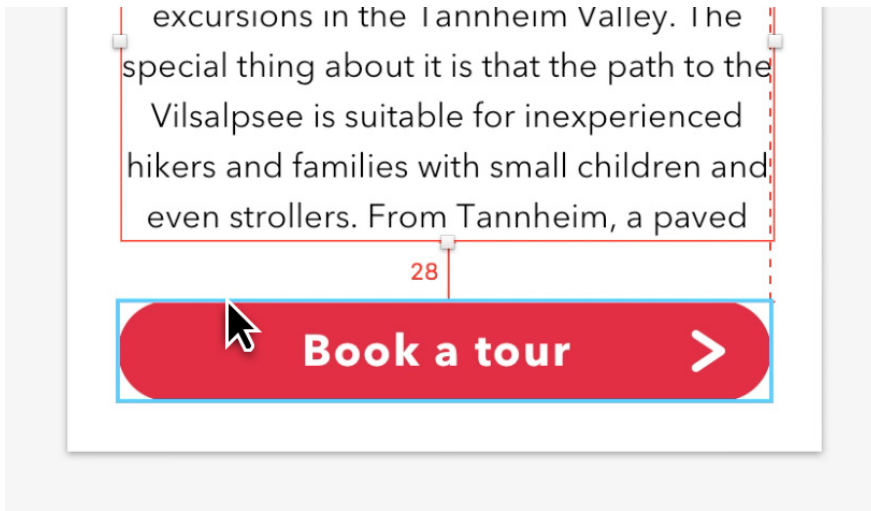


*Fig. 3.31: To keep a certain spacing from one layer to another — for example between the text layer and the button — hold **Alt**, point at the button, leave the mouse pointer where it is and move the text layer with the keyboard. This way the distance keeps showing.*

# Highlights

To give the heading even more emphasis and better visibility on the dark background let's add a strong black shadow. Click on the **Shadows** area in the inspector to add a shadow and change the properties to "1/1/0" (X/Y/blur) with a black color and an opacity of "100" (the **A** value in the color dialog). See Fig. 3.32, top. Remember that you can use *Tab* to jump from one input field to the other.

Talking about emphasis and shadows: we also want to highlight the button even more with a shadow, to make it look as if it floats above the page. Select its background shape with a *Cmd-click* and add a shadow in the same way as before. Since we don't need an offset here we leave the **X** and **Y** positions at zero and only alter the blur to "13." For the color we will choose the red from the button with the color picker (press *Ctrl + C*, but click on the color box first) and give it an alpha value of "55" (Fig. 3.32, bottom). Finish the button by converting it to a symbol with the respective icon in the tool-bar (**Create Symbol**). Be sure to send it to the dedicated "Symbols" page with the respective checkbox.
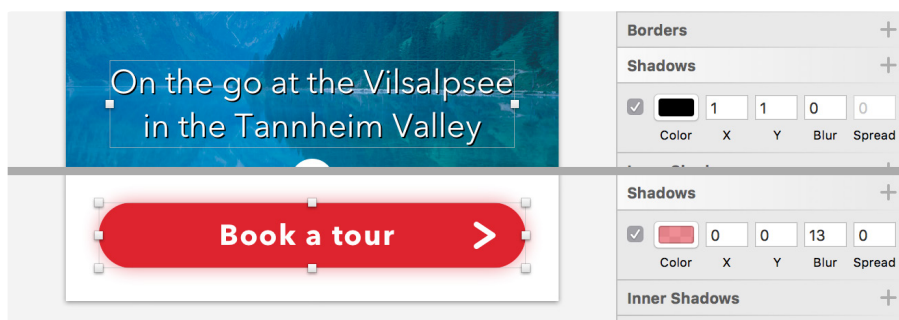


*Fig. 3.32: The shadows for the heading and the button.*

# The Art of Shadows and Blurs

With the current trend of making everything flat, shadows have fallen out of favor a bit. Yet a subtle shadow here and there can give parts of your design the required emphasis. Besides the **X** and **Y** values of a shadow, which control the offset on the respective axes (and which can also be negative values, see Fig. 3.33, top), and the **Blur**, that handles how diffuse a shadow is, it also has a **Spread** value. This last property pushes the shadow out and makes it bigger (Fig. 3.33, second from top). To control the opacity of a shadow, click on its fill color and change the **A** (alpha) value.

The difference between a normal shadow and an inner shadow is that the former is added outside of the element (Fig. 3.33, top), while the latter is rendered inside of it (Fig. 3.33, bottom). Shadows are not only limited to shapes but can also be applied to text, with the only difference that there is no spread option available (Fig. 3.33, second from bottom). Note: An element can have multiple shadows, that are stacked on top of each other (Fig. 3.33, bottom).

*Fig. 3.33: The X and Y values can also have negative values (top). The **Spread** value pushes the shadow out and makes it bigger (second from top). Shadows can also be applied to text layers, but without the **Spread** value (second from bottom). Inner shadows are painted on the inside of the element (bottom).*

Somewhat related to shadows are blurs, as a shadow is nothing more than a (usually) blurred copy of the layer. Sketch also has you covered here with its four types of available blur modes.

**Motion blur** (Fig. 3.34, top left): Imagine taking a photo of a moving car with a long exposure — that's what you get with this type of blur. You can control the intensity (**Amount**) and the direction of movement (**Angle**).

**Zoom blur** (Fig. 3.34, bottom left): This also originates in photography, as it can be created when you zoom while the camera shutter is open. The result is an object of focus with motion lines radiating from it. Here you can customize the intensity (**Amount**), and where the effect has its origin.

**Gaussian blur** (Fig. 3.34, top right): The standard blur, which blurs the layer by a certain amount, is certainly the most useful kind of blur. I can only speak for myself, but motion and zoom blurs don't make much sense in a UI design app.

**Background blur** (Fig. 3.34, bottom right): While the other kinds of blurs can be applied to any kind of layer, this one only works for shapes. It replicates the effect you may know (and may already be tired of) from iOS and the Mac, in that the content underneath certain parts of the screen appears blurry. To apply it, create a shape, apply **Background Blur** to it and reduce the opacity of its fill  — you can also switch it off entirely. This type of blur is best used above a complex background, or else you won't notice the effect.

Please note that blurs, especially background blur, are very CPU-intensive and can slow down Sketch noticeably, especially if used on large areas.



*Fig. 3.34: Center: Original. Top left: Motion blur (amount: 12px; angle: 162, marked by the red arrow). Bottom left: Zoom blur (amount: 18px, the red cross marks the origin). Top right: Gaussian blur (amount: 4px). Bottom right: The image is overlaid with a rectangle that has Background blur applied (amount: 8px).*

# Gradients

Since it's not immediately obvious that our body copy is scrollable and can contain more text than what's visible, we will add a gradient as a visual indicator. There are three ways to achieve that: the first is to give the text a gradient fill (1); the second is to overlay a layer with a gradient fill (2); and the third is to use a special kind of mask, an alpha mask (3). I'll show you all three methods (please also refer to Fig. 3.36). You should create a new artboard for each approach for comparison.

## Text Gradient (1)

The easiest option is to add a gradient fill to the text layer, which is quite unusual, as you don't normally need a fill to set the text color. For this special case, however, click on the **Fills** area and choose a linear gradient instead of a solid fill (the second icon above the color field). Make sure that it is vertical — if not drag the first color stop to the top of the text layer, and the second one in the same vertical line to the bottom. Choose black and an alpha value (**A**) of "100" for both color stops.

Now insert a third stop at 80% by double-clicking anywhere on the gradient axis in the color dialog and press *8* on the keyboard to move it to this exact position. Then jump to the last stop with *Tab* and give it an alpha value of "0." In case you can't see the gradient you need to cut the content so that it has the same height as the text layer itself.

# Fill Types, Part 2: Gradients

There are three types of gradients available in Sketch: linear, radial and angular. They basically all consist of a series of colors on a gradient axis. While this axis is a straight line for the first two, it forms a circle for the third (marked blue on Fig. 3.35). By default, every gradient has a start and a stop color (marked with a red and green circle on Fig. 3.35). If you want to add a new color stop (marked with a blue circle on Fig. 3.35) either double-click on the gradient axis (the horizontal bar) in the color dialog, or make a single-click on the gradient axis on the canvas (Fig. 3.35, bottom).

After that you have a few options: place the stop on a certain location with *1* to *0* (for example, to 30% with *3* or 80% with *8*, and so on); insert it in the middle of the surrounding stops with *=*; or move it with the arrow keys or the mouse (both on the canvas and in the the color dialog). Once you have placed it, use *Tab* to jump conveniently from one stop to another. Instead of a smooth transition, you can also create hard color stops by placing two points on the same location on the axis. Lastly, to remove a point select it and press *Del* or *Backspace*.

Each of the gradients has some particulars:

**Linear:** The angle and size can be changed by moving the start or stop color around on the canvas. To flip the gradient by 90 degrees use the arrows below the **alpha** field in the color dialog.

**Radial:** Move the gradient on the canvas by dragging its center point with the mouse (Fig. 3.35, 1). If you need an oval shape instead of a circle, drag the white dot on the left side of the gradient's outer circle (Fig. 3.35, 2); in case you want to change its size or angle, move the stop color on this circle at the canvas (Fig. 3.35, 3).

**Angular:** This type is always centered to the layer and fills the whole element. The start and stop color are on the same spot by default, forming a hard color transition.

Please note that Gradients are not limited to fills but can also be applied to borders.
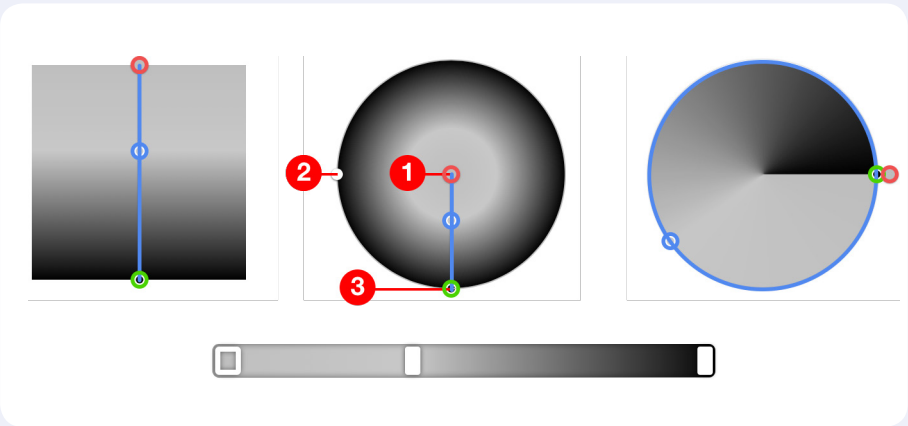


*Fig. 3.35: Left: Linear gradient. Middle: Radial gradient. Right: Angular gradient. The gradient axes and intermediate color stops are marked blue, the start color is marked with a red circle, the stop color with a green circle. Bottom: The gradient axis in the color dialog is the same for all three types. 1: Move radial gradient. 2: Change shape. 3: Change size or angle.*

## Overlay Gradient (2)

For the second technique, create a new rectangle above the body copy text layer in the "Content" group; it should have about the same width as the text layer and a height of "32." Now lock the text layer with *Shift + Cmd + L*, which makes sure that it isn't repositioned, as we have already aligned it perfectly.

Select both layers in the layers list and align the rectangle to the left (third icon) and bottom (last icon) with the alignment icons in the inspector. Group them into "Body copy" and enter "100%" for the width of the rectangle in the inspector, which gives it the same length as the text layer (you can unlock it again now). Apply a gradient to the rectangle: it is basically the same as above, but you only need the default two color stops set to white, with the top one at "0" alpha and the bottom one at "100."

> **Quick tip:** Sketch typically highlights the layer in the layers list the moment you select it on the canvas. If that doesn't happen or you scrolled to another point in the layers list, press *Shift + Cmd + J* to reveal it there.

## Alpha Mask (3)

The third method also makes use of an additional layer, but this time it acts as a special kind of mask, an alpha mask. Add a rectangle in the same manner as above, but this time align it to the top-left of the text layer and for both the width and height use 100%, which gives it the same dimensions. Drag the rectangle below the text layer in the layers list.

Assign the same linear gradient fill with black as in the "Text Gradient" method, but this time give the first and the second stop "100%" opacity, and the last "0." If you select the rectangle now and go to **Layer → Use as Mask** and then **Layer → Mask Mode → Alpha Mask** you'll see that you achieved the same effect as above. An alpha mask is determined by the opacity of its color stops: it shows the masked content where it has an alpha value of "100" and covers it where it has "0," with all the nuances in between. However, the color of the gradient stops doesn't matter.
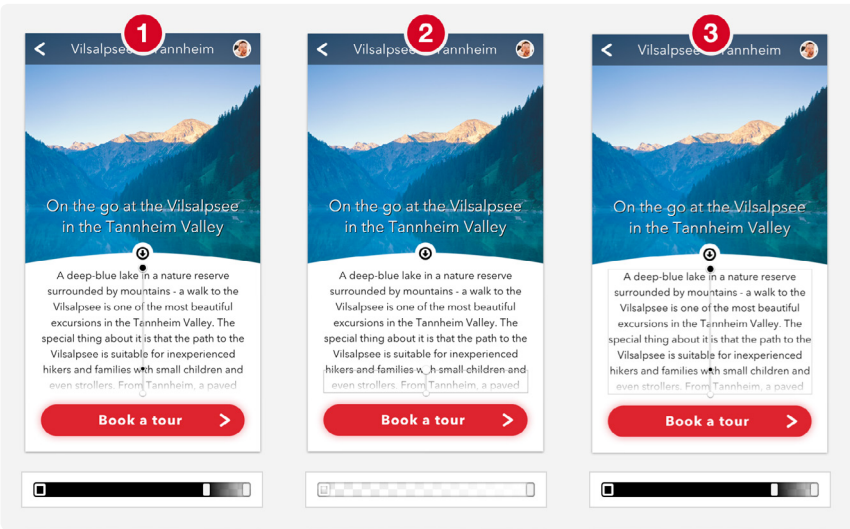


*Fig. 3.36: The gradients of the three methods for the visual indicator side by side, each with the gradient axis from the canvas and the color dialog. 1: Text gradient. 2: Overlay gradient. 3: Alpha mask. Please note that I've given the overlay and the mask (2 and 3) a grey border for better visualization.*

Which method you choose in the end is up to you.

# Back and Forth

To make it easier for our users to explore different locations we will now add navigation arrows that let them go back and forth. Create a new circle shape at the upper part of the artboard, above the "Content" group. It should have a diameter of "80px." As only one third of this navigational arrow should be shown (the rest moved out of the left edge of the artboard), we can use the mathematical capabilities of Sketch again.

In the **X** field of the inspector enter "80 * –1 * 0.66." To clarify: "80" is the size of the circle, "–1" makes the value negative (thereby moving it to the left), and "0.66" hides two-thirds of the shape. As this results in a number with a decimal place, go back to an integer with **Layer → Round to Pixel** in the menu bar. For the **Y** axis use a value of "118," which aligns the top-left edge to a grid line (have a look at the grid with *Ctrl + G*). Please see Fig. 3.37.
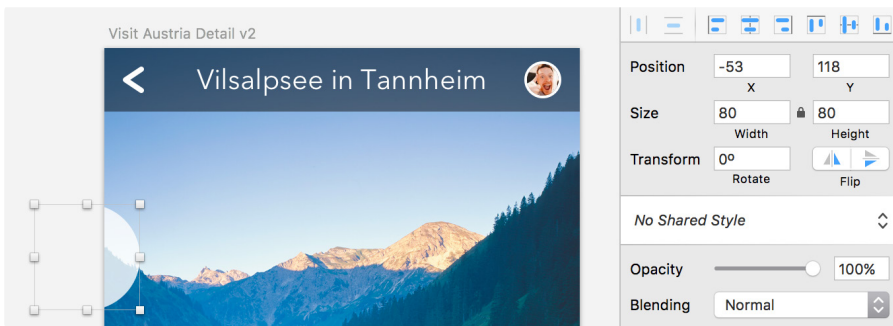


*Fig. 3.37: The base circle of the navigation arrow moved out of the left edge of the artboard by two-thirds.*

**Quick tip:** You can perform mathematical operations in every input field in Sketch. For example, triple a border's thickness with "*3"; halve the width of a layer with "/2"; or increase the font size by 12px with "+12."

For the arrow itself we can use our "Arrow" symbol as a base, so insert an instance with **Insert → Symbols** from the menu bar and place it over the circle. Since we need a different shape for the arrow we can't use it as a symbol but must detach (unlink) it from the master symbol: make a right-click and select **Detach from Symbol**, which changes it back to a normal layer group. Also ungroup it with *Shift + Cmd + G*. Then flip it horizontally with the first icon in the **Flip** area of the inspector to get an actual back arrow.

Change the border color of the arrow to black and enter the vector point mode with *Enter* to alter its height. Zoom all the the way in to the selection with *Cmd + 2* and select the upper point of the shape. As we need the arrow 8px higher move this point up: the easiest way is to employ the arrow keys. You could have also used the **Y** position field in the inspector and added "–8" (Fig. 3.38). But be sure to leave the input field with *Esc* in this case to be ready for the following actions.

Cycle to the next point (the tip of the arrow) with *Tab* and move this one to the right by 4px to make the arrow narrower. Now select all the vector points of this shape with *Cmd + A* and distribute them vertically by clicking on the second alignment icon at the top of the inspector (distribute vertically), and leave the vector point mode by pressing *Esc* twice.

Note: In case this whole process doesn't work as expected, try to leave and re-enter the vector point mode before you start to modify the points.
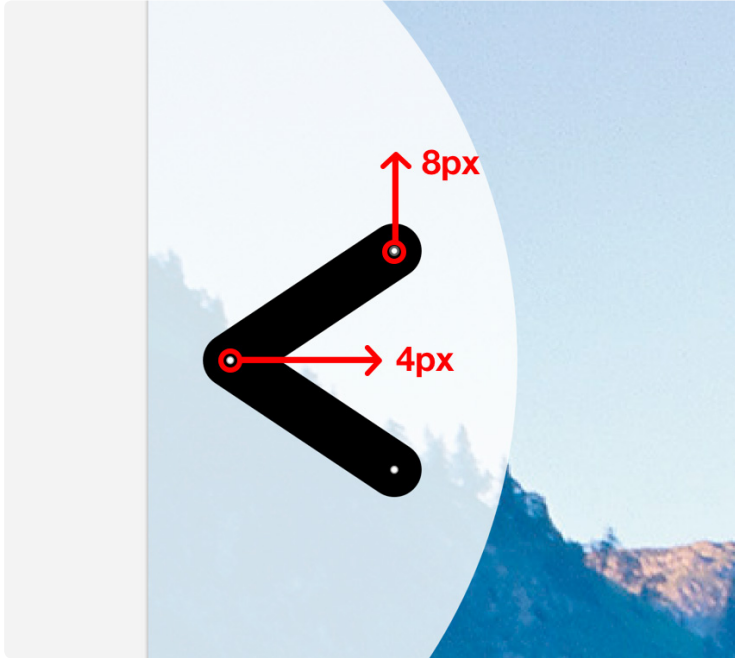


Fig. 3.38: Move the points in the respective directions.

# Distribute Content

As well as the alignment icons at the top of the inspector there are also two distribute icons that allow you to spread three or more layers evenly among themselves (Fig. 3.39).
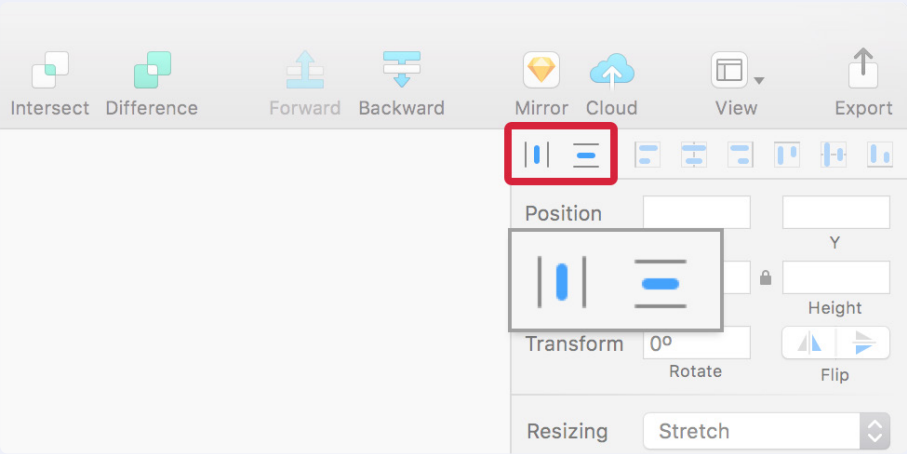


*Fig. 3.39: The distribute icons.*

In this case, the outermost layers remain where they are and the ones within are distributed evenly so that they gain the same space between one another (Fig. 3.40). In case the layers can't be distributed to full pixels, Sketch asks you if they should be distributed unevenly or placed on sub-pixels (resulting in a decimal). Distributing doesn't only work for layers but also for vector points.



*Fig. 3.40: When distributing, the inner layer is moved to have equal spacing from the elements outside.*

Unfortunately, it's not possible to set the distance elements should be spaced apart, but there's way to alleviate this. Go to **Arrange → Make Grid...** in the menu bar. Based on the orientation and number of selected layers, pick the appropriate quantity of rows or columns (inserting "1" for the other value) and enter the desired margin (Fig. 3.41). Please keep in mind that the layers are aligned to the leftmost element if you choose columns, or the top if you choose rows, after you press **Arrange**, so you might need to rearrange them subsequently.
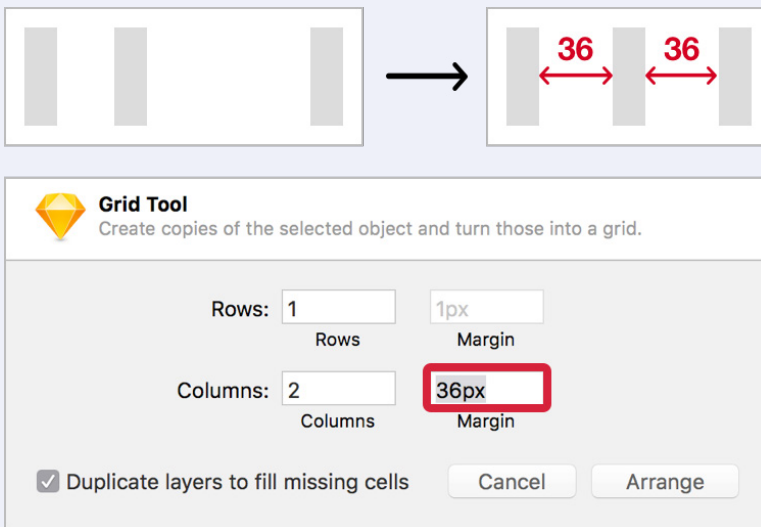


Fig. 3.41: Use **Make Grid...** from **Arrange** in the menu bar to distribute elements with a defined spacing.

The next step is to center the arrow vertically with the circle. Select both and use the second alignment icon from the right (align vertically). Move the arrow to an **X** position of "8" to align it to the grid. It looks good now, but we haven't reached our final goal yet, as we want to cut the arrow away from the circle to get a hole through which you can see the background image.

We will use Boolean operations for this task, which let you combine shapes in different ways. A requirement, though, is that all the shapes involved must consist of fills instead of a border, which isn't the case for our arrow, so select **Layer → Convert to Outlines** in the menu bar or press *Shift + Cmd + O*. When you enter the vector point mode you'll see that the arrow doesn't consist of a simple line with a border anymore, but is defined by a shape with numerous points.

For the Boolean operation make sure the arrow is above the circle, select both, and click on **Subtract** in the toolbar or press *Alt + Cmd + S*, which cuts the arrow away from the circle. The order matters here, since layers can only be subtracted from underlying ones. You should now see a circle with a hole in the form of an arrow (Fig. 3.42). The layers merged not only on the canvas but also in the layers list. There you'll see a simplified version of this shape, which you can expand with the disclosure triangle to get a glance at the layers involved.
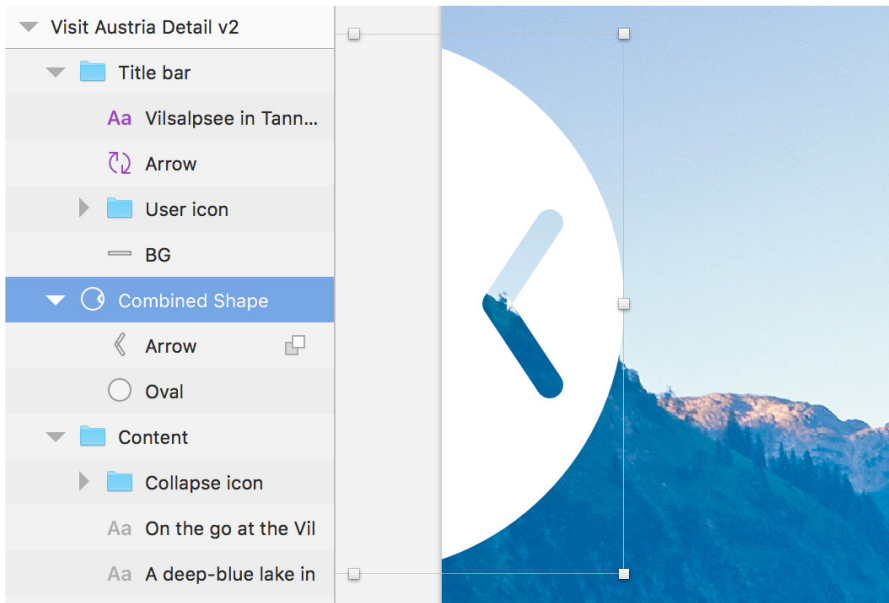
*Fig. 3.42: The Boolean group, that cuts away the arrow from the circle.*

A big strength of Sketch is that Boolean operations remain editable, so you can still move the layers separately from each other, and also completely undo the operation by selecting **Layer → Paths → Split** from the menu bar. Finally, rename the Boolean group to "Nav arrow previous," set the opacity to 80% and make sure it is right above the "Content" group in the layers list.

# Boolean Operations

Boolean operations let you combine shapes in different ways, affording countless possibilities for entirely new forms. Most of the time it's much easier to build elements this way than to draw entirely new objects with the vector tool.

There are four types of Boolean operation (Fig. 3.43). To create one, select the shapes you want to combine and either click on the related icon in the toolbar or press the appropriate keyboard shortcut:

1. **Union** (*Alt + Cmd + U*): Merges two shapes into one.
2. **Subtract** (*Alt + Cmd + S*): Removes one shape from another.
3. **Intersect** (*Alt + Cmd + I*): Shows just the part where the shapes overlap.
4. **Difference** (*Alt + Cmd + X*): Retains the area where the shapes don't meet.
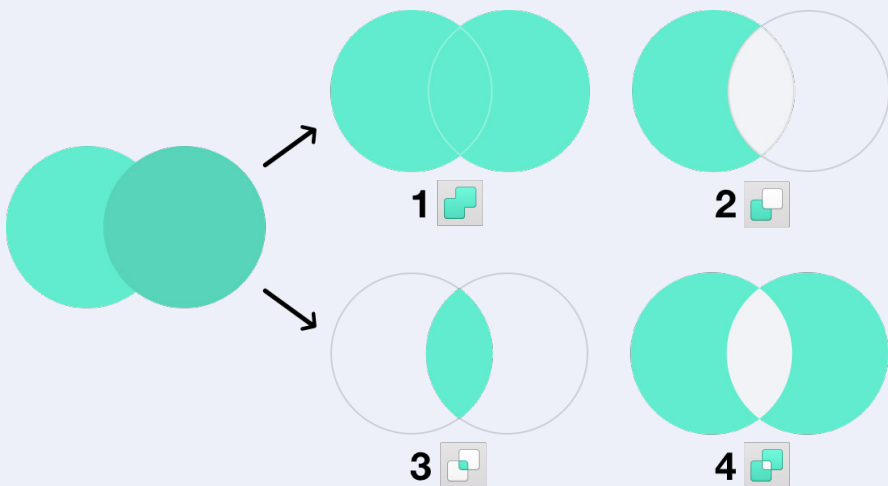


*Fig. 3.43: The four types of Boolean operations.*

The ones you will need the most are **Union** and **Subtract**, while the other two are not that common. Subtract especially can lead to some awkward situations, but if you keep in mind a few simple points there shouldn't be a problem at all.

1. Order matters. Shapes on top of others are always removed from the ones below.
2. The biggest shape in the combination should be at the bottom, with the shapes getting smaller the higher you go in the hierarchy of the layers list.
3. Shapes that don't interact directly and just sit on top of others should be set to **None.**

## An Example

Let me give you an example using the following truck shape, which consists of eight basic shapes:
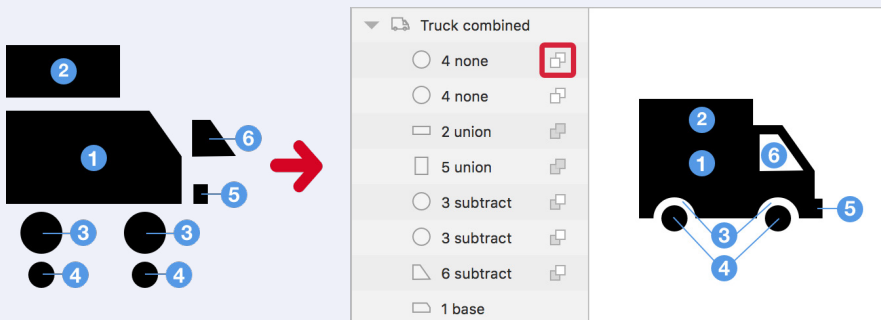


*Fig. 3.44: Left: The individual shapes. Right: The shapes combined to form the truck. The little icon next to the layer name (red border) is used to change the type of Boolean operation.*

- The driver's cabin (6) and wheel cases (3) the are subtracted from the body (1).

- The load bed (2) and the bumper (5) are set to **Union**, so that they are combined with the body (1).

- The wheels (4) are set to **None**, because they don't need to interact at all. Union would also be an option, but **None** is safer.

If you reduce things to their basic elements it becomes quite easy and almost any form can be created this way.

## Flexibility

The best thing about Boolean operations in Sketch is that they can always be reversed, reordered and reapplied in different ways, either by moving the shape(s) out of the Boolean group and executing another Boolean operation, or by clicking on the little icon next to the related layer and changing the type of Boolean operation (Fig. 3.44, red border). If you want to remove all operations at once select the group and go to **Layer → Paths → Split** in the menu bar.

There are multiple ways to enter a Boolean group for manipulation: to access its individual shapes double-click it on the canvas. Use *Tab* or *Shift + Tab* in succession to cycle through the available layers. Not to mention that you can also expand it in the layers list and select a layer from there. If you press *Enter* instead while the Boolean group is selected you go straight into the combined vector point mode of all involved shapes. Now *Tab* (and *Shift + Tab*) lets you switch through the various vector points of all layers.

In all cases *Esc* is used to quit the manipulations, however for the vector point mode it needs to be pressed two times: once to deselect the current point, another time to actually leave the mode. This combined vector point mode also applies to normal layers, that are not part of a Boolean group: whenever you select multiple shapes and press *Enter*, you access the vector points of all at once.

## When to Flatten

When shapes get complex, try to break the process down into different steps, flatten the combined form in between and then continue with other Boolean operations. To do so go to **Layer → Paths → Flatten** in the menu bar. This reduces the complexity and creates a single shape, that is easier to handle. Flattening is also a good idea if you want to export a shape as SVG. Just remember to keep a copy of the original for later reference.

Apart from that, keep shapes in their editable state with Boolean operations as long as possible, so that you are always able to change them. Remember that forms created with Boolean operations, that have holes (like rings or letters like *P*) can never be flattened and are always comprised of subpaths (Fig. 3.45). Sketch will not get tired of telling you that.

*Fig. 3.45: Shapes with holes can only be flattened if their subpaths fully overlap.*

## Awkward Situations

If you ever encounter a strange result after a Boolean operation, no matter how you reorder the layers or change the type of operations involved, it might be caused by the order of one of the layers it consists of. Every shape in Sketch has a certain order, which mustn't be confused with the order in the layers list, but the order of its vector points. You can see it when you enter the vector point mode with *Enter* and press *Tab* to jump to the next vector point. If you try to combine shapes with different orders with a Boolean operation, Sketch doesn't know exactly what to do (Fig. 3.46). To remedy this, break the Boolean operation with **Layer → Paths → Split** from the menu bar, track down the shape with the wrong order, go to **Layer → Paths → Reverse Order** and reapply the Boolean operation. Now everything should be fine.
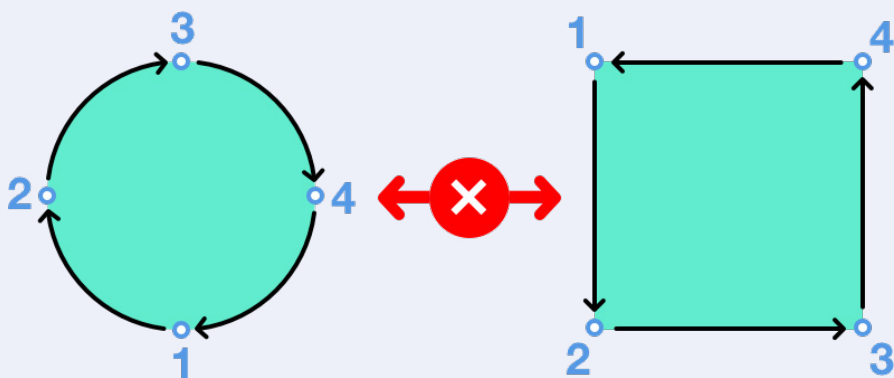


*Fig. 3.46: The circle has a clockwise order, the rectangle a counter-clockwise order. If you try to combine these shapes it can cause problems.*

Duplicate this group and rename it to "Nav arrow next" to get the arrow to jump to the next tourist attraction. Move it to the right of the artboard with the fifth alignment icon (align right) and flip it horizontally — either with with the first icon at **Flip** in the inspector or a right-click and **Transform → Flip Horizontal.** We only need to offset it by the same distance as the left icon, so that only about a third of the arrow icon can be seen. So check out the **X** position of the left icon (which should be at about "−53") and keep this value in mind as the target value for the right-hand icon. To get to the correct placement we will use the mathematical capabilities again. Switch to the right navigation icon, enter the **X** field and add "53" (the target value from above) to the current **X** position: "280 + 53."

Finally, select both of the navigation arrows and combine them to a new "Navigation" group (Fig. 3.47). The second iteration of our "Details" page looks great now, with just one important fix left for branding reasons: the logo, but more on that later. Right now, we will have a look at how easy it is to create an icon in Sketch.
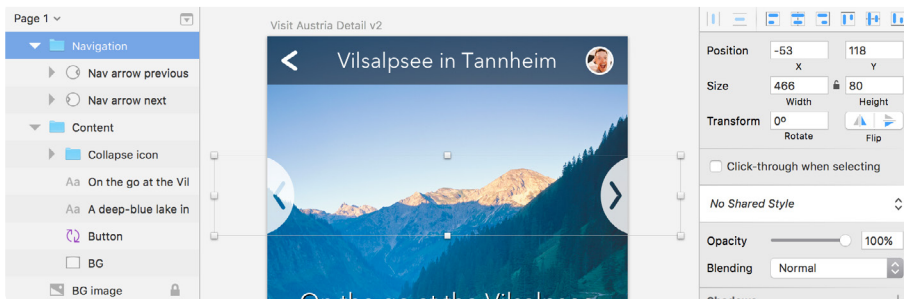


*Fig. 3.47: The finished navigation arrows.*

# Replicate the Collapse Icon

While premade icons are a great way to try out ideas quickly and iterate on different concepts, Sketch makes it quite easy to build them from scratch. That's exactly what we will do now with the "Collapse" icon from earlier, which lets users hide the text and see the great view of the Vilsalpsee. In preparation, create a new artboard with the size of 100 × 100px: place it next to the current artboard and name it "Collapse icon." Select the old icon with a *Cmd-click* (to drill into its layer group) and copy it into the new artboard. Zoom in with *Cmd + 2* to get a better view. Drag it to the left while holding *Alt* to get a duplicate and change its color to red (or any color other than black) so we can overlay it with our replica and assess the various dimensions.

# Comparison

When we take a close look, we see that it's 20px wide, so make a new circle at its top-left corner and give it a diameter of exactly this size. Change from a fill to a black (inside) border and increase its thickness until it matches the old icon, which should be at about 3px. Also change the opacity of the layer to 50% with the 5 key, so that you can still see the original icon behind it for comparison. When we overlay the upper part of the arrow with a (black) rectangle, we notice that a size of about 3×5px is needed (plus another pixel in the vertical dimension for some tolerance). It doesn't matter at the moment that the two shapes don't match exactly.

For the tip of the arrow we will use a triangle (**Insert → Shape → Triangle**) of the same color and if you continue in the same manner as before you'll see that it needs a size of about 9×5px (to match the other icon). Flip it vertically and move it to the bottom of the rectangle plus one pixel up so that both shapes overlap.

Select and align them horizontally, and combine them with a Boolean operation of **Union** with *Alt + Cmd + U*, which gives us the final arrow shape (Fig. 3.48). Then change it to 50% opacity and rename it to "Arrow."



Fig. 3.48: Left: The original icon. Right: The original icon, overlaid with our replica.

**Quick tip:** An alternate way (one I prefer) to create a triangle is to make a rectangle with the same size. Enter the vector point mode, insert a new point in the middle of the side where the arrow should point by holding *Cmd* and clicking. Then remove the outer two points on the same line by selecting and deleting them with *Backspace* or *Del*.

Sketch allows you to add arrows to lines or vectors out of the box. Unfortunately, they are quite useless in practice, as their size can't be customized. If that doesn't put you off, you can click on the little gear icon on the right in the **Borders** area of the inspector to see the options for **Start Arrow** and **End Arrow**. Just be sure that the **Ends** are set to the first property (see Fig. 2.8).

If you take a closer look at the template of the icon, you'll see it has rounded corners. The easiest way to set them for all corners is to flatten the arrow with **Layer → Paths → Flatten,** so that we can apply them to the whole shape. Enter the vector point mode and select all points with *Cmd + A*, but not the ones where the rectangle and the triangle meet: hold down *Shift* and click to deselect these points. Now use the **Corners** slider in the inspector to set a border radius — "1" would be too much, so use "0.5" instead (Fig. 3.39, red points). Either directly enter this value or hold *Alt* and use the *Up* arrow to go up in steps of 0.1 to end at "0.5." The outermost points of the arrow need a radius of "1" in turn (Fig. 3.49, blue points). Leave the vector point mode by pressing *Esc* twice. You can delete the old icon in the back now.
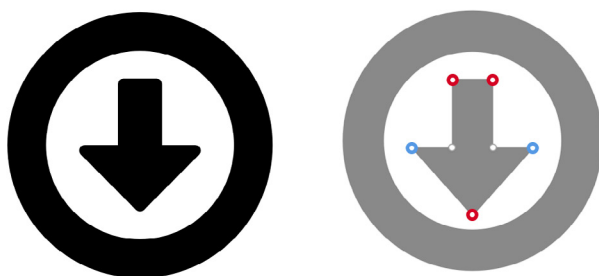


*Fig. 3.49: Set the border radius (**Corners**) to "0.5" for the red points, for the blue points use "1." The other two don't need a radius at all.*

## Odd Dimensions

The arrow looks good now, but we can't center it to the circle, which would result in half-pixels: the circle's dimensions are even, but the circle's are odd. To switch off this pixel-snapping we could go to the **Preferences** and uncheck **Fit layers and points to pixel bounds** in the **General** tab, but this should be avoided if you work on icons and want to have a pixel-perfect result. On the other hand, it can be quite handy when you create

something more complex like a logo. In turn a good idea when making an icon is to switch on the pixel grid with **View → Canvas → Show Pixels Grid** (or press *Ctrl + X*).

> **Quick tip:** Sketch saves your files automatically. If you want to go back to a previous version, select **File → Revert To → Browse All Versions...** in the menu bar. To switch off this safety net, uncheck **Auto Save files while editing** under the **General** tab in the **Preferences.**

To solve our dilemma with the misaligned arrow we simply need to give the circle odd dimensions, so select it and change the width to "19." A quick way to do that right on the canvas — without even needing to touch the mouse — is to employ the arrow keys in combination with *Cmd*. To make a layer bigger press *Cmd + Right* or *Cmd + Down*; to make it smaller use *Cmd + Left* or *Cmd + Up* (Fig. 3.50); add *Shift* to go in 10px steps. Whenever I need to resize a layer I do it this way as it is much more efficient and precise than using the mouse. Please note that you can also resize lines using the same technique. After that you can finally center the circle to the arrow in both dimensions.
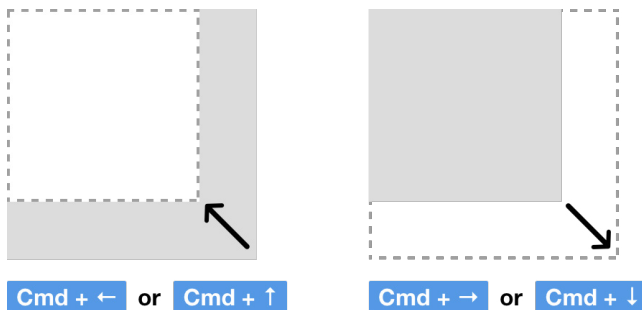


*Fig. 3.50: A quick way to resize layers with the keyboard is to use the arrow keys in combination with Cmd. Left: Make a layer smaller. Right: Make it bigger.*

**Quick tip:** An even simpler way to resize a line is to enter its vector point mode and use the arrow keys alone (without *Cmd)*. Again, combine them with *Shift* to span 10px at once. You can even change the direction from which the size is adapted with **Reverse Order** from **Layer** → **Path** in the menu bar.

## Finalize the Icon

For the final icon we first need to create a dedicated shape for the circle as we've used a border up until now. Select it and go to **Layer** → **Convert to Outlines** in the menu bar, or press *Shift + Cmd + O*, which creates a Boolean operation with two circles. Now add the arrow to the this group: simply drag the shape into it in the layers list. Make sure the arrow is at the very top and change the Boolean type to **Subtract** (with a click on the two overlapping squares next to the layer name, see Fig. 3.51). The type for the two circles should be **None**. Finally, leave the Boolean group with *Esc* and change the opacity back to 100% with *0*.

Note that the Boolean operation of the ring is quite different from what we've covered so far, as the bigger circle is above the smaller circle and the Boolean operation isn't set to **Subtract** (only for the arrow, see Fig. 3.51, left). This is just another way to approach this operation, which you should keep in mind for the future. Alternatively you could also drag the small circle above the bigger circle and set the Boolean type to **Subtract**, as well as changing the type of the arrow to **Union** (Fig. 3.51, right). Try it out with another copy of the icon!
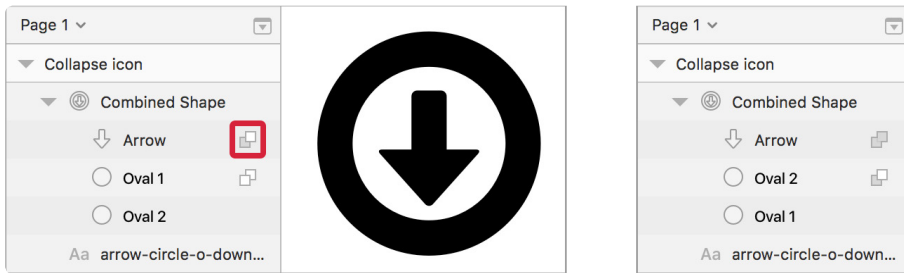
*Fig. 3.51: Left: Original Boolean operation of None for the circles, and Subtract for the arrow (red border). Right: Alternative approach, where the positions of the ovals are swapped and the type is changed to Subtract. The Boolean type of the Arrow needs to be set to Union here.*

To assess the quality of our new icon we can press *Ctrl + P* to **Show pixels**, which gives us a preview of how the icon would look outside of a vector-based environment (a browser, for example). If you compare it with the old icon, you'll see that the new version looks much better, as we adhered to the pixel grid wherever possible.

The icon is ready to use in our design now. If you'd like, you can copy it there to replace the old one. But don't forget to switch off the pixel preview again to avoid confusion. With this newly acquired knowledge we can move on to the logo of our project.
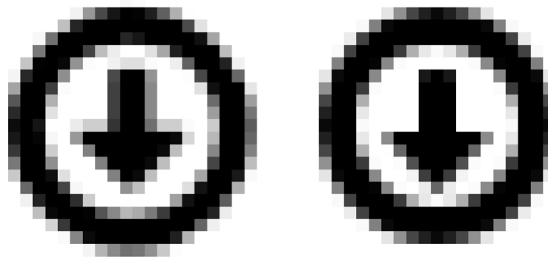


*Fig. 3.52: The old icon (left) and new icon (right) in the pixel mode. As you can see the new version looks much better, with more lines being on full pixels.*

## Pixel Precision

While everything you build in Sketch is based on vectors and, therefore, infinitely scalable, many things you export still need to be in a bitmap-based format like PNG or JPG, or at least adhere to a pixel-grid so that they look sharp in the browser. It's also a good idea to check the pixels of you work on a high-density display and assess how it could look on a standard display. The most important tool here is to **Show Pixels** with *Cmd + P*, which gives you such a preview once you start to zoom in to the canvas (Fig. 3.53, left). It's not completely accurate but a good start. You can also display a pixel grid with *Cmd + X*, which is shown as soon as you surpass 600% when zooming (Fig. 3.53, right).
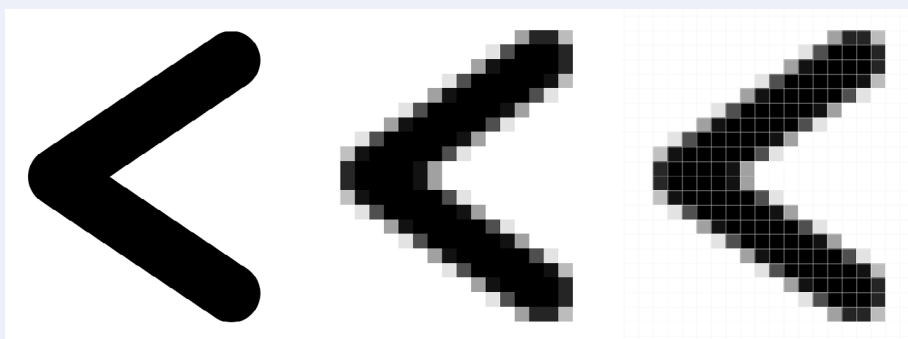


*Fig. 3.53: The arrow icon, zoomed in. Left: Original vector display. Middle: Pixel mode from **Show Pixels**. Right: Pixel grid switched on additionally.*

To prevent half-pixels being created in the first place, you should always switch on **Pixel Fitting** in the **General** tab of the **Preferences.** There is also a related option you should consider when you are in the vector point mode of a layer: make sure that **Round to full pixel edges** is selected in the drop-down in the inspector (below the **Corners** slider, see Fig. 3.54, top).

But that doesn't mean that you always need to force yourself to the pixel grid — some elements can or should not be aligned pixel-perfectly; for example, when you work on a complex object like a logo, full pixels would hinder more than help. For more freedom with the placement and movement of vector points you can always choose **Round to half pixels** (Fig. 3.54, middle) or **Don't round to nearest pixels** (Fig. 3.54, bottom). Even if you created a fractional number by mistake, in either its **X** or **Y** position or the width or height, you can always go back to full pixels with **Layer →** **Round to Pixel** from the menu bar.
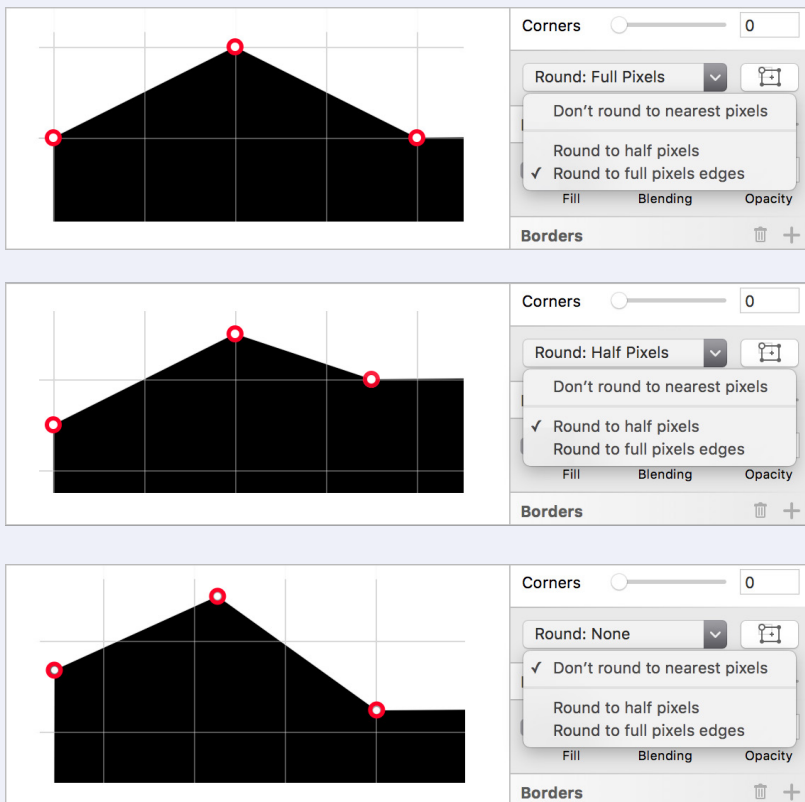


*Fig. 3.54: Top: Vector points snap to full pixels. Middle: Vector points snap to half pixels. Bottom: Vector points don't snap at all (free placement).*

Especially when you work on mobile designs, a good place to start is at 1x, because if you want to go up to 2x or 3x you just have to double or triple your assets, whereas 2x as a starting point would always force you to use a factor of 1.5 if you go to 3x, thereby producing fractions of pixels. Read more about this topic in the info box "*Designing at 1x*" on page 17.

Last but not least, when you resize an element it's always a good idea to use the **Scale…** option from **Edit** in the menu bar, as it gives you a clean dialog and a predictable outcome with full pixels. Read more about scaling elements in the info box Scale vs. Scale vs. Scale in the next chapter.

# Creating A Logo

Sketch is not only great for icon design but can also be used for logos. And we still need one for our app! Since we want these processes to be distinct, let's make a new page, which is ideal for this separation. This way you also increase the performance of Sketch, as too many artboards on one page can slow down Sketch significantly.



*Fig. 4.1: The finished logo. Assign a background color to the artboard (right).*

## Organize Your Content with Pages

Pages can be managed right above the layers list and they are collapsed by default. Expand them with a click on the icon in the top-right corner of the layers list (Fig. 4.2, left): this not only gives us an **Add** icon but also a list of the pages created so far (Fig 4.2, right). Although we haven't created one yet, we still see two entries here: "Page 1," where we've worked so far; and "Symbols," which was added automatically when we set up our "Arrow" symbol earlier. Whenever you add another symbol you can find it here — if you selected **Send Symbol to "Symbols" Page** at its creation.
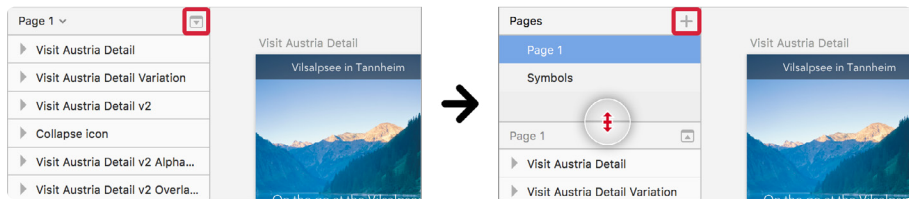
*Fig. 4.2: Left: Click on the icon at the top-right of the layers list to reveal the list of pages. Right: Add new pages with the + icon. You can resize the pages area at the bottom.*

**Quick tip:** You can copy elements from one page to another, or drag them to another page from the layers list.

Rename the currently active page to "Details" with a double-click and add a new page by clicking on the + symbol in the top-right. Name it "Logo" and drag it above the "Symbols" page. (You can resize the pages area at the bottom, see Fig. 4.2, right) To delete or duplicate a page, right-click on its entry and select the corresponding function. If you want to collapse the list of pages again, click on the icon right next to the current page's name, above the layers list.

**Quick tip:** Use *Ctrl + Up* and *Ctrl + Down* or the *Page Up* and *Page Down* keys to switch between pages.

With our "Logo" page selected, create a new artboard with the same name and change its **X** and **Y** positions to "0" in the inspector. Also alter both the width and height to "500," so that we have enough space to work on the asset. As I mentioned earlier, you could also work directly on the canvas,

but as our logo will be white we need a different-colored background to distinguish it. The easiest way is to use the background color of the art-board. Set it to the blue from the **Global Colors** of the color dialog, for example, but make it darker, to have enough contrast (see Fig. 4.1, right).

> **Quick tip:** You can always start to work directly on the canvas if you are unsure about the dimensions of a project. Sometimes a fixed canvas would be needlessly limiting. To create an artboard from all the content on the canvas later, you need only to drag the artboard around it once you have selected the dedicated tool with *A*. Every-thing within is automatically added to the new artboard. Alterna-tively, you can also select the entire contents of the canvas with *Cmd + A* and pick **Around Selection** once you have pressed *A*.

## Inspiration

It can be quite hard to come up with an idea for a logo, so let's embrace the web with its endless possibilities and go to the Noun Project,[21] which is perfect inspiration for icons and logos. They even have a dedicated Mac app that lets you drag icons right into Sketch to be used there as vectors. As a special deal you can get three free months of their Pro plan if you use the promo code "coolicons" when creating the account at smashed.by/sketch-npsignup.

With the name of our app being "Visit Austria" it's definitely a good idea to search for "visit" first. When scouring the search results, you'll come across a certain icon again and again: the pin. Why not take this route? Save a few of the related icons to your hard drive as reference material and drag them

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21   https://thenounproject.com

into Sketch from the Finder. What else comes into your mind when you think about Austria, or a country in general? Its shape on the map? Perhaps, but not good enough. What about its flag? Bingo! If you start another search for this term, a wafting flag catches the attention, so we will take that for inspiration as well.
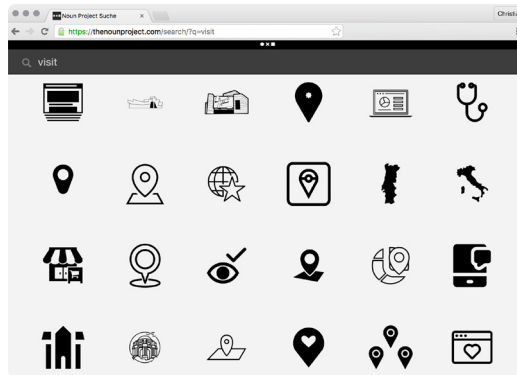


*Fig. 4.3: You can get some inspiration for the logo from The Noun Project. Search for "visit", "pin" or "flag" for example.*

## The Pin, or How to Control Vector Points

After we have generated some ideas, let's start with the pin. The basis for it is a simple white circle, so add one with a diameter of about 40px in the lower half of the artboard. Be sure to hold *Shift* to get a circle, which also locks the dimensions in the inspector. Zoom in to this new shape with *Cmd + 2* and duplicate it with *Cmd + D* for the hole. Drag its corners on the canvas, but hold down *Alt* to resize it from the center to 32px. Now select both circles and make a **Subtract** Boolean operation to cut out the hole; make sure that the smaller circle is above the bigger one (see Fig. 4.4 for the correct Boolean operation). We're keeping this hole rather big to provide a sense of openness or hospitality.

> **Quick tip:** Hold down *Alt* when dragging the handles of a layer on the canvas to resize it from the center.

## Types of Vector Points

For the actual pin shape, press *Enter* to go into the vector point mode of the Boolean group: the lowermost point of the outer circle should be selected now. Move it down by about 8 pixels: either add "+8" to the **Y** value of this point or use the *Down* arrow key for this purpose (Fig. 4.4).

Using the mouse to drag the point on the canvas isn't the best idea at the moment as it doesn't snap to full pixels and most likely results in a double-digit decimal number. However, you can cater for that if you change the drop-down in the inspector which says **Round: None** to **Round to full pixel edges.** Read more about this option in the info box "*Pixel Precision*" on page 116. Be sure to hold *Shift* when you move the point with the mouse, as it locks the movement to the horizontal or vertical direction. Alternatively you can also embrace the smart guides to stay on the same line.
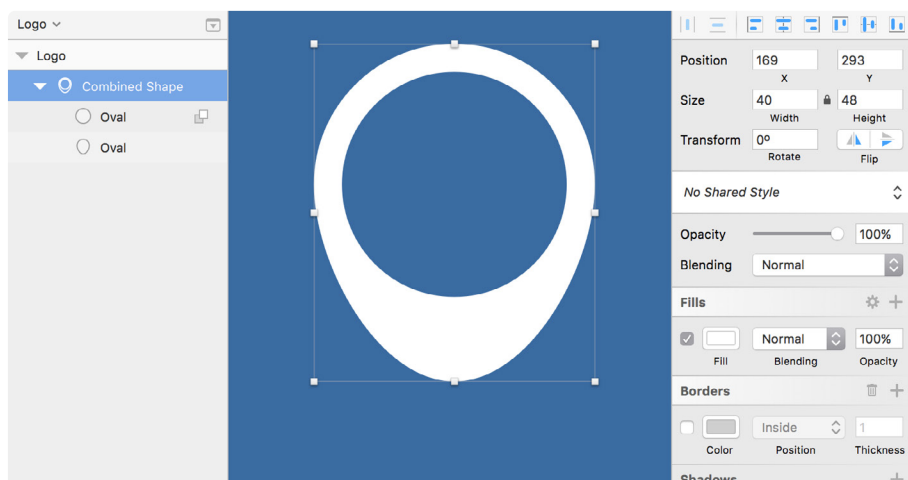
Fig. 4.4: The base of the pin shape, created with a Subtract Boolean operation.

**Quick tip:** To go the opposite way and switch the smart guides off temporarily when you move a vector point with the mouse, hold *Cmd*.

## STRAIGHT AND MIRRORED

After you have moved the point down, the icon already starts to resemble a pin, but the lower point still needs some hard edges for the perfect look. That's when the different point types in the inspector come into play. But first some theory. Every curved line in Sketch is represented by a vector point and two handles — the vector control points — that extend from each side and control the roundness of the curve. To distinguish between them better, the point itself is round while the handles are square (Fig. 4.5, left). By default these handles are the same distance away from the vector point, which results in an evenly rounded curve — a **Mirrored** vector point.

If you move one of these handle control points, the other moves by the same distance and at the same angle (Fig. 4.5, middle).
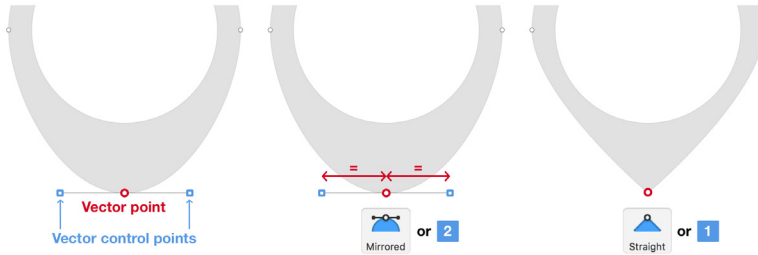


*Fig. 4.5: Left: Every curved line consists of a vector point (red) and two control points (blue). Middle: The control points of a Mirrored vector point have the same distance. Right: A Straight point doesn't have handles at all. See Fig. 4.7 for the remaining point types*

For our pin, when one of the control points is moved towards the lower vector point, the other moves in the opposite direction and the curve becomes smaller and smaller, until it totally vanishes and the vector point becomes a **Straight** point, with no handles and thus a hard edge: exactly what we need (Fig. 4.5, right)! To change quickly between these two point types, double-click on the vector point. Sketch is smart enough here to adapt the curve in the mirrored mode based on the surrounding points.

**Quick tip:** To change between the different point types in the vector point mode, use *1* to *4*, with the order being **Straight, Mirrored, Disconnected** and **Asymmetric**. Another way to go to a **Disconnected** point is to hold *Cmd* after you have started to drag a vector control point.

## DISCONNECTED

Depending on the type of pin you have in mind, you could also change this lower point to **Disconnected**, but first make a copy of the pin shape so that we can compare the different versions: press *Esc* until the Boolean group is selected again, and hit *Cmd + D* to create a duplicate, that you move to the right.

After you have entered the vector point mode and selected the lowermost point of the outer shape again, double-click on it to get the handles back. Now change to a **Disconnected** point type with either 3 on the keyboard or the dedicated button in the inspector. This type lets you control the handles' distance and angle individually (Fig. 4.7, middle).

If you move both points up, but leave the angle between the lines that extend to the vector point rather big, you create a somewhat bellied form; keep this angle rather small and get a more pointed form. While the smart guides help you bring these two handles to the same height, it can still be quite hard to maintain the same distance or angle for both of them. That's why it is of particular importance that not only every vector point has its dedicated **X** and **Y** coordinates, but also each handle point (Fig. 4.6). If you move the points independently, it's still easy to bring them to certain spots or have certain distances between them.
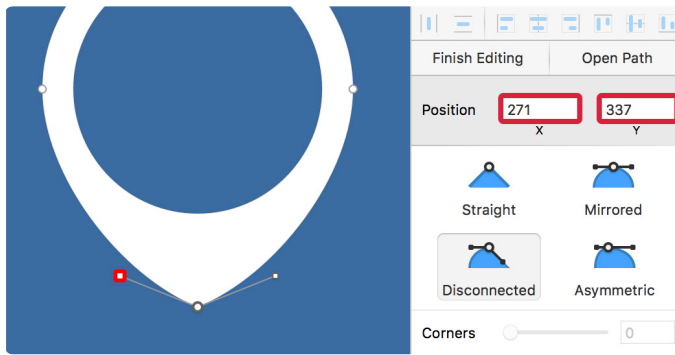
Fig. 4.6: Each vector control point has a dedicated X and Y position, that can be controlled in the inspector. This also applies to the vector point itself.

Let's say we want the pointed shape for the bottom of our pin. Select the left handle point and move it 6 pixels up (add "–6" to **Y** and press *Enter*), and 8 pixels in ("+8" at **X**); and the same for the right point: first, 6 pixels up ("–6" at **Y**), then 8 pixels in, but symmetrically, so add "–8" to the X axis. Make sure that you only use integers, or the calculations won't work. Alternatively, you can also use the arrow keys on the keyboard to move the points the same distances.

## ASYMMETRIC

Let's make another copy of the pin and take a look at the final type of point you can choose: asymmetric. Here the two handle points are still on the same line, but their distance can be controlled individually, which results in different curves on each side of the vector point. This could come in handy at the sides of the pin (after we have changed the bottom point to **Straight** again with two double-clicks) and want to make the lower part of the pin a little bit more bellied. Select either the left or the right vector point of the pin, switch to **Asymmetric** and drag the lower handle point down — about 8px for example. Repeat the same for the opposite point and remember that you can copy its **Y** position to get the same distance.
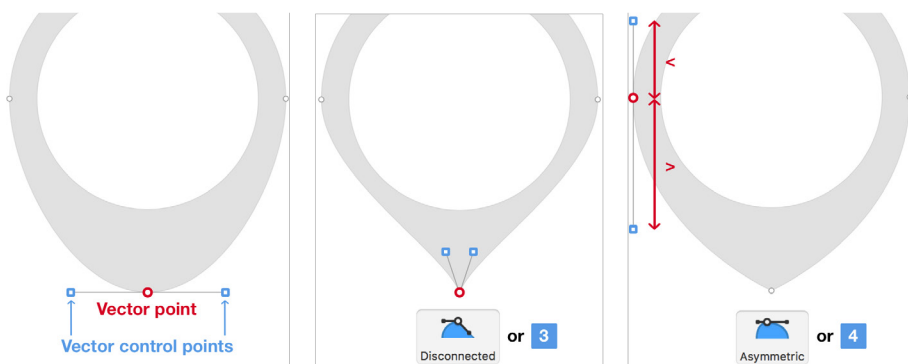
Fig. 4.7: Left: Every curved line consists of a vector point (red) and two control points (blue). Middle: A **Disconnected** point lets you edit the control points of the curve individually from each other. Right: The control points of an **Asymmetric** point are on the same line, but can have a different distance. See Fig. 4.5 for the remaining point types.

To my liking, however, the first variant with the **Straight** lower point (Fig. 4.5, right) is ideal for our purpose, so let's take this as the basis for the next steps. First zoom out to 100% with *Cmd + 0* and press *Esc* until the Boolean group is selected again. Then hold *Alt* and drag this first shape to the upper half of the artboard to create a quick copy for the next course of action. Name it "Pin shape" and move it to the uppermost position in the layers list with *Ctrl + Alt + Cmd + Up*.

## The Flag

The next element we want to tackle is the Austrian flag. This consists of three equal rectangles in the colors red, white, and red with additional points. We could also draw the shapes by hand with a vector, but most of the time it's much easier to take a basic shape and modify its vector points or add extra points. I'll show you both approaches. First, the ideal workflow.

## AN IDEAL WORLD

For the top red bar create a rectangle with the dimensions of 40 × 7 pixels next to the pin. Remember that it's much easier to start with an arbitrary size and change the dimensions afterwards in the inspector. Zoom in again with *Cmd + 2* to make working on the shape more convenient. For the fill color use the red from the button within our "Details" page — we have it saved as a document color.

Now for the fun part. Enter the vector point mode and add a first point at about the first third of the upper segment with a click; do the same at the lower segment. Now select both of these points by dragging a selection and bring them to the same vertical line with the **Left** alignment icon (third from the left). Repeat that with two additional points in the last third of the segments, which you also align to each other (Fig. 4.8).

After that, grab both of the points we added first and move them up with the keyboard two or three pixels. Do the same for the last two points, but move them down by the same amount. Now double-click on each of the points to change them to mirrored. You can tweak the handles now if you like, but Sketch actually did quite a good job at adapting the curves to the surrounding points.
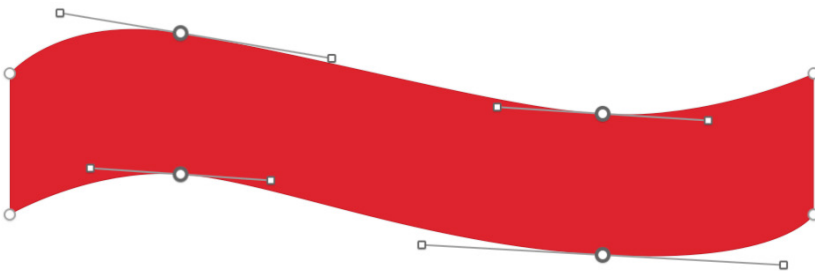


*Fig. 4.8: The upper bar of the flag with the four additional points. Note: I've changed the background of the screenshot to white for better contrast.*

## THE HARD WAY

Instead of modifying a rectangle, you can also take another approach and draw a vector from scratch. Start below the wavy shape we just created so you have some reference. Press *V* to enter the **Vector** tool and click to add the first leftmost point, which results in a straight point. Go right and up slightly and click again, but this time drag to the bottom-right, creating a curve with two symmetrical handle control points and a mirrored point. Please take Fig. 4.9 as a reference.

Go to the right once more, at about the height of the first point, and drag to the top-right again to make a mirrored point. The last point at the far right should be a straight point at the height of the second, so simply click. We've just created the upper segment of the shape. Now add another straight point below in the same vertical axis, but this time hold *Shift*, which constrains the movement to the vertical, horizontal or diagonal axes. Go left and create the remaining points in the same manner as at the top segment, but in the inverse order. When you have reached the left edge, click on the first point again to close the vector path (you could also click on **Close Path** in the upper right of the inspector).

As it was impossible to align the points to one another while drawing the shape, you might want to handle that now in case you are not satisfied with the result. Enter the vector point mode again and select all the points that need to be at the same vertical or horizontal height: align them with the alignment icons in the inspector. To pick multiple points either hold *Shift* and click on the points, or drag a selection. After that you may also need to reposition some points individually, or smooth the curves again with two double-clicks (one to go to a **Straight** point; another one to get back to a **Mirrored** point).

Moreover it might be necessary to change some points to **Asymmetric** or **Disconnected,** so that you are able to adapt the vector control points independently of each other. Finally change from the default grey border to the red fill.
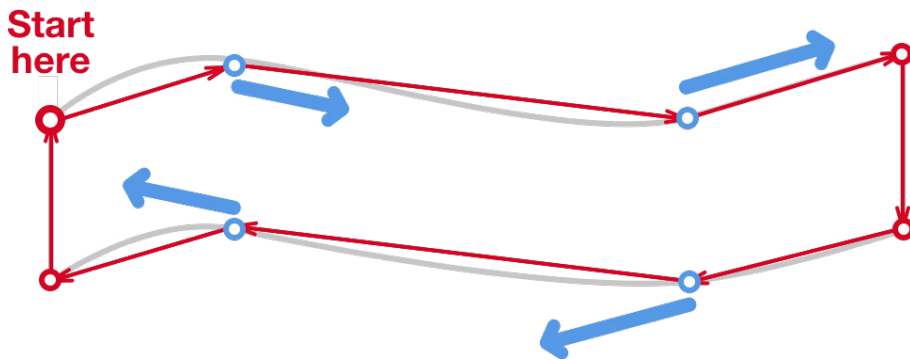
**Start here**

Fig. 4.9: *Draw a vector from scratch and start at the top-left point. Follow the red arrows for this purpose: when at the blue points, drag in the direction of the blue arrows to get a respective curve.*

> **Quick tip:** To join two vectors select them and choose **Layer → Paths → Join** from the menu bar.

As you can see, this whole process can become quite tedious. Often the best way is to start from a simple shape and either combine it with other shapes with a Boolean operation, or add additional points. Possibly the only exceptions are when you want to replicate and trace another shape, like we did before with the arrow icon, or you want to create a drawing.

## COMBINING THE PARTS

After our diversion into vector land, let's continue with the flag. Move aside the vector shape we just created (or delete it, as we don't need it anymore). Select the red shape from before and duplicate it: hold *Alt* and drag it down until its top side fully overlaps the bottom side of the original. Press *Cmd + D* to create another copy with the exact same offset. Changing the fill color of the middle shape to white makes it finally represent the wafting Austrian flag we had in mind.

Group all three bars into a "Flag" group and move it to the hole of the pin, so that it sits in the center. You may need to use the arrow keys here for some fine-tuning. Make sure the pin is below the flag in the layers list. Since the flag shouldn't be visible outside of the pin, we need to create a mask for it. Go into the Boolean group of the pin with a double-click on the canvas, click to select the hole in the layers list, hold *Alt* and drag a copy of it into the "Flag" group. Be sure it resides at the lowest position (press *Ctrl + Alt + Cmd + Down* to move it there). Now remove the fill of this circle with *F*, right-click on it in the layers list and select **Mask** or press *Ctrl + Cmd + M*, which hides all the unnecessary parts of the flag (Fig. 4.10, left).

The last thing we need is a nice shadow for the hole, that gives the whole pin some depth. Duplicate the circle again, name it "Shadow," but this time move it to the highest position in the layer group (*Ctrl + Alt + Cmd + Up*). Click on **Inner Shadows** in the inspector and set the properties to "0/0/3/1," with the color being black with 20% opacity (Fig. 4.10, right). Finally, combine the "Flag" group with the pin into the "Pin" group. This part is now complete; we only need to add the text to finish the logo.

Fig. 4.10: Finish the flag, move it to the hole of the pin, create a mask for it and add a shape on top with an inner shadow. Please note that I have removed some properties in the inspector to show the relevant parts only.

## THE WORDMARK

Create a new text layer with *T* with "Visit Austria" as the content next to the pin. The base font should be Avenir Next again with a size of "36," a weight of "Bold" and a white text color. For the **Alignment** choose **Left** (the first icon). Separate the words into two lines with a line break, and set the **Line Spacing** to "27" so that the letters *V* and *A* come very close together. You'll see that these two characters aren't aligned properly to each other (Fig. 4.11, red circle) and the kerning in general needs some work.

For the alignment problem, add a space right before the V, select this space and decrease the **Character Spacing** in the inspector until the letters are perfectly aligned (Fig. 4.11, bottom), which should be between "−7" and "−8." Use the *Down* arrow key in the input field in combination with the *Shift* key to go in steps of 1 instead of 0.1.

Fig. 4.11: By default, the letters V and the A aren't aligned properly (top). Create a space in front of the V, select it and decrease the **Character Spacing** in the inspector until the two letters are perfectly aligned (bottom).
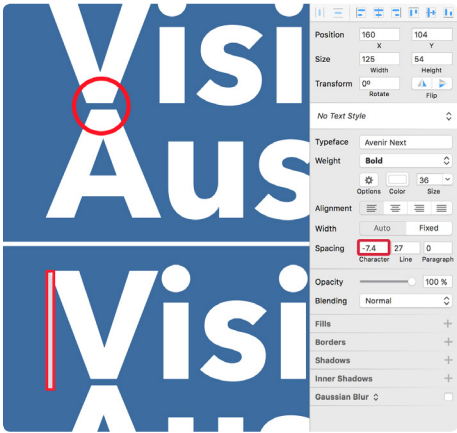
Then select the *A* of "Austria" and decrease the character spacing to bring the *u* closer to it. Do the same for the *u* itself and the *i* (to reduce the spacing to the *s* and last *a*), and the first *i* and *s* in "Visit" (to bring these three characters a little bit closer together). Please see Fig. 4.12 for some reference.



Fig. 4.12: Adapt the **Character Spacing** between some letters for a perfect kerning.

**Quick tip:** Use the **Character Spacing** in the inspector to change the tracking or kerning of text. For tracking, select the whole text layer; for kerning, pick individual letters. A quick way is to use the arrow keys, which changes the value in steps of "0.1." Combine that with *Shift* for intervals of "1", or hold *Alt* to go in "0.01" steps. Learn more about this topic in the info box *Tracking, Kerning and Ligatures* in chapter 7.

Now that the kerning looks good we need to convert the text into outlines, which is always a good idea for a logo (please have a look at the following Quick tip) and also lets us remove the tittle (the dot) of the *i* in "Austria" to replace it with the pin. After you have left the text edit mode with *Cmd + Enter* make a copy of the text layer so you have a backup if you need to amend something later. Now go to **Layer → Convert to Outlines** or press *Shift + Cmd + O*. Access the newly created Boolean group with a double-click on the tittle — which should be selected now — and delete this shape.

Drag the pin over to the text on the canvas and align it until it sits perfectly on the top of the *i* — about three pixels away vertically. Finally, combine the text layer and "Pin" group into a new "Logo" group — and we've created our first logo (Fig. 4.13).

Fig. 4.13: All parts combined: the final logo.

> **Quick tip:** Whenever you design a logo, be sure to convert all text layers within it to outlines in the last step. This ensures that every computer, even without the fonts installed, can open the logo — especially important if you pass it on for printing. Read more about printing in chapter 6, *Exporting*.

## THE CORRECT SIZE

Whenever you need to resize the logo, your first instinct might be to do that with the handles on the canvas — which is not a good idea at all. Sketch tries to set all the dimensions to full pixels when **Pixel Fitting** is switched on in **Preferences** (*Cmd +,*), which can ruin all the hard work you've put into kerning and alignment. You'll get better results with this option switched off, but shadow sizes and border thicknesses, for example, are still not accounted for and remain at their original sizes.

A far superior approach is the **Scale** option, which resizes everything proportionally. Another advantage of this is that you can set a relative percentage value. Access this feature either in the toolbar or by pressing *Cmd + K*

## Scale vs. Scale

When you need to resize an element, your first thought might be to do it right on the canvas using the selection handles. While this isn't much of a problem with simple shapes, you should reconsider when you change the size of a complex element like an icon or logo, especially if it consists of multiple layers that have borders or shadows applied — these properties won't get resized proportionally. If you have a layer with a border thickness of 2px, it will have the same width after reducing its size by half on the canvas, instead of being 1px (Fig. 4.14). This becomes even more evident for text layers, as they don't get resized at all, which is due to the "Group Resizing" feature — read more about it in chapter 8 on page 265ff. Text layers only change their size with the rest of the elements if they are converted to outlines in advance.

Moreover, using the selection handles can lead to unwanted results if **Pixel Fitting** is switched on in the **Preferences** (read more about this setting in the info box *Pixel Precision* on page 116), as both the spacing and dimensions of nested layers get re-calculated to have full-pixel dimensions.
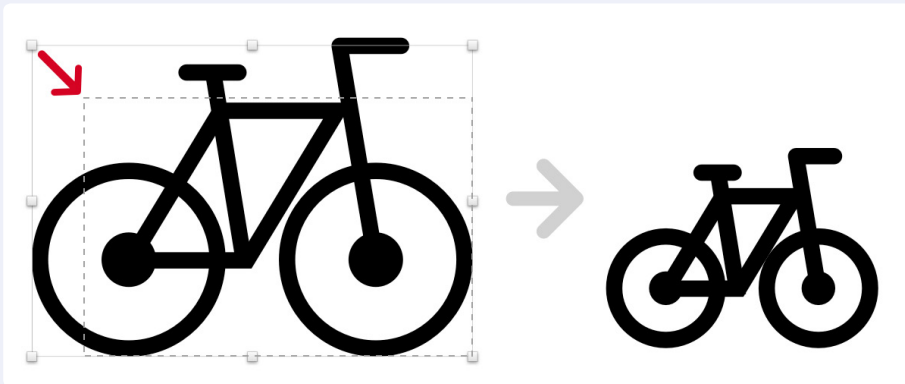


Fig. 4.14: *If you resize layers with a border on the canvas or in the inspector, the border keeps the same thickness and isn't changed in relation to the element's size.*

This problem can be avoided if you use the **Size** fields in the inspector to resize layers (but remember to lock its aspect ratio beforehand with the lock icon, see Fig. 2.20). However, using the **Scale** option from the toolbar (*Cmd + K*) is still be most ideal way to resize elements: it will not only give you relative sizes for the layer properties (like borders, see Fig. 4.15) and resize text proportionally, but also a preview right on the canvas, to assess the potential result. As an added bonus the dialog lets you set the size in percentages, but you can still use good old pixel dimensions.

By default, the origin of the change is the center of the element, but you can adapt this behavior in the bottom-left corner of the dialog (Fig. 4.15, red border). There's a small caveat to the Scale option, however: mathematical operations don't work here, and you can't use fractions.
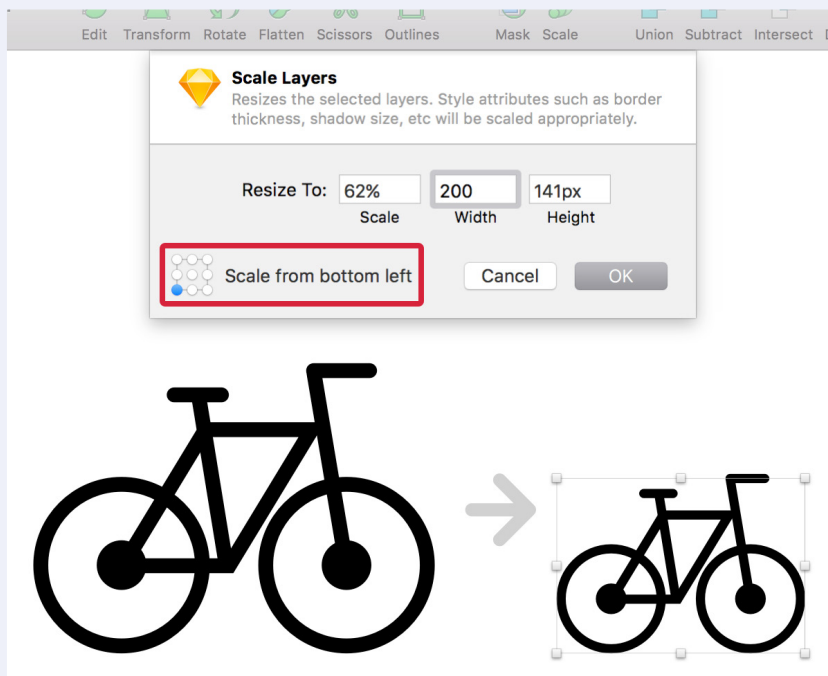


*Fig. 4.15: The **Scale** option also takes the border thickness (and other layer properties) into account when resizing.*

# Everything Comes Together

Since we want to have a little bit of brand-
ing in the details screen, we'll copy the
"Pin" group there now. Navigate to the
"Details" page and paste it right above the
"Navigation" group in the layers list. Align
it to the horizontal center of the artboard
and two grid units (16px) away vertically
from the title bar. With this final step we
have finished the second iteration of the
details screen (Fig. 4.16).

You have learned how easy it is to employ
artboards to evolve a design and try out
different ideas. Be sure make to constant
use of them! I hope you are also fond of
some of the advanced techniques in Sketch
that can make your life as a designer much
easier. With this knowledge it's time to
create an entirely new design in the next
chapter: the overview screen containing a
list of all the available tourist sites.
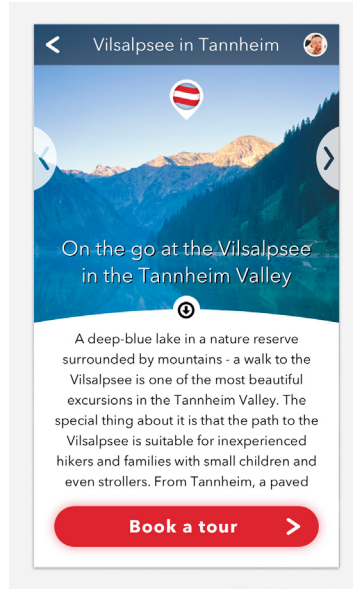


*Fig. 4.16: The finished details screen.*

# Layer Management in the Layers List

By now we have a wealth of different layers in the layers list, so it gets harder and harder to keep track of everything, especially if many of the groups are expanded. To collapse all of them at once go to **View → Layers List → Collapse Artboards and Groups** (Fig. 4.17), which you should assign to a keyboard short (see more at the info box *Custom Shortcuts* on page 71).

An alternate way to collapse or expand an artboard and its nested groups and layers is to hold *Alt* and click on the disclosure triangle in front of the artboard in the layers list (Fig. 4.17, red border), which shows you the full hierarchy. With another *Alt*-click, the artboard is folded up again, and with it all the nested content. If you expand the artboard now (without holding *Alt)*, just the main groups are shown. Please note that this works for groups alike.
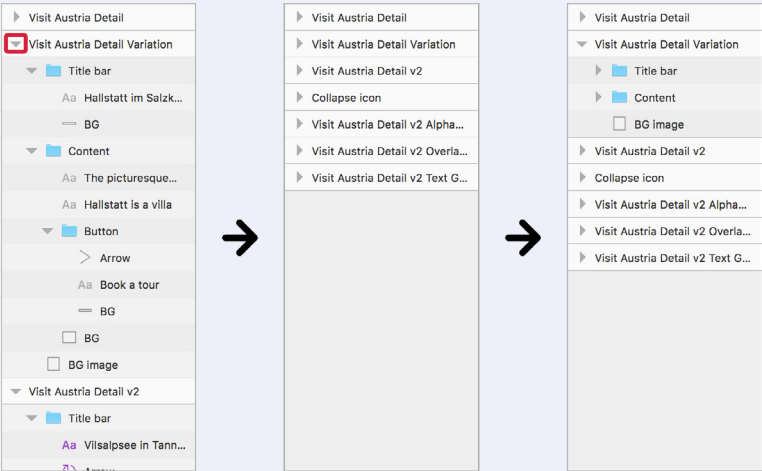


*Fig. 4.17: Use **Collapse Artboards and Groups** (from **View → Layers List** in the menu bar) or hold Alt and click on the disclosure triangle to fold up artboards (or groups) and all of its contents. Expanding the artboard now (without holding Alt) just shows the main groups.*

If you are looking for a specific layer or group and know its name or at least part of it, the search function at the bottom of the layers list can come in handy (Fig. 4.18). It is accessible with *Cmd + F* and highlights the **Filter** input field. Matching elements are shown as you type.



*Fig. 4.18: Employ the **Filter** option at the bottom of the layers list to search for specific layers.*
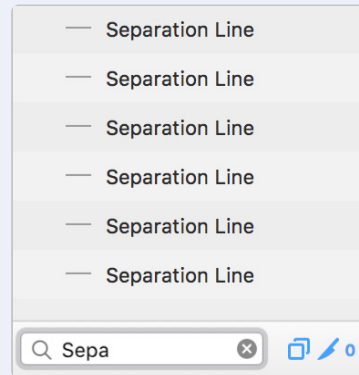
This way you can also easily reorder elements in the layers list. Say you have several elements scattered around on the canvas, that you want to bring to the same location (Fig. 4.19, left). Enter parts of the name that these elements have in common in the **Filter** field, select all of them in the layers list (by clicking on the first, holding *Shift* and clicking on the last) and drag them to the top until you see the insert line with the circle on the left (Fig 4.19, middle. Additionally see Fig. 2.18 for the depiction of the insert line). Now when you empty the **Filter** field you'll see that all of the elements have been moved together and placed on top of the other layers (Fig. 4.19, right). Use this approach in the same way to group specific layers, rename them quickly, or move them altogether on the canvas.
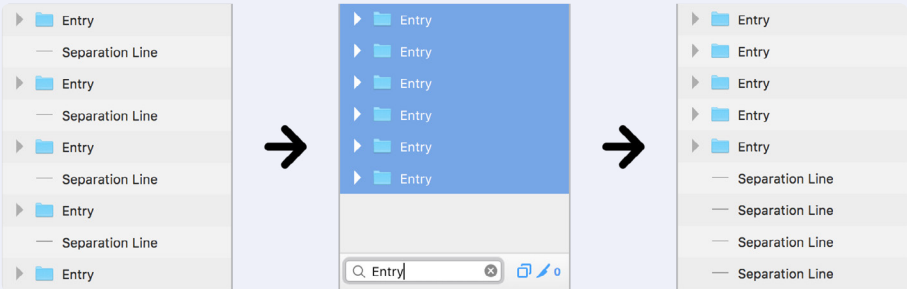
*Fig. 4.19: Left: You want to bring all the "Entry" groups together at the top of the layers list. Middle: Use the **Filter** option and enter "Entry," select all of the found elements and drag them to the top of the layers list. Right: Now all the "Entry" elements are at the same location.*

Selecting and moving multiple elements to reorder them also works for groups and layers. You don't even need to use the search function to gather scattered layers: just select all the elements you want to bring together in the layers list and drag them to the preferred location there.

# Creating An Overview Page

Now that we've finished the details screen and learned a great deal of Sketch's functions, our next task is the "Overview" page containing a list of all the available tourist sites of Austria. It not only features a sortable catalog with all the points of interest, but also a slightly modified title bar and an options bar to adjust the display of the list (Fig. 5.1).
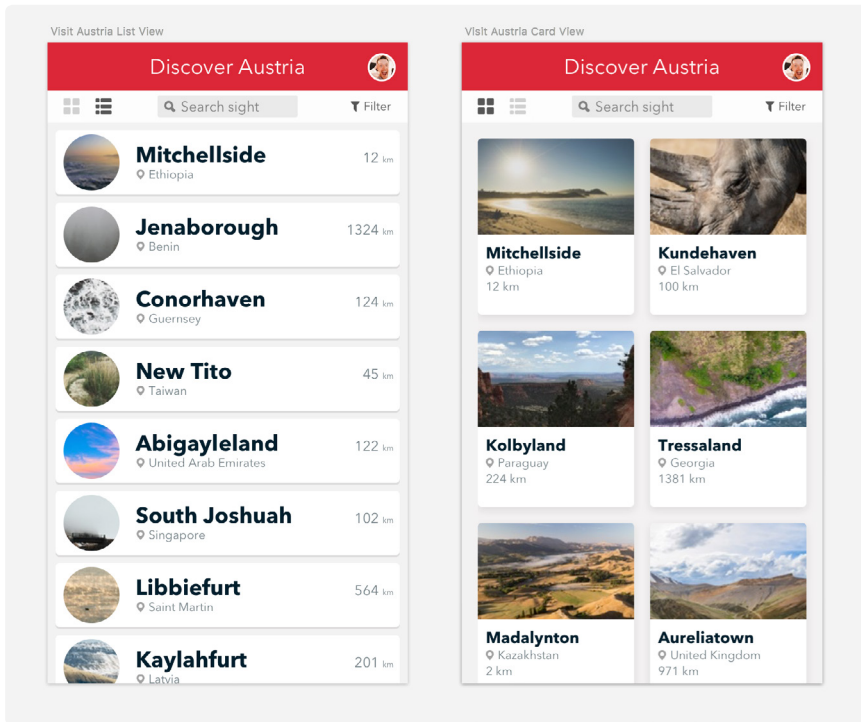


*Fig. 5.1: The list view (left) and the card view (right) of the "Overview" page we are going to create in this chapter.*

# Set Things Up

Since we want to keep things separate and organized let's first create an "Overview" page to hold the design and all the iterations we might come up with. Since the pages area above the layers list should still be visible, click on the + icon on the top-right and name the page appropriately. Then drag it just below its "Details" counterpart. There are a few different approaches to how we could carry over the necessary parts from there. The first approach would be to copy the "Details" artboard, insert it on the new page and delete all the unnecessary items.

Another way (that I prefer slightly) is to begin with a clean slate, as it forces you start from zero and lets you reconsider your workflow. We don't need a lot from the details screen anyway. Take a deep breath and create a new artboard based on the **Mobile Portrait** preset with "Visit Austria List View" as the name. Be sure to move it to the "0/0" position again.

To make it easier to pull in the only required part, the title bar, head over to the "Details" page with *Ctrl + Up*. In the latest iteration of the design select the related group in the layers list and create a symbol from it by clicking on **Create Symbol** icon in the toolbar. Name it "Title bar" and be sure to check **Send Symbol to "Symbols" page**. Although it will have a slightly different look than the "Details" page, we can clear the way to use it on future artboards with this step. And it's never a bad idea to have all your assets lined up nicely on the "Symbols" page for reference.

# Adaptations

Go back to the new "Overview" page with *Ctrl + Down* and insert the new symbol into our artboard with **Insert → Symbols** from the menu bar (or the appropriate **Symbol** icon in the toolbar). Align it to the top-left corner. Since these two instances of the symbol are now linked, we need to detach it with a right-click so we can edit it individually.

The first adaptation to make is to delete the back arrow: since users will be on the "Overview" page at this point, they can't go back anywhere. The profile icon to update the user's settings should still be present, however. Next, change the background color of the bar to the red we defined earlier: make another *Cmd-click* on the title bar to select the "BG" layer and choose this color from the **Document Colors i**n the color dialog; in contrast to the "Details" page it should have 100% opacity. Finally, edit the text layer of the title to "Discover Austria" (Fig 5.2) and create a new "Title bar overview" symbol for good measure.
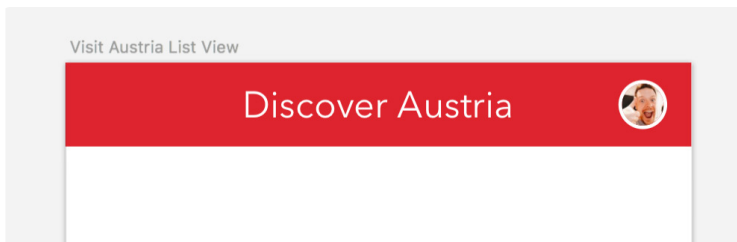


*Fig. 5.2: The adapted title bar.*

**Quick tip:** Instead of performing a *Cmd-click* on a group to access one of its nested layers, you can also right-click and select **Pick Layer**. This gives you a list of all the layers at the position of the mouse cursor, including the full layer hierarchy.

## The New Options Bar

Right below the title bar we will introduce a new options bar that not only lets the user change the entries from a list to a card view, but also has a search field and filter button to narrow down the displayed tourist attractions (Fig. 5.3). The first step is to insert a new rectangle for the background, named "BG" with 100% width and a height of 32px to adhere to our grid. Speaking of grids: they are not automatically applied to all artboards, so we need to set up our 8px grid again with a click on **View → Grid Settings** in the toolbar. To ensure we don't need to define it again for future artboards, make it the default.
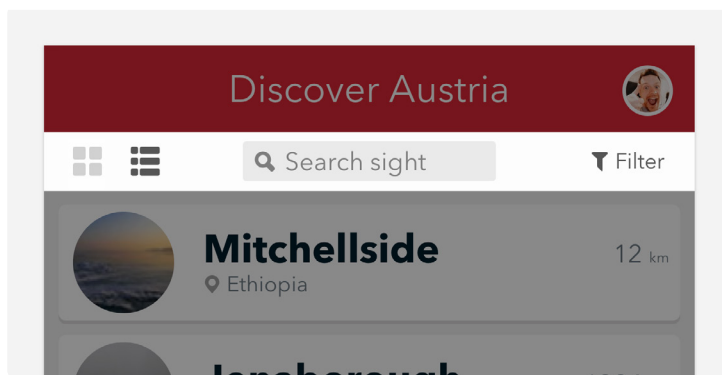


*Fig. 5.3: This is how the options bar will look when we are ready.*

Zoom in to the artboard and select a white fill color for the background of the options bar. Remember that you don't need to enter the color dialog but can use the color picker with *Ctrl + C* for a quick change. Since a white fill on a white artboard background doesn't make much sense, adapt it to "#D2D0D0": click on the artboard's title on the canvas, check **Background Color** in the inspector and insert this hex value. I've mixed a little bit of red into the grey so that it doesn't look too dull. This should be considered for large areas.

# Black Is Never Black

When you see a dark tone in nature it often seems as if it is a pure shade without any color. But don't let your eyes fool you. Even the darkest black mostly has a little bit of color sprinkled in. This is due to lighting and the surrounding colors, and also goes for any other shade of grey or white. Don't believe me? Take a photo, pull it into Sketch and measure any part with the color picker (Fig. 5.4). You will be amazed that almost every spot has some kind of saturation. Ian Storm Taylor's article "Design Tip: Never Use Black"[22] explores this idea more closely.



*Fig. 5.4: The lovely city of Grado in Italy. Every spot that doesn't seem to have actual color in nature does have some saturation actually (the HSB format is used for every color).*

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22  http://smashed.by/sketch-black

Bear that in mind when you define the colors for your next UI. The darker the shade, the more color you need to mix in (Fig. 5.5). For colors close to black, you may need to drag the saturation far to the right in Sketch, but for lighter grays only a small amount of color is needed. Generally you shouldn't use pure black at all. With this little trick, designs feel much more natural and less dull. But take care not to overdo it, as things can swing the other way pretty fast and look very odd, as though somebody spilled a paint bucket over your design! That's also why I often use an unsaturated tone for text colors, as everything else appears to be quite strange.



*Fig. 5.5: The darker the shade, the more color (saturation) you need to mix in.*

## The Cards Icon

Creating icons is one of my favorite parts of UI design as it not only gives me a welcome break from the usual design work, but also lets me discover and master a design application like Sketch much more deeply. Although it's always a good idea to gain some inspiration beforehand (remember we used The Noun Project[23] for this before), in this case there's not much to think about, as a cards icon turns out to be a rather simple icon type: four squares, split up into two rows (see Fig. 5.6 for the finished icon)

Since the grid would hinder more than help, hide it and create a rectangle with a side length of 7px (hold *Shift* to get a square) on top of the "BG" layer. Don't worry that it's off the 8px grid, as this isn't a sacred rule we are never allowed to break, but rather a helpful guide. Zoom in to the new shape so that we can better work on this icon (remember, *Cmd + 2*). Soften the square a little with rounded corners of 1px, duplicate and move it to the right with a spacing of 2px (*Alt + drag* is best for that). Select both of the elements and duplicate them again, this time to the bottom with the same spacing.

Already this looks like the icon we imagined, so select all four of the squares and create a **Union** Boolean operation (*Alt + Cmd + U*). Finally, choose black for the fill color and tone it down to 20% opacity (hit *2*). This marks it as being unselected, as we are currently on the other view of the page, the list view. To reuse this unselected state at a later point we will now create our first shared style. With the list icon still selected, click into the familiar drop-down in the inspector that says **No Shared Style**. Pick **Create New Shared Style** and name it "Options bar inactive state." Now on to the icon for the other view of the list.

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23  https://thenounproject.com

## The List Icon

The list view icon is also a bunch of rectangles, but in a slightly different arrangement (see Fig. 5.6 for finished icon). Create another square, this time with a side length of just 4 pixels, but also a border radius of 1px. Duplicate it, unlock its aspect ratio with the little lock icon in the inspector (Fig 2.20) and move it to the right with a spacing of 1px. Change its width by holding *Cmd* and using the *right arrow* key until you reach 11px. Keep an eye on the width field in the inspector to get there.

Select both of these rectangles with *Shift* and drag them down with a spacing of 2px, but hold *Alt* to get a duplicate. This also has the helpful side effect of displaying the smart guides for the spacing. Hit *Cmd + D* now, which duplicates the elements again with the exact same distance. Achievement unlocked! Pick all the six newly added shapes and create another Boolean operation of the **Union** type. Use black as the fill color again, but mitigate it with an opacity of 70% (press 7) so that the color isn't so hard on the eyes.

In addition to the inactive state we also want to prepare this active state to be reused at a later point. Like before create a new shared style, but this time choose "Options bar active state" for its name.

## Tidy House, Tidy Mind

Time to bring some order to the layers list for the icons. Pick the card icon and rename it to "Icon cards"; do the same for the list icon with a name of "Icon list." Select both icons and create an "Icons" group from them; be sure it's within the "Options bar" group. Now add the background layer to the selection with *Shift*, and center all of these elements vertically with the second alignment icon from the right in the inspector (align vertically). You

can use the grid for some aid to align the icons: space them apart by 16px with the same amount from the left edge of the artboard.
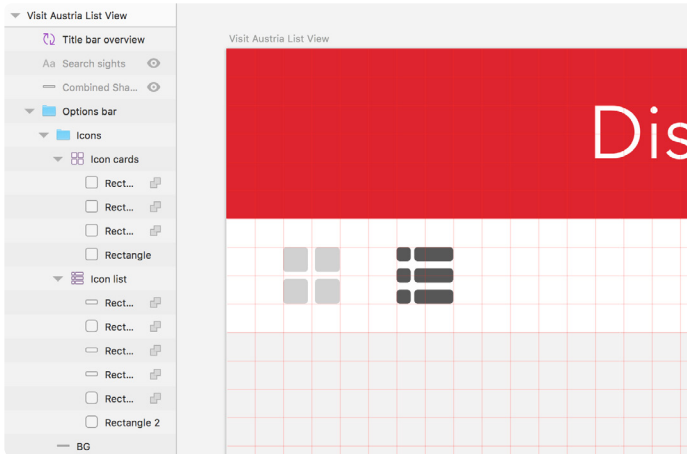


Fig. 5.6: The completed cards and list icon.

## In Search of Some Sights

On to some new challenges with the search field (have a look at Fig. 5.11 for the end result). But fear not: its layout is rather simple, though it still has a few unique qualities. First, center the canvas to the options bar with *Cmd + 3*, as this will be the location for the field. You might also need to zoom out a bit. With the right view, create a new rectangle that has a size of 140 × 22px and a border radius of 2px; name it "BG."I've made the background color a little bit more natural again by mixing some red into the base color of black. First I dragged the color to black, pulled the **Hue** slider all the way right to red, increased the saturation to 30 and the brightness to 20 (Fig. 5.7).

This brought me to a color value of "#332424", that I saved for later reference in the **Document Colors** of the color dialog (Fig. 5.7, bottom). Finally I changed the opacity of the layer to 10%.

With "Search sights," add some placeholder text to tell the user what this field is supposed to do and set its properties to Avenir Next with a regular weight, a size of 14px and the trusted color of black. However, change the opacity to 50%, so that it actually looks like a placeholder, and center it both horizontally and vertically to the background of the input field for now. I hope you're not yet tired of icons as we still have two more to go for the options bar.
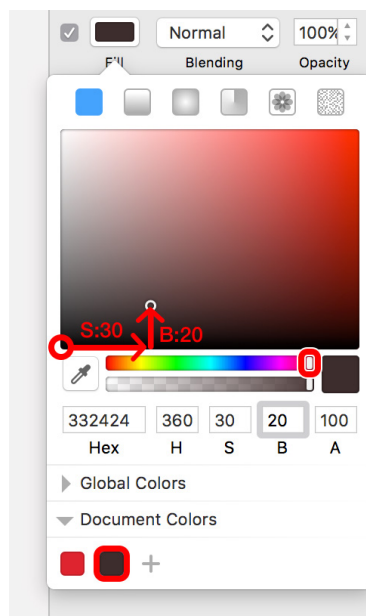


*Fig. 5.7: Start from black and mix some red into it. Then save it as a **Document Color** (bottom).*

## IN SEARCH OF AN ICON

Time to create the typical and widely recognized search icon, the magnifying glass (see Fig. 5.11 for the finished icon). It consists of a circle with a diameter of 9px, no fill color and an inside border of 2px thickness. Create it close to the left edge of the search field. For the handle we will employ our old friend the rectangle again (remember to hit R to access this shape quickly). Draw one with the size of 3 × 5px and 1px rounded corners. Leave the grid switched off to ease the creation of these shapes.

But we don't need rounded corners on all four sides — just on the bottom ones. We could either enter the vector point mode, drag a selection with

the mouse and change the corners; or, for a quicker method, enter "0/0/1/1" in the **Radius** field of the inspector. Remember you can use the quick top-left/top-right/bottom-right/bottom-left notation here. Align the two shapes to their horizontal center and move the handle down to the bottom of the circle, but let them overlap by one pixel.

Before we can combine the two shapes with a Boolean operation we need to create a dedicated shape for the circle, as it consists of a border rather than a fill: hit *Shift + Cmd + O* for that and name it "Icon." Drag the handle of the magnifying glass into this new Boolean group in the layers list, to its uppermost position. Change the type for the handle to **Union,** and the type for the remaining two circles to **None**. Like the collapse icon for the details screen we recreated earlier, the Boolean operation is quite different to what you may try at first (see Fig. 5.11 for the correct Boolean operation). The traditional approach would be to move the smaller circle above the bigger one, set the Boolean operation to **Subtract** and the one for the handle to **Union** or **None**. Just keep this alternate approach in mind.

Search icons of this type are typically tilted. Although this isn't a big task we could go down two routes. The first, which I've already shown you, is to hold *Cmd* to temporarily switch to rotate mode. This allows you to rotate the object with its selection handles at the corners.

However, you are missing an important detail this way. Each element in Sketch has a rotation origin around which it can be rotated — but you only see this point when you click on **Rotate** in the toolbar. This point is depicted by a little crosshair at the center of the object (Fig. 5.8). You can move it to any location you want to place the rotation origin. Unfortunately, this point isn't saved with the object and neither is it applied when you rotate it with the input field in the inspector.
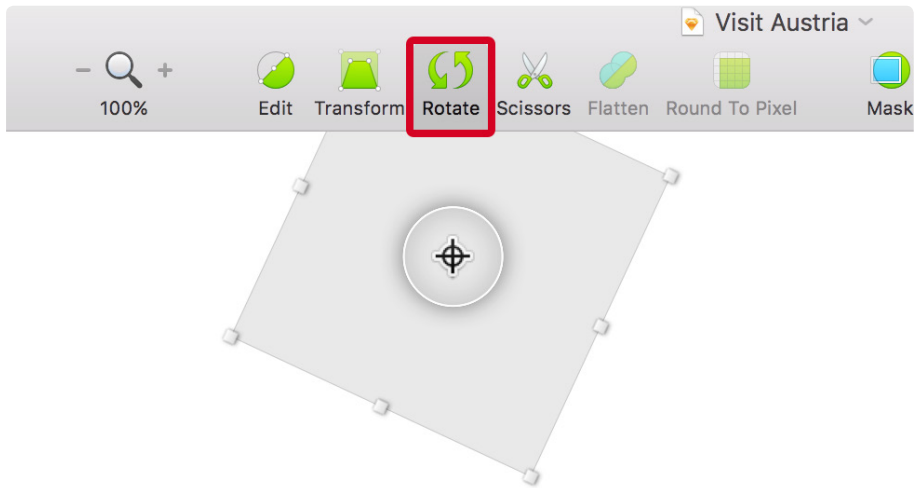
*Fig. 5.8: Every object in Sketch has a rotation point, depicted by a little crosshair, but only if you use the Rotate icon in the toolbar.*

Either way, turn the magnifying glass by 45 degrees counter-clockwise (–45°), change the fill to black, and give the whole element an opacity of 50%. Remember you can hold *Shift* to rotate in 15-degree steps.

**Quick tip:** One specialty of Sketch is that rotations of groups alter the axes of contained elements, no matter if you resize them with the selections handles or the keyboard (*Cmd + arrow keys*). This tilted state is even represented by the smart guides and if you add new objects to the group. Modifications to vector points however are not affected by this behavior, but you can always move the element out of the group, adapt its points, and put it back in. Removing the group with *Shift + Cmd + G* applies the rotation to its elements.

Please note that most of these concepts don't apply to Boolean groups, but you can still see the altered axes in action if you enter the Boolean group of the search icon and resize the handle with the mouse (Fig. 5.9).



*Fig. 5.9: Modifications to children of rotated groups happen at the same angle as the rotation of the parent.*

## Transformations

Besides rotations, Sketch also allows us to transform elements using the **Transform** icon in the toolbar. Move the corner handles (Fig. 5.10, red) to distort the object and hold *Cmd* to apply the transform only from one side. The selection handles on the sides of the element let you skew the object (Fig. 5.10, blue). Transformations are especially handy to create 3D effects or to bring some perspective into them. There's even a plugin called Magic Mirror[24] that lets you automate this process and modify the content even when it's already been transformed (which isn't possible by default).
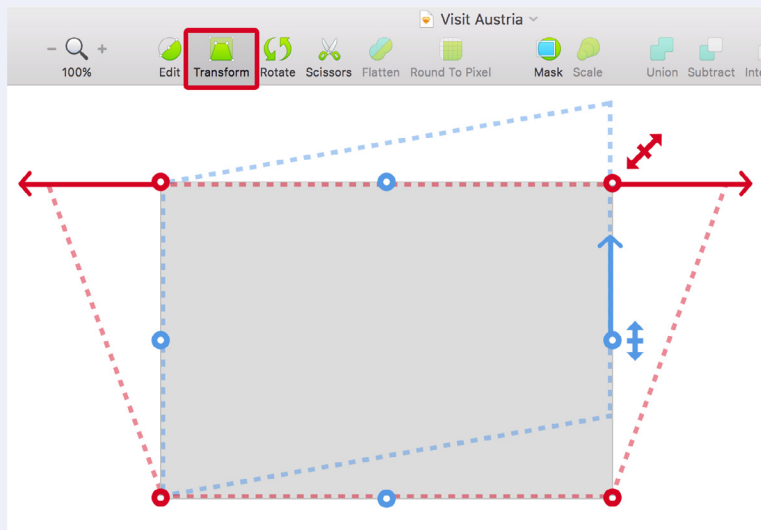


*Fig. 5.10: Use the **Transform** tool from the toolbar to distort a layer (with the red handles), or to tilt it (with the blue handles).*

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24  http://magicmirror.design

**FINAL MOVE**

Back to our search field. Move the placeholder text 22px away from the left edge of the background to leave some room for the icon, which we will place here. It should sit neatly in the middle of this cleared space and also be centered vertically to the background. Lastly, select all the elements from the search field in the layers list, create a "Search field" group and align the whole bunch to the vertical and horizontal center of the options bar's background using the alignment icons (fourth from the left and second from the right). Make sure that it is also within the "Options bar" group and above the "BG" layer. We've now finished the search field (see Fig. 5.11) and can approach the last element in the options bar: the filter button.
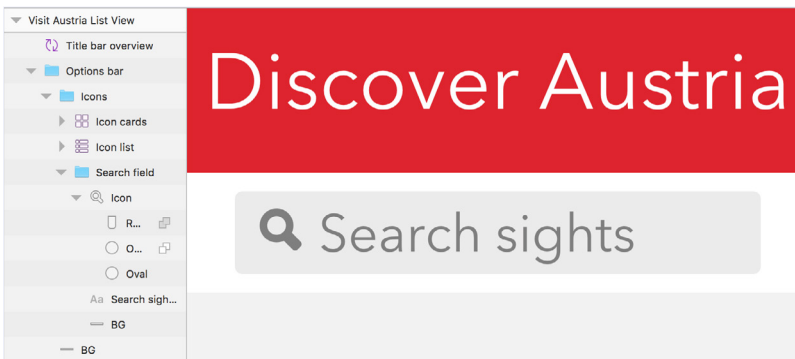


*Fig. 5.11: The finished search field with the correct layer hierarchy.*

# A Filter Button

When I prepared to create the filter icon I realized there wasn't a single icon that represents this type of function, but I quickly narrowed it down to two: range sliders, and funnel. Let's start with the sliders, but also create the funnel for the card view of the "Overview" page later, to have an alterative. It's straightforward again, as the sliders icon consists of just a rectangle and a circle, both duplicated and mirrored (take a look at this icon in Fig. 5.13). Move your viewport to the right edge of the options bar and start there.

The rectangle should be 12×2px with rounded corners of 2px; the circle should have a diameter of 5px. Instead of a rectangle we could also draw a line with L, hold Shift to constrain the movement to the horizontal axis, change its length to 10px, the border thickness to 2px and the ends to rounded with the middle icon at **Ends** in the border options (which can be shown with a click on the little gear icon). But the moment you inspect the properties of the line in the inspector, you'd see the inherent problem of this type of shape: it's always placed on half-pixels, even when you create outlines. That's why I rely on rectangles whenever possible.

Owing to the difference between the rectangle and the circle — one has even dimensions, one uneven — they can't be centered vertically. This becomes apparent as soon as we try. For once, we won't care about half-pixels and we'll move the circle down by 0.5px. The easiest way is to enter the **Y** field in the inspector, hold down Alt and use the arrow keys to go in 0.1px steps. Also move the circle 2px away from the right edge of rectangle, select both shapes, duplicate them and move them down with a spacing of 1px between.

For this second row the circle should be 2px away from the left side of rectangle. As a little trick, select it, hold down *Alt*, point to the rectangle with the mouse, leave it at this position, and move the circle with the arrow keys to see the distance. Select all four shapes and apply a **Union** Boolean operation. Now we can employ the shared style we set up earlier on the list icon. Click on the respective icon in the drop-down again and select the style "Options bar active state" (Fig. 5.12). This takes the styling properties over to the filter icon: a color of black with an opacity of 70%. Whenever you want to have another color for both of the icons you just need to adapt it and click on the round arrow next to the drop-down (see also Fig. 3.22 on page 80), which automatically changes it for all instances of this shared style. Nice! For the name of the Boolean group, use "Icon filter."
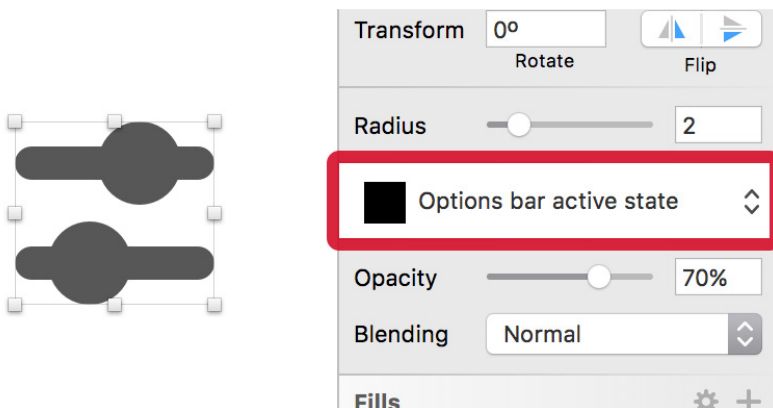


*Fig. 5.12: Take over the styling from the list icon with the shared style.*

Finally, add the "Filter" label with the same color properties, a font size of 12px and a regular weight. The rest is just some naming and positioning: move the text 4px away from the icon, align them vertically to each other, create a "Filter" group, and move it away by 16px from the right artboard edge to adhere to the grid. Place it into the "Options bar" group in the layers list and center the filter group to it vertically. We just finished the options bar. Well done!
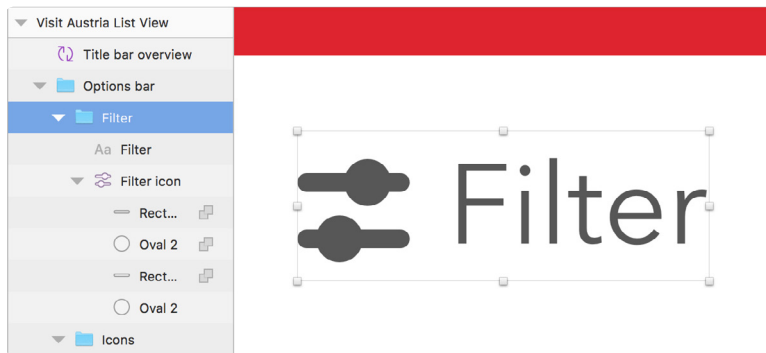
Fig. 5.13: The filter icon is ready.

# A List of Tourist Sites

The list view of the overview screen consists of eight identically structured entries with different content (see Fig 5.1, left), so we only need to create the first line and use it as a model for the other seven (Fig. 5.15). There are multiple approaches to achieve this goal in Sketch. I will show you each of them, but first let's create our initial entry.

## THE MODEL

Make use of the grid again and draw a white rectangle with a height of 64px, equally 8px (one grid unit) away from the left and right edges of the artboard and from the options bar. Give it 4px rounded corners followed by a nice black shadow with the properties of "0/2/0/0," and 10% alpha to add some depth. Name this element "BG" in the fashion of other background layers.

Let's move on to the content. For the image of the attraction create a circle with "56 × 56" and pull in a photo of your liking — I've used one from unsplash.com to speed up the process. Make sure that it is above the circle, both in the layers list and on the canvas. Select both, the image and the mask, and click on **Mask** in the toolbar to restrict the photo to the shape of the circle. You might need to adjust the size and placing of the photo now, so that the relevant parts are visible. It's also a good idea to lock it with *Shift + Cmd + L* to avoid an unintended selection. Align this mask group to the vertical center of the background, move it away 8px from the left edge and name it "Image." For the title of the tourist site add a bold black, left-aligned text layer outside of this group with a size of 22px.

There should be gap of about 10px to the top of the background and it should sit nicely on a grid line. The content doesn't matter, as it will be replaced shortly, but use "Title" for now.

The next element is the location, comprising the state, city and a pin icon. For the icon we can benefit from knowledge we gained creating the logo (you might want to have a look at Fig. 4.5 for some reference), so add the outer circle with a diameter of 8px first. Hide the grid now as it doesn't help much at the moment, but zoom to about 800%. Duplicate the circle, hold *Alt* to resize it from the center — together with *Shift* to constrain the ratio — and drag it to a size of 4px. Select both to create a Boolean operation of **Subtract**, but make sure that the smaller circle is above the larger. Now enter the vector point mode of the Boolean group with *Enter*, and move the bottom point of the outer circle — which should already be selected — down by 2px with the arrow key. Finally, change the point mode to **Straight**, give the element a color of 40% black, and rename it to "Pin," which completes the icon.

The text for the location should have a regular weight and a size of 12px, toned down to 60% black. Its content is "Location." Align it vertically with the pin, group them to "Location" and set a distance of 4px between the elements. Position this group below the title, so that it also aligns to a grid line. Make sure that both the title and the location are also left-aligned to the grid horizontally with a distance of 16px to the image.

The last element for our model of the entries is a text layer with the distance from the user's current location to the tourist site. Enter "100 km" for now and use the same properties as for the location but with a size of 14px. Place it one grid unit from the right of the entry's background and at the same height as the title of the entry. The alignment icons don't work here, as both of these text layers have a different line height.

You could use the smart guides instead, but if you have a whole lot of other elements on the artboard, this can become quite fiddly.

**Quick tip:** Use *Alt + Cmd + =* or *Alt + Cmd + –* to increase or decrease the font size of a text layer after you have added it. By default, it is resized from the top this way, but if you have previously altered its line height, the resizing happens from the baseline.

Let's try out something new and employ the custom guides of Sketch for the first time to act as a guide for the alignment of the text layers. Before you can add a new guide you need to show the rulers with *Ctrl + R*. Hover over the left bar of the rulers to show a preview of the guide and click at the position where it aligns to the baseline of the entry's title. After that, move the distance text layer to the same line with the arrow keys. You can hide the rulers again now.
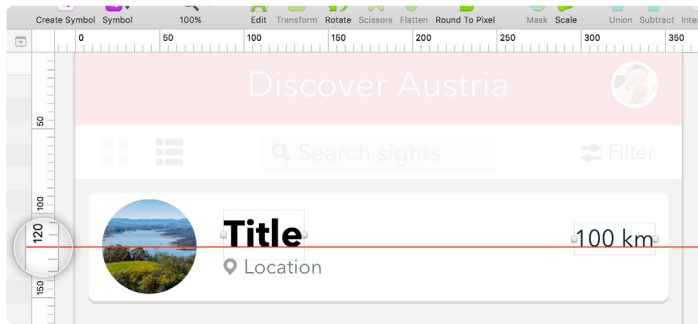
*Fig. 5.14: Show the rulers with Cmd + R and set a custom guide to align the title and the distance to each other. Click on the leftside ruler to add the guide.*

The final thing to do for this layer is to decrease the font size of the "km" unit to emphasize the number itself a bit more. First, change the **Alignment** of this layer to **Right** in the inspector (third icon), since we've already aligned it and a change of the text size would reposition it. Then start to edit the text layer with a double-click, select "km" and press *Alt + Cmd + –* until it reaches a size of 8px. Confirm the action with *Cmd + Enter*. Complete the first entry of the sights by selecting all of the belonging elements, grouping them as "List entry" and moving them to the bottom of the artboard with *Ctrl + Alt + Cmd + Down*.
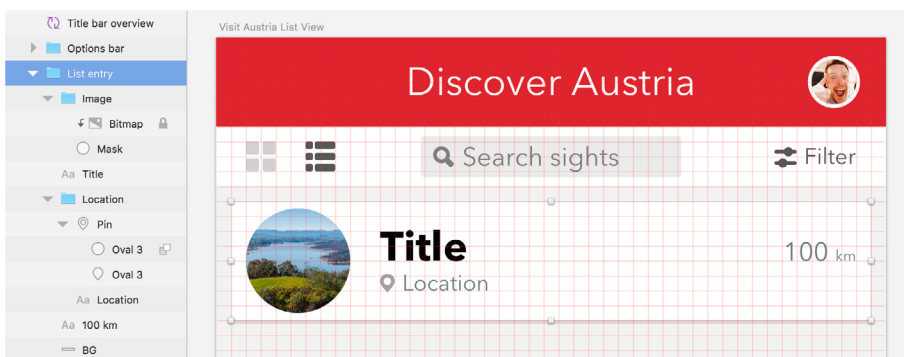


*Fig. 5.15: The completed model of the list entries.*

## Rulers and Guides

Individually, rulers are not particularly useful, but they enable you to add custom guides to align elements or act as reference points. You can show them with *Ctrl + R*. Add a vertical guide with a click on the top ruler (Fig. 5.16, top); a horizontal guide is placed with a click on the ruler on the left of the canvas (Fig. 5.16, left). After that you can drag them to any other position. If you drag the ruler instead you are changing its zero point. To make it easier to place a guide, select a layer first and let the guide snap to its boundaries when you hover over the ruler.
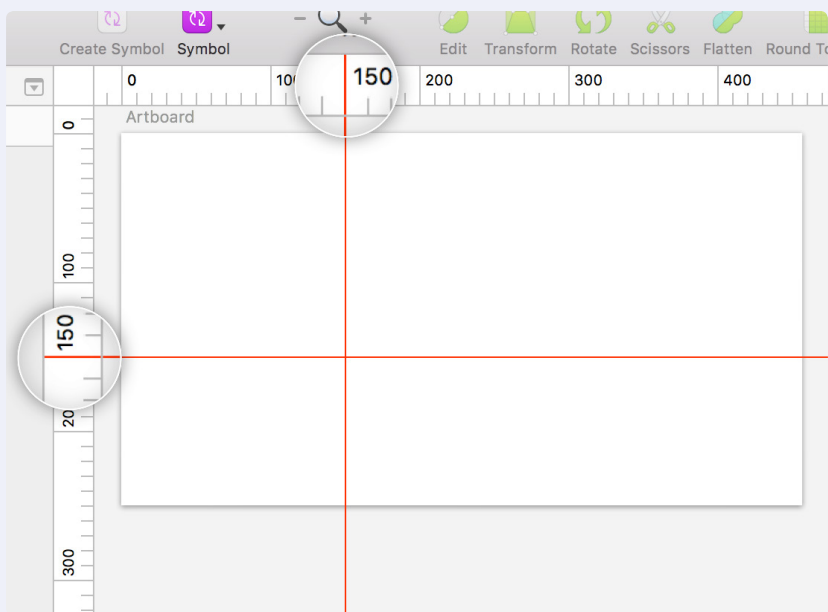


Fig. 5.16: Click on the top ruler to add a horizontal guide and on left ruler for a vertical guide.

To delete a guide, simply drag it out of the canvas or right-click on the ruler and select **Remove Guide**, or **Remove All Guides** to clear them all at once. Most of the time, you don't even need to add a custom guide to align layers: hover over the relevant ruler to see a preview of the guide, leave the mouse pointer where it is and use the arrow keys on the keyboard to move and align the currently selected layer to this guide (Fig. 5.17).
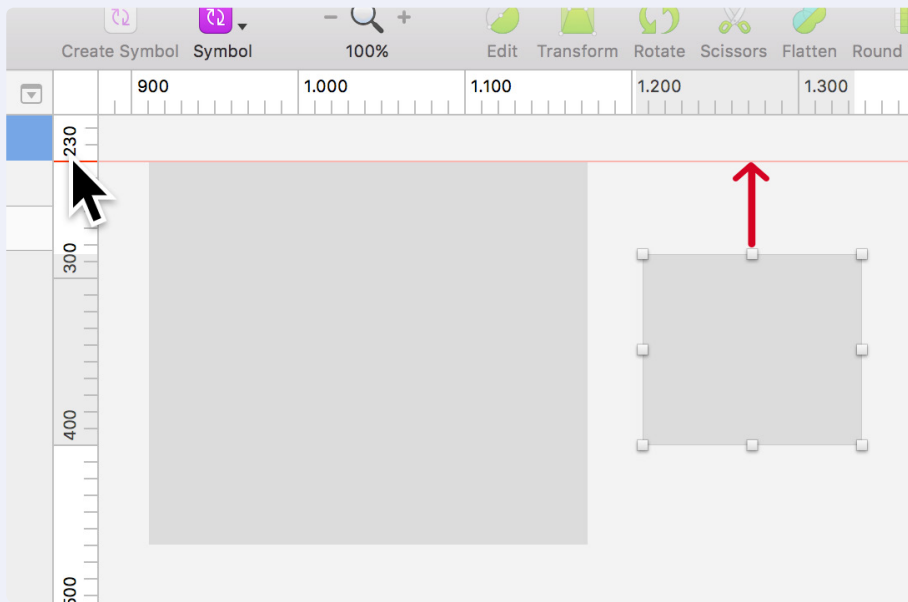


*Fig. 5.17: Hover over the ruler to show a preview of the guide and align the layer to it with the arrow keys.*

# Other Entries

As this first entry of the tourist attractions is supposed to act as a model for the other entries, it should be as reusable as possible. What better than a symbol for this task? Let's do it. Select the layer group and create a symbol with the appropriate icon in the toolbar. Leave the name as "List entry" but don't check the **Send symbol to "Symbols" page** checkbox yet: we want to have the master symbol beside the list itself to see possible adaptations right away. We can move it to the dedicated "Symbols" page later.

As I've mentioned before, there are several ways to get to the other entries of the list. The first one, which you have already learned, is to drag an element with the mouse while holding *Alt* to create a copy. Pressing *Cmd + D* subsequently creates various copies with the same spacing. Do this with the new symbol, but be sure to zoom to 200% first to catch the correct spacing of 8px. Duplicate the element six times until you reach the bottom of the artboard.

A slightly easier and yet underused method is to employ the **Make Grid…** feature of Sketch, which can be found under **Arrange** in the menu bar. It gives you a handy overlay that lets you decide in how many rows and columns you want to lay out the selected element. Furthermore, the margin between the copies can be defined. To make use of this method, delete all the copies we've recently created by pressing *Cmd + Z* until you reach the initial state with just one entry again. In the **Make Grid…** overlay, enter 8 rows with a margin of 8px; for the columns select "1," which automatically grays out the respective **Margin** field (Fig. 5.18). With a click on **Make Grid** you see the same result as before.
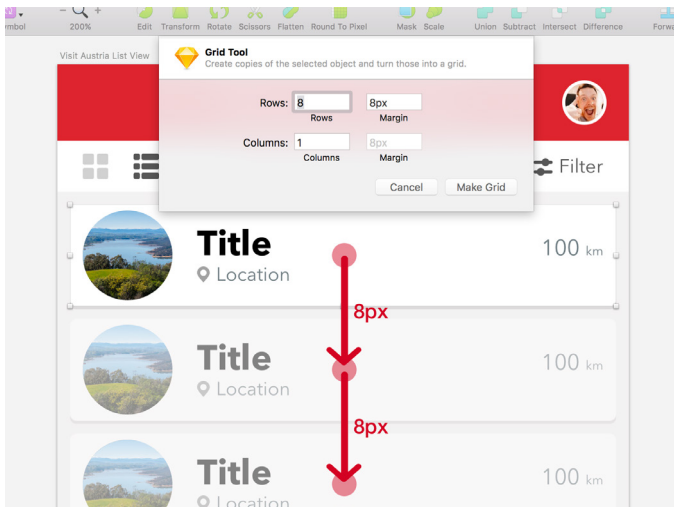
Fig. 5.18: Use **Make Grid…** from **Arrange** in the menu bar to create the other entries.

You can use this feature not only to duplicate a single element, but also to rearrange existing elements. Say we want to have a spacing of 16px between the entries instead: select all of them, call **Make Grid…** again, set all the input fields as above, but this time pick a margin of 16px. A click on **Arrange** adapts the spacing to this new value. But go back to the result with 8px spacing. As soon as you have multiple layers selected, you see the **Duplicate layers to missing cells** checkbox, which makes sure that the exact number of rows or columns is met, even if fewer layers were selected on the canvas. New copies are created in this case.

No matter which method you chose, the list looks pretty dull now with all the entries the same, so let's unleash the full power of symbols with their overrides. If you click on one of the entries, you see the **Overrides** area in the inspector, where each of the text layers has a dedicated input field, which enables you to change the content of each instance individually (Fig. 5.19). What you might notice now is that the image has no dedicated override, which can be traced back to the fact that we locked the image earlier

to prevent an unintended selection. This also removed it from having an override function, so you need to select and unlock it in the master symbol with *Shift + Cmd + L* now.
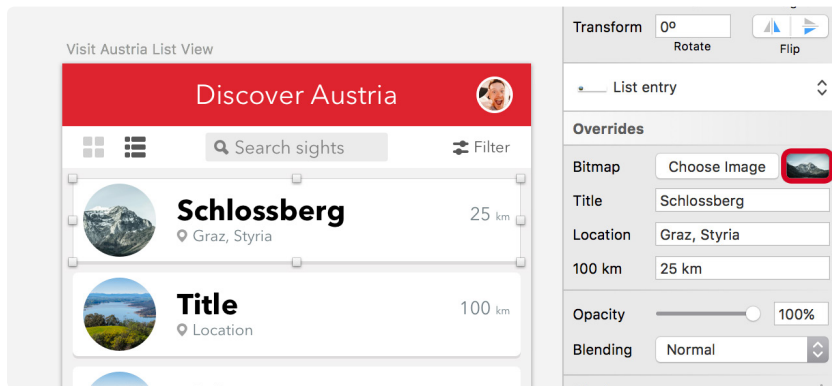


*Fig. 5.19: You can adapt the content of each entry with the **Overrides** fields of the symbol in the inspector. Images can be directly pasted after clicking on the thumbnail (red border).*

Back at the instances, enter different values for each text field and image at **Overrides** to populate the list with varying data. Just as before, you can directly paste a bitmap from another application after you have clicked on the thumbnail in the inspector (Fig. 5.19, red border). Although each entry looks different now, it is still based on the same symbol. The reason we didn't send it to the "Symbols" page is that we can edit it in context when it's placed next to the relevant artboard. If you decide that a smaller image would look better, the pin icon isn't appropriate anymore, or the title should have another color, you can change it here and immediately see how these changes look in the real thing. To create some order again, put all the symbols into a new "Entries" group.

# Pasting

Even seemingly simple tasks like pasting have different layers of functionality in Sketch. By default, elements you paste into Sketch from another application with *Cmd + V* are placed at the center of the currently selected artboard (the image in Fig. 5.20). If you copy something from one artboard to another, the original position is preserved. However, the location in the layers list stays the same in both circumstances: it's always above the currently selected layer, or, if no layer is selected, at the top of the artboard. There's only one exception to this rule: if the currently selected layer isn't in view on the canvas, the pasted element gets inserted at the center of the canvas itself, above everything else.

Pasting can be quite a challenge and depends on different factors. That said, there are a few options to insert content at exactly the place you want. Use *Shift + Cmd + V* instead to always paste elements above the top-left corner of the formerly selected layer. This even works if multiple layers are inserted, in that the original positions of the elements in relation to one another are preserved. A very similar option is to right-click and pick **Paste Here** (Fig. 5.20): this inserts content at the current position of the mouse cursor, above the currently selected layer in the layers list.



*Fig. 5.20: By default, content that you paste into Sketch from another application is placed at the center of the currently selected artboard (or the original position, if you copy it from another artboard). To place the content at a certain position make a right-click and select Paste Here, or pick another layer first and press Shift + Cmd + V to insert the new content at its top-left corner.*
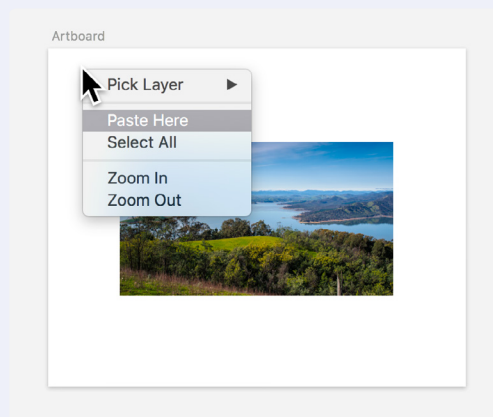
While it's usually ideal to employ symbols for similar elements, you could also use their little brother, shared styles, to quickly pass the properties from one element to another and keep them in sync. Either way, try to create reusable components as often as possible to make sure everything within your designs has a consistent look. This is also important for style guides or whole design systems like [atomic design](#).[25]

## Designing with Real Data

When you changed the text layers and images of all the instances, you might have thought to yourself that this is pretty tedious, there must be a better way. There is, my friend; not natively in Sketch, but with the help of plugins. They not only let you fill your designs with dummy content, but also enable you to pull in real data from various sources, or even use your own content in the form of JSON files. Some of them even let you lay out elements in the same manner as **Make Grid…** and at the same time populate them with real data.

This is not only faster, but also means you can assess how your designs adapt to real content, and how they hold up against some unexpected variations you might not have considered. In short, it forces you to think in a different way, to see things from a more practical perspective.

Let me give you an overview of these content generators, with a brief description of each. Take a look at their websites or GitHub pages for more information and detailed instructions.

- [Craft](#)[26] by [InVision](#)[27]: For me this is one of the best plugins available. It combines different helpers to duplicate elements and fill them with content. You can either choose from predefined data, open a website

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25  http://smashed.by/sketch-atomicdesign

26  http://smashed.by/sketch-craft

27  http://www.invisionapp.com/

to select text and images, or pull in JSON content. The plugin can even create a style guide automatically for you, and allows you to share design assets with your team.

- Sketch Data Populator[28]: This falls into the same category as Craft, but you can also employ placeholders in your layers that are later populated with content from a JSON file. Like Craft, it lets you duplicate elements with varying data easily.

- Content Generator:[29] This one provides predefined data like city names or email addresses, but also lets you add relevant random numbers to fit a data pattern. You can also pull images from Flickr or create avatar images, but generating text is certainly the strongest feature of this plugin.

- Day Player:[30] A collection of images from various sources. The major differences from the other plugins are that you can specify the dimensions of the images, and they are inserted as separate layers instead of fills, which is much more flexible — as you already know.

## CRAFT MORE ENTRIES

Since you have already learned two methods to create the other tourist attraction entries from the base element, let's take a look at a third that employs the Craft plugin. You can duplicate the sights easily, and automatically populate them with different content at the same time.

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28  http://smashed.by/sketch-datapopulator
29  http://smashed.by/sketch-contentgenerator
30  http://smashed.by/sketch-dayplayer

With the plugin downloaded and installed, we need to prepare the art-board. First, duplicate it so that we have the different methods side by side; name it "Visit Austria List View Craft." Do the same with the master sym-bol of the entry and give it a new name like "List entry Craft." Now connect these two: select the symbol of the first entry in the new artboard and swap it with the drop-down in the inspector that still says "List entry" (Fig. 5.21). The remaining entries can be deleted. The same goes for the override value of the title.
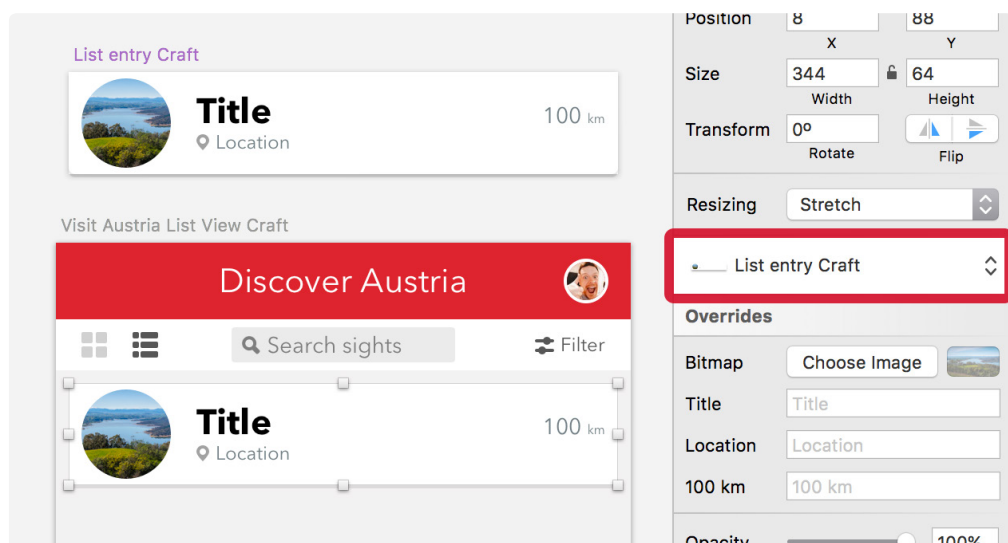


*Fig. 5.21: Duplicate the symbol of the list entry and link it to the new artboard. You can delete all the other entries and the values of the **Overrides**.*

Finally, you need to change the image from a dedicated layer to a pattern fill: go to the master symbol, pick the image layer, delete it and select the layer that acted as the mask before. To populate it with a bitmap fill, click on the third icon in Craft's toolbar (show it with **Craft → Toggle Panel** from the menu bar if it's not already there) and from the **Custom** tab select **Photos.** Now hit the **Unsplash** button. After you have selected the cate-

gory from the drop-down — **Landscape or Scenery** should be appropriate for our purpose — a click on **Place Photos** gives us the actual image (Fig. 5.22, left). If you aren't satisfied with the photo, repeat the process.

You should also fill the text layers in this way, as it allows us to use Craft as much as possible in what follows. Instead of **Photos** click on **Type**. For the title, pick the **Cities** category, for example (Fig. 5.22, right); the location could be populated with **Countries.**
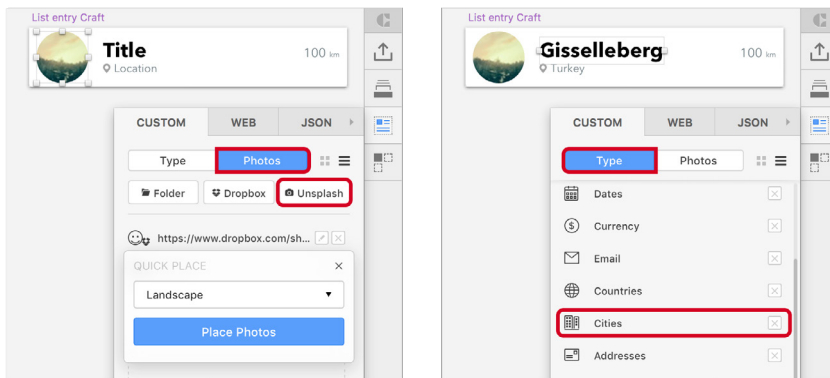


*Fig. 5.22: Left: Change the mask to a pattern fill and populate it with an image, using the Craft plugin. Right: For the title pick **Cities** from **Type**.*

Now that we've taken care of the content, we can employ Craft one last time for the remaining entries. Return to the instance of the symbol in the list view, go to the Craft panel again, but this time select the last icon **(Duplicate).** Like **Make Grid...** you can define the number of duplicates and the spacing in between. Since we want to lay out the entries vertically, enter "8" for the **Count** and "8" for the **Gutter** like before. A click on **Duplicate Content** not only creates the remaining entries but also varies the content (Fig. 5.23). Sweet!

And it doesn't stop there: you can adapt the spacing on the fly with the slider or the input field after you have selected the "Duplicate content" layer, and also create more items by just enlarging the size of this layer on the canvas (Fig. 5.23, left). Awesome! The only thing that needs to be changed manually is the distance: select each entry and use the overrides in the inspector to create individual values for each line.
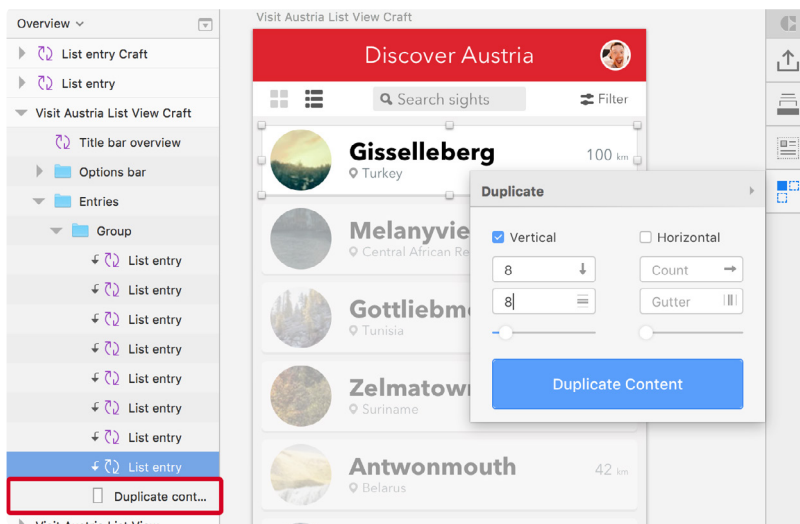


*Fig. 5.23: Create the remaining entries with Craft's **Duplicate** panel. Left: You can adapt the spacing and count of entries on the fly after selecting the "Duplicate content" layer in the layers list.*

## The Card View

The overview screen not only consists of a list view, but can also be switched to a card view with a different layout and larger images to whet the user's appetite for the different sights (see Fig. 5.1, right). We'll create a single card first and convert it to a symbol later to get to the rest of the items.

## THE BASICS

First, duplicate the latest artboard of the list, but this time hold *Alt* and drag it to the bottom, as it represents a totally new state and not an iteration. Rename it to "Visit Austria Card View." *Delete* all the entries except the first, which we will adapt now and use as the model for the other entries. Unlink it with **Detach from symbol** after a right-click so that we don't alter the list view. Afterward, rename it to "Card entry," ungroup the parent "Group" that has been created by Craft and delete the "Duplicate content" layer below.

To start with the adaptations, select the background with a *Cmd-click* and change its size: it should fill half of the artboard and be 16px away from its sibling in the same row and the edge of the artboard. Let's use the mathematical capabilities of Sketch again to calculate the required width: divide the width of the artboard by two, subtract the distance to the left edge (16px), as well as half the width to the other entry (16/2), which leads us to "360/2 – 16 – 16/2" and the final size of 156px. For the height, choose 176px for now.

## NUDG(E) IT

Since all of our spacings are based on an 8px grid, we could show it again and realign this layer using the mouse. However, Sketch also allows us to change the distance layers are moved with the arrow keys. The easiest way to alter this value is to use the little companion app Nudg.it[31] that gives you a handy dialog for this purpose.
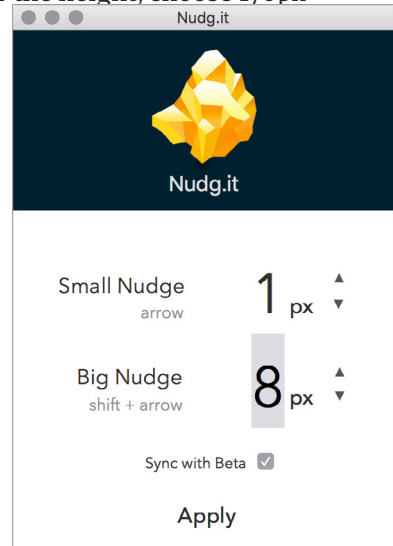


*Fig. 5.24: Use the companion app Nudg.it to set the distance layers are moved with the arrow keys.*

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31  http://www.nudg.it

Use it to set the **Big nudge** from 10px to 8px (Fig. 5.24), which changes the behavior of the arrow keys in combination with *Shift*. To try out the new nudge distance, press *Shift + Right* to move the "Card entry" group 8px to the right, followed by *Shift + Down* to the final position. The last thing to change for the background is the shadow: give it the properties "0/3/8/0."

## A NEW ARRANGEMENT

Now to the content itself. The title is much too long for the card view, so let's resize it to 16px. We also need to shrink the "Distance" text layer to 12px (including the unit), change its **Alignment** to left, move it below the location, and left-align it. Select all of these layers (title, location, distance) and group them to "Text." Move this group to the bottom-left edge of the card for now.

For a distinct look, the image should get a different appearance: delete the old "Image" group and add a rectangle at the same place in the layers list, at the top-left of the card; that acts as the container. Change its width in the inspector to "100%," the height to "54.5%" (96px) and the name to "Image." For the actual image, use the Craft plugin again. You might notice now that we lost the rounded corners from the background at the top of the bitmap. To bring them back we need to select the "BG" layer so we can change it to a mask with *Ctrl + Cmd + M*. Voilà! The rounded corners are back.

The last action to perform for the card is to align the "Text" group to the grid again. Use *Shift + Right* to nudge it in by 8px from the left edge of the card. Make sure that all of the text layers sit on a grid line vertically and have enough spacing from the image and each other.
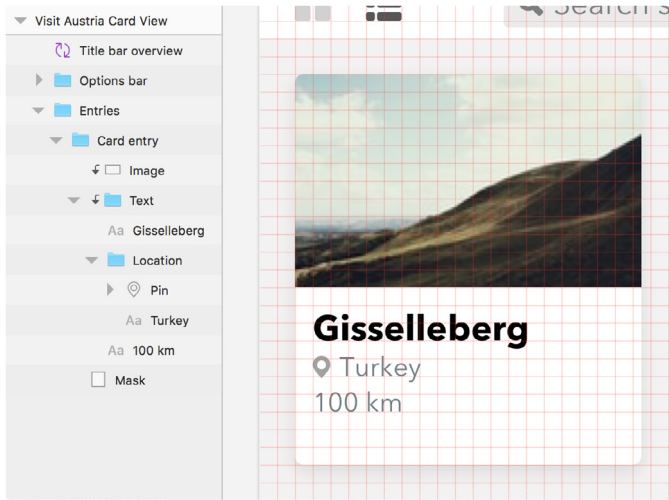
*Fig. 5.25: The new card entry.*

## USING THE SYMBOLS

The card looks great so we can again convert the "Card entry" group to a symbol with the same name. As before, don't send it to the "Symbols" page yet — it's easier to alter it and see changes right on the artboard. If you can't find the new symbol anymore, it may have been added next to the rightmost artboard on the canvas. Move it back to the correct position next to the "Card view."
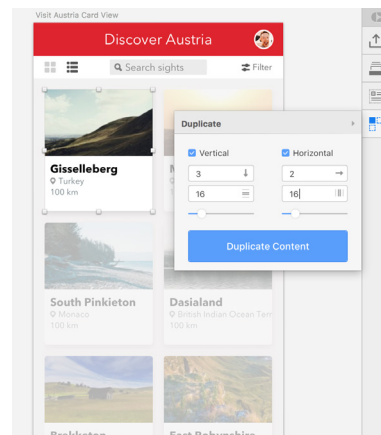


*Fig. 5.26: Use the **Duplicate** function of Craft again to create the remaining entries of the card view — this time lay it out in both axes.*

Now everything is ready for us to use Craft again to create the rest of the entries. With the symbol selected on the artboard, click on the last icon in the panel of the plugin (**Duplicate**). This time we want to lay out the element both vertically and horizontally (a **Count** of "3" vertically and "2" horizontally), to give us a total of six cards. The gutter should be 16px for both axes. A click on **Duplicate Content** almost brings us to the final state of the card view: you just need to change the distance — again — for each entry with the overrides.

## TWO MORE ICONS

These changes brought us a big step closer to the finished card view, but there are still two things to deal with: first, change the icon in the options bar to indicate that the card view is active; and second, create an alternative of the filter icon (a funnel, Fig. 5.28) so we have two versions to choose from. The former is quite easy to handle: just swap the shared styles we created earlier between the icons (Fig. 5.27).
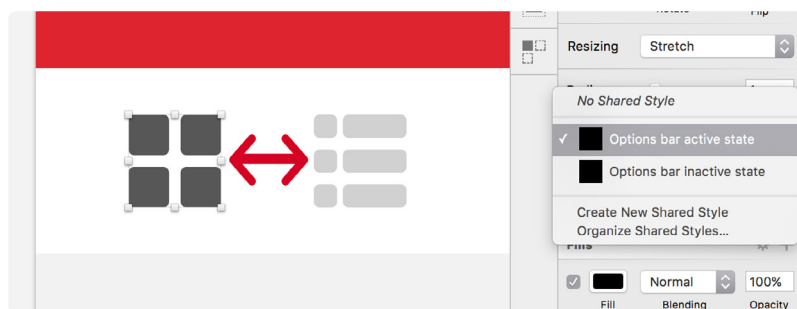


Fig. 5.27: Swap the layer styles of the two icons.

The second task represents a more difficult endeavor, but with our past experience at creating icons it shouldn't be too hard. First, zoom in to the original filter icon with *Cmd + 2*, but hide it so we can replace it with a triangle for the bowl of the funnel. Instead of using the most obvious shape

for this, try a rectangle; create one with the size of "11 × 5." Enter the vector point mode and insert a new point in the exact middle of the lower side with a *Cmd-click*. Now select the outer points on this line and delete them. I prefer this approach over a using a triangle as it has no dedicated keyboard shortcut and is always pointing upwards. Another reason for a rectangle is that we can set the radius, which we will do right now with a value of "2"; right after we have left the vector point mode by pressing *Esc* twice.

Next we need another rectangle, this time with dimensions of "3 × 8." Align its top side to the bottom of the triangle, but move it one pixel up, so that the shapes overlap. Center them horizontally. Make a short trip into the vector point mode of the second rectangle for some more rounded corners: *Tab* to the bottom-right point and set the **Corners** to "1"; press *Esc* to leave the input field and *Tab* another time to get to the bottom-left point, which should have a value of "0.5." Move this point the same distance up as the shape's width (3px) with the arrow key to get a 45-degree angle for the bottom line.

To finish the icon, select both shapes, create a **Union** Boolean operation, apply the shared style "Options bar active state" and rename it to "Icon filter." Center it vertically to the "Filter" label with a spacing of 3px between, but lock the label with *Shift + Alt + L* first, as it already has the correct position. Finally make sure the icon is in the existing "Filter" group. Which icon you choose in the end is up to you — I'd go for the little sliders.
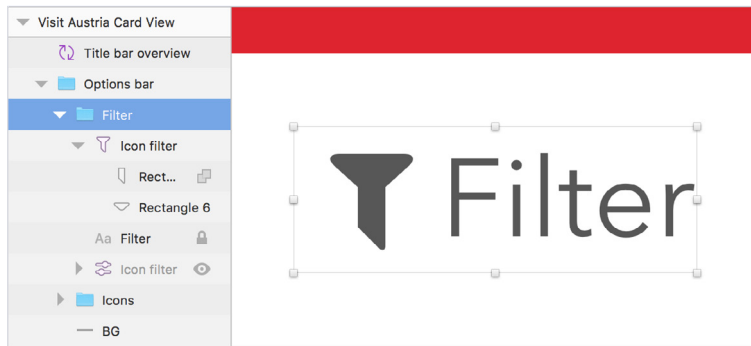
*Fig. 5.28: The new filter button with the funnel icon.*

## ACTIVE STATE

Do you remember what I told you about symbols earlier, that you should employ them as often as possible to create reusable components? Right, so let's do this with the options bar in the card view. Select its group, click on the familiar **Create symbol** icon in the toolbar, but this time send the symbol to the "Symbols" page, as there's no need to have it besides the artboard. Now, go to the list view and insert the newly created symbol at the same position as the "Options bar" group, which you can delete now. Wait! We are on the list view, but in the symbol, the icon for the card view is active.

Because we can't have two different states in the same symbol, let's employ a little trick. Enter the symbol with a double-click and change both of the icons to the "Options bar active state" shared style (Fig. 5.29, top). Return to the instance with the appropriate link, where you create a new rectangle that covers the icon for the card view, and name it "Inactive state." Change the fill color to white with an opacity of "70%," which is just about the same as if we had set the icon itself to "20%." Now we have our deactivated style again. Do the same for the list icon, but in the card view.

> **Quick tip:** To create some quick color variations, overlay a vibrant color with a white or black layer, and reduce the opacity. Read more about this technique in the next info box.

To go one step further with the active state of the view icons, we could even make a nested symbol for each of them. Enter the "Options bar" symbol with a double-click, select the icon of the card view ("Icon cards") and create a nested symbol and name it "Icon cards" so that it has the same name as the layer.

Now click on this new symbol in the layers' list and duplicate it with *Cmd + D*. Rename it to "Icon cards deselected" and set the layer itself (not the symbol) to "20%" opacity with 2. Do the same for the icon of the list view: select it ("Icon list"), create a same-named symbol, duplicate it, rename it to "Icon list deselected," and set its layer to 20%.

Now you have four symbols, one for each state of the icon (Fig. 5.29, bottom). Select the original "Options bar" symbol and return to the "Overview" page with the **Return to Instance** link.
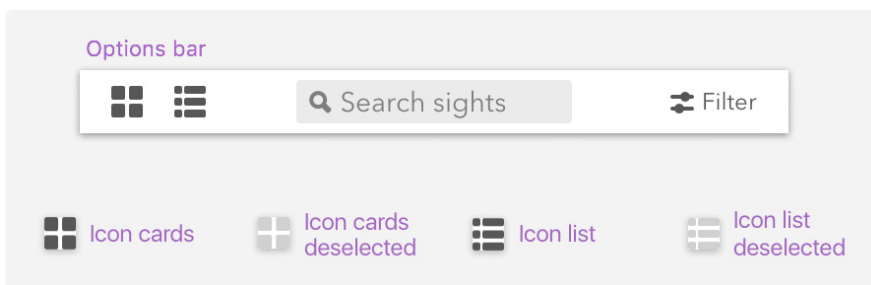


*Fig. 5.29: Top: Enter the symbol of the options bar and set both icons to the "Options bar active state" shared style. Bottom: We have one symbol for each state of the view icons. Return to Instance link.*

Back at this view, you can conveniently change from one state of the icon to the other with the drop-down fields at the **Overrides** in the inspector (Fig. 5.30). Since we are currently at the list view, select "Icon cards deselected" for the **Icon cards** override. You just have to delete the redundant "Inactive state" layer first, that we used for the overlay.

On the artboard for the card view, do the same, but for the **Icon list** override: select "Icon list deselected" there. The similar dimensions of the icons even allows to swap their positions with the **Overrides**, and for example set the one for the list to the left.
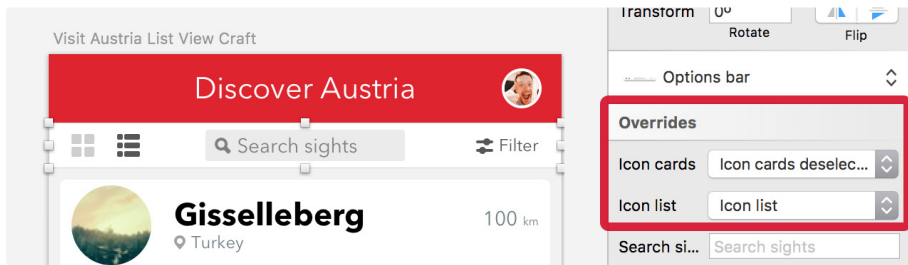


*Fig. 5.30: Back at the list view, you can conveniently change between the symbols for the active states of the icon: "Options bar list view" and "Options bar card view." The same goes for the card view.*

Because the options bar itself is based on a symbol, every change to it is automatically transferred to all other instances. If you decide that the other filter icon looks better, you can swap it there and see how this change affects all appropriate symbols. You could even use a nested symbol for the filter icons, too. They just need to have the same dimensions.

With this final step, we've finished the overview screen and at the same time the app, for now. Designing it in Sketch was a breeze so far, but what good is the best design application if you can't get the various parts out of it and into a website or app? Luckily, Sketch also excels in this regard, so stay tuned for the next chapter, where I will show you how to export all of the necessary assets.

# Create Color Variations

A neat trick I learned from [bjango](http://smashed.by/sketch-bjango)[32] is to overlay a vibrant color with black, white or another light color to create some quick variations of the same color or an entire color palette. On a new "Color variations" page, add a rectangle with the size of 120 × 120, named "Base color." Fill it with the color you want to vary, for example "#4A86E2." Now, create another rectangle, named "Lighten," with the same width on top but a height of just 40 pixels. Align it to the top of the colored rectangle, and set its fill color to 20% white. Hold *Alt* and drag it to the bottom of the colored rectangle to duplicate it, but give it a background of 20% black. Name this one "Darken." This alone will give you a lighter tint and a darker shade of the same hue to choose from (Fig 5.31, left).
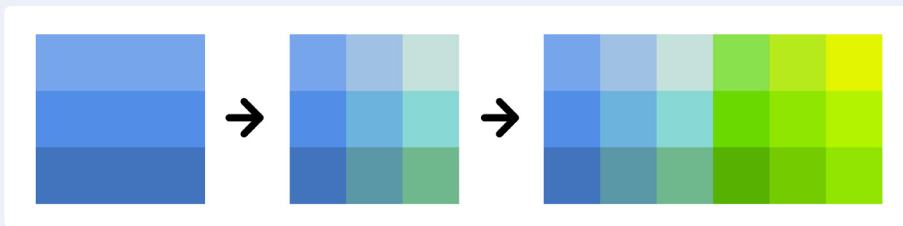


*Fig. 5.31: Left: Create a colored rectangle and overlay it with two other rectangles: one with 20% white (top), one with 20% black (bottom). This alone gives you two variations of the same color. Middle: Create another two rectangles on top, but make them upright. Change the blending mode to "Overlay" for both; give one 80% opacity (right column), one 40% (middle column). Right: To create variations of another color, duplicate all of the layers created so far and change the base color*

But it doesn't need to stop here. For even more variation, add another rectangle on top of the other layers with a bright color like yellow (#F8E71C), but this time make it upright (40 × 120) and name it "Variation 1." Move this rectangle to the right edge of the colored base. Give it an alpha value of "80" and a blending mode of **Overlay**, which will mix it with the under-

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32  http://smashed.by/sketch-bjango

lying colors. Duplicate it to the left in the same manner as above, name it "Variation 2," but modify the alpha value to "40," with the same blending. Now you have a base color (the one in the middle of the left column) and eight variations, which should give you more than enough choices for your next interface design (Fig 5.31, middle). In the end, you can lock all layers except the base color so that you are able to change just this one.

If you want to vary another base color, just select all of the layers from above, add them to a "Color 1" group and duplicate it to the right. Afterward, rename this new group to "Color 2" and adapt the base color to your liking (Fig. 5.31, right). Try it out with "#63D321" and "#B313FE", for example.

# Exporting Assets

One of the strongest selling points of Sketch is its powerful yet simple exporting capability — no intricate or complex dialogs with a bunch of different options, just a relatively small area in the inspector. The most obvious choice during the design phase is probably to export whole screens, or artboards, to show them to your peers and clients or simply to assess how they look on your mobile device.

To mark an artboard for exporting, select it first, then click on **Make Exportable** in the bottom-right of the inspector. This will give you various options for the file to be created.
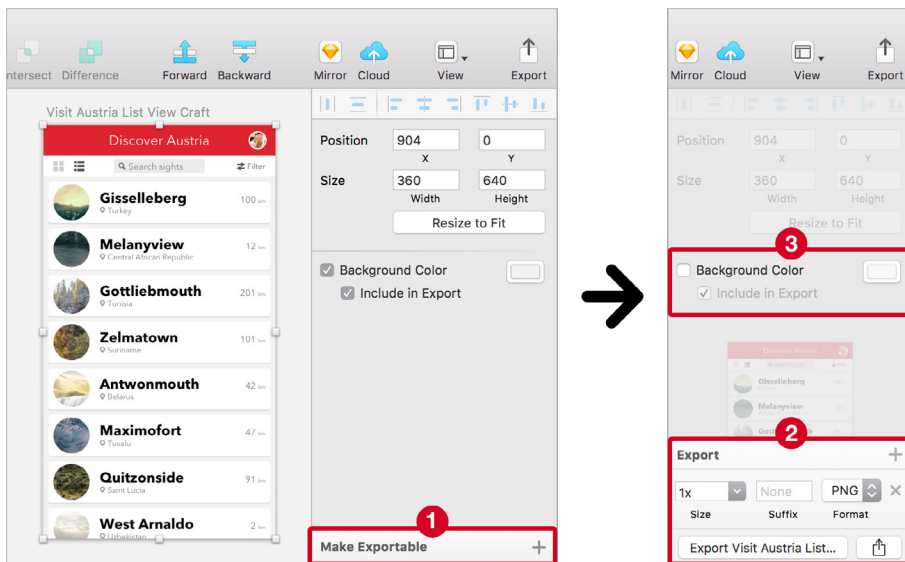


*Fig. 6.1: Select an artboard and mark it for exporting with the **Make Exportable** button in the bottom-right of the inspector (1), which gives you various options (2). You can also set a background color for the exported asset (3).*

## Size

**Size** lets you define the resolution or pixel density of your asset export. So, if we take one of our screens, at "1x" the design would come out at its original size of "360 × 640," and at "2x" these dimensions would be doubled to "720 × 1280," to be viewed on a high-density device. You can not only choose a predefined option but also enter custom values, like "2.5x."

Besides a resolution, it's also possible to define explicit dimensions here. So, if you know that you want to preview the artboard on an iPhone 6, with its native, high-resolution resolution width of 750 pixels, you can enter "750w" as the **Size**. The important part is the addition of the letter "w," which stands for the "width" and which can be swapped for "h" to set an intrinsic height. This definition works for all file formats except SVG, which is a real pity because sometimes you'll even need to set explicit dimensions here.

## Suffix

The next input field, **Suffix**, allows you to extend any sequence of letters to the file name. In the early days of the iPhone 4, it was common to export assets in two versions: at their original size and at double resolution, with "@2x" appended to the file name. That's exactly what the **Suffix** lets you do if you enter "@2x" here.

## File Formats

Besides the bitmap-based formats PNG, JPG, TIFF, and WebP,  you can choose the vector-based formats PDF, EPS and most notably SVG. PNG is the format of choice most of the time because it keeps everything and also supports transparency.

One of the most popular tools to optimize PNGs is TinyPNG,[33] a web-based lossy image compression tool that combines similar colors. If you're exporting photos though, export as JPG will work best in most cases, and you can set level of quality, too (see Fig. 6.2). However, transparency is not supported and you may want to double-check for artifacts. TIFF is mainly used in print. It supports transparency but the exported files are huge. No matter which format you choose, be sure to use optimized images to **save bandwidth** and **loading time.** Your website visitors will thank you! For maximal efficiency use an external tool such as ImageOptim,[34] but there are also the official plugins SVGO Compressor[35] and Sketch Image Compressor,[36] that do all the work for you.
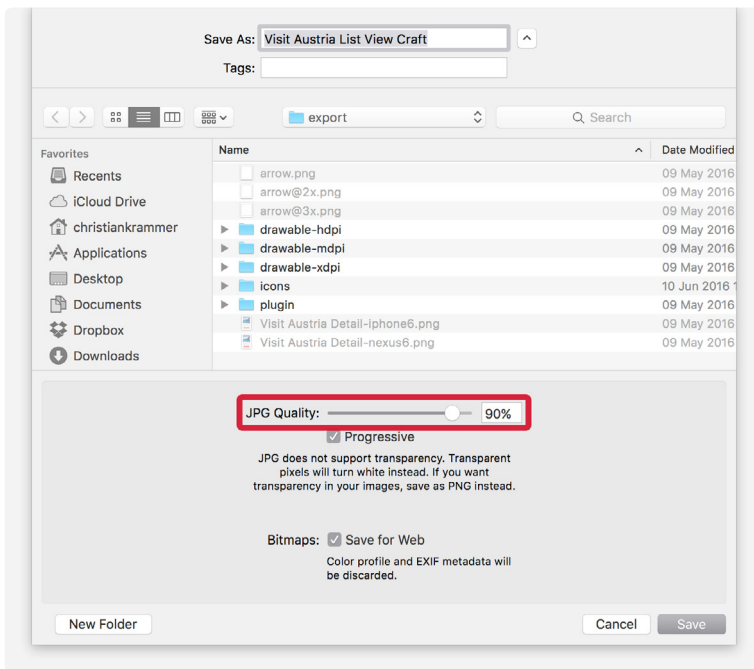


Fig. 6.2: JPGs let you choose the quality level, among other options.

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33  https://tinypng.com/
34  https://imageoptim.com
35  http://smashed.by/sketch-compress1
36  http://smashed.by/sketch-compress2

Among vector formats, PDF is perfect for print, saving branding assets like logos, and exchanging assets. Instead of exporting each artboard individually, Sketch lets you create a multi-page file with **File → Export Artboards to PDF** from the menu bar. The settings can be defined at **Artboard Export** under the **General** tab of the **Preferences**.

EPS, on the other hand, is a rather dying format, so basically you have no reason to use it at all. SVG is *the* web format. Whether you want to show a simple icon or a complex illustration, SVG can handle it all. It is infinitely scalable, which is very important in an ever-changing landscape of devices and resolutions. Just keep an eye on the exported file because it could happen that some parts aren't replicated in the same way as in Sketch. In this case, try to simplify the structure or flatten the respective areas.

## Export it

After you have defined all parameters, click on the **Export…** button at the bottom (Fig. 6.1, 2, bottom), which opens the save dialog. The name of the exported file depends on the title of the artboard. This is important when you mark multiple artboards for exporting, because you can't change their file names in the save dialog and will need to rely on their naming in the layers list.

Not immediately obvious, but each bitmap format has some additional options here. All of them (except WebP) let you define **Save for Web**, which discards "color profile and EXIF metadata" and is important if consistent colors are needed. JPGs and WEBP images have a **Quality** slider (Fig. 6.2), which massively influences the file size and quality of the file. For maximum quality, choose "100%," especially if large colored areas are present. **Progressive** should always be checked for JPGs if the file will be used on the web because it further saves a few bytes.

# Supported File Types

Just as Sketch can export the abovementioned file formats, it can also import them. It even supports PSD and AI files, but only in a flattened state. However I wouldn't rely on its importing skills for PDF and EPS files because it doesn't support some of their concepts and often screws them up. To avoid that, select **Insert PDF and EPS files as bitmap layers** in the **General** tab of the **Preferences** (Fig. 6.3), which flattens the files automatically when they are imported.
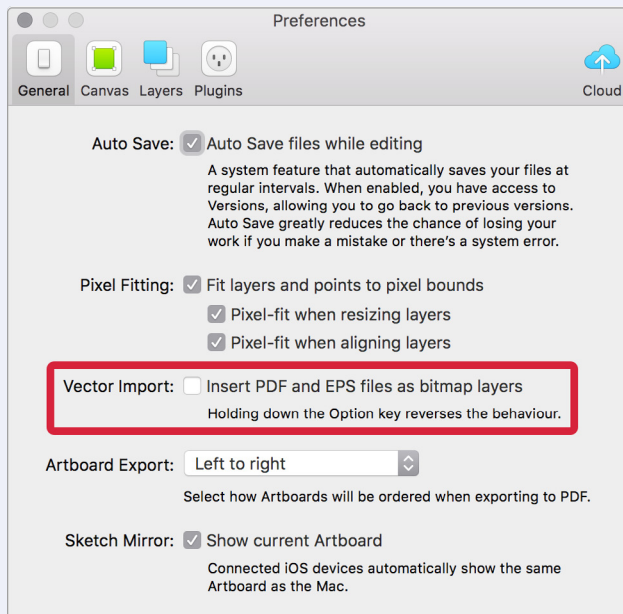


*Fig. 6.3: Set **Insert PDF and EPS files as bitmap layers** in the **Preferences** to keep Sketch from screwing them up.*

# Putting Images on a Diet

Since the beginnings of the web, the load of an average website has been increased year by year,[37] making websites slower to load. That is a particularly painful experience for users who rely on mobile connectivity, causing more than 50% of them to abandon a site that doesn't start loading within three seconds.[38] To improve the loading speed of a web page, it is therefore mandatory to optimize all your images. One possible way of doing so is exporting JPGs at a very low quality (ca. 30%) but at twice the size of the final image dimensions (Fig. 6.4). This even works for high-resolution devices, without a noticeable impact on quality. Alternatively, you can save it at a higher quality, but just 1.2, 1.3 or 1.5 times the size, which also doesn't influence the quality negatively. Read more about these techniques on Netvlies' blog[39] and on A List Apart,[40] where Dave Rupert talks about the possibilities for keeping the image file size of your websites low.
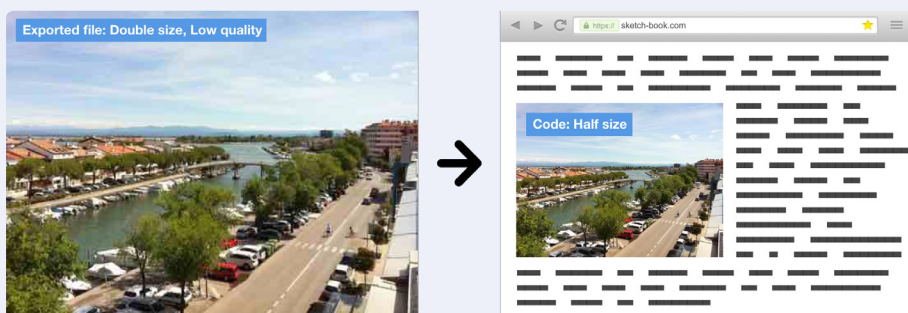


*Fig. 6.4: Left: JPG, saved at double size but with very low quality (30%). Right: Used at the original size, the reduced quality can't be noticed anymore.*

37  http://smashed.by/pageload
38  http://smashed.by/webobesity
39  http://smashed.by/sketch-netvlies
40  http://smashed.by/sketch-ala

The export area also lets you share the asset in various ways with the button on the bottom-right; for example, if you want to mail it to your teammate effortlessly (Fig. 6.1, 2, bottom right).

**Quick tip:** A quick method to export an element is to drag it from the layers list to the desktop (or any application), which gives you a PNG version at a "1x" resolution by default (Fig 6.5). Hold *Alt* while dragging to get a PDF version instead. The settings you made after clicking on **Make Exportable** will directly influence the exported file.
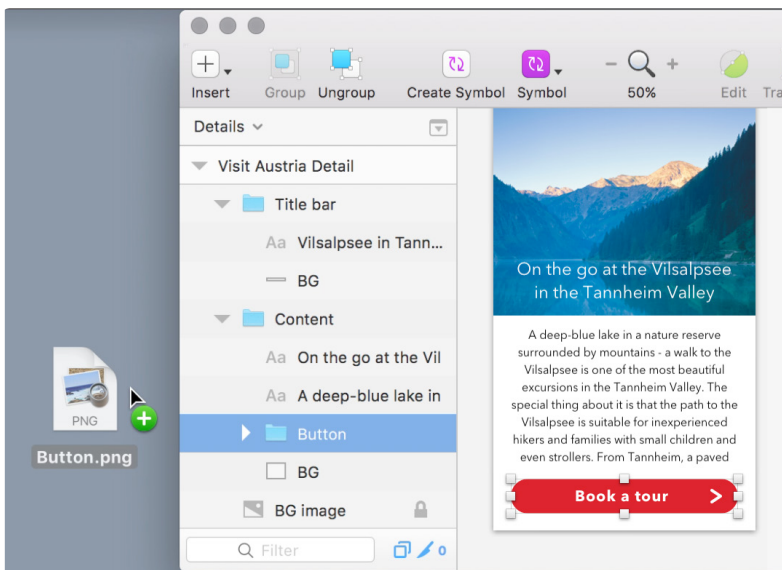


*Fig. 6.5: Drag assets from the layers list to the desktop (or any application) to export them quickly.*

Before you export an artboard, have a look at the Background Color and **Include in Export** checkboxes in the upper half of the inspector (Fig 6.1, right middle), because artboards have a transparent background by default. This is a common pitfall when you open artboards in the Preview app, for example, which shows a nasty gray background in this case. To account for this, Sketch displays a checkered pattern for areas in artboards that have no defined background color (Fig 6.8, 2, bottom).

## Multiple Export

Sketch's export function isn't limited to artboards but can also be employed for layers and whole groups. Just like for artboards, click on **Make Exportable** in the inspector after you have selected the respective element in the layers list. If you look there now, you will see that a little knife icon has been added to the element's name (Fig 6.6, 1). This symbol shows you at a glance that an element is marked for exporting.

The real power of exporting manifests the moment you click repeatedly on the title of the **Export** area (or the + icon, see Fig. 6.6, 2), which lets you export multiple versions of the same asset at once. For example, if you need to export an icon for the various required sizes on Android, you can set one version for each resolution: "1x" as the **Size** for "mdpi," "1.5x" for "hdpi," 2x for "xhdpi," "3x" for "xxhdpi" and finally "4x" for "xxxhdpi" (see Fig 6.8, where all of these sizes have been added). Just be sure to empty the **Suffix** values, respectively. To delete a line, click on the **x** icon at the end of it (Fig. 6.6, 3).

The workflow for iOS sizes is similar: If you still support the iPhone 3G, with its low-resolution screen, use "1x" for the size of this one, "2x" for the iPhone 4, 5 and 6, and "3x" for the iPhone 6 Plus.

Here also the **Suffix** input field comes in handy because it lets you define the corresponding "@2x" and "@3x" indications for the latter two (see Fig 6.6. bottom right, where multiple sizes have been added).
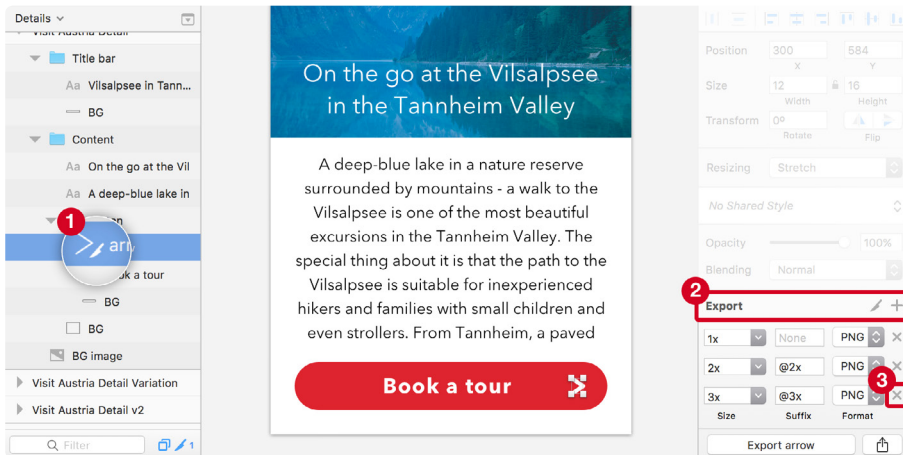


*Fig. 6.6: 1: The moment you mark an element for exporting, a little knife icon is added to its name in the layers list. 2: To export a layer in various sizes or formats, click on the title of the export area (or the + icon). 3: Delete an export option with the x button.*

The moment you click on the **Export...** button at the bottom, all of the defined sizes are exported to the selected folder on your hard drive. As for artboards, the name of the layer or group in the layers list is the base for the filename of the selected assets. If you want to export to a specific subdirectory of the selected folder, you can prepend it to the layer name, followed by a forward slash (/). For example, to save the "arrow" layer to the "symbols" subdirectory of "images," name it "images/symbols/arrow" in the layers list. By default, everything will get exported to the same directory. Unfortunately, this doesn't work for Android because it needs different folders for each asset size. No problem: Slices can help.

# Slices

Slices are a special kind of layer that serve two purposes: to export a specific area of the canvas or artboard instead of a single layer, and to define multiple versions of the same element. The latter comes in handy for the required Android sizes because we need a separate folder for each resolution, defined by a dedicated slice that includes the name of the folder followed by a "/." To add such a slice, press <u>S</u> for the appropriate tool and click on the element on the canvas. Just like before, you can hold *Cmd* to drill into layer groups. This adds a new entry to the layers list, depicted by a dashed border with the familiar knife icon (Fig 6.7, 1). The slice is also shown with the same dashed border on the canvas (Fig 6.7, 2).

Like before, the slice's name is derived from the layer name. So, if we want to set up the "xxhdpi" version of the asset for Android now, which needs to reside in the "drawable-xxhdpi" folder, we prepend the layer's name with "drawable-xxhdpi/." In the export area of the inspector, define "3x" for the **Size** of this slice. Repeat this for all of the different sizes with a separate slice and **Size** setting (Fig 6.8). An alternate way to create a slice is to click on the little knife icon in the export area of the inspector once you have defined it for exporting (Fig 6.7, 3).

A slice is treated like a normal layer on the canvas, which also allows you to move or resize it there. For example, if you need to have padding around an asset once it is exported, add the slice as described above, but then resize it on each side to add the spacing (Fig 6.7, 2, the space around the button). Instead of converting a slice from a layer, you can also drag a rectangle of any size once you have entered the slice tool with *S*. This allows you to export parts of your design that don't belong to a coherent group.

Because the layers list can get pretty crowded with all of these slices defined, you can disable them with the icon on the bottom-right here (Fig 6.7, 4). This also hides the dashed lines on the canvas. To go the opposite way and only make the slices selectable on the canvas click on the icon left to it.
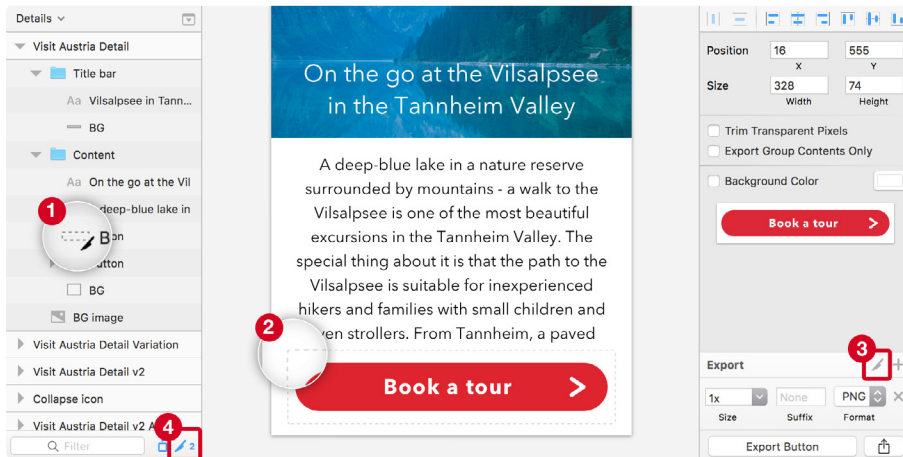


*Fig. 6.7: 1 and 2: Slices have a dashed border, both in the layers list and on the canvas. 3: After you have set a layer for exporting, you can convert it to a slice. 4: Hide the slices on the canvas temporarily.*

## MORE OPTIONS

Compared to normal layers, slices have two additional options in the inspector. **Export Group Contents Only** just works if the slice resides within a group. As the name suggests, it makes sure that only content within this group gets exported. Everything outside or behind it is omitted and exported as transparent pixels (Fig. 6.8, 1 and 2).

If you want to remove this transparent area and only export the content itself, add **Trim transparent pixels** (Fig. 6.8, 3). For example, if you have set up a slice for a group containing a button but the slice is bigger then

the group, the exported file will have just the size of the icon and not the whole slice, with everything around it being transparent. Please note that this option is not meant to be used alone; otherwise, it only works correctly if no other layers are behind the slice and the artboard has no background color defined.

Finally, you are also able to set a background color for the slice. With these options available, it can be hard to tell sometimes what exactly gets exported in the end. Therefore, always have a look at the preview, which shows the expected output (Fig 6.8, 2, bottom). As with artboards, areas that end up transparent in the exported file are displayed with a checkered pattern.
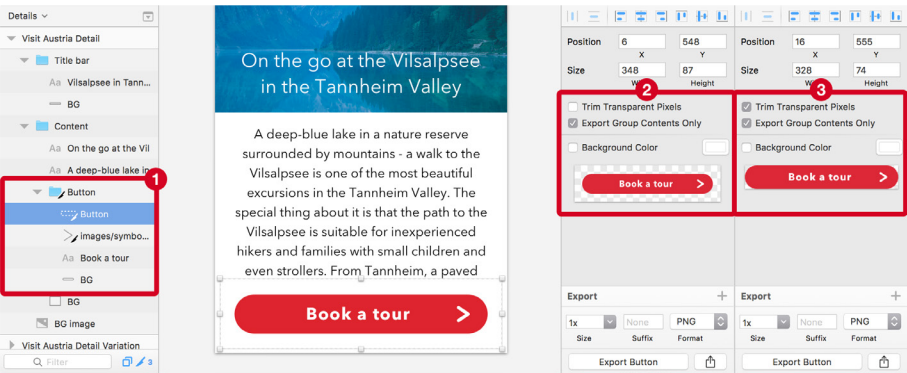


*Fig. 6.8: 1 and 2: When the slice resides in a group and Export group contents only is set, only the content of the group is considered. The remaining space around the slice is exported as transparent pixels, which can be seen in the preview in the inspector (2, bottom). 3: When* **Trim transparent pixels** *is set additionally, even the transparent pixels get cut and only the content itself remains.*

## All at Once

The more elements you define for exporting, the harder it is to stay on top of things. It would also be too cumbersome to click on the **Export…** button for every single element. Luckily, there's a separate dialog that shows you all exportable elements at a glance (Fig. 6.9). Open it by pressing *Shift + Cmd + E* (or by clicking on the **Export** icon the toolbar). This dialog gives you a handy overview, lets you disable certain assets and also warns you if there will be a conflict with overlapping file names. If you haven't defined anything for exporting yet, Sketch will assume that you want to export all available artboards in this dialog.
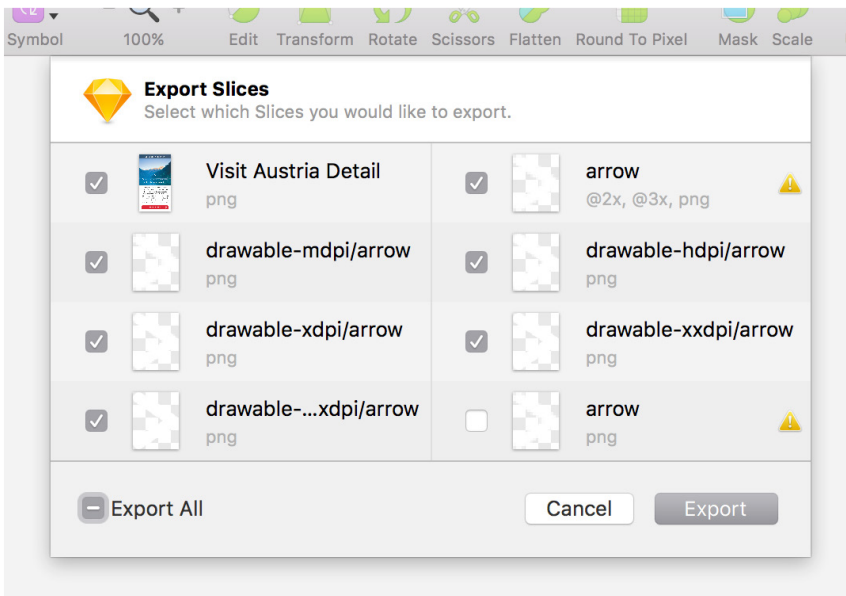


Fig. 6.9: The export dialog, accessible with Shift + Cmd + E, shows all assets that have been set for exporting. Conflicting file names are marked with a warning.
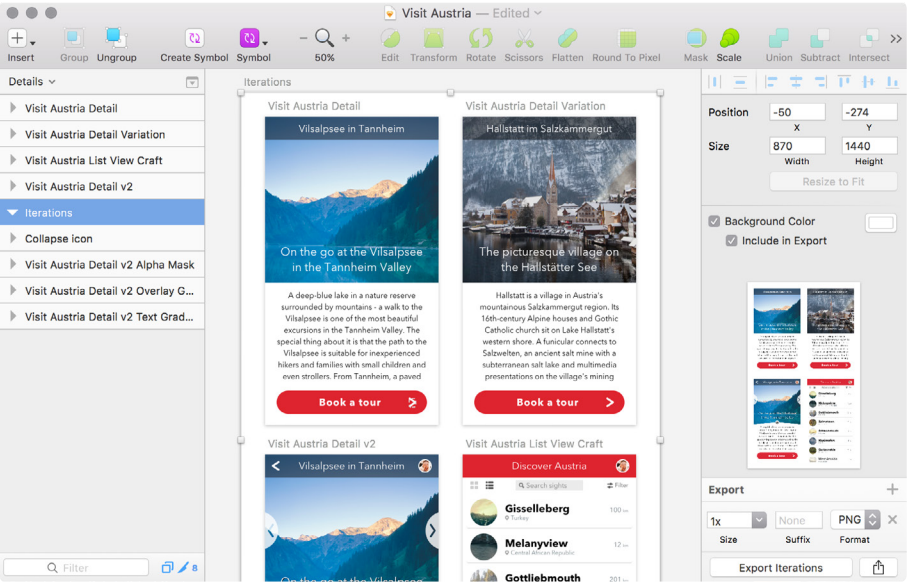
Fig. 6.10: Show multiple artboards in one screen with a big overarching artboard in the back, which you export.

**Quick tip:** Instead of exporting individual artboards, you can create a big overarching artboard in the back that spans all of the relevant artboards and export this single big one instead (Fig. 6.10). This is great for presentations where you want to show a number of different options at once. Be sure to set a white background color.

# An Example

With all of these options available, let's get back to the Details screen of our app and have a look at a practical example. We want to export the arrow of the button to all required sizes for Android and iOS: Either select it on the initial version of the screen or enter the symbol. As preparation, put the "arrow" layer in a same-named group so that we can use the option **Export Group Contents Only**. With this new group selected, click on **Make Exportable** in the bottom-right of the inspector and then two more times on the +. This automatically sets up all of the required options we need for iOS, from "1x" to "3x" (Fig. 6.6, bottom right). That was easy!

Things prove to be more difficult for Android, because subfolders are needed for the various sizes. Let's start with "mdpi": Select the arrow itself, not the group, press S for the slice tool and click on this layer on the canvas to add a new slice. As mentioned, the group makes sure that we can select **Export Group Contents Only**. Otherwise, the background of the button will also be exported.

The default exporting options for this slice are correct, but its name needs to be prepended with "drawable-mdpi/" so that the icon is placed in the corresponding subfolder of the selected directory in the save dialog later. Now, duplicate the slice with *Cmd + D*, change the name to "drawable-hdpi/" and set the **Size** to "1.5x" in the export options. Do the same with "xhdpi" (2x) and "xxhdpi" (3x) until you get to "4x" and "xxxhdpi" (Fig. 6.11). Make sure that "copy" wasn't added to any of the slice's names.
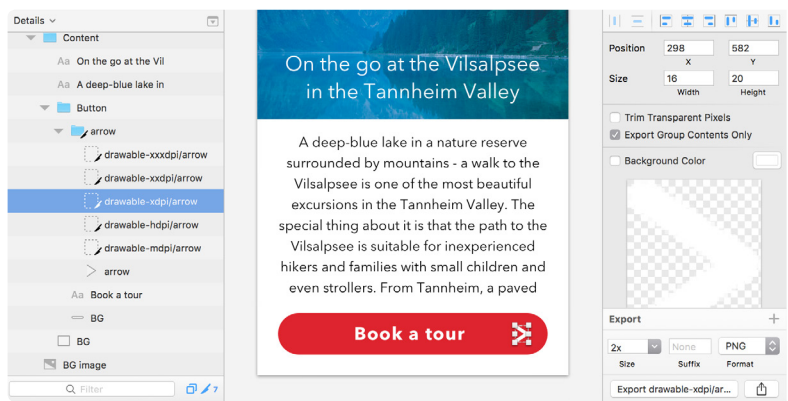
Fig. 6.11: A slice has been added for every size needed for Android.

Now, press *Shift + Cmd + E* to enter the Export dialog, where you should see all different assets listed (Fig. 6.9). After clicking on **Export** and selecting the appropriate folder, the defined file names and folder structure will be created (Fig. 6.12).
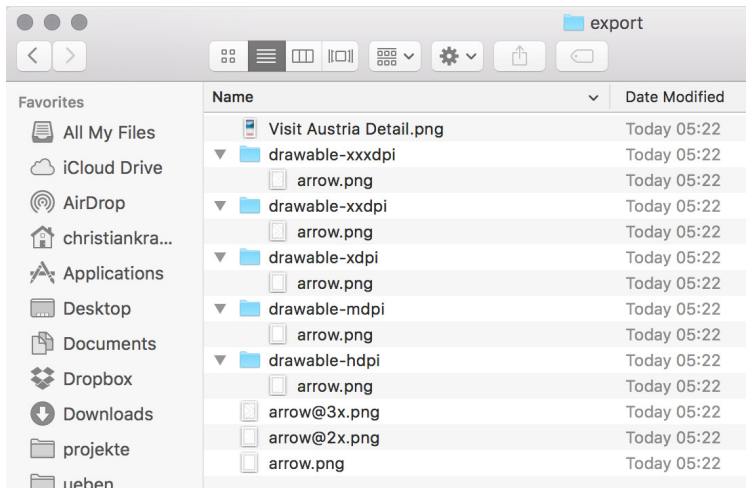


Fig. 6.12: All assets have been created correctly.

Setting up all of that for multiple assets can be quite cumbersome, but a plugin provides a remedy: Sketch Export Assets.[41] After you selected the element to export, choose the target platform in the appropriate menu from **Plugins** in the menu bar, which asks you where the assets should be created on the hard drive.

## Real Devices

Seeing a design in Sketch is good and all, but to assess the true quality, you need to experience it on a real device. An easy way would be to export the artboard and open it on the device from something like Dropbox. To do this, select the artboard and define the various resolutions you want to target. Say we'd like to preview the card view of the Overview screen on an iPhone 6 and an Nexus 6 device. Select the artboard, click on **Export** in the inspector again, and define each size with the "w" suffix in the **Size**, multiplied by the pixel density, to get a sharp output.

For the iPhone 6, with its native screen width of 375 DP and pixel density of "2x," this would be "750w" (375 × 2). Also enter something like "-iphone6" as the **Suffix** to be able to distinguish between the different screenshots. The format can be left as the default PNG option. The Nexus 6 has a 411 DP width and a density of "3.5x," so we need to set up a second export option with a **Size** of "1439w" (411 × 3.5 rounded) and a **Suffix** of "-nexus6." When you go to the Export dialog with *Shift + Cmd + E* now, you will see not only the variations of the arrow we set up for exporting earlier, but also the new artboard, which you may need to select (or simply check **Export all**).

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41  http://smashed.by/sketch-exportassets

## DIRECT PREVIEW

But wouldn't it be easier to preview a design right from within Sketch, on an actual device? That's exactly what Mirror does: It sets up a web server and a dedicated URL that can be opened on any device, whether desktop, mobile, tablet or TV, as long as it has a web browser. You can access it from the same-named icon in the toolbar, which sends you the browser and gives you an overview of all of the pages and artboards. It even auto-updates the view as soon as you change something in Sketch, giving you an instantaneous preview. Please note that you still need to make sure that the artboard's size matches the device you want to preview on (including the pixel density) in order to get a sharp result.
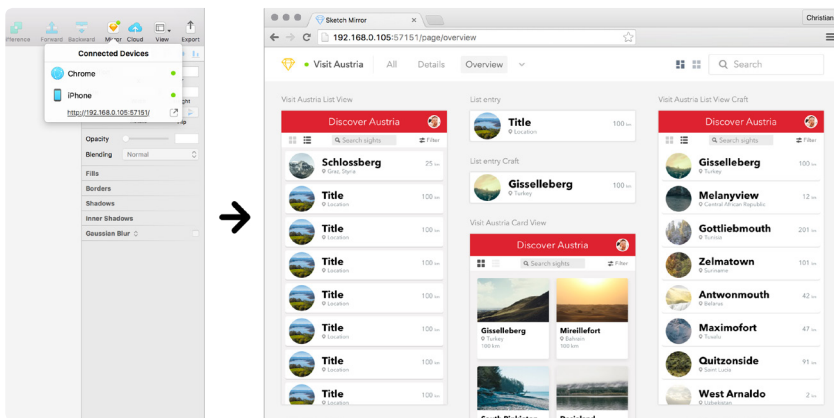


*Fig. 6.13: Mirror opens a preview of all of the artboards of your design in the browser. You can access it from the toolbar in Sketch.*

One extension that not only runs locally but can be accessed from anywhere in the world is Cloud. After you have selected **Upload and share** from the respective icon in the menu bar, your design will get transferred to a server, and you will be provided with a link that lets you preview your creation in the browser, just like with Mirror.

A similar alternative to the local browser preview that runs directly on your iOS devices is the app Sketch Mirror,[42] which also connects through the Mirror icon in the toolbar (Fig. 6.14). You just need to be on the same Wi-Fi network as your Mac. Alternatively, you can connect via USB. The app is a bit more reliable than the browser version and also smart enough to match the pixel ratio to the device you are viewing on. So, even if you design in 1x in Sketch, you will get a sharp result on a high-density device like an iPhone 6. On the device itself, you will get a list of pages with their artboards, each of which you can swipe through. Unfortunately, there's no Android version yet, but have a look at Mira[43] and Crystal,[44] for a glimpse.
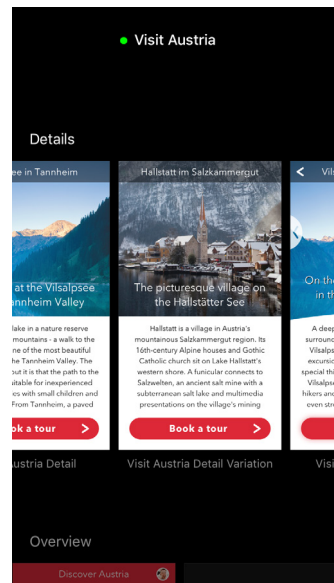
*Fig. 6.14: Mirror is also available as a dedicated iOS app (iPhone 6s depicted).*

## ALTERNATIVES

For the full package, iOS and Android, have a look at the Skala Preview bundle from Bjango, which consists of a Mac application and companion apps for both mobile platforms. That alone would make it a serious contender. Unfortunately, it doesn't work from inside Sketch, but it's free, so you've got nothing to lose. Once opened on both devices (desktop and mobile) and connected to the same Wi-Fi network, it lets you drag screenshots to the Mac application, and the screenshots are then displayed on the mobile app. Furthermore, it has some useful features such as a filter to simulate various types of color blindness and a few predefined zooming levels.

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42  http://smashed.by/sketch-mirror
43  http://mirapp.io/
44  http://smashed.by/sketch-crystal
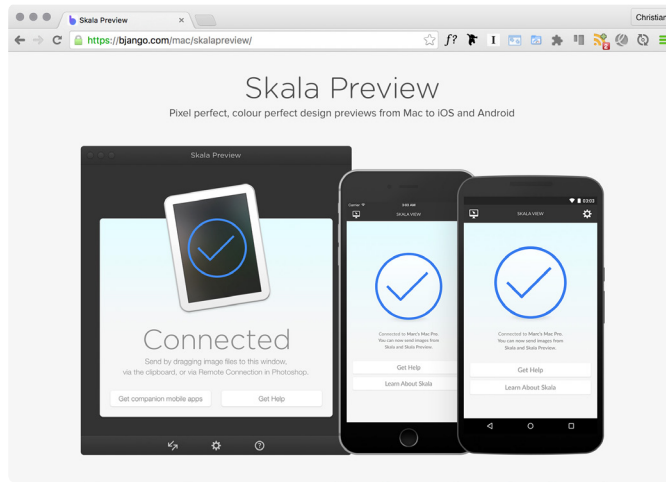
*Fig. 6.15: The Skala Preview bundle consists of a Mac application and companion apps for iOS and Android.*

A Sketch plugin that can be of massive assistance here is Sketch Preview,[45] which automatically sends the selected artboard to Skala View on your mobile device and lets you select the output size.

## The Achilles Heel?

Probably the biggest downside of Sketch is its absence on Windows. While the Mac seems to be the preferred environment for many designers, the majority of developers still trust Microsoft's operating system. This might be not an issue in the design phase, but once you need to hand off the different screens for development, there's no official way to provide the Sketch file to your mates on Windows.

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[45]  http://smashed.by/sketch-preview

Of course, you could do it the hard way and export all elements separately and allocate the necessary information (like colors, measurements and sizes) by hand, but that's not exactly efficient. Luckily, some clever people have taken care of this issue with <u>Avocode,</u>[46] <u>Zeplin,</u>[47] and <u>Sympli</u>.[48] Zeplin and Symbli offer free plans to get started right away.
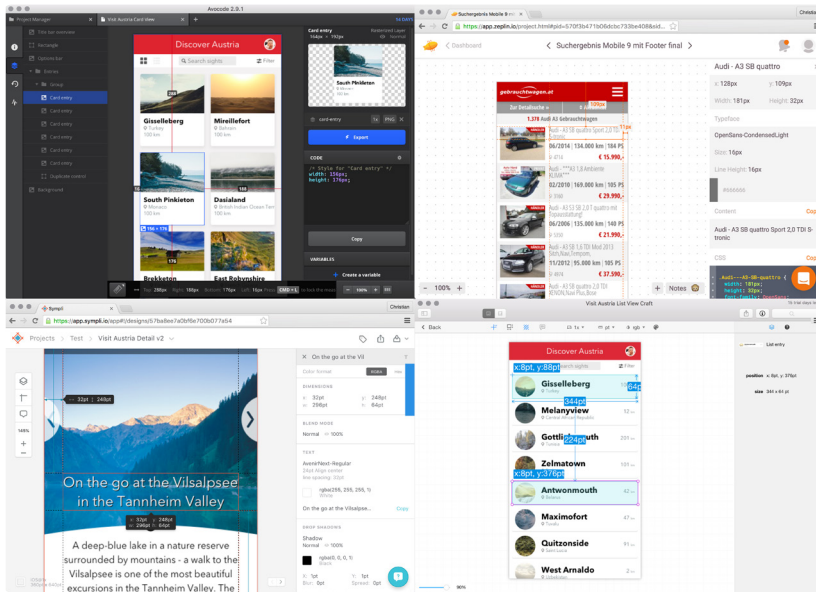


*Fig. 6.16: Top: Avocode, Zeplin. Bottom: Sympli, Markly (from left to right). They all let you inspect and share your design in one or another way.*

Basically, these services let you inspect Sketch files in a read-only format to gather all of the required information, to export assets, to add notes and to create a style guide all at once. Even the critical CSS code is provided automatically. This is helpful not only for making a design available to the developers, but also for sharing it across your design team. Sketch plugins make sure that everything is kept up to date once a file changes.

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46  https://avocode.com
47  https://zeplin.io
48  https://sympli.io/

Speaking of plugins, if you don't need all of these fancy bells and whistles, check out the free Marketch,[49] which gives you a rather basic version of the functionality described above but still has everything you need to code your designs. Sketch Measure[50] does the same except that you can add measurements, dimensions, color codes and more as separate layer groups directly in Sketch.

Finally, a different approach is taken by Markly App,[51] which specializes in design specifications exclusively and lets you read all of the required measurements, colors and sizes.

**Quick tip:** If all you need is to check out the CSS attributes of an element, right-click and select **Copy CSS Attributes.** Depending on the element, this will give you CSS properties such as border-radius, font-size and color and background-image, ready to be used in your style sheets. Available from the same menu, **Copy SVG Code** provides you with all of the code required to quickly create an SVG file inside your text editor.

If you are not afraid of running Mac OS X (or its successor macOS) on your Windows machine, you could also take the plunge and set up a virtual machine, which enables you to run Sketch in your trusted environment. Martijn Schoenmaker talks about this approach on Medium.[52]

49  http://smashed.by/sketch-marketch
50  http://utom.design/measure/
51  http://marklyapp.com
52  http://smashed.by/sketch-windows

# Discount Time!

As a convenience to you, I've collected discount codes for all of the specification tools mentioned:

- Avocode: With the promo code "sketchbookpromo", you get three free months.

- Zeplin: Use the promo code "ZeplinLovesSketchHandbook" and be one of the first 100 to get 25% off for three months.

- Sympli: The discount code "SMASHINGMAGAZINE" gives you 15% off for the first six months.

- Markly: Use this link to get 30% off the app: smashed.by/sketch-markly

# Printing

While Sketch offers an option to print artboards (or slices, if no artboard is present) in the **File** menu, this clearly isn't one of its strongest points. Given its quirky behavior, you are often better served by exporting artboards or elements as a PDF and using a more suitable application for printing, even if it's just the native Preview application on your Mac.

Speaking of printing, while Sketch is clearly targeted at digital design, it can be used surprisingly well to create print material such as posters, stationery and brochures. A few caveats: Sketch has only pixel measurements; there is no option to set a bleed or margins; and RGB is the only color space available. Also, be prepared to use a separate application such as Adobe Illustrator or Affinity Designer to make the document print-ready.

### PAPER SIZES

The first restriction, pixel-only measurements, can be circumvented relatively easily with a bit of math. If you look at the built-in artboard sizes, you'll see that **A4** from **Paper Sizes** results in the dimensions "595 × 842" pixels. If you convert that to the A4 size in millimeters, 210 × 297, you'll get about 2.83 pixels per millimeter or 28.3 pixels per centimeter (Fig. 6.17, red). Not exactly easy to calculate with, but a good start. To fully embrace this ratio, you should switch off **Pixel Fitting** under **General** in the **Preferences** (*Cmd + ,*). Full pixels are of no use here.

Things are quite easier with US measurement in inches. One inch directly relates to 72 pixels (Fig. 6.17, blue). This means "612 × 792" pixels for the official "Letter" size of 8.5 × 11 inches.
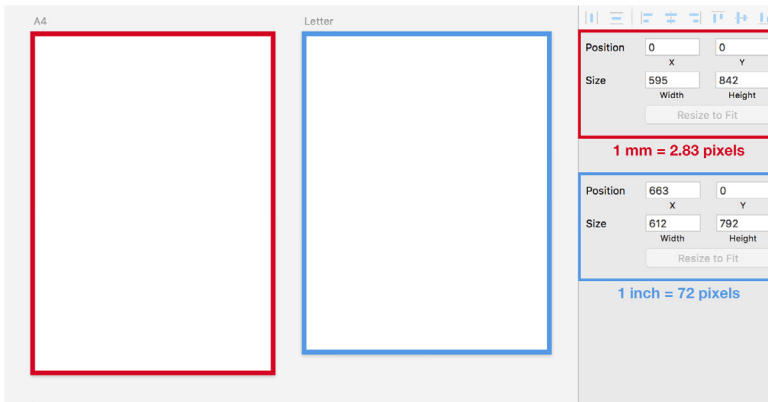


Fig. 6.17: The artboard presets are the base for the calculations of the measurements. Red: A4. Blue: Letter.

## BLEED

Because print shops don't guarantee cutting that is 100% accurate, your designs need a safe zone on all sides. All elements that should touch the outer edges on the printout need to extend into this space. Sketch doesn't offer a dedicated option to add this extra space, but you can use custom guides for this purpose. After you have created the artboard in the size you need (without bleed, see Fig. 618, left), add a full-sized rectangle (position: 0/0, width: 100%, height: 100%), and change from the fill to a border. Now hold *Alt* to resize the artboard from the center on the canvas, and bring it to the new dimensions, including the bleed: 9 pixels (= ⅛ inch bleed) or 12 pixels (= 4 mm bleed) on each side.

After that, show the rulers with *Ctrl + R*, select the rectangle, and drag out a guide for each side from the left and top rulers, letting them snap to the dimensions of the rectangle (Fig. 6.18, middle). You can delete this shape later. The space inside the rulers represents your initial document dimensions; the area outside is the bleed. Now you can enlarge all required elements so that they extend into this area (Fig. 6.18, right).



*Fig. 6.18: Left: Create the artboard in the required size (without the bleed). Middle: Add a rectangle with a border, resize the artboard to include the bleed, and add guides to the dimensions of this rectangle. Right: Create your design and make sure that all of the required elements extend into this area.*

## OTHER OPTIMIZATIONS

After you have finished your design, you will need to manage another important task: converting all text layers to outlines. This ensures that all other computers can handle your text, regardless of whether it has the fonts installed, and makes everything look exactly the way you intended. To do so, select the respective layers and press *Shift + Cmd + O*. This creates a dedicated shape for every part of the text layer. Be warned: If your document contains many text layers, you are better off delaying this task.

Now you can set up your artboard for exporting by clicking on **Make Exportable** at the bottom of the inspector. **PDF** is the preferred format (Fig. 6.19, top export format), but if your design is image-heavy, consider saving it as a PNG with a very high resolution instead. To go from the default 72 DPI to the printer-friendly 300 DPI, you'll need to export it at

a size of "4.17x" (300 DPI / 72 DPI) (see Fig. 6.19, bottom export format). In both cases, make sure that the images in your Sketch document are at least 4.2 times the size of the final format to get a sharp output. Finish this task by clicking on the **Export** button.
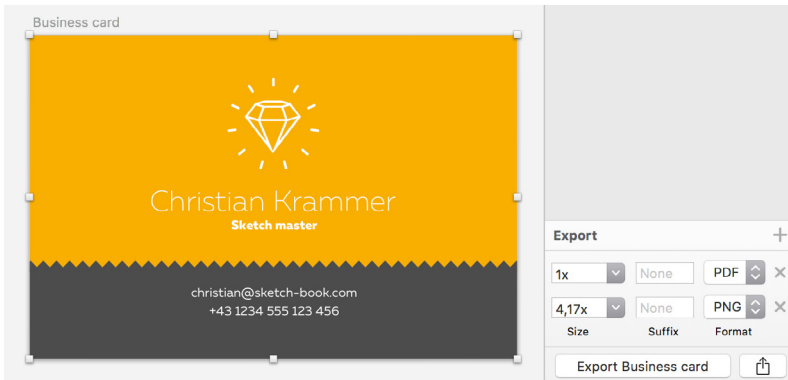


*Fig. 6.19: Export your design as a PDF, or a PNG with a high resolution.*

## RGB TO CMYK

Sketch can't help you here because you are only able to use RGB colors; for print, you need CMYK colors. This requires you to involve another print-friendly application, such as Adobe Illustrator or Affinity Designer. First, convert the entire document to the CMYK color space. In Illustrator, you can do that in **File → Document Color Mode → CMYK Color** in the menu bar. Affinity Designer enables you to make this change in **Document Setup → Colour → Colour Format**.

Now is also the time to convert all text layers to outlines, in case you postponed that earlier. In Illustrator, you can use *Shift + Cmd + O*, like in Sketch. Affinity Designer lets you perform this conversion with *Cmd + Enter*.

If you are satisfied with the conversion or exported a PNG, you can stop here; otherwise, you need to find a good alternative for each important color. I won't go into detail here. Please consult the respective manual for the exact process of how to select and change colors.

## CUTTING EDGE

You may want to define crop marks before saving the final PDF. The bulletproof way is to set them directly in Sketch before exporting. Draw some ordinary lines at the positions of the custom guides for the bleed in each corner (Fig. 6.20). You can also add them right in Illustrator, but this requires you to bring the document to the original dimensions again there (without the bleed). After that, use the **Marks and Bleeds** tab in the **Save As** dialog to define these settings.
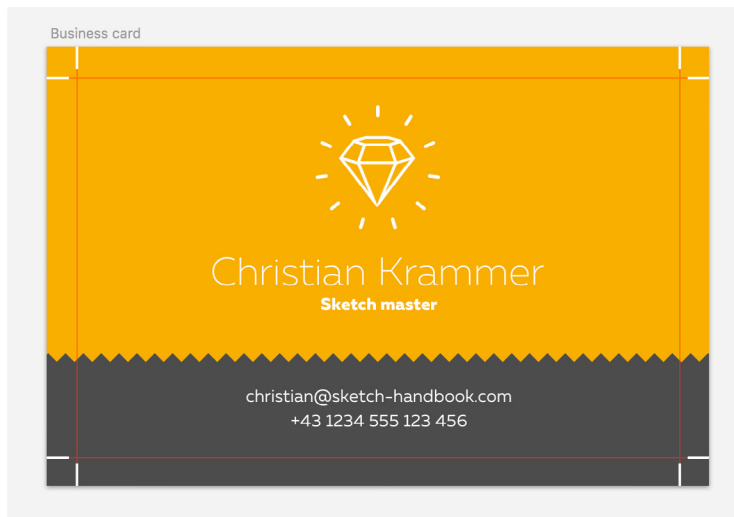


*Fig. 6.20: The bulletproof way is to add the crop marks right in Sketch. Just draw a few lines in the corners at the positions of the custom guides.*

Unfortunately, Affinity Designer doesn't let you set automatic crop marks, but you can define the bleed without having to bring it back to the original dimensions first. Like before, go to the **Document Setup** and define the relevant settings in the **Bleed** tab.

After you have handled all of these preparations, save your document with something like a "-print" suffix in the file name to denote the finished version.

### OFF TO THE PRESS

As you can see, Sketch is absolutely capable of handling a print project. While it won't allow you to manage it from start to finish, the design app can get you a long way. Only after using other applications such as Illustrator do you realize how easy Sketch actually is and how little effort is required to design something that looks great. I'd like to mention Peter Nowell's article on Medium[53] in particular, because it was a very helpful resource when I tackled my first print project.

# Alternatives

Sketch is not the only player in the field of vector-based design apps, but it is, unfortunately, the only one that is Mac-exclusive. Only time will tell if this is a recipe for success or a pitfall. All of the applications described below have a Windows equivalent. While some of them seem to have been around forever, such as Adobe Photoshop and Illustrator, others such as Figma and Adobe XD are on the rise and challenging Sketch in every possible way. Let me give you a short overview of the alternatives.

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53  http://smashed.by/sketch-print

## ADOBE PHOTOSHOP[54]

The top dog, still favored by many designers around the world because it lets you basically do anything you can imagine, all in one application. Although it's mainly bitmap-based, you also have the necessary vector tools to remain resolution-independent.

Photoshop grew into such a behemoth over time that Adobe almost lost sight of basic user tasks, like creating an interface with as little effort as possible. To compensate for this, Added recently added a slew of new features (some clearly "inspired" by Sketch), but for many designers it was already too late. In search of an alternative, they found a new home in Sketch, some never to return.

## ADOBE EXPERIENCE DESIGN CC[55]

This is Adobe's answer to Sketch, called XD for short. Although it is still far away from Sketch's feature set, it has an ace up its sleeve: native prototyping, right in the app. However, this might not be a strong selling point anymore, because the Craft[56] plugin mentioned a few times earlier brings all of the features that otherwise set XD apart.

If you are already subscribed to Creative Cloud, this might be a worthwhile option. Moreover, the XD team moves fast and adds features regularly, so it's just a matter of time before it reaches feature parity with Sketch or starts to add totally new functions. A Windows version has been announced, but no word on the release date yet.

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54  http://smashed.by/sketch-photoshop
55  http://smashed.by/sketch-xd
56  http://smashed.by/sketch-craft

## ADOBE ILLUSTRATOR[57]

Illustrator is probably the closest competitor from Adobe's huge pool of applications in terms of icon and logo design. It offers many of the features you know and love from Sketch, but in a less intuitive way. Illustrator is clearly the better choice if you mainly do illustrations and create branding assets, but its massive set of features and options makes it so much more complicated and intimidating than Sketch. I tried it but felt lucky that I could go back to Bohemian Coding's counterpart.

## AFFINITY DESIGNER[58]

This is actually more of a competitor to Illustrator, because it offers many of Adobe's powerful features but also enables you to design interfaces relatively effortlessly. It lacks some of Sketch's features and can't compete with its ease of use and focus on interface design, but keep an eye on it because it allows you to combine vector and bitmap tools for some amazing effects, ones that Sketch will probably never get. A Windows version was released lately.

## FIGMA[59]

Figma could finally provide a way to directly open and edit Sketch files on Windows. With its feature set similar to Sketch, and Figma team's passion for innovation it has the most potential to become a serious threat to Sketch. Most importantly, Figma isn't limited to one platform; it runs in the browser and can be used from anywhere in the world. You can share your designs, make comments, and even simultaneous edits. A desktop app is available for Windows and MacOSX, too.

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57  http://smashed.by/sketch-illustrator
58  http://smashed.by/sketch-affinity
59  http://figma.com

## GRAVIT[60]

Another browser-based design tool that's improving at a crazy-fast rate. You are free to sign up and try out all of its features. Its functionality is very similar to Sketch's, but Gravit also offers some unique tools and a slew of filters. Moreover, it features a market with a large set of premade templates, icons and components ready to be used in the app. A strong focus is also made on collaboration: You can share your designs with other people and even work on them together.
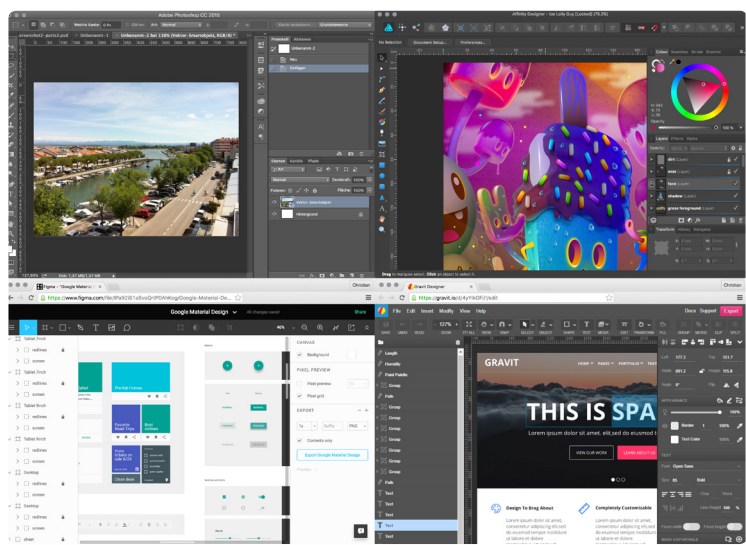


*Fig. 6.21: Some competitors of Sketch. Top: Photoshop, Affinity Designer. Bottom: Figma, Gravit (from left to right).*

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60  https://gravit.io

# Prototyping

Probably the most requested feature of Sketch is prototyping. Bohemian Coding might have had many chances to introduce this feature, but it has always focused on its core competence: making Sketch the best design application available. And it is filling this role very well so far. Luckily, dozens of applications out there have jumped in to offer prototyping capabilities. Below is a brief overview of the options that either work with Sketch in some way (mainly in the form of plugins) or are very similar to it as applications. Most of them even let you experience prototypes on a real device once you are finished. Please visit the respective websites for more information.

### CRAFT PROTOTYPE[61]

This is probably the hottest contender to the throne of prototyping tools, not because it's the best, but because it's built right into Sketch and provides a seamless experience. Formerly know as Silver Prototype, it was integrated into the Craft suite lately, along with other useful helpers that I have already mentioned throughout the book.

### PRINCIPLE[62]

Although not related in any way, this is the app that comes closest to feeling like Sketch. You have your layers list and inspector on the left, and a canvas where elements are added. From there, you define how they interact with each other. Once you are finished, you can also export the prototype as a video or animated GIF.

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61  http://smashed.by/sketch-craft
62  http://principleformac.com

### INVISION[63] AND MARVEL[64]

These are very similar, in that they give you a web interface where you basically link your screens to each other. Moreover, they offer several transitions for fixed elements. In contrast to most of the other options, these web applications are free as long you don't need more than one project or prototype (Marvel: two).

### PROTO.IO[65] AND FLINTO[66]

These are supercharged versions of the tools above because they allow you not only to set up simple prototypes, but also to add advanced interactions and functionality. Both offer a (toned-down) web interface and a dedicated Mac app for you to build ideas. Use the link smashed.by/sketch-protoiotrial to get an extended trial period of 60 days (instead of 15 days) for Proto.io.

### FRAMER[67]

In contrast to the other applications, Framer is built entirely on code. You also get a visual editor where you can change elements directly, but everything is immediately translated into the code editor and can be tweaked there. This approach allows you to explore many different ideas without being limited to predefined patterns. Use the promo code "FRMR-SKETCH-HANDBOOK-2016-CK" when buying the app to get 20% off.

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63  http://smashed.by/sketch-invision
64  http://smashed.by/sketch-marvel
65  http://smashed.by/sketch-protoio
66  http://smashed.by/sketch-flinto
67  http://smashed.by/sketch-framerjs

## KEYNOTE[68]

This is probably the easiest option on this list because it lets you copy elements directly from Sketch in the vector format, even entire artboards. Then, you can use the "Magic Move" transition to move from one slide (artboard) to another. This is the perfect way to visualize an idea quickly. But it doesn't need to stop there: Either keep tweaking the presentation on Keynote for iOS or send a link to an Android device so that you can also experience it there. Because Keynote comes free with every Mac, this approach won't cost you a penny.

## BUILD THE REAL THING

The biggest downside of all of these applications is that you have to go through three stages to get to the result: design, prototype, development. Why not skip the middle step and go right into code? Either with HTML, CSS and JavaScript or with Xcode or with Android Studio. It might be harder to show off something in the first place, but once you are finished with the first prototype, you will be much closer to the final product. Something to think about.

68  http://smashed.by/sketch-keynote

# Designing An Article Page

Mobile is growing like crazy, but it's not the only way to consume content. There are still a myriad of other devices with larger screens, so we should also take a look at how to display information there. For this purpose, I have chosen to present a tourist site in full detail in the form of a comprehensive article (Fig. 7.1). Because it contains much more information than the mobile version, let's think of it as an iteration, a way to try out new ideas and display formats.
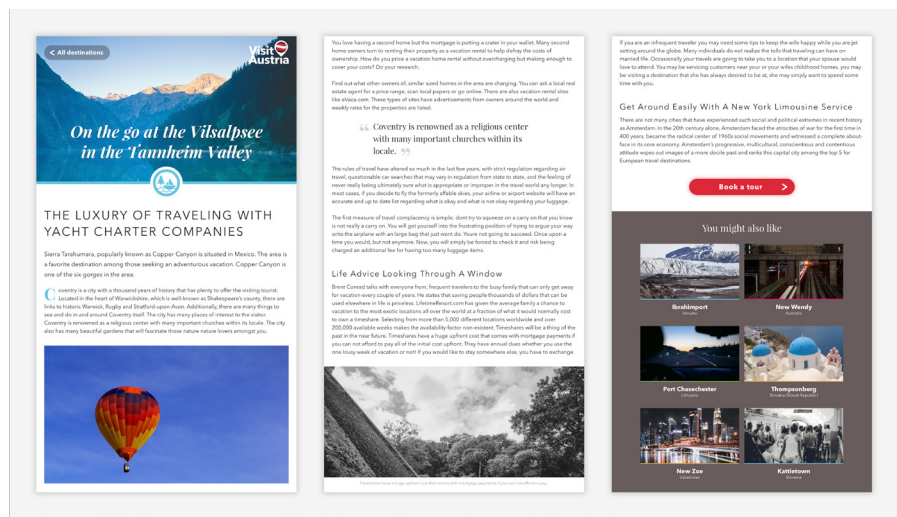


*Fig. 7.1: The full-length article. Note: Its length made it necessary for me to split it into three columns for the screenshot.*

For a clear separation to everything we have created so far, add a new page called "Article," which will house all of the different screen sizes of the article. In the fashion of mobile-first, let's start small and work our way up to the bigger variants. This is also a perfect opportunity to use a grid, because it gives some constraints to the structure of the design and makes sure that

the responsive versions can adapt in a predictable way. For a good starting point, choose the artboard preset **Tablet Portrait** from the **Responsive Web Design** category. However, the default height of "1024px" gives us way too little room, so set it to about "4500" for now. Don't forget to rename it to something like "Article Small" and set the origin to "0/0."

**Quick tip:** Setting up new artboard presets is a snap: Press *A* for the artboard tool, and click on the + icon at the bottom-right of the inspector. After you have added a new size this way, you can find it under the **Custom** tab at the very bottom of the list of presets.

## Grids or Layouts?

Sketch makes it very easy to build a grid, because this functionality is an integral part of the application. No need for add-ons or quirky templates. However, the term "grid" is used quite ambiguously here, because it describes the mesh of intersecting vertical and horizontal lines we've already used to lay out the elements in the mobile screens in the form of an 8-pixel grid. In turn, the traditional grid with different columns that you might know from web or print design goes by the name of "layout." To prevent confusion, the latter will be mainly called "layout grid" or "column grid" in the course of this book.

## DEFINING A COLUMN GRID

To set up such a column-based layout grid, click on **View** in the toolbar and select **Layout Settings…**, which will open a massive dialog with various settings. Be sure that the artboard is selected before; otherwise, you would be setting up a general layout grid. Going forward, we will not only create a grid of **Columns** but also define a baseline grid (**Rows**). This further simplifies the placement of elements and prevents arbitrary spacing.

Let's begin with the **Column** grid (for the final settings, see page 225, Fig. 7.3.). The starting point is the **Total Width** because it sets how much space should be available for the different columns. To have some kind of safety zone, I always set my content to about 94% of the page's total width, which gives us a value of "722px" for the first input field. Feel free to let Sketch do the math and enter "768 × 0.94." **Offset** is useful when you want to create a left-aligned design that occupies only some of the available space but still has defined spacing from the left. However, we are aiming for a centered layout grid, so we let the **Center** button align the design to the middle of the artboard.

The second determining factor for a layout grid is the **Number of Columns**. To have enough options for the placement of elements, I have chosen "12" here.

Based on the type of gutters you want to use in the development phase, you need to set **Gutter on outside** (Fig 7.2, top). Select the checkbox if this spacing should be evenly distributed before and after each column. Bootstrap, for example, handles it like this. In case the gutters should be before (or after) the columns as a whole and removed at the first (or last) column, leave this setting switched off. This is also the approach we will be taking.
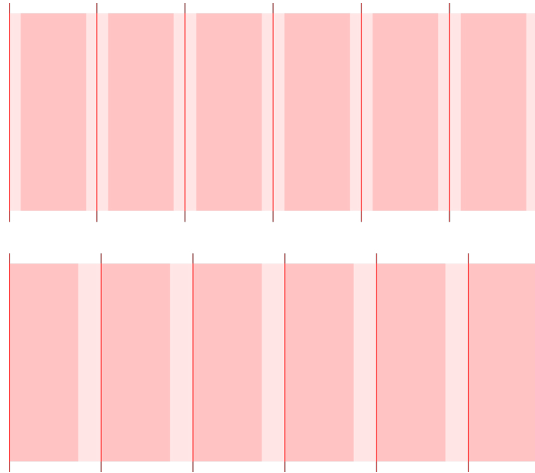
*Fig. 7.2: Top: If you set **Gutter on outside**, then the gutter (light red) will be evenly distributed left and right of each column. Bottom: Or else, the gutter will be added after the column but removed at the last one.*

After we have defined the available space for the layout grid, we will set how it should be distributed across gutters and columns now. These values are directly related; one changes when you adapt the other. My preferred setting for a layout grid is to have gutters that are about one third the size of the columns. Unfortunately, Sketch lets you set neither relative percentage values here nor the **Total Width**, so we have to do the math ourselves. Because we have about 60 pixels available per column (722 ÷ 12), we just need to divide this by 4 (3 parts for the columns, 1 part for the gutters), which gives us a **Gutter Width** of "15px." The rest of about "46px" remains for the **Columns Width**. Please note that this is just an approximation; Sketch will distribute the available space slightly different.

> **Quick tip:** Layouts and grids are individual to each artboard. To set the same grid for all the artboards in a page, open the **Grid Settings** or **Layout Settings** dialog without selecting an artboard first. A click on **Make Default,** in turn, will apply the settings provided to all new files from now on.

## SETTING UP A BASELINE GRID

With the **Column** grid set, let's move on to the **Rows**, or baseline grid. Select this checkbox now. Things might seem a bit more unclear here, so let me give you a short introduction. The defining value is the **Gutter Height**, because the rows are just multiples of it. The bigger the **Row Height**, the larger the individual "blocks" you will get, each with the **Gutter Height** in between. The best way to visualize the individual rows and gutters is to check **Draw all horizontal lines**, which will show all individual rows independent of the different blocks. However, if you just need the blocks, don't check this setting.

For a simple baseline grid, leave the **Row Height** at "1" and let the **Gutter Height** define the baseline. This is exactly what I did with a value "12px" here, because it leads to a nice line height of "1.5," based on the targeted font size of "16px" (12px × 2 = 24px ÷ 16px = 1.5). I chose this value because it represents the default font size in browsers and leads to an ideal reading experience and line length for the present screen width of 768 pixels. Furthermore, it fits perfectly in the typographic scale that I'll use later to determine all of the different font sizes for the other elements.

Finally, choose a red with "20%" opacity for the **Light** color of our grid. If you prefer to show the grid lines only, without solid fills for the columns, select **Stroke Outline**, whose color can be defined with the **Dark** color. A click on **Make Default** takes these settings for all future artboards.

While it might not be practical to execute a baseline throughout the whole development phase, it can be a huge aid in the design stage, because you will always have predefined positions where you can place elements at.
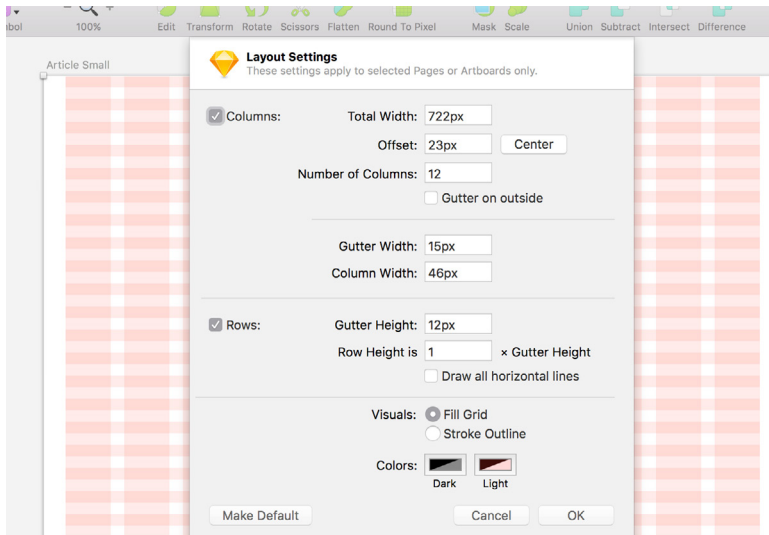
Fig. 7.3: The final settings for our layout and baseline grid.

## The Header

After you confirm the settings with **OK**, you will see the grid in its full beauty. We can finally use it to lay out elements on it. Let's bring our attention to the header for this purpose. It is similar to the mobile design, with a back link, the logo, the title and the "hero," a huge image to whet the viewer's appetite for the sight. You can copy it directly from the "Details" page (the locked "BG image" layer) if the size is big enough. Check it out with **Image → Set to Original Size** from the menu bar. Otherwise, bring in another suitable image. Now, we need a rectangle in the top-left corner, behind the image, with the dimensions of "768" ("100%") by "432" to clip the image with a mask: Select both and click on **Mask** in the toolbar. As a last step, resize and reposition the image so that it shows a reasonable section, and lock it (*Shift + Cmd + L*).

The dimensions of the mask haven't been chosen randomly. They represent the ratio of 16:9, which most displays use nowadays. This creates a nice correlation and prevents an arbitrary size. It also aligns nicely to the baseline grid. To calculate the height, we could have also used the mathematical capabilities of Sketch again, with "768 / (16/9)" in the height field.

As an alternative to a mask, you could also use the image as a pattern fill for the rectangle (Fig. 7.4). To do so, simply select the masked image in the layers list and copy it. Enter the fill settings of the rectangle, select the second icon from the right (Pattern Fill), click on the default checked pattern, and press *Cmd + V* to insert the exact clipping that you defined with the mask. Be sure that **Fill** is selected in the drop-down to the right. This pattern fill is also the approach we will take for the "Article" page, so you can delete the image in the layers list again, rename the former mask to "Image" and uncheck **Mask** with a right-click. The group is not needed anymore.
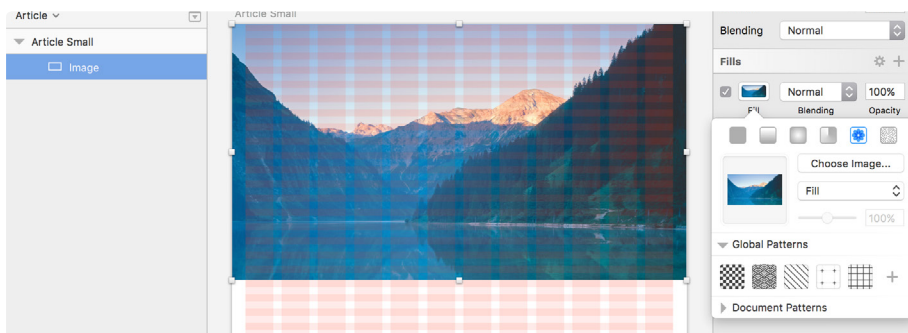


*Fig. 7.4: Set up a rectangle with a pattern fill for the hero image.*

## LOGO AND BACK LINK

For the logo, go to the "Logo" page, where you should define it as a symbol, so that it's easier to reuse on the "Article" page. Make sure to check **Send Symbol to "Symbols" page** upon setting it. Of course, you could also simply copy it, but it doesn't hurt to line up all of our important assets nicely in one place (in our case, the "Symbols" page).

You can also add other elements here, even if they don't exist as symbols (yet), such as text elements and color swatches. This enables us to see all "components" of the design, all its important parts, at a glance. At the same time, it prevents similar elements from being created. The more you can reuse, the easier it will be to see what's available, and the better off you'll be.

Insert the newly created logo symbol in the top-right corner of the "Article" page. Align it to the right edge of the layout grid horizontally; move it about one row unit vertically from the top. Now, go to the top-left corner, where you should add the background of the back link (see Fig. 7.5 for the finished back link), a rectangle with fully rounded edges that has a background color of 30% black; like always, name it "BG." Insert the "Arrow" symbol, but detach it, so that you can change its width to "10px" with the Scale function (*Cmd + K*). This ensures that the border thickness is scaled proportionally. Flip it with a right-click and **Transform → Flip Horizontal** so that it points in the proper direction for a back arrow.

Now add the white "All destinations" text, with a spacing of about "10px" on the arrow. I have chosen "Avenir Next Bold" for this label, with a size of "18px." Select both and align them vertically to the rectangle. With all of the relevant parts added, resize the background layer so that there is enough padding on the other elements: about "19px" left and right, about "9px" on the text top and bottom. Combine the three elements as a group, named

"Back," center it vertically to the logo (and lock it, so that its position isn't altered, or else use the smart guides), and align it to the left edge of the layout grid (which should be at an **X** position of "23").
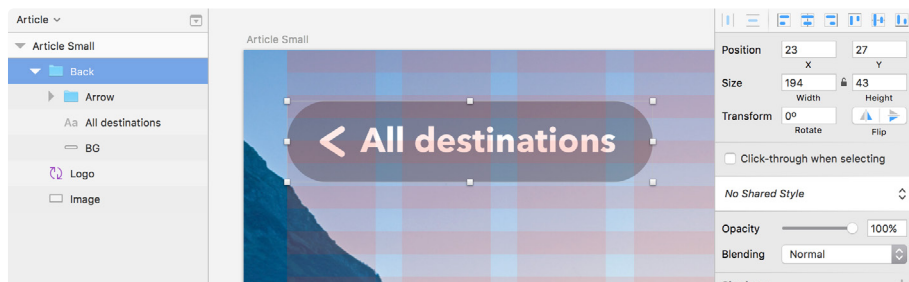


Fig. 7.5: The finished back link.

**THE TITLE**

Another important element of the header is the huge title. For a contrast to the straight "Avenir Next" font, I've chosen the playful "Playfair Display" from Google Fonts[69], which is even lovelier when set in its italic styles.

Use the "Bold Italic" weight for the title, with a font size of "48" and a color of white. For the text, choose the same as on the Details screen. The line spacing should be at "60," so that it aligns perfectly to our baseline grid (5 × 12). Change the **Alignment** to **Center** (second icon), as well as center it on the page. Now hold *Alt* and drag one of its handles on the sides until it fills 10 grid columns.

# Manage Your Fonts

69  http://smashed.by/sketch-playfair

An app I've trusted for a long time now to maintain all the fonts on my system is [RightFont](#).[70] It lets you organize your fonts into lists, with pre-defined ones for Google Fonts and Typekit, allows you to install and deactivate fonts quickly, gives you a quick preview with custom sample text, and easily syncs with Dropbox or Google Drive, so that you have the same selection available on all computers.
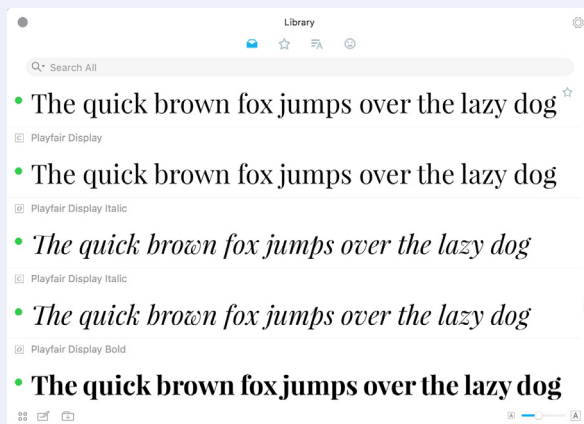


Fig. 7.6: RightFont lets you easily manage, find and install fonts (and much more).

RightFont even features a huge set of icons to choose from and lets you assign fonts directly to a text layer in Sketch, once you have found the perfect match for your design. To help with that, you can categorize the fonts into **Sans**, **Sans Serif** and **Script**, for example, or set filters for the **Weight** and **Width**. Use the link [smashed.by/sketch-rightfont](#) to get 30% off.

Place the text layer about 6 row units (72 pixels) away from the bottom of

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70  http://rightfontapp.com

the image, so that its baseline (the bottom of the letters in the second line) sits nicely on a grid line. Lastly, give it a "50% black" shadow, with the properties "1/1/0/0," so that it can be clearly seen against the background image.
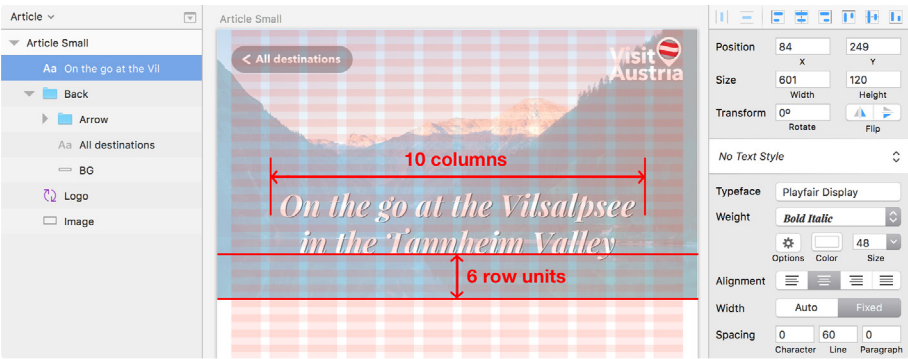


*Fig. 7.7: Resize the title to 10 grid columns, and place it 6 row units away from the bottom of the hero image. Note: I've temporarily reduced the opacity of the hero image to highlight the layout grid.*

## CATEGORY ICON

The last element for the header is a colored line at the bottom, as well as an icon, which will represent the type of sight being profiled (Fig. 7.9). Four different categories are available: "seaside," "mountainside," "cityscape" and "countryside," for each of which I've designed an icon. I will guide you through the creation process later and show you the best way to export them to be used as SVGs. For now, either grab the finished icon from the book's resources or simply make a white circle 64 pixels in diameter over the image. In both cases, add an outline border 8 pixels thick.

# Text and Borders

Sketch allows you to set borders not only for shapes, but also for text layers. Unfortunately, it is limited to the **Center** position, which makes it useful to a certain degree — about 4 pixels, no matter how big the font size is. If you need a bigger outline or a border on the outside, you will have to resort to another solution. Duplicate the respective text layer and move it to the back with *Alt + Cmd + down arrow*. Now, set the actual border on this duplicate. Because it's in the back, it won't interfere with the shape of the text and can take any size.



Fig. 7.8: Create a copy of the text layer in the back, where you will set the actual border. Both layers overlaid result in the final text.

In case you need an inside border instead, you can fall back on an inner shadow. Set **X**, **Y** and **Blur** all to "0," but use the **Spread** to control the border width. Like a normal border, its application is pretty limited but better than nothing.

The color is up to you, but be sure to pick a bright hue that stands out from the rest of the page and the image. I chose a bright blue with a bit of green mixed in (#55BFE1), which I also added to the **Document Colors** in the color dialog, with a click of the + icon. This way, I can easily pick it later when the icons need to be created. You may want to disable the layout grid for now with *Ctrl + L*, which will make the following elements easier to create. For the line, either add a 100% wide rectangle with a height of "8" or add a line shape with the same border thickness. Hold *Shift* for the latter to constrain it to the horizontal axis when drawing it. Either way, name it "Line," assign it the same color as the icon's border, and move it below the icon in the layers list.

The icon consists not only of the pictogram, but also a white circle in the back, which makes it stand out from the image. As described above, the icon itself is set at a size of "64 × 64," with an "8px" outside border; the white circle should be "32px" bigger in diameter, to form a white ring of "8px." This gives us a size of "96px." Align them vertically and horizontally to each other and the line. Name the white circle "Mask," and include it in a group named "Category" together with the icon and the line. Lastly, align this group to the left side of the artboard, and reposition it until its vertical center is at the bottom line of the image. The smart guides should help here.

To stay organized in the layers list, add all layers and groups created so far to a new "Header" group. With this last action, we have finished the header, which leads us to the actual content of the article.
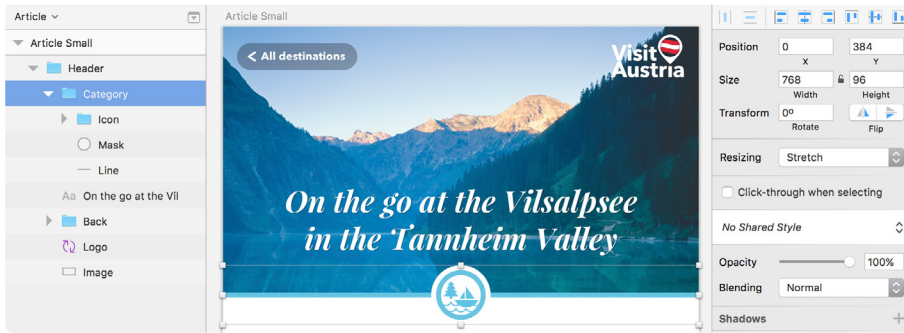
*Fig. 7.9: After we have finished the category of the sight — consisting of an icon and a line — the header is complete.*

# The Content

Real content should be the foundation of every design, and all decisions should derive directly from it. However, very often that's simply not the reality, and you are left with a couple of sentences or images from the client, if anything. Finding suitable content can be quite a challenge, so let the aforementioned content generators come to the rescue.

## THE HEADLINE

The one-size-fits-all approach is definitely represented by the Craft[71] plugin from InVision, which not only provides diverse content, but also lets you distribute and align elements, create placeholder images, and set up a style guide or library of design assets for your team. And it's free — who knows for how much longer? The part we are in desperate need of at the moment is the type generator, which we will employ first and foremost for the title of the article. But first, let's take care of the title's styling.

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71  http://smashed.by/sketch-craft

Create a new text layer with our trusted "Avenir Next Regular" font, below the header. For optimal readability, I've picked a slightly toned-down shade of black, "#1A1A1A", because true black is never a good idea on a white background for big text blocks. Be sure to save this color as a **Document Color**. Leave the content of the text layer with the default value for now, but move it to the left edge of the grid, and resize it with the right handle on the canvas until it fills the full width of the layout grid. This changes the **Width** to **Fixed** in the inspector and ensures that the text layer always breaks at the right edge, regardless of its content.

Finally, change the **Alignment** of the title to **Left** with the first icon in the inspector, and align its baseline to the baseline grid (which you can show with *Cmd + L* again), so that the text layer is about 6 row units away from the header. A **Line Spacing** of "48" (4 × 12) adapts this alignment for subsequent lines later on.

# Choosing Font Sizes

Whenever I need to set the size of text layers, I rely on the classic typo-graphic scale.[72] It ensures optimal contrast among the different sizes, with its harmonious steps. The setting of "16px" makes it ideal for typesetting even in web projects because this is the base font size of browsers, and there are many other useful size options above and below this grade. This is also useful in a responsive context because you can easily go from a base font size of 16 pixels to 18 or 21 pixels for larger screens, which all lie on the typographic scale. Although the scale has some options for bigger text, like headlines, it may lack some variation here, so feel free to add more sizes, ideally in increments of 4.
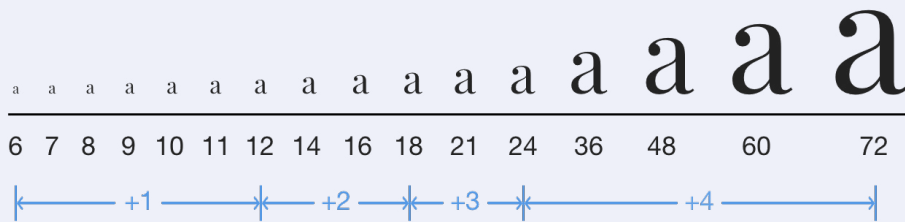


Fig. 7.10: The values of the typographic scale are ideal for choosing font sizes.

To go one step further, you could also employ a so-called modular scale (read more about it in the article above), which calculates font sizes based on a "prearranged set of harmonious proportions," like the "golden ratio" (1:1.618), the "perfect fourth" (3/4) or the "perfect fifth" (2:3). However, their application and calculation can become quite tedious, so I mostly stick to the classic typographic scale.

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72  http://smashed.by/sketch-scale

Now it's time to give some form to this headline with the Craft plugin. The panel should still be open from earlier, so click on the second icon from the bottom. In the **Custom** tab, select **Type**, pick **Headlines**, and for a common theme select the **Travel** category (Fig. 7.13). That was easy!

To make it easier to align items from now on, we will add some custom guides to the outer limits of the layout grid. This way, it doesn't need to be shown all the time (otherwise, we might get distracted from the content sometimes). First, show the rulers with *Ctrl + R*, which enables you to add a guide at the outer-left edge of the layout grid by clicking on this position in the top ruler. Do the same for the right edge of the layout grid.

> **Quick tip:** A quick way to disable the Smart Guides is to right-click on the rulers and select **Show Alignment Guides.**

## Highs and Lows

The headline is already quite attractive, but to give it even more impact, we will set it to uppercase letters. To do so, go to **Type → Text Transform → Uppercase** in the menu bar, because no keyboard shortcut is available by default. As mentioned in *Custom Shortcuts* on page 71, you could easily assign *Alt + Cmd + P* to this command (*Alt + Cmd + U* is already reserved for the Union Boolean operation) and assign *Alt + Cmd + L* to the lowercase.

Unfortunately, the popular "Capitalize" setting, which changes every first letter in a word to capitals, entirely misses here. But there's an alternate way to make such typographic changes. Go into text-edit mode by hitting *Enter* while the text layer is selected, and right-click, which opens a wealth

of options for you to discover (Fig. 7.11). The **Capitalize** option is hidden in **Transformations**. Another setting to note here can be found at **Font →  Show Fonts**; it is an extended version of the text options in the inspector. A handy plugin that sets up keyboard shortcuts for the most important features from here on is Comma.
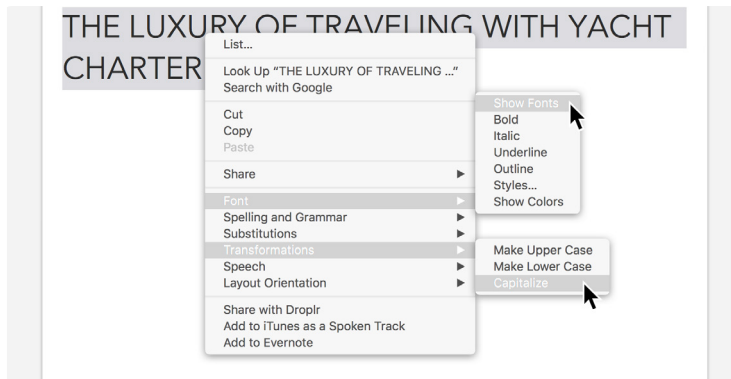


Fig. 7.11: When in text-edit mode, a right-click gives you many type-related options.

**Quick tip:** To control the OpenType features of a font, such as small caps, old-style figures, stylistic alternatives and ligatures, go into the text-edit mode of a text layer with *Enter*, right-click and select **Font → Show Fonts.** In this dialog, click on the gear icon in the top-left corner, where **Typography…** will give you access to all of the Open-Type features.

The change to uppercase letters gives the title quite a dark typographic "color," adding to the already dense look of the "Regular" style of the font. To mitigate this, let's change the **Character Spacing** to "3.75" (Fig. 7.12), which restores the lighter, more relaxed feeling.

# Tracking, Kerning and Ligatures

The **Character** input field in **Spacing** in the inspector serves two purposes. First, it lets you change the tracking — i.e. the overall spacing between letters — to give the text a looser or denser feel. It also lets you change the kerning — i.e. the spacing between individual letters — for example, to move letter combinations like "Wa" and "AV" closer together, which would otherwise be too widely spaced. This is usually handled quite well by the font, but there will be occasions when you want to fine-tune it.

To change the tracking, select the text layer or portions thereof and adapt the value in the **Character** field. For the kerning, just select the first letter of the pair you want to kern. A quick way is to use the arrow keys up and down to increase or decrease the value in this field. Combine them with *Shift* to change in intervals of 1; and hold *Alt* to change the spacing in intervals of 0.01.
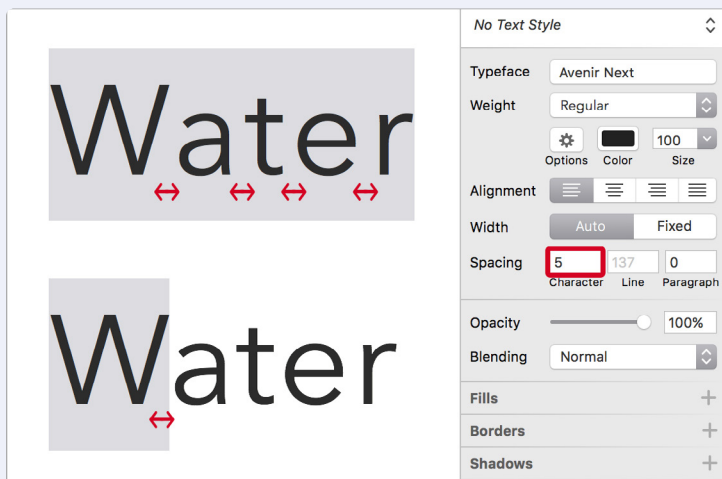


*Fig. 7.12: To change the tracking — the general spacing between letters — select the whole word (top) and adapt the value in the **Character** field. To adapt the kerning — the spacing between two letters that would be too far apart by default — select the first of the pair of letters (bottom).*

The tracking can also be tightened with *Ctrl + Alt + T*; to loosen it, press *Ctrl + Alt + L*. To switch the kerning off entirely, select **Type → Kern → Use None** from the menu bar; for the default value, select **Use Default**, or delete the value from the input field. Please mind that these shortcuts only work when you are in text-edit mode.

Closely related to the kerning are ligatures, special alternatives to letter pairs such as "ff" and "fi," which would look strange if set too close together. You can select **Use None**, **Use All** or **Use Default** from **Type → Ligatures** in the menu bar. Learn more about ligatures in Butterick's Practical Typography, which is also a great resource for other type-related topics.

## The Optimal Reading Experience

To ensure optimal readability for your text, always aim for a certain line length — i.e. the number of letters (including spaces and punctuation) on a single line (also called measure). The more letters a line contains, the harder it gets for the human eye to jump to the next line after finishing the previous one. Usually, the sweet spot lies between 45 and 85 characters per line, but for short text passages, you don't need to be so strict. Sketch can't help you to figure out this length, but there are numerous online aids for this task, such as www.charactercountonline.com.
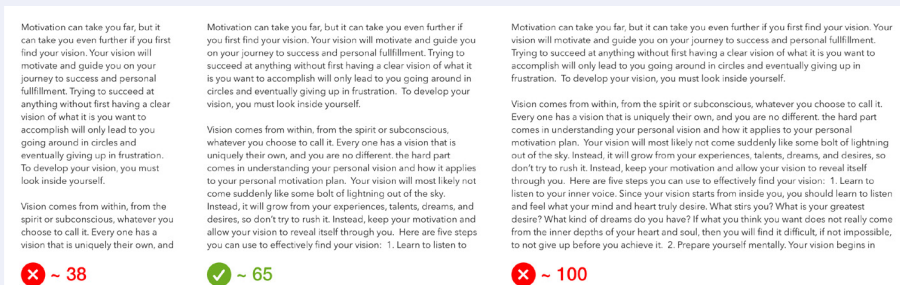


Fig. 7.13: *The optimal line line length lies between 45 and 85 characters (middle). Left is too short, right is too long.*

Whenever you notice a paragraph with an excessive line length, either narrow the column or make the font size bigger. If neither is feasible, you could try breaking the text after a certain distance so that it doesn't fill the available space.

Another factor that plays into readability is line height, or leading, the vertical space between lines in a paragraph. It should ideally be between 133% and 150%. For a font size of 16 pixels, you would need line spacing in the range of about 21 (16 × 1.33) to 24 (16 × 1.5). For narrow text blocks, reducing the line height is OK, but the wider a column, the more you'll need.

As with line length, it gets hard to distinguish between lines if the line height is too small. But don't overdo it, because the lines will start to drift apart if the setting is too high. For more information, read this article on Smashing Magazine[73], in which Laura Franz talks about the correlation between line length and font size.
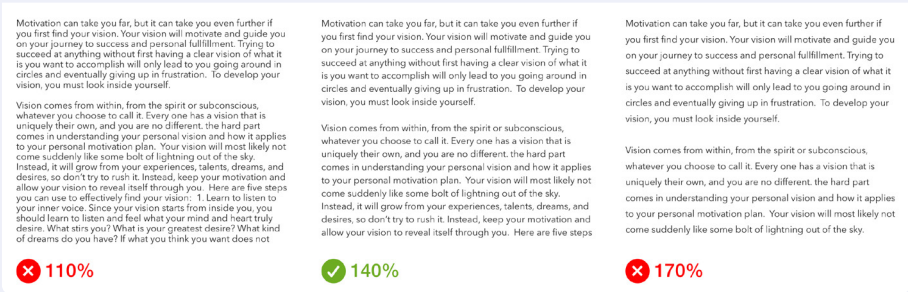


*Fig. 7.14: For line height, the optimal value is between 133 and 150% (middle). Left is too low, right is too high.*

73   http://smashed.by/sketch-linelength

# The Introduction

Let's tackle the introductory section of the article now, which is slightly bigger than the body copy. Add another text layer by dragging a frame that has the full width of the layout grid. Give it a size of "18" (part of our typographic scale), a line spacing of "30" and the same color as the title. Also, reset the character spacing to **auto** by deleting the value in the input field, because it got adopted from the title. From now on, make sure that all text layers have the full width of the column grid and are aligned to the baseline grid.

For the content, we'll make use of Craft again. But this time, choose **Travel** from the **Article** category (Fig. 7.15). Repeat it until you get some text to your liking, and remove parts of it so that three lines are filled. Because Craft tends to add much more text than required, you will also need to reset the height of the text layer: Simply drag the lower handle of the text layer up a bit; it will automatically snap to the height of the content. This text layer should be four row units away from the title.
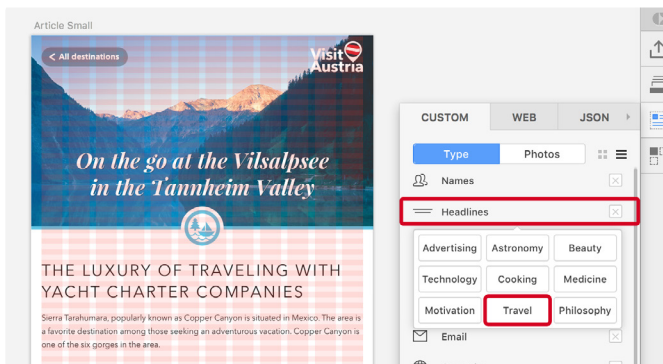


*Fig. 7.15: The finished title and introduction. We have used the Craft plugin to fill them with content. For the title, we picked the Travel category from the Headlines category; for the introduction, we used some content from Article (right below Headlines).*

Craft lets you not only use predefined content, but also select real text from any website. So, the next time you are tasked to redesign a website, you can choose the **Web** tab instead of the **Custom** tab, navigate to the relevant web page, and apply the text from there to the selected text layer with a simple click. To follow a link, click while holding *Alt* instead.

You may be wondering why we have set the line spacing to "30" — that isn't exactly according to our baseline grid, and it only aligns on every second line. For one, not every text layer needs to employ this grid to the fullest degree; some font sizes would even look awkward if forced to this alignment. It's OK to deviate from the rules in some circumstances.

## The Body Copy

Now for the body copy. Drag the introductory section down while holding *Alt* to make a copy and leave three rows in between. Choose the base font size of "16px," set the line spacing to "24px" to get a nice line height of 1.5, and add some filler content with Craft (again, **Travel** from **Article**). Delete until you have about six lines of text, or drag the bottom handle of the text layer up to get this amount of content.

The chosen font size of 16 pixels ensures that the line length — the number of characters in a line — is not too long. Ideally, lines should be between 45 and 85 characters. This ensures optimal reading flow, because the eye can easily find the beginning of the next line.

## DROP A CAP

It looks nice already, but for some typographic gimmickry, I've decided to add a drop cap — a differently styled and enlarged variant of the first letter of a paragraph. Unfortunately, adding it directly in Sketch is not possible, so we need to use a workaround and create two additional text layers.

Start by entering text-edit mode for the existing paragraph, cut the first letter and create a new layer with it below. Enlarge this single letter until it fills three grid rows, which should happen at a font size of about 48 pixels. For even more variation, choose "Playfair Display Bold" as the typeface, and change the color to that of the category icon below the hero image. Be sure to align the drop cap to the left edge of the layout grid.

After that, drag a new text layer next to it, expanding it to the right edge of the layout grid. Fill it entirely with two lines of text from the other para-graph (and removing this portion in that other paragraph). The spacing in the drop cap should be about "8px." Align the two paragraphs below each other, on the baseline grid, so that they look as if they are a single text layer, like before. Lastly, put all of the elements we've just used in a "drop cap" group, and leave three rows for the introduction.

*Fig. 7.16: The part with the drop cap consists of three text layers. The two paragraphs are put below each other so that they look as though they are one.*

Alternatively, we could keep everything except the drop cap on the same layer, but use the right amount of space for the indentation of the first two lines, to give the drop cap the room it needs. This would require you to make a hard break with *Enter* after the first line, so that you can also indent the second line with the same amount of space or tabs. Sketch doesn't allow you to do that without a manual break. Both methods are not ideal, but the look of the drop cap makes up for the effort.

## Break It Up

After so much text, it's time for some relaxation with a nice full-width image. For this, create a new rectangle the full width of the layout grid. Don't choose the height arbitrarily; set it according to the hero image, with its ratio of 16:9. This leads to a value of 406 pixels ("722/(16/9)," rounded). Also, move it three grid rows away from the preceding paragraph, and name it "Image."

Time to use the Craft plugin again to fill this placeholder with some content. Click on the second icon from the bottom in the panel, and select **Photos → Unsplash → Travel** from the **Custom** tab. We might want to reuse this type of image later on, so favorite it by clicking on the dotted box, give it an appropriate name and setting the other properties as above.
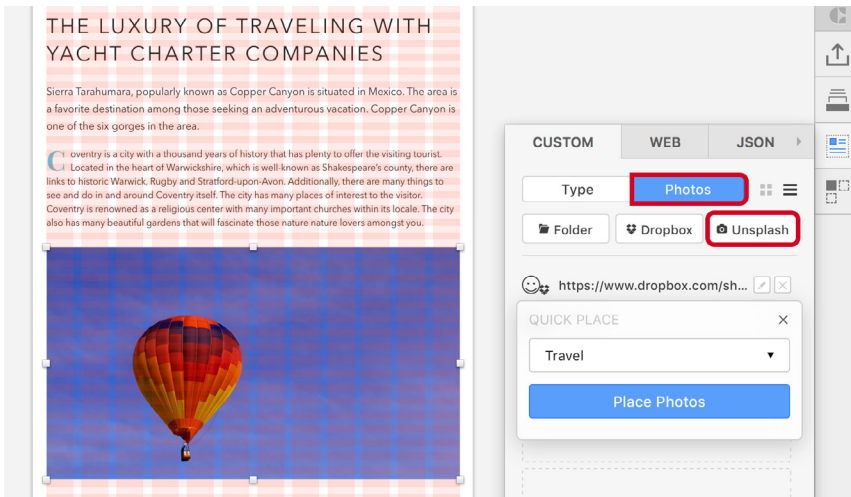


*Fig. 7.17: The first image in the content area of the article. Use Craft to insert it.*

A minor downside of Craft is that images are always added as a pattern fill instead of a dedicated layer. In this way, the bitmap is tied to the size of the shape, so you can't enlarge the placeholder without a loss of quality. To avoid this restriction, always insert the placeholder shape at a much bigger size, add the image fill, and then shrink it down to the required dimensions.

Craft lets you add placeholder images not only from Unsplash, but also from a local folder or Dropbox. Moreover, you can visit a website in the integrated browser in the **Web** tab and choose an image from there (just like with text, as described above). Lastly, you can pull in a JSON file in the relevant tab and select values from there.

# Image Manipulation

In Sketch, you can change the appearance of an image with **Color Adjust** in the inspector (more on that later), and also manipulate it with a double-click. There, you can either drag a rectangular selection or use the **Magic Wand** tool to select similar-colored areas. In both cases it is possible to add areas by holding *Shift* or to remove parts with Alt.

As soon as a selection is made, more options become available: You can invert it (Fig. 7.18, 1), crop the image to the selected area (Fig. 7.18, 2), fill it with a color (Fig. 7.18, 3) or vectorize it (Fig. 7.18, 4). The latter sounds interesting at first, but is rather limited due to the restricted options of the Magic Wand.

*Fig. 7.18: You can manipulate images with a double-click. After you have made a selection, more options become available: 1: Invert it. 2: Crop the image to it. 3: Fill it with a solid color. 4: Vectorize it.*
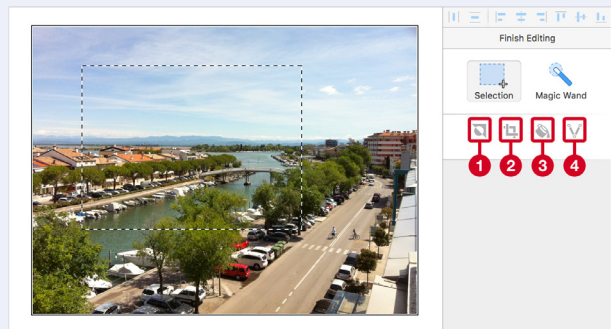
It is also possible to remove the selected part of the image with *Delete* or backspace, and you can copy and paste the selection with *Cmd + C* and *Cmd + V*. Keep in mind that all of these manipulations, except the last, are final and cannot be undone with *Cmd + Z* later.

Also, these manipulations only work for dedicated image layers that you either drag in from other applications or insert with **Insert → Image …** from the menu bar. To convert a layer with a pattern fill, as Craft uses it, select it and choose **Layer → Flatten Selection to Bitmap** from the menu bar.

# Connect the Text

Before moving on to the next paragraph, we will create a text style that ensures the text remains reusable and changes can easily be applied to all other parts of the same type. To do so, select the two paragraphs by the drop cap, click on the drop-down that says **No Text Style** (Fig. 3.21) in the inspector, and select **Create New Text Style**. Name it something like "Article paragraph." Also do this for the title and the introductory text, with appropriate names, and later on for all of the other text elements. To see a nice overview of all of the different styles used so far, create a new artboard named "Text" on the "Symbols" page, and add a new text layer for every text style.

Now, add another text layer with a couple of lines below the image. The easiest way is to select the one above and drag it down while holding Alt, but then move it out of the "Drop cap" group. It should be three rows away from the image. Use Craft to apply some new content. Break the text into two separate paragraphs, but instead of using multiple line breaks, just make a single one and employ the **Paragraph** field at **Spacing** to control the distance in between (Fig 7.19). Match the value to the line spacing (24 pixels), so that there are three rows between the two paragraphs.
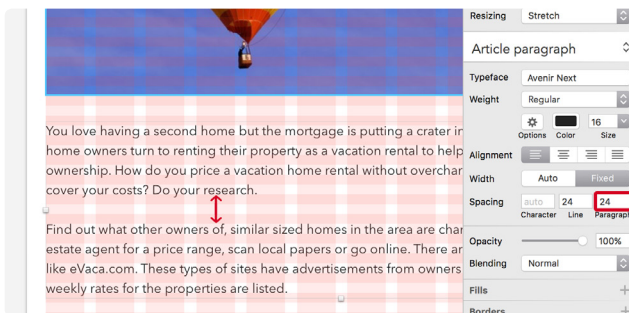


*Fig. 7.19: Use the **Paragraph** field to control the distance between two paragraphs that are separated with a line break.*

Whenever we decide that another typeface or color would be more appropriate for these paragraphs, we can propagate the changes to other instance of the text style easily. Just click on the round arrow in the appropriate drop-down (see Fig. 3.22 on page 80).

## My Favorite Quote

Too many paragraphs on one row would make the article look dull, so let's create another element to break the flow a little. The element of choice is differently styled quotation marks, which will fill a couple of grid columns.

Copy a short piece of text from one of the paragraphs for this purpose. Then insert a new text layer containing it. For the typeface, select "Playfair Display" again, but this time the "Regular" weight. Because we've already used this font, we can simply pick it from the beginning of the **Typeface** drop-down. Select "24" as its size, another grade from the typographic scale. A line spacing of "36" aligns it to the baseline. Move it to the beginning of the third grid column, and resize it so that there is a gap of two grid columns at the end, giving it an even more distinct look.

For the quotation marks, create another text layer with the same typeface, but an "Italic" weight, a size of "84" and a color of black with "20%" opacity. The sole content should be the opening quotation mark ("). Align it to the left of the text, with a gutter in between (15px). Drag it to the bottom-right of the quotation mark, while holding Alt, and change the content to the closing quotation mark ("). Place it next to the last word, with another gutter in between.

Now, select both of these layers and convert them to outlines with *Shift + Cmd + O*. This will change them to a shape, making them easier to handle later on. Add all three elements to a "Quote" group.

Lastly, place it on a grid row line, so that it is about three row units away from the preceding (and, later, subsequent) content (Fig 7.20, top).

## More Text

Add another text layer in the same way as above, also separated into two paragraphs. With so much text on the page, we should break it up into chunks with subheadings. To prepare for this, add a text layer with "Avenir Next Regular" and a size of "24." Just like for the page title, add some placeholder text from the **Travel** category of **Headlines** from Craft. This text would also benefit from a looser feel, so apply a bit of **Character Spacing**. I have chosen a value of "2" here. Place it four row units away from the preceding paragraph, at the left edge of the layout grid, as always (Fig. 7.20, bottom).



*Fig. 7.20: The quotation (top) and the first subheading (bottom).*

Like for the other text elements on the page, create a new **Text Style** for it that you also add to the "Symbols" page with an exemplary element. This will give you a good overview of all of the elements that have been used throughout the design so far.

Whenever you create a new element, have a look here first to see if there is some potential to reuse a component. Back on the "Article" page, add another text paragraph after the subheading, with a spacing of two row units.

**Quick tip:** To make superscript text — for example, for dates ($2^{nd}$) or the square root of a number ($12^2$) — go to **Type → Superscript** in the menu bar. Here, you can also find the reverse with **Subscript** (for example for $H_2O$). To change the baseline of text, manually select **Raise** or **Lower** from this menu. Please note that all of these commands require you to select a portion of a text layer. **Use default** at the end lets you go back to the standard alignment.

## To the Max

Time for another image to break up the article. Like before, add a placeholder rectangle, but this time full width for a slightly different look. Instead of a ratio of 16:9, I chose another movie format, 2.35:1, to differentiate it even more. Based on the width of 768 pixels, this results in a height of 326 pixels ("768/2.35," rounded down).

Before adding the image itself, you should prepare it for the bigger screen widths so that it doesn't lose details when enlarged. For this reason, lock the ratio of the placeholder shape first (with the lock symbol between the width and height in the inspector), and then double the width by adding "*2" to the field in the inspector. Now, add the image itself in the same manner as before with the Craft plugin. After this action, change the width back to "768px."

# Maximize the Available Space

Although the interface elements of Sketch are rather minimal, the time will come when you long for more space on the canvas, especially with big-scale images. To fill this need, you can temporarily hide the layers list with *Alt + Cmd + 1*, the inspector with *Alt + Cmd + 2* or both at once with *Alt + Cmd + 3*. For some more vertical space, remove the toolbar with *Alt + Cmd + T* (Fig. 7.21).
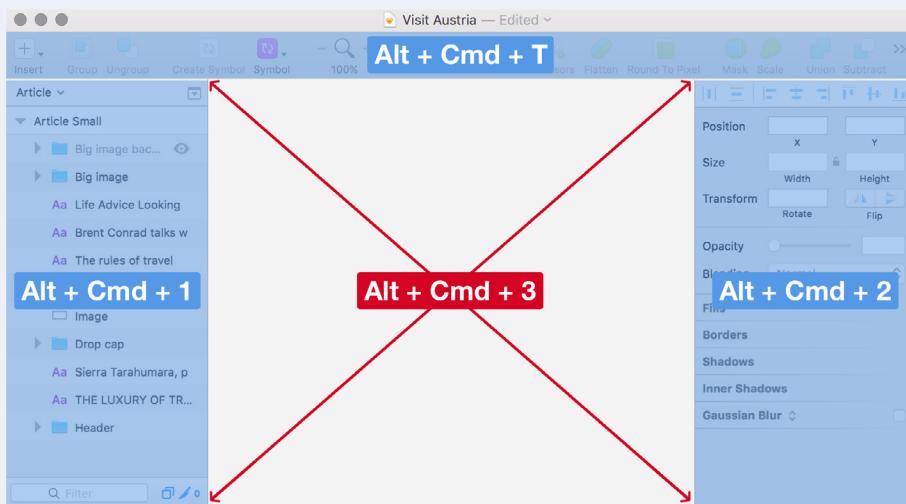


*Fig. 7.21: There are numerous ways to enhance the available space on the canvas.*

The last grain of space can be squeezed out of Sketch by entering full-screen mode with *Ctrl + Cmd + F*. Lastly, all of the available control elements can be hidden at once in presentation mode. Enter it with *Cmd + .*. Keep distractions to a minimum here by deselecting **Show Selection Handles** and **Show Layer Highlight** from **View → Canvas** in the menu bar.

In contrast to the first image we added to the article, the current one not only has a different ratio, but also has a caption. It is on a "Regular" text layer, with a size of "12px," 50% opaque black and a centered **Alignment**. Copy a few words from a paragraph, place it on a grid line below the image, and center the text to the artboard. Put both of them in a group named "Big image." The spacing from the preceding text layer should be three row units.

The third difference relates to the style of the image. When you look at figure 7.22, you'll notice it is in black and white. However, I didn't insert it like this; I changed the style right in Sketch. To accomplish this, we need to convert the pattern fill to a dedicated image. Be sure to create a duplicate first, and hide it and rename it to "Big image backup." Now you can select the original image by holding *Cmd* and clicking it, and you can convert it by selecting **Layer → Flatten Selection to Bitmap** from the toolbar. This enables us to click on **Color Adjust** in the inspector, which shows various options for manipulating the appearance of the image.



*Fig. 7.22: Sketch allows you to make color adjustments directly within the app. In the screenshot, you can also see the second image of the article in its finished state.*

For the black and white style, simply drag the Saturation slider to "0." Furthermore, you can adapt the hue, brightness and contrast of the image here. So, if the image is too dark in this desaturated state, drag the **Brightness** to the right a bit. Return to the original state by clicking on the round arrow. Just mind that these manipulations lower the image quality, so they are rather for demo purposes. In case you want to reuse an image with such a change later, you might need to recreate it in another graphics application.

# Blending Modes

A non-destructive method to create a grayscale image that doesn't alter the quality of the image is to use blending modes. You might already know them from Photoshop or other graphics applications. They allow two layers to interact in a certain way. *Delete* the current "Big image" group first, but dig up the backup we created earlier. Now, duplicate the image layer, give it a white fill (or any other color with "0" saturation), and change the **Blending** to **Color**. Name it "Black/white."

The image may be too dark now; to soften the effect, create another white layer on top, but with a **Soft Light** blend mode, named "Brightness." Instead of a dedicated layer for each blending mode, you could also add a fill. However, you couldn't change the opacity with the slider or numerical keys anymore if the effect is too strong.
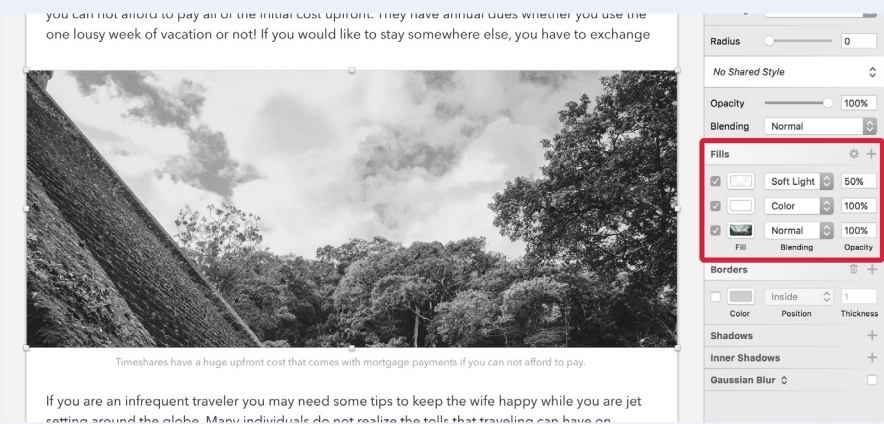


*Fig. 7.23: Blending modes are a great way to alter the appearance of an image — for example, to make it black and white. Apply them either as fills or as separate layers (not depicted).*

You should also try out other blending modes, because they often create very special effects for bitmaps. I mostly use **Overlay**, **Multiply** or **Color** to overlay a colored layer to an image. Have a look at the mini project "Creating Textured Type" on page 333 to see them in action. It would go way beyond the scope of this book to describe all of the available blending modes, because there is some serious math involved. However, if you want to learn more about them, there's a very in-depth article at PhotoBlogStop. It's about Photoshop but applies to Sketch.

Please note that every layer has a general blending mode that defines how it interacts with the layer below it; however, each property, such as the fill or border color, also has a blending mode available that sets how it reacts to other properties of the same type. As of late, blending modes can also be replicated with pure CSS. Like always, <u>Chris Coyer from CSS-Tricks</u>[74] has you covered.

74  http://smashed.by/sketch-csstricks

The last text elements for the article are another two text paragraphs, broken up by a subheading. Apply the same spacing and text styles as for the other text elements; the spacing of the image caption should be three rows.

## Book a Tour

Like on the "Details" page, we also want a button for visitors to book a tour of the featured sight. Luckily, we set up a symbol earlier, so it's just a matter of choosing it from the list of available symbols. We don't even need to detach it, because all of the properties fit the "Article" page perfectly. Just make sure that it is centered on the page and four row units away from the paragraph before.

Add it to a new group named "Content," which we will also take as an opportunity to bring some order to the layers list again. Move all of the content elements of the article — headings, text paragraphs and image — into this new group. I say "image" because I want you to add only the first image to this group. The second full-width image with the caption should remain in the main hierarchy of the layers list for now. This also goes for the "Header" group, which you can place at the very top.
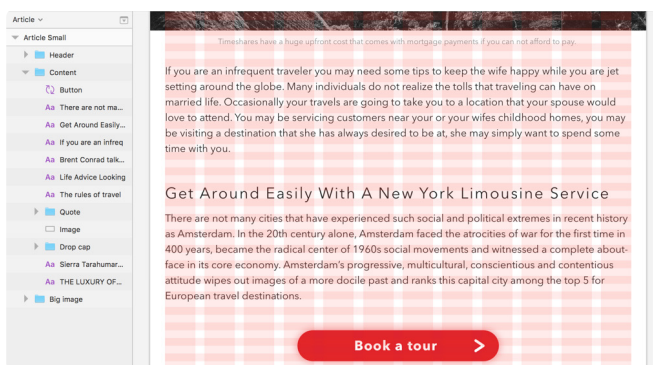


*Fig. 7.24: The remaining text layers and the booking button. On the left is the full layer hierarchy of the content elements.*

# A Matter of Taste

Our article has already reached quite a length, but we are not finished yet. We need to take care of one last element: a list of destinations similar to our sight ("You might also like"). The list should give the user some choices after they have finished reading the article.

First and foremost, this area will consist of a full-width rectangular background, which we'll add with a height of about 800 pixels for now. For the fill color, choose the one we used for the background of the search field of the "Overview" screen (#332424), but with an opacity of "80%." Good thing we saved it to the **Document Colors** of the color dialog. Name it "BG" in the layers list, and move it four grid rows from the button.

For the title, "You might also like," the beautiful Playfair Display is applied again at a size of "28px," a "Regular" weight and default character spacing (just delete the value). It's OK that we haven't taken a value from the typographic scale this time. The sizes from there aren't always appropriate, so don't be afraid to break the rules. The text **Alignment** should be changed to **Center**, with *Cmd + |*; for the color, choose a pure white. Place this headline on a grid line, three rows units away from the top of the dark background; also, center it to the artboard.

> **Quick tip:** A quick way to change the **Alignment** of text layers is to use the keyboard shortcuts *Cmd + {* (left), *Cmd + |* (center) and *Cmd + }* (right).

The main players in this block are the sights themselves, but because they are very similar, we only need to create one and duplicate the other five. It's not even necessary to adapt the content. All of that is handled for us by our darling, the Craft plugin.

For the model of these sights, create a new rectangle, which will be the placeholder for the image. It should be five layout grid units wide ("292px") and, according to the tried and trusted ratio of 16:9, "164px" high ("292/ (16/9)," rounded). To prepare it for the other screen widths, proceed as we did for the full-width image before: Lock the ratio, double the width, and only insert the Unsplash image at this enlarged state. After that, bring it down to the intended size (add "/2" to the width in the inspector).

Move it horizontally one grid column away from the left edge of the layout grid. Vertically, space it three row units from the title. Name it "Image." The title of the sight should be "Bold" and "18px," set in "Avenir Next." For the location below, use "Regular" and "12px." Set both to white, center them in the image, place the title on the baseline grid beneath, with reasonable spacing, and the location slightly below. Finally, change their text **Alignment** to **Center** with *Cmd + |*.



*Fig. 7.25: The model for similar destinations.*

A prerequisite for Craft not only duplicating the elements but also adapting the content automatically is that you define it with the help of the plugin. For the title, choose some content from the **Cities** category, for example, and for the location, some placeholder text from **Countries**.

The last element for the template of the sight — a line that marks the category it belongs to — should be placed over the image, at its bottom. Create a new rectangle for it, with the width of the element and a height of "2." If you put them in the same group as the image, you can use "100%" for its width. Give the line the same color as the icon in the header of the article (get the color from **Document Colors**), name it "Category," and the group "Sight." Also, put the title and location in it. Now, create a symbol from the group of this model, which ensures that we can adapt it easily for the other screen widths, once we have duplicated it multiple times. Don't send it to the "Symbols" page, but let it be added next to the current artboard. From there, move it down, below the artboard, so that we have it close to the area of application.

## Power Duplicate

With all elements in place, we can make use of the powerful duplication capabilities of the Craft plugin. You could use the **Make Grid…** feature of Sketch that we learned about earlier, but it wouldn't adapt the content (image, title and location) automatically for each entry. Craft also makes it much easier to adjust the spacing afterwards. To get the duplication process up and running, choose the "Sight" symbol in the artboard, and click on the **Duplicate** icon in Craft's panel (last one).

We want to have a grid of two sights horizontally, and three on the vertical axis. The spacing of the latter should be "30"; for the horizontal spacing, choose the gutter width of the grid, about "15." After you click on **Duplicate**

**Content**, the plugin will not only fetch all of the required content but also add the other entries of the sights. Furthermore, it will create a "Duplicate control" layer that lets you add or remove elements simply by resizing it. In case the elements don't align to the baseline, you can select this control layer and change the **Vertical** spacing with the slider or the input field in the Craft dialog until you get perfect alignment. You can also easily adapt the number of elements here. There should be about two to three rows between the sights. Finally, rename the group that Craft created to "Sights."
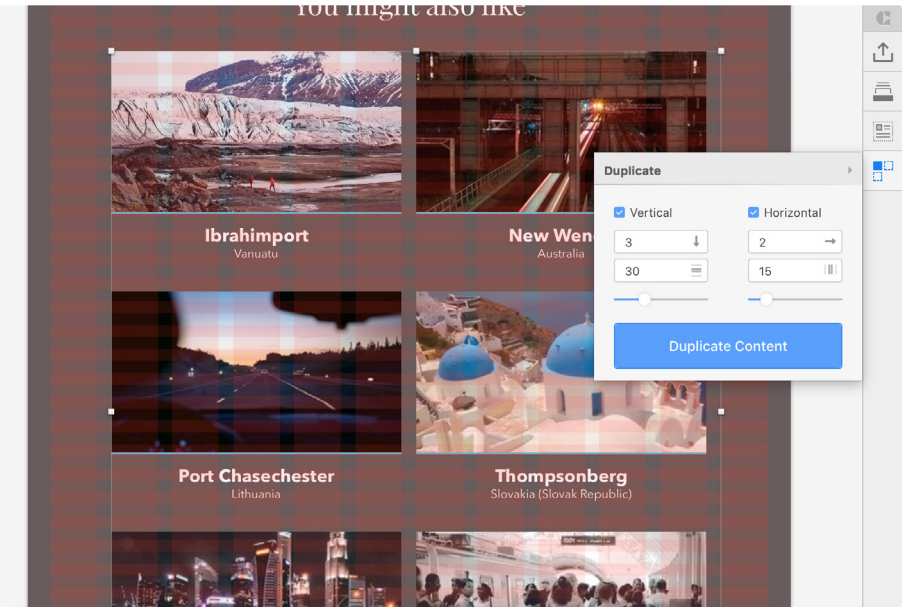


*Fig. 7.26: Craft added the remaining elements for us and also adapted the content of each automatically.*

# Category Colors

The only thing we need to change manually still is the color of the category lines at the bottom of the images. Because we have used a symbol, we can't adapt the line without affecting the other instances. But what we can do is to use a nested symbol and swap the colors with the **Overrides**. For this, go to the "Sight" master symbol we placed below the artboard and select the line (named "Category"). Create an eponymous symbol from it. Select this new symbol (with a click on the title at the canvas) and rename it to "Category color 1"

Make three more copies, naming them "2" up to "4," and assign different colors for the lines (Fig. 7.27, bottom). Besides the blue, I have chosen orange (#F5A623), purple (#E01081) and green (#79C03D), which I also added to the **Document Colors** of the color dialog. We will need them later. Also, add them to our "style guide" on the "Symbols" page, so that you have an overview of the colors used so far.

The swatch for each color should consist of a circle with a diameter of about 100 pixels, which you should fill with the relevant color, and two text layers: a bold one for the name of the color, followed by one for its HEX value right below. Name the group of all of these elements, respectively, to the first text layer, and group everything again in a "Colors" group. If you'd like, you can also make a new artboard for these swatches. Whenever you introduce a new color to your design, you should add it not only to **Document Colors** but also here. This will ensure that you reuse colors as often as possible for a consistent look.

Back on the "Article" page, we can assign a different category color to the symbol of each sight for some variation. Select one sight and change the "Category" drop-down at the symbol's **Overrides** in the inspector to a different color (Fig. 7.27). This allows us to have different lines for each sight, but they are still all based on the same symbol, which makes modifications much easier. You can also move the five symbols below the artboard to the "Symbols" page now, because we don't need them here anymore; select all of them with a *Shift*-click on the title, and drag them from the layers list to the respective page.
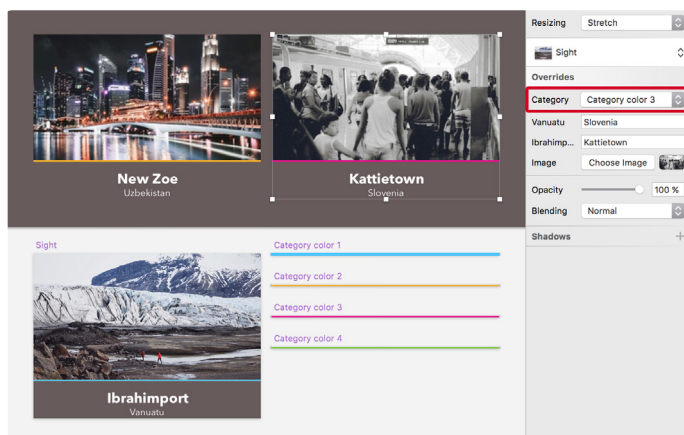


*Fig. 7.27: Assign a different category color to each sight at the **Overrides** in the inspector. Bottom: The symbol for the sights besides the nested symbols for the category colors.*

For a nice finish, add the list of sights, together with the background and the title, to a new "You might also like" group, and send it to the back of the layers list with *Ctrl + Alt + Cmd + down arrow*. Also, make sure there is a gap of three rows between the last line of sights and the background, and adapt the height of the artboard so that it matches the whole content of the "Article" page. You can use the **Resize to Fit** button in the inspector after selecting the artboard.

# A Word About Layer Order

The number of elements has grown not only the length of the article, but also the numbers of layers and groups in the layers list. Although we've done our best to keep things organized, we might still have a mess of collapsed and expanded groups. I have already shown you a few tricks in the info box *Layer Management in the Layers List* on page 140 on how to avoid chaos in the layers list.

However, I want to say a few words about the way layers are ordered in the layers list. Sketch tends to place elements that you duplicate or copy above the source in the layers list. This seems logical because the old element shouldn't cover the new. But it goes against my natural habit to put elements in the same order as they appear on the canvas. Content that is up in the artboard should also be up in the layers list; from there, the layers should be placed in the same order in both. This way, it is easier to understand the hierarchy and where to find individual elements later on.

The same goes for artboards. Sketch always places them on top after the duplication, which may seem more logical because new content should also be further up in the layers list. However, for me it makes more sense to go for the typical left-to-right arrangement. Content that is on the left should be on top in the layers list, and the further right you go, the further you go down the list. Think about it the next time you add and order content — just some food for thought.

According to this principle, I placed the header of the article on top in the layers list, followed by the big image and the content group. There, I started with the title, continued with the intro, the paragraph with the drop cap, the image and so on. The end of this group is marked by the button. In the main hierarchy of the layers list, I ended with the "You might also like"

area. You may want to follow this order now if you share my view. The easiest way to do it is to use the keyboard shortcuts *Alt + Cmd + up arrow* to move a layer up in the layers list, and *Alt + Cmd + down arrow* to move in the opposite direction. Of course, you can also drag them to the preferred location.

One relevant plugin is [Sort me,](#)[75] which allows you to arrange layers alphabetically or numerically in the layers list in the reverse order.

75  http://smashed.by/sketch-sortlayers

# Going Responsive

Amodern website doesn't consist of a single width alone. With responsive web design in mind, you need to create multiple break points at which the layout can adapt to different screen widths. While it's not feasible to set up a separate artboard for each responsive breakpoint in Sketch, you might still want to see how the adaptations will look like at a few different sizes. To understand this workflow, we will create two more artboards: one for a width of 1024 pixels, one for 1920 pixels.

## Designing With Constraints

Let's start with the first one. Duplicate the current artboard, resize it to a width of "1024" in the inspector, and rename it to something like "Article Medium." We also need to update the layout grid (**View → Layout Settings...** in the menu bar) to reflect this new size. Like before, it should take up 94% of the available width, be centered with no gutter on the outside, and have 12 columns; also, the gutters should be about one third of the columns. This gives us a **Total Width** of 962px ("1024 × 0.94" rounded down), a **Gutter Width** of "21px" (962 / 12 ≈ 80. 80 / 4 = 20) and columns with a size of "61px" (≈ 80 – 20). Also, click on **Center** at the end.

Now we can use this new layout grid to adapt all of the elements of the design to the expanded room with the "Group Resizing" settings. Not too long ago, you needed a plugin for this functionality, but as of late Sketch allows you to define how elements react when you resize their parent group (or symbol). It's not perfect but can still be a huge time-saver.

If you select a layer or group, you'll notice the **Resizing** drop-down in the inspector. Basically, it can be broken down to how the dimensions (width and height) and the placement (**X** and **Y** position) adapt to

changes: whether they are fluid, in that they change proportionally to the parent group or symbol, or fixed, which means that the original values are retained.

There are four values you can set at **Resizing** (the respective shortcut is mentioned in parentheses):

1. **Stretch**, the default option, means that the element changes its width or height proportionally to the size of the group it is located in. This includes spacing. Both the dimensions and placement are fluid (*Ctrl + 1*).

2. **Pin to corner** fixes the layer at the current position — the closest corner, to be precise. It is not resized, nor is its spacing adapted. Both the dimensions and placement are fixed. This option can be used to keep an element centered if it has the same distance from both sides (*Ctrl + 2*).

3. **Resize object** is similar to **Stretch** in that it resizes the element proportionally, but the exact spacing is retained. The dimensions are fluid, and the placement is fixed. Please note that the behavior changes if the element touches three sides of the parent: In this case, the size is maintained on the axis where one side touches (but only if it is less than half the size of the parent); on the other axis, it takes on the size of the parent. (*Ctrl + 3*).

4. **Float in place** is the total opposite, in that the measurements of the element are maintained, but the spacing changes relative to its container. The dimensions are fixed, and the placement is fluid. It can also be used to center an element (*Ctrl + 4*).
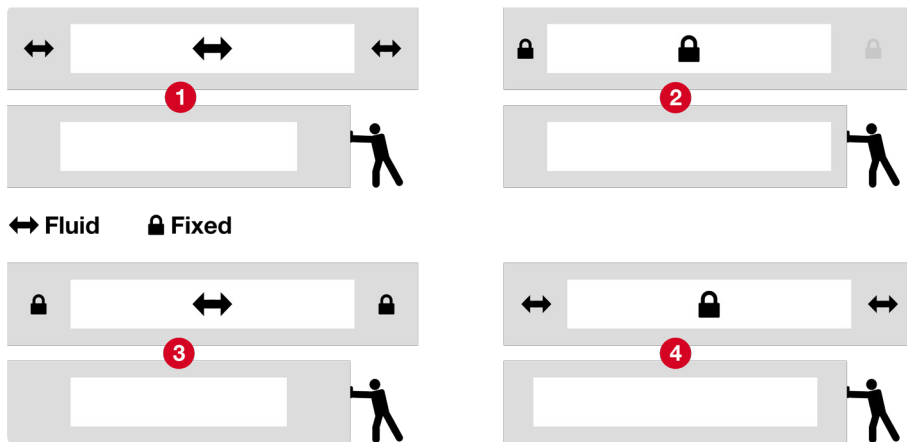
Fig. 8.1: The different **Resizing** options. 1: **Stretch**. 2: **Pin to corner**. 3: **Resize object**. 4: **Float in place**.

As a bonus, Sketch is smart enough to memorize the "corner" where the element was before. So, if it was at the right edge of the parent, and you resize this parent container from the right, the element will stick to this side. This also goes for centered elements and is applied on the vertical axis alike. Unfortunately, there are some limitations: You can neither change the origin of this pinning nor set a different behavior for each axis.

## A Responsive Grid

Possibly the biggest restriction with layout grids is that they don't react to the size of the artboard; you have to set one up for each width individually. However, there's a trick to creating a responsive version: Instead of using Sketch's built-in layout grid, add your own grid overlay. To make it easier to set it up, select all groups in the main hierarchy of the layers list, and hide them temporarily.

Start with the left margin of the responsive grid. Create a rectangle atop all of the other content, representing the left area outside of the grid. For the width, orient yourself in the normal layout grid. Make it 100% high, give it a bright color (green, for example), name it "Left margin," and create a new "Grid" group with it. Now on to the first column. Add another full-height rectangle, with a width of one column. Duplicate it for the gutter, put it next to the column and shrink its size to the width of the gutter. Assign a similar color for both, like a dark and a light red, and add them to a "Column" group, which you should put in the "Grid" in turn.

After that, use the **Make Grid…** function from the **Arrange** menu to get the remaining 11 columns (rows: 1; columns: 12; margin: 0px). Put all of these "Column" groups into a new "Inner" group, but delete the gutter of the last column. You will notice that these columns don't match the layout grid exactly, but that doesn't matter much at the moment. Finally, duplicate the layer of the left margin for its pendant on the right side, place it on the right edge of the last column, and rename it to "Right margin."
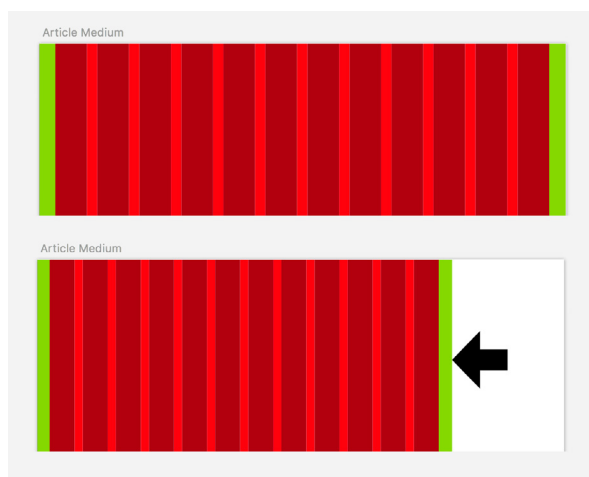


*Fig. 8.2: The fluid grid: You can easily adjust it for different screen widths.*

When you grab the "Grid" group now and change its width on the canvas, you will see how the columns and gutters respond to the new width, thanks to the default **Stretch** behavior of all layers. To use it to align other layers to it, set the opacity to 30% and lock it. However, this approach has two disadvantages. First, elements of your design can't snap so easily to it like with a normal layout grid. Secondly, you can't switch it off with a keystroke, but rather need to hide the "Grid" group in the layers list. In turn, you will get a fluid grid that you can easily adapt to the width of your artboard. Thanks to [Anthony Collurafici](#)[76] for his idea about this responsive approach.

## The Header

No matter which grid type you choose in the end, you can start to adapt the elements to the artboard's new width now, after you have shown all of the groups again. Begin with the back link and the logo in the header. They should be pinned to their respective edges, but the spacing should still adapt to the layout grid's new width, which is 94% of the artboard. For this to happen, we need to create a new group from these elements that can be left at the default **Stretch** value in **Resizing**; name it "Inner." The individual elements, the "Back" group and the logo, however, are set to **Pinned to corner** so that they stick to this relative width of the container.

If you try to resize the "Header" group to the full width with the handles on the canvas, you will see that this gives us the desired result, and both elements have been moved to the outer edges of the layout grid. But for now, go back to the original width with *Cmd + Z*, because we still have to fix a few other elements.

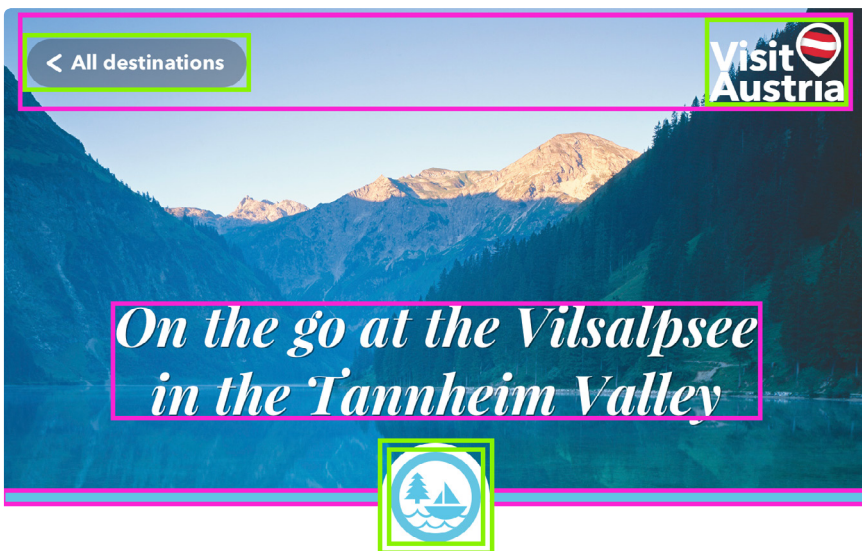---

76  http://smashed.by/sketch-grid

Because we can't set different behaviors for the X and Y axis, we will concentrate on the horizontal dimension for now, and take care of the vertical position of the elements later. First, the title and its width. Because it should be sized proportionally to the artboard, the default value of **Stretch** is OK. In turn, the category icon should remain at the center, which also goes for the white mask in the back. Select both, the "Icon" group and the "Mask" layer, and set them to **Pin to corner**. The line itself doesn't need to be changed.

If you adapt the **Width** of the "Header" group in the inspector to "100%" again, you will see that all of the elements behave exactly as intended: The icon and the logo move to the outer edges of the layout grid, the title adopts the correct position and width of the grid columns, and the category icon and the mask remain at the center. All of this mostly happens due to the fact that we calculated the layout grid and its columns relative to the artboard's width. You will see that this is an advantage not only in the design phase, but also in the development phase.

One thing we still have to fix is the vertical position of the elements. Go back to the original width of the header, with _Shift + Cmd + Z_, lock the ratio of its group in the inspector, and make it full width again. The result looks quite good, but we still have to make a few modifications, mostly to the elements at the top of the header.

Because the "Inner" group, which contains the back link and the logo, is set to **Stretch**, its placement has changed relative to the height of the header. What we really want is a pinned behavior, so that the position remains constant. Unfortunately, you can't set a different **Resizing** behavior for each axis; therefore, we need to fix this by hand and bring the "Inner" group back to the old position, so that the logo is one grid row away from the top of the artboard, which is at a **Y** position of "12."

For the category, the **Stretch** value works perfectly, ensuring that it remains at the bottom of the background image. The same goes for the background image: It stretched correctly to the new dimensions of the header. Unfortunately, it might look a bit blurred now, so you might want to optimize it in the same way as we did for the full-width image in the content: lock its ratio, double the width, insert the image fill again, and bring it back to the original width. This way, we have also prepared it for the next screen width of 1920 pixels. But more on that later.



Fig. 8.3: The correct resizing settings for each element in the header.

The last element in the header that needs a new vertical position is the title. But let's delay this task until we have made a small but important change to the baseline grid.

## Hide and Seek

The change of the header's height has made it cover some of the content below, which is less than ideal. Instead of moving all of the elements in this area individually down now, combine them into a new "Container" group. It should include the "Content," the "Big image" and the "You might also like" groups.

This way, it's easier to move everything at once, and we will also need this group to set the correct resizing behavior. Now, hold *Shift* (to constrain the movement to a straight line), and drag this group down until it's fully visible again; don't worry about the row grid at the moment.

After that, we can finally embrace the additional space of the enlarged artboard and adapt the content to it. For example, for the header, enter "100%" for the width of the new "Container" group and watch the magic unfold. This will not only adapt the spacing to the new layout grid automatically, but will make all of the children full width. However, it also makes one issue immediately apparent: With the increased width, the line length of the text gets way too long, which would lower the reading experience. Let's take another approach. Return to the original width (with *Cmd + Z*).

## A New Base

The easiest way to bring the text back to an optimal width is to increase the font size. But instead of doing that for each layer individually, we will increase the base font size of the whole design, to which every text element will adapt. With it, we will also increase the baseline grid so that the line height is brought back to an ideal value, too.

To do that, enter the **Layout Settings** from **View** in the toolbar again, with the artboard selected. Instead of the old base font size of 16 pixels, which was derived from the size of the body copy, we will choose 18 pixels now, giving us a ratio of 18 ÷ 16 = 1.125. This is our "golden value" from now on and should be reflected not only in the baseline grid but in each text element of the design. If we take the old value of "12px" of the baseline grid from the **Gutter Height** and multiply it by this new ratio, we get "13.5px" (12 × 1.125). Unfortunately, Sketch can't handle decimals here, so this gets rounded to "14px," which is also fine. The rest can be confirmed with **OK**.

It would be quite tedious to adapt all text layers to this new ratio manually. Instead, we will use a trick and use the **Scale...** dialog to adapt the whole "Container" group at once: Select it and press *Cmd + K*. Bring your attention to the **Scale** field, which allows us to resize the group proportionally. If we apply our "golden value" from above, we get a value of "112.5%" (100 × 1.125). Unfortunately, Sketch doesn't allow decimals here either (nor calculations), so let's take the next best value, "113%" (Fig. 8.4, 1). Furthermore, change the origin of the resizing from **Center** to the **top-left** corner (Fig. 8.4, 2). Pressing **OK** brings us a huge step closer to the correct size of the text elements.
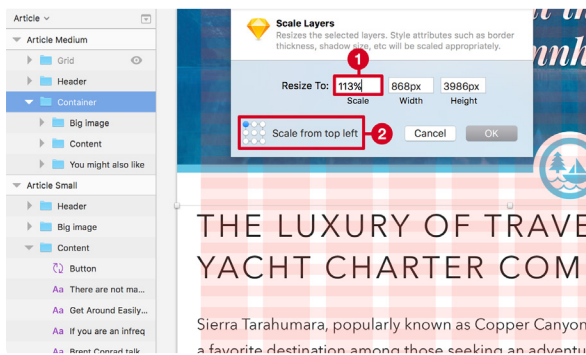


*Fig. 8.4: Instead of enlarging all elements individually, we resize the whole "Container" group with the "golden ratio" of 1.125 in mind, giving us a **Scale** value (1) of 113% (100% × 1.125 rounded). Be sure to set the origin of the resizing to top left (2).*

# Slow and Steady

Before we dare to bring the content to full width again, we need to adapt two other elements from the screen slightly: the red button and the "You might also like" area at the bottom (in particular, its "Sights" group). Set both to **Float in place**, so that they remain centered. That will suffice for now; we will tackle the rest later.

We will also take a chance and adapt all of the elements of the header to the new baseline grid now. First, the logo: The size is fine, but move it a bit down, so that its top is aligned to the bottom of the first baseline row. Next, the back link. Instead of enlarging all of the elements separately, we'll use the Scale function in the same fashion as before and resize it to "113%" (100 × 1.125, rounded) to respect the "golden value" from above. The origin should be **Scale from left** (the middle point in the first column).

The title in the header needs not only a new font size but also a new position. (Remember we had postponed that?) If we embrace our "golden value" here and multiply the font size by "1.125," we get "54px." Secondly, change the line spacing to "70" (14 × 5) to reflect the new baseline grid, and move it down so that there's a gap of about four row units from the category icon. You could also use the **Scale** dialog again to adapt both the size and line height at the same time.

Now for the big moment: Select the "Container" group and set its width to "100%" in the inspector. This almost gives us the desired result: Not only do we have an ideal line length again, but all of the content elements have adapted to the boundaries of the new layout grid. Good thing we set its width relative to the artboard.

## The Content Area

Now for the "fun" part: adapting all of the text layers in the content area to the new baseline grid. We could also be meticulous with the font sizes, because the value of "113%" from **Scale** was just an approximation. But most of the sizes are so close to the correct size and just a few percent off that this extra work wouldn't be worth the hassle. It should be enough to give the golden ratio to the developer and tell them that all measurements should adapt to it.

But the alignment to the baseline grid is still required. First, move the whole "Container" group until there is a gap of about four row units between the category indicator and the title, and it sits on the baseline grid. The position and line spacing of the intro should already be almost good; you might just need to adapt both by a few pixels. From now on, align all text layers to the baseline grid, as we did with the initial artboard size of the article. Also, adapt the custom guides at the outside of the layout grid to the new boundaries, so that there is no need for the grid to be visible all the time. The easiest way is to select the "Content" group and let the guides snap it as you move them.

That was a piece of cake. Luckily, we can continue in the same fashion with the body copy. Select all of the paragraphs in the content area and slightly increase the line spacing to "28" (14 × 2). Also, set up a new text style to keep everything in sync. Name it "Article paragraph Medium." Be sure to create new text styles for the other types of text layers, to make future modifications easier.

## The Drop Cap

With the new font size, the upper part with the drop cap needs a small modification: Just move the nearby text a bit closer, so that the spacing of 10 pixels in between is retained. Align all of the paragraphs here to the baseline again, and copy some content from the lower one to the upper one so that it is fully filled again. Lastly, make sure that there is a spacing of three rows from the introductory paragraph above.

## Floated

One downside of the group-resizing feature is that images don't retain their ratio when the parent group is resized, even when the ratio is locked. But let's take this as an opportunity to give the image a totally new appearance. Instead of just fixing the height to bring it back to the original 16:9 ratio, give it a totally new alignment to the layout grid so that it fills only the first six columns.

To achieve this, drag the right handle until this width is met at 470 pixels, unlock the ratio in case this setting was defined before, and enter "470/(16/9)" for the height. This brings back our beloved 16:9 ratio. Make sure it's three rows away from the preceding paragraph, as on the previous screen.

The rest of the workflow is similar to the initial creation of the drop cap: Copy a few lines from the following paragraph, then drag a text layer next to the image, with the size of the remaining columns and the same height. Fill it with the copied text until the whole space is occupied, align it to the baseline grid, and apply the new "Article paragraph Medium" text style. Remove this portion from the initial text layer; it might take a couple of tries to get the right amount of text. In case you don't have enough text for

this action, employ the Craft plugin. Finally, move the rest of the paragraph up until it also sits nicely on the grid below the image, and put everything in an "Image" group.
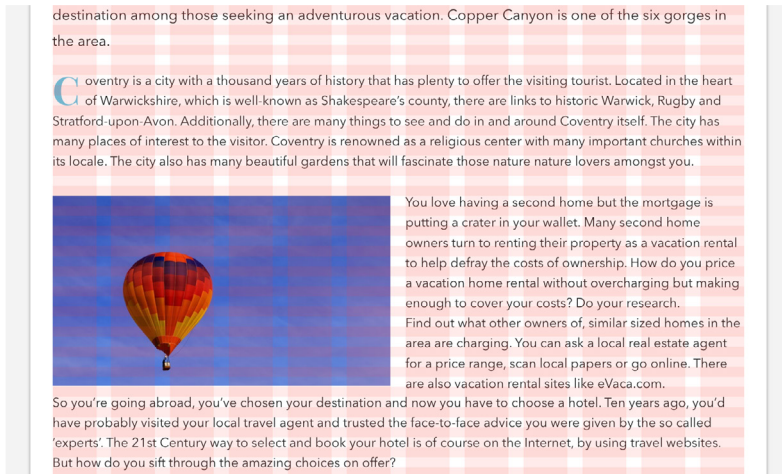


*Fig. 8.5: Adapt the first image of the article so that it fills only six grid columns now and the text floats around it.*

## The Quote

The modifications required for the quote are rather minimal, because the default **Stretch** value gives us an almost perfect result. We just need to handle two things: update the line spacing to "42" (14 × 3) and move the right quotation mark to the end of the text again, with a spacing of 21 pixels (the gutter width). Lastly, grab the whole group so that you can align it to the baseline, with a spacing of three units from the text above.

## The Remaining Elements

Modification of the remaining elements in the content area is just a matter of changing their position and alignment to the baseline grid. Use the mouse to drag them on the canvas for bigger distances, holding *Shift* (to constrain the movement to one axis); for smaller increments, press the arrow keys on the keyboard to get more precision, also holding *Shift* (to go in 10-pixel increments).

The paragraph after the quote needs to be moved up and aligned to the baseline grid again until it has a spacing of three rows. In case you used the **Paragraph** field for the spacing in between, you need to match it to the line height of "28" now. Continue with the subheading, moving it up until it is four rows from the preceding text, and the following paragraph, until it is two units away.

We still need to update the height of the big image to the correct ratio of 2.35:1 again. For this, select the image, including the adjustment layers, and enter "1024/2.35b" in the **Height** field, being sure to unlock its ratio first.

The "b" suffix is especially important, because it resizes the image from the bottom and retains the correct distance from the caption. However, you'll still need to move the group three rows away from the preceding paragraph and align it back to the baseline grid, together with the caption.
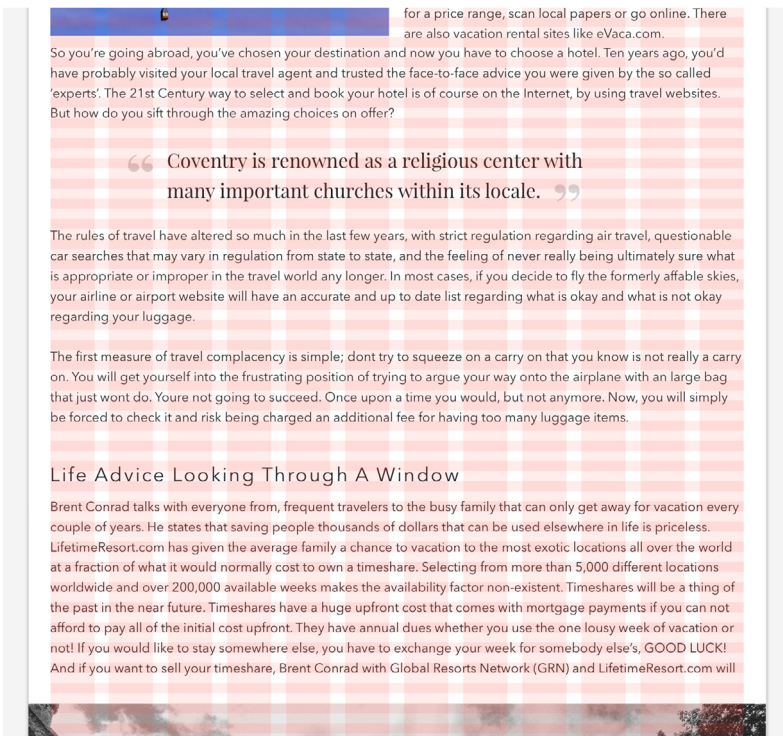
*Fig. 8.6: The adjusted text layers between the two images.*

The remaining text layers should be positioned as follows: three units between the caption and paragraph, followed by the second subheading with a spacing of four units, which itself should have a gap of two rows from the last paragraph in the article.

The last element in the content area, the button, needs a distance of four rows from the last paragraph. One's instinct would be to use the **Scale** function again to resize the symbol to the "golden ratio" of "1.125"; unfortunately, this doesn't work with symbols yet. Resizing it on the canvas also wouldn't yield the expected outcome, because neither the font size nor the border width of the arrow would adapt proportionally. Therefore, we need

to detach the symbol with a right-click in order to use this option: Press
*Cmd + K* and enter a **Scale** of "113%" (100% × 1.125, rounded). For the origin,
select **Scale From Top** (the middle dot in the top row).

## Do You Also Like?

We have made some good progress with the responsive version of the
article so far, but there is still one element to address to finish it up: The
"You might also like" area. Our previous modifications have lightened the
workload, but there are still a few things to take care of. First, move this
block up, so that it is four rows from the button; then, align the title to the
baseline grid again, with a spacing of three rows before and after (Fig. 8.7).

Continue with the list of sights. Not only do we need to update the dimen-
sions of the sights and the spacing in between to reflect the new layout
grid's dimensions, but we also want two rows with three columns each to
take advantage of the increased space of the artboard. Thanks to the use of
symbols and the group-resizing capabilities of Sketch, the modifications
required are rather minor.

However, Craft can't handle the resizing of the sights that happened in
between very well, so we need to start afresh. Delete all of the "Sights"
symbols except the first, and change its width to "306" in the inspector, the
size of four columns. Ensure that the ratio is locked to get a proportional
height. The text layers may be a bit off the baseline grid now, but we'll
gladly accept that because the rest of the element adapts perfectly. Also,
remove the redundant "Duplicate content" layer.

Now, enter the **Duplicate** panel of Craft again and create the rest of the
elements with the following properties: In the vertical direction, use a
**Count** of "2" and a **Gutter** of about "46"; horizontally, we need "3" elements

now, but with a spacing of "21" to respect the new gutters of the layout grid. With a click on **Duplicate Content**, you'll get the remaining sights back. In case the second row doesn't sit on the baseline, adapt the vertical spacing until you get perfect alignment, with three rows in between. It may also have happened that some of the titles became double-spaced; in this case, enter the master symbol, select the title, hold *Alt* and drag the right handle until the text layer is full-width. The only thing left is to move the "Sights" group to the left edge of the grid. You'll see that all elements align perfectly to the grid columns now.
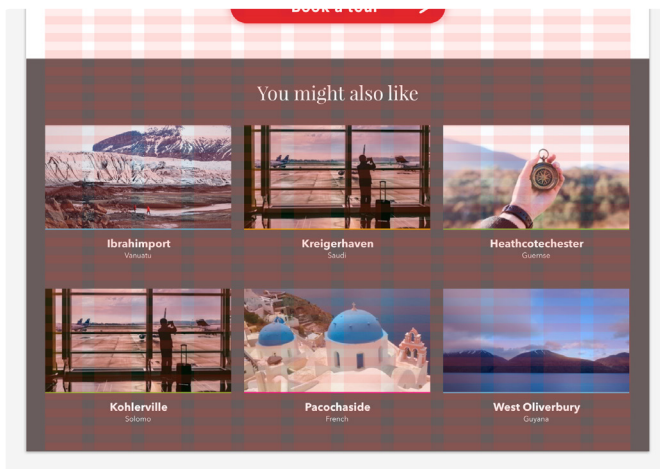


Fig. 8.7: The adapted "You might also like" area, with the new layout of three columns and two rows.

For a finishing touch, resize the dark background until there is gap of about three rows from the bottom of the second row of sights, and match the height of the artboard to this position. You might also want to change the categories of the symbols in the drop-down in the inspector to have some variation for the category lines. With this last action, we have completed the second responsive breakpoint of the article. For the third and final one, we will look at how the article would look on a display that is 1920 pixels wide.

# The Final Breakpoint: Desktop Widescreen

E ven with rise of handheld devices, desktop computers will probably not go away anytime soon. Having started small and determined the appearance on the typical tablet resolutions of 768 and 1024 pixels, let's look at a typical desktop computer, 1920 pixels width. As before, the first task is to duplicate the current artboard and change its width to 1920 pixels; the height should be about 5000 pixels for now. Choose something like "Article Large" for the name of the new artboard. Again, the base for all new modifications is the vertical baseline grid and the horizontal column grid, so let's change them to the new requirements in the **Layout Settings**.

With the artboard at 1920 pixels, the column grid would be far too wide if we set it to 94% of the available size like before, so I've decided to cap the article's content to a maximum width of "1280px." This gives us a **Total Width** of "1202px" ("1280 × 0.94," rounded to an even number). The rest is the same as for the other breakpoints: The layout grid should be centered, there should be no margins on the outside, and the **Gutter Width** should be one third of the column width. This leads to "26px" for the former, "76px" for the latter. In case you have been using the responsive grid so far, the adaptations are even easier: unlock the "Grid" group, change the width to "1280," center it to the artboard, and lock it again. That's it!
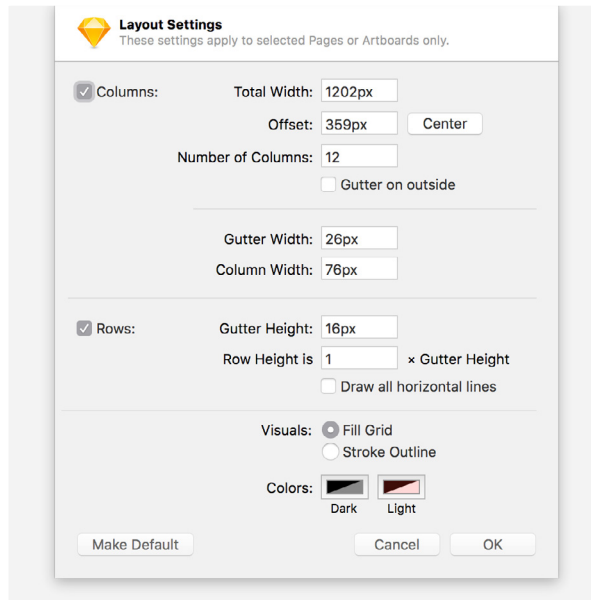
*Fig. 9.1: The required layout settings for the final breakpoint.*

For a pleasant reading experience, we'll enlarge the base font size again. We started with 16 pixels for a width of 768 pixels, 18 pixels for 1024, and we'll end at 21 pixels for this breakpoint. By the way, this represents another value of the typographic scale. Based on the initial size of 16 pixels, this gives us a new ratio of 21 ÷ 16 = 1.3125. This is our new "golden value" now, by which all possible elements in the article should be increased relative to the initial breakpoint of 768 pixels. For the baseline grid and its **Gutter Height**, we derive a value of "16px" (the initial baseline grid of "12" multiplied by the ratio "1.3125" = 15.75, rounded up). For an easier calculation, we could also take the 1024-pixel breakpoint as a base for all of the elements, which would lead to a ratio of 21 ÷ 18 = 1.167.

# The Header

This new column grid forces us to make some changes to the elements of the article again. For a good base, center both groups — the "Header" and the "Container" — to the layout grid. Be sure to hold *Alt* when you use the alignment icons, so that they get centered to the artboard instead of to themselves.

The first step is to adapt the header: Grab the whole group and enter "1280c" for the width in the inspector. This will enlarge the element from the center and give us a good start, because all elements will take on the correct horizontal position: The back link and logo will move to the outer edges of the layout grid, the title will adapt to 10 grid columns, and the category icon will remain centered. But we won't stop here because both the category and the background image should take on the whole artboard's width. So, grab them, the "Image" layer, as well as the "Category" group, and set the width to "1920c."

The horizontal axis is OK now, but the height of the image doesn't match the ratio of 16:9 anymore. This doesn't matter so much because it would make the header far too high anyway, so let's take a chance and use 2.35:1 instead: Select the "Image" layer to enter "1920/2.35" as the height. With this, we are also forced to move the category down: Either drag it to the correct place or calculate the new **Y** position in the inspector with "100% − (96/2)." Let's break this down: "100%" would move the element to the bottom of the header, and "96/2" would bring it up again by half the height of the category element.

Now for the remaining elements. First, move the logo up so that it is one grid row away from the top again. After that, bring the back link to the new base size; press *Cmd + K* and enter "117%" (100 × 1.167, rounded) in the **Scale**

field. Use **Scale from left** for the origin (the middle point in the left column). Enlarge the title with the same ratio, but go to the inspector instead and enter "54 * 1.167" for the size. For the line spacing, choose "80" (16 × 5). You could also make the title span the full width of the grid, to better utilize the screen. In this case, change the **Width** from **Auto** to **Fixed** in the inspector, remove the line break, and enter "1202c" (the grid's width) for the width. Finish the header by moving the text element down so that it has a spacing of three rows from the category again.
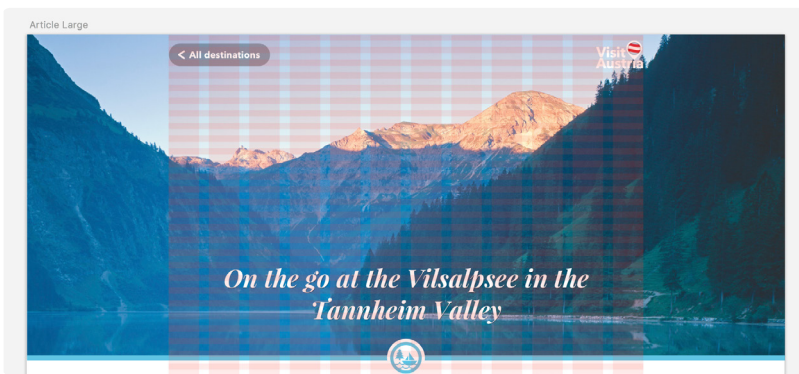


Fig. 9.2: The adjusted header for the 1920 breakpoint.

## The Content

While parts of the header should span the entire width of the artboard, the content area is supposed to be capped to the layout grid's width of "1202px" and centered horizontally. Let's employ the trick from the former artboard and adapt the whole "Container" group at once to the new base font size: Press *Cmd + K* and enter "117%" (100% × 1.167) in the **Scale** field, with the origin set to **Scale from top** (the middle point in the top row).

Now, move the whole group down until the page title is four rows away from the category icon and sits on the baseline grid.

With all the excess space available at 1920 pixels, I chose to adapt a few parts of the article. First, the body copy itself. If we applied it to the full width of the layout grid, the line length would be too long, so I decided to move it one grid column in on each side, which gives us an appropriate width again. The same goes for the main title of the article and the subheadings. The easiest way is to drag the whole "Content" group to the beginning of the second grid column while holding *Shift* (to keep the horizontal position) and resize it to "996px," the width of 10 columns. You can also drag the right handle of the group to match this number of columns.

The remaining changes for the text elements are the same as before: Set up new text styles for each type and align them to the baseline grid with the same spacing as for the other breakpoints. A quick reminder: The font size of the body copy needs to be 21 pixels now (our new base size) and have a line spacing of "32" (16 × 2). The same goes for the rest of the modifications to the artboard: I won't go into detail but will only mention the most notable changes, because you should already be familiar with the procedure.

The only paragraph that should stick out from the body copy left and right and still span the full layout grid's width is the intro: Either enter "1202c" for the width or hold *Alt* and resize it from the center with either handle at the side of the element. With the updated font size, the line length is a bit too wide, though; but for short text blocks like this, it doesn't matter that much. Just be sure that it is four rows away from the title, like before.

The following element with the drop cap should already look quite good; you might only need to match the contents of the two paragraphs and the spacing to the drop cap itself. For a distinct look, I also used the outer layout grid's line to align both of the images. The first image should still already fill five grid columns but be moved to the left, including the adjacent paragraph.

This requires you to bring the latter back to the width of six grid columns, so that it ends at the same line with the other text. The second full-width image should look good already.

The remaining element, the quote, should fill eight grid columns, like before. After you have dragged the whole group to the left, so that the text starts at the beginning of the third grid column, resize the text layer to be eight columns wide. Update the line height to "48" (16 × 3) and realign the quotation marks so that they are one layout grid gutter (26 pixels) away from the text. For the spacing, use the same values as before: three units from both the preceding and following paragraphs.
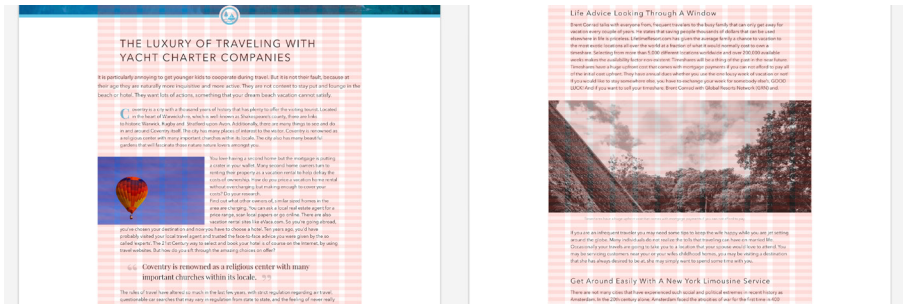


*Fig. 9.3: The new arrangement of the content elements.*

The button at the end of the article got squished a bit with the content, so bring it back to the original width of 412 pixels, and center it to the artboard. Also, make sure that it is spaced four rows from the last paragraph.

## All the Sights

The last element to take care of for the current breakpoint size is the list of related sights at the bottom. First, reposition the whole block so that it is four rows away from the button. Next, grab the dark background with a *Cmd-click*: Bring it to full width by entering "1920c" in the width field. The "c" suffix will resize it from the center. The size of the title is OK; you'll only need to change the spacing so that it is three rows away from the top. The sights that follow should also have this distance.

Speaking of the sights, let's make use of the available space to arrange them in a single full-width column, instead of two rows (Fig. 9.4). Like before, we need to start from the first element and delete all others, alongside the "Duplicate control" layer. Bring it to a width of 281px, three grid columns, and use Craft to create the remaining five sights: For the vertical count, choose "1," because we only need one row, but in the horizontal direction enter "6" with a spacing of "26" (the gutter of the layout grid). After that, center the "Sights" group to the artboard again, but add 13px to the **X** position, because Craft will append a gutter width at the end.

To finish this block, drag the bottom handle of the dark background up until there's a spacing of about three grid rows, and assign a different category to each "Sight" symbol for some variation. Also, resize the artboard so that it ends at the block, to give it a clean look.
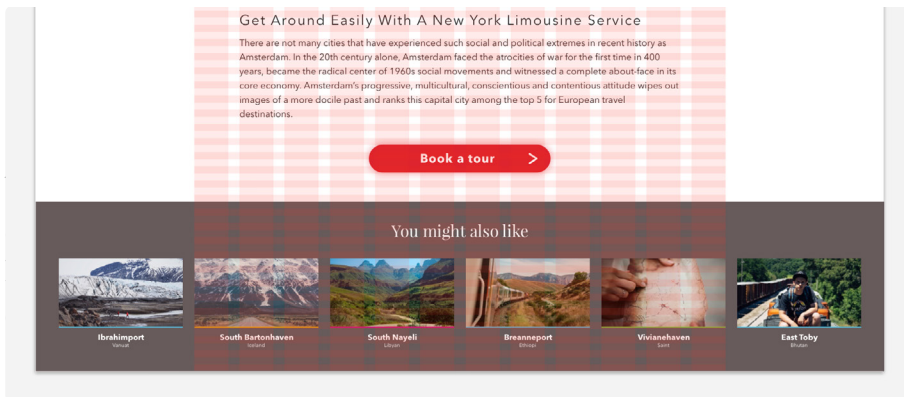
*Fig. 9.4: The sights are arranged in a single row now.*

## Adapt the App

Now that we have learned how the group-resizing feature of Sketch can help us make the article responsive, let's apply this knowledge to the app we designed earlier. Remember that we set up a symbol for the title bar, which enables us to reuse this element on different screens. If you slightly change some of its parts, it can be adapted easily to different screen widths.

For this, go to the "Details" page and double-click on the "Title bar" symbol to jump to it on the "Symbols" page. Select the arrow group, and set its **Resizing** to **Pin to corner**. The same goes for the "User icon" group of the avatar icon on the right. In contrast, the title should be changed to **Float in place** so that it keeps its centered position.

To try out these new settings, go back with the **Return to Instance** link, select the artboard itself, and make it wider. Nothing will happen, but if you select the "Title bar" symbol again to adjust its width or set it to "100%" in the inspector, you'll notice that all of the elements adapt accordingly to the new width. Just be sure that the ratio of the symbol isn't locked. But go back to the original width for now.

With a few extra settings, you can also make the remaining elements of this screen responsive, so that you can reuse it for the different widths of all iPhone models and Android devices (Fig. 9.5). To do so, first create a group from all elements in the artboard, which not only is the prerequisite for this feature to work, but also lets you resize everything at once. Name it "Container."

The first element to adapt is the pin from the logo. Select its group and set the **Resizing** drop-down to **Float in place**, which will keep it centered. Do the same for the "Collapse icon" group within the "Content." Now, select the title text layer, the body copy and the button symbol, so that you can change them to **Resize object** all at once. This setting makes sure that the spacing of the elements stays the same but that the width adapts according to the parent group.

For the navigation to work correctly, we need to set up a mask for each arrow. This ensures that these elements are capped at the outer limits of the artboard and don't disrupt the correct resizing. Create a rectangle for the mask of the left arrow that fully covers it and that starts at the left edge of the artboard. Switch off the fill of the mask, move it below the arrow, select both, and click on the **Mask** icon in the toolbar. Change the resizing to **Pin to corner** for this new group, so that it stays at the left edge of the artboard. Proceed in the exactly the same manner for the right arrow.

The background image also needs a mask, but this one must have the full width and height of the artboard. Set it up in the same way as above. Unfortunately, there's currently no other way than to let the image stretch. Every other setting produces a poor result. As an alternative, you could change to a pattern fill, but make sure to use it at a sufficient size to maintain a sharp image when it gets enlarged.

Before we can try out the new settings, we also need to change the elements of the button so that they respond to its width. Enter the symbol with a double-click, set the text to **Float in place** and the arrow to **Pin to corner**. Back at the artboard, enlarge it to give room for the adaptation of the "Container" group. The moment you adjust its width, all other elements will change accordingly. Good work!

After so much resizing, adapting and adjusting, we will do something completely different in the next chapter. Let's design some icons!
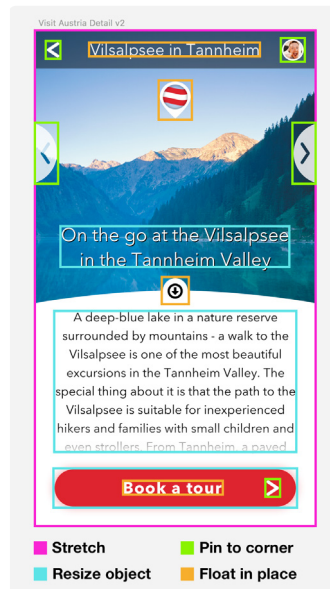


*Fig. 9.5: The correct resizing properties for the details screen. They make sure that the elements can adapt to multiple screen widths.*

# Designing Category Icons

D o you remember the icon from the header of the responsive article that represents the type of sight? And remember that a sight can fall into one of four categories, each with its own icon? Time to create these icons. The idea for all of them is to use basic shapes as often as possible, instead of custom vectors. While it might seem like a restriction at first, shapes are much easier to set up and modify, and you are still able to combine them into complex forms with the Boolean operations. Furthermore, we will use keyboard shortcuts as often as possible for maximum efficiency.
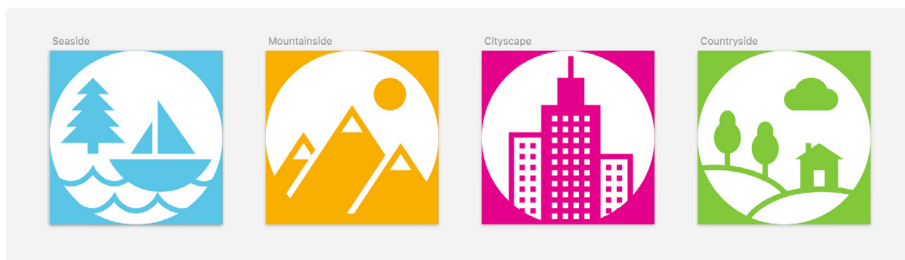


*Fig. 10.1: The category icons we are going to create.*

First, add a new page to house all four icons. Name it "Icons." Each of the icons should be "64 × 64" pixels and be on its own artboard. Add the first one and change both the **X** and **Y** position to "0" for a clearly defined starting point.

## The Seaside Category

Let's start with the first icon, the one for the "Seaside" category. Be sure to use this name for the artboard. Change the background color to the blue (#55BFE1) from the category icon of the responsive article, but switch off **Include in Export**. Good that we saved it to the **Document Colors** earlier.

The first element for each icon is a white circle, the size of the artboard, which will also define its boundaries and act as a mask (Fig 10.2, left). Draw one after you have pressed *O*, and hold *Shift* to lock the ratio. The circle should start in the top-left corner. Name it "Mask." Although the icons have an "8px" border in the article, let's leave it out for the moment. We can add it later.

Because we want to the create a pixel-perfect icon, let's set up a "2 × 2" grid now. To do so, click on **View → Grid Settings…** in the toolbar and enter a **Grid block size** of "2px" (Fig. 10.2, right). **Thick lines** aren't necessary (insert "0" here). This grid not only allows us to place all of the elements of the icon on full pixels, but helps us to avoid blurry lines if we stick to icon sizes that are multiples or halves of 64 pixels. To employ this grid to the fullest degree, always make sure that shapes align exactly to the grid lines when you add or modify them. It's good to assess the quality of the icon occasionally without the grid lines: You can press *Cmd + G* to turn them off.
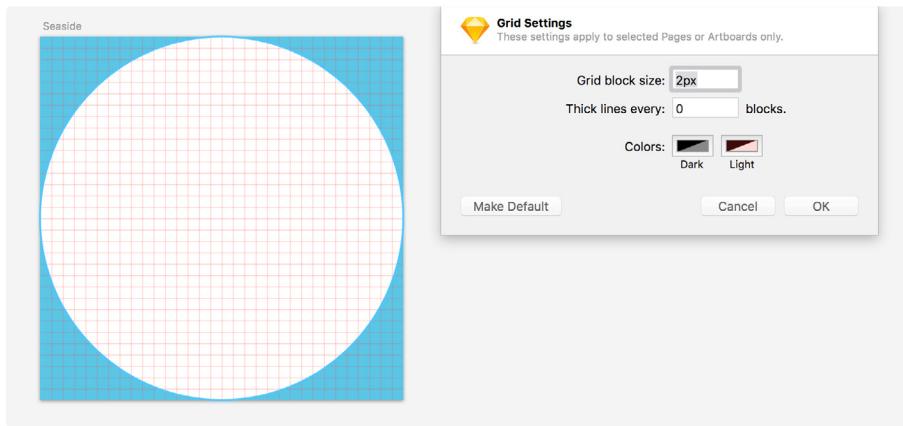


*Fig. 10.2: The base for every icon is a circle, which also acts as a mask. A 2-pixel grid makes sure that all elements are placed on full pixels.*

**A BETTER VIEW**

To get a better view for what we'll be doing, zoom in to about 800%. While it's much easier to work on the details of the icon in this zoomed state, there is also the danger of losing a view of the overall quality. Luckily, Sketch Mirror helps here, especially if you have a second computer screen on hand. You can work on the first display in this zoomed-in state in Sketch, while the second display shows the original size.

Click on **Mirror** in the toolbar and the URL at the bottom-right of the dialog to open the design in the browser. There, select the "Icons" page at the top, and pick the icon or search for its name with the search function in the top-right corner to open it in a single view. Whenever you change something in Sketch now, it will immediately be reflected here. You can even set the currently selected artboard to automatically show in Mirror: Just enable **Show current Artboard** in the **General** tab of the **Preferences**.

## The Tree

To gain some inspiration, I gave the icon search on [The Noun Project](https://thenounproject.com)[77] a shot and browsed for some terms that I associate with the "seaside" theme. I landed on a boat floating on some waves and a tree representing the nature around the lake. This is the element we will begin with: It consists of three basic triangles for the branches and a rectangle for the trunk (Fig. 10.3). While Sketch offers a distinct triangle shape for the former, I much prefer to use a rectangle instead, because I'm more free to pick the alignment. Furthermore, it's accessible with a keyboard shortcut.

For the treetop, press R and add a first rectangle with a size of "12 × 6," aligned to the grid. Make sure that this applies to all shapes that you add

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from now on. Go into the vector point mode, hold *Cmd* and click on the upper line to add a point in the exact middle. After that, select the points to the left and right with a *Shift*-click. You can also drag a selection to each point, instead of *Shift*-clicking, if it's hard to catch.

Now, delete these points, which will give us the desired triangle, and exit vector point mode. After that, duplicate the shape, either with *Cmd + D* or by holding *Alt* and dragging it down. In case you prefer the first method, make sure that **Offset duplicated layers** is switched off in the **Layers** tab of the **Preferences**, so that the duplicate stays at the same position as the original. After that, move the triangle down by 4 pixels. Either use the *down arrow* key or add "+4" to the **Y** field in the inspector. If the latter, press *Esc* to leave the input field.

This second triangle should be wider by 4 pixels and higher by 2 pixels. The fastest way to resize it is to hold *Cmd* and press the *right arrow* key until you've added 4 pixels. Keep holding *Cmd* and use the *down arrow* key in the same manner to make it 2 pixels higher. All of that can be done in the inspector, too.

Also create a duplicate of this second triangle, and modify it in the same manner: "4px" wider, "2px" higher, moved down by "4px." Repeat the exact same steps for the fourth triangle. The last part of the tree, the trunk at the bottom, is a simple square, 4 × 4. After you have added all of the required shapes for the tree, select them and center them relative to each other with a right-click and then **Align Center**.

With all the parts still selected, make a Boolean operation of the type **Union** by pressing *Alt + Cmd + U*. This will add all of the shapes to a single layer and let you change the color at once to the same as the artboard's background. Lastly, rename it to "Tree," and move it to an **X** position of "4" and a **Y** position of "10" to leave room for the other parts.
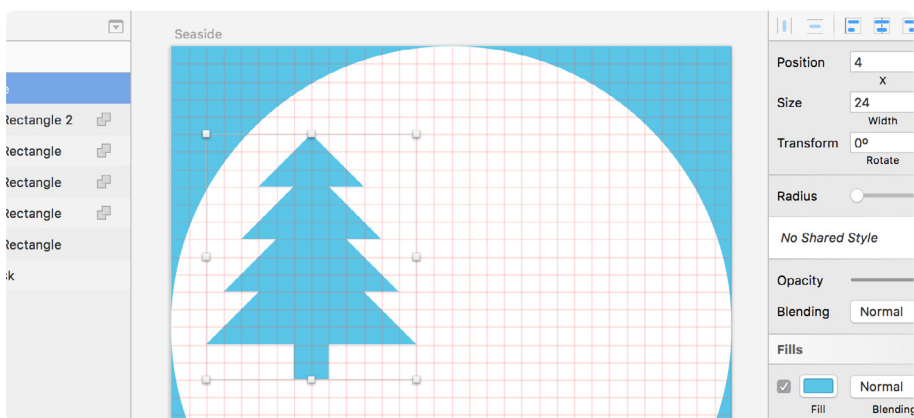
*Fig. 10.3: The first element of the seaside icon: a tree.*

## THE BOAT

All right, let's float over to the boat. It might not be obvious at first, but it also consists of three modified rectangles (Fig. 10.4). First, create a rectangle with the dimensions of "14 × 20" in the free space on the right side of the icon, for the larger sail. Enter vector point mode like before, which will select the top-left point, the starting point of the shape. However, the literal point of interest at the moment is the one in the top-right. Press *Tab* to jump to it, followed by *Delete* to remove it. Leave the vector point mode. Piece of cake.

Believe it or not, the second smaller sail is even easier. Duplicate the big sail, right-click and select **Transform → Flip Horizontal**. Jump to the inspector with *Alt + Tab*, move to the **Width** field with subsequent *Tab* presses, enter "8," continue to the **Height**, and enter "12." Press *Esc* to exit the field. Now, hit the left arrow key until the smart guides show that there is a gap of 2 pixels from the other sail. Also, move the smaller sail down with the *down arrow* key until both sails are on the same baseline. In the end, select both shapes to create another **Union** Boolean operation.

For the boat hull, add yet another rectangle of 38 × 12 pixels below the sails and a spacing of 2 pixels. After entering vector point mode, hold *Cmd* and click on the lower line to add a point in the middle. Press *Tab* to jump to the lower-left point, hit *Delete* to delete it, press *Tab* again, but this time in combination with *Shift* to go in the reverse direction until you reach the bottom-right point. Also delete it.

A triangular boat looks quite dull, so let's fix that with a double-click on the lower point, which will change the type from a **Straight** to a **Mirrored** point. This action gives us not only a round shape but also two vector control points that define the curve. Drag either of them out to increase the roundness of it. Looks good.

Leave vector point mode and select the boat hull together with the group of sails. Center them horizontally, but then move the sails one pixel to the right so that they are aligned to the grid again. Finally, select them all together and add them to the same group with another **Union** operation. Change the color to match the other parts of the icon. Rename this group to "Boat," and change the position to "22" (X) and "18" (Y). Now let's hide it with *Shift + Cmd + H*, so that we have an unobstructed view for the last part of the icon.
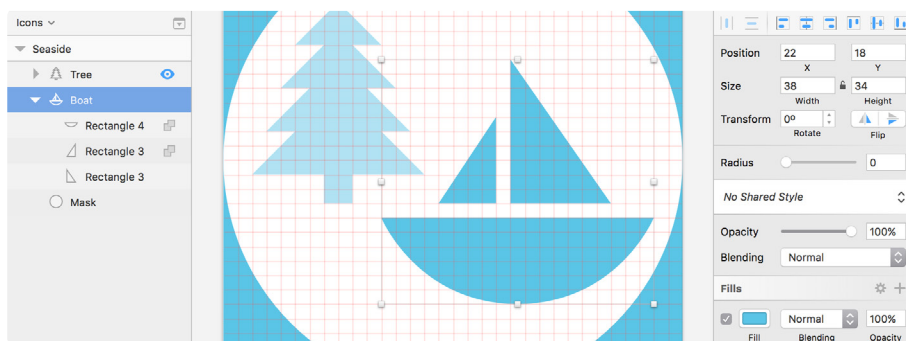


*Fig. 10.4: The boat marks the second element of the icon. I've temporarily reduced the opacity of the tree to highlight the boat shape.*

**THE WAVES**

A boat can't float in the air; we need some water to carry it. The waves increase the difficulty level slightly, but with a few cleverly placed shapes, they're easy to do. The waves are formed by a row of ovals with a border, which forms the actual wave line.

The starting point is a single oval. Draw one with dimensions of "16 × 12." Add it at the left edge of the icon, below the tree, so that you have room for the subsequent copies. Hold *Alt* and drag a copy to the right until both of the elements touch and are on the same line. Now, press *Cmd + D* to add elements with the same spacing until you have a total of four ovals. Still doesn't look like waves. A step in the right direction is to select all of these shapes so that you are able to form a **Union** Boolean operation. Make sure that this group is centered to the artboard horizontally.

One element is still missing, a rectangle of "64 × 28" pixels, where we can carve the ovals out to form the final waves. Move it vertically until its upper side is centered to the ovals; also, center it horizontally to the artboard (Fig. 10.5, 1). Now, drag the rectangle into the Boolean group in the layers list, but ensure that it is in the bottommost position. Finally, select all of the ovals again and change their Boolean type with a click on **Subtract**, the small icon next to the layers in the layers list (Fig. 10.5, 2). Now we're getting serious.
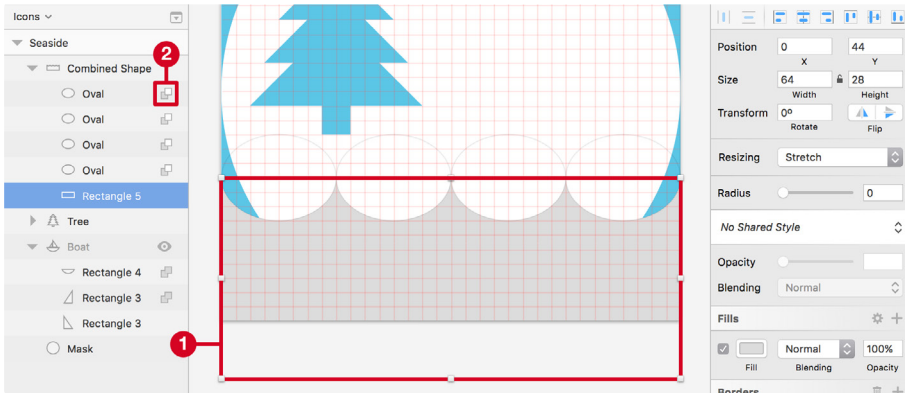
Fig. 10.5: The waves are formed by four ovals that are subtracted from a rectangle (1). Change the Boolean type with the little icons in the layers list (2).

Complete the waves by adding an Inside border with a Thickness of "2px" to the combined shape, and assign it the same color as everything else. Just like with the fill color, you can use the color picker with *Ctrl + C* to do this, but you'll need to remove the fill with F first (we won't need it anyway). Finally, name this Boolean group "Waves top," and move it to a **Y** position of "42."

To create some movement, add a second line of waves, offset to the right by "8px," half the width of an oval. The final **Y** position for this second line of waves is "52," and the name should be "Waves bottom" (Fig. 10.6).

If you select the "Boat" group in the layers list now and unhide it, it will float nicely on the upper water line.
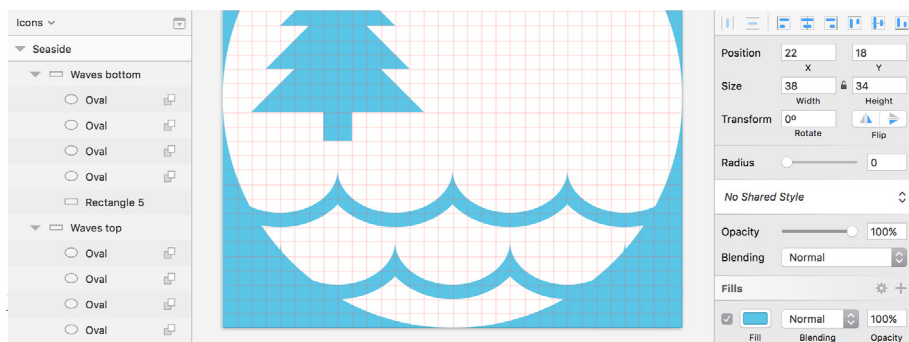
To finish it up, combine everything into an "Icon" group so that it's easier to grab the whole package at once. Also, change the white circle in the back to a mask with *Ctrl + Cmd + M*, so that everything outside of this shape is clipped; it needs to be in the bottommost position for this to work. For the finished icon, have a look at Fig. 10.1.

## Pixel Preview

Before moving on to the next icon, let's have a look at how the current one might look in the browser. Because Sketch is based on vectors instead of bitmaps, you can get fooled pretty quickly by everything looking sharp and clean no matter how much you zoom in. The reality, once the assets land in the browser, is different.

While this isn't much of a problem for SVGs, because they are also vector-based, PNGs and JPGs often don't look nearly as good as they do in Sketch. To remedy this, at least to a certain degree, have a look at the pixel preview regularly, with *Ctrl + P*. It's not 100% accurate, especially with text, but it gives you a good idea of how your assets will look when exported.

Because we've adhered to a strict grid for the icon, we can expect nothing less than a perfect result once the pixel preview is switched on. However,

always give this mode a look occasionally. For the most accurate result, use it at a zoom level of 100% and switch off the grid.

## The Mountainside Category

More and more, you are becoming an icon master. Let's ride this wave of success and take on the second icon. This one's for the "mountainside" category, so mountains will play a big role here. We don't need to redo all the groundwork again; we can take the "seaside" icon as a base. Duplicate it, rename it to "Mountainside," and remove all elements except the circle. Change the background color of the artboard to the orange that you saved to the **Document Colors** earlier (#F5A623).

Now for the content. The first and easiest element is the sun in the top-left, a colored circle, "12 × 12," placed at a position of "40" (X) and "10" (Y). Be sure that it is within the "Icon" group (like all of the other elements we will create) and rename it to "Sun."

With this easy win under our belt, let's tackle the first mountain, which is based on a rectangle again. Create it in the same manner as the branches of the tree before: Add a rectangle, sized "40 × 30," activate vector point mode, and create a new point in the middle of the upper side with a click. *Alt* ensures that it is added in the exact center. Press *Shift + Tab* to jump to the previous point, delete it, press *Tab* again to select the top-right point, and remove it, too. Name this shape "Base."

## LET IT SNOW

Summer hasn't reached the top of the mountain yet, so there's still some snow remaining at its peak. We will add it with the help of another much smaller triangle that is separate from the bigger shape. Duplicate the triangle and resize it on the canvas. Hold *Shift* (to maintain the aspect ratio) and drag the bottom-middle handle up until it has a size of "8 × 6." Name it "Snow."

With both shapes selected, perform a **Subtract** Boolean operation with *Alt + Cmd + S*, which will cut the smaller shape out from the bigger. Enter this new group with a double-click on the canvas and select the small triangle; move it down by "4" pixels (Fig. 10.7). It has snowed! Leave the group again, bring it to a position of "−6/30" in the inspector, assign it the same color as the background of the artboard, and name it "Mountain left."
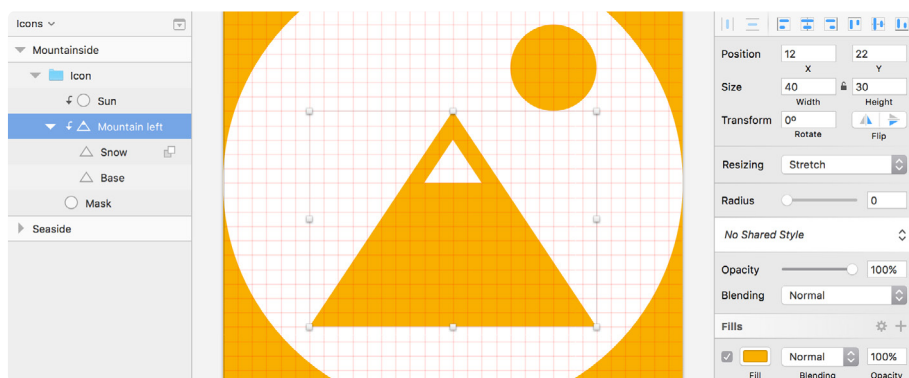


*Fig. 10.7: The initial elements of the mountainside icon: a sun and the first mountain. Please note that the mountain isn't on its final position yet, to show the full shape.*

## BIG AND SMALL

The second mountain on the right is just a copy, but in a different position. Duplicate the Boolean group, rename it to "Mountain right," and set its position to "30" (X) and "34" (Y). For the third bigger mountain in the middle, we need another copy. Move it to the middle of the artboard so that we can better see what we are doing. Now, double-click on the Boolean group on the canvas, which will select the big triangle. Like before, the easiest way to retain the position and just make the shape higher is to use the middle handle at the bottom. Hold *Shift* to retain the ratio, and drag the handle down until the shape is 48 pixels high. Leave the Boolean group, center it horizontally, and rename it to "Mountain center."

Everything looks fine — well, except for the fact that it's quite hard to distinguish between the mountains. A separation line for each would help. Actually, we'll be taking the outer shape of one mountain and inserting it in the Boolean group of another to subtract it. First, make sure that the rightmost mountain is on top in the hierarchy of the layers list (bring it up with *Ctrl + Alt + Cmd + Up*), followed by the middle mountain and the small one. The white circle should still be at the bottom.

To create the separation line, select the big shape of the middle mountain with a double-click on the canvas, copy it, enter the group of the left mountain with another double-click, and paste this shape here. This will insert the shapes at the same position as before but automatically applies a **Subtract** Boolean operation. Now, move this triangle up by "4" pixels until there is clear separation between the mountains (fig. 10.8); this should be at a **Y** position of "16." Rename it to "Separation."
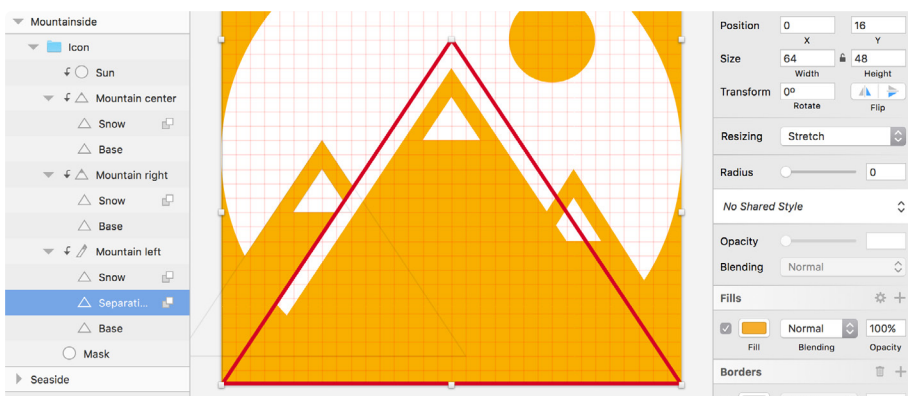
Fig. 10.8: *The three mountains are completed. To differentiate them, a copy of the big mountain's shape (red line) is inserted and subtracted from the left mountain (and subsequently also from the rightmost mountain, not depicted. See Fig. 10.1 for the finished icon).*

Do the same for the big mountain. Enter the Boolean group of the rightmost mountain with a double-click, copy the "Base," switch to the group of the middle mountain, insert the separation shape with *Cmd + V*, and move it up by "4" pixels (to a **Y** position of "30"). Also, rename it to "Separation." Goal achieved!

## The Cityscape Icon

That was fun! The third icon, for the "cityscape" category, is quite different from the other two because it consists solely of unmodified rectangles, but plenty of them. They form three skyscrapers with a bunch of windows. As before, duplicate one of the other two icons to get a solid base, remove all redundant shapes (everything except the white circle in the back), and rename the artboard to "Cityscape." After that, change the background to the third bright color we used for the category lines of the responsive article: the purple (#E01081).

## THE FOUNDATION

To start, create a rectangle with a size of "14 × 38," which will form the leftmost skyscraper. Assign it an inside border of the icon's color, with a **Thickness** of "2," but switch off its fill with F̲ first. Move it to a position of "10" (X) and "30" (Y), and name it "Base." This building will be inhabited by a huge number of people: Each of them needs a window for some fresh air and light. Create the first window in the top-left with a rectangle sized "2 × 2." Move it away "2" pixels from the border, both horizontally and vertically, name it "Window," assign the icon color, and drag it into the "Icon" group together with the base shape of the building.

The easiest way to get the remaining windows is to the Make Grid function that you got to know earlier: Select it from **Arrange** in the menu bar. We need "8" rows with a **Margin** of "2px" and "2" columns with the same spacing. A click on **Make Grid** automagically adds the missing versions (Fig. 10.9). Select all of them in the layers list and create a "Windows" group, in which you should add to a "Skyscraper left" group in turn, together with the building's shape.



*Fig. 10.9: Create the first window, and add the remaining with the **Make Grid** function. Please note that they are depicted in the screenshot, but with reduced opacity.*

## IN DEMAND

The city is big; it needs more room for people to live. To do this, duplicate this first skyscraper and rename it to "Skyscraper right." Press *Alt + Tab* to jump into the **X** field of the inspector, enter "42," use *Tab* again to cycle to the following **Y** field, fill it with a value of "38," and end with a press on *Enter* and *Esc*.

We're still not finished; people keep moving into the city, so we need to construct another building. Luckily, we already have the blueprints, which will make its creation a snap. Add another rectangle, and drag it to a size of "22 × 44" (or set these dimensions in the inspector). The name should be "Base," like before. Instead of a border, we need a fill with the same color as the remaining elements. Use the color picker, with *Ctrl + C*, to take it over from the other shapes.

To let some sunlight into the building, we will create some windows in the same manner as above: Add a first white rectangle with a size of "2 × 2," "4" pixels away from the top-left corner of the building; name it "Window." Select both of these shapes, and set up a **Subtract** Boolean operation with *Alt + Cmd + S* to remove the window from the skyscraper and make the background visible.

Just like before, use the **Make Grid** function to create the remaining windows. This time we need "10" rows and "4" columns, with a **Margin** of "2px" each. Because this duplication is supposed to happen in the Boolean group, these new versions will get removed from the base shape of the building (Fig. 10.10). Press *Esc* to leave the Boolean group, hit *Cmd + R* to rename it to "Skyscraper middle," and move the skyscraper between the other two buildings, at a position of "22" (X) and "20" (Y).
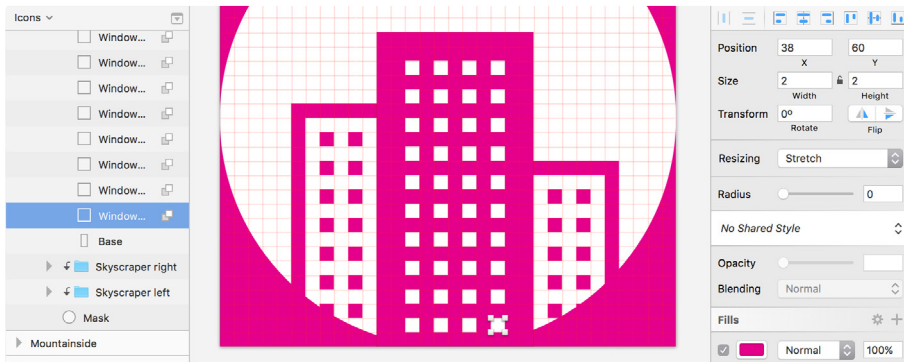
Fig. 10.10: In contrast with the other buildings, the skyscraper in the middle consists of a shape with a fill, where the windows are carved out with a Subtract Boolean operation.

## FINISH IT UP

The last two elements we need are a rectangle with a size of "10 × 10" for the upper part of the building (Y: "10") and another one sized "2 × 8" (Y: "2") to form the stylized antenna. They should sit on top of each other and be centered to the building. Select them together with the skyscraper and perform a **Union** operation, which will add the new shapes to the existing Boolean group. We've just made so many people happy by giving them a new home. Good job!

## The Countryside Icon

If you look at all of the icons we have designed so far, you may notice a common theme: In each icon there is at least one element that has a border of "2px," while other parts are filled shapes. This makes for a kind of familiarity and brings the icons together as a family. This is especially important if you design icons that are part of a set or need to be used in the same place. Furthermore, this mix of styles creates some variety: On one side, there are the "heavy" shapes with a fill; on the other side, you have these

"light" elements to balance them off. For more tips on icon design, have a look at this brilliant article by Scott Lewis on [Smashing Magazine](#).[78]

Of course, we will continue in the same fashion for the last icon: the one for "countryside," which represents destinations in rural nature, outside the hustle of the city. For this reason, it contains some gentle hills, a cosy cabin and some trees that represent the green of nature. However, life's not all sunshine, so we have a cloud instead of the sun from the "mountainside" icon.

Like before, duplicate one of the other icons, delete everything except the encompassing circle in the back, rename the artboard to "Countryside," and change the color of the background to last remaining color that we've saved to the **Document Colors** in the course of the responsive article. Which hue other than green (#79C03D) could better fit this feeling we're after?

## A GOOD START

Let's start with the hills for a solid base. The first one is an oval of "60 × 36," placed at "16" (X) and "51" (Y). Press O to create this oval, but instead of drawing it exactly with these properties, choose a random size at first. And then jump immediately into the inspector with *Alt + Tab* to enter these **X** and **Y** positions as well as the width and height.

Changing these properties afterwards is always easier than fiddling around on the canvas to catch the right measurements. Once I have placed shapes on the canvas, I also prefer to move and modify them with the keyboard instead of the mouse, because this is much more precise and easier to handle. Remember that you can use the arrow keys to move a shape and also hold *Cmd* to resize it. For bigger distances, add *Shift* to the mix.

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[78]  http://smashed.by/sketch-icondesign

Continue by giving the hill a white fill; for the border, choose the background color of the artboard. The thickness should be "2px"; for the position, select "Center." This is also the reason why I chose an odd **Y** position earlier, because the border itself would be at an odd position otherwise (Fig 10.11, red lines).

To create some perspective, add another hill in the back. The first one can act as a model, so duplicate it and move it one step back in the layer hierarchy with *Alt + Cmd + down arrow*. The only thing we need to change with it is the position: move it to "−24" (X) and "43" (Y). The white background will ensure that they cover each other (Fig. 10.11).

Name this one "Hill back" with *Cmd + R*. Press *Shift + Tab* to jump to the other hill, but remain in renaming mode, and enter "Hill front" for this layer. Finally, make sure that both of these shapes reside in the "Icon" group so that they are masked by the circle.
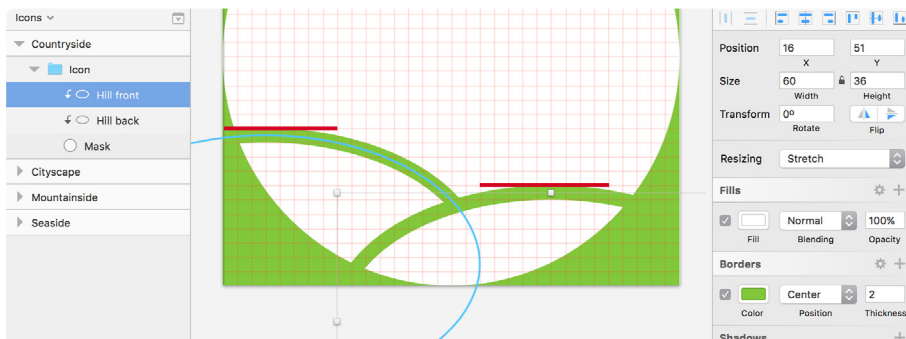


*Fig. 10.11: Some gentle hills. The white fill color ensures that they cover each other. They both have an odd **Y** position, but due to the centered border, the shapes are aligned to the grid lines again (red lines).*

## LUXURIANT VEGETATION

Time to plant some trees in this newly created soil. Icons in a set should not only be coherent with each other, but also coherent individually. In the "seaside" icon, the pointy tree and the boat have a similar style; the "mountainside" icon has three equal mountains; and in the "cityscape" icon, we have these rectangular buildings with similar windows. The theme for the current icon is ovals, which are also the base for the trees.

I continue to emphasize that the easiest way to create icons or parts thereof is to use basic shapes and then combine them into entirely new forms. Of course, you could also draw a vector by hand with *V* for the plant, but two ovals do a better job because they are easier to create and their curves look way smoother. Draw a first oval with a size of "6 × 8" in the free space above the hills. Duplicate it and use *Alt + Down* and *Alt + Right* to resize it to "10 × 12." Now, move it down by 4 pixels and select it together with the upper smaller oval, and center them horizontally by right-clicking and selecting **Align Center**.

The last element of the tree is the trunk, a rectangle that's "2 × 8." Place it at the bottom of the bigger oval so that they overlap by 2 pixels vertically. Also, center it horizontally relative to the other two shapes. After that, select all of them and perform a **Union** operation. This allows you to match the color of all of the layers to the artboard's background at once. The name of this Boolean group should be "Tree." Lastly, plant it into the leftmost hill at a position of "6" (X) and "22" (Y). In nature, it takes years for a tree to grow to a mature size; in Sketch, it's a matter of seconds to get a second tree: press *Cmd + D* and change the position to "20" (X) and "26" (Y).

## A CABIN IN THE WOODS

The left hill is taken care of now, so let's turn our attention to the right part. It should also be populated, but with a different kind of element: a small cosy cabin. Some basic shapes are enough to suggest this type of building: first, a rectangle with a size of "14 × 12," duplicated and placed above to form the roof. Use a value of "18c" in the width field to change its size, from the center. For the height, enter "6b," resized from the bottom to keep its position at the top of the cabin. Like before, modify it in the vector point mode to create a triangle. Enter vector point mode, insert a new point at the top side while holding Cmd, press *Alt + Tab* to jump to the point before, delete it, press *Tab* to jump to the point after, and delete it also. Lastly, combine these two shapes with **Union**.

People should be able to enter the building; so, we'll need a door. Draw a new rectangle at the bottom of the cabin, with a size of "4 × 8," but change its fill to a lighter color (not white), so that you are able to place it properly. Select it together with the Boolean group and center them horizontally. Don't worry that neither the rooftop nor the door align exactly to the grid; it's OK to make exceptions from time to time.

Now, drag the door into the Boolean group in the layers list. You may need to change the order for the door to be above the other shapes so that you can change the Boolean type from **Union** to **Subtract** using the small icon next to the layer's name. Remember that big shapes should always be at the bottom. The further up a shape is in the layer hierarchy, the smaller it should be.

We've already enabled people to enter the cabin with a door, but they should also be able to spark a fire to create a cosy atmosphere. A chimney will help to draw the smoke away. Create it with a size of "2 × 4" pixels and align it to the top of the rest of the building. Use the arrow keys to position

it 4 pixels from the left edge of the roof. Remember that you can press *Alt* and point there to show the distance.



*Fig. 10.12: The cabin consists of three rectangles and a triangle, combined in a Boolean group. Please note that I have reduced the opacity of the tree to highlight the house.*

To finish the cabin, move the chimney to the Boolean group, at the topmost position, name it "Cabin," position the group at "36" (X) and "34" (Y) in the inspector so that it sits nicely on the hill, and change the color to match the rest of the icon.

## CLOUDY SKY

There's quite a bit of room above the existing elements now. I did it on purpose to leave some space for one last element. There's already a sun in the mountainside icon, so I decided to have a try at a cloud instead. Add a circle with a diameter of "8px" first. Remember to hold *Shift* to lock the ratio and create a uniform shape instead of an ellipse. Duplicate this circle and offset it to the right by "14px" with the *right arrow* key and the one-time help of *Shift*.

Now, add a rectangle that not only connects these two ovals but also forms the bottom of the cloud. It should be "12 × 4" and should start at the center of the left circle. The smart guides show you exactly this position when you add the rectangle. Combine all of the elements so far with a **Union** Boolean operation (press *Alt + Cmd + U*).

Now for the upper part of the cloud, which is formed by another oval sized "12 × 10." Center it to the Boolean group horizontally, but let it stick out "4px" upwards. Finally, move it into this group in the layers list, change the group's position to "32" (X) and "10" (Y), change the name to "Cloud," and change the color to that of the other elements in the icon. Be sure that all elements are in the "Icon" group, so that they are masked properly. Congratulations, you've just finished the last category icon.
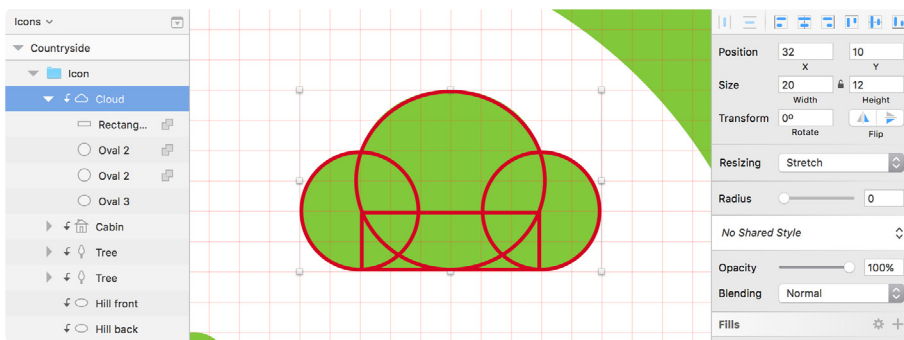


Fig. 10.13: The shapes that form the cloud are all combined with a **Union** operation.

With all of this design work behind us, we can a look at how to export the icons in the next chapter.

# Exporting Category Icons

Now that we have finished all of the icons for the different categories of sights, we can shift our focus to something else: preparing them to be used in production. In an ideal world, you should always aim for SVG format, because it's resolution independent and only one size is needed. However, I still want to say a few words about PNG.

## Border or No Border?

One thing we need to decide on before the icons can be exported is whether they should have a border. On the "Article" page, we've used a border so far, but there are occasions when no border would be appropriate; for example, when putting an icon on a dark background or when setting the border directly in the CSS. In this case, we can leave everything as is.

However, to include the border in the exported icons (because they are used in the article), we have to prepare a few things (Fig. 11.1). First, remove the background color of the artboard, because it was just for presentational purposes and doesn't need to be in the final export: Select with a click the title on the canvas, and deselect **Background Color** in the inspector. Now, enlarge it by "8px" on each side. To do so, hold *Shift* to keep the ratio, as well as *Alt* to resize from the center, and drag one of the corner handles until a size of "80 × 80" is shown in the tooltip.

Now, set the actual border of the icon: Select the white circle in the background with a *Cmd-click*, and add an **Outside** border with a thickness of "8px." For the color, pick the same as the other elements in the icon. To get a transparent background, you can also remove the white fill of the circle.

Fig. 11.1: The cityscape icon with the added border, so that it's ready for the article.

## Optimizations

Everything is set now, but one icon has a minor flaw. You may remember that we used a white background for the hills in the "countryside" icon, so that one covers the other. Unfortunately, this fill would also be exported and prevents a fully transparent result. To remedy this, we need to make a few modifications. First, select the artboard and press *Cmd + 2* to zoom all the way in. This gives us a better view of the work to be done.

Now, select the hill in the front, so that you can remove its fill with F̲. This reveals the overlapping lines that we want to hide. After that, jump to the other hill with *Tab*, and go into the vector point mode with *Enter* to add two points: one a little to the left where the shape touches the edge of the white circle, and one at the intersection of the two ovals of the hills (Fig. 11.2).

Now you can use the **Scissors** tool from **Layer → Paths** in the menu bar: Cut away the superfluous parts on the left and right of these new points with a click, so that only the relevant part of the hill remains. This almost gives us the desired result. In case the line doesn't fully touch the adjacent parts, change the border options with a click on the little gear icon in the **Borders** area of the inspector. There, set the **Ends** to the third icon, which ensures that the ends of the line are extended by half of the border width. Finally, remove the fill of this segment.
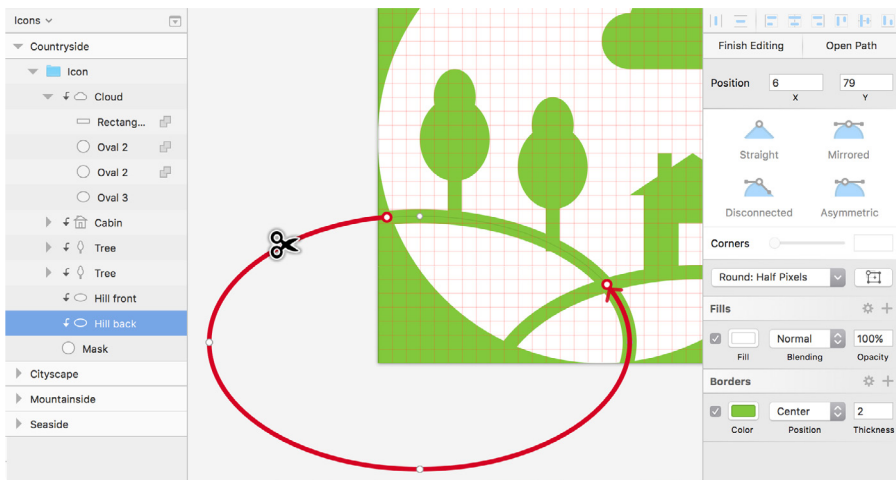


Fig. 11.2: Add two points to the hill in the back, and cut the rest (marked with red) with the **Scissors** tool.

## Export as PNG

Time to set the sizes for exporting. Suppose we want to use the icons not only at their original size, but also at half size in a different place on the website. Furthermore, they should be sharp on high-resolution displays, which requires us to export at double size.

First, select all artboards at the same with *Shift + Cmd + A*, so that you don't need to make the following settings individually. Now, click on **Make Exportable** at the bottom of the inspector. The original sizes for the export of the icons are already handled this way. This also gives you a preview of the assets right above. In case you removed the white fill from the circles, transparent areas will be shown with a checkerboard pattern here.

For the halved size, click on the + icon. Select "0.5x" as the **Size**; for the **Suffix**, choose something appropriate, like "-sm." It will automatically be added to the file name; in the case of the "seaside" icon, this would make "seaside-sm.png." Perform another click on + to define the last required size: the one for high-resolution variants. Without any modifications, this should give you a "2x" size and a "@2x" suffix (Fig 11.4).

A final click on **Export Artboards** lets you choose the directory to export the icons to. Alternatively, you would press *Shift + Cmd + E* to get a handy overview of all assets due to be exported (along with any elements you may have set up this way earlier).

## Export as SVG

Whenever you create an image with the intent to export it as an SVG later, use borders instead of shapes as often as possible. Borders are easier to draw in an SVG and, thus, drive the file size down. That's exactly what we did for the outer two skyscrapers in the "cityscape" icon and for the hills in "countryside." However, there is still some potential for optimization with the waves in the "seaside" icon. They consist of shapes with a Boolean operation at the moment, which we could use as a reference point to make a vector instead.

After you have clicked on the artboard of the icon in the layers list, press *Cmd + 3* to center the canvas to it; you may also want to zoom in with *Cmd + 2*. Now, select the "Boat" group with a *Cmd-click* and hide it to get an unobstructed view of the waves.

The first task is to draw the new vector. Press *V* for the respective tool, and make a first click at the left edge of the artboard, at about the height of the peaks of the waves. Hold *Shift* to get a straight line, and make another click at the right edge of the artboard. Before you continue, change the border thickness to "2" so that you can better match the new wave line to the old. Now, add a point for every tip of the wave with a click at the relevant position. Don't let the line that extends from the end of the line to your cursor position distract you; it just allows you to continue the vector at a later time.

To form the actual waves, add points in between the peaks, but hold *Cmd* while you click in order to snap to the exact center. Select all four of these middle points with a *Shift*-click, and move them down with the *down arrow* key until they are at about the same height as the lower parts of the old waves. Unfortunately, these new waves are a tad too angular, so we need to change their points from **Straight** to **Mirrored** with 2. Looks way better, but we want more. Jump to the first of these lower points with *Tab*, and drag its vector point handles out to enlarge the curves, so that they have about the same form as the old wave line. Repeat that for the other three points.

Fig. 11.3: Create a vector with several points, and match it to the old wave line gradually. The marked icon in the inspector allows you to drag a selection while in vector point mode.

You may also need to move the peak points a little bit down to get the same shape as the old waves. Unfortunately, you can't drag a selection to catch all of them in their current state, because this would extend the line instead. To do this, you need to click on the icon next to the **Round** drop-down in the inspector (Fig. 11.3, red border). This allows you to drag a selection now.

After you have matched the wave line, make sure that all points of the wave are aligned to full pixels: Leave vector point mode and select **Round to Pixel** from **Layer** in the menu bar. Furthermore, the layer needs to be at an odd **Y** position due to the **Center** position of the border. About "0" (X) and "45" (Y) should do the job. Finally, change the border to the main color of the icon.

The first wave line is finished. For the second line, you just need to make a duplicate and move it down by 12 pixels. Also, offset it to the left by 10 pixels. Now you can match the names to the old shapes — "Waves top" and "Waves bottom" — and delete the old layer groups. The position should also be the same: in the "Icon" group, below the "Boat" group, which you can show again now.

This optimization alone has brought the file size down by about 35%: a perfect opportunity to finally export the SVGs. As before, select all artboards with *Shift + Cmd + A*, but unlike for the PNGs, we only need one size now, so remove the other ones with the **x** buttons on the right, and set up an **SVG** format instead. That's all we need to do here — no sizes needed, no suffixes (Fig. 11.4).

With this last step, we have completed the main projects of this book. You've learned about most of the functions of Sketch and how to apply them. This knowledge should enable you to build anything you can imagine. In the next chapter, I will talk about some special use cases and how to employ the remaining features of Sketch, and we'll revisit some important concepts via some unrelated mini projects.
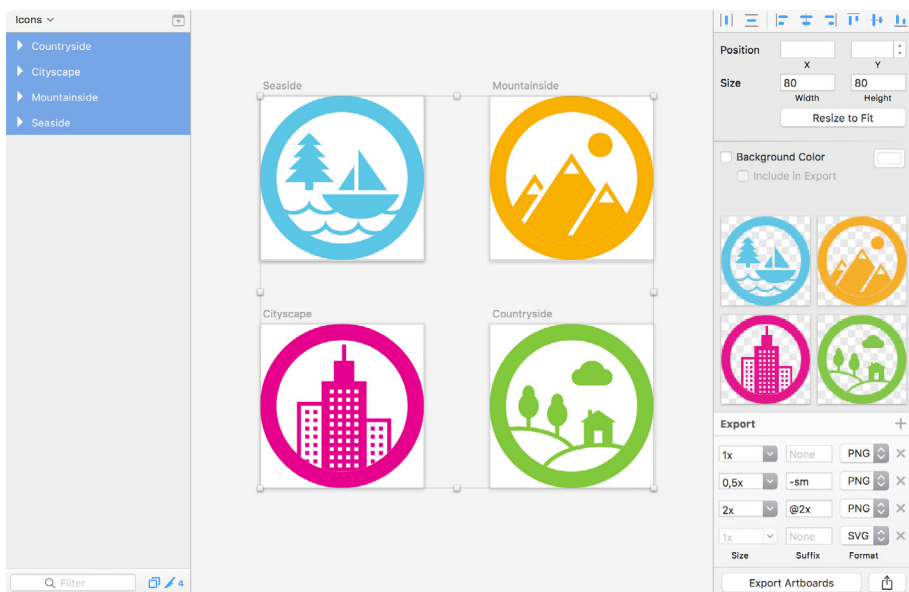


*Fig. 11.4: The final icons with borders and a transparent background, set for exporting. Please note that both PNG and SVG versions will be created.*

# Mini Projects

Over the course of using Sketch in recent years, I've discovered several different things that either are not immediately obvious or make use of a certain feature of Sketch in a special way. I'd like to present a good deal of these techniques here. We will also take a deeper look at some topics we have already touched on, but in a less formal way. Consider these as design snacks, fun projects that let you play around in Sketch. You can find the Sketch files for all of the projects at http://smashed.by/sketch-files2.

## Creating a Clock

This might not sound exciting at first, but we'll discover how easy it is to recreate real-world objects in an amazingly accurate way. You'll learn how to apply different layers of borders and shadows, we'll take a deeper look at gradients and how to rotate and duplicate elements in a special way.



*Fig. 12.1: The clock we are going to create.*

The first step is to create a totally separate document, named "mini-projects." Each project will happen on a different page, the initial one being reserved for the clock; rename it to "Clock" with a double-click. Now, create a new artboard with the same name, 600 pixels in both dimensions and positioned "0" (X) and "0" (Y). For the background color, choose a toned-down blue; I picked the one from the **Global Colors** in the color dialog (#4A90E2). Center the artboard to the canvas with *Cmd + 3*, and let's get started.

## SHADOWS AND BORDERS

The base of the clock is a simple white circle with a diameter of "480px." Align it to the center of the artboard, and name it "Face." For the bezel, add a first **Inside** border with a **Thickness** of "16." With just a single solid color, it would look quite dull; to give it a metallic appearance, we will add an angular gradient instead. After you have picked this fill type for the border in the color dialog (last icon), click on the first color stop on the left of this dialog. Move it a bit to the right with the arrow key (press it about four times), and enter "#484848" for the color.Jump to the other color stop with Tab, and use the arrow key again to slightly move its position, but this time to the left (about six times). Change the color to "#BFBEAC"; I've mixed in a small amount of yellow to give it a more natural look, which also applies to some of the other light colors in the gradient. Now go back to the first stop and assign the color "#484848".
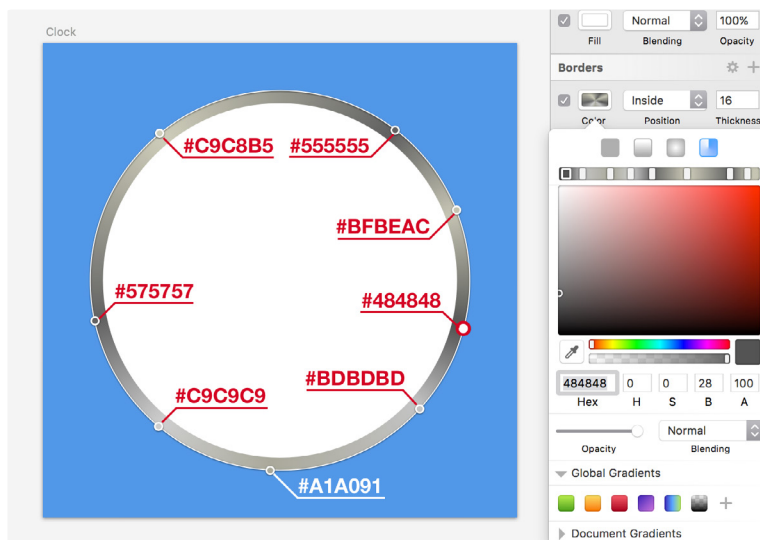


*Fig. 12.2: Assign an angular gradient to the border with several color stops. The red point marks the start color stop.*

Add six more color stops with a double-click each, their colors being (from left to right): "#BDBDBD", "#A1A091", "#C9C9C9", "#575757", "#C9C8B5", "#555555." For the positions, please refer to the Fig. 12.2. It looks way better now, but it is still not the result I had in mind. I also want the frame to have a 3D feeling, which is achieved with two additional borders: one below, with an **Inside** position and a thickness of "21." Because it is placed below, it will be covered partly, but due to its increased size, it can still be seen a little. Keep this in mind when you stack borders.

Assign the second border a linear gradient (the second icon in the color dialog), going from the top-left of the clock face to the bottom-right. For the start color at the top, choose "#929292"; for the one at the bottom, "#D6D6D6" (Fig. 12.3). This alone gives the clock much more depth, but another border should give us the final look. This time, add one with an **Outside** border, stacked between the other two and with a thickness of 5 pixels. This one also needs a linear gradient in the same direction, but from light to dark, with a color of "#BDBDBD" at the beginning and "#676767" at the end.
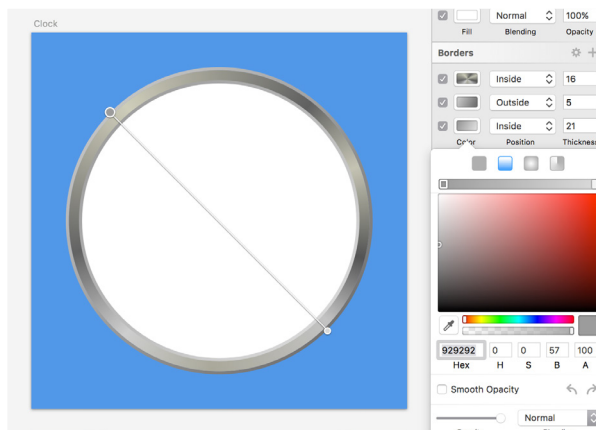


*Fig. 12.3: Add two more borders, each with a linear gradient going from the top-left to the bottom-right.*

Now that we have taken care of the frame itself, we also want it to look slightly raised from the clock face. This is accomplished with a light inner shadow. Because the borders already cover a certain part of the clock, the shadow needs to be quite big so that it can be seen. To counteract this, increase the **Spread** of the shadow to a relatively large value of "26," which will pull the shadow in. Setting the **Blur** to "10" now gives us a nice centered shadow; however, that doesn't respect the lightning of the scene. The light is supposed to come from the top-left, so we need to correct both the **X** and **Y** positions to "3." To echo the theme of the artboard's background, I have chosen a darker shade of the blue, with "#162A40" at "23%" alpha. Save this color to the **Document Colors** for later reference.

This is not the only shadow we will use. Another one on the outside will make sure that the clock contrasts with the background and looks as if it would hang on a wall. The shadow should be black, with an alpha value of "23%" and the remaining properties "6/6/14." This time, we don't need to increase the **Spread** because we've only set a slight outside border for the circle. The raised effect is even reinforced with a slight gradient on the background itself. Because we have set it directly on the artboard, we need to overlay a rectangle for this purpose.

Add one that covers the whole artboard (name it "Background shadow") but that is behind the clock face, and change the fill to a radial gradient. Move its center to the bottom-right third of the artboard (Fig. 12.4, 1); to change the size, drag the indicator on the circle line to the top-left third of the artboard (Fig. 12.4, 2). Be sure to use the point that is connected to the center with a line (the other point would change the gradient's shape to an ellipse). Set both color stops to black in the inspector: the one at the center should have full opacity (100%), and the one on the outside none at all (0%). The shadow would be way too strong like this, so decrease the general opacity of this layer to 24% (close the color dialog and press 2, rapidly followed by 4).
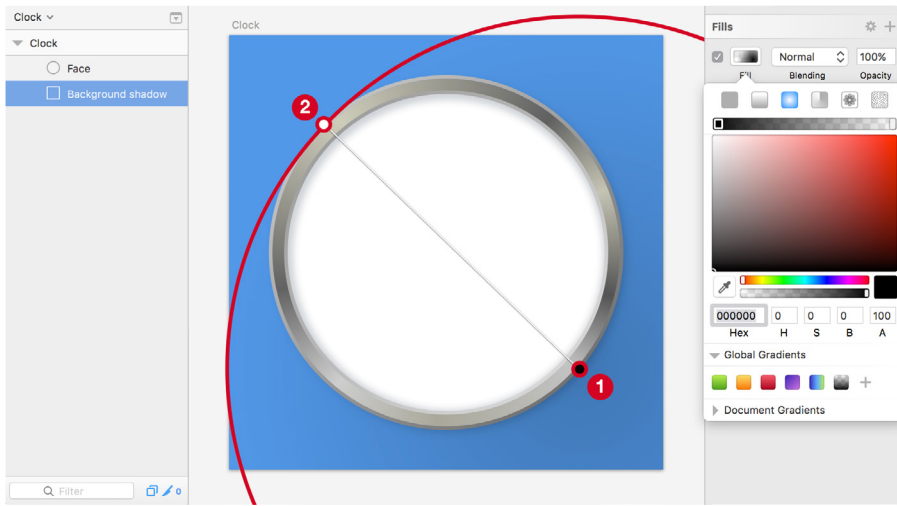
Fig. 12.4: A rectangle in the background with a radial gradient adds depth to the scene. Set the center point (1) to the bottom-right of the artboard, and drag the indicator on the circle line (2) to the top-left, to change its size.

## THE CLOCK FACE

With the last step we finished the casing of the clock, so let's take care of the clock face itself now. To make the alignment for all of the elements easier, let's add some custom guides first: show the rulers with *Ctrl + R*, and make sure that the circle is selected. Now, add a vertical guide at its center with a click on the upper ruler. As a guide hover over the ruler until the red line is directly above the middle handles of the shape on the canvas. Do the same for the horizontal guide on the left ruler. For the correct placement, you could also have a look at the positions of the guides when you hover over the rulers: with an artboard size of 600 pixels, this would be 300 pixels for both.

To break the ground, we'll add the scale for the hours. Create a rectangle at the top of the clock face, above the circle, for the mark of the twelfth hour. The easiest way is to add a rectangle with a random size first and then change it in the inspector. It should have the dimensions "6" (width) and "18" (height), with a black fill. Move it "31px" away from the outer edge of the circle: Hold *Alt* to show the smart guides, including the distance; point to the circle with the mouse; leave it there; and use the arrow keys to reposition the shape until the spacing is correct (while still holding *Alt*). Also, center it to the clock face horizontally. But what about the remaining hour marks? It would be quite tedious to create and rotate them by hand.

## FROM HOURS TO MINUTES

Luckily, Sketch offers a handy feature that can do both at the same time: **Rotate Copies**. Select it from **Layer → Paths** in the menu bar. The following dialog lets you define how many additional copies of the selected element to make. With a total of twelve hours, we require eleven more marks. After you have entered this value and confirmed the dialog, you will be presented with all of the lines and a circular indicator in the middle. You can drag this circle around at will; based on the position, it gives you a wealth of different patterns. Try to move it around! Also, give some other shapes a shot as a starting point to see what can be done with this option.

However, for the correct placement of the hour marks, move the indicator down until it is at the intersection of the guides that we added earlier (Fig. 12.5). That was easy! Please note that you won't be able to alter this position anymore as soon as you click anywhere else on the canvas. But you will still be able to change the individual elements after accessing the related Boolean group with a double-click on the canvas. Rename it to "Hour marks."
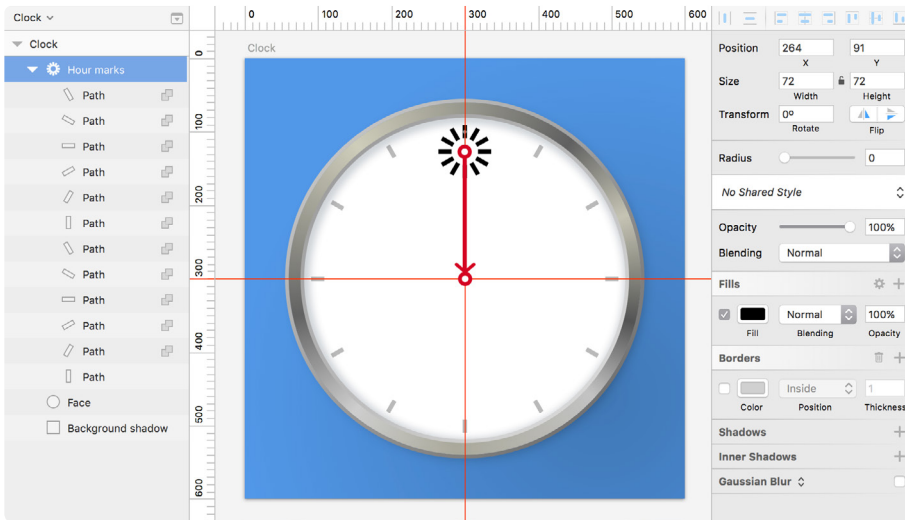
*Fig. 12.5: Create the rectangle for the twelfth hour, and add the remaining marks with the Rotate Copies function. Drag the indicator (red circle) to the intersection of the guides.*

For the minutes, we can take a similar approach, but instead of lines, we will create circles for these marks. To make that easier, set the hours to "20%" opacity first with 2. Now, draw a circle with a diameter of "8px" at the same position as the current mark on the twelfth hour, which you should move "40px" from the outer edge of the clock. Also, set its color to black.

The **Rotate Copies** option comes into play again. This time we need "59" additional copies. Like before, align the circular indicator to the intersection of the guides. At once, we've added all of the marks for the minutes. Rename the new Boolean group to "Minute marks," and access it with a double-click. However, we don't need the marks at the same positions as the hours, so we will delete them now: Click on the mark at "12" on the canvas, hold *Shift*, click on the other round marks that overlap, and delete all twelve of them. You can now set the hours to full opacity again and hide the custom guides with *Ctrl + R*.

## FROM ONE TO TWELVE

This brings us a huge step closer to the final clock face. However, we have still some work to do. First, the digits. To give the clock a modern appearance I have chosen the futuristic Exo 2 family from Google.[79] Unfortunately, you can't use **Rotate Copies** to distribute text layers, but we would need to align them manually anyway due to the different shapes of the numbers, so let's go for it.

To make the alignment easier, create a circle with a diameter of "360" at the center of the clock, and assign it a thin gray border (no fill). Add the "12" at the top, with a font size of "52," a "Bold" weight and a black fill: Align it with the arrow keys, so that its topside touches the helper circle (Fig. 12.6). The number should also be centered to the corresponding hour mark. Continue in the same manner for the remaining hours. Always make sure that they touch the circle on the inside. The easiest way is to drag the preceding number out while holding *Alt*, move it to the new place, change the content, and set the final position with the arrow keys. When you are finished, delete this helper shape. Also, create a "Digits" group for all of the numbers.



*Fig. 12.6: Use a helper circle with a gray outline to align all of the digits properly.*

79  http://smashed.by/sketch-exo2

## TICK-TOCK

The remaining elements to take care of are the watch hands. Zoom in a bit to start with the second hand. It's made of a simple red (#DF321E) rectangle with dimensions of "4" (width) and "200" (height), and whose lower two vector points are moved in "1px" each to form a slight trapezoid. To achieve this, press *Enter* to go into vector point mode, hit *Tab* two times to go to the lower-right point, and press the left arrow key on the keyboard to move it 1 pixel to the left. Hit *Tab* again to continue to the lower-left point, which you'll move in with the *right arrow* key. Leave this mode again by pressing *Esc* two times, zoom back to 100% with *Cmd + 0*, and center the hand to the artboard horizontally. On the **Y** axis, it should be "192px" away from the top of the watch. Because it is supposed to point to the "6," we don't need to rotate it, but make sure that it is above the "Digits" group. Finally, name it "Second," but hide it for now.

You can create the minute hand in the same fashion: Add a black rectangle with the dimensions "10" (width) and "210" (height), and zoom into it with *Cmd + 2*. For this shape, we'll add some points at the top and bottom. Like before, enter vector point mode, but move the lower points in "2px" each. Now hold *Cmd* and click on the top segment to add a point in the exact middle. Push this point up by 3 pixels. Do the same for the lower segment, but move it down by 4 pixels (Fig. 12.7).
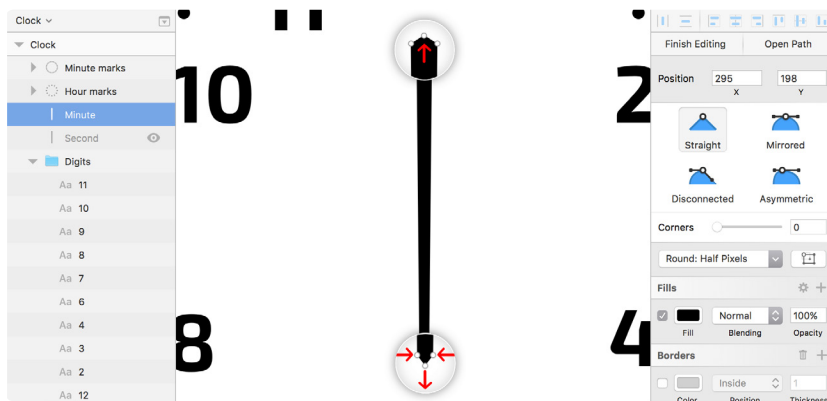
*Fig. 12.7: The minute hand is made of a simple rectangle, with additional points that are slightly moved.*

Finally, give the pointer a three-dimensional appearance with a crest (Fig. 12.8). One way to achieve this is to add a gradient with a hard stop in the middle, consisting of two stops at the same position. Add a gradient fill on top of the existing fill, assigned black with "100%" alpha for the first color stop and white with "0%" for the last stop. Bring the gradient to a horizontal position with the left-pointing arrow in the color dialog.

Now add another point with a double-click on the gradient axis in the color dialog, moved to the exact middle with 5 on the keyboard. Give it 100% alpha, and make sure it is black. Add another one to the right, and also move it to the center with 5, but then press the *right arrow* key once to offset it slightly to the right. After you have changed it to white with "30%" alpha, you'll see that this has resulted in a hard edge, thanks to the same position of the color stops. To conclude, leave the color dialog by clicking anywhere on the canvas, and name this shape "Minute." Place it 188 pixels away from the top of the clock, centered horizontally on the artboard.

It's quite an easy task to get to the hour hand from here. Duplicate its minute counterpart, but hide the original layer, name the new one "Hour," and change the dimensions to "12" (width) and "162" (height). That already

gives us the final shape. However we need to mirror it horizontally to bring the gradient to the opposite side: Right-click on the shape, and select **Flip Horizontal** from the **Transform** menu. After that, position it "202px" from the top of the clock face, and center it. Be sure that the order of the hands is second, hour, minute in the layers list, and combine all of them into the new group, "Hands." It should be above the "Digits" group.
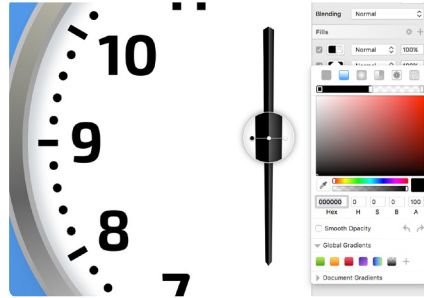


*Fig. 12.8: A linear gradient with a hard color stop in the middle gives the minute hand a three-dimensional appearance with a crest. It is achieved with two stops at the same position.*

## GO AROUND THE CIRCLE

Time to set the clock. The second hand, which you can show again now, already points in the right direction, but the other two hands should read 10:07. Rotating the hour pointer in the default way doesn't give us the correct result because it alters the position we've already set. You may remember that it's possible to adjust the point around which an element rotates. For this to work, we need to use the **Rotate** icon in the toolbar (Fig. 12.9, 1), which gives us a little indicator at the center of the object (Fig. 12.9, 2).

Drag it to the intersection of the custom guides defined earlier, and try to perform the rotation now: The hand will move like on a real clock. Take this opportunity to set the hour hand to a little after 10:00, at about "233" degrees. Show the minute hand again, and proceed in the same manner, but rotate it until it is at the seventh minute of the hour ("–137" degrees). Please note that you need to perform the rotation on the canvas; the input field in the inspector won't respect the altered rotation point.
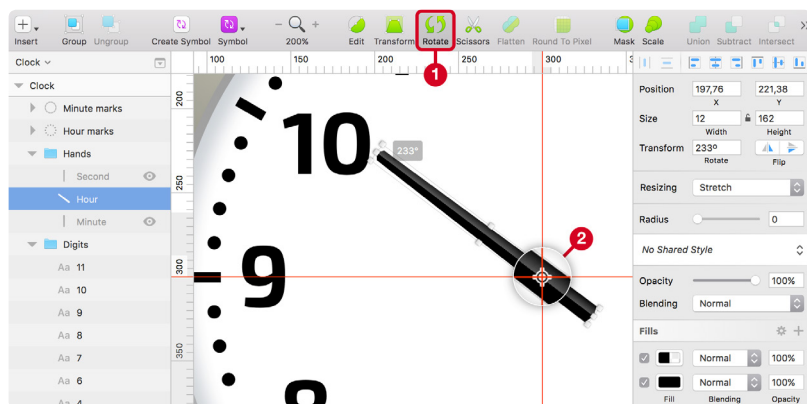
*Fig. 12.9: Use the **Rotate** icon on the toolbar (1), which lets you alter the rotation point (2). Set it to the intersection of the custom guides, so that you can turn the minute hand like on a real watch. Rotate it by 233 degrees.*

For the final touch and to further strengthen the 3D effect of the watch, add some shadows to the hands. Start with the second hand: To respect that the light comes from the top-left, we need to set the properties to "2/5/4/0" with the dark blue that we saved to the **Document Colors** (#162A40), but at "30%" opacity. The same blur and color can be used for the shadow of the hour hand, but the **X** and **Y** positions need to be changed to "−3" and "−2." The same goes for the minute hand, but with values of "−4" and "−2."

To top everything off, we will add one last element: a small red circle with a diameter of 12 pixels at the center of the clock that will hold all of the hands at their positions, and named "Cover" (Fig. 12.10). Take over the color from the second hand with the color picker and add a second fill on top of it: a radial gradient that has the same size and position as the circle, starting with 0% black at the center and going to 20% black on the outline. Also, add a shadow to raise it slightly from the hands. Give it the properties "0/0/5/0" with 50% black.
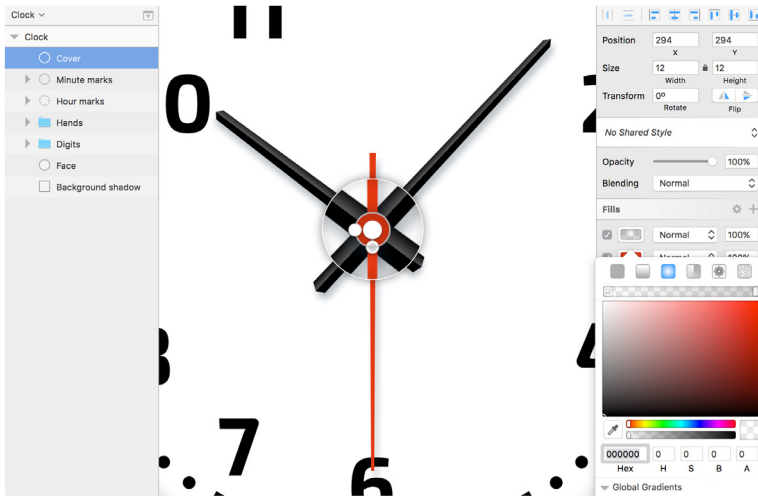
*Fig. 12.10: As a final touch, add a circle on top of the hands, with a radial gradient and a shadow. In the screenshot, you can also see the shadows of the hands.*

The result is a realistic wall clock. You've learned not only how to stack multiple borders, but also how to apply gradients to create distinctive effects. You've also learned more about rotations and how to use the **Rotate Copies** function to add multiple copies of the same object in a very special way. On to another challenge: textured type.

## Creating Textured Type

In the course of this book, you've learned a few ways to employ images in your designs, both as dedicated layers and pattern fills. The latter can also be used in a very special way to apply an image fill to text. It's midsummer as I write this, so I decided to use an appropriate theme for this project, both for the text and the image. To strengthen the summer feeling, we will sprinkle in some blend modes.

*Fig. 12.11: We will create three different versions of textured type.*

## SUMMERTIME

Let's start with the image. Like always, I landed at <u>unsplash.com</u> to find a suitable asset. After a bit of browsing, I decided on a <u>picture with palm trees</u>,[80] which perfectly matched my summer mood at the time. Set up a new page named "Textured type" in Sketch, and create a new artboard, named "Pattern image," with dimensions of "650 × 530" at "0" (X) and "0" (Y), and drag the image in. Resize and reposition it to show the preferred part. You can always adjust it later, because we will create a different artboard on which we will combine it with the text.

To set a special mood, we will overlay the image with a gradient and adjust its blend mode (Fig. 12.12). Add a new fill with a linear gradient, going all the way from the top-left to bottom-right of the image (not the artboard). For the colors, I used a bright orange (#FF9500) at the start, and a blue with a hint of red at the end (#391CF7), with full opacity. By default, this gradient covers the image now, but if you start to alter its **Blending**, you can mix it and create very distinctive effects. Give all of the filters a try. I landed on **Color Dodge** in the end.

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80  http://smashed.by/sketch-unsplash
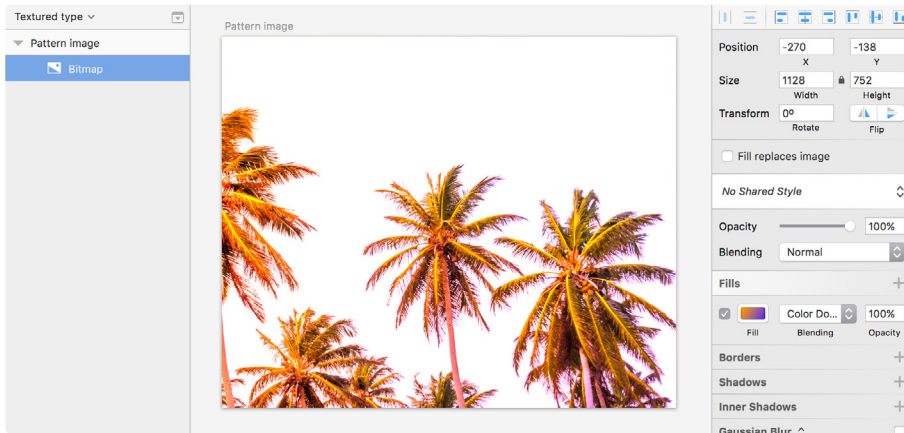
Fig. 12.12: Overlay a linear gradient to the image, and change the **Blending** to give it a special feel.

## TEXT ME

Now, duplicate the artboard at the bottom by holding *Alt* and dragging it there on the canvas; rename it to "Pattern." Hide the image temporarily with *Shift + Cmd + H*, as we will apply it in a different way later. This is the perfect opportunity to add the text layer with the content "SUMMER TIME." For the font, I had a very bold weight in mind, which "Passion One"[81] from Google Fonts fits perfectly.

After you have altered the typeface, change the **Alignment** to **Center**, add a break between the words and resize them, so that they have the same width and a very tight line spacing. "TIME" should be about 180% bigger than the other word, so select this part and add "* 1.8" to the font size field. Lower the line spacing of the whole text layer until the words almost touch. Leave text edit mode with *Esc*, and bring the text to a width of about 590 pixels with the **Scale** dialog (Fig. 12.13).

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81  http://smashed.by/sketch-passionone

This is a great way to resize text after you have altered the line spacing and want to keep it proportional to the font size. (If you had just resized the text layer in the inspector, the line height would have remained fixed.) Finally, center the text in both dimensions, but mind that the altered line spacing will make manual alignment in the vertical direction necessary. Horizontally, you can use the alignment icons in the inspector.



Fig. 12.13: Create the text on a different artboard, bring the words close together, and match their width.

## MARRY ME!

Now's the time to marry the image with the text. Select the other artboard and copy the image, but go back to the text layer afterwards. Usually, a text layer doesn't need a separate fill in order for its color to be defined; to overlay the image, though, we need to add a dedicated pattern fill. It's the type second from the right in the fill dialog. The reason why we set up the image in a separate artboard is that it's way easier to define the desired part of the image there. Unfortunately, the possibilities for doing that right in the fill itself are rather limited.
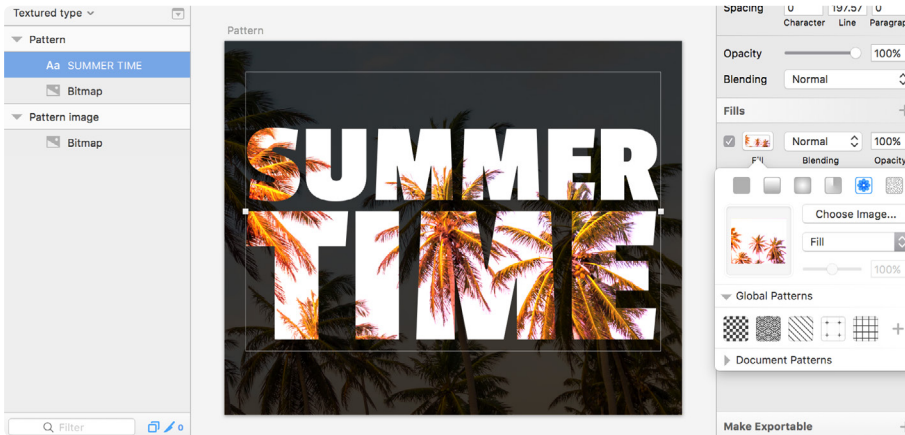
*Fig. 12.14: Overlay the text layer with a pattern fill from the image that you set up in the other artboard. A dark version of the image in the background provides enough contrast.*

A neat way to insert the image in the fill dialog is to focus the preview area on the left with a click and then paste the image there with *Cmd + V*. Make sure that the drop-down beside it is set to **Fill** (Fig. 12.14). If you are not satisfied with the result, just adapt the image in the separate artboard and copy it again. That way, both the text and the image remain very flexible. For some final polish, show the image in the background again, but change from the gradient to a black fill with 80% opacity and a **Normal** blending. This will bring the text to the foreground. You might also want to alter its position and size so that it differs from the fill.

## MASQUERADE

An alternate method of overlaying text with an image is to employ a mask. Duplicate both artboards to the right, but rename them to "Mask image" and "Mask." Be sure to change size and position of the image to show a different section. For a distinct effect, we will not only alter the blending to another mode — try **Lighten** — but also use a distinct typeface with "Antonio Bold" in the lower artboard. This time, I didn't find it on Google Fonts but on Font Squirrel, which is also a great source for high-quality fonts.

You can leave the general font size as is, but adapt "TIME" to be about 190% bigger than the other word; adapt it in the same way as for the other artboard. The line spacing also needs an update so that the words almost touch again. Make sure to center the text vertically again. Now, duplicate the text layer as a backup — but hide it — because we will outline it with *Shift + Cmd + O*. This will create individual shapes for each letter and is required so that it can act as a mask. Press *Ctrl + Cmd + M* for that. Unfortunately, this prevents modification of the text, but with a backup, this doesn't matter too much. The big advantage of this approach is that you are much more free to adapt the image fill directly in the same artboard and don't need to separate the two steps.

When you are satisfied with both the image on the upper artboard and the text on the lower artboard, copy the former, but be sure to pick the image itself. Paste it above the text on the other artboard, which will immediately clips it to the shapes. We just set up the image in the other artboard for illustration purposes. To make the adaptation easier, lock the outlined text layer in the background, so that you can change the image unhindered. If you want to see it in its full glory temporarily, right-click and select **Ignore Underlying Mask**. Lastly, delete the image in the background of the artboard because we don't need it anymore for this iteration.
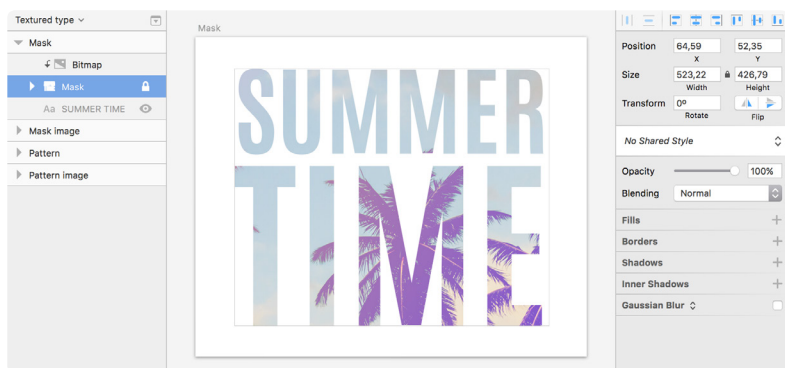


*Fig. 12.15: Create a mask from the text after you have outlined it, so that the image can clip to it.*

## PATTERN LIBRARY

In a third iteration, I'd like to show you how to employ a repeating pattern as a fill for text, instead of an image. We will use the artboard on the left, where the text is still editable as a base with *Cmd + D*, but rename it to "Repeating pattern." Delete the image in the background as well as the pattern fill. For the font, I've chosen yet another style with "Oleo Script,"[82] but this time I relied on Google's font service again. Select the text layer to change its content to "never settle" and make a break between the words like before. Now adapt the font size to "230px" (for both words) and the line spacing to "190." Give the letters room to breath, with a character spacing of 4. Center it in both dimensions.

For the first layer, apply a linear gradient fill, going from the top-left to the bottom-right of the text layer. For a summery look, inspired by the colors of the ocean, I've used "#2FA3D8" and "#59CBC2," with full opacity. The actual pattern fill will be applied in a separate fill layer, above the other one. Have a look at this collection of over 70 tileable patterns,[83] made specifically for Sketch, to find a suitable match. After you have chosen a pattern, copy its artboard and apply the fill in the same way as above: Change to a pattern fill, click on the preview area, and paste the pattern. I've picked one from the "Dots" page. Set the fill type to "Tile" in the nearby drop-down, because it is supposed to be repeated. Change the slider below until you are satisfied with the size of the tile and, hence, the look of the text layer (fig. 12.16). Unfortunately, you are not able to change the position of the pattern, but this doesn't matter so much with a simple repeating pattern.

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82  http://smashed.by/sketch-oleoscript
83  http://smashed.by/sketch-patterns

Because the effect is much too strong now, we will tone down the opacity of the fill (not the whole layer) to 90%, as well as change the blending to **Overlay** so that it blends in with the gradient. To give the text a stronger appearance, we will add some nice shadows as a last step; first, a white one with full opacity for the seam, with the properties "3/3/0"; for the actual shadow, set the properties to "14/14/0" and use the color "#196675." Change it to 100% opacity and make sure that it is below the other shadow.



Fig. 12.16: Add two fills to the text: a linear gradient and a repeating pattern. Also, apply two shadows to give it a stronger appearance.

Having done such a relaxed theme, we will dig into a more serious topic again with the creation of pie charts. In this course of this, I will not only describe the already-mentioned Scissors tool in more detail, but also show a few other approaches.

# Creating Pie Charts

To start, create yet another page, named "Pie charts." This time, we don't need a separate artboard, but will work directly on the canvas for the first time. Whenever you don't need a certain dimension for your creation, this is the best approach. You can convert everything to an artboard easily later anyway. The base for all of the pie charts is a gray (#DEDEDE) circle with a diameter of 200 pixels; move the first one to "0" (X) and "0" (Y). Overlay a slight radial gradient, going from 15% black in the middle to 0% at the outside. Move the center of the gradient to the lower-right third of the circle, and resize it so that both circles touch the top-left side.
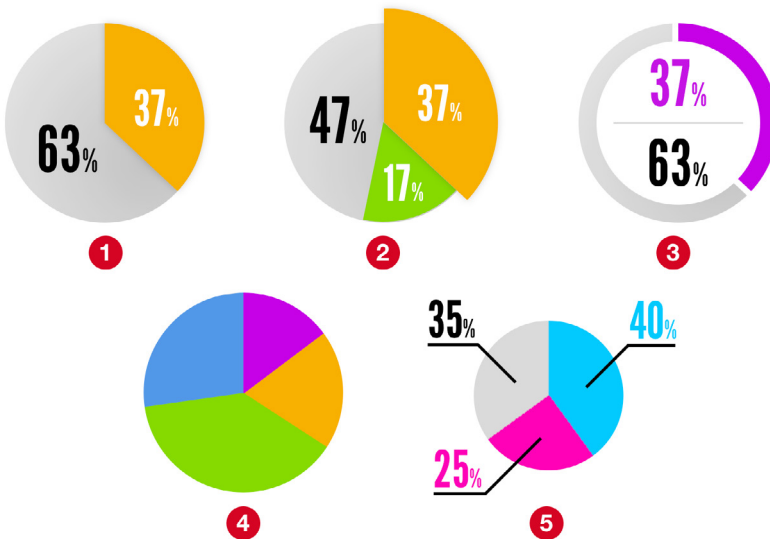


Fig. 12.17: The different kinds of pie charts we will create. In the following section, the number in parentheses at the end of each heading corresponds to the number in this figure.

## METHOD ONE

For the first "slice," duplicate the circle, remove the gradient, and switch to a bright color, like the orange from the **Global Colors**. To continue, enter the vector point mode. The goal is to create a pie with about 37% of the whole amount, so add a new point around the middle of the bottom-right segment of the circle with a click. For now, we have to approximate this value, but I will show you a method later that marks the exact position.

To get the actual pie shape, we will use the Scissors tool from **Layer → Paths → Scissors** in the menu bar. Start in the top-left segment and cut all of the segments counterclockwise down to the point we just created (Fig. 12.18, left). However, this doesn't produce the desired result: We need to add another point to "blow up" the segment to a pie shape. For this, leave the Scissors tool with *Esc*, but re-enter vector point mode and click on the straight part for a new point (Fig. 12.18, middle). Drag this point to the center of the circle with the help of the smart guides. Now we're on the right track!
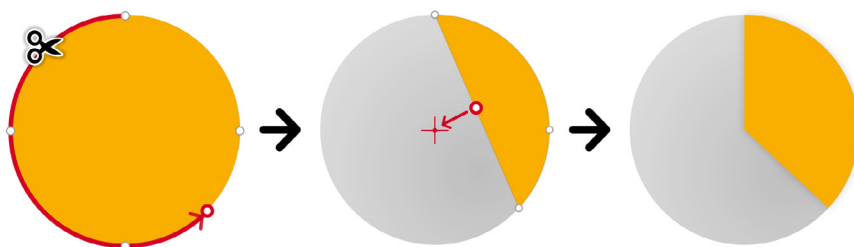


*Fig. 12.18: Left: Create a point, and then cut all segments with the **Scissors** tool. Middle: Add a new point in the straight segment that you drag to the middle of the circle. Right: The finished segment, with a slight shadow applied.*

Finally, click on Close Path at the top-right of the inspector to create a closed shape. This doesn't matter so much if a fill is set for the shape, but it becomes apparent when only a border is applied. Try to add a border before and after you have closed the shape. Give the segment a slight black shadow (20% opacity), with just a **Blur** of "7," and set the other properties to zero for a raised appearance (Fig. 12.18, right).

For the keys, "63%" and "37%," I've used "League Gothic" from Font Squirrel. The bigger slice got a font size of "64px" and a black color; for the smaller part, I chose "50px" with a white fill. Both should be set to a centered **Alignment**. To give the keys a distinct look, I've set the percent sign to a "50%" font size for both: Enter the text-edit mode with Enter, select the "%" and append "/2" to the **Size** field in the inspector. Align the text layers and place them above the shapes in the layer hierarchy. To conclude, select all present layers and create a new "Single" group.

## FROM ONE TO MANY

Most of the time, a pie chart needs not two but multiple segments. Duplicate the group you just created to the right and rename it to "Multiple." Now disable the shadow of the first pie, make a copy of it, and assign it another bright color — let's take one of the greens from the **Global Colors**. To rotate the segment properly, we will adjust the rotation point, like I showed you when creating the clock: Click on **Rotate** in the toolbar, and drag the point to the position where the two straight lines meet, at the center of the circle (Fig. 12.19, left).

To make the alignment easier, you can add a vertical and horizontal guide at the center of the circle, as I showed you before. Now, rotate the shape until the two segments touch. Adjust the second slice by adding a new point and cutting away the superfluous segments with the Scissors again,

starting with the top-left segment and going counterclockwise from there (Fig. 12.19, middle). Close it after you are finished with **Close Path** from **Layer** → **Paths** in the menu bar. You may need to reposition the new segment after that. Also, add another key for it, and adapt the other one in the gray segment.

Do the same for more segments. Instead of rotating a previous segment, you can create it anew as described in method one, but insert two new points at the exact positions where the segment should start and end.
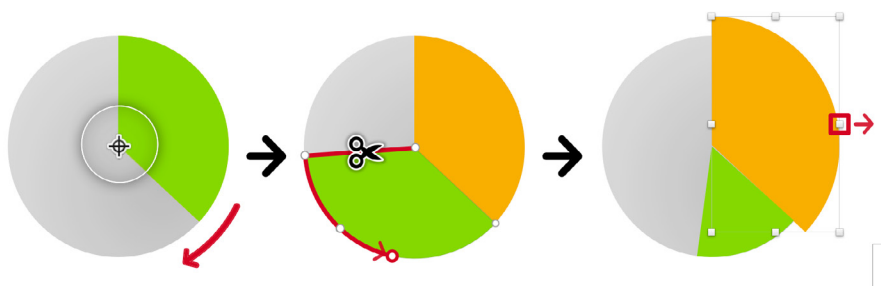


*Fig. 12.19: Left: Create another segment that you rotate with the **Rotate** icon in the toolbar. Set the rotation point to the center of the circle. Middle: Add a new point that determines the size of the pie, and cut all segments up to that point. Right: To highlight a certain segment, enlarge it with the handle on the canvas on the opposite side of the circle's center.*

Sometimes you might even want to highlight a certain slice by enlarging it, let's say the orange one. This is not that difficult: Select it with a *Cmd-click* and use the handle on the canvas (that is, on the opposite side of the circle's center) to resize it — in this case, the one on the right (Fig. 12.19, right). Be sure to hold *Shift* so that the ratio is maintained. After you have resized it, move the segment down to the center of the circle again. To finish, move it above the other segment in the layers list and show the shadow again.

## AN ALTERED APPEARANCE

I want to show you different approaches to making pie charts, and also how to create a different appearance. Duplicate the first chart (Fig. 12.17, 1) to the right, name it "Progress," and change the color of the segment (say, to the purple from the **Global Colors**). Also, remove the shadow. Now, duplicate the grey base circle, but move it above the segment with *Alt + Cmd + up arrow* key. The text should still be seen. Assign it a white fill, remove the gradient, and resize it on the canvas until it has a size of "164 × 164." Be sure to hold *Alt* while resizing so that it happens from the center. Instead of a pie chart, we've got some kind of progress indicator now. To strengthen this appearance, you can give the colored segment a white outside border, with a thickness of "6."

Now, grab the black key (you can delete the other), center it to the circle horizontally, and move it to the lower half of it. After that, duplicate this key, but relocate this copy to the upper half. You can leave the lower text layer black (or another shade of gray to reflect the gray segment), the upper one should be colored in the same way as the other segment. Also, change its value to represent the size of the responding segment. The last element to add is a gray (#D8D8D8) rectangle with "130 × 2" (or a line with a corresponding border), which separates these values. Center it both horizontally and vertically to the circle. The result can be seen in Fig. 12.17, 3.

## METHOD TWO

There are still more ways to create pie charts. The following approach is especially suitable if you need multiple segments that have to be easily adjustable. Duplicate the initial pie (Fig 12.17, 1) to the bottom, and name it "Multiple v2." Remove the orange segment and both keys. Then, select the base circle and set it up as a mask with *Ctrl + Cmd + M* (Fig. 12.20, left). You can also remove its radial gradient fill.

Now, create a new colored rectangle in the same group, that has the same height as the circle and half of its width (100 × 200). Align the rectangle so that it exactly fills the right half of the circle (Fig. 12.20, left, red rectangle). Duplicate it, assign another color, and rotate it with the Rotate icon in the toolbar, but set the rotation point to the center of the circle (Fig. 12.20, middle, orange rectangle). If you need just one segment, assign this second rectangle the same color as the base circle and be done with it.

In case you want multiple segments, continue to duplicate and rotate the rectangle until you're satisfied. Please note that you don't have to reset the rotation point for each shape, because it is remembered for subsequent shapes if you duplicate them with *Cmd + D* (but don't leave Rotate mode).
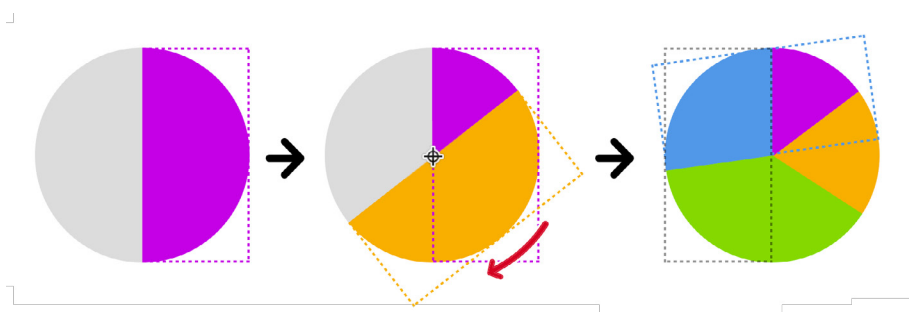


*Fig. 12.20: Left: Set the gray base circle to a mask, and add a colored rectangle (purple) for the first segment. It clips to the circle's shape. Middle: Duplicate the rectangle and rotate it, with the rotation point set to the center of the circle, to create the second segment (orange rectangle). Continue until you have all segments. Right: The moment the new segments (blue) begin to cover the first (purple) rectangle, set a mask for it (gray border) that only shows the part that doesn't overlap.*

As soon as the duplicated segment begins to cover the first segment, you need to take a different approach: Copy the first rectangle and move it to the opposite side of the circle (subtract 100 pixels, half the width of the circle, from the **X** position). Remove its fill with F and select it together with the latest segment. Click on the Mask icon in the toolbar, which hides the part that overlaps with the initial segment (Fig. 12.20, right, gray border).

## METHOD THREE

The final method for creating a pie chart in Sketch is with an angular gradient. For a fresh start, create a new circle with a diameter of "150" in the bottom-right, and assign it a gradient of this type. For the start point, choose the color that you want the first segment to have (be sure to copy it); the end color should be same gray as for the base circles before. Now add a new color stop with a double-click, and assign it the same color as the first stop (you can paste it now), followed by another stop that you move to the same position, either in the color dialog or on the canvas (Fig. 12.21, left).

This will create a hard color stop and, thus, the first segment (Fig. 12.21, middle). For the ultimate precision, use the arrow keys on the keyboard, and *Tab* to jump from one point to another. You can also employ the numerical keys to move the stop to a certain position: 4 to 40% on the gradient axis, 8 for 80% and so on. To indicate that the color stops are in the same position, they are shown next to each other on the canvas. The color of the last stop will depend on the pie chart you have in mind: If you need just two segments, use the same color as for the end stop (the gray), which will finish the chart for now.

In case you want multiple slices, pick yet another color (copy it again). To finish this third segment, add another two colors to the right. The first, to the left of it, should have the same color that you picked for the second segment (paste it now); for the second, to the right, use the same color as the end stop of the gradient (the gray). Now, bring these two stops to the same position again (Fig. 12.21, right). Continue in the same manner for additional segments. To finish the chart, no matter whether you choose two or five segments, rotate it by −90 degrees, because an angular gradient always starts at the right of a shape by default.
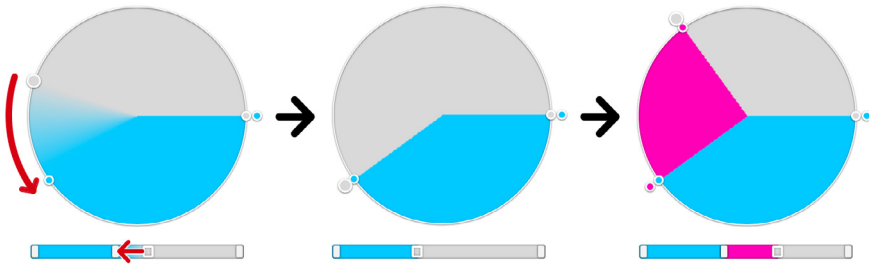
*Fig. 12.21: Left: Set an angular gradient fill for the circle, and add color stops. Bring these stops to the same position. Middle: This adds a hard color stop and, thus, the first segment. Right: Continue in the same fashion to add more segments.*

Now for the keys. Instead of overlaying them on the chart, add them outside and connect them to the segments with vectors. Duplicate one of the black keys from another chart, and shrink it by "80%" with the **Scale** function (*Cmd + K*). After that, move it to top-right of the current chart to correspond with the first slice, and match the color as well as the value to it. To keep track of all of the layers, select both, the key and the chart, and create a new "Gradient" group, and put all other elements that we will create into it. Make sure that it is in the main hierarchy of the layers list.

Let's continue with the vector. Press *V* to enter the relevant tool; click below the text layer, on the right side, for the first point; hold *Shift* to restrict the movement to the horizontal axis, and make another click on the left side of the key. Keep holding *Shift* and continue the line diagonally to the segment itself. Give it a black border with a thickness of "3," which finishes the first key. Continue in the same way for the other keys. You just need to adapt the individual segments of the line or mirror it as a whole and change the text layer to match value and color to the respective segment.

An automatic way to create pie charts and segmented circles is with the eponymous plugin.[84] The next project we will tackle, a round progress

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84 http://smashed.by/sketch-segmentcircle

bar, is very similar in type, but totally different in execution to pie charts, because it uses borders and related options to get the result.

## Creating a Round Progress Bar

One graphical element that has gained quite some popularity lately due to the introduction of the Apple Watch is the so-called round progress bar (have a look at Fig. 12.23 for the result). We've already learned about a way to create a similar element in the previous chapter (Fig. 12.17, 3), but there's an even simpler method. Like before, create a new page, named "Round progress bar," and add a circle with a diameter of "200px" to it. It will be the base of our progress bar, but instead of a fill, we'll use a centered border with "20px" thickness. Change the color to light gray (#E3E3E3) and duplicate it. After you have picked a bright color for the copy, enter its border options with a click on the gear icon.

Bring your attention to the **Dash** and **Gap** input fields. Instead of different types of dashed or dotted lines, these fields can be used to create circle lines of any length. The starting point is the **Gap** value: Enter the diameter of the circle and multiply it with the mathematical constant Pi: "200 * 3.14159265359" (Fig. 12.22, 1).

You can enter this calculation right in the input field, which results in "628.32." If you adjust the **Dash** value now, you can watch the line grow (Fig. 12.22, 2). Use the arrow keys in combination with *Shift* to increase the value rapidly. To get to a certain amount, let's say "70%," just copy the value from **Gap** to **Dash** and multiply it with a hundredth of it — in this case, "0.7." For the final appearance, set the **Ends** to rounded with the middle icon (Fig. 12.23, 1), add both circles to an "Ring" group, and flip it vertically.
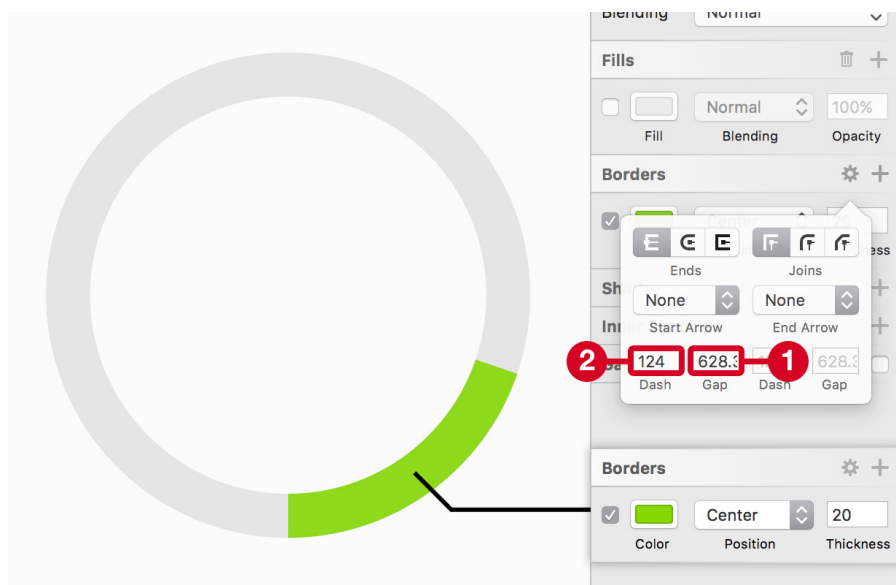
*Fig. 12.22: Create a circle with a light-gray centered border, and duplicate and change it to a bright color. Enter its border options with a click on the gear icon and set the Gap (2) to the diameter of the circle, multiplied by the mathematical constant Pi (3.14159265359). When you start to increase the value of Dash (1), you will see the ring grow.*

To create multiple nested bars, like on the Apple Watch, duplicate this group and shrink it. Hold *Alt* to resize it from the center, together with *Shift* to maintain its ratio, and decrease the diameter on the canvas by 44 pixels. This gives you a new size of 156 pixels for the circles. All you need to do now is change the color of the top ring and adapt both the **Dash** and **Gap** fields to respect the new diameter (Fig. 12.23). Continue in the same manner for more nested bars. Finally, put all of the rings in a dedicated group, like "Progress bar border." Special thanks to Meng To for discovering this technique.
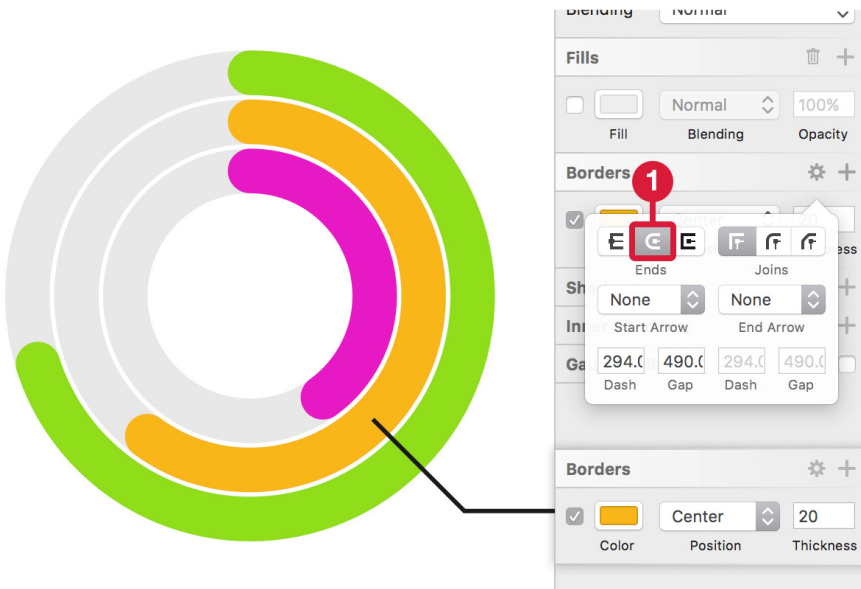
*Fig. 12.23: Flip the ring vertically and set the Ends to rounded (middle icon). Create more rings and adapt the **Gap** to the new diameter. For the orange ring and its diameter of "156," this would mean a value of "490.09" (156 × 3.14159265359).*

Now that you have learned how to divide a circle into exact segments, you can apply this knowledge in the pie charts from the other page to create slices of a certain size. You just have to duplicate the gray base circle of the chart, bring it to the front and change it from a fill to a centered border (press F and B). Adjust the **Gap** of this border according to the diameter of the circle (diameter × Pi), and set the **Dash** to the percentage you need (diameter × Pi × (percentage/100)). For example, to set exactly "37%" for the first pie chart, enter "200 * 3.14159265359" in the gap, copy this value to **Dash**, and multiply it by 0.37 (37/100). Flip it vertically, and adjust the slice to the border length you see now.

## A DIFFERENT APPROACH

An even simpler method for the round progress bar is to use the Scissors tool again. Duplicate the the first gray ring from the other progress bar, and put it in a new "Progress bar segments" group, in the main hierarchy of the layers list, to distinguish this from the other method. Create a colored copy again, but instead of using the border options, enter vector point mode for it. Add a new point at the position where the progress bar should end, and select the Scissors tool. Cut the segments you don't need: Start at the topmost point of the circle, and go counterclockwise to the point you just added (Fig. 12.24). Finally, set the **Ends** to **Rounded** again.
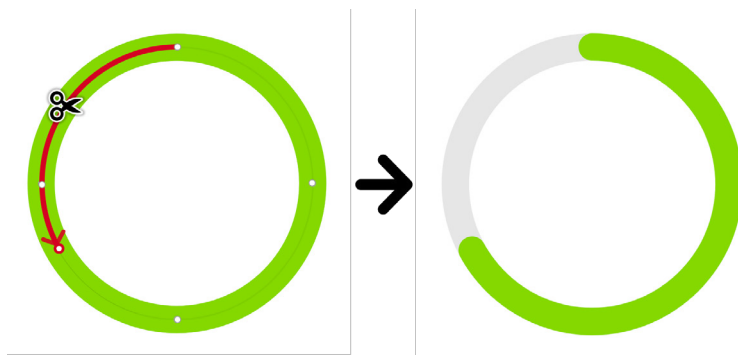


*Fig. 12.24: Insert a new point, and use the **Scissors** tool to the cut the redundant segments. Start from the top point and go counter-clockwise.*

For more bars, proceed in exactly the same manner: Duplicate the gray ring and shrink it, create a colored copy, insert a new point, and delete the redundant segments. While the rings are easier to create with this method, they have the disadvantage that you can't adjust them easily, only if you need to make them shorter. Otherwise, you'll need to start afresh. Having taken this side trip to the world of charts, bars and numbers, we will turn to a more relaxed topic, with the creation of a few so-called "hipster" logos. We'll continue learning how to set text to a path.

# Creating Hipster Logos

Although the term "hipster" can have a negative connotation in some circles, it's a prime style for a certain type of logo. It has a special appearance, and it can feature rounded or slanted text and can contain certain graphical elements. This is the perfect opportunity to introduce one of the last remaining topics of Sketch: **Text on Path**.



*Fig. 12.25: The two logos we are going to create, partly with the help of the **Text on Path** feature.*

## BAKERY

Let's start with the logo of the imaginary "Eastend Bakery." Set up the new page "Hipster logos," and add the base shape, a square with a side length of "206" pixels. Rotate it by 45 degrees to get a rhombus, and flatten it with **Layer → Paths → Flatten** from the menu bar. This will clear the rotation, which makes it easier to edit the shape. Grab the middle handle on the side, hold *Alt* to resize it from the center, and drag it out until it has width of "390px." Be sure to unlock the ratio in the inspector first so that the height remains constant. Now, add a dark-green inside border (I chose "#417505"), with a thickness of 6px. You can leave the fill color, but set its opacity to 0, so that it is easier to select the frame. To finish it, enter vector point mode, select all points, and assign rounded corners with a radius of "16." Name it "Border."

## ALL OF THE ELEMENTS

The logo contains three text elements, all set in "Montserrat Bold"[85] from Google Fonts, with the same color as the frame: first, "EASTEND" with a "Bold" weight, a size of "46px" and a character spacing of "0.8." After that, "BAKERY": "Regular" weight, "30px" size, "1" character spacing. The third of the bunch is "SINCE 1932," with the same weight, but a font size of "13" and spacing of "0.2." Place the text layers below each other, and center them horizontally to the border.

Furthermore, add two rectangles with the same color and the dimensions "20 × 2," placing them to the left and right of the date, so that these three elements together have the same width as "BAKERY" above. Put them in a "Date" group, and center them vertically to each other. Place this group at the bottom of the rhombus, so that it almost touches the edges. Directly above it, with just a slight gap, put the "BAKERY" layer. "EASTEND" should be slightly below the vertical center of the base shape for now.

The last elements we need are two crossed wheat ears at the top. As mentioned earlier, my trusted source for all kinds of icons and assets is the Noun Project, which has a Mac app.[86] An great alternative is the free Iconjar application,[87] which lets you import, store and categorize icon sets with ease. After you have found a suitable graphic for the grain, drag it into Sketch, and then adjust, duplicate and mirror it. Set up a new group, "Wheat," and center it horizontally and place it at the top of the logo. It should have just a small spacing to the border. Make sure that all of the elements in the logo have the same color (see Fig. 12.26, left, for the position of elements).

85  http://smashed.by/sketch-montserrat
86  https://thenounproject.com/for-mac
87  http://geticonjar.com/

**TEXT ON PATH**

Now on to the actual topic of this chapter: placing text on a path. It doesn't matter here whether you use a closed shape or an open path like a vector. We will go for the former: Create a new oval with a size of about "400 × 190," and place it directly below the "EASTEND" text (also in the layers list), and name it "Path." You can switch from the fill to a border with F and B to make the placement easier. Combine them to a new "Eastend" group. After that, select the text and choose **Text on Path** from the **Type** menu in the menu bar. This ties the text to the shape of the ellipse.

Unfortunately, this feature needs a lot of trial and error, so move around both elements, the text and its path, independent of each other until you land at the desired result: The text should bend so that it follows the oval in the middle and is above the path (Fig. 12.26, right). This might also require you to flip the path in the other direction; just fiddle around a bit. In case the text seems to disappear or is cut off, certainly zoom in and out of the canvas to get the correct look. Sometimes it also helps if you slightly move the text or path. Next, grab the group and move it to the final position, above the "BAKERY" layer.

You can hide the path now. Finally, put all of the content so far into a "Bakery" group to finish the logo. Although **Text on Path** is buggy, it can still be a huge help for creating certain graphical assets.
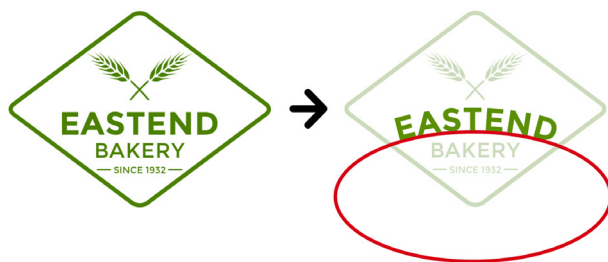
Fig. 12.26: Left: All of the elements of the logo, correctly placed. Right: Tie the "EASTEND" text layer to the path (red) with **Text on Path** from **Type** in the menu bar, so that it follows its shape. Please note that I have reduced the opacity of the remaining elements to highlight the transformed text layer.

Before you can export the logo, you'll need to create outlines for the text. This can be a little tricky due to the text's alignment to the path, so if *Shift + Cmd + O* doesn't create the desired result, flatten the path first. After that, you might need to flip the converted outlines once again. This preparation is especially important if you want to create an SVG. Otherwise, you can export the logo without any modifications.

## CAR SHOP

The second logo we'll tackle is for a fictional car shop named "The Garage." In contrast to the other logo, we will use a circle as the base structure. Add one with a diameter of "276px" to the right, and assign it an inside border with a thickness of "16" and named "Border." I've used "#9D6B37" for its color. You can set the fill to 0% opacity again to make the selection easier, but make sure that it's always behind all of the other layers to come. This frame will not go all around the logo, but will have a gap at the bottom where the text layer "CAR SHOP" sits. It's based on the font "Chivo Black,"[88] with a font size of 26 pixels and "1.75" character spacing. Assign it the same color as the frame.

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88  http://smashed.by/sketch-chivo

**FOLLOW ME**

Before cutting away a part of the circle, we will set up the text to follow its contours, so that we have a better feeling for the hole. To make the placement easier, you can reduce the opacity of the shape to about 20%. Now, duplicate the circle to act as the path (Fig. 12.27, left), group it with the text "CAR SHOP," and select **Text on Path** again for the text layer. Make sure that the path is below the text. Like before, reposition both elements individually until you are satisfied with the outcome. You might need to flip the path to get there. Move the group to the final position at the bottom of the circle, and hide the path.

Now, cut away the redundant part of the frame to make room for the text. Enter its vector point mode, add a point both to the left and the right of the text (use a custom guide to get the same heights), and use the Scissors tool to remove the segments at the position of the text. Proceed as in the second method of the round progress bar (Fig. 12.24). After that, you can bring back the border to full opacity.

**ALL OVER AGAIN**

The second element that will be applied to a path is "Garage." To get a certain look, I've used the font "[Lobster](#)"[89] at a size of "70" and "1.20" character spacing. Instead of a shape, we will use a vector for the path. Create a straight horizontal line below the text layer, and make it one fourth longer, about 260 pixels.

Enter vector point mode to move the second point up by about 40 pixels, jump back to the first point with Tab, and change to a **Mirrored** type with 2. Drag it to get vector point handles, and move them to the bot-

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89  http://smashed.by/sketch-lobster

tom-left until you get a nice curve. The line that connects the two handles should have about the same length as the path. See Fig. 12.27, right, for the correct path.



*Fig. 12.27: The two paths for the text layers.*

Leave vector point mode, select the path together with the text layer, and set up a new "Garage" group. Now, apply **Text on Path** to the text again, but make sure that it is above the path in the layers list. Follow the procedure from above to align it properly to the path. You can always modify the vector, even in this state, if you are not satisfied. This also goes for the text layer — for example, to optimize the kerning. Move the group to the center of the circle after this procedure and hide the vector. There's still plenty of free room in the logo that we want to fill with elements.

 For the upper half, add the text layer "The," with a font size of "48," set in the familiar "Playfair Display Italic," with default character spacing. Center it to the logo horizontally.

# Missing Fonts

With all of these different fonts, some of them can be easily missed if you pass on the Sketch file to a fellow designer. Sketch will warn you that certain fonts are missing, but avoid opening the file in this case, because the text layers will revert to the default fonts.
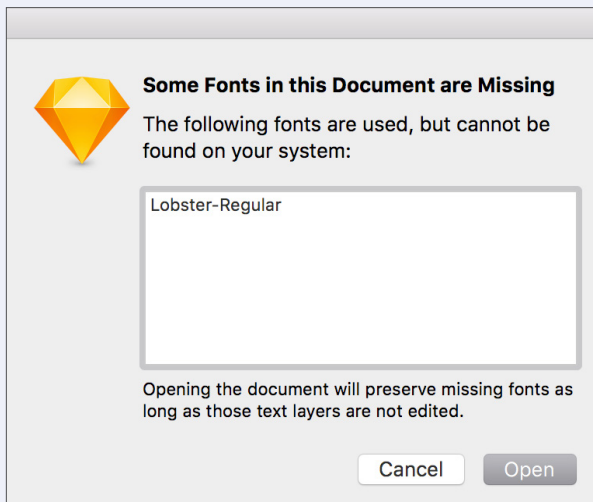


*Fig. 12.28: Sketch warns you if you attempt to open a file with a missing font. Don't do that; try to install the font first.*

Instead create a backup of the file for the worst case scenario, and attempt to install the missing fonts first. The app [RightFont,](#)[90] which I mentioned earlier, can be a huge help here, because it tries to activate missing fonts if you open the file with it from the Finder with a right-click (Open with →RightFont).

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90  http://rightfontapp.com

For the lower half of the logo, add two crossed wrenches. Again, you can have a look at [The Noun Project](#)[91] for a suitable asset — or for some inspiration to create it yourself. To make them contrast with each other, duplicate the wrench on top, select it with other below (that points in the other direction), and create a Subtract Boolean operation. Enlarge the shape on top in this group from the center by holding *Alt* and *Shift*, until there is a gap between the wrenches (Fig. 12.29).

When you are finished, put them in a new "Wrenches" group, and ensure that they are centered relative to the logo. Make sure that all elements we've added recently share the same color, and create a new "Garage" group from all of them.
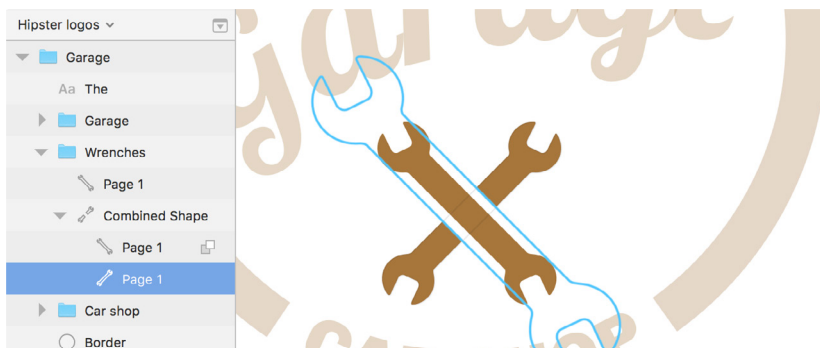


Fig. 12.29: Duplicate the top wrench, subtract it from the other (selected in the layers list), and enlarge it (to the size of the blue border) to create a gap between the shapes.

With this last step, you've finished the mini projects and learned a lot of practical tips that you can immediately apply in your daily work with Sketch. This also completes the practical part of the book. Now you know about every aspect of the design app and should be able to build anything you can imagine. The rest of the book covers topics related to the app in other ways.

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91  https://thenounproject.com/

# Appendix

## Plugins

Basically, Sketch gives you everything you need to approach a broad range of projects. But there are still parts that either are totally missing in the app or that work in an unexpected manner. To account for this, the community has created countless plugins that enhance Sketch in very different ways.

Besides the ones already mentioned throughout the book (and that are also listed below for the sake of completeness), this appendix gives you an overview of the most recommended plugins. They are arranged in useful categories for easier recognition, but in no particular order. Most of them can be installed with Sketch Toolbox; however, the official websites are also mentioned for your reference. Read more about their usage and application on page 58ff. Please note that some plugins may stop working with newer versions of Sketch, so there's no guarantee for their correct functionality.

Up for more? Besides the official plugin directory[92] there's a huge collection of these little helpers to choose from on GitHub.[93]

### RESPONSIVE DESIGN

- Fluid: Before Sketch offered native group-resizing possibilities, this was the best way to achieve the same functionality. It's a bit more complicated to use, but it gives many more options for pinning elements to certain positions and resizing whole layouts at once. Sketch Constraints[94] falls in the same category.

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92  http://smashed.by/sketch-plugins
93  http://smashed.by/sketch-plugins2
94  http://smashed.by/sketch-constraints

## PRODUCTIVITY

- Sketch Runner:[95] Like Spotlight search but in Sketch. Search through plugins and menu commands, jump to groups or layers, insert symbols, or create and apply styles, all in a simple interface.

- Rename it:[96] Rename multiple layers at once based on different parameters, like a numerical sequence, with a prefix or by adding dimensions to the name.

- Find and Replace:[97] Finds text either in selected layers or the whole document and replaces it with different content.

- Dynamic button:[98] Create buttons with fixed padding no matter what text you add. The button shape automatically snaps to the new dimensions once you press a shortcut.

- Compo:[99] Kind of an advancement of Dynamic button. Turn a text layer into a button, or put an existing component in order with the correct margins, all with a simple keystroke.

- Sort me:[100] Allows you to arrange layers alphabetically or numerically in the layers list, or in the reverse order.

## COLORS AND PALETTES

- My Sketch Colors:[101] By default, Sketch offers just a handful of preset colors, but with this replacement you get a lot more options to choose from.

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95 http://sketchrunner.com
96 http://smashed.by/sketch-renameit
97 http://smashed.by/sketch-findreplace
98 http://smashed.by/sketch-dynamicbuttons
99 http://smashed.by/sketch-compo
100 http://smashed.by/sketch-sortlayers
101 http://smashed.by/sketch-mycolors

- Sketch Palettes:[102] Lets you save and load colors in the color dialog so that you can distribute them across different computers or to your whole team.

- Prism:[103] Creates an artboard with all of the colors in your **Document Colors** with the corresponding color labels, in a variety of formats. Think of it as a mini-style guide.

- Contrast Color Analyser:[104] Calculates the color contrast of two layers and evaluates it against the Web Content Accessibility Guidelines.

## IMAGES AND PATTERNS

- Sketch Subtle Patterns:[105] Import all patterns from this well-known pattern library into Sketch. A paid but more comfortable alternative can be found directly on the website of the library.[106]

- Unsplash it:[107] If you need a simple way to add an occasional placeholder image from the famous Unsplash collection, this is the perfect place.

- Sharpen images:[108] Apply a sharpen filter (unsharp mask) to your layers in Sketch in a non-destructive way. This is especially important if you flatten parts of your designs to a bitmap.

- sketch-uifaces:[109] Easily load avatar images from the uiFaces[110] website, so that you don't have to insert profile pictures manually.

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102 http://smashed.by/sketch-palettes
103 https://github.com/ment-mx/Prism
104 http://smashed.by/sketch-contrast
105 http://smashed.by/sketch-subtle
106 http://subtlepatterns.com
107 http://smashed.by/sketch-unsplashit
108 http://smashed.by/sketch-sharpen
109 http://smashed.by/sketch-uifacesplugin
110 http://uifaces.com/

## DEVELOPMENT

- <u>Git Sketch</u>:[111] The functionality of Git, built right into Sketch. No more "v1," "v1.1," "v2" for your files, but a clearly documented design process.

- <u>CSSketch</u>:[112] Modify designs quickly by attaching a CSS file to it. It supports Sass and LESS style sheets so that you can use functions and variables which makes your workflow more efficient.

- <u>Code generator</u>:[113] A paid plugin that allows you to convert parts of your Sketch document into Swift or Objective-C to ease the build process of an iOS app.

- <u>Marketch</u>:[114] Creates an HTML page in which you can read all of the information to code your design, such as colors, font sizes and measurements.

- <u>Sketch Measure</u>:[115] Does the same plus adding measurements, dimensions, color codes etc. as separate layer groups.

## STATES

- <u>Checkpoints</u>:[116] Save important stages of your artboards so that you can easily compare and revert to them. <u>States</u>[117] falls into the same category.

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111  http://smashed.by/sketch-git
112  http://smashed.by/sketch-css
113  http://smashed.by/sketch-codegen
114  http://smashed.by/sketch-marketch
115  https://github.com/utom/sketch-measure
116  http://smashed.by/sketch-checkpoint
117  http://states.design

## ASSET GENERATION AND EXPORTING

- AEIconizer:[118] Make it easier to resize artwork for the iOS app icon: Select any layer and generate all of the required sizes.

- Iconboard:[119] A paid plugin for creating optimized icons with multiple sizes from artboards in Sketch. Both Windows and Mac icon formats are supported.

- Sketch Export Assets:[120] Export assets for Android, iOS and Windows Phone: Select the element and choose which platform you want to serve.

## STYLE GUIDES

- Style Inventory:[121] The bigger your project grows, the more important it is to keep everything consistent. This plugin can help because it collects all colors, text styles and symbols of a document in a dedicated artboard. Craft[122] can help you do the same, but also syncs the styles.

## TEXT

- Comma:[123] Easily access text modifications such as uppercase or title case, add ellipses, or change to single or double line breaks.

- Sketch Iconfont[124]: Insert and manage icons from icon fonts with ease. Also needs the font bundles[125] installed, which gives you access to four different fonts.

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118 http://smashed.by/sketch-aeiconizer
119 http://smashed.by/sketch-iconboard
120 http://smashed.by/sketch-exportassets
121 http://smashed.by/sketch-styleinv
122 http://smashed.by/sketch-craft
123 http://smashed.by/sketch-comma
124 http://smashed.by/sketch-iconfont
125 http://smashed.by/sketch-fontbundle

## IMAGE OPTIMIZATION

- [Sketch Image Compressor](#):[126] This official plugin takes care that your bitmap assets (PNG and JPG) are automatically optimized for a small file size when they are exported.

- [SVGO Compressor](#):[127] The same, but for SVGs. Lets you tailor the optimization settings to your needs.

## VARIOUS

- [Split/Divide](#):[128] Split overlaying shapes and create separate layers for the overlapping parts.

- [Animateme](#):[129] Create animations right in Sketch: Define keyframes, set easing functions, and export as an animated GIF or separate PNG files.

- [Segment Circle](#):[130] Make circular graphics for diagrams and analytics, including as a segmented circle, tickmarks circle or dashed circle.

- [Magic Mirror](#):[131] Kind of a supercharged version of the native transformation tool, allowing you to create hip perspective mockups directly in Sketch.

- [Arrowfy](#):[132] Let's be serious, the default arrows of Sketch are somewhat less than perfect. This plugin eases the pain a bit by adding simple arrowheads to any line, sized and colored to match its properties.

- [Paparazzi!](#):[133] A little utility app that lets you make screenshots of websites, which you can import into Sketch as editable layers.

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126 http://smashed.by/sketch-compress1
127 http://smashed.by/sketch-compress2
128 http://smashed.by/sketch-split
129 http://animatemate.com
130 http://smashed.by/sketch-segmentcircle
131 http://magicsketch.io/mirror
132 http://smashed.by/sketch-arrowfy
133 http://derailer.org/paparazzi/

## CONTENT GENERATORS

These basically all do the same: provide real content for your design in an easy-to-use manner. There's a whole paragraph dedicated to them in *Design With Real Data* on page 170, which you should check out to learn more about these helpers. Here's just a list for reference.

- [Craft](#)[134]
- [Sketch Data Populator](#)[135]
- [Content Generator](#)[136]
- [Day Player](#)[137]

## COLLECTIONS

Most plugins serve a single function, but some collections combine various little helpers into a comprehensive package.

- [Sketch-Mate](#):[138] A collection of useful plugins that let you manipulate artboards, align layers in smart ways and sort them.
- [Utility Belt](#)[139]: An always-expanding collection of small, simple, focused plugins.
- [Sandros Sketch Plugins](#):[140] Another library of plugins aimed at working with horizontal and vertical grid layouts and typography.

134 http://smashed.by/sketch-craft
135 http://smashed.by/sketch-datapopulator
136 http://smashed.by/sketch-contentgenerator
137 http://smashed.by/sketch-dayplayer
138 http://smashed.by/sketch-mate
139 http://smashed.by/sketch-utilitybelt
140 http://smashed.by/sketch-sandros

# Resources

Sketch not only has a vivid plugin ecosystem, but is also surrounded by a vibrant community that provides helpful resources about the design app on a regular basis. Let me give you a list of the best places out there.

- SketchTips:[141] My website about Sketch, where I've provided countless tips and tricks about the design app for over two years now. Please subscribe to my newsletter[142] to get the occasional email about Sketch-related topics. As a bonus for signing up, I will send you my Sketch keyboard cheat sheet, with the most important keyboard shortcuts.

- Personal coaching:[143] if you or your company are interested in a Sketch training, please fill out the contact form and I'll get back to you in no time.

- Visit the website of the book[144] to get updates and to subscribe to the official newsletter.

- You can also contact me[145] there or ping me on Twitter @SketchTips whenever you have a question about Sketch or about design in general. I'd be glad to help in any possible way.

- My Skillshare courses:[146] In my beginner's video course, I show the basics of Sketch based on a beautiful Twitter profile card. If you are up for more of a challenge, watch my advanced class, where we design a gorgeous water-consumption app from start to finish.

- Sketch App Sources:[147] A collection of useful resources about Sketch. They also have a publication on Medium.[148]

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141 http://sketchtips.info
142 http://sketchtips.info/newsletter
143 http://www.sketch-handbook.com/contact
144 http://www.sketch-handbook.com/
145 https://twitter.com/sketchtips
146 https://www.skillshare.com/chris_krammer
147 http://www.sketchappsources.com
148 https://medium.com/sketch-app-sources

- [Sketch Tricks](#):[149] Get bite-sized Sketch tricks, tips and techniques in this weekly newsletter.

- [SketchTalk](#):[150] The friendly community where everything related to Sketch is discussed.

- [Sketch Hunt](#)[151] and [Sketch App Rocks](#):[152] A collection of the best resources for the design app.

- [The official Sketch documentation](#)[153]

- [The official Sketch Facebook group](#)[154]

- [Official Sketch support](#):[155] Whenever you have a question about Sketch, want to report a bug or request a feature, the Sketch team is there to help.

- [Sketch Beta](#):[156] Get a look at the future of Sketch. This beta can be installed independent of the normal version and lets you see the next iteration of the design app. Use at your own risk, and be sure not to employ it for production work.

- Project files: The Sketch files of all projects built throughout this book are available for you to see how certain parts are constructed or to grab some of the assets. Here's everything related to [Visit Austria](#)[157], and here you can find the [Mini Projects](#).[158]

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149 http://sketchtricks.com
150 http://sketchtalk.io
151 http://sketchhunt.com
152 http://sketchapp.rocks
153 http://smashed.by/sketch-doc
154 http://smashed.by/sketch-group
155 https://www.sketchapp.com/support
156 http://www.sketchapp.com/beta/
157 http://smashed.by/sketch-files1
158 http://smashed.by/sketch-files2

# The Most Important Keyboard Shortcuts

The true power of Sketch lies in the keyboard shortcuts. Although I have named and used most of them throughout the book, I'd like to give you a condensed overview of the most important ones:

- *Cmd + Click*: No matter how deep within a group a layer is nested, you can select it if you click on it while holding *Cmd*.

- *Alt + hover*: Hold and hover over another layer to measure the distance to the currently selected layer (hold *Cmd* to drill into layer groups).

- *Alt + drag*: Hold and drag a layer to duplicate it.

- *R*: Add a rectangle (hold *Shift* to make a square).

- *O*: Add an ellipse (hold *Shift* to make a circle).

- *A*: Add an artboard.

- *T*: Add a text layer.

- *Cmd + D*: Duplicate a layer.

- *↑/↓/←/→*: Move a layer in the corresponding direction on the canvas (hold *Shift* for 10-pixel steps).

- *Cmd + →/↓*: Enlarge a layer (hold *Shift* for 10-pixel steps).

- *Cmd + ←/↑*: Shrink a layer (hold *Shift* for 10-pixel steps).

- *Tab*: Cycle through the layers in the layers list (hold *Shift* to go in the opposite direction).

- *Alt + Tab*: Jump to the first input field in the inspector (**Position → X**). Press *Tab* to jump from one field to the next.

- *Cmd + R*: Rename a layer.

- *Alt + Cmd + ↓/↑*: Move a layer one step to the back or front.

- *Cmd + G*: Group multiple layers into a group (add *Shift* to ungroup them).

- *Enter/Return*: Access a layer group or the vector point mode of a layer.

- *Esc*: Sequentially go out of nested layer groups. Or stop editing the vector points of a layer. In case no point is selected, the vector point mode is left; otherwise, the currently selected point gets deselected.

- *Shift + Cmd + L*: Lock a layer.

- *Shift + Cmd + H*: Hide a layer.

- *Alt + Cmd + =*: Make text bigger.

- *Alt + Cmd + –*: Make text smaller.

- *Cmd + B*: Make text bold.

- *Cmd + U*: Underline text.

- *F*: Toggle the fill(s) of a layer.

- *B*: Toggle the border(s) of a layer.

- *1 to 0*: Change the opacity of a layer or group.

- *Cmd + +*: Zoom into the canvas.

- *Cmd + –*: Zoom out of the canvas.

- *Cmd + 0*: Show the actual size of the canvas (100%).

- *Cmd + 2*: Zoom all the way into the currently selected layer.

- *Cmd + 3*: Center the currently selected layer.

- *Cmd + K*: Scale an object by a certain ratio or a defined width or height.

- *Cmd + {/|/}*: Align the content of text layer to the left, center or right.

- *Ctrl + ↓/↑*: Jump to next or previous page.

- *Ctrl + R*: Toggle rulers and guides.

- *Ctrl + G*: Toggle the layout grid.

- *Ctrl + P*: Toggle the pixel grid.

- *Alt + Cmd + 3*: Toggle the layers list and inspector (to maximize the canvas).

- *Cmd + Esc*: Return back to the instance from the master symbol.

- *Alt + Cmd + U*: Perform a Union Boolean operation.

- *Alt + Cmd + S*: Perform a Subtract Boolean operation.

- *Ctrl + 1/2/3/4*: Set the resizing behavior of a layer.

Besides the default keyboard shortcuts, it's also possible to define your own combinations or alter the existing ones. Read more about that in info box *Custom Shortcuts* on page 73.

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