



UX

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About This Book

While users expect content to be unique and exciting, they also prefer clear, predictable patterns when it comes to navigation. After all, navigation is merely a means to an end: consuming content without hassle and not spending too much time looking for it. The foundation of a solid, frustration-free user experience thus lies in a well-structured, simple navigation system. But which design decisions have really proven to work well in practice?

With the help of this eBook, we want to encourage you to rethink how you design navigation. On the following pages, our authors share smart techniques on how to effectively simplify the navigation experience and explore approaches to handle unique navigational challenges, such as in responsive websites and large-scale projects. Furthermore, you'll find out how small interaction details can contribute to further improve the user experience. The practical tips and real-life examples presented throughout this eBook will help you see your design decisions in a wider context. A handy companion — for any project.

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The Line Of Least Resistance

BY SORIN PINTILIE 🍷

In chess, the psychological dimension that springs from a dialogue between two brains, two ideas, two strategic conceptions that depend on the personality of each chess player has long been somewhat of a romantic mystery. How do Grandmasters¹ think? What strategies do they use?

More often than not, the most successful strategies are rooted in our very own nature. And common to most Grandmasters is that they almost never take the easy way out. A different, better alternative is always available, and they go looking for it. That creativity, that compulsion, that drive to look beyond what comes instinctively is what fuels successful strategies and explains why so few Grandmasters are out there.

For most of us, however, things are simpler. We tend to favor the shortest path, the easy way out, the shortcut. We cut through the middle of the park² if we have to.

We're naturally lazy. When we think, we search for the nearest pattern, and when we find the pattern, we don't need to think anymore – we just follow the pattern. Our brains have evolved to be – borrowing Edward de Bono³'s expression – “brilliantly uncreative.” This prefer-

1. [http://en.wikipedia.org/wiki/Grandmaster_\(chess\)](http://en.wikipedia.org/wiki/Grandmaster_(chess))

2. <http://www.youtube.com/watch?v=kSLK3A1Kbl8>

3. http://en.wikipedia.org/wiki/Edward_de_Bono

ence for shortcuts is what Grandmasters naturally exploit.



Playing on well-known weaknesses, automatisms or unconscious actions has long been a common strategy in chess. (Image credits: [Mukumbura](#)⁴)

When it comes to using and interacting with technology, that underlying behavior seems to hold. Users unconsciously look for the line of least resistance — *la loi du moindre effort*, as psycholinguist [François Richaudeau](#)⁵ called it. Richaudeau's work revolved around words, but considering how vital communication, language and words are to the design of interactions, the core principles still apply: The shortest words will be those emitted,

⁴. <http://www.flickr.com/photos/mukumbura/4043364183/>

⁵. http://fr.wikipedia.org/wiki/Fran%C3%A7ois_Richaudeau

understood and read with the minimum of effort, and also those most frequently employed due to their more profound presence — or *incrustation* — in our memory.

We remember shorter words better. That's because, according to Kenneth S. Goodman, we process graphic, syntactic and semantic information simultaneously. In doing so, users carry out cycles of sampling, predicting, testing and confirming as strategies to bring in “the most reliable prediction with the minimum use of the information available.”

The process isn't specific to words and reading, though. It underlies our behavior and interaction with the world around us.

Framing it in this way seems to suggest the generalized idea that behavioral patterns are linked to common causes — a concept expanded by behaviorism⁶ to the extent that it proposes a predictable and reliable link between a stimulus and the response it produces. That generalization is largely refuted by the cognitive revolution⁷ on the grounds that prior knowledge and mental processes intervene between a stimulus and response to reduce the predictability of human behavior — or the response — given a stimulus. Essentially, we can't predict behavior.

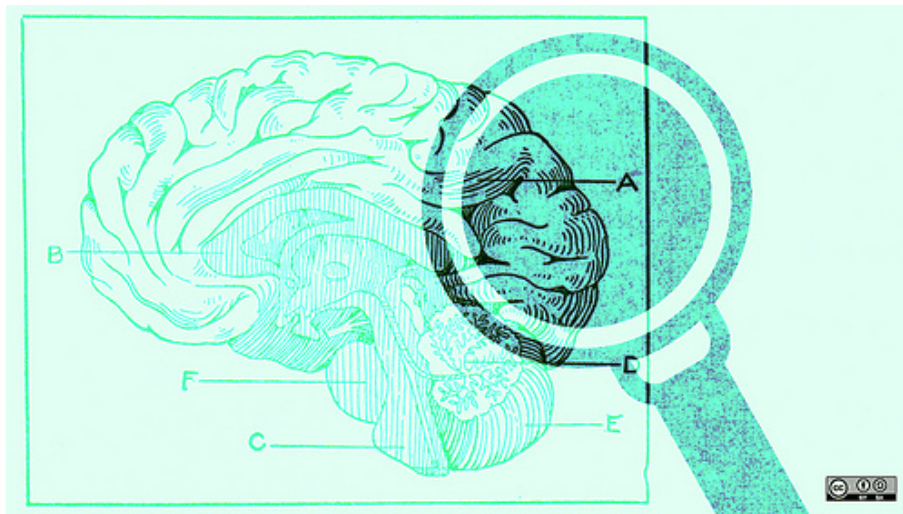
While that may hold true at a micro level, there are still plenty of common paths of action in the way we work — stimulus, sensory organs, interneuron⁸, brain,

6. <http://en.wikipedia.org/wiki/Behaviorism>

7. http://en.wikipedia.org/wiki/Cognitive_revolution

8. <http://en.wikipedia.org/wiki/Interneuron>

processing, motor neuron, response. It's still safe to assume that if we design an environment in which even the subtlest of details is sympathetic to how we, as humans, work and think, and with the singular purpose of easing the experience, then users will always favor that line of least resistance.



Is the environment we design sympathetic to the way we work?
 (Image credits: [opensourceway](http://www.flickr.com/photos/opensourceway/6006414578/)⁹)

Designing an experience from a perspective that is more closely related to how we naturally strategize, designing guidance through pattern prediction, as opposed to limit enforcement, might prove to be a more viable approach.

Let's put that in perspective. Take decision fatigue¹⁰.

We all make decisions every day. Some of them big, some of them small, some conscious and some so insignificant that they slip by us without our even realiz-

⁹. <http://www.flickr.com/photos/opensourceway/6006414578/>

¹⁰. http://en.wikipedia.org/wiki/Decision_fatigue

ing. And in a world in which we are constantly bombarded with information and media options, such as blogs, social networks, magazines and TV, the effects of so many decisions that we have to take day by day become increasingly obvious.

Our decisions, even those that are mere preferences between option A and B, gradually take their toll on our cognitive load. The mental processes of decision-making are strenuous; we have only a finite store of mental energy available to exert self-control.

Basically, we get tired if we make too many decisions. As a result, according¹¹ to Barry Schwartz¹², one of three things is likely to happen: we end up making poor decisions, we become more dissatisfied with our choices, or we get paralyzed and don't choose at all.

Interaction processes — regardless of the medium — are a prime example of decision fatigue in action. At a micro level, hundreds of small, subtle and, most of the time, unconscious decisions that we take every time we use an application, browse a website or even follow an ad can affect the way we experience the artefact that we're interacting with.

At a macro level, thanks to what we know about decision fatigue, we can predict that users can be overwhelmed to the point of making a default choice or no choice at all, depending on the option they face. One example of this is Dan Ariely¹³'s opt-in versus opt-out exam-

11. <http://www.amazon.com/Paradox-Choice-Why-More-Less/dp/0060005688>

12. <http://www.swarthmore.edu/SocSci/bschwar1/>

13. <http://danariely.com/>

ple¹⁴ for forms of the US Department of Motor Vehicles. It shows that we can basically predict how people will react in a very specific situation by controlling the design of the application form, paying close attention to the defaults.

This is a very specific prediction of behavior. We're not normally used to thinking of behavior as being that predictable. But in a lot of situations, it is. Ariely calls it being predictably irrational¹⁵.

Contextual cues – through signs or linguistic cues, because they have the potential to refer to a specific value system – can sometimes direct cognition in particular ways, either encouraging or discouraging certain patterns of behavior. Thus, it's vital that user experience practitioners maintain complete control over and responsibly use all elements in an interface that could be used as contextual cues and predictors.

And one of the biggest cues at the disposal of designers is language.

We, as a species, have refined language through countless iterations over the span of millennia to such an extent that words are tied to complex experiences, rather than to singular instances, by way of symbolic representation¹⁶.

14. <http://danariely.com/2008/05/05/3-main-lessons-of-psychology/>

15. <http://www.amazon.com/Predictably-Irrational-Hidden-Forces-Decisions/dp/006135323X>

16. http://en.wikipedia.org/wiki/Symbolic_linguistic_representation

The Power Of Words

In 1967, Paul Watzlawick¹⁷ described what later became a cornerstone of communication theory: meta communication. He postulated that every communication includes, apart from the plain meaning of words, more information: information on how the talker wants to be understood and how they see themselves in relation to the receiver of the information.

Language, as a clear manifestation of the cognitive capacity of the human mind, is only a medium to carry out acts of communication. That's one of the reasons why H.F. Bradley¹⁸ once said that experience is basically incommunicable.

Still, there is always something to communicate — moods, annoyances, happiness, feelings, ideas. There is always something that we need to understand — a noise, a color, a sign, a danger, an emotion. There is always some medium that is familiar to us — a grammar, an artistic language, a chess board, an interface.

While context provides a window into how people behave, words have the power to steer people towards a particular pattern of behavior through frame manipulation¹⁹.

Frame manipulation invariably affects users — admittedly, to different degrees. One prime example of how the context of options and the wording of a question affects behavior is Tversky²⁰ and Kahneman²¹'s famous experi-

¹⁷. http://en.wikipedia.org/wiki/Paul_Watzlawick

¹⁸. http://en.wikipedia.org/wiki/F._H._Bradley

¹⁹. [http://en.wikipedia.org/wiki/Framing_effect_\(psychology\)](http://en.wikipedia.org/wiki/Framing_effect_(psychology))

²⁰. http://en.wikipedia.org/wiki/Amos_Tversky

ment in 1981, which demonstrated systematic reversals of preference when the same problem was presented in different ways.

The experiment required participants to make a hypothetical decision, and the researchers tried to determine whether they could steer the participants towards an answer simply by wording the questions carefully.

The experiment proposed a hypothetical outbreak of disease with 60,000 predicted deaths, and participants had to choose between two programs:

- Program A
20,000 people would be saved.
- Program B
There is a 33% chance that all 60,000 would be saved, and a 66% chance that none of them would be saved.

A

20.000
saved

B

33% chance
60.000 saved

66% chance
none saved

21. http://en.wikipedia.org/wiki/Daniel_Kahneman

With these options, program A was a favorite among participants. But what happened when the same question was asked again, but this time, instead of counting the number of lives saved, counting the number of deaths? Here's how the second option would have sounded:

- Program A
40,000 people would die.
- Program B
There is a 33% chance that none of them would die, and a 66% chance that all of them would die.

A

40.000
die

B

33% chance
none die

66% chance
60.000 die

This time around, the clear favorite was program B.

The interesting part is that the math is exactly the same for both: 40,000 out of 60,000 would die anyway. But with the first option, participants were given the choice of a gain: they were given the choice to save 20,000 people. So, the gamble was perceived as negative against the word “save.”

In the second option, participants were given the choice of a loss: 40,000 people would die, *or* they could gamble that none of them would die with a 30% chance.

Users were influenced simply by the wording. This later became known as the framing effect. The effect helps to explain why people are much more likely to buy meat when it's labeled as 85% lean, instead of 15% fat. And it's why twice as many patients opt for surgery when told they have an 80% chance of surviving, instead of a 20% chance of dying.

As the experiment demonstrates, words have the power to selectively influence a user's perception of meaning. And, for most applications, words can also be used to elicit interactions.

SUMMING UP

Context is the barrier that makes or breaks a user's experience. Those unconscious moments, every bit of information we discard on our way up an emotional peak, all of those fine details — they all could potentially lead to a sensible, sympathetic experience. A enjoyable experience is shaped only by context.

Some people use context and design great experiences, some don't. Oliver Reichenstein calls it a continuum²². That's perfectly natural. We need to constantly make an effort to glance at the future once in a while — to permit ourselves educated dreams.

²². <http://ia.net/blog/learning-to-see/>

We need to permit ourselves to keep the vision going — from the ones whom we got it from, to the ones coming to get it. We all have the tools to do it. We just need to be responsible with them. 🍷

Efficiently Simplifying Navigation, Part 1: Information Architecture

BY ANASTASIOS KARAFILLIS 🍷

Navigation, as crucial as it is to the user experience, is merely a means to an end – the end being to consume content. This is why users have very contrasting expectations about content and navigation. While content is supposed to be unique, surprising and exciting, navigating to it is supposed to be as simple and predictable as possible.

This is a four-step guide to efficiently simplifying the navigation experience, by analyzing the type and amount of content as well as choosing and carefully designing the right type of navigation menu.

Four Steps To The Ideal Navigation System

To build a usable navigation system, a website designer has to answer four questions, in this particular order:

1. How do I best structure the content?
2. How do I best explain the navigational choices?
3. Which type of navigation menu is best suited to accommodate the choices?
4. How do I best design the navigation menu?

The first two questions concern the structuring and labeling of content, which is often referred to as information architecture. Information architects typically visualize the results of their efforts in a site map diagram.



A site map diagram gives an overview of the navigation structure of a website. (Large view²³, Image: Web Tuts²⁴)

However, for reasons that will be explained in detail during the course of this series, just providing a site map to navigate would not provide users with the best possible experience. Designing a custom navigation menu that properly accommodates, arranges and progressively discloses their options is also important, thus allowing users to comfortably find, browse and skip choices.

Designing such a navigation menu can be achieved by answering the third and fourth questions mentioned above, which refer to the interaction design of a navigation experience.

²³. <http://www.smashingmagazine.com/wp-content/uploads/2013/10/sitemap.jpg>

²⁴. <http://webtuts.byethost16.com/build-a-simple-sitemap-generator-with-php>

Structuring The Content

To properly structure the content of a website, first consider how users look for information, and then structure the content in a way that best aligns with those preferences.

HOW USERS LOOK FOR INFORMATION

When a user is looking for something — be it a car, recipe, financial service, item of clothing, news article, fitness exercise, entertainment video or any other item or piece of information — they may or may not know the exact name of what they're looking for. If we assume that users will always know the exact name of what they're looking for, then we could argue that the best way to take them there would be to provide them with a large A-to-Z index or simply have them type in a search field.

Of course, things are not that simple. As will be explained in more detail in part two, even if users always knew the exact name of what they're looking for, both an A-to-Z index and search have inherent interaction problems that make them inadequate as the primary or sole means of navigation. Moreover, users often do not know the exact name or do not even care about the item or its name; rather, they have a keyword or feature related to what they're looking for.

The first step to safely guiding users to the right content, then, is to aggregate and categorize the types of items on the website.

META DATA AS THE FOUNDATION OF A NAVIGATION SYSTEM

The information collected about an item or piece of content is typically referred to as meta data – that is, information about information.

Without getting into specifics, items may belong to distinct meta data categories, whether a category is the political focus of a news article, the display size of a monitor, the director of a video, the collar type of a shirt or the degree of difficulty of a fitness exercise. Of course, multiple items may also share categories, such as price, popularity and publication date.

Users could browse content via these meta data categories. However, as we will see, giving users every possible way to browse content is not necessary or even helpful. Doing so would at best clutter the interface and slow down and complicate the navigation process and, at worst, would confuse, tire and annoy users to the point that they simply abandon the website.

Carefully consider whether and at which stage to show categories to users.

THREE TYPES OF META DATA CATEGORIES

To decide whether and when to present a meta data category, divide your categories into three groups: crucial, optional and irrelevant.

The challenge of information architecture is that classifying a category as crucial, optional or irrelevant very much depends on the preferences of the target audience, the website's purpose and even the volume of content.

However, once you've settled on a proper categorization, a few simple rules will help you decide when to show which categories.

Crucial Categories

Crucial categories are ones that would be important to all targeted users. These categories are rare, but there seems to be at least one crucial category for every item, which simplifies both the work of the designer and the navigation experience for users.

DETERMINING CRUCIAL CATEGORIES

A small selection of meta data categories for recipes might be “course,” “main ingredient,” “special diet,” “occasion,” “cuisine” and “cooking time.” Of these categories, the only crucial one would be “course.” Not everyone is on a special diet and not every meal is a special occasion, but almost everyone on any given day separates their meals into appetizer, breakfast, main dish, side dish, salad, dessert, etc.

Because the course would be important to all targeted users, it should be the first category presented to them.

However, as mentioned, the target audience or website's purpose might affect the classification of categories, especially on niche websites.

Recipe Index



appetizers



beef



beverages



bread



breakfast and brunch



condiments



desserts



pizza and pasta



pork



poultry



salads and dressings



sandwiches and
burgers



seafood



side dishes and
vegetables



soups and stews

“Course” is a crucial meta data category for recipes.

(Image: Our Best Bites²⁵)

For example, “cuisine” would not be relevant to all users who visit a mainstream website about recipes. But if a website collects the best recipes from popular cuisines around the world, then “cuisine” could very well be a crucial category for the target audience, whether in addition to “course” or replacing it as the only crucial category. In any case, because “cuisine” is the main theme of the website, showing it first (instead of “course”) would be appropriate.

²⁵. <http://www.ourbestbites.com/category/recipe-index/>

Welcome to RecipesbyNation.com

Select recipes by Nation:



Niche websites have different crucial categories of meta data.

(Image: [Recipes by Nation](http://recipesbynation.com)²⁶)

ARRANGING CRUCIAL CATEGORIES

The examples above address only single crucial categories. However, a set of items might encompass multiple crucial categories.

Take apparel. One crucial category could be the type of clothing, such as “shirts,” “pants,” “shoes” and “sweaters.” Another crucial, and mutually exclusive, category would be gender, “men” and “women.” A third could be the occasion, such as “casual,” “work” and “dress.” We could have more crucial categories, but we’ll leave it at that.

The question, then, is how best to accommodate and resolve potential conflicts between multiple crucial categories.

At first, placing all crucial categories on the same top level might seem logical. After all, they are all crucial. However, the opposite should be done. Crucial categories are best implemented one after the other, on succeeding levels. To better understand this, let’s look at the information architecture of the website shown below.

²⁶. <http://recipesbynation.com>

A horizontal bar is often used to list the type of products that a website offers. (Image: [LL Bean](http://www.llbean.com/?nav=gn)²⁷)

A horizontal navigation bar lists the types of products available from LL Bean, such as “home accessories,” “hunting and fishing,” “outdoor gear,” “footwear” and “clothes.” However, the designers did something different for “clothes.” Clothes tend to fall into the categories of “men” and “women,” but rather than list a dozen types of clothes in the horizontal menu, the designers decided on a crucial category with fewer values. The user simply starts off with “men” and “women,” and then they get to see all of the types of apparel available in the drop-down menu, which allows for more options than the horizontal bar.

MEN'S	WOMEN'S	KIDS'	FOOTWEAR	OUTDOOR GEAR	HUNTING & FISHING	HOME
Shirts			Find It Fast		New Arrivals	
Sweaters			Jackets		Top Rated by Customers	
Pants			Flannel Shirts		Featured	
Jeans			Boots		▶ Traverse by L.L.Bean	
Outerwear			Pajamas		▶ Lined Clothing	
Footwear			Slippers		▶ Katahdin Iron Works	
Active Clothing			Turtlenecks		▶ Wrinkle-Resistant Clothing	
Accessories			Jeans		Outfits	
Sweatshirts			Chinos		▶ Favorite Fall Looks	
Sleepwear & Robes			Baselayers		▶ Festive Holiday Looks	
Long Underwear & Base Layer			Winter Hats		▶ Warm Winter Looks	
Shorts						

Using a crucial category with fewer values for the main navigation bar frees up space. (Image: LL Bean)

²⁷. <http://www.llbean.com/?nav=gn>

This presents a slight inconsistency in the information architecture, but the designers accepted it to free up space in the horizontal bar. The solution is fine as long as the inconsistency does not confuse users, which is unlikely in this case. However, placing the category “footwear” (which, understandably, distinguishes between footwear for “men” and “women”) on the same horizontal bar is not as sound a decision.

MEN'S	WOMEN'S	KIDS'	FOOTWEAR	OUTDOOR GEAR	HUNTING & FISHING	HOME
Men's Footwear			Find It Fast		New Arrivals	
Women's Footwear			Bean Boots		Top Rated by Customers	
Boys' Footwear			Wicked Good Slippers		Winter Boots	
Girls' Footwear			Foul Weather Footwear		Featured Brands	
Infants' & Toddlers' Footwear			Comfort Mocs		▶ Merrell	
Slippers			Running Shoes		▶ New Balance	
Socks & Accessories			Hiking Boots		▶ Keen	
			Hunting Boots		▶ Salomon	
			Rain Boots		▶ Teva	
			Insulated Boots		▶ Bogs	

Crucial categories should be presented one after the other, not next to one another. (Image: LL Bean)

The problem with this solution is that two crucial categories have been placed on the same level. Both “Footwear → For Men” and “Men → Footwear” are direct paths. However, because both categories are crucial, users have to look through both anyway. But because they are placed on the same level, users are asked to choose between them, which undermines the assumption that both categories are crucial. Thus, one of the above paths could be removed — probably “Footwear → Men.”

Optional Categories

If multiple crucial categories exist, then the number of items might not necessitate their inclusion. If a website has no more than a dozen clothing items, then the designer could simply have users choose whether to see all clothes for men or women and be done with it.

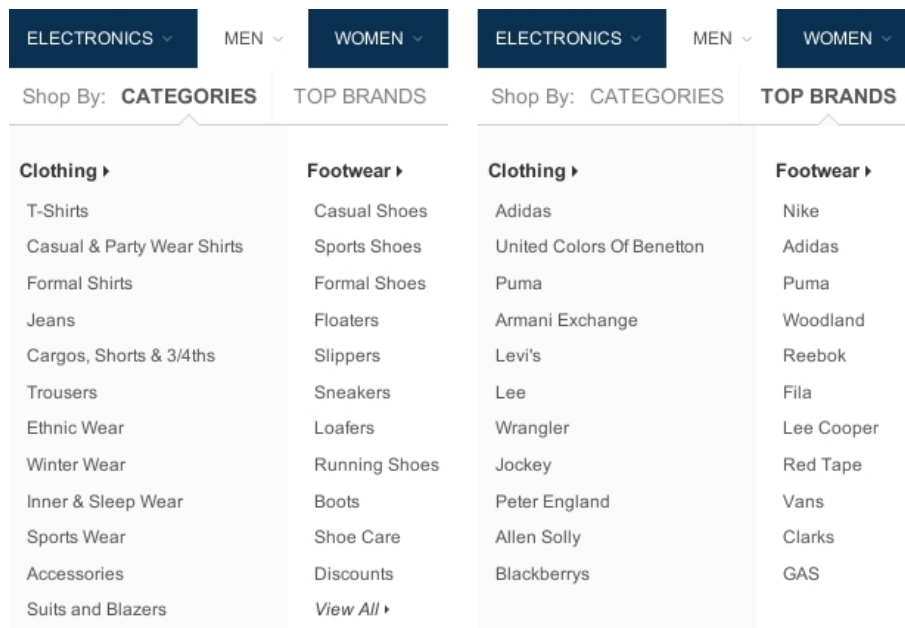
In many cases, though, the opposite happens. Even after all crucial categories have been exhausted, an abundance of items might still be left. So, additional categories would have to be introduced to allow users to further filter the content. This is where optional categories come into play.

Optional categories are important to some but not all users. For example, two meta data categories for “cars” could be “number of doors” and “fuel type.” Some people are fanatical about fuel type and couldn’t care less about the number of doors. Others feel exactly the opposite.

PRIORITIZING CRUCIAL OVER OPTIONAL CATEGORIES

As a rule, optional categories should be presented after users have gone through the crucial categories.

However, many retail websites, such as for fashion and electronics, list brands (an optional category) on the same level as the type of product (a crucial category).



*Crucial and optional categories should be shown on separate levels.
(Image: [Flipkart](http://www.flipkart.com/)²⁸)*

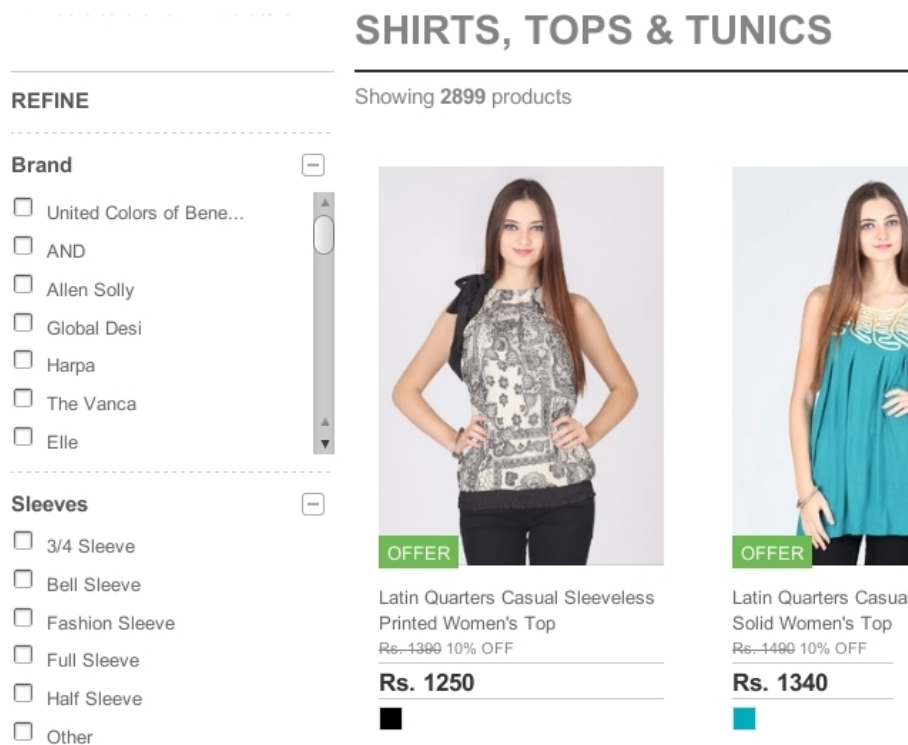
The problem with this approach is that if users select a brand on, say, a clothing website, they could be faced with hundreds or thousands of items, and they would still have to choose a type of clothing in order to narrow down the content. So, placing optional categories on the same level as crucial categories creates redundant paths, increases the complexity of choice and clutters the navigation.

Offering many filters is not bad. But rather than give users many navigational options at once from the outset, present them with a few crucial options first, and then, once they've exhausted those, introduce optional values.

Thus, in the example above, removing the brands from this level and having users select only a type of clothing

²⁸. <http://www.flipkart.com/>

first would be better. Then, on the next level, give users the option to select a brand.



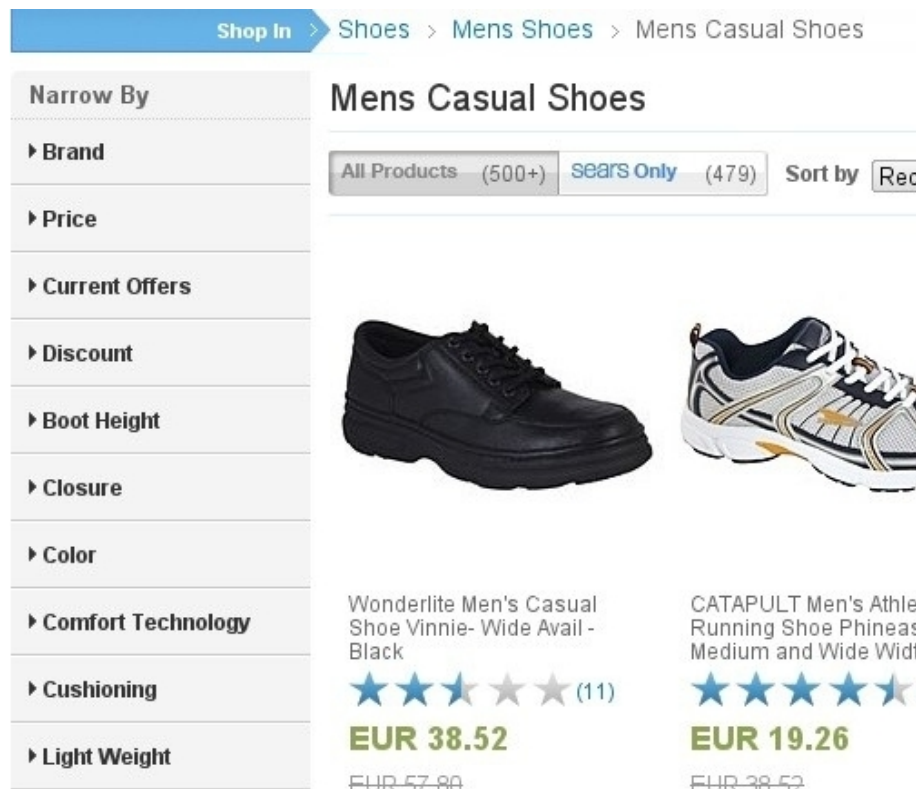
Optional values should be presented only after users have selected crucial values. (Image: Flipkart)

DYNAMIC FILTERS

As mentioned, crucial categories should be presented one by one on succeeding levels. Optional categories are best offered all on the same level.

The only exception is that if the optional categories are mutually exclusive, then they should be shown on the next level in the same menu as the crucial categories. If the optional categories will likely be combined, however, then they should be implemented as dynamic filters.

In the screenshot below, notice how Sears lists crucial categories in the breadcrumb trail, while optional categories are implemented as dynamic filters.



Optional categories that are likely to be combined should be implemented as dynamic filters. (Image: Sears²⁹)

This distinction between crucial and optional categories can be explained as follows. Every category is a filter to the available content, while dynamic filters are dynamic because they enable users to select and change multiple values on the fly. In contrast, in a traditional, levels-based navigation system, the user would have to move from one level to the next to select a value. If the categories are

²⁹. <http://www.sears.com/shoes-mens-shoes-mens-casual-shoes/b-1253483662>

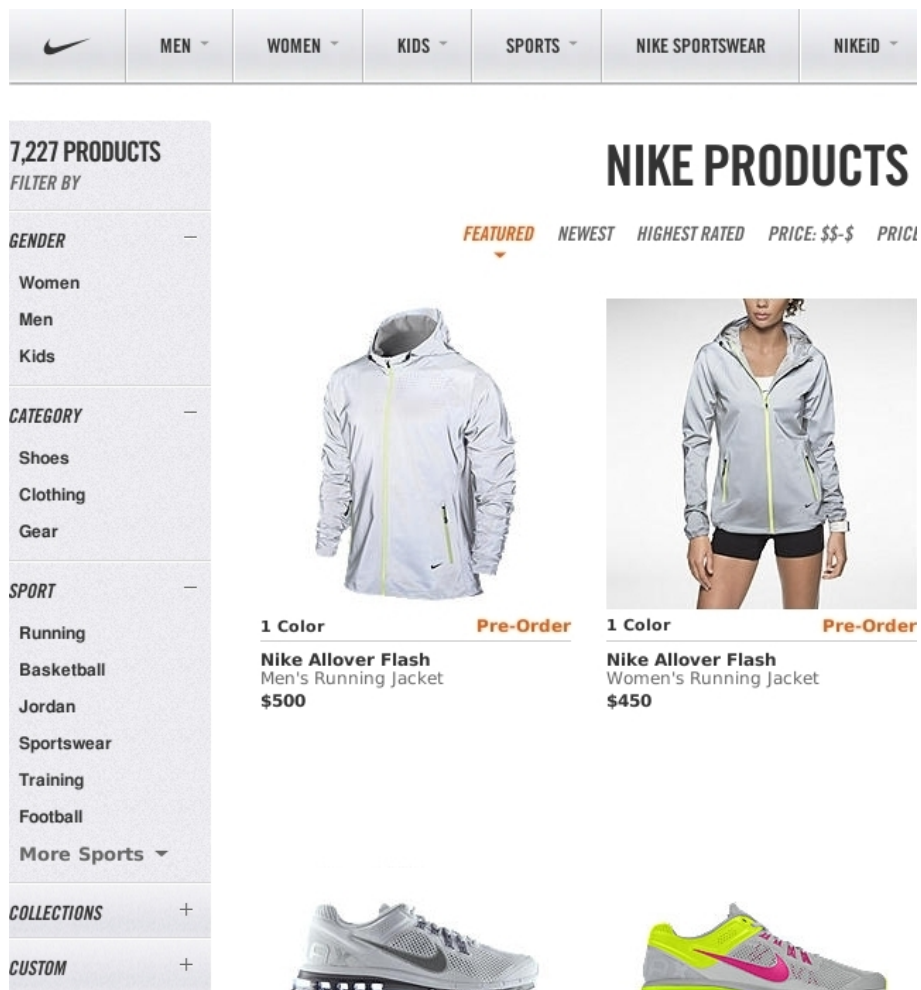
crucial, then this would not be a problem, as illustrated above. But with optional categories, the situation is different.

When a user is looking for a shirt, many optional meta data categories can play a role: “brand,” “collar type,” “sleeve length,” “fabric,” “pattern,” “pockets,” “discount,” “price,” “rating,” “popularity” and so on. Knowing exactly which of these many categories a given user would be interested in is difficult. Someone could be interested in none, a few or all of them.

Rather than send users through all of the optional categories, one after another, regardless of whether they are interested in them, the designer could provide a list of dynamic, optional filters on the same level. Thus, users would be able to select only the categories they like.

In contrast, consider the website shown on the next page, which does not distinguish as clearly between crucial and optional categories. Instead, it implements all categories as dynamic filters, including crucial categories.

This lack of distinction leads to a couple of problems. First, it takes up vertical space and pushes the other optional filters down, requiring the user to scroll more frequently to view and alter the values.



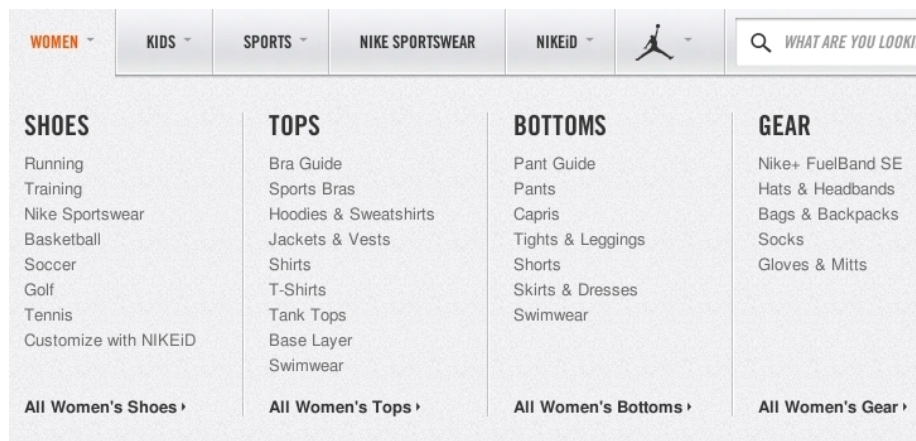
Crucial categories should not be implemented as dynamic filters.
(Image: Nike³⁰)

Secondly, a dynamic filter is known as a “heavy metal” widget: It’s powerful but a hog on resources. Whenever a user selects a single value, the list of results is refreshed to match. This makes sense for providing feedback, but it does not make the interaction any faster. The same result could be achieved much more quickly simply by having

30. http://store.nike.com/us/en_us/pw/womens-sportswear-shoes/7ptZbrkZc8e#/us/en_us/pw/n

users select the same crucial values from a traditional menu.

In fact, Nike's designers do provide such a menu, allowing us to test this assumption and to compare the speed and efficiency of both interaction models within the same interface.



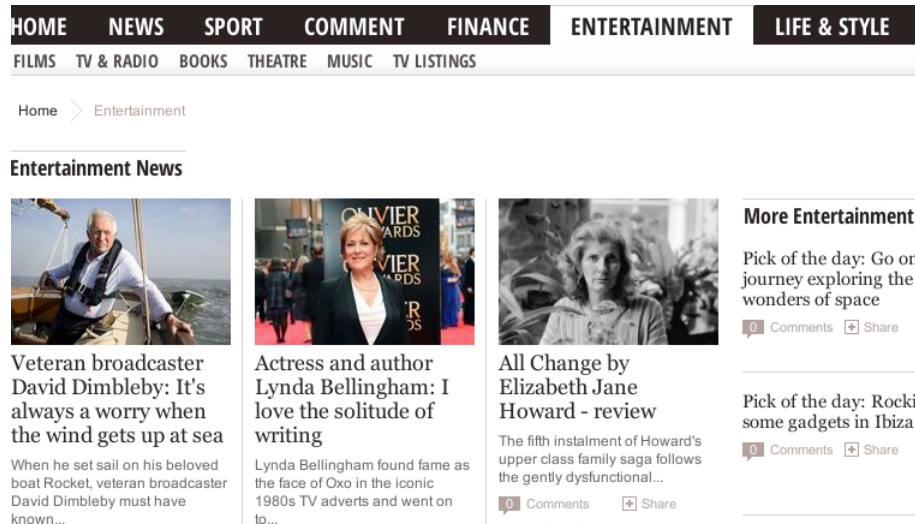
*Crucial categories are best implemented in a traditional navigation menu.
(Image: Nike)*

MUTUALLY EXCLUSIVE CATEGORIES

Dynamic filters are necessary only if the optional categories are likely to be combined. If the optional categories are mutually exclusive, then they should be implemented on the next level in the main navigation menu.

In the screenshot below, the Daily Express asks users a crucial question on the first level: to pick a topic of news, such as "finance," "entertainment" or "lifestyle." Then, on the main page of a selected section, users are given a digest of the latest news on that topic. Checking the three or four latest articles is all many users want to do. For

those who want to delve into a particular topic, subsections are listed below the first level.



Mutually exclusive optional categories are best implemented as an additional level in the main navigation menu. (Image: [Daily Express](http://www.express.co.uk/entertainment)³¹)

The subsections above can be regarded as mutually exclusive because an entertainment project is usually released either as a book or as a film or as a TV show, etc. Of course, combinations are possible; a book could be made into a movie or a stage play. But would users likely want to see a digest that matches these combinations? If so, then dynamic filters make sense.

Be aware that the answer to this question will depend less on the type of items than on the volume and diversity of items, as well as the particular interests of the target audience.

For example, users would probably not look for a breakfast recipe that is Chinese and low fat and

³¹. <http://www.express.co.uk/entertainment>

Christmas-themed. Rather, they would look for a breakfast that is either Chinese or low fat or Christmas-themed. So, optional recipe categories are unlikely to be combined in general. However, if a website has thousands of recipes and the targeted audience has very particular preferences, then giving them the more powerful dynamic filters would be helpful.

SEARCH RECIPES:

1 to 10 of 2,908 results

Breakfast & Brunch

Top Recipes

Community Picks

Popular

Newest Recipes

Contest Winners


DISH TYPE

MAIN INGREDIENT

SEASON

HOLIDAYS

OTHER




Cinnamon Sugar Breakfast Puffs

added by fiveandspice about 2 years ago

+ SAVE 5166

CONTEST WINNER!

140k views | 223 comments



Salvadoran Breakfast Cake (a.k.a. Quesadillas)

added by Sasha (Global Table Adventure) over 2 years ago

+ SAVE 2331

CONTEST WINNER!

63k views | 144 comments

A large and diverse amount of content as well as particular user interests could warrant dynamic filters. (Image: Food52³²)

Finally, consider a third group of meta data categories.

Irrelevant Categories

Irrelevant categories are categories by which no targeted user would likely want to browse the content. However,

³². <http://food52.com/recipes>

these categories are not irrelevant to the overall user experience.

Two meta data categories for a collection of articles could be “word count” and “image count.” If these categories were implemented as columns in a database, a content strategist could examine the values in these categories and conclude that most articles are too long and lack images, which could be a reason why many users abandon the website before they finish reading the articles. The content strategist could then discuss this matter with the designer or client, which could lead to improved content. Yet, while these categories might yield valuable information for the designer, users would likely not want to browse the articles by “word count” or “image count.”

In short, irrelevant categories should not appear on the website. They would be ignored, would clutter the interface and might even confuse users. The sheer volume of items, though, could turn an irrelevant category into an optional one.

For example, “word count” would usually be an irrelevant category by which to browse articles. But the website shown below has amassed so many articles over the years that the designers thought it necessary to add article length as an optional way for users to filter the content.

Refine By:

Section

- Business (788)
- Cover Story (636)
- Covers (31)
- ▣ More...

Author

- Calabresi, Massimo (66)
- Cohen, Adam (130)
- Lacayo, Richard (127)
- Pellegrini, Frank (96)
- Tumulty, Karen (64)
- More »

Article Length

- Long (3,764)
- Medium (5,339)
- Short (5,293)
- All Articles (14,328)

1-15 of 14,407 results

Page: [1](#) [2](#) [3](#) [4](#) [5](#) [Next »](#)

Sort by: **Relevance** | [Newest](#) | [Oldest](#)

Topic: Supreme Court

High Court Rejects Calif. Inmate Crowding Appeal

By AP Oct 15, 2013

(SACRAMENTO, Calif.) — The Supreme Court on Tuesday rejected California's appeal of a lower-court order that could force the state to release thousands of California prison inmates before they complete their sentences. The justices did not comment on their order, which leaves in place the earlier ruling by a panel of...

Louisiana High Court Strikes Down Immigrant Driver Law

By AP Oct 16, 2013

(NEW ORLEANS) — The Louisiana Supreme Court has struck down a state law that made it a crime for people who aren't U.S. citizens to drive here without carrying proof of their immigration status. The divided court ruled Tuesday that the state law is pre-empted by a federal law that imposes

Sheer volume could turn an irrelevant meta data category into an optional one. (Image: [Time](#)³³)

The websites above that showcase recipes or apparel are suitable for explaining the subtleties and importance of prioritizing categories, because they typically require many meta data categories. But they do not illustrate one problem that most designers have to face at some point, especially when designing for a corporation.

Corporate Product Categorization

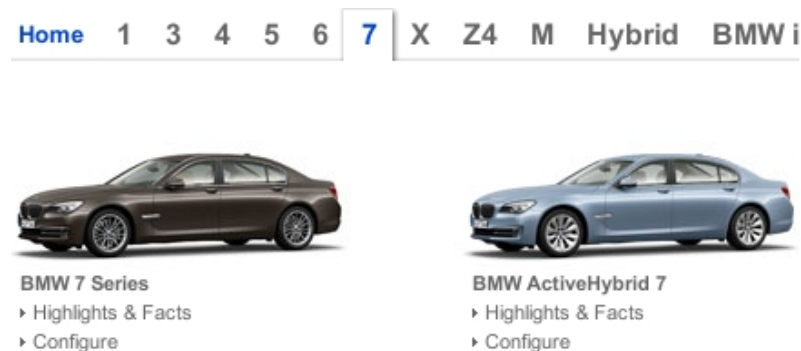
Most recipe websites collect recipes indiscriminately and then leave it to the designer to categorize them. But corporations often have their own internal way of categorizing products. This can lead to conflicting needs.

Consider first a crucial meta data category for cars. You would have a category based on size or lifestyle, with

³³. <http://search.time.com/results.html?Ntt=supreme+court&N=0&Nty=1&p=0&cmd=tags&x=0&y=0>

values such as “compact,” “wagon,” “sports car,” “sedan,” “limousine” and so on. This category is crucial because every type of car caters to a particular lifestyle, one that is important to almost everyone who drives a car. A compact, for instance, is small, cheap, easy to drive and easy to park in the city. A wagon has a lot of trunk space, well suited to families. A sports car caters to another distinct lifestyle. And so on.

Yet, many car companies categorize their models in their own way. BMW, pictured below, follows a number-based classification scheme (1, 3, 5, 7, etc.).



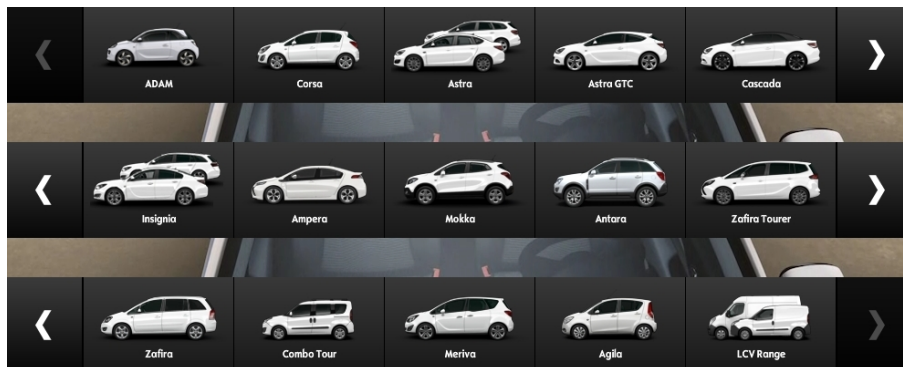
Sometimes, a corporation's categorization works well. (Image: [BMW](http://www.bmw.com/com/en/)³⁴)

While a corporation's internal classification schemes can cause usability problems, BMW's scheme actually makes the information architecture more usable. Despite being corporate, the scheme is quite well known to the general public, and the numbers progress logically according to car size, more or less in line with the common scheme of classifying cars as compacts, sedans, limousines, etc. In

³⁴. <http://www.bmw.com/com/en/>

this case, anything other than the corporation's categorization might alienate, rather than help, users.

This next example is not as straightforward. Opel likewise lists its car models according to its own internal naming convention.



*Internal categorization is not always obvious to external users.
(Image: Opel³⁵)*

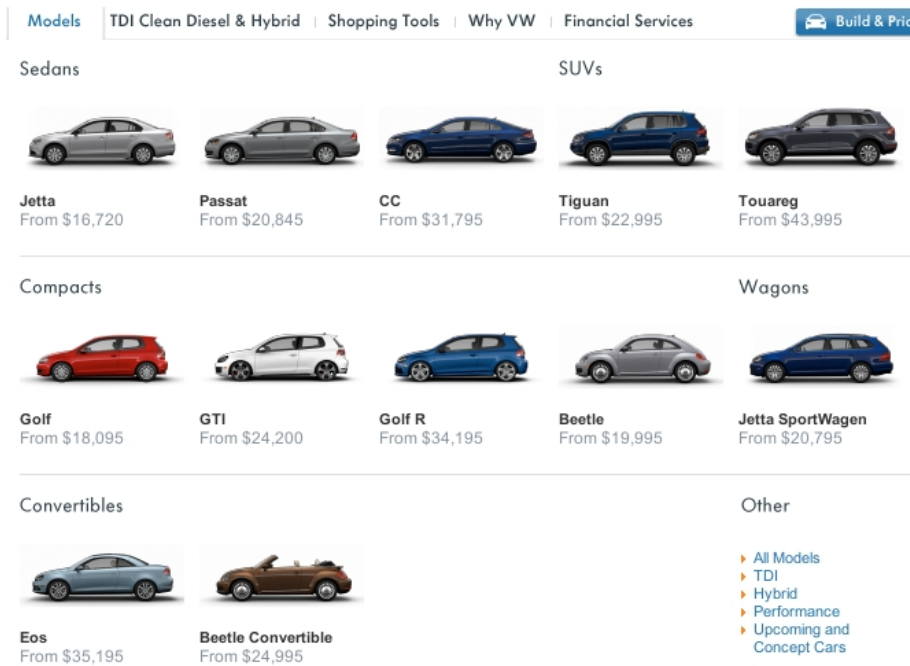
The problem is that the structure of this product line-up is not clear, and it is not made easier by the fact that users have to interact with a slider to see all of the models (although this problem relates more to interaction). Users have no easy way to understand how the products relate to each other and, thus, have no easy way to filter them according to preference.

If the categorization scheme does not work well for users, then a familiar external one must take precedence over the internal one.

Notice how Volkswagen (below) has its own way of naming and categorizing car models: “Jetta,” “Passat,”

³⁵. <http://www.opel.com/vehicles-and-services/opel-range.html>

“Touareg,” etc. But the company prioritizes a common external categorization scheme over its corporate one. The result is a menu that is easy to understand and that enables users to focus on the part of the line-up that they’re interested in.



Prioritizing a common categorization scheme over a corporate one can make a navigation menu easier to understand. (Image: Volkswagen³⁶)

Of course, a client might not like to see their corporate classification scheme relegated to second place. However, as the information architect who has been hired to make the content on the website easily accessible, you are responsible to communicate this necessity to the client.

³⁶. <http://www.vw.com/en.html>

Explaining Navigation Options

Structuring the navigation options according to user preference is an important step in simplifying the information architecture of a website. But if users cannot understand their options in the first place, then even the most sophisticated structure will be in vain. So, take a moment to consider how best to explain the navigation options.

Give users only as much information as they need to understand their options. Anything more risks tiring them, cluttering the interface and slowing navigation, even to the point of abandonment.

Don't give them too little information either. If users have to guess where links point to and then are disappointed by where they end up, they will soon lose confidence in the interface and leave the website.

Designers can choose from three methods to explain navigation options:

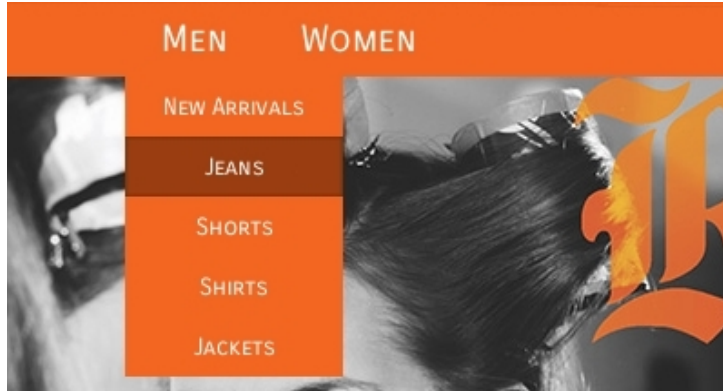
1. labels;
2. labels and pictures;
3. labels, pictures and descriptions.

To choose the right method, assess how familiar the labels are to the target audience.

LABELS

If the labels you would use are very familiar, then they alone will suffice. Large pictures and long descriptions

are not necessary to explain what “jeans,” “shorts,” “shirts” and “jackets” are.



Labels suffice for familiar items. (Image: [Rock Revival](http://rockrevival.com)³⁷)

While keeping labels short is commendable, brevity should not be achieved at the cost of clarity. Acronyms and jargon, such as UX and BMI (body mass index), could work as long as the target audience is familiar and comfortable with them.

Sometimes, though, a term alone may be clear but the context in which it appears makes it ambiguous. Many websites of large organizations contain persistent horizontal navigation that points to aspects of the organization's main work as well as context-sensitive vertical navigation that points to sub-departments. This can lead to duplicate labels. The University of Bath (pictured on the next page), includes the label “Research” in the global horizontal menu at the top and in the narrower vertical menu on the left.

³⁷. <http://rockrevival.com>

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- › 100% student satisfaction for all undergraduate programmes (National Student Survey 2012)
- › Number 1 for Architecture (Complete University Guide 2014)
- › Number 1 for teaching satisfaction - Architecture (Guardian University guide 2014)
- › 2nd for Civil Engineering (Complete University

Large organizations with many sub-departments are prone to duplicate labels. (Image: [University of Bath](http://www.bath.ac.uk/ace/)³⁸)

While this could confuse users, careful design will avoid ambiguity. In the screenshot above, the menu heading “Explore the Department” is a good hint that the “Research” label below it refers to the department, not to the university as a whole. To be absolutely sure, we could lengthen the label from “About Us” to, say, “About This Department.”

Another way to give labels context is by adding numbers that indicate how many items are in a given category.

³⁸. <http://www.bath.ac.uk/ace/>



In some menus, the number of items in a category is displayed with the label. (Image: BJ's³⁹)

These numbers are frequently included as values in dynamic filters.

While many users like seeing such figures, consider carefully when to actually show them. For instance, guessing how much content a website has just by looking at the home page is usually difficult. So, explicitly showing how much it has could win over users, because they would think, “Surely, this website has something for me.”

³⁹. <http://www.bjs.com/electronics.category.160.2002336>

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Type [see all](#)

- ☐ Tablet (20,741)
- ☐ eBook Reader (2,761)
- ☐ Tablet/Laptop Convertible (181)
- ☐ Not Specified (5,646)

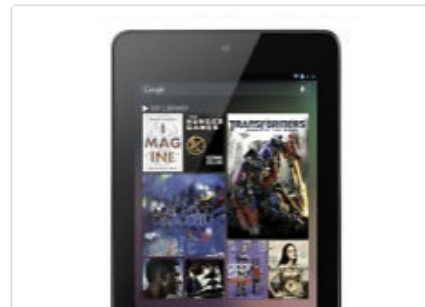
Brand [see all](#)

- ☐ Amazon (2,100)
- ☐ Apple (5,644)
- ☐ ASUS (1,974)
- ☐ Barnes & Noble (1,116)
- ☐ Samsung (2,595)

Product Line [see all](#)

- ☐ Galaxy Tab (1,551)
- ☐ iPad 1st Generation (887)
- ☐ iPad 2 (1,454)
- ☐ iPad 3rd Generation (1,126)
- ☐ iPad mini (1,162)

30,154 results in iPads, Tablets & eBook



In many interfaces with dynamic filters, the number of items in a category is displayed with the value. (Image: [eBay](#)⁴⁰)

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Jeff Duffell with Josh Sides

Quantifying the volume of content on the home page can persuade users. (Image: [O'Reilly](#)⁴¹)

⁴⁰. <http://www.ebay.com/sch/iPads-Tablets-eBook-Readers-/171485/i.html>

⁴¹. <http://shop.oreilly.com>

Of course, you probably wouldn't want to disclose such a figure if your website does not have much content yet.

Likewise, when a user is browsing categories and is interested in a certain topic, they will want to explore the relevant category even if it has few items and even if another, less relevant category contains more items. If anything, displaying numbers at this point would slow down the browsing and clutter the interface.

[Home](#) > [Browse Topic](#)

Technology [27]

Biotechnology [4]

Genetic engineering [7]

Buildings (Structures) [40]

Commercial buildings [1]

Farm buildings [3]

Furnishings [12]

Heritage buildings [11]

Housing [18]

Lighthouses [1]

Multistorey buildings [1]

Opera houses [1]

Prisons [2]

Pyramids [1]

Religious buildings [9]

Rooms [11]

School buildings [7]

Sporting venues [2]

Engineering [18]

Aeronautics [29]

Building (Engineering) [4]

Chemical engineering [1]

Civil engineering [5]

Electronics [7]

Ergonomics [12]

Power generation [25]

Tools [14]

Food technology [2]

Food processing [3]

Genetically engineered food [3]

Industrial arts

Cabinetmaking [1]

Carpentry [1]

Materials [59]

Woodwork [3]

Machinery [23]

Agricultural machinery [7]

Automatic machinery [2]

Brakes [10]

Construction equipment [1]

Engines [7]

Gears [8]

Generators [19]

Levers [1]

Pendulums [1]

Pulleys [5]

Pumps [1]

Refrigeration [1]

Wheels [13]

Manufacturing [29]

Manufacturing processes [20]

Materials [59]

Packaging [19]

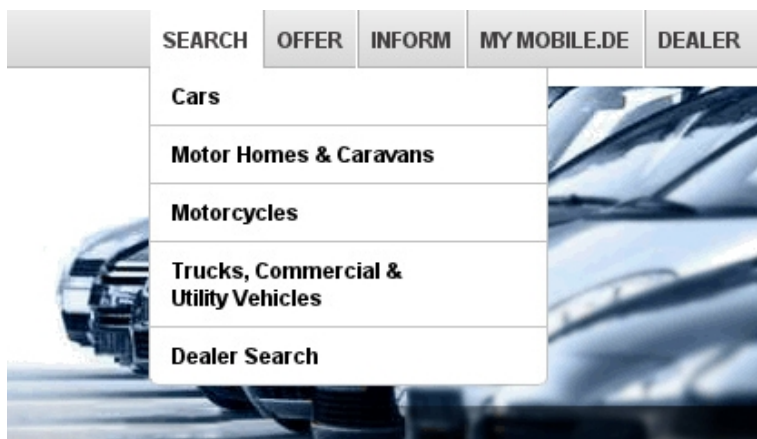
*In certain situations, statistics can impede users. (Image: [Digistore](#),
[Ministry of Education, New Zealand](#)⁴²)*

The same goes for dynamic filters. Would users select a category according to the number of items it contains? If so, then displaying the numbers makes sense. If not, then the only kind of feedback you should give is to gray out or remove values that have zero items.

⁴². <http://digistore.tki.org.nz/ec/browse?topic=Technology>

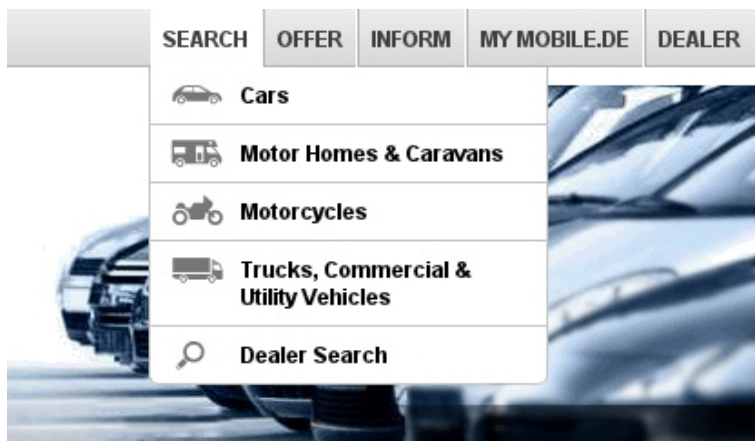
Otherwise, once users have selected a category, displaying the number of items in that category or, in the case of dynamic filters, displaying the number of items that match the selected values is useful information.

Icons are another type of element that is sometimes appended to labels. When well crafted and recognizable, they can be a very useful addition. While not necessary to explain the user's options, icons makes it easier to process and distinguish between the options. In the screenshot below, I've removed the icons from the menu entries. Notice how the labels are still enough to explain the options. Everyone knows what "cars," "motor homes," "motorcycles" and "trucks" are.



Labels alone very often suffice but take longer to process.

However, putting icons next to labels makes it easier for the user to recognize and distinguish between the options.



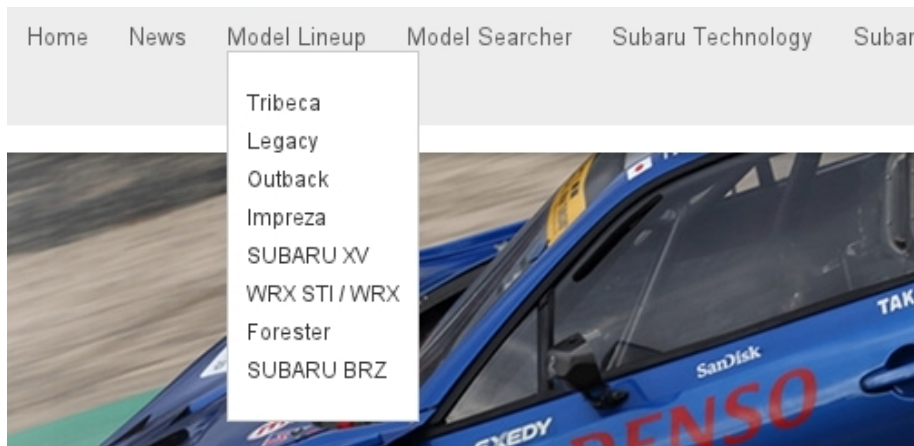
*Icons make it easier to process and distinguish between options.
(Image: [Mobile.de](http://mobile.de)⁴³)*

Icons alone can cause confusion, though. Even if an icon is familiar, users might be uncertain about what it represents in a particular context.

LABELS AND PICTURES

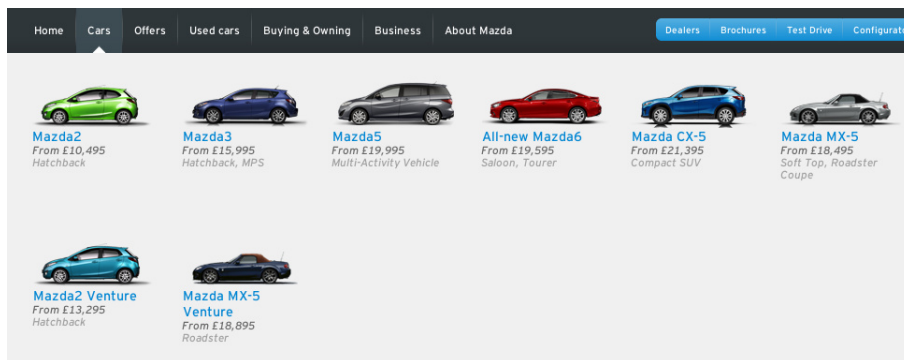
Labels and icons work well for familiar items. For less common ones, images are required. Consider brand names. In the screenshot below, car models are represented as plain text in the menu.

⁴³. <http://mobile.de>



*Brand names require more than just labels to be understood.
(Image: [Subaru](http://www.subaru-global.com/home.html)⁴⁴)*

However, I don't know what a "Tribeca" or "Legacy" is. So, the labels are not enough to help me decide which product to explore. Labels with pictures, as shown below, are a better solution.



*Labels and pictures are a better way to explain unfamiliar terms.
(Image: [Mazda](http://mazda.co.uk)⁴⁵)*

⁴⁴. <http://www.subaru-global.com/home.html>

⁴⁵. <http://mazda.co.uk>

When to use pictures or icons in navigation menus is an interesting question. Obviously, to explain a very specific item, such as “13-inch Macbook Pro” or “Samsung Galaxy Note 3,” nothing but an actual picture of the product will do.

Explaining a product category is not as simple. In some menus, the categories are explained with icons.



In some menus, icons are used to explain categories. (Image: Flipkart)

In other menus, those same categories are explained with pictures of actual products in those categories.



In some menus, pictures of actual products are used to explain the categories. (Image: Target⁴⁶)

⁴⁶. http://www.target.com/c/electronics/-/N-5xtg6#?lnk=gnav_electronics_7_0

For product categories, icons are more appropriate than pictures. A well-drawn icon makes a menu look much more professional than a recycled picture of a product.

Also, using a picture of an actual product to represent a category could raise questions among users, subconsciously. “Why does this particular product represent this category?” “Is this the best they have?” “Does the range of products center on this particular kind of item?” “If I am not looking for this kind of item, then is this not a good website for me?” These apprehensions would be reinforced if the first items they see in a category are very similar to the one they saw in the menu. An icon, by contrast, simply communicates that a category contains a certain kind of product, nothing more, nothing less.

The trick with icons, though, is that they have to be of a certain standard. An icon can easily look amateurish if not drawn well. And if it is not readily recognizable, it could even confuse users. So, while icons are better suited for product categories, if you’re not confident that you can make them professional and recognizable, then you’re better off with pictures.

LABELS AND PICTURES AND DESCRIPTIONS

Sometimes, even labels and pictures are not enough to explain products. Service providers with complex solutions, such as banks, insurance brokers and ISPs, often give their products names like “50 Plus” and “Web on the Go.” A large picture of a married couple talking to a broker or a girl talking on her smartphone might not be enough to indicate the service being offered. For such products, a

description of a couple of lines and a label and picture are most helpful.



Complicated products might require labels, pictures and descriptions to be understood. (Image: [Naspa](http://www.naspa.de/internet_center/geldanlage.html)⁴⁷)

Headlines and titles of articles are a different kind of label that may or may not require accompanying images and descriptions.

Many authors suggest front-loading headlines with key information and keeping them as short as possible⁴⁸.

While the headlines below are short and to the point, this style of writing has its risks and is not appropriate for every website.

⁴⁷. http://www.naspa.de/internet_center/geldanlage.html

⁴⁸. <http://www.nngroup.com/articles/worlds-best-headlines-bbc-news/>

Merkel starts German coalition talks

Pope asks Church to focus on poverty

EU envoys call for Tymoshenko pardon

Swiss regulator starts forex probe

Irish senate referendum underway

A common recommendation is to keep headlines short and to front-load them with key information. (Image: BBC⁴⁹)

The first question is whether and how to write descriptions. The BBC's headlines are actually accompanied by descriptions, but I removed them in the picture above to isolate the headlines. The shot on the next page restores the descriptions, which you'll notice are basically verbose rewordings of the headlines, without substantially new information.

If headlines are supposed to be packed with key information, as they are in the image on the next page, then descriptions would not be required. If anything, users would be slowed down by reading them because they could just as well have navigated to an article after reading only the headline.

However, showing headlines alone or writing headlines in that style is not always best or even advisable. If an article is merely a short news report about an event, then a headline such as the BBC's is a good choice. But if an article goes into more detail, then a headline, picture and description could be more effective and engaging.

⁴⁹. <http://mobile.bbc.co.uk/news/world/europe>

Merkel starts German coalition talks

4 October 2013

Talks on forming a new German coalition between Chancellor Angela Merkel's conservatives and the social democrats are under way in Berlin.

Pope asks Church to focus on poverty

4 October 2013

During a visit to Assisi, Pope Francis says the Roman Catholic Church should focus more on helping people out of poverty.

EU envoys call for Tymoshenko pardon

4 October 2013

EU envoys formally ask for the Ukrainian opposition leader, Yulia Tymoshenko, to be pardoned, her lawyer says.

Swiss regulator starts forex probe

4 October 2013

Switzerland's financial regulator is investigating possible manipulation of foreign exchange rates at several Swiss financial institutions.

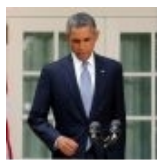
Irish senate referendum underway

4 October 2013

Voting is underway in a referendum on whether to retain the Senate in the Republic of Ireland.

Descriptions should contain information not already conveyed by the headlines. (Image: BBC)

The headline in the screenshot below is more catchy than informative, while the key information is delivered in the couple of lines below. Also, a picture has been added to set the tone of the article.



Sept. 2, 2013

Obama melodrama

by Mindy Belz

SYRIA | The president's latest turnabout on Syria may suggest cracks in U.S. intelligence

Labels, pictures and descriptions are often the best way to explain in-depth news articles. (Image: [World](#)⁵⁰)

Understanding what this article is about from the snippet is not hard. Moreover, by using the headline as an efficient attention-grabber and the descriptions to explain the article and the picture to set the tone, the entire snippet gives the author much more room not only to inform the user but also to convey the perspective of the article.

Finally, consider advice often given about headlines, which is to write them so that they are easy to understand outside of the context of the website. After all, a headline can appear in search engine results, in social media and in other articles. Some authors even go so far as to devise formulas for this purpose.

Form Field Usability: Avoid Multi-Column Layouts

CONTEXT

SPARK INTEREST

Many authors try to write headlines that are understandable beyond the original website. (Image: [Baymard Institute](#)⁵¹)

⁵⁰. http://www.worldmag.com/section/lead_stories/

Just be careful not to create redundant information when adding context to a headline.

The headline pictured on the previous page does not provide enough context because the website is about Web design, and multi-column layouts could play a role in home pages, menus, articles and more, not just in forms. So, “Form Field Usability” primarily adds context within the original website. Writing for outside context is not always necessary, though, because other people who refer to the headline will be eager to provide their own context.

Search engine developers know that users will eventually abandon them if search results do not meet the users’ expectations. So, they constantly work on increasing the relevance and success rate of their results, whether by adding rich snippets, pictures or previews or simply by improving their algorithms – that is, by adding context. Likewise, if a headline were to appear in the “recommended reading” section of another article, that article would provide the necessary context. Finally, in social media, a headline shared by a person or brand that someone follows is unlikely to be seen as ambiguous.

In Sum

Information architecture – that is, the structure and labeling of content – is the foundation of usable navigation. Designers can efficiently simplify a website’s information architecture by structuring content in a way that

51. <http://baymard.com/blog/copywriting-useful-yet-intriguing-headlines>

naturally narrows and supplements the navigation options of the target audience, as well as by explaining those options in a way that minimizes the cognitive load on users.

The recommendations given in this chapter can be summarized by the following two lists, broken down into “structuring content” and “labeling items.”

STRUCTURING CONTENT

1. Collect and categorize meta data about the type of items you want users to navigate to.
2. Group the meta data categories as crucial, optional or irrelevant. Crucial categories are important to all, optional categories are important to some, and irrelevant categories are important to no targeted users.
3. Present only a single crucial category, with its values, on the first level.
4. If the items on the second level do not exceed a certain amount, then additional categories are not necessary. Otherwise, offer the next crucial category, one by one, on each subsequent level.
5. After exhausting all crucial categories, present a page that lists all items that match the user’s selection to that point.
6. If the remaining items still exceed a certain amount, then present optional categories all on the same level.

7. If the optional categories are mutually exclusive, implement them on an additional level. If the optional categories are likely to be combined, implement them as dynamic filters.

LABELING ITEMS

- If the label for an item is familiar, it will suffice by itself. Keep labels as short as possible, without sacrificing clarity. Present the total number of items on the home page and on the category page, but not in between. Consider icons, too, which make it easier to process and distinguish between the options.
- If the labels are not familiar, consider adding pictures. Use icons to explain categories, but only if the icons are well drawn and recognizable. Otherwise, use pictures.
- For complicated services and products, consider adding pictures and descriptions to the labels. The descriptions should provide genuinely new information and not just reword the labels. Also, be careful not to create redundant information when adding context to a headline.

Once you've simplified the architecture, users should be able to interact with the choices to their satisfaction. Thus, you will also have to design a navigation menu that accommodates the choices and that makes the interaction comfortable. The process of designing navigation menus will be discussed in part two of this series.

FURTHER READING

You might be interested in the following resources:

- [“Information Architecture 101: Techniques and Best Practices⁵²,”](#) Cameron Chapman, Six Revisions
- [“Classification Schemes \(And When to Use Them\)⁵³,”](#) Donna Spencer UX Booth
- [“Information Architecture for News Websites⁵⁴,”](#) Stijn Debrouwere
A series of six articles.
- [“Designing for Mobile, Part 1: Information Architecture⁵⁵,”](#) Elaine McVicar UX Booth
- [“The Elements of Navigation⁵⁶,”](#) Petter Silfver, Smashing Magazine
A guide to simplifying and testing labels and icons.
- [Smashing Magazine icon packs⁵⁷](#) 🐼

⁵². <http://sixrevisions.com/usabilityaccessibility/information-architecture-101-techniques-and-best-practices/>

⁵³. <http://www.uxbooth.com/articles/classification-schemes-and-when-to-use-them/>

⁵⁴. <http://stdout.be/2010/04/06/information-architecture-for-news-websites/>

⁵⁵. <http://www.uxbooth.com/articles/designing-for-mobile-part-1-information-architecture/>

⁵⁶. <http://www.smashingmagazine.com/2012/03/20/the-elements-of-navigation/>

⁵⁷. <http://smashingmagazine.com/tag/icons/>

Efficiently Simplifying Navigation, Part 2: Navigation Systems

BY ANASTASIOS KARAFILLIS 🍷

How do we make navigation as simple and predictable as possible? As explained in part 1, the first two steps are to structure content in a way that naturally narrows the navigation options, and to explain those options in a way that minimizes the cognitive load on users.

However, two more steps are required — namely, to choose the right type of navigation menu, and then to design it. The second part of this series addresses the third step and discusses which type of navigation menu is best suited to which content.

A navigation menu is any area of an interface that presents navigation options to enable users to find content on the website. This excludes, for example, articles and product pages, which might contain hyperlinks but whose main purpose is consumption, not navigation.

A common distinction in navigation models is between a primary, traditional navigation system and secondary, alternate navigation models. Exactly defining this distinction is difficult. One could say that traditional navigation requires users mainly to click or hover in order to select or browse meta-data categories, while alternate navigation lacks at least one of these aspects.

Traditional Navigation Menus

There are five types of traditional navigation menus or widgets, which can be ordered from simplest to most complex:

1. Menu bar
2. Regular drop-down menu
3. Mega-menu
4. Separate page
5. Dynamic filters

While sophisticated hybrid solutions are possible and do exist, all hybrid navigation can be broken down into the five menu types above. The question now, of course, is when to use which type of menu.

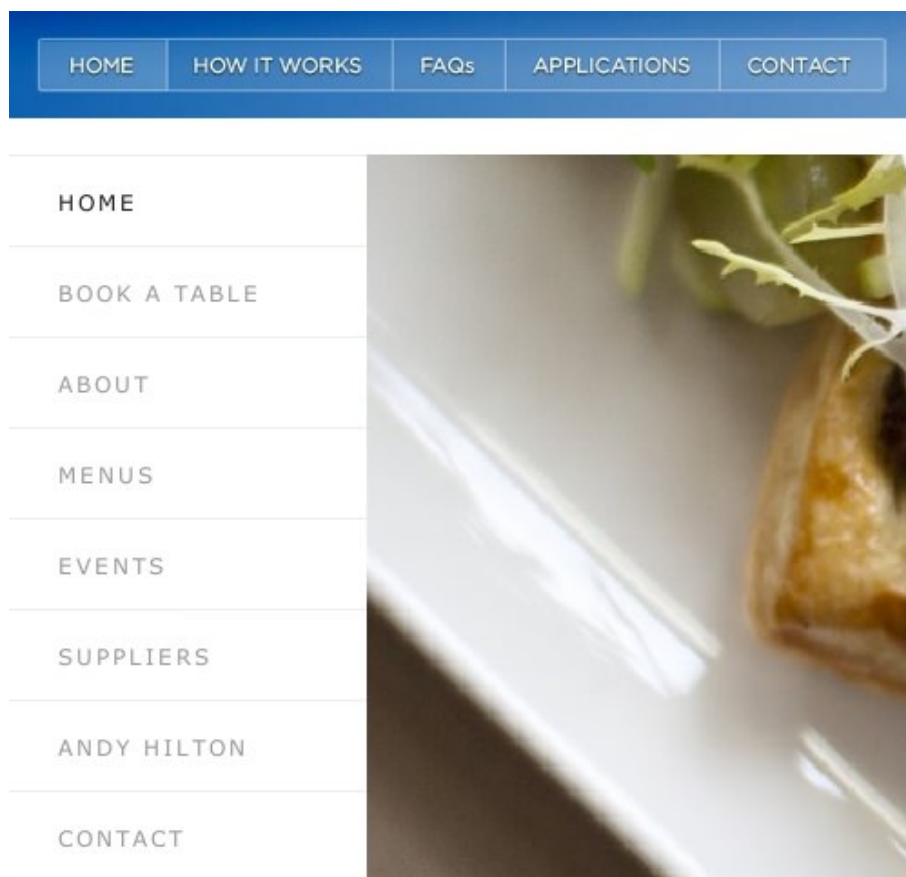
As explained in part 1, designers use three methods to explain navigational choices: text, text and pictures, and text, pictures and descriptions. To minimize the cognitive load on users, designers should use just enough information as the target audience needs to understand their options.

With that in mind, the following rule of thumb will help you decide when to use which type of navigation menu: The fewer the options are and the less information that is necessary to explain them, the simpler the navigation should be.

To better understand why certain widgets are easier to use and when exactly to choose one over the other, let's take a closer look at the five menu types.

MENU BAR

Almost every website has a persistent horizontal or vertical bar to accommodate its top-level categories.



The first and most basic navigation anchor – a horizontal or vertical bar of links. (Large view⁵⁸, Image source: top: Sharify⁵⁹, bottom: Arbor Restaurant⁶⁰)

⁵⁸. <http://www.smashingmagazine.com/wp-content/uploads/2014/04/01-navigation-bar.jpg>

⁵⁹. <http://sharify.it>

Recommendation

The most important or most frequently accessed items or categories should go in the navigation bar.

Explanation

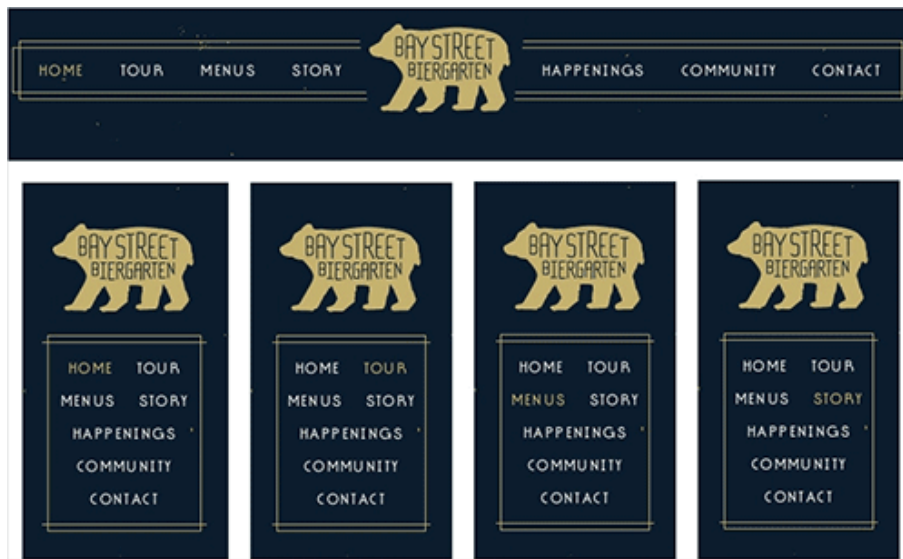
A navigation bar is the simplest type of navigation. The items or categories in a navigation bar are globally and directly visible and accessible. By contrast, users have to hover over a drop-down menu or wait for a separate page to load in order to access the options they contain.

Problems

As soon as the navigation bar (whether horizontal or vertical) takes on more than just a handful of items, and depending on the screen's width and orientation, it will take up space that could be used more efficiently to present the main content.

In the screenshot below, notice that the horizontal navigation works well, as long as it takes up only a single row. To accommodate it on a smaller screen, the designers chose to stack the navigation items into rows. This, however, pushes the main content down, requiring users to scroll more.

60. <http://www.arbor-restaurant.co.uk/>



Multiple rows of navigation make it more difficult to access the content.
 (Large view⁶¹, Image source: Bay Street Biergarten⁶²)

On a wide screen, a vertical navigation bar allows for more menu items, but it has another downside. It takes up horizontal space that could be used to more efficiently present the main content on a wide screen, whether an article, a video or product information. In the pictures on the next page, I've mocked up a layout to compare the effect.

This is why drop-down and fly-out menus are better suited to many items. They present the additional items only when requested but stay out of the way otherwise, thus giving the content center stage.

⁶¹. <http://www.smashingmagazine.com/wp-content/uploads/2014/04/02-navigation-stack.jpg>

⁶². <http://baystreetbiergarten.com/>



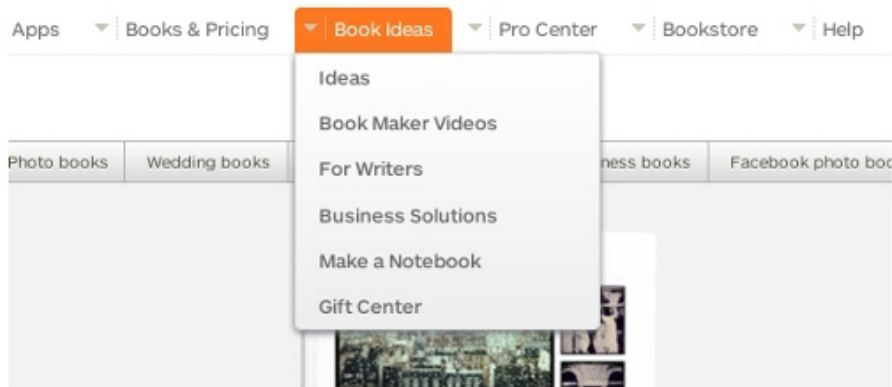
Vertical navigation can hamper the presentation of content on wide screens. (Large view⁶³, Adapted from: Bay Street Biergarten⁶⁴)

⁶³. http://www.smashingmagazine.com/wp-content/uploads/2014/04/03-navigation_bar.jpg

⁶⁴. <http://baystreetbiergarten.com/>

REGULAR DROP-DOWN MENUS

A drop-down or fly-out menu, when triggered, appears on top of the content. Its entries are stacked vertically in a single column and consist either of text alone or text and icons.



*A drop-down menu vertically stacks its entries in a single column.
([Large view](#)⁶⁵, Image source: [Blurb](#)⁶⁶)*

Recommendation

If the items are best explained by text and the menu is not very long, then a regular drop-down menu is the simplest, most efficient solution.

Explanation

Compared to a mega-menu, a regular drop-down menu has the following advantages:

⁶⁵. <http://www.smashingmagazine.com/wp-content/uploads/2014/04/04-dropdown-menu.jpg>

⁶⁶. <http://blurb.com>

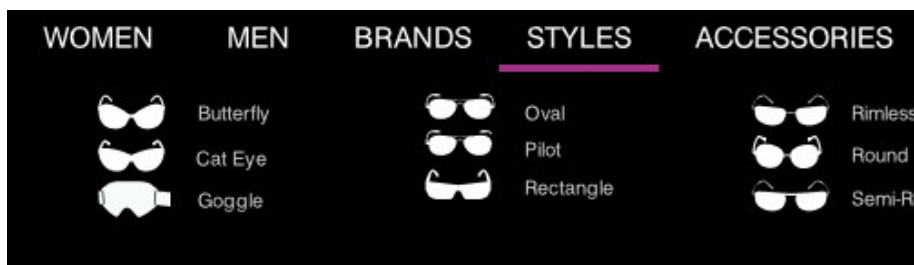
- It loads more quickly.
- The additional space and visual potential of a mega-menu would not be taken advantage of with just a few text entries. Also, a mega-menu might confuse users or, at best, slow them down because users would have to figure out the layout scheme first. By contrast, a short vertical list is readily scannable and understood by everyone.

Problems

If the menu is long, then things can get tricky. A long vertical drop-down list might get cut off by the browser window and require users to scroll frequently. There are two ways to deal with this problem.

One is to break down the list into subcategories. While a good solution, navigating from submenu to submenu can be frustrating if the interaction is not designed properly. This issue will be addressed in part 3 of this series.

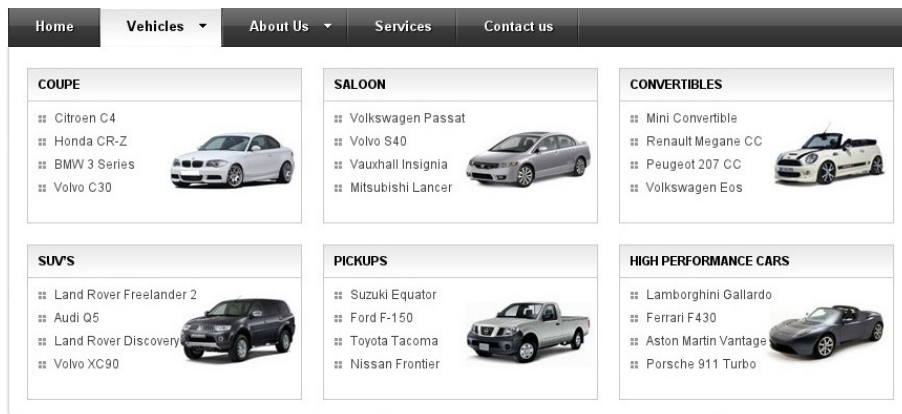
A second way to deal with a long drop-down menu is to use a mega-menu that best fits the screen's orientation, such as a horizontal mega-menu for landscape-oriented screens.



If screen space is critical, adjusting the menu to the screen's orientation is a good workaround. (Large view⁶⁷, Image source: Sunglass Hut⁶⁸)

MEGA-MENUS

A special type of drop-down menu is the so-called mega-menu⁶⁹. A mega-menu is a drop-down or fly-out menu that does not merely stack its entries in a single column, but instead uses images, typographical hierarchy and different layouts to visualize the options.



*A mega-menu is a larger, more sophisticated drop-down menu.
(Large view⁷⁰, Image source: Design Chemical⁷¹)*

Recommendation

If the options require both text and pictures, then a mega-menu is the best choice.

⁶⁷. <http://www.smashingmagazine.com/wp-content/uploads/2014/04/05-dropdown-menu.jpg>

⁶⁸. <http://sunglasshut.com>

⁶⁹. <http://www.nngroup.com/articles/mega-menus-work-well/>

⁷⁰. <http://www.smashingmagazine.com/wp-content/uploads/2014/04/06-mega-menu.jpg>

⁷¹. <http://www.designchemical.com/blog/index.php/tutorials/wordpress-tutorial-create-your-own-custom-mega-menu-styles/>

Explanation

A regular drop-down menu does not offer the same room or visualization options. And whether regular and mega, it has the following advantages over navigation on a separate page:

- It loads more quickly.
- The cognitive load on users is less. With a separate page, users have to think more. “Which are the ads?” “Which is genuine content?” “Where is the navigation?” A drop-down menu shows only the navigation, and it appears close to the user’s cursor or finger.

Problems

Even a mega-menu is limited in space. If the number of items is too high, then a separate page becomes inevitable.

SEPARATE PAGES

A fourth way to display items or categories is on a separate page.

Recommendation

If the menu requires text, pictures and descriptions, then a separate page is best.

Explanation

Accommodating this kind of navigation as a mega-menu might be possible, but only if the descriptions are just a couple of lines long.



*A separate page spaciouly accommodates subcategories.
(Large view⁷², Image source: Danske Bank⁷³)*

72. <http://www.smashingmagazine.com/wp-content/uploads/2014/04/07-separate-pages.jpg>

73. <http://danskebank.co.uk/en-gb/Personal/savings/Pages/savings.aspx>

Problems

Sending users to a separate page merely to view navigation options, rather than actual content, is not the most elegant solution. Also, users are taken out of the context of the current page. But if a mega-menu would be too unwieldy to accommodate the sheer number and size of options, then a separate page might be the most comfortable solution.

DYNAMIC FILTERS

Finally, dynamic filters are a complex yet powerful way to navigate content, whereby users assemble a set of their desired content on the fly.

The screenshot shows a product listing page with a left sidebar for filters and a main area for product results. The filters are categorized under 'Refine Results' and include 'Screen Size', 'Memory Storage', and 'Operating System'. The main area shows '249 Results' with a 'Per Page' selector set to 32. Two products are visible: a 'Nextbook 7" Tablet' and an 'HP 7" Tablet Intel Atom'. Each product listing includes a 'Best Seller' badge, a product image, the product name, model number, star rating, and a list of features.

Refine Results

- Screen Size**
 - ☐ 10" & Above (23)
 - ☐ 7" & Under (76)
 - ☐ 7.9" (1)
 - ☐ 8" (12)
 - ☐ 9" (40)
- Memory Storage**
 - ☐ 1 GB (1)
 - ☐ 4 GB (11)
 - ☐ 8 GB (46)
 - ☐ 16 GB (39)
 - ☐ 32 GB (34)
 - ☐ 64 GB (9)
 - ☐ 128 GB (3)
 - ☐ 250 GB (1)
 - ☐ 8 GB & Under (17)
- Operating System**

249 Results **32** **60** Per Page

Nextbook 7" Tablet
Google Mobile Service
Model#: NEXT7P12-8
★★★★★ (2758)

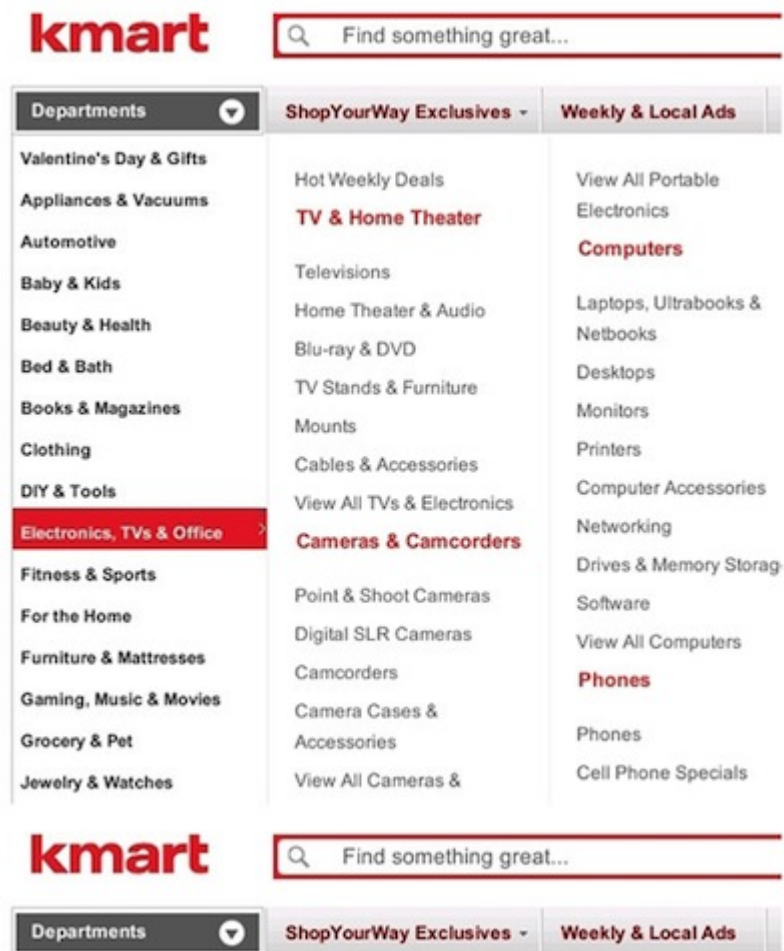
- 7.0" touchscreen
- 1GHz Cortex A9 pr
- 8GB of storage me
- Google Android 4.1
- Webcam and WiFi

HP 7" Tablet Intel Atom
Memory Featuring A
Model#: 1800
★★★★★ (589)

- 7" touchscreen
- 1.6GHz Intel Atom
- 8GB of storage me
- Google Android 4.1
- Webcam, WiFi and

Complex yet powerful, dynamic filters enable users to generate a custom set of content on the fly. (Large view⁷⁴, Image source: Walmart⁷⁵)

While many websites have only one of the first three menu types, dynamic filters almost never appear on their own. Instead, they are typically appended to the primary navigation as an option.



*Dynamic filters are often appended to traditional navigation.
(Large view⁷⁴, Image source: Kmart⁷⁷)*

⁷⁴. <http://www.smashingmagazine.com/wp-content/uploads/2014/04/08-filter.jpg>

⁷⁵. http://www.walmart.com/browse/computers/tablet-pcs/3944_3951_1078084?browsein=true&povid=cat1078524-env377582-moduleA062911-lLinkLHN6TabletPCs&fromPageCatId=1078524&catNavId=1078524

⁷⁶. <http://www.smashingmagazine.com/wp-content/uploads/2014/04/09-dynamic-filter.jpg>

⁷⁷. <http://www.kmart.com/>

Kmart (pictured on the previous site) starts the navigation process with drop-down menus, both regular and mega. At the next level, a separate page displays the product categories. Finally, once users have navigated to a department, they will find dynamic filters to refine their selection.

Recommendation

In line with the discussion of meta data categories in [part 1⁷⁸](#), we can say that, while the first three navigation types are best suited to essential and mutually exclusive optional categories, dynamic filters are best employed for optional categories that will likely be combined.

Explanation

The advantage of dynamic filters is that they allow users to select and change values on the fly. Instead of going back and forth between navigation levels, users can stay on the same level and dynamically combine values until the results match their criteria.

The fact that dynamic filters are usually vertical is not a disadvantage because the filtered results are not “content” per se. They are still a part of the navigation. Moreover, the dynamic relationship between the selected values on the left and the results on the right gives the user immediate feedback on how many and which items match their criteria.

⁷⁸. <http://www.smashingmagazine.com/2013/12/03/efficiently-simplifying-navigation-information-architecture/>

Problems

Dynamic filters are the most powerful but also the most complex solution. They take up more space and take longer to load than any other type. Users are required to analyze and work with multiple elements, including filters, results, sorting widgets and viewing modes, which make dynamic filters a challenge to implement on the desktop, let alone on phones. So, as useful as they are, avoid them if a simpler navigation type would do the job just as well.

Alternate Navigation

Almost all websites use one of the traditional types as their main navigation. Many, however, supplement them with alternate navigation systems. Evaluating the most popular ones, therefore, is also important.

Here are the four most common types of alternate navigation:

- Search
- Site map
- A – Z index
- Tags

SEARCH

Search spares users from having to navigate many levels and gets them directly to their destination. The difference


is that the title of the page that contains the desired results will have been set manually by the user.

Q

All Results SHOWING 1 THROUGH 10 OF 500 RESULTS | [PREV](#) [NEXT](#)

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Search is a shortcut to the desired content in a complex system with multiple levels. ([Large view](#)⁷⁹, Image source: [The Boston Globe](#)⁸⁰)

The designer would apply a tagging and keyword system to all pages to account for possible miscommunication between the user and search engine, such as typos, synonyms and different conceptual models of the content. In

⁷⁹. <http://www.smashingmagazine.com/wp-content/uploads/2014/04/10-search.jpg>

⁸⁰. <http://www.bostonglobe.com/queryResult/search>

other words, the search engine will try to guess what the user means by their query.

Recommendation

Present search as a supplement to traditional navigation, not as an equal or as the primary means of navigation.

Explanation

Various studies reach different conclusions on whether users are search-dominant⁸¹. Of course, search-dominance can be influenced by how search is designed and presented, and prior experiences with poorly designed navigation can increase search-dominance⁸². In any case, don't promote search as the primary method.

Despite these efforts that developers take to avoid mistakes, the success rate of search queries remains low⁸³. The reason is that every website typically has its own labels, categorization schemes and naming conventions. Users will typically not know the specifics, so they will often guess-type their query, which can be a cumbersome and vague process, leading many to search just once, maybe twice⁸⁴, before giving up. This is especially true on mobile devices, where typing queries is less comfortable.

Another problem is that, even if all of the results are relevant, users might question whether they are com-

81. http://www.uie.com/articles/always_search/

82. <https://www.measuringusability.com/blog/search-browse.php>

83. <http://www.nngroup.com/articles/incompetent-search-skills/>

84. https://www.uie.com/articles/users_search_once/

plete. “Did the search engine miss something by misinterpreting my query?” “Did I miss something by not properly phrasing my query?” Traditional navigation, by contrast, defines and presents the categories⁸⁵, as well as shows a comprehensive list of all relevant entries, giving the user certainty as they browse.

A second phenomenon that is often discussed is that search has a higher conversion rate than navigation menus. This, however, can be explained by the distinction between browsing and searching. Users who are browsing will typically use the menu and will be less determined to buy something, whereas users who know the name of what they want to buy will usually just type it into the search field.

Nevertheless, even if search is more efficient for finding particular products than browsing, it is not as popular with users.

One problem with search is that, with all of the specific and often regionally different product names and model types, recalling a product’s exact name is not straightforward. “Was it GS-50 or G-150?” “Does this one have the extended battery?” With dynamic filters, users may specify exactly the features they are looking for, without having to recall model type or version number.

⁸⁵. <http://uxmyths.com/post/717755413/myth-search-will-solve-a-websites-navigation-problems>



Users tend to prefer traditional navigation to search, even when searching for a particular product. (Large view⁸⁶, Image source: KISSmetrics blog⁸⁷)

Another problem is that search can hamper the discovery of related items. If the user finds the exact item they are

86. <http://www.smashingmagazine.com/wp-content/uploads/2014/04/11-search-vs-navigation.jpg>

87. <https://blog.kissmetrics.com/ecommerce-website-search/>

looking for through search, it might be the only item they see. With dynamic filters, users will see not only the desired item, but also similar items, including ones that have additional features or a lower price.

Adding dynamic filters to a search engine is possible, of course, which would essentially combine the advantages of both navigation models in one interface.

All in all, a search engine, especially one with sophisticated features and algorithms, can produce good results, but its inherent problems keep it inferior to a well-designed traditional menu. This is why search is better as a back-up method, in case the menu fails the user, but not as the primary or sole means of navigation.

Finally, be aware that search works better in native applications populated by user-generated content, because the user will know how they've named or tagged their own content.

A – Z INDEX

An A – Z index comprehensively or almost comprehensively lists the items available on a website, in alphabetical order.

Recipe Index

A

[Acorn Squash](#) (1) [Adobado](#) (1) [Adobo](#) (1) [African](#) (3)
[Agua Fresca](#) (3) [Ahi Tuna](#) (2) [Almond](#) (8) [Anchovy](#) (1)
[Angel Hair Pasta](#) (4) [Appetizer](#) (79) [Apple](#) (40) [Apple Cake](#) (6)
[Apple Cider](#) (1) [Apple Pie](#) (7) [Applesauce](#) (3) [Apricot](#) (8)
[Arame](#) (1) [Artichoke](#) (12) [Arugula](#) (15) [Arugula Salad](#) (6)
[Asparagus](#) (20) [Avocado](#) (12)

B

[Bacon](#) (22) [Baked Apple](#) (2) [Baked Beans](#) (4) [Bakery](#) (155)
[Baklava](#) (1) [Banana](#) (8) [Barbecue](#) (9) [Barbecue Sauce](#) (5)
[Bark](#) (1) [Barley](#) (3) [Basil](#) (9) [Basque](#) (1)
[BBQ](#) (7) [Bean](#) (21) [Bean Salad](#) (7) [Bean Threads](#) (1)
[Beef](#) (88) [Beef Roast](#) (9) [Beef Stew](#) (11) [Beer](#) (3)
[Beet](#) (12) [Beet Salad](#) (4) [Belgian](#) (2) [Bell Pepper](#) (12)
[Berries](#) (2) [Berry](#) (9) [Beurre Blanc](#) (1) [Biscotti](#) (2)
[Biscuit](#) (7) [Bison](#) (1) [Bisque](#) (4) [Black Bean](#) (11)
[Black Beans](#) (0) [Black Eyed Peas](#) (3) [Blackberry](#) (12) [Blondie](#) (1)
[Blood Orange](#) (1) [Blue Cheese](#) (3) [Blueberry](#) (18) [Bok Choy](#) (3)
[Bolognese](#) (3) [Bouillon](#) (1) [Bourbon](#) (6) [Bourbon Sauce](#) (1)
[Boursin](#) (3) [Boysenberry](#) (5) [Braised Beef](#) (9) [Branzino](#) (1)
[Brazilian](#) (4) [Bread](#) (21) [Bread Pudding](#) (2) [Breakfast](#) (18)
[Breakfast and Brunch](#) (61) [Breakfast Casserole](#) (3) [Brie](#) (3) [Brisket](#) (3)
[Brittle](#) (1) [Broccoli](#) (8) [Broccoli Rabe](#) (3) [Brown Butter](#) (1)
[Brown Derby](#) (1) [Browned Butter](#) (4) [Brownies](#) (2) [Brunch](#) (9)
[Bruschetta](#) (1) [Brussels Sprouts](#) (7) [Buckwheat](#) (2) [Budget](#) (59)
[Buffalo](#) (1) [Bun](#) (1) [Bundt Cake](#) (4) [Burger](#) (13)
[Burrito](#) (1) [Butter](#) (4) [Butter Pecan](#) (2) [Butter Sauce](#) (3)
[Butterflied chicken](#) (1) [Buttermilk](#) (7) [Butternut Squash](#) (12) [Butterscotch](#) (3)

An A – Z index sorts the content of a website comprehensively and alphabetically. (Source: [Simply Recipes](http://www.simplyrecipes.com/index/)⁸⁸)

Recommendation

Don't prioritize an A – Z index over a traditional menu. Also, listing only the category pages is often more efficient than listing thousands of individual pages.

⁸⁸. <http://www.simplyrecipes.com/index/>

Explanation

An A – Z index is easy to use because everybody knows how to navigate an alphabetical list. But a site-wide index has three problems.

First, an A – Z index typically works well with text but rarely with pictures and descriptions, which are often needed.

Secondly, adjusting vocabulary to the user’s expectations is not straightforward. With regional, outdated or conceptually different terminology, users could wind up looking for an item in a completely wrong section of the index. The only workaround, although one that muddies the information architecture, is to include synonyms. In traditional navigation, synonyms are not as big a problem because, ideally, users will be moving from handful of choices to handful of choices.

Thirdly, an A – Z index, much like search, can hamper the discovery of related items. If users are looking for “eggs and beans” in an A – Z index, they will get eggs and beans and nothing else. In traditional navigation, users would see other breakfast recipes along the way as they navigate to “eggs and beans” through the “Breakfast” category, and without being slowed down (as long as the “Breakfast” category is sorted alphabetically). This is good for both the user and the website.

SITE MAPS

A site map displays the navigational structure of a website, typically with headings and subheadings.

Site map for NBCNews.com

NBCNews.com home Breaking News & Top Stories - World News, US & Local	Politics NBC Politics: White House, Capitol Hill, Washington, Election and Political News Most recent stories Inauguration Day Most recent stories Capitol Hill Capitol Hill Most recent stories More politics More politics Most recent stories First Read Most recent stories Decision 2012 Decision 2012 Most recent stories More Decision 2012 Most recent stories	Business Business News - Market News, Finance & World Headlines Most recent stories
World news World News - International Headlines, Video and Stories Most recent stories Africa Africa - World News - Politics, Health & Culture - Headlines from South, West & East Africa - NBCNews.com Most recent stories Americas Americas - World News - Get the Latest Latin, North and South America Breaking News Stories - NBCNews.com Most recent stories Asia-Pacific Asia Pacific - World News - Daily Business, Health & Financial News Stories from China, Korea, Japan & More - NBCNews.com Most recent stories Europe Europe - World News - Daily International News Stories from Across the European Union - NBCNews.com Most recent stories Mideast & N. Africa Middle East / North Africa - World News - Daily International News from the Middle East - NBCNews.com Most recent stories	Sports Sports News Headlines - NFL, NBA, NHL, MLB, PGA, NASCAR - Scores, Game Highlights, Schedules & Team Rosters Nightly News with Brian Williams NBC Nightly News with Brian Williams Most recent stories	Blogs NBC Politics Entertainment The Maddow Blog The Last Word Hardblogger Behind the Wall The Daily Nightly US News First Read Inside Dateline Open Channel World Blog Cartoon Blog Photoblog The Body Odd Cosmic Log In Game Technolog Red Tape Chronicles Gadget Box Overhead Bin Daily Rundown

*A site map visualizes the navigational structure of a website.
 (Large view⁸⁹, Source: NBCNews.com⁹⁰)*

Recommendation

A crawlable `sitemap.xml` file will help search engines index the website. But its interactive representation, the site map, should be deemphasized as a means of navigation.

Explanation

A site map usually consists only of text. But users often need icons, photographs and descriptions to understand

⁸⁹. <http://www.smashingmagazine.com/wp-content/uploads/2014/04/13-map.jpg>

⁹⁰. <http://www.nbcnews.com/html/msnbc/HtmlSitemap0.html>

the options. While including these elements in a site map is possible, it would only aggravate the second problem, which is that a site map typically displays all items at once, offering no way to skip or hide undesired items. This poses problems for the user who is trying to scan and interact with the information, especially if the content is voluminous.

TAGS

Tags, in their default state, can be described as keywords without parent or child categories. They tend to appear at the end of articles.

The US has until October 17 to raise its borrowing limit before it risks defaulting.

The shutdown has delayed talks with the European Union over a free trade deal.

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More about: [American budget](#) [Barack Obama](#) [Health reform](#) [USA](#)

Tags with a “More about” label (Source: [Euronews](#)⁹¹)

Recommendation

A tag-based system calls for additional measures to work well. But even then, it remains inferior to a traditional category-based system.

⁹¹. <http://www.euronews.com/2013/10/08/obama-warns-republicans-to-stop-using-extortion-and-pledges-talks-once-budget-/>

Explanation

Of all of the alternate navigation models, tags come closest to traditional navigation. After all, tagging (which is essentially the process of creating meta data) is the first step to building a proper information architecture, the foundation of traditional navigation. However, with even just a handful of tags per article, you could amass hundreds or thousands of tags very quickly.

This is why categorizing the tags is important. By organizing tags into parent and child categories, designers can structure a lot of tags into small sets of related information. Traditional navigation that includes these categories will enable the user to easily skip undesired sets and browse only the ones that interest them.

Many content-based websites, though, substitute a sophisticated traditional menu with hybrid navigation. They categorize tags loosely at best, relying initially on other navigation models, such as internal and external search engines, feeds and social media links. This type of system can get users to the desired article, but it makes it difficult for users to identify the aspect of the article that they're interested in. To compensate, some designers simply conclude articles with a list of keywords – for example, “Barack Obama,” “Democrats,” “Republicans,” “health care,” “shutdown.” Users would, then, access the tag they are interested in to browse related articles.

In traditional navigation, the user would navigate categories that contain and contextualize the keywords that they are interested in – for example, **News** → **Politics** → **US** → **Domestic policy** → **Health care**. In this case, the user would be interested in the given article because it

discusses the US health care system, not necessarily because it mentions Barack Obama, the Democrats, the Republicans or the shutdown. To see related articles, users would simply access the parent category.

HOME » NEWS » WORLD NEWS » EUROPE » GERMANY

German delegation to quiz US officials over sp

Angela Merkel dispatches top advisers to Washington to discuss US :
Germany

*A traditional levels-based menu is the most precise type of navigation.
([Large view](#)⁹², Image source: [The Telegraph](#)⁹³)*

A tag-based system is most efficient if it is complemented by strong social media and a robust search engine. But it remains a fuzzier way to navigate, more like fishing than purposeful searching. Also, users should not have to rely on search and external links to navigate a website. Instead, they should be able to find any piece of information right from the home page, and a well-designed traditional menu is still the most efficient method to enable that.

Conclusion

When it comes to choosing the right type of navigation, the bottom line is simple: The fewer the options are and

⁹². <http://www.smashingmagazine.com/wp-content/uploads/2014/04/15-tags.jpg>

⁹³. <http://www.telegraph.co.uk/news/worldnews/europe/germany/10414460/German-delegation-to-quiz-US-officials-over-spying.html>

the less information that is necessary to explain them, the simpler the navigation should be.

The more difficult question is usually whether and how to implement alternate navigation models, in addition to the traditional system.

Alternate solutions might not be expensive to create or difficult to implement. But they all have inherent obstacles to interaction that prevent them from being viable as primary or exclusive systems. Moreover, users typically do not look for these alternatives unless the main navigation fails them.

So, rather than investing much effort into developing or improving these secondary solutions, invest in properly designing the main navigation, thus hopefully rendering a secondary solution unnecessary.

The recommendations in this chapter are summarized below.

CHOOSING TRADITIONAL NAVIGATION

- A vertical navigation bar is no less usable than a horizontal one, but it could draw attention away from the main content by appearing in the same field of view. A horizontal bar is efficient for top-level categories, as long as the items fit on a single row. If a single row is not feasible, then use a drop-down menu or a separate page, rather than a fixed vertical menu.
- If text is sufficient to explain the options, then go with a regular drop-down menu. Break down long lists into sub-

categories, or choose a mega-menu layout that suits the screen's orientation.

- If text and pictures are required, then go with a mega-menu.
- If text, pictures and descriptions are necessary, then go with a separate page.
- The solutions above work well for essential and mutually exclusive optional categories. If optional categories are likely to be combined, then append dynamic filters to the traditional menu.

CHOOSING ALTERNATE NAVIGATION

- Search or an A – Z index works well if the user knows the exact name of the item they are looking for. However, both systems are prone to vagueness and often hamper the discoverability of related items. Don't emphasize them over traditional navigation.
- Tag-based navigation could be a good alternate system, if properly subcategorizing the content would be too expensive or too difficult. However, it would have to be complemented by strong social media integration and search.

Knowing which navigation type best suits the options counts for a lot. But a fourth step is still required — namely, to design the navigation to be as simple, predictable and comfortable as possible.

FURTHER READING

- “[Is It Time to Rethink Website Navigation?](#)⁹⁴,” Jason Gross, Six Revisions
- “[The Case Against Vertical Navigation](#)⁹⁵,” Louis Lazaris, Smashing Magazine
- “[Designing Search](#)⁹⁶,” Tony Russell-Rose, UX Magazine
- “[Dynamic Tag-Based Navigation for Web Sites](#)⁹⁷,” Heinrich Hussmann, Academia
- “[A – Z Website Indexes Explained](#)⁹⁸,” Heather Hedden, SitePoint 🐼

⁹⁴. <http://sixrevisions.com/user-interface/is-it-time-to-rethink-website-navigation/>

⁹⁵. <http://www.smashingmagazine.com/2010/01/11/the-case-against-vertical-navigation/>

⁹⁶. <http://uxmag.com/contributors/tony-russell-rose/>

⁹⁷. http://www.academia.edu/2866153/Dynamic_Tag_Based_Navigation_for_Web_Sites

⁹⁸. <http://www.sitepoint.com/a-z-indexes/>

Navigation For Mega-Sites

BY PAUL BOAG 🐼

For most websites, navigation is not particularly challenging. A primary navigation bar, supported by sub-navigation, is often enough.

Typically, sub-navigation displays the parent, siblings and children of the current page. A persistent primary navigation bar shows top-level pages, allowing users to move between sections.

However, there is one class of website for which this traditional form of navigation falls short. It is what I refer to as a “mega-site”.

What Is A Mega-Site?

A mega-site is typically owned by a large organization that encompasses a broad range of services or products. The organization also often supports a diverse user base.

Organizations with mega-sites include institutions such as the [BBC](http://bbc.co.uk)⁹⁹, companies with diverse portfolios such as [Microsoft](http://www.microsoft.com)¹⁰⁰, government bodies, higher-education institutions and large charities that run many campaigns, such as the [World Wildlife Fund](http://worldwildlife.org)¹⁰¹.

These websites:

- are extremely large,

⁹⁹. <http://bbc.co.uk>

¹⁰⁰. <http://www.microsoft.com>

¹⁰¹. <http://worldwildlife.org>

- are many levels deep,
- are made up of many micro-websites and subsections,
- cater to many audiences,
- have multiple entry points.

Websites of this size and complexity bring some unique navigational challenges.

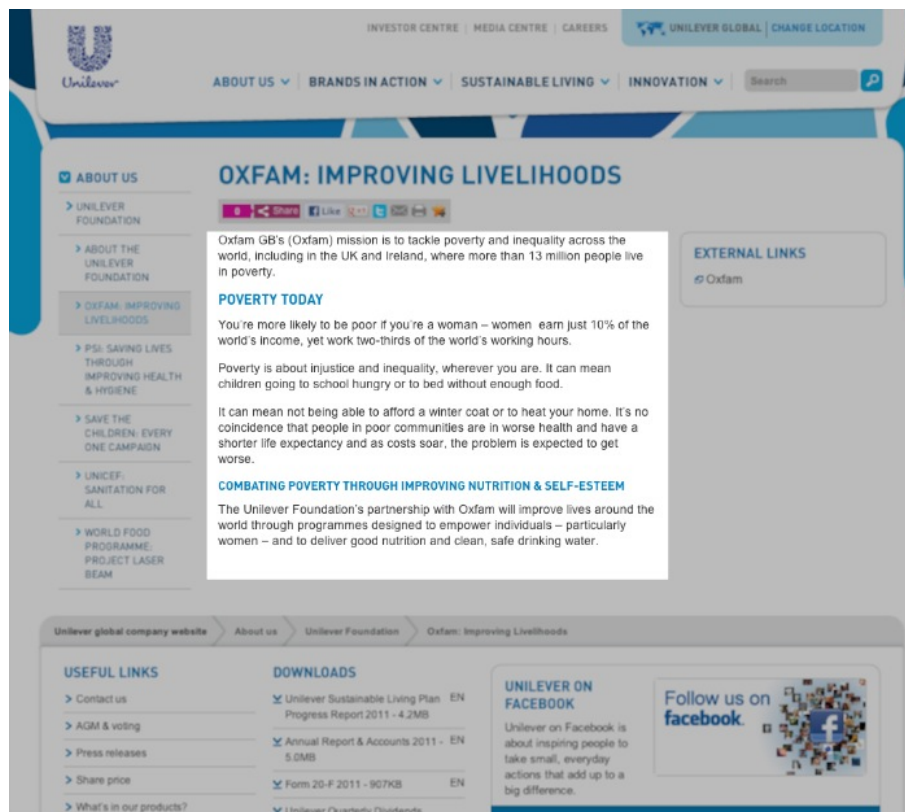
The Challenges Of Navigation On Mega-Sites

At our company, we do a lot of work on mega-sites, and they can prove to be particularly challenging, especially when trying to use traditional navigation.

TRADITIONAL NAVIGATION CANNOT SUPPORT DEPTH

The deeper the website, the more that traditional navigation struggles. Navigation can comfortably accommodate three levels; beyond that, one of two things happens. Either the navigation expands to the point where more screen real estate is dedicated to navigation than to content (a problem made worse by the sheer number of pages on a mega-site), or higher pages in the information architecture no longer appear in the navigation.

In the latter case, if the user is deep within the website, they will lose the context of where they are because they are not seeing where the current page fits in the website's structure.



While traditional navigational approaches, combined with breadcrumbs, can scale to accommodate mega-sites, they do so at the cost of ever-increasing real estate. (Large view¹⁰²)

The latter problem can be partially mitigated by well-implemented breadcrumbs. However, this is not the only issue with traditional navigation.

TRADITIONAL NAVIGATION CANNOT SUPPORT MULTIPLE ENTRY POINTS

Traditional navigation can confuse users who enter the website via a micro-site or subsection.

¹⁰². <http://boagworld.com/wp-content/uploads/2013/02/unilever.jpg>

Take a student who is considering attending a university for post-graduate studies. This person is probably more interested in a particular faculty or school than in the institution as a whole. They could, therefore, very well enter the website at that level, rather than at the university's home page.

Another example would be a single mother wanting to know about child benefits. They are more likely to arrive on the benefits subsite than on the government's home page. In such situations, the user's focus is on their current context (i.e. post-graduate studies or child benefits). They are not immediately interested in the broader mega-site.

Unfortunately, traditional primary and secondary navigation exposes the user to this broader context, whether they want it or not.

To make matters worse, the current context can actually alter the user's perception of the navigation items. For example, would our post-graduate student think that a link labelled "About us" is about the school in question or about the larger institution. In some extreme cases, you can even find the same navigation labels being used for both the current context and the broader institution (for example, information about the university and about the school might both be labelled "About us" on the same page).

How, then, can we solve the navigation problems of mega-sites?



Does a section labelled “Research” on a university’s page refer to the entire university or just the school being viewed? What about when the same label appears twice but goes to two separate places? ([Large view](#)¹⁰³)

Navigation Solutions

As with all things, there is no perfect solution. However, there are solutions that are a step forward from navigation better suited to small websites. The first of these solutions is the most radical.

GET RID OF NAVIGATION ENTIRELY

I first heard of this approach in [Russ Weakley’s talk about doing away with traditional navigation](#)¹⁰⁴ back in 2006. It rejects the idea of imposing a navigational structure upon

¹⁰³. <http://boagworld.com/wp-content/uploads/2013/03/uni-of-bath-670x508.jpg>

¹⁰⁴. <http://www.r2.co.nz/20060525/russ.mp3>

users, instead allowing them to find their own path through the website.

This is achieved by making each Web page a stand-alone document and tagging it with appropriate meta data. Users can then find pages through a combination of search and navigating by tags. Pulling in links to related documents based on the meta data associated with each page would also be possible.

This approach has several advantages:

- It supports a website of limitless size.
- It is ideally suited to users who come to the website from a deep link.
- It allows for a much more dynamic relationship between pages and easily accommodates pages being added and removed.

Of course, it is not without its challenges. While individual sections of the website could still have a landing page (for example, [section.acme.com](#)), the business may well struggle with the idea of not having a specific website to manage. More importantly, this approach relies heavily on having well-tagged documents and powerful search functionality, both of which are hard to achieve with a mega-site.

That said, it is an option, and one that shouldn't be quickly dismissed.

SPLIT THE WEBSITE INTO SMALLER MICRO-SITES

Another approach is to break the mega-site into a number of smaller more manageable micro-sites. This is the approach adopted by the BBC¹⁰⁵.

Instead of treating its Web presence as a single entity, the BBC has broken it down into subsites, such as news, sports, TV, radio and so on. Each website has its own navigation and thus avoids the problems associated with mega-sites.

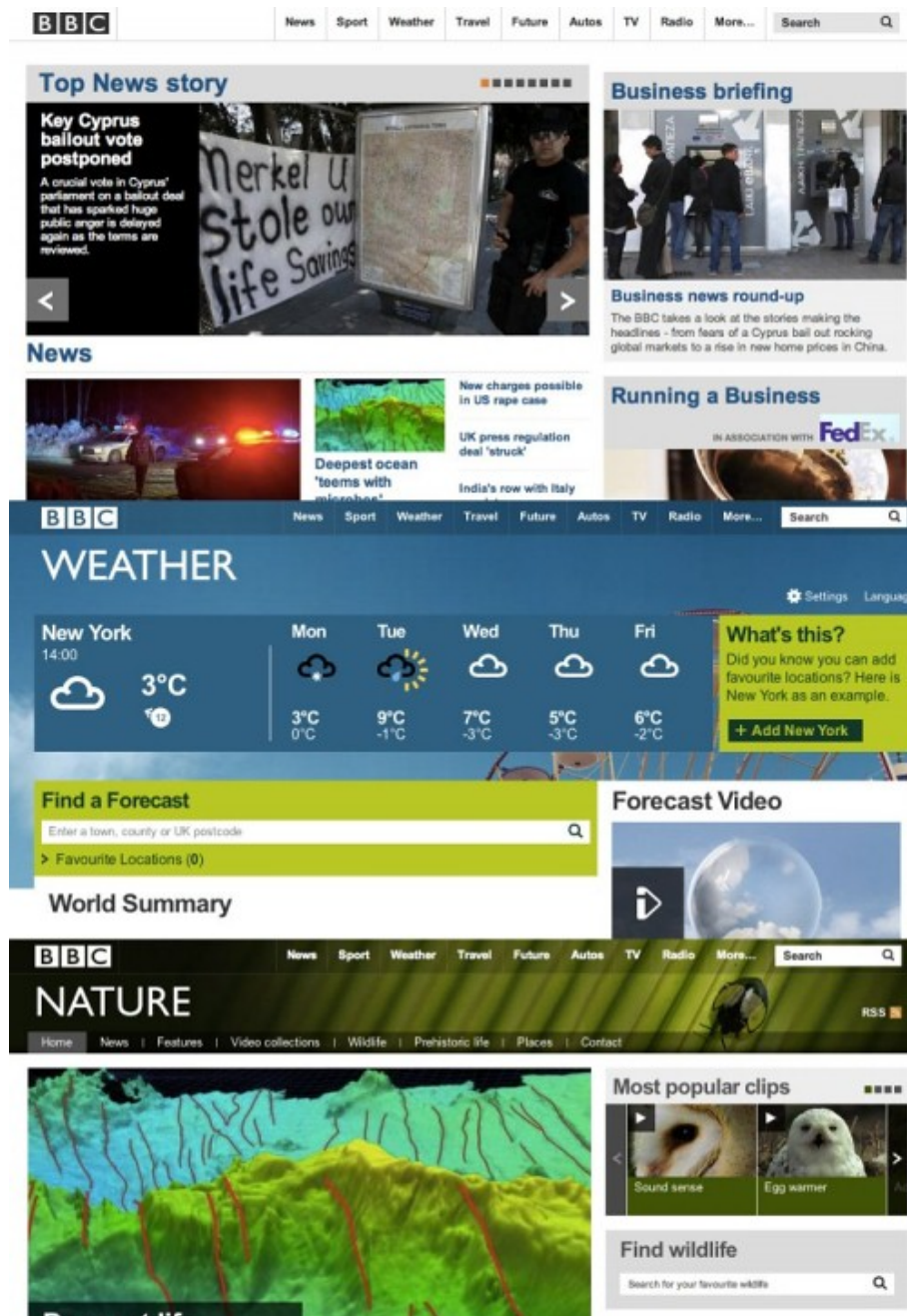
The way the BBC avoids a disjointed experience for users who move between micro-sites is to ensure consistency in top-level navigation and in the user interface.

Although the BBC's micro-sites do vary in appearance, they make use of the same primary navigation, and also have a consistent design language for things like typography, layout and modules. This language, defined on the BBC's Global Experience Language¹⁰⁶ (GEL) website, is consistent enough to ensure a stable user experience yet flexible enough to cater to different audiences and subject matter.

It is a fine line to walk. Make each micro-site too different and users will become confused by changes in the UI. Make them too similar and users will be thrown off upon finding that the website does not have a single navigational structure.

¹⁰⁵. <http://bbc.co.uk>

¹⁰⁶. <http://www.bbc.co.uk/gel>

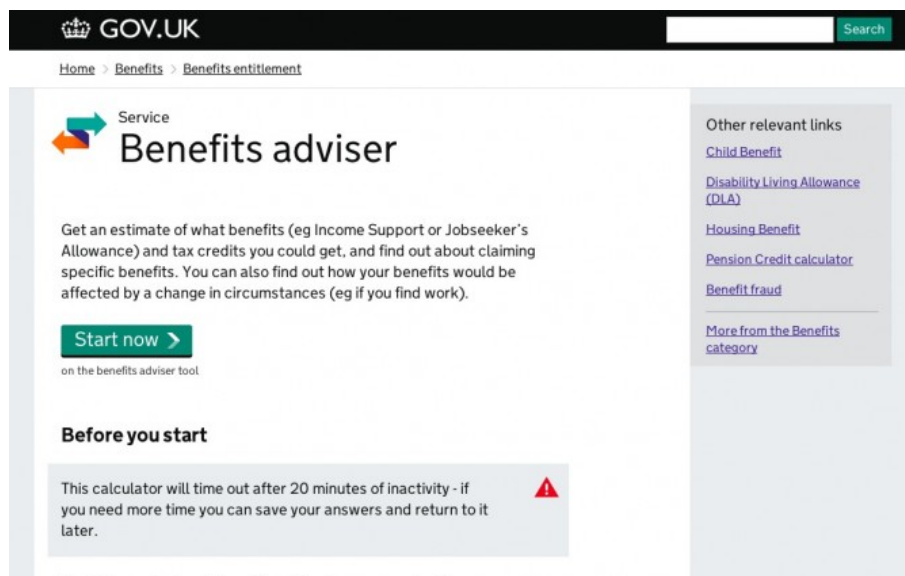


The BBC avoids being a mega-site by splitting its Web presence into a number of smaller websites, while maintaining consistency in navigation and design language. (Large view¹⁰⁷)

¹⁰⁷. <http://boagworld.com/wp-content/uploads/2013/03/bbc-670x972.jpg>

USE A BREADCRUMB-DRIVEN APPROACH

A third solution is the one adopted by [Gov.uk](http://gov.uk)¹⁰⁸. It does away with dedicated areas for navigation, and instead uses the page's content to link to its children. It then uses breadcrumbs to help the user identify where they are within the navigational hierarchy and to move back up the tree when needed.



*Gov.uk relies almost exclusively on breadcrumbs for navigation.
([Large view](#)¹⁰⁹)*

The approach has many advantages. For a start, it minimizes the space dedicated to navigation, while at the same time allowing for much more detailed descriptions of each child. In that sense, it is the simplest, cleanest and easiest to understand of the approaches.

¹⁰⁸. <http://gov.uk>

¹⁰⁹. <http://boagworld.com/wp-content/uploads/2013/03/gov-uk-670x422.jpg>

It also translates well to mobile devices, which account for 45% of Gov.uk's Web traffic¹¹⁰.

The prominent breadcrumbs make clear to the user where they are on the website, while in-page navigation to child pages makes the next step obvious. Most of all, the emphasis on content, rather than navigation, appeals to me the most.

Unfortunately, it does have its downsides.

By relying entirely on breadcrumbs and in-page links to children, the user has little context of their current position. They are unaware of the siblings of the current page and of the overall shape of the website (for example, they are unaware of the top-level sections).

This is not a problem if the user is trying to complete a specific task and the website has catered to that task by bringing all content related to it in a single place. However, when a user is in general research mode or when the content related to the task is spread across multiple pages, this approach can prove frustrating.

The frustration is caused by the breadcrumb navigation requiring the user to navigate up and down the website's structure. There is no way to enable jumping between sections.

Fortunately, there is a hybrid approach, which uses breadcrumbs as the primary navigational tool, but augmented with more traditional navigation.

¹¹⁰. <http://digital.cabinetoffice.gov.uk/2013/03/12/were-not-appy-not-appy-at-all/>

My Preferred Solution

My preferred solution is inspired by the navigational approach used by BBC Sports before GEL was introduced.

Instead of running them horizontally, the BBC flipped the traditional breadcrumbs vertically. At the end of each breadcrumb list, the current page also showed its children. When you reached the bottom of the tree, the navigation would continue to display the siblings of the current page, instead of its children.



The old BBC Sports website used vertical breadcrumbs as the primary navigation tool. When the user entered a section, such as football, all other sports (i.e. the siblings) would be removed, focusing the user on the subject at hand. (Large view¹¹¹)

This approach grouped all navigation together in a single place, gave the user a clear sense of their location and re-

¹¹¹. <http://boagworld.com/wp-content/uploads/2013/03/BBC-sports-old.jpg>

duced the space dedicated to navigation. Yet, it still suffered from the problems of Gov.uk.

When working on the University of Brighton¹¹², we proposed BBC Sports' approach, but added one important thing. We suggested keeping a consistent top-level navigation bar. While this adds more navigation to the page, it gives the user an instant overview of the structure of the website. This enables users who require information from multiple sections (say, a prospective student researching courses as well as accommodation) to jump quickly between those sections.

In many cases, this is enough to create a simple yet powerful user experience. However, it does not address the need to be able to see the siblings of the current page.

Showing Siblings While Using Breadcrumb Navigation

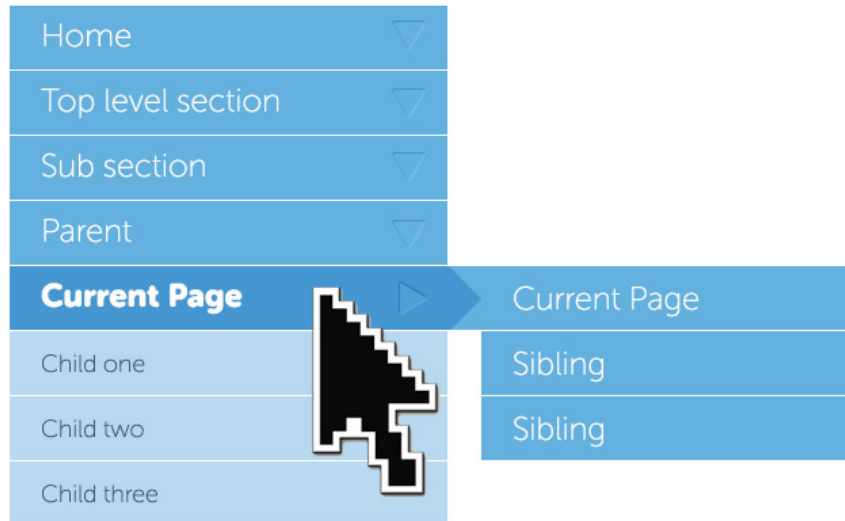
So far, I have considered two possible solutions to this issue.

One works on the assumption that siblings often have a relationship with each other; they are part of the same story, if you will. On that basis, the simple addition of “next” and “previous” buttons (such as you find on many blogs) might be enough of a solution. Users could then move between siblings with the single click of a button.

An alternative approach would be to make each level of the breadcrumb navigation a flyout menu, thereby exposing the siblings of that level. This would enable the

¹¹². <http://brighton.ac.uk>

user to jump to any sibling on any level of the website and potentially do away with the need for a separate primary navigation bar.



By adding flyout menus to the vertical breadcrumb navigation, you give users quick access to any sibling on any level of the website. ([Large view](http://boagworld.com/wp-content/uploads/2013/03/vertical-breadcrumb-nav.jpg)¹¹³)

This could work whether you use vertical breadcrumb navigation or traditional horizontal breadcrumbs.

That said, I haven't tested this approach, and some will have concerns about touch devices.

More Ideas Needed

As you can see, the issue of navigation on mega-sites is a thorny one, and there does not seem to be a single obvious solution. One of the primary reasons for writing this

¹¹³. <http://boagworld.com/wp-content/uploads/2013/03/vertical-breadcrumb-nav.jpg>

chapter is to open a discussion on the subject and hopefully encourage the exploration of some alternative approaches. 🐼

Responsive Navigation On Complex Websites

BY JON RUNDLE 🍷

Central to a solid user experience is a well-structured, simple navigation system. Over the past few months, I've been involved in launching two large institutional websites with complex navigation systems. Maintaining simplicity on such large websites becomes increasingly difficult as content requirements grow and tiers of navigation are added, not to mention the extra complexity added by small screens.

To illustrate the techniques involved in implementing responsive navigation on a large website, I'll refer to two actual clients of mine. I'll start with the process and how to get through it with research and mockups, then later get into some of the actual code that was used.

Middlesex-London Health Unit

THE PROCESS

The key to success in every project, particularly a large website, is to work closely with the client, keeping them involved in as many aspects of the design process as possible. Before we get into code and how to build a website technically, we need to learn more about the project. At ResIM¹¹⁴, we start with audience research, before progressing through information architecture¹¹⁵, wireframing¹¹⁶ and wireframe usability testing.

In our latest project for a public health organization, the Middlesex-London Health Unit¹¹⁷ (MLHU), we started with audience research to find out the kinds of information that public users look for on health-related websites. Considering that MLHU's website had over 1300 pages to be overhauled, we needed to make sure that priority content gets the focus it deserves.

As a design studio, we've tried different forms of audience research. One of our go-to methods is to bring in users to walk through a wireframe website, seeing how long it takes them to perform various tasks and to find various sections of the website, while video recording¹¹⁸ them. This style of testing doesn't always yield perfect results because many inexperienced users will have problems understanding a website without graphics, colors, etc. But it still provides valuable insight into how easy or difficult content is to find.

This method works well when the structure and site map are defined, but we weren't quite at that stage and needed to step back. MLHU has various committees and groups that had to be represented on the website, and we needed to make sure that everyone's voice is heard.

We started by meeting with all of the committee members who were appointed to work on the website, to determine which parts of the website were most important. After hearing each group state its case as to why its

¹¹⁴. <http://www.resolutionim.com>

¹¹⁵. <http://www.omnigroup.com/products/omnigraffle/>

¹¹⁶. <http://www.mockflow.com/>

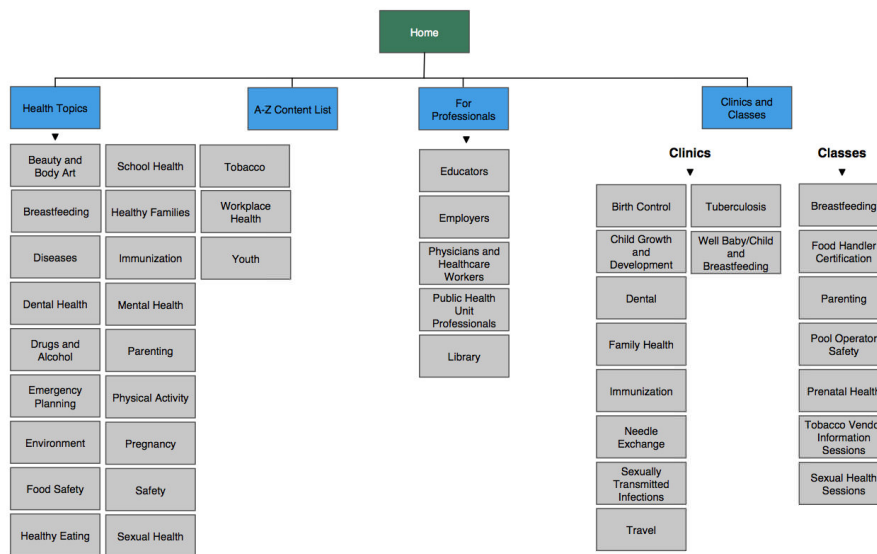
¹¹⁷. <http://www.healthunit.com>

¹¹⁸. <http://silverbackapp.com/>

information needed to be prominent on the website, we started to build a proper hierarchy. We realized there were a lot of different sections and areas, and we needed a way to group them into fewer parent items in order for the user to be able to interpret and navigate more quickly. We decided to piece together a lot of similar categories, and we named each of these groups; these would become our four main navigation items.

This was a great accomplishment, but we quickly realized that we needed to call attention to other important pages that weren't necessarily grouped into those four sections. We created a supporting menu to accommodate and provide access to some of these non-health-related topics. Once we had built this streamlined navigation and worked it into our wireframes, we ran them through a testing period, in which we had users walk through areas of the website, performing tasks and finding information.

Watching people use this streamlined navigation, we noticed that each of them was able to quickly find the section of the website they were looking for and then effortlessly find the particular page and information they were after. These results from real-world users reinforced the decisions we had made in the information architecture.



MLHU's site map. (Large view¹¹⁹, Image: Healthunit¹²⁰)

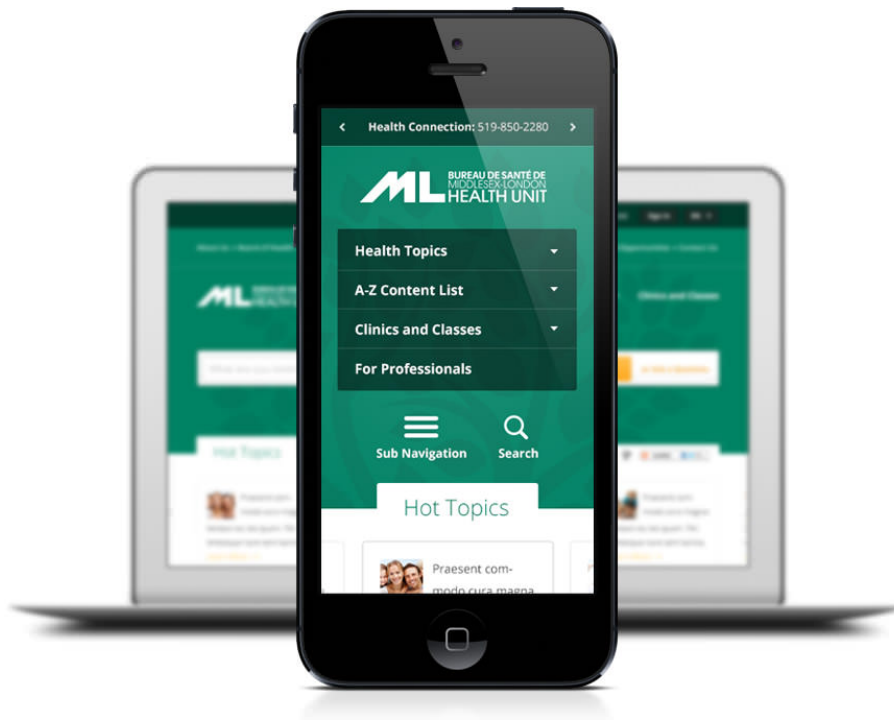
From here, we were able to move into the interface design phase, which included mocking up the responsive mobile view. Many clients struggle with the concept that a responsive mobile website is, in fact, the same website they see on their desktop, and not a whole new skin for mobile. Showing these clients a little less in the mockup phase is sometimes valuable.

For this reason, we typically leave tablet views out of this step, to enable us to control how the website transitions from the big “desktop” view down to the small “mobile” view. In the case of MLHU, I realized with the older ages of some of our target users, we couldn’t rely on typical top-right hamburger-style¹²¹ navigation.

¹¹⁹. http://www.smashingmagazine.com/wp-content/uploads/2013/09/1-mlhu-sitemap_large_mini.jpg

¹²⁰. <https://www.healthunit.com/>

Feeling that this solution would have been more difficult for certain users, I opted instead for vertical text-based navigation. This gave the second level of navigation a better layout, by allowing users to view all menu options before making a selection.



MLHU's website on mobile. (Large view¹²², Source: Healthunit)

IMPLEMENTATION

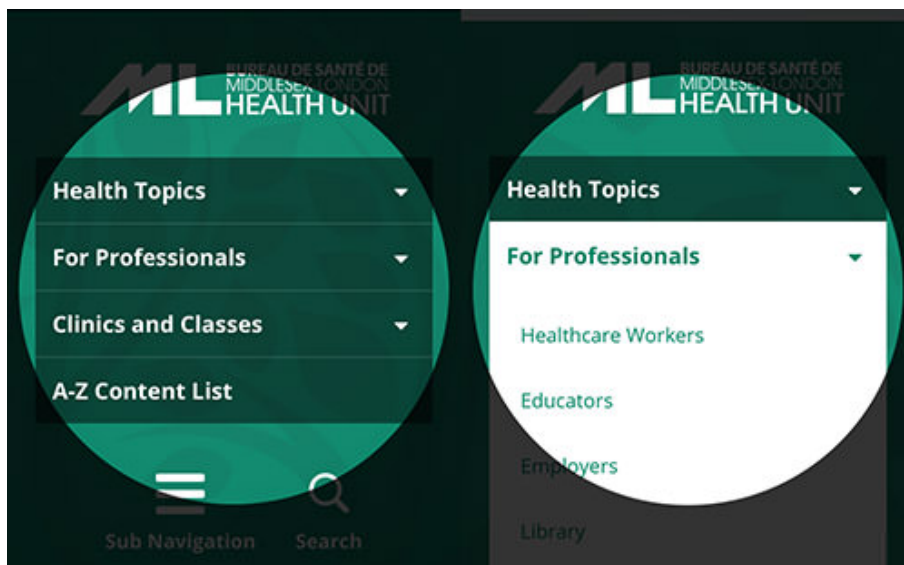
Our initial concern in the MLHU project was whether we could keep the mobile navigation structure congruent with the desktop version. Typically, one can hide navigation under a hamburger-style button, a common design

¹²¹. <http://dribbble.s3.amazonaws.com/users/5973/screenshots/880056/lexicon-nuggets-2-ui-hamburger.png>

¹²². http://www.smashingmagazine.com/wp-content/uploads/2013/09/2-mlhu-example_large_mini.jpg

pattern. However, our target audience included a wide age range, and we felt that displaying the full text of the navigation would be more user-friendly.

If we were to keep the navigation the same and then make some CSS adjustments to wrap the navigation in a box and stack the navigation vertically instead of horizontally, we could achieve the solution we were looking for.



MLHU's mobile navigation. (Source: Healthunit)

```
function navIn() {
  [...]
} else if($(window).width() < 600) { /* Here's
  where we check for the screen size and do a slide
  instead. */
  $(this).children('ul').slideDown();
  $(this).addClass('hovering');
}
```

```
[...]  
}
```

A JavaScript-based solution for our desktop navigation interaction was in place, using the hoverIntent plugin¹²³, but we needed to adjust it to work properly on mobile. Our solution was to add a condition to check the screen's size and, if small, to switch to a toggle slide instead of a hover fade in/out. A toggle slide gives a more native feel to the website, making it fit in and feel quicker on a mobile device, whereas a fade can feel slow and unresponsive when interacted with on a touchscreen.

```
<div id="mobileNav">  
  <a id="searchIcon" href="#"></a>  
  <a id="mobileNavIcon" href="#"></a>  
</div>
```

Seneca College

THE PROCESS

A second instance of our process was the design and UX overhaul of Seneca College¹²⁴'s public website. We

¹²³. <http://cherne.net/brian/resources/jquery.hoverIntent.html>

¹²⁴. <http://www.senecacollege.ca/>

couldn't reduce the main navigation as we did with MLHU because of different content requirements and organizational constraints. We didn't need to work through an information architecture phase because the navigation was already set for us by the client; so, we moved right into wireframing and interface concepts. Similar to MLHU, we also mocked up a responsive mobile view and explored ways to display the navigation in an effective format.

Recognizing that this target audience is much younger, I felt strongly about using a streamlined navigation that is revealed via a hamburger-style vertical side menu. The hamburger icon has become popular through its use in many mobile applications, and it frees up space in the website's header for the logo and search icon. A lot of sublevel pages needed to be displayed on Seneca College's website, and showing them all at once in the header navigation would have been a bit too much.

My solution was to display sectional navigation at the top of every inner page. This secondary navigation would allow the user to quickly move through sections of the website without having to scroll through a long menu. With the complexity of a large website, making it navigable before showing the main content on the inner pages is sometimes necessary.

If you're unsure of which route to take, try doing some extra audience research using mobile wireframes, and get a feel for how real-world users respond to the solutions.



Seneca's website on mobile. (Large view¹²⁵, Source: Seneca¹²⁶)

IMPLEMENTATION

Seneca's navigation system is more complex and its mobile and desktop versions more different from each other than MLHU's. We needed to find a way to replace the main navigation with a hamburger icon once the screen reaches a certain size. We started with a div for the mobile navigation that sits inside the header, but we didn't want it to show up in the desktop view, so we hid it with CSS.

```
@media only screen and (max-width: 600px) {
  nav li {
```

¹²⁵. http://www.smashingmagazine.com/wp-content/uploads/2013/09/3-seneca-example_large_mini.jpg

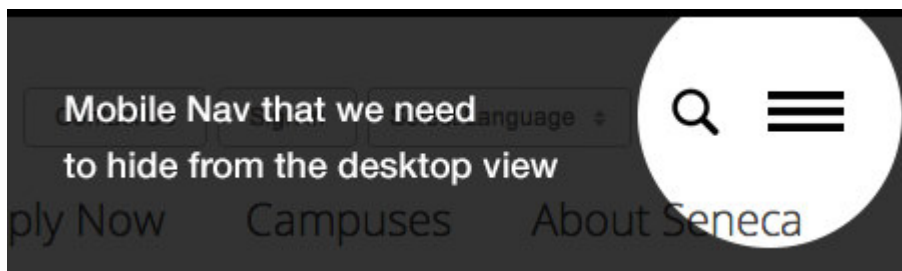
¹²⁶. <http://www.senecacollege.ca/>

```

        width: 100%;
        box-sizing: border-box;
    }

    nav a {
        background: rgba(0,0,0,0.5);
        padding: 10px 12px;
        text-align: left;
        margin: 0;
        box-sizing: border-box;
    }
}

```



Seneca's div for mobile navigation. (Source: Seneca)

```

#mobileNav {
    display: none;
}

```

For screens that are big enough, we display the aforementioned hidden div using media queries.

```

@media only screen and (max-width: 600px) {
    #mobileNav {
        display: block;
    }
}

```

```
}  
}
```

At the same time, we restyled the navigation and hid it. Feel free to get creative with restyling the navigation for mobile. I wanted full-width navigation that slides down, pushing the rest of the content, but you could instead absolutely position the menu to overlap the main content, or achieve an off-screen push effect using something like PageSlide¹²⁷. Many different techniques are possible; experiment with what you like and what feels best for the website.

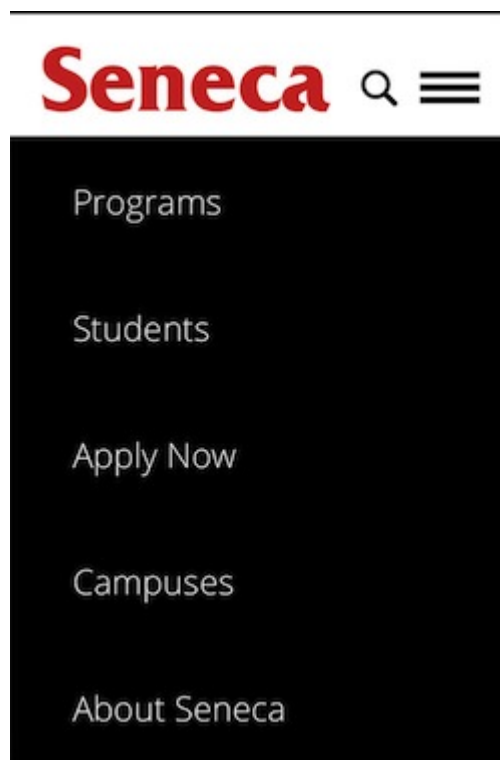
```
@media only screen and (max-width: 600px) {  
  nav {  
    display: none;  
    width: 100%;  
    background: #000;  
    margin-left: -20px;  
    padding-right: 40px;  
  }  
  
  nav li {  
    display: block;  
    margin: 20px 0 20px 20px;  
    width: 100%;  
  }  
  
  nav a {
```

¹²⁷. <http://srobbin.com/jquery-plugins/pageslide/>

```
    color: #FFF;  
    margin: 0;  
    width: 100%;  
  }  
}
```

Lastly, completing our toggle is simply a matter of adding some JavaScript, similar to the example above.

```
$('#mobileNavIcon').click(function () {  
    $('#nav').slideToggle();  
    return false;  
});
```



Seneca's mobile navigation opened. (Source: Seneca)

It's imperative to make design decisions that enhance the user experience by considering the results of usability testing, the perceived skill level of all user sets, and the general characteristics of the audience. As demonstrated in the cases above, even though a hamburger-style menu icon has become the industry standard¹²⁸, it might not be the best approach given the age or competency of the target audience.

Other Techniques

I'm always looking for new solutions to the problem of complex navigation. Below are a few examples that could be really useful, depending on the requirements of the project.

PAGESLIDE

I like that PageSlide follows the current mobile app trend with a pull-out side menu. Users are getting more comfortable with these menus and how they work. The benefit is a much taller scrollable menu that doesn't push content too far down.

RESPONSIVE MULTI-LEVEL MENU

Responsive Multi-Level Menu¹²⁹ is great for a few reasons. It mimics normal drop-down navigation, which is usually triggered by mouse hovering, and implements it

¹²⁸. <http://www.smashingmagazine.com/2012/10/08/the-semantic-responsive-design-navicon/>

¹²⁹. <http://tympanus.net/Development/ResponsiveMultiLevelMenu/index.html>

effectively for touchscreens. It also makes it easy for users to jump down a few levels without forcing new pages to load.

Conclusion

Making design decisions based on your users should be paramount. If you aren't involved in the initial design phase, then at least try to get involved in the responsive portion of the project. You need to help make sure that the direction taken is in the best interest of users, based on their comprehension of the systems you plan on using and their ability to access content.

Next, determine what code is needed to make a smooth transition from desktop to mobile. Does it require some JavaScript to animate nicely? Does its orientation need to change from horizontal to vertical? What can you do with the initial CSS to allow for an even smoother transition that requires fewer adjustments to media queries?

Lastly, don't let a complex navigation system or information architecture intimidate you. There's always a way to simplify it to its core and to provide those layers to the user in a way that is non-threatening and easy to understand. Take on the challenge and have fun with it!

OTHER RESOURCES

You may be interested in the following articles and related resources:

- PageSlide¹³⁰
This jQuery plugin slides a Web page over to reveal an interactive pane.
- Responsive Multi-Level Menu¹³¹
This space-saving drop-down menu includes subtle effects.
- “Convert a Menu to a Dropdown for Small Screens”¹³²,
CSS-Tricks
- “Responsive Navigation Patterns”¹³³, Brad Frost 🐼

¹³⁰. <http://srobbin.com/jquery-plugins/pageslide/>

¹³¹. <http://tympanus.net/Development/ResponsiveMultiLevelMenu/index.html>

¹³². <http://css-tricks.com/convert-menu-to-dropdown/>

¹³³. <http://bradfrostweb.com/blog/web/responsive-nav-patterns/>

Off The Beaten Canvas: Exploring The Potential Of The Off-Canvas Pattern

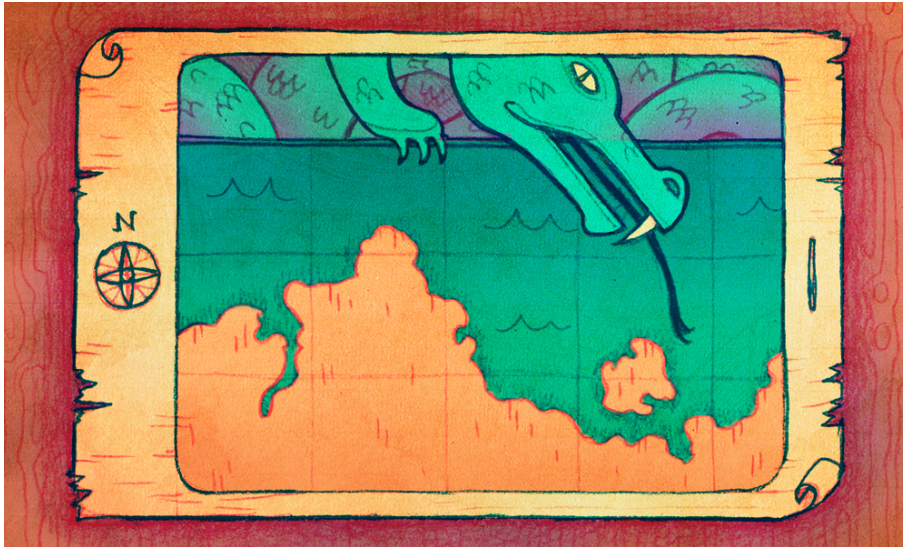
BY KYLE PEATT 🐉

The off-canvas flyout menu has taken over as the primary navigation pattern for mobile layouts — even some desktop layouts have jumped on board. And for good reason: An off-canvas menu is a great way to maintain context while giving the user a lot of additional information.

In this chapter, we'll talk about why off-canvas has become so successful as a navigation pattern and show its potential to be so much more. From filters on product list pages to shopping carts to lists of recently viewed articles, the potential of this pattern is bound only by our drive to pioneer. It's time that we explore just how far off canvas we can go.

Here Be Dragons

You've seen off-canvas flyouts before — you know, those sidebars that slide in from the edge of the screen? By now, they could even be considered commonplace. There's a reason their popularity has exploded recently: In mobile, the notion of a window has all but disappeared. The majority of devices on the market today give us little control over the window.



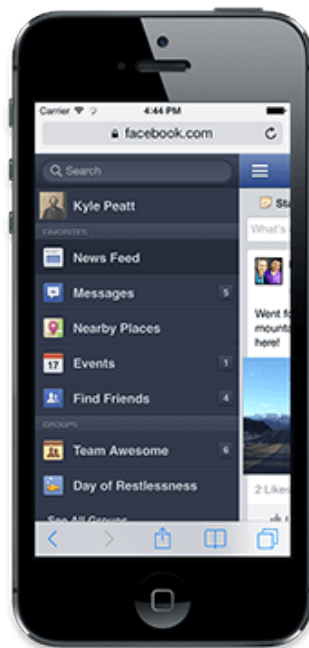
Instead, we have only two major layers to work with: the viewport and the canvas. While these offer plenty of potential, designers have started to chafe against the limitations of the constrained viewport. The off-canvas fly-out — used sparingly on the desktop — becomes extremely important in this landscape.

With the limited real estate on mobile devices, designers saw the need to open up space and present relevant information without forcing the user to lose context or leave their position on the screen. Going off-canvas enables us to do that. On the desktop, we rarely go off canvas — there just isn't the need. In mobile, off-canvas is a groundbreaking concept. It creates a new frontier of design possibilities. And, as with mapping any unexplored territory, it offers treasure to those willing to take the risks. For designers, it's a rare opportunity to create something new.

The Early Explorers

Certainly, the first people to go beyond the canvas and brave the unknown are lost to us. Like the Americas, we remember only those who made landfall most famously. Thus, Facebook is our Columbus.

Facebook set out to solve a very specific problem that it found on mobile screens. Its navigation menu is long, with a lot of content that is relevant to the user. The user needs to be able to explore that navigation without losing their place in the timeline. If they decide not to navigate away, they should be able to jump right back to where they were.



Facebook's original off-canvas flyout was a lot like what Facebook currently has as its mobile Web navigation. Today, it still uses off-canvas for its messaging system, as well as its Android apps. ([Large view](#)¹³⁴)

Common navigation patterns wouldn't work. The menu is too long to pop over the entire screen, and if it appeared elsewhere on the canvas, it would pull the users out of context. The solution to the problem was to lock the canvas and pull it to the right — revealing the navigation underneath. Using off-canvas like this was an entirely novel concept.

Charting New Territory

The reason it works — and why it feels so natural — is because the action is very natural. Moving something to the side temporarily and redirecting focus, while keeping a glimpse of what the user was doing before, is an extremely common action in the physical realm. We'll hold our place in a newspaper as we flip to a referenced section. We'll keep our thumb on a page and flip to an endnote in a book. We'll jut out a sheet as we try to find the receipt for a line item in our tax return.

These are all physical examples of what the off-canvas flyout emulates: saving your spot so that you can get right back to what you were doing. The off-canvas flyout is a perfect way to interact with content in mobile because it solves a very distinct problem: focus.

In mobile, all we have is focus. This makes maintaining context extremely hard. We force users to scroll up and down, and we hide and reveal content to do all of the things we want users to do. Scroll bars, which would indi-

134. <http://www.smashingmagazine.com/wp-content/uploads/2014/02/facebook-flyout-large.png>

cate where the user is on the page, are usually absent, and getting back to one's exact place is often hard. Context is important to the user's mental map of the content. Without it, they'd get lost and fall off of the website.

With off-canvas flyouts, we maintain context on the page while presenting a huge array of new information. Flyouts can hold entire pages worth of new interactions and content, without the user getting lost at all. It's an extremely powerful pattern, with potential that we haven't even begun to uncover.

Flat-Earth Syndrome

Despite all of this potential, we aren't really willing to push the boundaries of off-canvas. We designers have developed an unfortunate tendency to avoid experimentation. We're more than willing to implement proven patterns, but we're less likely to think critically about why a pattern is successful. Sure, we know that the off-canvas flyout is great for navigation, but that's not all it's good for.

Facebook wasn't solving a navigation problem when it created the pattern. It was solving an interaction problem. It needed a way to present a large quantity of interactions and information without distracting the user from their original intention — the timeline. Instead of thinking of the off-canvas flyout as a navigation pattern, we need to think of it as a content strategy. How do we present more information to the user without distracting them from what's at hand?

Facebook didn't limit the flyout to navigation either. It used it for the list of messaging contacts as well. This is probably an even better use of the flyout because users are highly inclined to quickly pop open the sidebar, see who's online, and send them a quick message before returning to browse the timeline. Patterns like this are not immutable. In fact, the only way they'll get better is if we continually experiment with them. Facebook revolutionized the way we lay out content for mobile, and very few people are carrying that torch forward.

Beware The Siren Song

There's a risk here. We shouldn't use the off-canvas pattern merely because it's novel or popular. As with most things in Web development, every method has its pros and cons. The off-canvas flyout isn't perfect for every situation. It's best when you need to provide a lot of information or complicated interactions without pulling the user away from the main content.

If you have only a few navigation items or if the supplementary information that you're providing is short, then the pattern would probably be more disruptive than convenient. Remember that it provides a new view while maintaining the context of the original view — people will lose some flow whenever they open that flyout. If the supplementary information is minimal, then use a popover or a pushdown interaction instead and leave the user on the screen.

Another thing to keep in mind is that the off-canvas flyout requires a bit more processing power and browser

capabilities than other methods. While this is mostly mitigated by a good framework (see my recommendation at the end of this chapter), these issues still stand. Old devices and devices without JavaScript support might get left behind if you don't provide a good fallback for this pattern. I recommend progressively enhancing — i.e. provide a simple solution for old browsers, while detecting support for new features and providing a more optimal solution for browsers that can handle it.

Filling In The Details

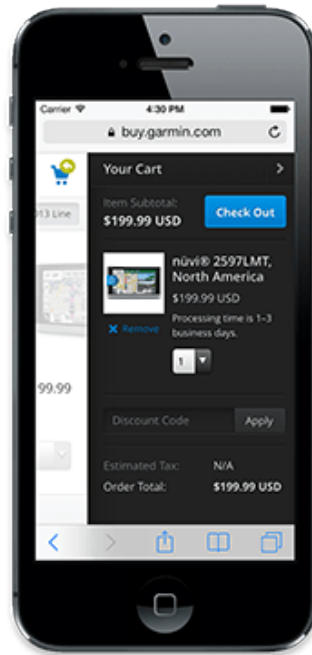
So, what is the flyout really good for? Below are a few examples that highlight the pattern's value.

SHOPPING CARTS

When I was working on the design for Garmin's e-commerce website earlier this year, I had a chat with my standard "test user" (i.e. my girlfriend). We talked a bit about what she liked and didn't like about e-commerce on mobile websites. The biggest problem she brought up was that she often wants to check what she's placed in her cart, but to do that, she has to visit the cart page, which takes her away from the content she's currently browsing.

This triggered a little "A-ha!" moment for me. Why not use off-canvas flyouts to hold all of the cart's information? The user can quickly pop open their cart whenever they want and glance at what's inside. They can also immediately begin to check out — effectively removing a whole step from the checkout process. If you work in e-

commerce, then you'll know that the fewer steps in the checkout process, the less likely the user will abandon their cart.

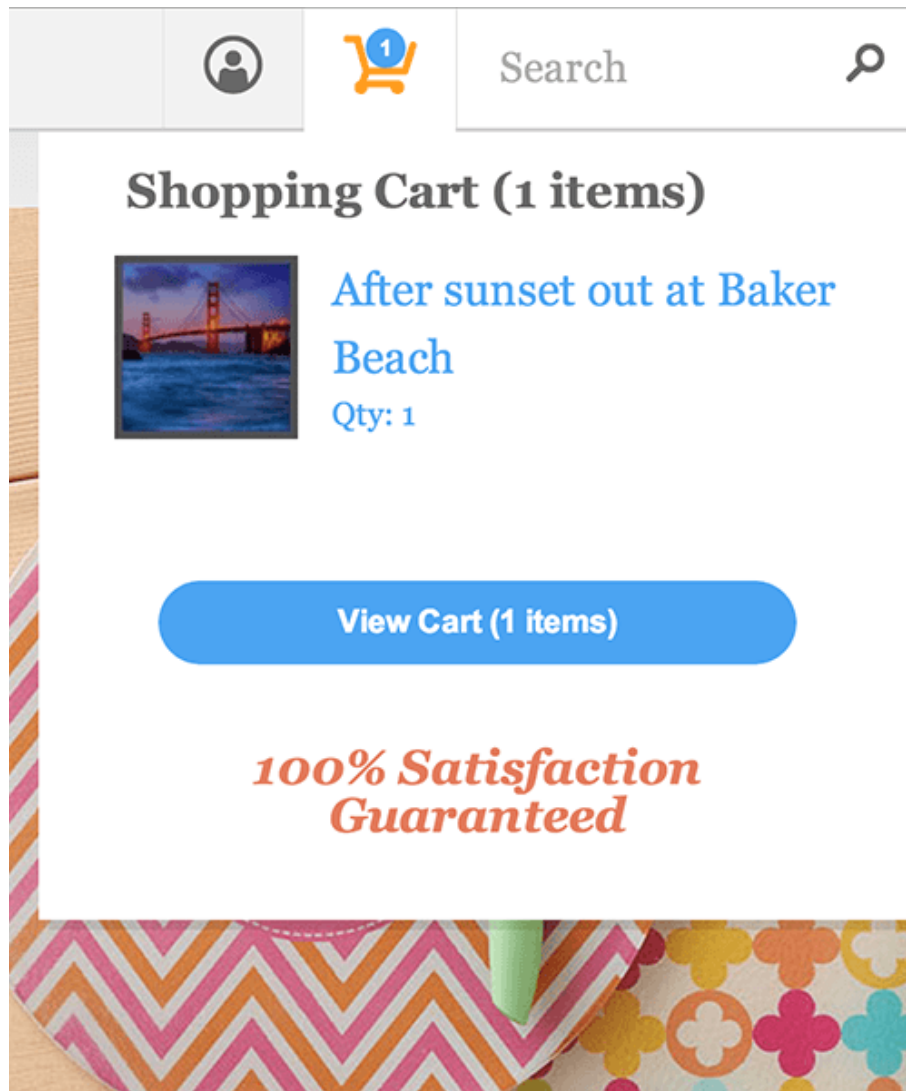


Garmin uses a flyout in mobile instead of a separate cart page. Users can go directly to the checkout area from this flyout wherever they are on the website. (Large view¹³⁵)

To teach users about this functionality, I designed the cart flyout to pop open whenever users added something to their cart. This kind of just-in-time instruction is very helpful, and the timing is perfect because users wouldn't need to know about the cart until they add something to it. If you're building an e-commerce website, then you probably already have everything you need to make this happen.

¹³⁵. <http://www.smashingmagazine.com/wp-content/uploads/2014/02/garmin-flyout-large.png>

Many websites show a preview of the cart when the user hovers over the cart icon or adds a product to it. You can easily repurpose this information into a flyout on small screens. For an example of a responsive website that has a flyout cart, check out [Zazzle](http://www.zazzle.com)¹³⁶.



Zazzle has a popover cart for large screens and an off-canvas flyout for small screens.

¹³⁶. <http://www.zazzle.com>

We didn't have access to existing cart information on the page from Garmin's desktop website, so we used progressive enhancement to "AJAX" the cart information across pages. Our engineering team stored the cart information in local storage so that we wouldn't need to check it every time the page loads. We update it whenever the user performs an action that would cause it to change.

This results in a fast and extremely functional cart flyout. The user can do everything they can do with a regular cart — update quantities, add coupon codes — from any page they are on. The flyout adds functionality in an intuitive way, without taking anything away from the user.

PRODUCT FILTERS

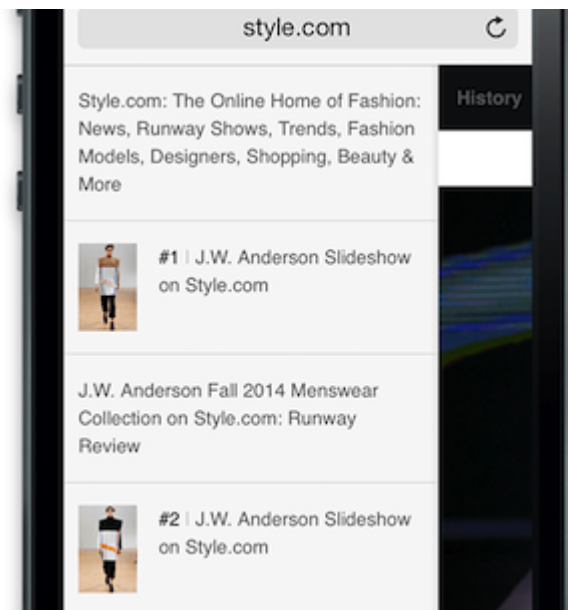
Another excellent use for a flyout on an e-commerce website is to house filters for category pages and product list pages. Many desktop layouts have a huge number of filters for the user to parse and select for lists of products. Traditionally, dealing with these on mobile has been very difficult: You would either present the user with the long list of filters or show the products — never both.

With off-canvas flyout, the user can pop out the filters, toggle the ones they want and then easily return to the updated list of products. They won't lose their place, and they'll get all of the functionality of the desktop layout. Best of all, if a sliver of the content is showing, the user will get immediate feedback on their actions. The list of products will update in real time as the user toggles the filters.

PAGE HISTORY

Off-canvas flyout isn't limited to e-commerce, of course. One of our goals when designing [Style.com](http://www.style.com/)¹³⁷'s new mobile website was to enable users to easily switch between fashion collections and to dive deep into showcase galleries. Switching context is so common on this website that the user needs a way to easily keep track of everything they've been looking at.

The developer implemented an off-canvas flyout that could slide out and show every single thing that the user has done on the website, in chronological order with thumbnails. Finding a previously viewed collection is as easy as scrolling through the list.



Style.com uses a flyout to make the user's viewing history persistent and easy to access. Every article and image viewed is recorded so that the user can quickly return to it.

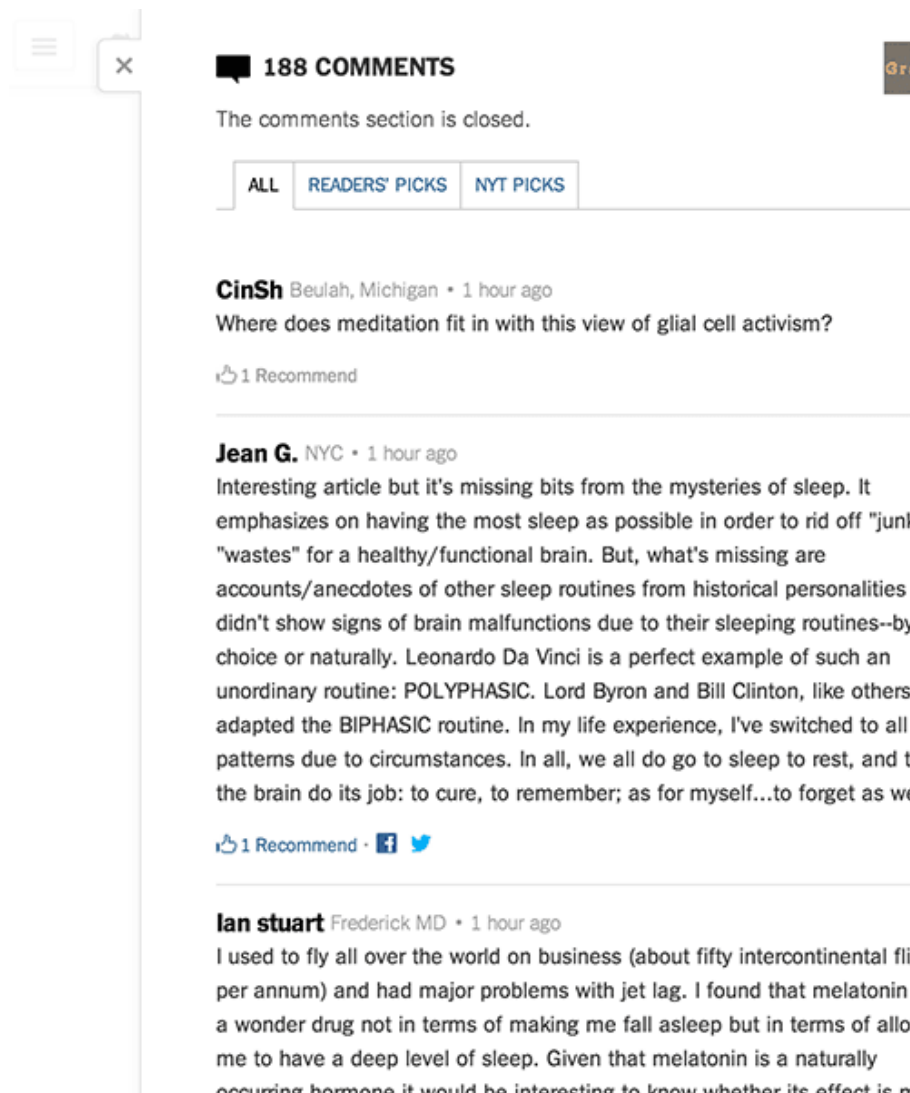
¹³⁷. <http://www.style.com/>

COMMENTING

Another highly effective use of the pattern on publishing websites is to display comments. More and more websites are following Medium¹³⁸'s example of allowing users to comment directly on individual lines and paragraphs in an article. This functionality is usually missing from the mobile version, and Medium is guilty of this. An off-canvas flyout is a perfect solution to this problem. Clicking a comment flag would pop open a pane that contains the comments for the lines that are visible, and the user could scroll through each comment for that line. When the user collapses the sidebar, they'd be exactly where they left off.

While I was writing this chapter, the New York Times announced a new version of its website, which pretty much does this with comments. A contextual off-canvas comment bar flies out in position with the article — but only in desktop layouts. Users can focus on reading the article itself and, when they're interested in the comments, quickly check what other people are saying about the paragraph they're reading.

¹³⁸. <https://medium.com/>



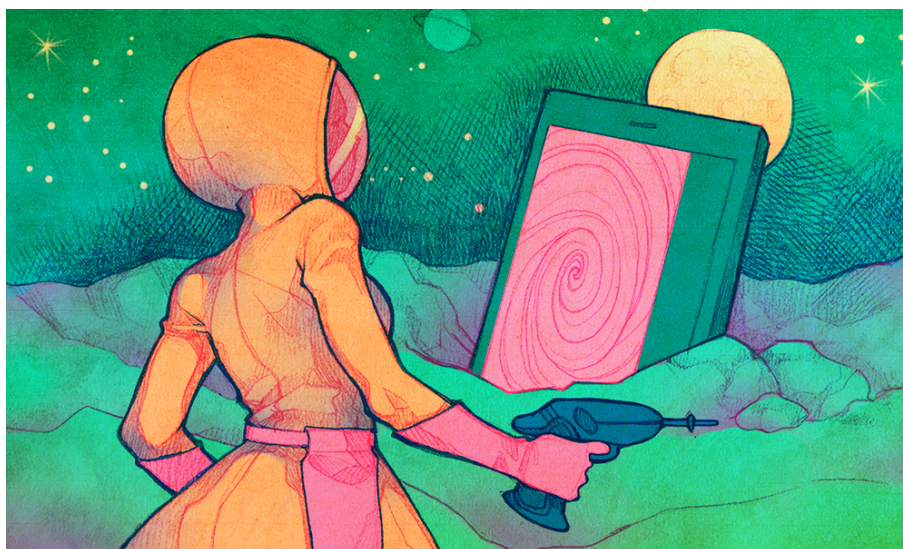
The New York Times' new website has off-canvas flyout for comments. Interestingly, this pattern is not used at all in the mobile view, where it might be even more effective.

This idea could be applied beyond blogs and news websites. Imagine reading a scientific article or any text with footnotes. Each link could open a flyout that contains the relevant footnote. The user would be able to quickly get the information they need without ever losing the context of the page. This would actually improve the reading experience — the sort of thing digital designers dream of.

The Final Frontier

All of the examples listed above have a commonality. The user is aided by the flyouts, but their success doesn't depend on using them. They could access their shopping cart or their viewing history or the comments without a flyout. Off-canvas is by no means necessary, but it makes life a lot easier. The user is more likely to stick around and buy stuff, read more articles and view more ads.

We need to stop being complacent. Just because a flyout works really well for Facebook's navigation doesn't make it a "navigation pattern." Let's think critically about what each pattern does and why it's effective. If we do that, then we'll be in the perfect position to build on the foundation laid under us. This is especially important in mobile, whose patterns are less mature than the desktop's — and for good reason: Mobile designers simply haven't been around as long.



You'll notice that I've been talking solely about off-canvas flyouts. This is a little lazy, too. When considering off-

canvas, we automatically think of flyouts. But even more is possible with off-canvas layouts. Countless methods and patterns are waiting to be discovered by intrepid designers. Our canvases aren't all the same — sure, they share many parts, but each does something slightly different. Our off-canvas solutions should be different, too.

As Web designers, we're constantly treading the same path — perhaps discovering a shortcut if we're lucky. But the map usually stays the same. We get complacent, re-tracing the steps of those who have gone before us, wearing down the path deeper and deeper. We need to be pathfinders. Just as Facebook led us off canvas with its flyouts, we need to explore new territory. Maybe for now, we just need to find novel uses for flyouts. Perhaps later, we'll find entirely new off-canvas concepts. And perhaps the truly adventurous will discover an entirely new interaction layer.

Here's to frontier designers and the maps they make.

SOME HOMEWORK

If you're still curious about off-canvas or would like to learn ways to implement the pattern as covered here, check out some of the resources below.

- “[Off Canvas Multi-Device Layouts¹³⁹](http://www.lukew.com/ff/entry.asp?1569),” Luke Wroblewski
Wroblewski offers insight into how we can use different off-canvas layouts to match desktop layout patterns. This

¹³⁹. <http://www.lukew.com/ff/entry.asp?1569>=

is good for thinking about layouts but should also give you some ideas on how to do things differently.

- “‘View Mode’ Approach to Responsive Design¹⁴⁰,” Daniel Wiklund

Wiklund’s fantastic article covers a lot of the same concepts that I’ve covered here but from a slightly different perspective.

- “Off Canvas Layouts¹⁴¹,” Zurb

Zurb outlines the different types of off-canvas layouts possible with Foundation. Even if you don’t use Foundation, this great resource will kickstart ideas on various possible layouts.

- Pikabu¹⁴²

Implementing an off-canvas flyout that works well on a variety of mobile devices isn’t easy. I know this because we’ve had to deal with it at Mobify. We weren’t happy with a lot of the implementations out there, so we wrote one that works on a majority of devices — including Android 2.3 — and we open-sourced it for anyone to use.

- “Implementing Off-Canvas Navigation for a Responsive Website¹⁴³,” David Bushell, Smashing Magazine

Bushell deals with a problem people often ignore¹⁴⁴. Performance is a huge consideration because a flyout has to

¹⁴⁰. <https://medium.com/design-ux/914c7d3795fb>

¹⁴¹. <http://zurb.com/playground/off-canvas-layouts>

¹⁴². <http://mobify.github.io/pikabu>

¹⁴³. <http://www.smashingmagazine.com/2013/01/15/off-canvas-navigation-for-responsive-website/>

¹⁴⁴. <http://www.mobify.com/blog/beginners-guide-to-perceived-performance/>

feel perfect in order for the user to want to use it. Bushell shows some great ways to make sure your animations are performant and smooth. 🐼

(Big thanks to Jacky Gilbertson¹⁴⁵ for her amazing illustrations!)

¹⁴⁵. <https://twitter.com/jackygilbertson/>

Smart Transitions In User Experience Design

BY ADRIAN ZUMBRUNNEN 🐼

Some websites outperform others, whether in their content, usability, design, features, etc. Details of interaction design and animation make a fundamental difference on modern websites. We'll share some lessons drawn from various models and analyze why these simple patterns work so well.

When we design digital products, we often use design applications such as Photoshop and Sketch. Most people who have been in the business for a few years obviously know that design is more than just about visual presentation. Still, many continue to create static designs. Steve Jobs said this¹⁴⁶ about design:

It's not just what it looks like and feels like. Design is how it works.

Our experience and impression of a product are shaped by a combination of factors, with interaction playing a fundamental role. No longer can we think of user interfaces as static designs and add the magic of interaction later on. Instead, we need to embrace the interactive nature of the Web from the very beginning and think of it as natural constituent.

¹⁴⁶. <http://www.nytimes.com/2003/11/30/magazine/30IPOD.html?pagewanted=all>

Let's look at some examples in which smart interaction, defined by subtle animation, gently improves the user experience.

Animated Scrolling

The blessing and the curse of the Web are hyperlinks. When you click on a link, it could take you anywhere, from a product page to the website of the creepy old puppet store down the street. The result is a loss of context.

One of the great things about the user experience of books is the linearity. Every chapter in a book builds on the last. You must read chapter one in a primer on economics to understand chapter two. When you skip a chapter, you are aware that you might miss something and, thus, lack some knowledge about the subsequent content. On the Web, and especially on long websites, this often happens subconsciously. By adding a scrolling animation, we can fix that:



View an animated GIF of a navigation with scrolling animation ¹⁴⁷ and compare it to this ¹⁴⁸.

Compare the default behavior of “name” anchor links with the animated behavior. Skipping content is not an unconscious action anymore; it’s a decision. In fact, Hope Lies at 24 Frames Per Second¹⁴⁹ has a menu button for its mobile view that sends you to the top of the page, without any animation. It took me more than a minute to figure out what actually happened.

Takeaway: Abrupt changes in an interface are hard for users to process. Don’t leave them in the dark; always show what’s happening.

Stateful Toggle

As we saw in the last example, transitions help users understand the pace and flow of an interface. Nothing feels more unnatural than a sudden change, because sudden changes just don’t exist in the real world. Let’s look at another example: toggle menus. Users associate the “plus” symbol with the action of adding content or expanding an element. By rotating it by 45°, the plus becomes a cross, an interface element widely understood to mean “close”:

¹⁴⁷. <http://www.smashingmagazine.com/wp-content/uploads/2013/10/ScrollingAnimated.gif>

¹⁴⁸. <http://www.smashingmagazine.com/wp-content/uploads/2013/10/ScrollingNoAnimation.gif>

¹⁴⁹. <http://hopelies.com/>

+ ADD ITEM



[View the animated GIF¹⁵⁰](#)

This simple transition completely changes the meaning of the icon. Such a small detail means the difference between having to guess what will happen next and knowing what the icon means in either state. That toggle is pretty user-friendly, if you ask me. Also, note that the plus sign always rotates in the same direction as the content, reinforcing the flow of information.

Takeaway: Make your website element understandable in each state.


Collapsed Forms And Comments

The comment forms on many blogs and news websites are not the happiest-looking elements. Why? Well, most

¹⁵⁰. <http://www.smashingmagazine.com/wp-content/uploads/2013/10/Stateful-toggle.gif>

of them are not exactly friendly, right? When you are ready to post a comment, you just want to start typing the comment itself and nothing else. Instead, a typical form asks you all kinds of other stuff first. It's annoying.

To motivate people to comment more, we can collapse the form and show only the most crucial element: the comment field. When the user clicks on the field, you can expand the form accordingly. A real-world example of this progressive disclosure can be found on the New York Times' beta website:


 **217 COMMENTS**


ALL

READER PICKS



NYT PICKS


Newest ▼

amydm3 San Francisco, CA · 

 FLAG

Why can't the Republican Party refuse to fund recalcitrant tea party members if they refuse to behave like grown ups?

Oct. 2, 2013 at 6:30 p.m. · [REPLY](#) · [RECOMMEND](#) ·  

R. Law Texas · 


Mo, you say " Cruz's sock puppet ", but is Cruz really just doing the bidding of Club for Growth, the Grover Norquist pledge, Heritage, FreedomWorks, etc., and aren't they the real agents manipulating Boehner ?

After all, they're the ones that get people ' primaried ' ?

Obama-care is just the red herring for this crowd to do the government shut-down they've been aching to do ever since Newtie left Congress, since they know it can't be repealed and that even in a government shut-down, Obama-care stays funded.

We're taking our eyes off the constant GOP'er goal of breaking unions (like the federal employee union) and demoralizing/denigrating government and its functions.

This will be even more apparent when Congress is asked to restore the back-pay of federal employees when the ker-fuffle is over.

Oct. 2, 2013 at 5:43 p.m. · [REPLY](#) · [RECOMMEND](#)  7

[View the animated GIF¹⁵¹](#)

You could take this even further by setting the cursor's focus to the comment field when the form expands. This approach has a problem, though: A key principle of interaction design is that an action should always happen close to where the interaction occurs (near the locus of attention). We could go one step further, then, and animate the comment field to orient the user:



COMMENTS

Lorem ipsum dolor sit amet, consetetur
sadiptscing elit, sed diam nonumy eirmod
tempor invidunt ut labore et dolore magna

Name

Email

Leave a comment...

[View the animated GIF¹⁵²](#)

You could even pin the comment field to the top, expand it accordingly and display additional fields below it.

As you can see, this reduces clutter and makes the comment form more inviting. But what about collapsing all of the previous comments, too?

¹⁵¹. <http://www.smashingmagazine.com/wp-content/uploads/2013/10/NY-Times.gif>

¹⁵². <http://www.smashingmagazine.com/wp-content/uploads/2013/10/ExpandingComments.gif>

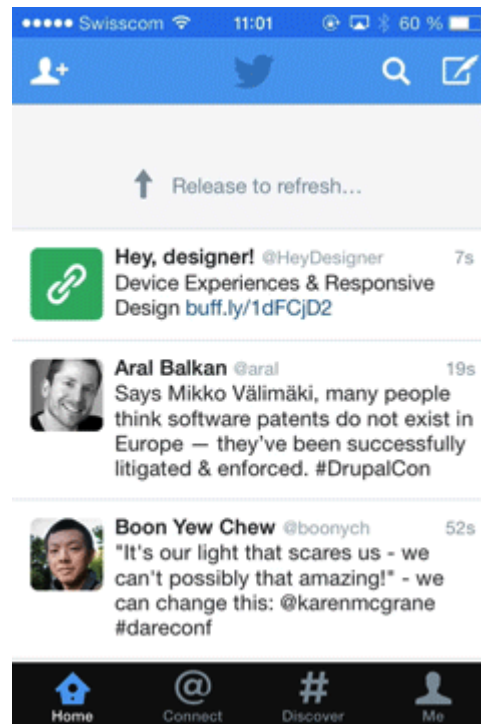
By collapsing the comments, we get the scroll bar to represent the length of the article itself, instead of the entire page. A common practice is to automatically load comments when the user reaches the bottom of a page. We should avoid forcing the user to click unless there is a really good reason to.

Takeaway: Progressively disclose in order to reduce UI components to their essence. Reveal features as the user needs them.

Pull To Refresh

One of the most exciting interactions to emerge shortly after the introduction of the iPhone was “pull to refresh,” pioneered by Loren Brichter. It allows the user to update scrollable reverse-chronological content. You can see this concept in action in Twitter’s app. Once you’ve scrolled to the top of the stream of tweets, scroll a little further to refresh the stream.

Why does this work so well? Before pull to refresh existed, users had to hit the refresh button in their browser to load more content. By connecting the user’s desire of finding more content with the action of refreshing, the need for an explicit action became obsolete.



View the animated GIF¹⁵³

Takeaway: By connecting intent with action, the experience becomes more seamless.

Sticky Labels

Sticky labels are another subtle yet useful combination of a user-interface component and a meaningful transition. Check out Edenspiekermann's use of this technique¹⁵⁴ in its portfolio.

¹⁵³. <http://www.smashingmagazine.com/wp-content/uploads/2013/10/Twitter.gif>

¹⁵⁴. <http://edenspiekermann.com/projects>



[View the animated GIF¹⁵⁵](#)

The project label scrolls along with the content, thus providing context for the images on the right, until the next project appears. This behavior is similar to that of the address book in iOS and is especially helpful for providing context in long sections. The transition offers both improved orientation and smooth context-based descriptions.

Takeaway: Use sticky labels for long sections in which descriptions or titles add valuable information to content that doesn't fit in the viewport.

¹⁵⁵. <http://www.smashingmagazine.com/wp-content/uploads/2013/10/Sticky-Label.gif>

Affordance Transition

The concept of affordance derives from cognitive psychology and refers to particular characteristics of an object that guide the viewer.

In the context of user-interface design, the usability glossary¹⁵⁶ (PDF) of the EU's website defines it as follows:

An affordance is a desirable property of a user interface – software which naturally leads people to take the correct steps to accomplish their goals.

Ridges are often used to enhance affordance. Ridges around a button suggest that the button can be manipulated. This UX technique was widely popularized by the camera app in iOS.

iOS 6's lock screen featured ripples around the camera icon, suggesting draggability. Apple removed it in iOS 7, apparently because users got accustomed to it, making the icon look more like a standalone button now. What happens is still the same, though: When you drag the button, the lock screen bounces up, revealing the camera underneath. This is a great technique to point users to features in an interface.

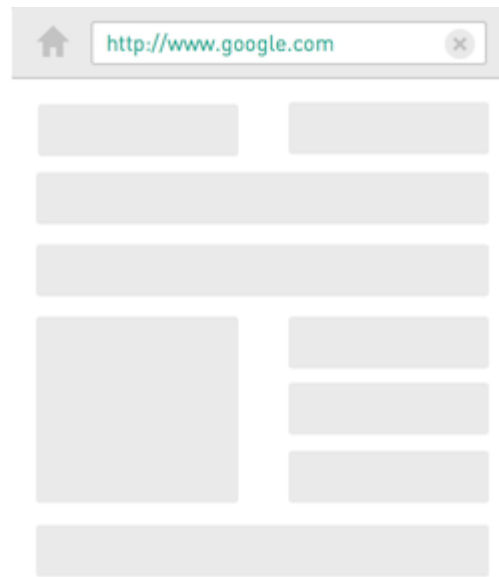
¹⁵⁶. http://ec.europa.eu/regional_policy/archive/country/commu/docevent/26112008/5_doulgerof_glossary.pdf



Takeaway: Give elements a high affordance to point users to features in an interface.

Context-Based Hiding

Google Chrome on iOS has had context-based hiding since it launched. This is what it looks like:



[View the animated GIF¹⁵⁷](#)

The basic idea is that the browser chrome and navigation controls hide automatically once the user scrolls down. As soon as the user scrolls up again, the controls reappear. This approach both enhances the contextual experience (focusing on the content itself) and increases screen space. The latter is, of course, particularly important on mobile devices.

The underlying assumption is that users will flow with the content that they're consuming. As soon as they stop the flow, a change of context is likely required; thus, the navigation controls reappear. While this technique saves screen space, check whether the assumption holds up in your use case.

iOS takes this a step further. When you reach the bottom of a page, the controls expand again. It's a good ex-

¹⁵⁷. <http://www.smashingmagazine.com/wp-content/uploads/2013/10/CBH.gif>

ample of dynamically incorporating the needs of the user in an interface.

Takeaway: Use context-based hiding to enhance the user's focus and save screen space.

Focus Transition

Nikita Vasilyev, a Toronto-based UI designer, came up with a pretty neat idea. He developed a script that animates focused elements. While still experimental, the concept is pretty interesting. Have a look at his [video](https://www.youtube.com/watch?v=MyIE9vjy8Zo)¹⁵⁸. (And please put your earphones on — the music is epic.)

When navigating by keyboard, the user is often not clear on where the focus has moved to upon pressing the Tab key. Animation points them to the right spot on the page. The transition is subtle but has a big impact on orienting the user.

Takeaway: Orient the user, regardless of how they navigate.

Conclusion

These are only a few examples, among many others out there. The point is not to show the latest and fanciest interaction techniques, but rather to highlight how small interaction details can significantly improve the user experience.

¹⁵⁸. <https://www.youtube.com/watch?v=MyIE9vjy8Zo>

If we are to design better digital products, then we need to challenge our current beliefs and see how interaction patterns can potentially ease the user's life. I'm not saying we should reinvent the wheel, but it would be pretty naive to stop exploring. So, get out of your comfort zone. Keep exploring and testing.

If you like this chapter, you can follow me¹⁵⁹ on Twitter, or join me for a bar of Swiss chocolate in Switzerland.

Which transition patterns have you found especially useful in your projects?

FURTHER READING

- Meaningful Transitions: Motion Graphics in the User Interface¹⁶⁰
- "Mission Transition"¹⁶¹, Mark Cossey, Smashing Magazine
- "12 Basic Principles of Animation"¹⁶², by Disney animators Ollie Johnston and Frank Thomas 🐼

¹⁵⁹. <http://www.twitter.com/webchaeschli>

¹⁶⁰. <http://interface.fh-potsdam.de/showcase/what/meaningful-transitions-motion-graphics-in-the-user-interface/>

¹⁶¹. <http://www.smashingmagazine.com/2012/02/28/mission-transition/>

¹⁶². http://en.wikipedia.org/wiki/12_basic_principles_of_animation

How Do You Design Interaction?

BY LUCA LEONE 🐼

If you have to design an interface it's almost obvious to think to begin the process by drawing. But is this the best way? I once casually started by writing an imagined human-computer conversation, and only afterwards I continued by drawing.

This changed my way of thinking and I never went back to drawing first. This chapter will explain the reasons behind my decision.

I have always been a huge admirer of the guys at Basecamp¹⁶³. Some time ago, I was reading a tweet by Jason Zimdars, one of its designers:



Zimdars's tweet¹⁶⁴

¹⁶³. <https://basecamp.com/>

¹⁶⁴. <https://twitter.com/JZ/status/364882720914026496>

“UI design starts with words.” He wasn’t joking. The comment got a lot of retweets, a lot of favorites. Everyone understood what he meant — except me.

Writing Conversations

When I’ve had to design an interface interaction component, I used to start by sketching possible solutions. (Product design is made up of many layers. See, for example, [Jesse James Garrett’s layers](#) (PDF) and [Intercom’s](#)¹⁶⁵. Here, I’m referring to the interaction layer.)

Outcome	Start with the intended outcome. What will the thing you’re designing make easier or better for people? Most projects without a clearly defined intended outcome don’t end well.
Structure	Next design the system. Work out the required components to meet the intended outcome, and map the relationships between them.
Interaction	After the outcome and system are figured out, design the interaction details. What are the microinteractions? The sequences of behaviour and events? What are the UI components and how will people interact with or manipulate them? How will things move, change or animate? Revisit the system, evolve it to match the interactions. Keep iterating.
Visual	Once the outcome, system and interactions are well defined and working (ideally prototyped), design the visual details. Make it look and feel beautiful, enjoyable. Now it’s time for beautiful grids, colour, typography, iconography.

Intercom’s design layers ([Large view](#)¹⁶⁶)

¹⁶⁵. <http://insideintercom.io/the-dribbblisation-of-design/>

¹⁶⁶. <http://www.smashingmagazine.com/wp-content/uploads/2014/07/2-design-interaction-intercom-4-design-layers-explanation-large-opt.jpg>

I used to start by using a pattern that I know or by copying other people's solutions to the problem or to similar problems. Imagine that you have to design a website's registration form. You could start by "stealing" other designers' solutions. Or, if you feel confident, you could read the requirements and start to draw.

But I started by drawing.

I once had to design a shopping-cart process for an e-commerce website. I don't know why, but at the time, before researching possible solutions, I imagined what I do when I go to pay at the supermarket. I wanted to reproduce a similar experience on the web, possibly improving it by exploiting the web's digital capabilities. I wrote down what happens at a supermarket checkout counter:

Cashier: *Hi, do you have a loyalty card?*

Me: *Yes, please. [I give it to her.]*

Cashier: *Thanks.*

Me: *Thank you.*

Cashier: *Do you need some bags?*

Me: *Yes, two please.*

[And so on.]

I realized that imagining the conversation was much easier than drawing on a white canvas. I'm not sure, but I suppose that is true for most people: Conversation is an intrinsic part of human nature. We have evolved as a talking species.

Also, when I imagine a conversation, I draw from my real-life experience, which is good for design — less abstraction. If a user's interaction with a computer resem-

bled a real-life experience, then the interface would probably be considered easy to use, wouldn't it?

Moreover, I pay a lot more attention to words and their meanings when I write than when I draw. The benefit is that when I get around to sketching, I will make fewer mistakes in the copy. Because copy is¹⁶⁷ an extremely important¹⁶⁸ part of any interface, this is a great side effect of writing out conversations.

A Real Example

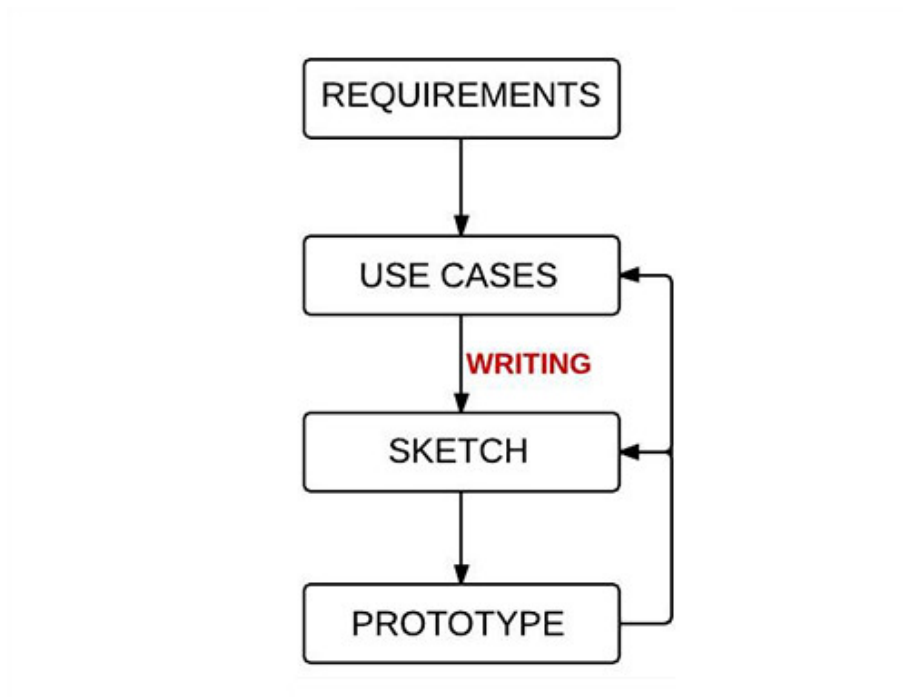
While imagining a conversation is easy, imagining a variation of that conversation is also easy. Back to the supermarket example: I can easily imagine the cashier asking me whether I need bags *before* asking for my loyalty card. It's easy to imagine the cashier asking me a different question. This may or may not change the sketch of the interface. It wouldn't matter if it doesn't change anything — what's important is that I've taken it into consideration. The more variations I can think of, the more confident I will feel that I haven't missed anything in the final design.

I usually go from product requirements to a list of use cases to a mockup (i.e. a low-fidelity sketch or a high-fidelity wireframe, depending on the situation), which becomes the base of the HTML prototype. Ideally, this process would be linear; in reality, it's a loop, in which

¹⁶⁷. https://gettingreal.37signals.com/ch09_Copywriting_is_Interface_Design.php

¹⁶⁸. <http://www.gv.com/lib/5-principles-for-great-interface-copywriting>

each step provides feedback for me to change something in previous steps.



My design steps (Large view¹⁶⁹)

Because writing enables me to see more variations, it improves the effectiveness of the loop between “use cases” and “sketch.”

Let’s see this in an example. The following conversation comes from an actual project, a web app called Medi-address, a press office software. It’s an archive of journalists’ addresses. One of the requirements of the project was that people should be able to send emails to one or more recipients.

¹⁶⁹. <http://www.smashingmagazine.com/wp-content/uploads/2014/07/3-design-interaction-writing-in-design-process-large-opt.jpg>

The use case I was considering was this: A user has mistakenly selected 5 people from a list of 100 and has forgotten to deselect them and instead would like to send an email to the entire list of 100.

VARIATION 1

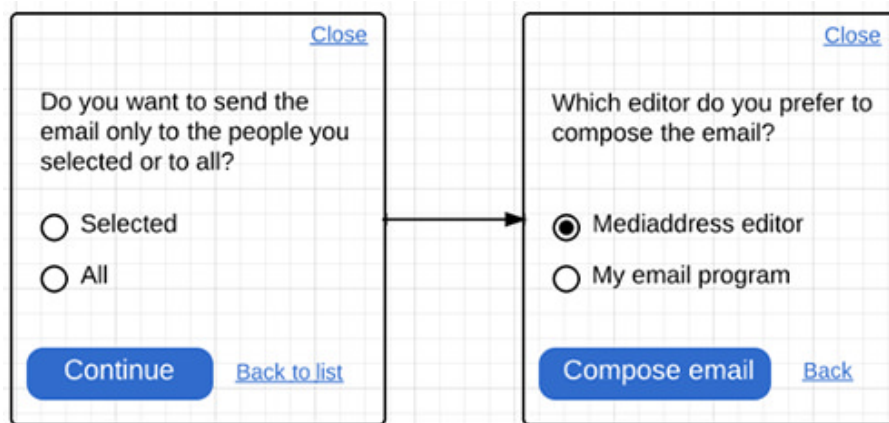
Human: *I'd like to send an email.*

App: *Just to the five you've selected or to all of them?*

Human: *All of them.*

App: *To write the email, would you prefer to use your email program or my editor?*

View a [flowchart of variation 1](#)¹⁷⁰.



Sketch of variation 1 (Large view)¹⁷¹

¹⁷⁰. <http://www.smashingmagazine.com/wp-content/uploads/2014/07/4-design-interaction-variation1-flow-large-preview-opt.jpg>

¹⁷¹. <http://www.smashingmagazine.com/wp-content/uploads/2014/07/5-design-interaction-variation1-sketch-large-opt.jpg>

VARIATION 2

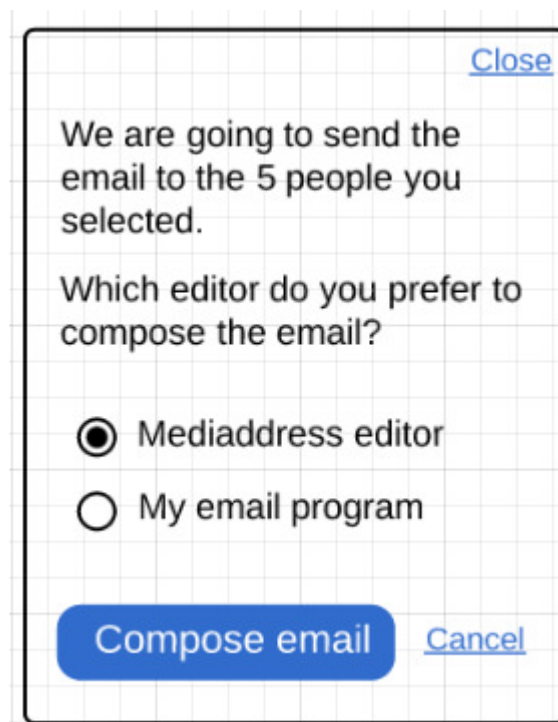
Human: *I'd like to send an email.*

App: *OK, I'll send an email to the 5 you've selected. To write the email, would you prefer to use your email program or my editor?*

Human: *No, wait! I meant to send an email to all 100 of them, not just the 5 I've selected.*

App: *OK, no problem, I'll do that. To write the email, would you prefer to use your email program or my editor?*

View a [flowchart of variation 2](#) ¹⁷².



Sketch of variation 2

¹⁷². <http://www.smashingmagazine.com/wp-content/uploads/2014/07/6-design-interaction-variation2-flow-large-preview-opt.jpg>

Based on the use case, I've written a conversation that can easily be translated into a flow and sketch. Then, I imagined a variation of the conversation, which produced a different flow and sketch. To understand which flow and sketch was better, I compared use cases.

I took the case of the user selecting 5 people from the list but wanting to email the entire list. Was this the most frequent case? I didn't think so. Wouldn't optimizing for a user who actually wants to email those 5 people make more sense?

Design consists of trade-offs. We have to always weight the costs and benefits of our options. But I don't want to get into the details of how I decide which solution is best. I follow many criteria. My point is to show why a written conversation is a useful design tool.

I jump back and forth between written conversation and flowchart and sketch. But the guiding tool is the written conversation. I find it to be the easiest tool to imagine an interaction. The diagrams and sketches (or wireframes) come afterwards. They create order and help me to see the steps clearly. They are also a better tool to communicate with developers and other stakeholders.

To summarize my points:

- Imagining a human-computer conversation and then sketching it is easier than drawing the interface directly.
- Imagined conversations are drawn from real-life experience, while direct sketching is drawn more from remembered design.

- Copy is fundamental to any interface, and writing first and sketching later enables you to concentrate on it at the right time.
- Imagining different conversations is easier than imagining different sketches, which makes it easier to come up with more design options.
- When I write, I am more creative (because I can imagine more variations), and I tend to copy other people's solutions less.

What About Jason's Meaning?

In the end, have I understood what Jason meant by his tweet? Why not ask him directly? I wrote an email asking for his opinion on the method that I've laid out. He was very kind to answer me:

So, I read through the article and I think you've pretty much figured out what I was trying to say with the tweet. Imagining a conversation between the user and the computer is a neat way to think of it. I do something slightly different in my own work. Instead of thinking about the computer at all, I try to imagine how I would explain the feature to a friend. This has the effect of being conversational, clear and helpful. I think it's especially helpful to not think about computers because it's so easy to fall into the patterns we've all seen before; "computer speak," which is terse, leaves out words and sounds nothing like anything people actually say. I want

my UI to read like I'd say it, and that means natural language and full sentences.

I'll certainly rewrite many times in the form of sketches and continue to refine all the way through the process. It's much better to trim and optimize the words than start with too few. That's why I prefer this method to drawing. When you draw, you think too soon about the layout and the available space and what's too long to fit on a button. Those are too many constraints to deal with at once. I find it better to get the words just right and then figure out the visual design.

Here's a quick example. First the computer-speak version you might draw:

"Delete file"
[OK] [Cancel]

Now a version you might actually say:

"Are you sure you want to delete this file?"
[Yes, delete it permanently] or [No, I want to keep it]

That's a little contrived, but you get the idea. I feel like the computer-speak version is an easy trap to fall in when you draw first. I could certainly whittle the second one down to that if space was extremely limited, but why not start with your best version and then consider any compromises?

Here are the lessons I've noted:

- “I think it’s especially helpful to not think about computers because it’s so easy to fall into the patterns we’ve all seen before; ‘computer speak,’ which is terse, leaves out words and sounds nothing like anything people actually say.”
- “That’s why I prefer this method to drawing. When you draw, you think too soon about the layout... I feel like the computer-speak version is an easy trap to fall in when you draw first.”
- “It’s much better to trim and optimize the words than start with too few.”

I followed up with one more question, asking Jason how this method helps him to figure out flow, if it does. I wrote:

Let’s say you have a feature and you start to write. Does writing make you think about the flow or the feature, and because of that you change the flow or the feature? Or is the flow or the feature a separate thinking process? Maybe I would make myself more clear with an example. Imagine a bookmark app:

Me: *Save this web address.*

Computer: *OK.*

A second version:

Me: *Save this web address.*

Computer: *Before I save it, do you want to change the title of the page? And do you want to*

add a short description of the contents of the page? And do you want to tag the page (so that it's easy to retrieve it later)?

The second version changes the flow. Now, when I want to save a web address, a forms pops up. In the first version, I would just see confirmation feedback.

Here is Jason's answer:

So, how the flow factors in depends on the situation. Many times features aren't completely isolated. They fit into existing flows and screens — or at least start from there. So, I may have some idea of the flow already in mind. But I'm always open to improving that if the writing leads me in another direction. But even if it's something completely new, I'll start with writing because that helps me figure out the flow. If it takes a lot of steps to explain the flow to your friend, then maybe it needs to be broken up into similar literal steps in software. So, a typical writing sketch might include several blocks of copy as I figure out the flow. I think the important part of the exercise is figuring out how you might think of it in the real world, rather than simply thinking of it purely as a software problem. That leads to fresh insights.

These two emails seem to validate my method. They also give me new insight. Coming from a superior designer, the feedback fills me with joy. I thought I had an original idea, but maybe it was just a side effect of having carefully read what the smart guys at Basecamp have written¹⁷³. I'm not joking either.

FURTHER RESOURCES

- “[5 Principles for Great Interface Copywriting¹⁷⁴](#),” John Zeratsky, Google Ventures
- “[Copywriting Is Interface Design¹⁷⁵](#),” from *Getting Real*, 37signals
- “[The Dribbblisation of Design¹⁷⁶](#),” Paul Adams, Intercom
- [The Elements of User Experience¹⁷⁷](#) (PDF), Jesse James Garrett
- “[BCX: Exporting¹⁷⁸](#),” 37signals
Jason Zimbars and Jason Fried’s discussion of UI design



¹⁷³. <https://public.basecamp.com/1679267/projects/343643-bcx-exporting/todos/5157955-design-the-ui-for>

¹⁷⁴. <http://www.gv.com/lib/5-principles-for-great-interface-copywriting>

¹⁷⁵. https://gettingreal.37signals.com/ch09_Copywriting_is_Interface_Design.php

¹⁷⁶. <http://insideintercom.io/the-dribbblisation-of-design/>

¹⁷⁷. <http://www.jjg.net/elements/pdf/elements.pdf>

¹⁷⁸. <https://public.basecamp.com/1679267/projects/343643-bcx-exporting/todos/5157955-design-the-ui-for>

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¹⁷⁹. <http://www.twitter.com/webchaeschtli>

¹⁸⁰. <http://ia.net/>

¹⁸¹. <http://azumbrunnen.me/blog/>

¹⁸². <http://www.trebleapps.co/>

¹⁸³. <http://res.im/>

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¹⁸⁴. <https://www.samsonite.ca/>

¹⁸⁵. <http://www.3m.com/>

¹⁸⁶. <http://www.senecacollege.ca/>

¹⁸⁷. <http://www.twitter.com/jonrundle>

¹⁸⁸. <http://www.twitter.com/luc4leone>

¹⁸⁹. <http://www.mobify.com/>

Paul Boag

Paul Boag has been working with the web since 1994. He is now co-founder of the web design agency [Headscape](#)¹⁹¹, where he works closely with clients to establish their web strategy. Paul is a prolific writer having written the [Website Owners Manual](#)¹⁹², [Building Websites for Return on Investment](#)¹⁹³, [Client Centric Web Design](#)¹⁹⁴, [Digital Adaptation](#)¹⁹⁵ and numerous articles for publications such as .net magazine, Smashing Magazine and the Web Designers Depot. Paul also speaks extensively on various aspects of web design both at conferences across the world and on his award winning Web design podcast [boagworld](#)¹⁹⁶. Twitter: [@boagworld](#)¹⁹⁷.

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¹⁹⁰. <http://www.twitter.com/kpeatt>

¹⁹¹. <http://headscape.co.uk/>

¹⁹². <http://boagworld.com/websiteownersmanual>

¹⁹³. <http://boagworld.com/books>

¹⁹⁴. <http://boagworld.com/books/clientcentric/>

¹⁹⁵. <http://boagworld.com/season/8/>

¹⁹⁶. <http://boagworld.com/podcast/>

¹⁹⁷. <http://www.twitter.com/boagworld>

¹⁹⁸. <https://twitter.com/sorpeen>

About Smashing Magazine

Smashing Magazine¹⁹⁹ is an online magazine dedicated to Web designers and developers worldwide. Its rigorous quality control and thorough editorial work has gathered a devoted community exceeding half a million subscribers, followers and fans. Each and every published article is carefully prepared, edited, reviewed and curated according to the high quality standards set in Smashing Magazine's own publishing policy²⁰⁰.

Smashing Magazine publishes articles on a daily basis with topics ranging from business, visual design, typography, front-end as well as back-end development, all the way to usability and user experience design. The magazine is—and always has been—a professional and independent online publication neither controlled nor influenced by any third parties, delivering content in the best interest of its readers. These guidelines are continually revised and updated to assure that the quality of the published content is never compromised. Since its emergence back in 2006 Smashing Magazine has proven to be a trustworthy online source.

¹⁹⁹. <http://www.smashingmagazine.com>

²⁰⁰. <http://www.smashingmagazine.com/publishing-policy/>