

Psychology of Web Design

A large, stylized, maroon-colored letter 'U' is positioned in the bottom right corner of the page. The background of the entire page is a vibrant pink, featuring a network of white lines connecting circular nodes of varying sizes. Some nodes are solid white, while others are solid maroon. In the bottom right, there are several overlapping, semi-transparent white and light pink circular shapes that create a layered effect behind the letter 'U'.

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ABOUT SMASHING MAGAZINE

[Smashing Magazine](#) 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 policy. 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.

ABOUT SMASHING MEDIA GMBH

[Smashing Media GmbH](#) is one of the world's leading online publishing companies in the field of Web design. Founded in 2009 by Sven Lennartz and Vitaly Friedman, the company's headquarters is situated in southern Germany, in the sunny city of Freiburg im Breisgau. Smashing Media's lead publication, Smashing Magazine, has gained worldwide attention since its emergence back in 2006, and is supported by the vast, global Smashing community and readership. Smashing Magazine had proven to be a trustworthy online source containing high quality articles on progressive design and coding techniques as well as recent developments in the Web design industry.

About this eBook

Among the most important ingredients for successful Web designs are creativity, planning, coding and design skills. However, many people forget that various psychological factors also play an important role when making design decisions. **Psychology of Web Design** gives you insights on how the human brain deals with different elements, colors, contrast, symmetry and balance. Combining the usability guidelines from Maslow's pyramid will surely help you design closer to your audience's desires.

Table of Contents

[Designing For The Mind](#)

[Persuasion Triggers In Web Design](#)

[Designing For A Hierarchy Of Needs](#)

[10 Useful Usability Findings And Guidelines](#)

[30 Usability Issues To Be Aware Of](#)

[Designing For Start-Ups: How To Deliver The Message Across](#)

[Color Theory For Designers, Part 1: The Meaning Of Color](#)[hyperlink](#)

[Color Theory For Designers, Part 2: Understanding Concepts And Terminology](#)

[Color Theory For Designer, Part 3: Creating Your Own Color Palettes](#)

[About The Authors](#)

Designing For The Mind

Francisco Inchauste

Do you know what makes a design good?

Is it merely an opinion, or is there something more to it? Breaking design down seems like such an abstract thing. Even the designers who are able to create thought-provoking work seem purely talented and have natural abilities that can't really be nailed down to a process. But what if there were principles that captured why design and art worked the way that they do?

There are many beautiful designs that have been created on both a conscious and unconscious level. The downside of a designer continuing to create on an unconscious level is that the decisions they make appear somewhat random. For example, think if you were to ask a pilot why they clicked a few switches and they answered, "It just feels like the right switches to me," rather than, "I need to adjust the wings to reduce wind drag." As a passenger, the second would make us feel safer and confident in the pilot's abilities.

There is a real power that comes from being able to identify and speak to what makes your design meaningful. In the story of the Joshua Tree (Sidebar) we learn that once you recognize and understand something, it unlocks a new level of perception. In this article we'll take a look at some principles that make the aesthetics of design attractive to people, and explanations on why they do. The more you become conscious of how design works the better you are able to communicate and judge design decisions.

“Many years ago I received a tree identification book for Christmas. The first tree in the book was the Joshua tree because it took only two clues to identify it. Now the Joshua tree is a really weird-looking tree and I looked at that picture and said to myself, “Oh, we don’t have that kind of tree in Northern California. That is a weird-looking tree. I would know if I saw that tree, and I’ve never seen one before.”



THE JOSHUA TREE

So I took my book and went outside. I had lived in that house for thirteen years, and I had never seen a Joshua tree. I took a walk around the block, and there must have been a sale at the nursery when everyone was landscaping their new homes — at least 80 percent of the homes had Joshua trees in the front yards. And I had never seen one before. Once I was conscious of the tree, once I could name it, I saw it everywhere. Which is exactly my point. Once you can name something, you’re conscious of it. You have power over it. You own it. You’re in control.”

Hello, I'm Your Brain

Design is powerful because of the way our brain processes visuals. We might think of vision working by our eyes pulling in images and projecting them in the back of our mind. If this were the case then there would no be design or art. There are in fact 30 areas in the back of your brain that process different aspects of the image. The various vision processing areas of the brain are individually recreating the design. So, in a way, the viewer is also an artist. In reality, design and art stimulate the mind more than a realistic image would do. Which is why it affects us differently. Randomly placing objects on a screen do not create the same reaction. There must be purpose to the visual distortion/arrangement for the mind to pick up.



It would be nearly impossible to lock down all the various styles of design that are out there. Sure, we can categorize them into bigger buckets and generalize with words like “clean,” or “grunge,” and designers certainly understand what kind of design to expect from those words. Although at the surface there is a difference between them, at their very core the brain is being stimulated by them in the same way.

The principles below are based on studies of the brain and neurological research that have been presented a variety of ways online. In this article I have attempted to present them in a way that best relates them to design.

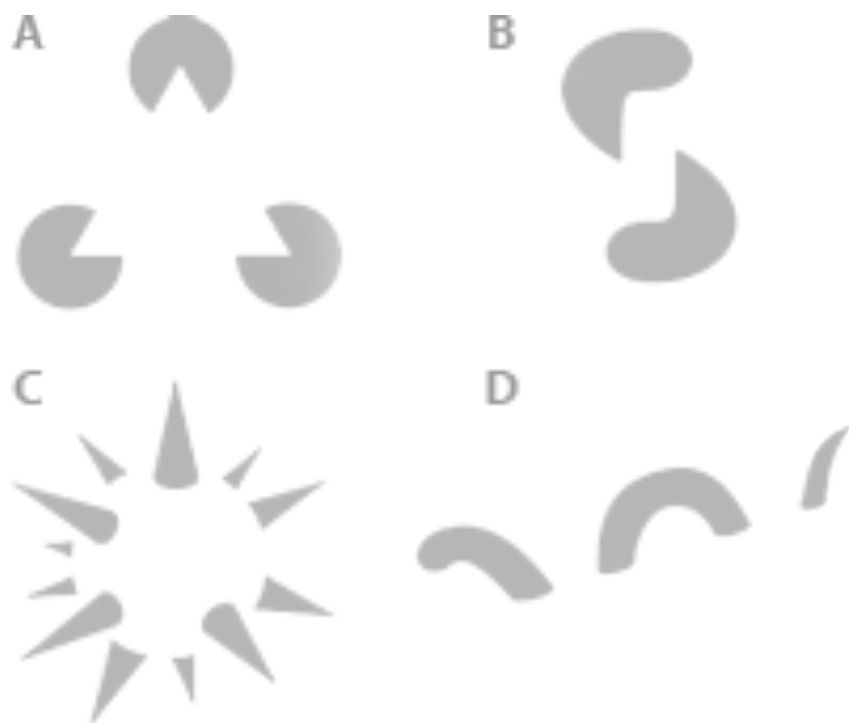
The Principles of Aesthetic Experience

GROUPING

When you look at a design layout and notice subtle touches — like the links of a specific color — this is not just a nice design touch, or good usability. It is tapping into the way your mind groups together things like shapes or colors. This technique is used heavily in design and plays off the mind’s natural tendency to try and find connections in elements. For example, in logos like FedEx, the arrow is created in the mind by grouping the negative space between the “E” and the “X.”



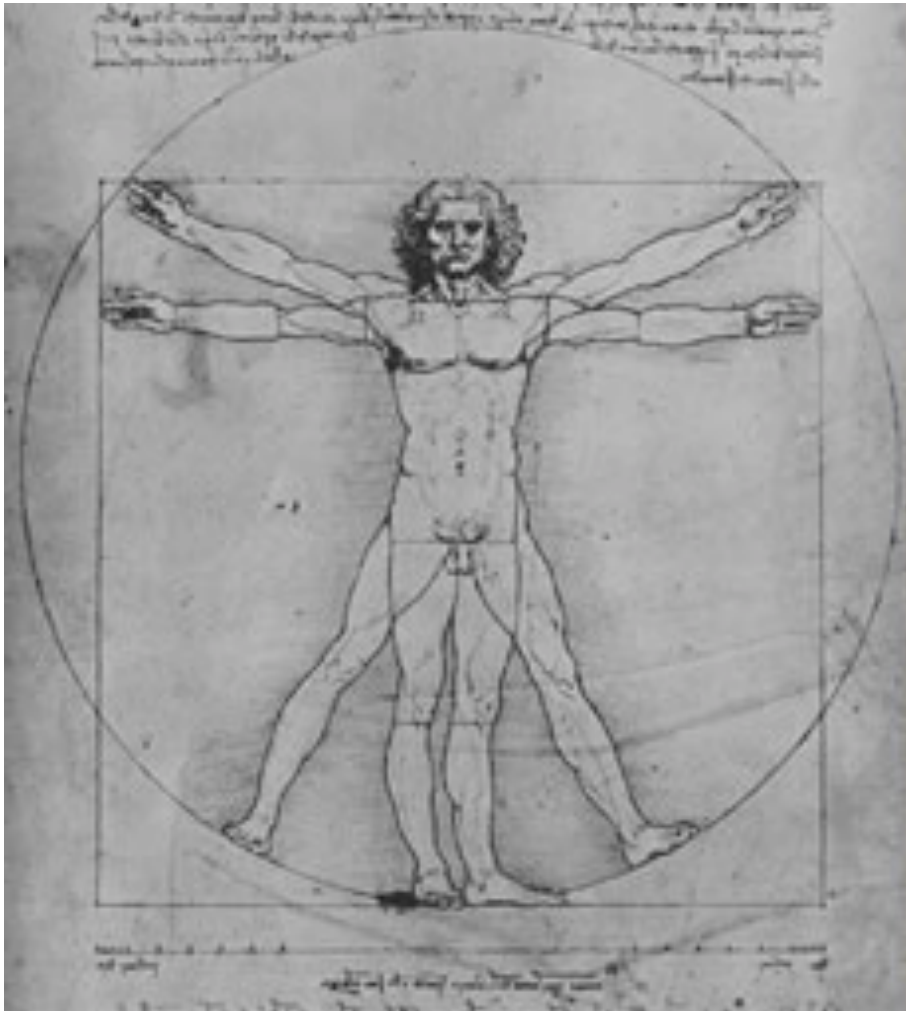
The neural mechanisms that we are tapping into are the same as those that evolved as a survival trait in the brain to protect us from predators and defeat their camouflage. Consider an early human seeing a golden color behind some foliage. The mind grouped those together as one whole so we can tell that there is a lion waiting behind the leaves. There are a set of design principles known as Gestalt Theory which breakdown the various types of grouping into specific categories. These can be explored for further understanding of grouping.



SYMMETRY AND BALANCE

A symmetrical object taps into the same neural machinery made to help the mind detect other people or predators. The more symmetrical and balanced something like a human face is, the more perceived beauty that is interpreted by the mind. No human face is perfectly symmetrical, however when the two sides are nearly equal, they are seen at a metacognitive level as more beautiful. Some scientists have argued this is because asymmetrical

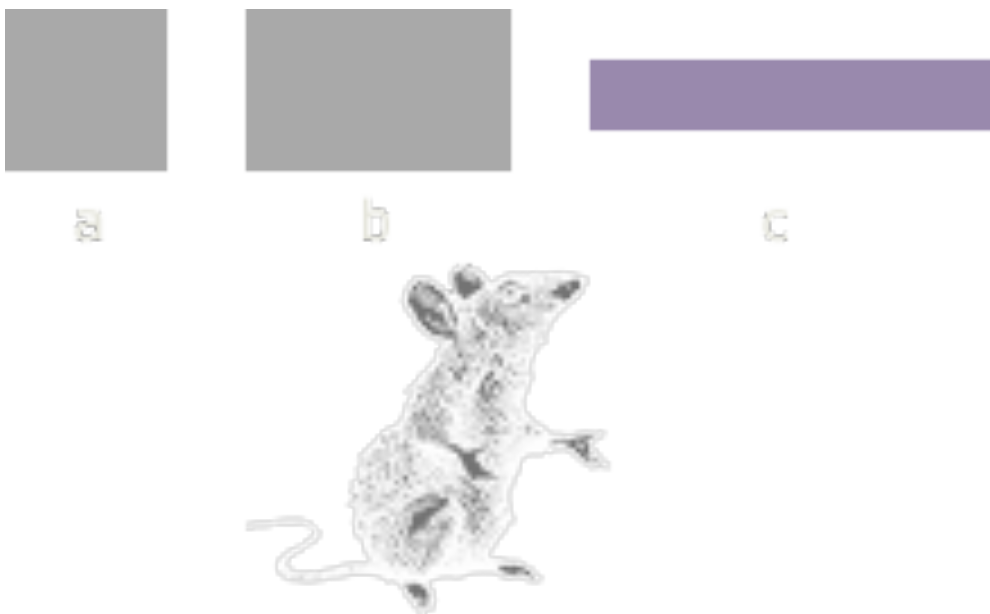
organisms are suffering from disease and the mind has evolved to recognize that.



So, when we create symmetry and balance in a design through the use of guides like the grid and specific sizing of elements, we are creating something that is more perfect (almost hyperreal) compared to what is found in naturally created objects or organisms. It can be argued that most design is asymmetrical, however there must be a balance in the design. If that balance is not there, the mind will see the layout as asymmetrical and potentially awkward or wrong.

PEAK SHIFT

Peak shift is how the mind reacts to differences between elements. The more you exaggerate those differences the more you are drawn to them. For example, If you were to present a lab rat with a square and a rectangle and teach it that the rectangle will get them food, and the square will not, it will obviously go for the rectangle. If you add a third element, a longer, skinny rectangle, the rat will be drawn to that more than the other one because the form has been exaggerated.



This same principle is applied to viewing a realistic drawing and a caricature of a person. To the mind the caricature looks almost closer to the person than the realistic drawing. The mind picks up on the differences that have been accentuated.



We notice this done in many designs with lighting for example. The shadows and reflections, or soft spotlights behind elements is an exaggerated version of what occurs with natural lighting. By pumping up these effects we are creating a more aesthetically appealing lighting in our compositions.

ISOLATION

As designers we learn to create focus on the essential elements of a layout and simplify the message that we are trying to communicate. In art, a drawing that is merely a minimal outline of the subject can be much more powerful than a 3D rendition of the same thing. This is why a sketch is more effective as art than a full color photo.



The principle of isolation is removing the gratuitous visual information that might clutter the design and concentrating on the essentials. It directs attention to what matters. By extracting what is critical and only showing that, the mind reacts strongly to this.

PERCEPTUAL PROBLEM SOLVING

When watching a horror movie the directors have setup the scenes to play off of this principle. The longer the monster or killer in the film remain in the shadows or only revealed in small pieces, the more frightening the film is. The fear is created in your mind and imagination. If during the entire film you saw the killer or creature in daylight, there would be nothing that scary about it.



Perceptual Problem Solving is forcing the mind to try and figure out, or imagine, what the object looks like. The struggle almost introduces pleasure and forces the mind to figure out the image. This stimulates the mind more than just being literal with something, but rather teasing the mind with pieces of it and building up to a big reveal.

CONTRAST

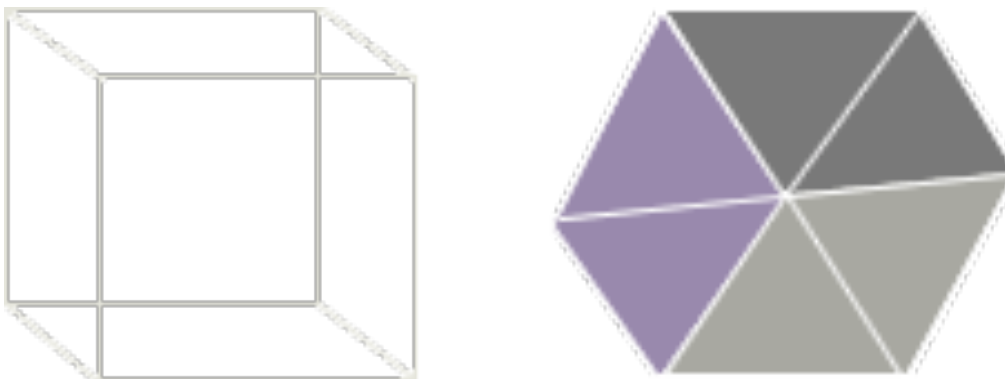
We know contrast well as a graphic design principle in relation to light versus dark, curves versus angles, and dynamic versus static. This contrast is in how the human retina and brain respond more to the edges and sharp stepped changes in color or gradation. The visual information mainly is in the area of change like the outline/edge of a person and the color wash background. Therefore, this becomes a more interesting and attention grabbing area for the eye and brain to focus.



So, by adding other dimensions of contrast to the design, like texture or color, the design attracts the cells and holds their attention. Contrast can also exist as repetitive elements like black and white lines that create a sort of visual rhythm for the eye to follow. Creating areas that contrast each other is vital to a dynamic and well-composed design.

GENERIC VIEWPOINT

When given an object to view the mind prefers a less complex vantage point. Take for example the cubes in the image to the right. The one on the left looks to us like what a cube should look like, because it is from a generic viewpoint. The cube on the right appears to be a flat hexagon to most people because it is from a very specific viewpoint. With the sides filled in with color we can finally see the cube. So although there are exceptions to this rule, this more generic viewpoint is usually more aesthetically pleasing.



METAPHOR

Designers understand the use of metaphor very well. It is used in creating a familiar user experience by tapping into real objects that people already understand. In this case the understanding of metaphor is a bit different. The metaphor is a sort of mental tunnel between two objects that at first seem unrelated. On an unconscious level though, the mind has already made the association.



Some examples of this are Shakespeare saying, “Juliet is the sun.” In this case he is relating Juliet to being warm and nurturing, not that she is an object in our solar system. Good metaphors are easy to grasp and universal. Some design or imagery is compelling — because of the use of metaphor — the moment we see it. That is because before we even understand why, our mind has already deciphered it.

Knowledge Is Power

Great artists, like Monet, were experts at employing principles like peak shift into their work. Although, I'm not sure he ever had to present designs to a client like we do today. Sometimes it seems like a lack of (design) understanding gives the client an upper hand. The difference between you and your client's neighbor's friend's 13 year-old kid with a copy of Photoshop is that they have to pay you more. Which really means that unfortunately to many clients you are both the same.

Experience and your portfolio of work certainly matter. But each client is completely different with how they judge design. Paul Rand described business clients as this:

“It is their uninformed, unfocused preferences or prejudices, their likes or dislikes that too often determine the look of things. Yet, much of the time, they are not even discriminating enough to distinguish between good and bad, between trendy and original, nor can they always recognize talent or specialized skills.”

In the end it is up to the designer to communicate the decisions they made in creating their solution. Understanding some of these principles won't help you decide what style of design to use, or what colors are best. There are differences on cultural levels or project goals that affect things like that. However, knowing what these principles are and why they work will help you create effective designs and hopefully help to give you (the designer) some of that power back.

Persuasion Triggers In Web Design

David Travis

How do you make decisions? If you're like most people, you'll probably answer that you pride yourself on weighing the pros and cons of a situation carefully and then make a decision based on logic. You know that other people have weak personalities and are easily swayed by their emotions, but this rarely happens to you.

You've just experienced the fundamental attribution error — the tendency to believe that other people's behaviour is due to their personality (“Josh is late because he's a disorganised person”) whereas our behaviour is due to external circumstances (“I'm late because the directions were useless”).

Cognitive biases like these play a significant role in the way we make decisions so it's not surprising that people are now examining these biases to see how to exploit them in the design of web sites. I'm going to use the term ‘persuasion architects’ to describe designers who knowingly use these techniques to influence the behaviour of users. (Many skilled designers already use some of these psychological techniques intuitively — but they wouldn't be able to articulate why they have made a particular design choice. The difference between these designers and persuasion architects is that persuasion architects use these techniques intentionally).

There are 7 main weapons of influence in the persuasion architect's arsenal:

- Reciprocation
- Commitment
- Social Proof
- Authority
- Scarcity
- Framing
- Salience

How do persuasion architects apply these principles to influence our behaviour on the web?

Reciprocation

“I LIKE TO RETURN FAVORS.”

This principle tells us that if we feel we have been done a favor, we will want to return it. If somebody gives you a gift, invites you to a party or does you a good turn, you feel obliged to do the same at some future date.

Persuasion architects exploit this principle by giving users small gifts — a sample chapter from a book, a regular newsletter or just useful information — in the knowledge that [users will feel a commitment to offer something in return.](#)

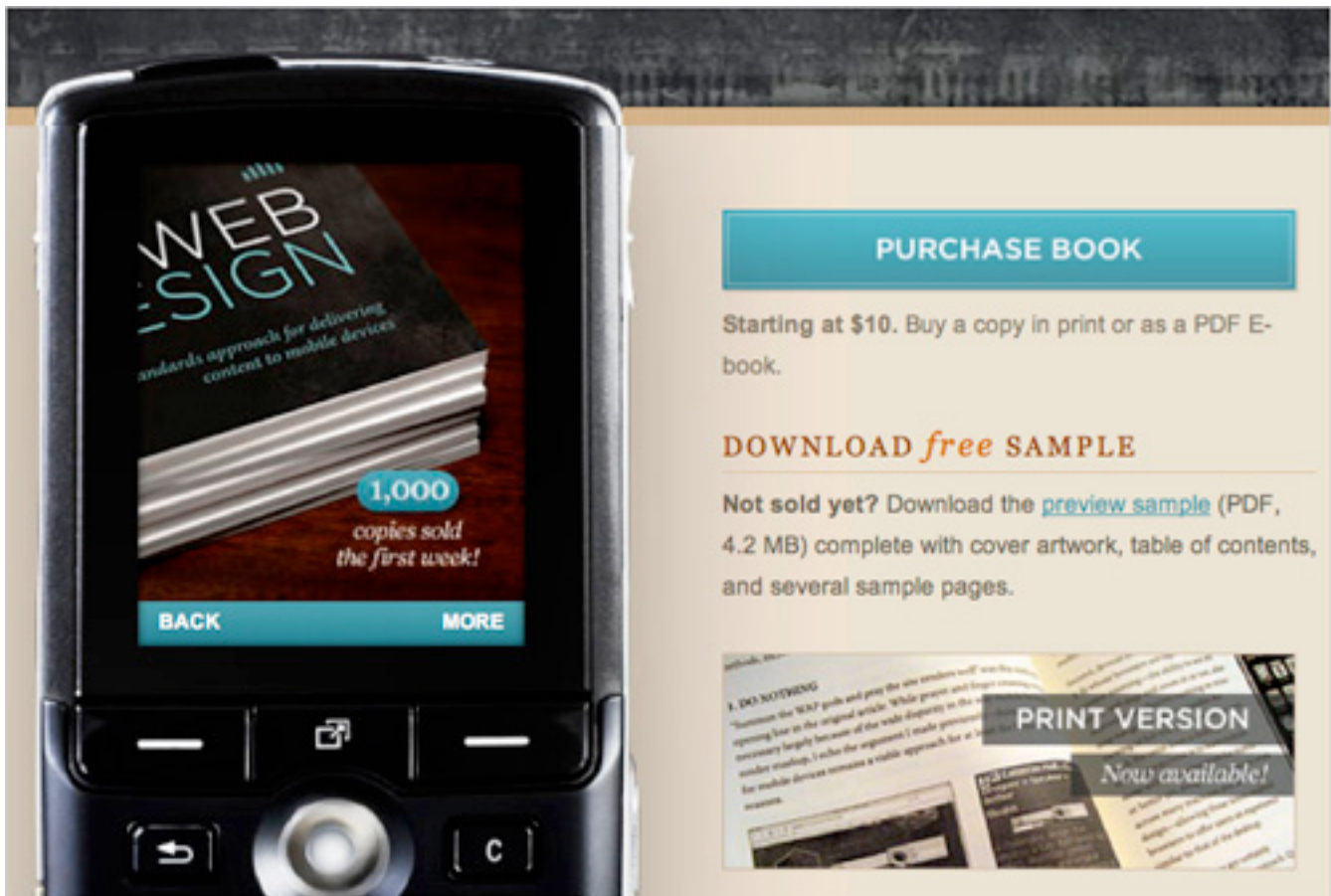


Fig. 1: Book publishers offer free sample chapters in the hope that you'll reciprocate the favour and buy the book.

That 'something in return' need not be a purchase (not yet, anyway). Persuasion architects know that they need to contact prospective customers on several occasions before they become an actual customer — this is why regular newsletters are a staple offering in the persuasion architect's toolkit. So in return they may simply *ask* for a referral, or a link to a web site, or a comment on a blog. And note the emphasis on 'ask'. Persuasion architects are not shy of asking for the favor that you 'owe' them. (By the way, if you've enjoyed this article, please [share it on Twitter!](#)).

This ebook is available for free by visiting
<http://www.sethgodin.com>. Click on my head to find my blog. If you bought it, you paid too much.

In return, I'd consider it a mutual favor if you'd click here:
<http://feeds.feedburner.com/typepad/sethsmainblog>

and subscribe to the RSS feed of my blog. You get the latest on my doings, and I get to find you when I've got something neat to share. Like my new ebooks or the latest on my new secret project...

Fig. 2: Seth Godin knows how to leverage the principle of reciprocation. This comes from one of Seth's free PDFs and you'll notice he's not shy of asking you to return the favor. [Large view](#)

Commitment

“I LIKE TO DO WHAT I SAY.”

This principle tells us that we like to believe that our behavior is consistent with our beliefs. Once you take a stand on something that is visible to other people, you suddenly feel a drive to maintain that point of view to appear reliable and constant.

A familiar example of this in action is when comments on a blog degrade into a flame war. Commentators are driven to justify their earlier comments and often become even more polarized in their positions.



Fig. 3: Flamewars.net contains many examples of people justifying their commitment to comments they have made on a blog posting.

Persuasion architects apply this principle by asking for a relatively minor, but visible, commitment from you. They know that if they can get you to act in a particular way, you'll soon start believing it. For example, an organization may ask you to 'Like' one of their products on Facebook to watch a video or get access to particular content. Once this appears in your NewsFeed, you have made a public commitment to the product and feel more inclined to support it.



Fig. 4: [Oxfam](#) uses the principle of commitment in the knowledge that a small change in behaviour will lead to larger changes later on.

Social Proof

“I GO WITH THE FLOW.”

This principle tells us that we like to observe other people’s behavior to judge what’s normal, and then we copy it.

Persuasion architects apply this principle by showing us what other people are doing on their web sites. For example, [researchers at Columbia University](#) set up a web site that asked people to listen to, rate and download songs by unsigned bands. Some people just saw the names of the songs and bands, while others — the “social influence” group — also saw how many times the songs had been downloaded by other people.

In this second group, the most popular songs were much more popular (and the least popular songs were less popular) than in the independent

condition, showing that people’s behaviour was influenced by the crowd. Even more surprisingly, when they ran the experiment again, the particular songs that became “hits” were different, showing that social influence didn’t just make the hits bigger but also made them more unpredictable.

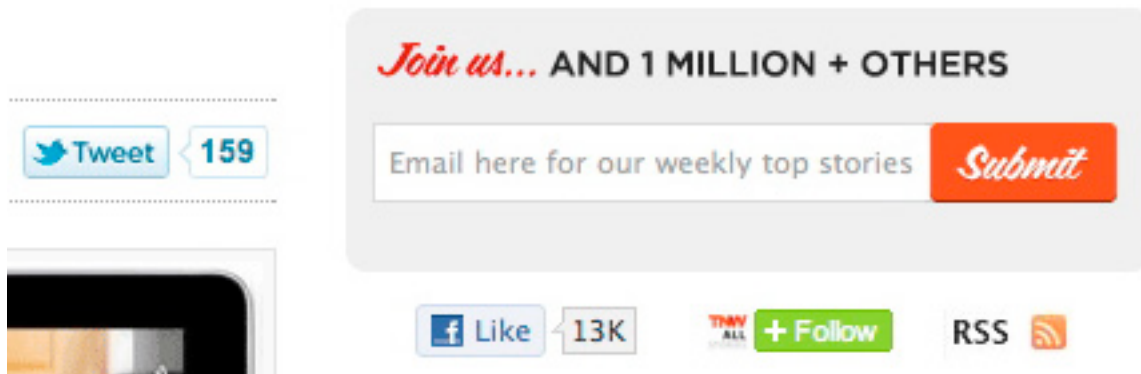


Fig. 5: 1 million people can’t be wrong (from thenextweb.com).

Some familiar examples of social proof on the web are, “People who shopped for this product also looked at...” feature and Amazon’s, “What do customers ultimately buy after viewing this item?”.

Persuasion architects also exploit this principle in the power of defaults. They know that the default setting of a user interface control has a powerful influence over people’s behavior. We tend to see the default setting as a ‘recommended’ option — the option that most other people would choose in our situation. There are many examples of this being used as a [black hat usability technique](#), where additional items (like insurance) are sneaked into the user’s basket.

RYANAIR.COM

Search » Select » **Services** » Payment » Itinerary

Passenger Details - All passenger names must match those in the passport/accepted travel document

1	Mr	Fred	Flintstone		0.00 GBP
Beat the queues, buy priority boarding: Yes <input type="radio"/> No <input type="radio"/>					0.00 GBP
Buy AXA travel insurance with free winter sports upgrade. View policy benefits United Kingdom					9.76 GBP

If you do not wish to buy insurance select **No Travel Insurance** in the drop down menu.

Fig. 6: When you book a flight, [RyanAir](#) sneak travel insurance into your basket too.

Authority

“I’M MORE LIKELY TO ACT ON INFORMATION IF IT’S COMMUNICATED BY AN EXPERT.”

This principle is about influencing behavior through credibility. People are more likely to take action if the message comes from a credible and authoritative source. That’s why you’ll hear people name dropping and it’s also what drives retweets on Twitter.



code8 Code8 Design+Code

> @smashingmag Communicating errors - <http://bit.ly/cDJ0nR> - Nice read about usability, written by @userfocus

17 Nov



borislavkiprin Borislav Kiprin

RT @smashingmag: Communicating errors - <http://bit.ly/cDJ0nR> - Nice read about usability, written by @userfocus

17 Nov



digitalldesigns Mike Archer

RT @smashingmag: Communicating errors - <http://bit.ly/cDJ0nR> - Nice read about usability, written by @userfocus #usability

17 Nov



smashingmag Smashing Magazine

Communicating errors - <http://bit.ly/cDJ0nR> - Nice read about usability, written by @userfocus

17 Nov

Fig. 7: A tweet from @smashingmag is likely to be retweeted because the brand has such authority.

For design guidance, we can turn to the [Stanford Persuasive Technology Lab](#) (founded by B.J. Fogg) as they have developed a number of guidelines for the credibility of web sites. These guidelines are based on research with over 4,500 people and are based on peer-reviewed, scientific research. Thanks to their research, we know that you should highlight the expertise in your organisation and in the content and services you provide; show that honest and trustworthy people stand behind your site; and avoid errors of all types, no matter how small they seem.

Persuasion architects exploit this principle by providing glowing testimonials on their web site. If it's an e-commerce site they will have highly visible icons

showing the site is secure and can be trusted. If the site includes a forum, they'll give people the opportunity to rate their peers: for example, some web forums (like [Yahoo! Answers](#)) let users vote up (or down) answers to posted questions. The top ranked answer is then perceived to be the most authoritative.

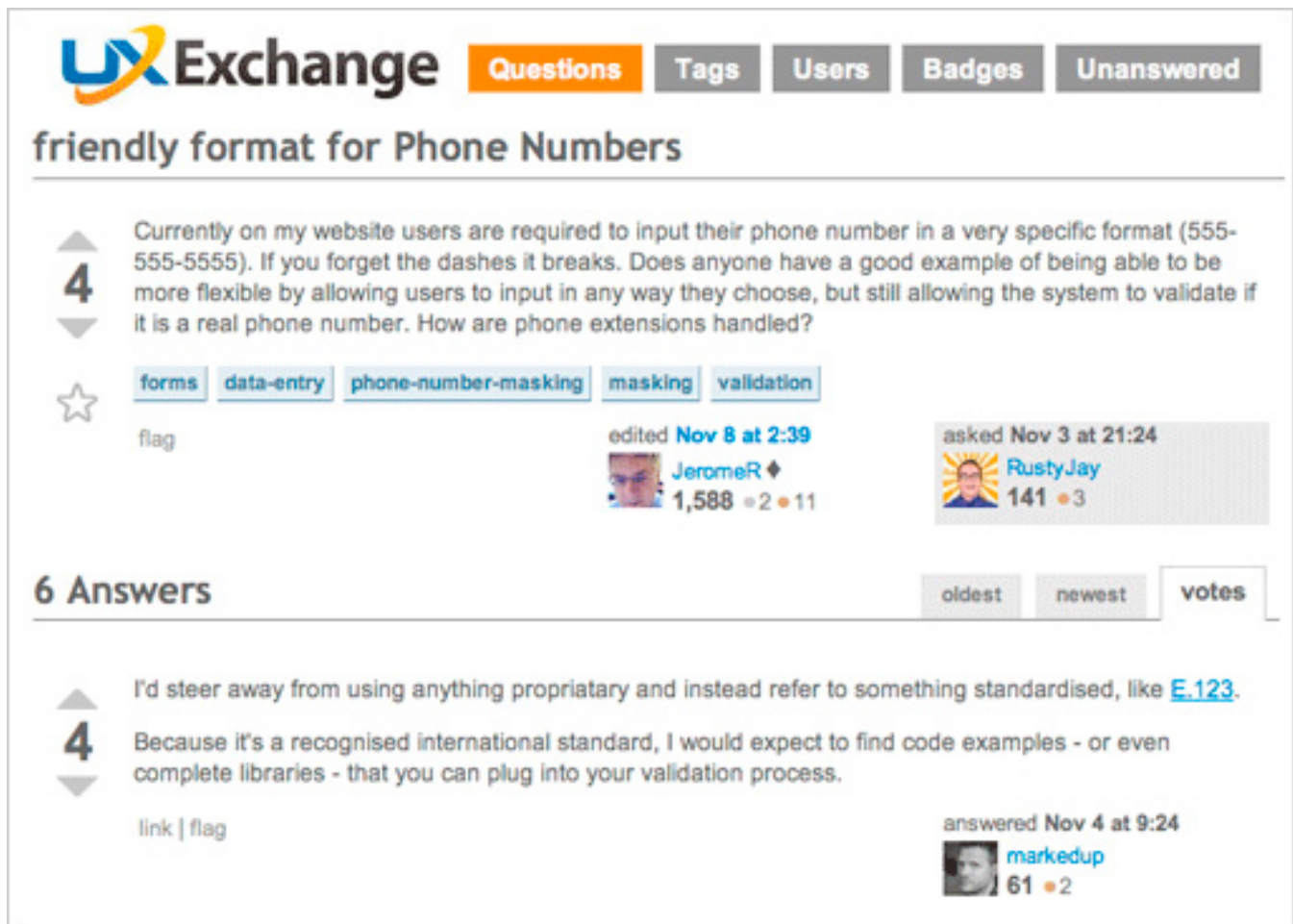


Fig. 8: [UXExchange](#) allows users to vote up and vote down answers to questions, ensuring that the most authoritative answer rises to the top.

Scarcity

“IF IT’S RUNNING OUT, I WANT IT.”

This principle tells us that people are more likely to want something if they think it is available only for a limited time or if it is in short supply.

Intriguingly, this isn’t just about the fear of missing out (a kind of reverse social proof). Scarcity actually makes stuff appear more valuable. For example, psychologists have shown that if you give people a chocolate biscuit from a jar, they rate the biscuit as more enjoyable if it comes from a jar with just 2 biscuits than from a jar with 10.

Persuasion architects exploit this by revealing scarcity in the design of the interface. This could be an item of clothing that is running short in your size, theatre tickets that are running out, or invitations to a beta launch. They know that perceived scarcity will generate demand.

Related to this is the ‘closing down’ sale. One of the artists at my friend’s art co-op recently decided to quit the co-op and announced this with a sign in-store. She had a big rush on sales of her art. Then she decided not to quit after all. So pretending to go out of business might be a ploy!

OXO Good Grips Snap-Lock Can Opener

by [OXO](#)

★★★★☆ ☒ (28 customer reviews)

Price: **£13.50**

In stock.

Dispatched from and sold by [HGP Direct](#).

Only 4 left in stock--order soon.



Fig. 9: Phrases like ‘only 4 left in stock’ seem to stimulate a primal urge not to miss out.

Framing

“I’M STRONGLY INFLUENCED BY THE WAY PRICES ARE FRAMED.”

This principle acknowledges that people aren’t very good at estimating the absolute value of what they are buying. People make comparisons, either against the alternatives you show them or some external benchmark.

One example is the way [a restaurant uses an “anchor” dish on its menu](#): this is an overpriced dish whose sole aim is to make everything else near it look like a relative bargain. Another example is the [Goldilocks effect](#) where you provide users with three alternative choices. However, two of the choices are decoys: one is an overpriced, gold plated version of your product; another is a barely functional base version. The third choice — the one you want people to choose — sits midway between the other two and so feels “just right.”

Our best broadband deals	Broadband and Evening & Weekend Calls	More Broadband and Calls	Unlimited Broadband and Calls	TV, Broadband and Calls
Broadband and Evening & Weekend Calls	More Broadband and Calls	Unlimited Broadband and Calls	TV, Broadband and Calls	
AUTUMN DEAL FREE for 3 months	£7.49^{pm} for 3 months	£19.99^{pm} for 3 months	£17.99 a month	
then £13.99 a month + line rental from £9.49 (18 month contract)	then £17.99 a month + line rental from £9.49 (18 month contract)	then £27.99 a month + line rental from £9.49 (18 month contract)	+ line rental from £9.49 (24 month contract)	
Get it now	Get it now	Get it now	Get it now	
Monthly usage: 10 GB	Monthly usage: 40 GB	Monthly usage: Unlimited	Monthly usage: 40 GB	
Up to 20Mb speed ?	Up to 20Mb speed ?	Up to 20Mb speed ?	Up to 20Mb speed ?	
BT Home Hub included ?	BT Home Hub included ?	BT Home Hub included ?	BT Home Hub included ?	
FREE Wi-Fi Access ?	FREE Wi-Fi Access ?	FREE Wi-Fi Access ?	FREE Wi-Fi Access ?	
Unlimited Calls UK^ landlines at Evening and Weekend ?	Unlimited UK^ Weekend calls ?	Unlimited UK^ Anytime calls ?	Advanced McAfee Security ?	
No connection charge for new lines ?	No connection charge for new lines ?	No connection charge for new lines ?	Unlimited UK^ Weekend calls ?	
£25 John Lewis Gift Voucher – online exclusive ?	£25 John Lewis Gift Voucher – online exclusive ?	£25 John Lewis Gift Voucher – online exclusive ?	No connection charge for new lines ?	
			Vision+ digital TV box for only £60 ?	
			Latest on demand pay-per-view TV, kids shows and films ?	
			£25 John Lewis Gift Voucher – online exclusive ?	
Get it now	Get it now	Get it now	Get it now	
or learn more >	or learn more >	or learn more >	or learn more >	

Fig. 10: [BT's 'Unlimited broadband and calls' options](#) seem deliberately overpriced compared to the 'TV, Broadband and Calls' option presumably since it wants to boost its share of TV customers.

Saliency

“MY ATTENTION IS DRAWN TO WHAT’S RELEVANT TO ME RIGHT NOW.”

This principle tells us that people are more likely to pay attention to elements in your user interface that are novel (such as a coloured ‘submit’ button) and that are relevant to where they are in their task. For example, there are specific times during a purchase when shoppers are more likely to investigate a promotion or a special offer. By identifying these [seducible moments](#) you’ll learn when to offer a customer an accessory for a product they have bought.

1. Your basket	2. Delivery/collection	3. Your details
----------------	------------------------	-----------------

Please review your Basket



Item	Item price	Home delivery																		
<div>1</div> <div>  <div> SONY KDL32EX301U 32" LCD TV Remove this item </div> </div> <div> Quantity: <input type="text" value="1"/> </div> <div> Need help with installation or recycling? <table> <tr> <td>3 Year ExtraCare Plan ?</td><td>+ £79.99</td><td>Add to order</td></tr> <tr> <td>5 Year ExtraCare Plan ?</td><td>+ £99.99</td><td>Add to order</td></tr> <tr> <td>Recycling service for old appliance ?</td><td>+ £9.95</td><td>Add to order</td></tr> <tr> <td>TV installation - 24" - 39" ?</td><td>+ £40.00</td><td>Add to order</td></tr> <tr> <td>TV Wall Mounting (does not include bracket) ?</td><td>+ £110.00</td><td>Add to order</td></tr> <tr> <td>Digital Aerial Installation to 1 TV point ?</td><td>+ £149.95</td><td>Add to order</td></tr> </table> </div>	3 Year ExtraCare Plan ?	+ £79.99	Add to order	5 Year ExtraCare Plan ?	+ £99.99	Add to order	Recycling service for old appliance ?	+ £9.95	Add to order	TV installation - 24" - 39" ?	+ £40.00	Add to order	TV Wall Mounting (does not include bracket) ?	+ £110.00	Add to order	Digital Aerial Installation to 1 TV point ?	+ £149.95	Add to order	£299.00	<div>  Delivery from 1 to 5 days </div>
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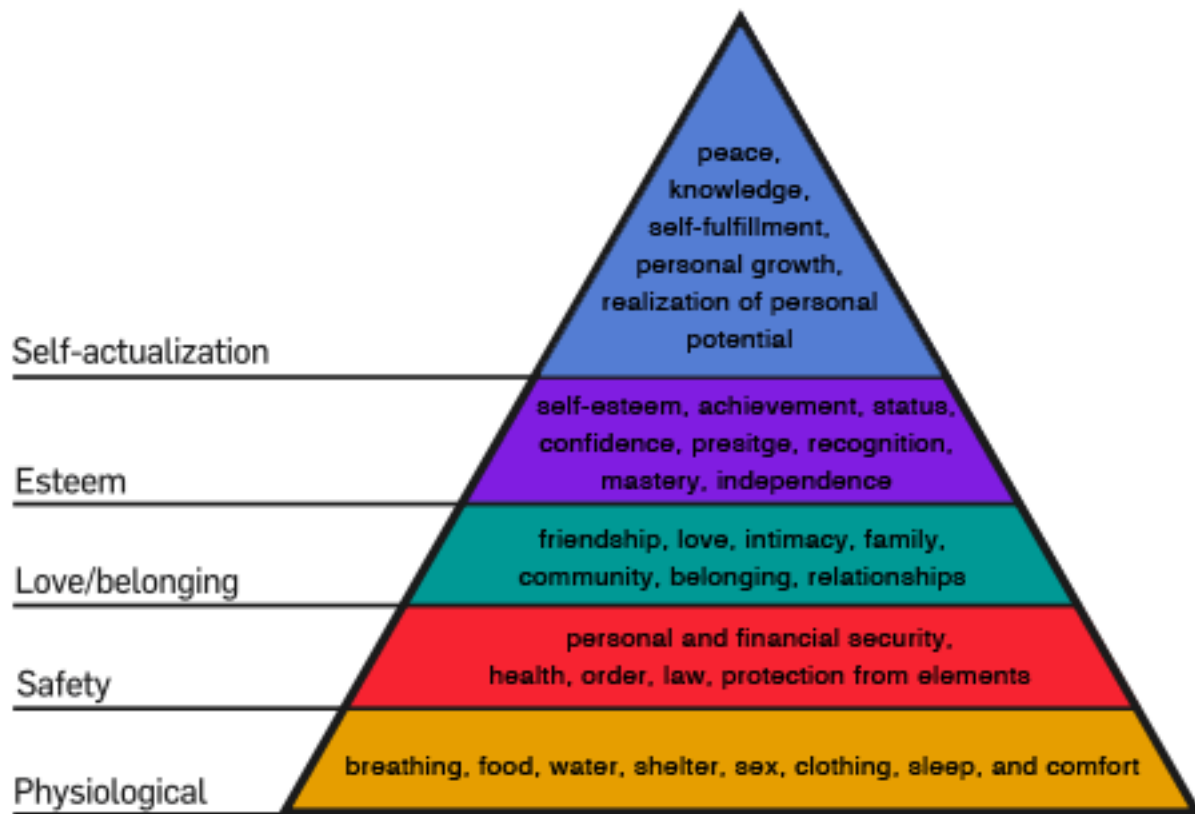
Fig. 11: After placing an order for a TV at the [Comet web site](#), the designers encourage you to add other relevant items to your basket. This is exactly the right time to make the offer: once you've ordered the TV they remind you that you'll need to install it.

Designing For A Hierarchy Of Needs

Steven Bradley

Based on [Maslow's hierarchy of needs](#), the idea of a design hierarchy of needs rests on the assumption that in order to be successful, a design must meet basic needs before it can satisfy higher-level needs. Before a design can “Wow” us, it must work as intended. It must meet some minimal need or nothing else will really matter.

Is this true? Or could a design that's hard to use still succeed because it makes users more proficient or meets certain creative needs? Do you have to get all of the low-level needs exactly right before considering higher-level needs? To answer these questions, let's start by looking at Maslow's hierarchy.



Maslow's Hierarchy of Needs

Maslow's Hierarchy Of Needs

In his 1943 paper, "[A Theory of Human Motivation](#)," American psychologist Abraham Maslow proposed the idea of a psychological hierarchy of needs in human beings.

- **Physiological needs** are the requirements for human survival. They include breathing, food, water, shelter, sex, clothing, sleep and comfort.
- **Safety needs** can be seen as a way to meet tomorrow's physiological needs. They include personal and financial security, health, order, law and protection from elements.

- **Love and belonging needs** are about social interactions. We don't want to go through life alone. Social needs include friendship, love, intimacy, family, community, belonging and relationships.
- **Esteem needs** include self-esteem as well as recognition from others. Esteem can come in the form of achievement, status, prestige, recognition, mastery, independence and responsibility.
- **Self-actualization needs** relate to becoming more than what we are, and they can come from peace, knowledge, self-fulfillment, realization of personal potential, personal growth and peak experiences.

According to Maslow, if you try to satisfy the needs of one level in the hierarchy without having first met the needs of the prior level, your place in the hierarchy will be unstable. You can't be expected to work well on a team (level 3) if you're awaiting medical test results to determine whether you have cancer (level 2).

Lower levels in the hierarchy serve as the foundation for higher levels. If your foundation shakes, then you get pulled back down to a lower level to stabilize your foundation before moving back up the hierarchy. If not, you're led to thoughts and feelings of stress and anxiety.

CRITICISM OF MASLOW'S HIERARCHY

Not everyone agrees with Maslow. [Many challenge the hierarchy](#) because it doesn't account for selfless acts, bravery and charity. Nor does it account for the phenomenon of "starving artists," who seek self-actualization even while their basic physiological needs are hardly being met.

Critics point to a lack of empirical evidence and the limited scope of observation before Maslow developed his theories. Maslow doesn't account for the spiritual side of people and leaves out too many instances that don't

fit his theory. A good idea and start, perhaps, but still far from being accepted as is. Intuitively, it feels right, but [Maslow's hierarchy has limitations](#), as summarized below:

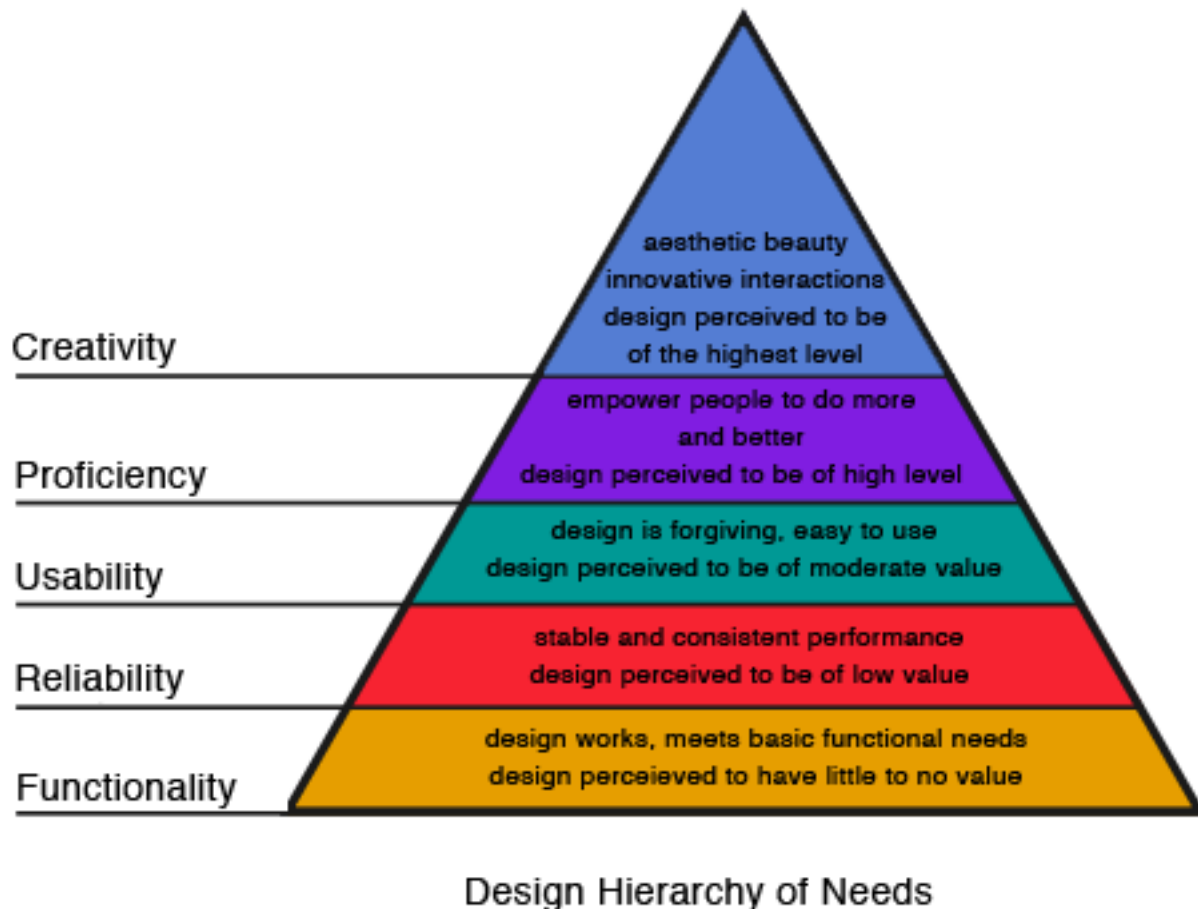
While Maslow's hierarchy makes sense from an intuitive standpoint, there is little evidence to support its hierarchical aspect. In fact, there is evidence that contradicts the order of needs specified by the model. For example, some cultures appear to place social needs before any others. Maslow's hierarchy also has difficulty explaining cases such as the "starving artist" in which a person neglects lower needs in pursuit of higher ones. Finally, there is little evidence to suggest that people are motivated to satisfy only one need level at a time, except in situations where there is a conflict between needs.

Chilean economist and environmentalist Manfred Arthur Max-Neef has put forth a different theory of [fundamental human needs](#), one without a hierarchy beyond the fulfillment of basic human survival. Instead, the satisfaction of needs is inter-related and pursued simultaneously, with trade-offs in the process.

In this system, one could fulfill creative needs without having first to fulfill needs for protection and safety.

Design Hierarchy of Needs

Maslow's hierarchy can be translated to design, for which the hierarchy from low to high would be functionality, reliability, usability, proficiency and creativity.



FUNCTIONALITY

A design must be able to function before anything else. An MP3 player needs to be able to play, pause, rewind and fast-forward MP3 and other digital audio files in order to be considered an MP3 player. If it can't perform these functions, then the design has failed.

Number of features is another story. Even though one MP3 player can pull in album cover art, others don't necessarily have to. But if most MP3 players can do this, then yours will need to as well. What defines which features are required? The product itself? The designer? The market?

Designs that meet only basic functionality needs are considered to be of little to no value. A design is expected to meet basic functionality needs; doing so isn't considered anything special.

Characteristics of a website that meets functionality needs might be pages that load in a reasonable amount of time, working links and pages that respond to basic browser buttons like "Back" and "Forward."

RELIABILITY

Once your design has met functional needs, it can move up to the next level in the design hierarchy: reliability. Your design should now offer stable and consistent performance. It not only works, but works again and again.

If your MP3 player sometimes plays and sometimes doesn't, then it has failed to meet reliability needs. If it always plays but does it erratically (skipping here and there, slowing down and speeding up at times), then it has also failed to meet reliability needs.

Designs that meet only reliability needs are perceived to be of low value. Again, we expect the products that we buy to work and to work consistently.

A reliable website functions consistently. What worked yesterday should work today. When new pages and sections are added, they function just as well as existing pages and sections.

USABILITY

How easily can users accomplish basic tasks? Can the person with the MP3 player easily figure out how to turn it on and off? What about how to play, stop, pause and select a song? These are [usability needs](#). Your design now works consistently. The question is, can people figure out how to use it?

In addition to being easy to use, is your design forgiving? Pressing the wrong button shouldn't delete all of the songs on your MP3 player.

Consequences for simple mistakes shouldn't be dire. If a slip of the finger deletes all music, then the MP3 player has failed to be usable.

Usable designs are perceived to be of moderate value. We do have some basic expectations of usability, but we recognize that many things don't quite work as we expect or would like. A usable design partly distinguishes your website from those on lower levels.

A usable website has a [navigation system](#) that is easy to understand and use, [an organization](#) that makes content easy to browse, readable text, and a layout in which orienting oneself is straightforward.

PROFICIENCY

Does your design empower people to do more and to do better? Does the MP3 player allow you to build playlists and easily search through songs? Does it provide an easy mechanism for downloading songs from the Internet and transferring them to and from other devices?

These are proficiency needs. It is not imperative that your MP3 player makes recommendations of new songs based on your favorites, but it is desirable and would improve the design considerably.

Designs regarded as proficient are perceived to function at a high level. A design that allows people to do things not previously possible and to expand on basic functionality is considered to be great.

A proficient website might include advanced search options, the ability to combine data from different sources into more sophisticated levels of information and Web-based tools.

CREATIVITY

Once all of the lower-level needs have been met, your design can move on to creative needs. With these met, your design can now interact with people in innovative ways. The design can explore and create things that expand on the product itself.

Perhaps your MP3 player teaches music theory by making recommendations based on the musical structure of the songs you listen to most, and it provides chord charts and notes that play visually in time with the audio. Your MP3 player might allow custom skins or allow you to combine parts of songs to create new music. Your MP3 player might be the most beautiful one on the market.

Designs that meet creative needs are perceived to be of the highest level. They generate a loyal fan base. If you're confounded by Apple's success, wonder no longer. It satisfies creative design needs.

A creative website might include AJAX effects, aesthetic appeal and interaction through voice commands.

CRITICISM OF THE DESIGN HIERARCHY

The same criticism applied to Maslow's hierarchy could be applied to the design hierarchy. Does a design have to be reliable before it can be usable? Can't you meet both at the same time? Could your design satisfy proficiency needs for advanced users while not being the most usable for beginners?

Do we really have to get everything right at one level before committing resources to higher levels? Will a market tolerate a product that fails for no reason 10% of the time if it does everything beyond expectations the other 90%?

Again, while the hierarchy intuitively makes sense, the needs and desires of the market will likely determine what is most critical to improve in the hierarchy.

Other Hierarchies of Needs

Maslow's hierarchy has been applied to more than design. Many related disciplines use it to describe what they do and propose how to do it better.

MASLOW APPLIED TO MARKETING

Maslow's ideas are often [applied to marketing](#). Whatever you are selling, the product is intended to fulfill a need somewhere in the hierarchy. To best market your product or service, identify where in the hierarchy it sits, and understand your target user's motivation to meet those needs. A classic example is Michelin Tires. Rather than simply list the specs of its tires and boast how well they grip the road, Michelin commercials show tires that are protecting babies, with the tagline, "Because so much is riding on your tires."

The commercial taps into our need for safety. It also tap into the next level in the hierarchy, our [social needs](#)—in this case, our love for our children. Specs are boring. A story about making sure that you and your family are safe satisfies deep psychological needs.

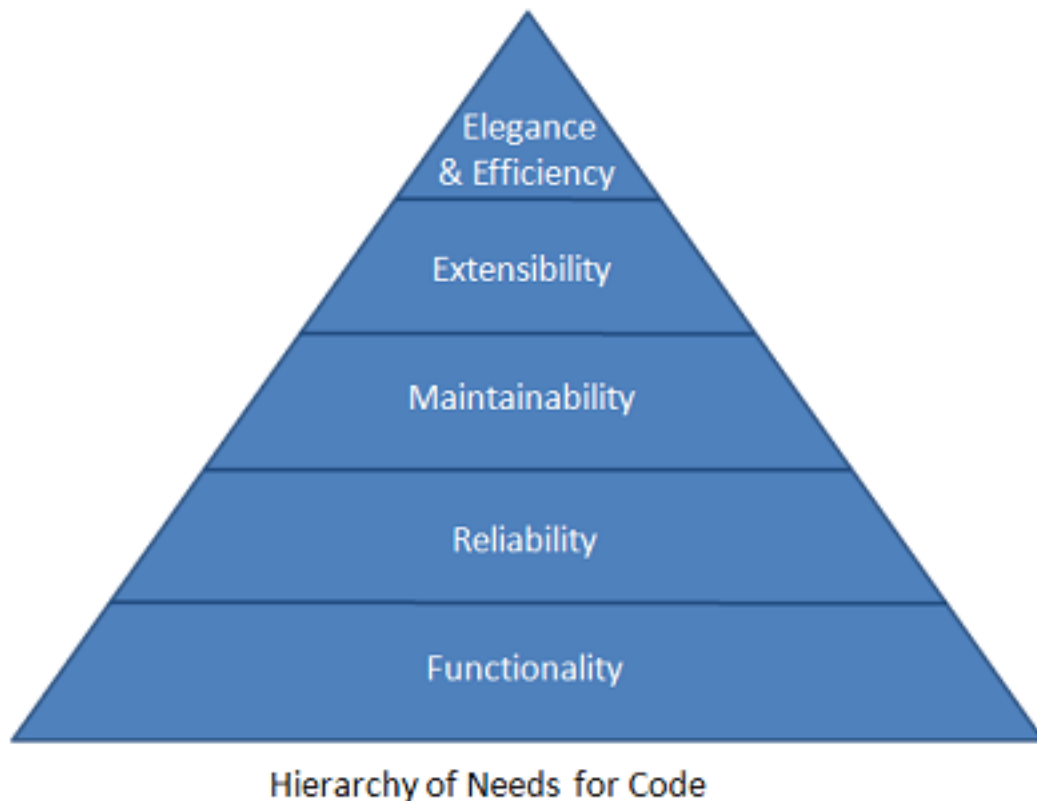
Maslow's hierarchy also helps us determine which market to target and how best to reach that market. [For example](#), you have a great idea to fill the niche demand for confidence-building. Fantastic.

But you're targeting new business owners. This group is at level two in the hierarchy: security. They're worried about their jobs and supporting their family. They don't care yet about feeling confident.

You would need to find either [a different story](#) to tell in your marketing or a different group to target.

MASLOW APPLIED TO WRITING CODE

Patrick Dubrow has looked at Maslow's hierarchy and the design hierarchy and has put forth a [hierarchy of needs for writing code](#):



If you've ever written code, you can easily see how this hierarchy fits in with both Maslow's and the design hierarchy. It too is intuitive and could be given the same criticisms as Maslow's. Sure, poorly functioning code has to be fixed right away, but there's no reason one couldn't write elegant and efficient code from the very first line.

Examples

All of the websites below are well designed. Each has its own style and, for our purposes, addresses a different level in the design hierarchy. Most naturally meet lower-level needs, but some are more concerned with higher levels and neglect some lower-level details.

[Oliver James Gosling](#)



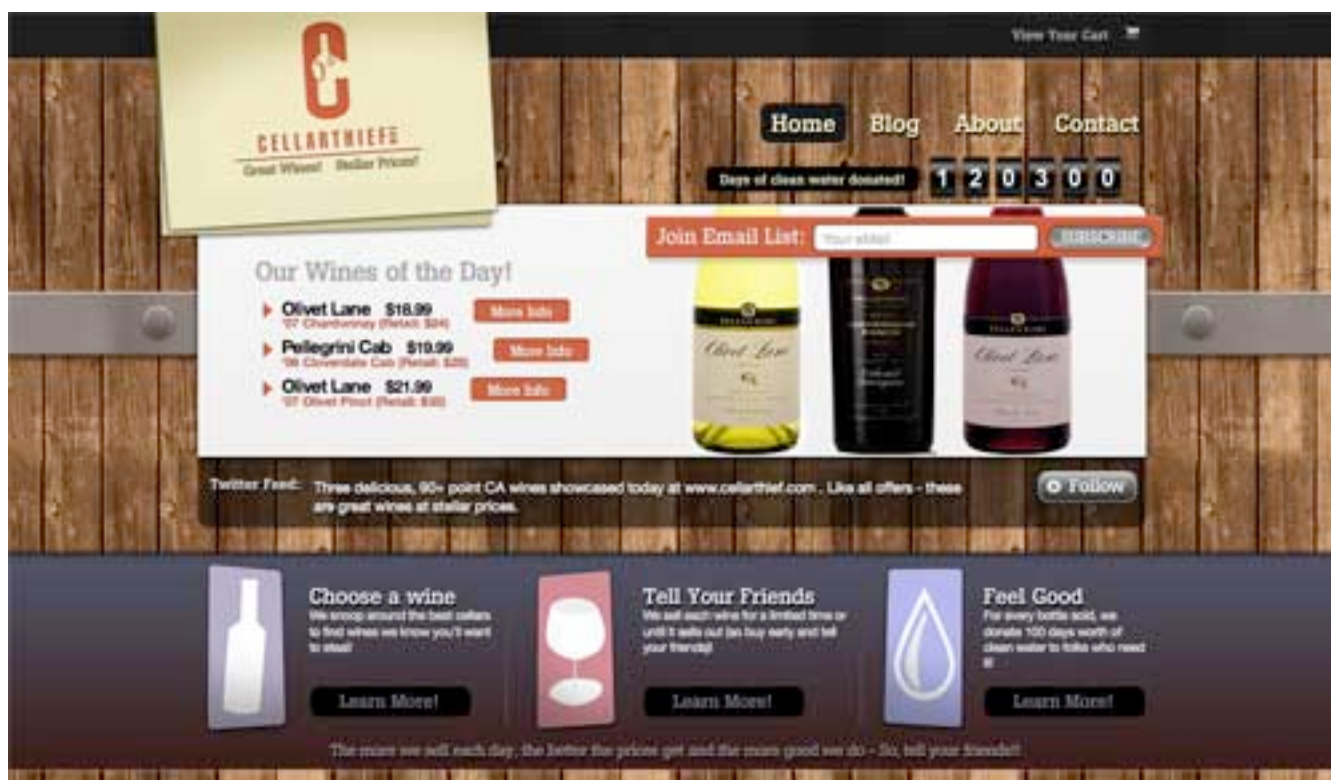
[Y3K](#)



The websites of Oliver James Gosling and Y3K are both single-page portfolios. They both meet functionality and reliability needs. They are also aesthetically pleasing and start to meet creative needs. Oliver’s website has a “Back to top” link that moves down the page as you do; this nice touch in usability is absent on the Y3K website. Oliver also offers a PDF containing all the information of his website, perhaps adding a bit of proficiency to the design.

Cellar Thief

Cellar Thief meets functionality requirements and is another aesthetically pleasing website. The aesthetics match the overall message about wines. But reliability and usability could both stand some improvement. The three main links at the bottom of the home page (“Choose a wine,” “Tell your friends,” “Feel good”) all lead unexpectedly to the “About” page. Also, the website sells only the three wines of the day, which is perfectly fine but not immediately obvious.



Elan Snowboards

Elan Snowboards meets basic functionality and has an interesting aesthetic. A lot is going on, and it's hard knowing where to look. Links aren't always obvious, and as you click deeper into the website, it's not always clear where you are. On the other hand, the website offers a forum, community blogs and video, all of which make the website more proficient for visitors. Overall, the website focuses more on higher-level needs at the cost of some lower levels. Given the audience of the website, this approach is probably justified.



CSS-Tricks

CSS Tricks is likely familiar to most of you. It meets needs of functionality, reliability and usability. Chris Coyier has sections for a forum, screencasts, freebies and code snippets, giving the website a layer of proficiency. Creatively, the website has a nice, albeit familiar, blog aesthetic, and it has appropriate touches of AJAX in the sidebar. Chris has also put a lot of work into small details that help to fulfill creative needs.



[Ali Felski](#)

Ali Felski's website is a combination portfolio and blog. It functions consistently, and finding your way around is easy. With the three lower-level needs met, the website adds creativity. One of the nice things about the design is that you could remove all of the aesthetic touches and still have a highly functional, reliable and usable design.



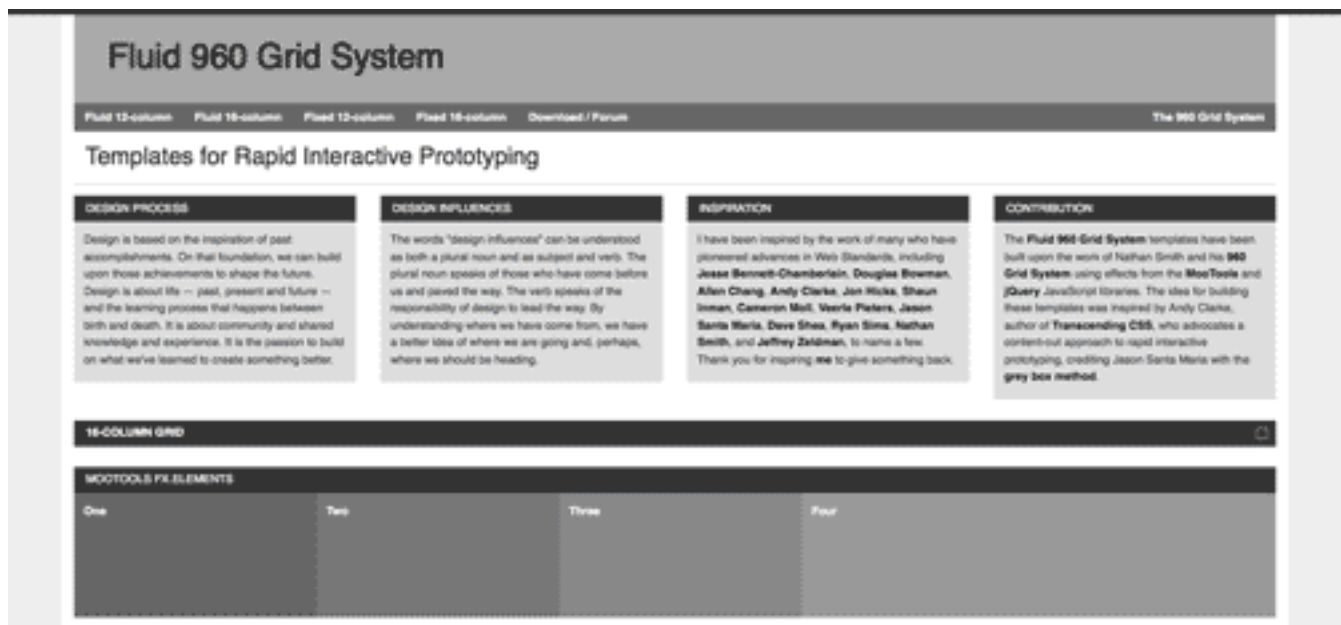
[Antique Piano Shop](#)

The Antique Piano Shop meets all the lower-level design needs while offering a pleasing aesthetic. It meets proficiency needs by offering pages where you can identify your piano and sell it. Given the nature of the website, letting visitors hear what the pianos sound like might have helped to meet proficiency needs.



[Fluid 960 Grid](#)

The Fluid 960 Grid System meets lower-level design needs well. It works, works consistently and is easy to use. While not the most beautiful page you'll encounter, it has quite a few things to meet higher-level design needs. Most every part of the page is a working demo. You can view how each will work using either the jQuery or MooTools libraries, or you can turn JavaScript off completely to see how the demos function. You can also switch between 12- and 16-column fluid and fixed grids.



Summary

While Maslow's hierarchy makes sense intuitively, critics point out the scant evidence to support it, particularly the assumption that lower levels must be satisfied before higher levels. The same could be said of the hierarchy of design needs, or even any hierarchy based on Maslow's. They make sense on the surface but lack in empirical evidence.

These hierarchies are not absolutes that you must follow. As with all design, [look at your success criteria to determine your design objectives](#). Your audience may well prefer an aesthetically beautiful website that has occasional hiccups to a boring website that is perfectly reliable.

There's no reason why you couldn't satisfy higher-level needs before completely satisfying all lower-level needs, as long as you understand that some low-level needs are absolutely essential. Naturally, if none of your pages load, then everything else is irrelevant. You will have to remedy that problem before worrying about [progressive enhancement](#).

Look at the design hierarchy as a guide. Most of the time, meeting lower-level needs before attempting to satisfy higher-level needs makes sense. If your website isn't usable, you will probably want to fix that before giving visitors more ways to be proficient.

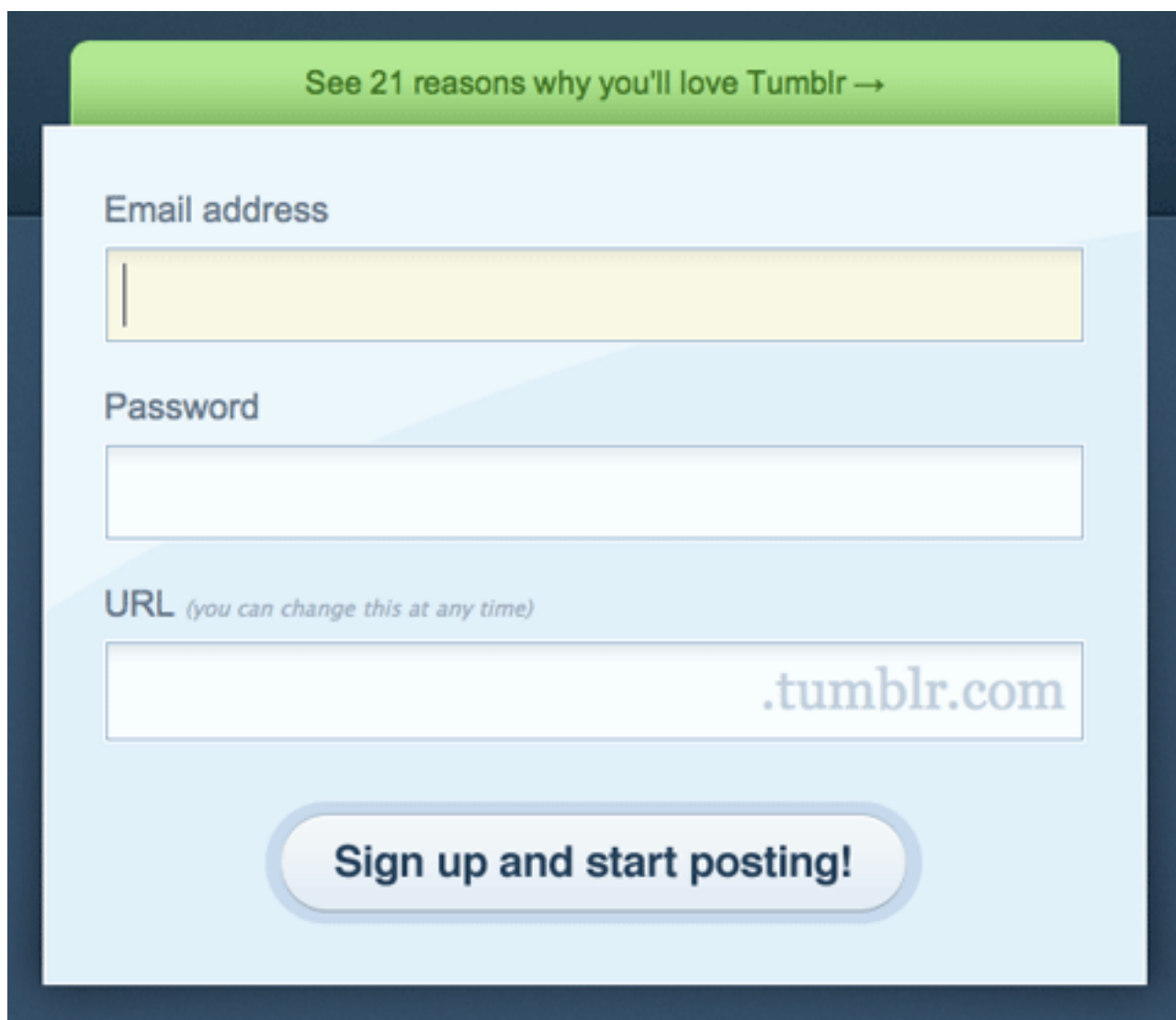
10 Useful Usability Findings And Guidelines

Dmitry Fadeyev

Everyone would agree that usability is an important aspect of Web design. Whether you're working on a portfolio website, online store or Web app, making your pages easy and enjoyable for your visitors to use is key. Many studies have been done over the years on various aspects of Web and interface design, and the findings are valuable in helping us improve our work. Here are **10 useful usability findings and guidelines** that may help you improve the user experience on your websites.

1. Form Labels Work Best Above The Field

A [study by UX Matters](#) found that the ideal position for labels in forms is above the fields. On many forms, labels are put to the left of the fields, creating a two-column layout; while this looks good, it's not the easiest layout to use. Why is that? Because forms are generally vertically oriented; i.e. **users fill the form from top to bottom**. Users scan the form downwards as they go along. And following the label to the field below is easier than finding the field to the right of the label.

The image shows a sign-up form for Tumblr. At the top, there is a green button with the text "See 21 reasons why you'll love Tumblr →". Below this, the form is contained within a light blue box. It features three input fields: "Email address" (a yellow field), "Password" (a white field), and "URL (you can change this at any time)" (a white field with ".tumblr.com" pre-filled). A large, rounded button at the bottom says "Sign up and start posting!".

See 21 reasons why you'll love Tumblr →

Email address

Password

URL (you can change this at any time)

.tumblr.com

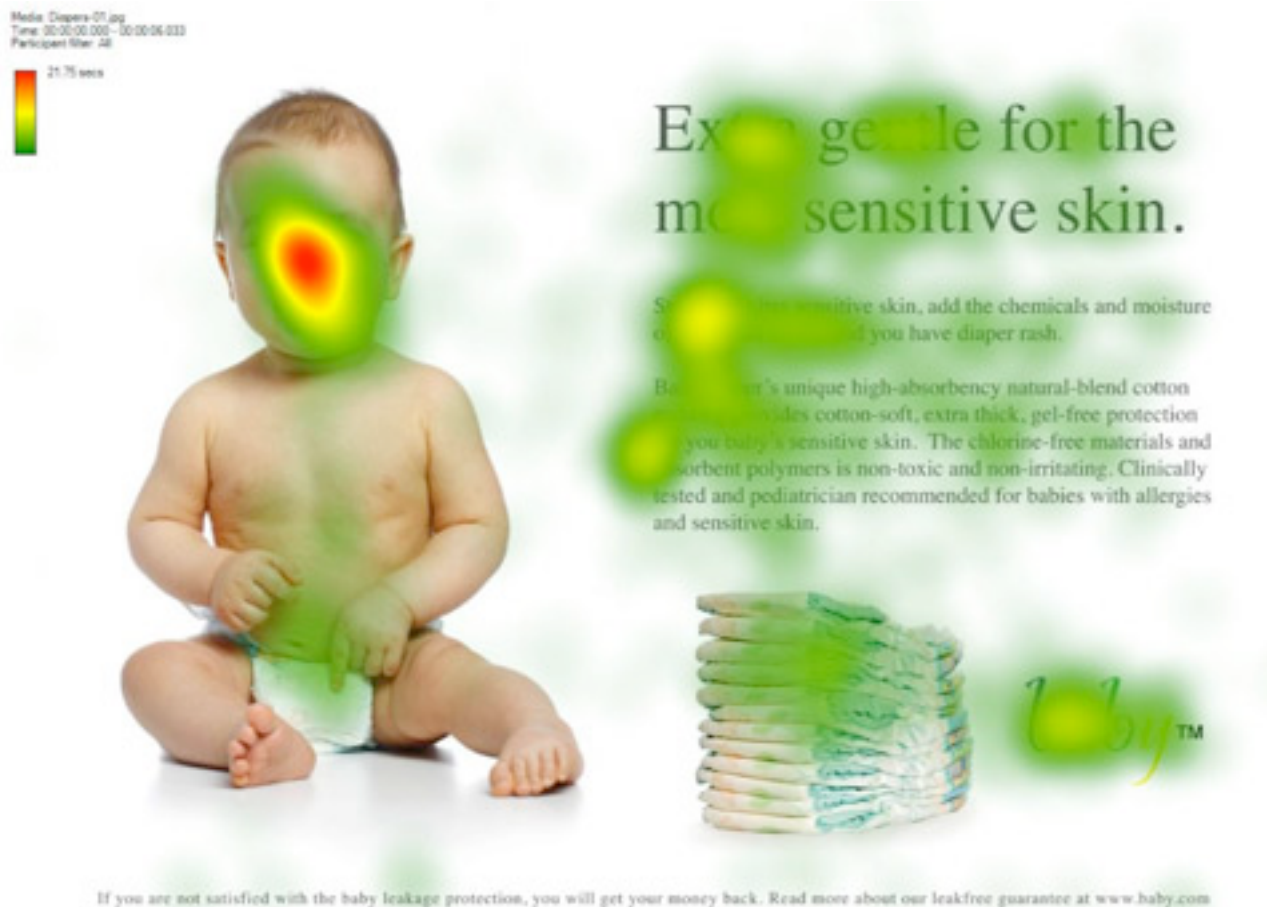
Sign up and start posting!

[Tumblr](#) features a simple and elegant sign-up form that adheres to UX Matter's recommendation.

Positioning labels on the left also poses another problem: do you left-align or right-align the labels? Left-aligning makes the form scannable but disconnects the labels from the fields, making it difficult to see which label applies to which field. Right-aligning does the reverse: it makes for a good-looking but less scannable form. Labels above fields work best in most circumstances. The study also found that labels should not be bold, although this recommendation is not conclusive.

2. Users Focus On Faces

People instinctively notice other people right away when they come into view. On Web pages, we tend to focus on people's faces and eyes, which gives marketers a good technique for attracting attention. But our attraction to people's faces and eyes is only the beginning; it turns out we actually glance in the direction the person in the image is looking in.



Eye-tracking heat map of a baby looking directly at us, from the [UsableWorld study](#).



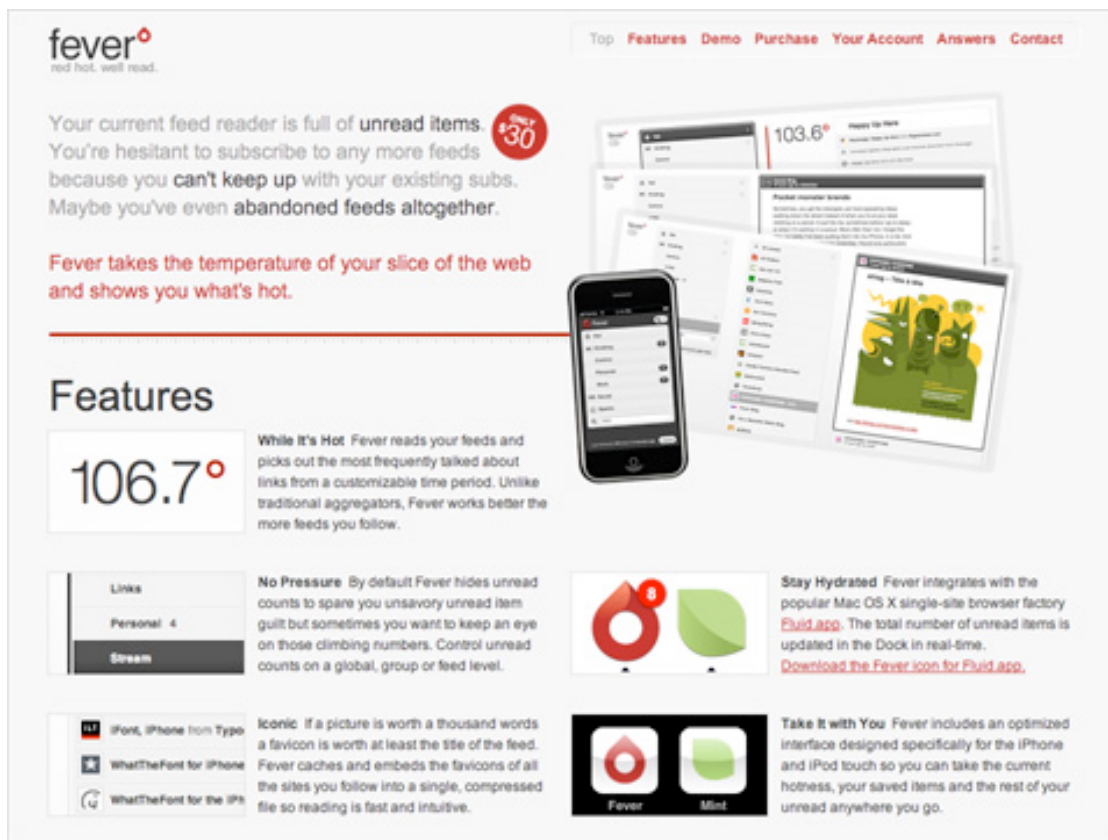
And now the baby is looking at the content. Notice the increase in people looking at the headline and text.

Here's an [eye-tracking study](#) that demonstrates this. We're instinctively drawn to faces, but if that face is looking somewhere other than at us, we'll also look in that direction. Take advantage of this phenomenon by drawing your users' attention to the most important parts of your page or ad.

3. Quality Of Design Is An Indicator Of Credibility

Various studies have been conducted to find out just what influences people's perception of a website's credibility:

- [Stanford-Makovsy Web Credibility Study 2002: Investigating What Makes Web Sites Credible Today](#)
- [What Makes A Web Site Credible? A Report on a Large Quantitative Study](#)
- [The Elements of Computer Credibility](#)
- Elements that Affect Web Credibility: Early Results from a Self-Report Study (Proceedings of ACM CHI 2000 Conference on Human Factors in Computing Systems, v.2, New York: ACM Press)



We don't know if [Fever](#) app is any good, but the sleek user interface and website make a great first impression.

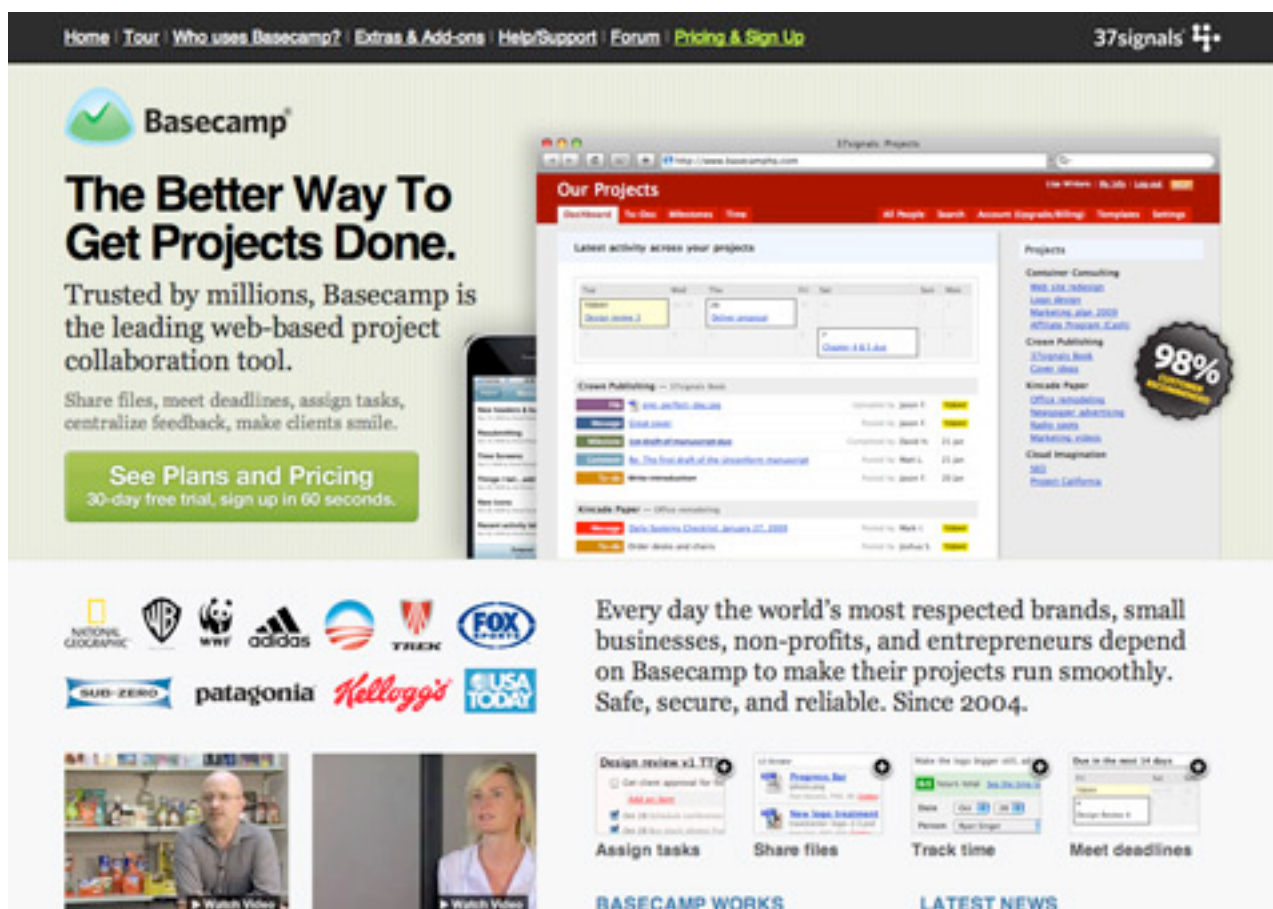
One interesting finding of these studies is that users really do judge a book by its cover... or rather, a website by its design. Elements such as layout, consistency, typography, color and style all affect how users perceive your website and what kind of image you project. Your website should project not only a good image but also the right one for your audience.

Other factors that influence credibility are: the quality of the website's content, amount of errors, rate of updates, ease of use and trustworthiness of authors.

4. Most Users Do Not Scroll

Jakob Nielsen's study on how much users scroll (in [Prioritizing Web Usability](#)) revealed that only 23% of visitors scroll on their first visit to a website. This means that 77% of visitors won't scroll; they'll just view the content above the fold (i.e. the area of the page that is visible on the screen without scrolling down). What's more, the percentage of users who scroll decreases with subsequent visits, with only 16% scrolling on their second visit. This data highlights just how important it is to place your key content on a prominent position, especially on landing pages.

This doesn't mean you should cram everything in the upper area of the page, just that you should make the best use of that area. Crowding it with content will just make the content inaccessible; when the user sees too much information, they don't know where to begin looking.



Basecamp makes great use of space. Above the fold (768 pixels high), it shows a large screenshot, tagline, value proposition, call to action, client list, videos and short feature list with images.

This is most important for the home page, where most new visitors will land. So provide the core essentials there:

1. Name of the website,
2. Value proposition of the website (i.e. what benefit users will get from using it),
3. Navigation for the main sections of the website that are relevant to the user.

However, users' habits have significantly changed since then. Recent studies prove that users are quite comfortable with scrolling and in some situations they are willing to scroll to the bottom of the page. Many users are more comfortable with scrolling than with a pagination, and for many users the most important information of the page isn't necessarily placed "above the fold" (which is because of the variety of available display resolutions a quite outdated, deprecated term). So it is a good idea to divide your layout into sections for easy scanning, separating them with a lot of white space.

For further information please take a look at the articles [Unfolding the fold](#) (Clicktale), [Paging VS Scrolling](#) (Wichita University – SURL), [Blasting the Myth of the Fold](#) (Boxes and Arrows). *(thanks, Fred Leuck).*

5. Blue Is The Best Color For Links

While giving your website a unique design is great, when it comes to usability, doing what everyone else is doing is best. Follow conventions, because when people visit a new website, the first place they look for things are in the places where they found them on most other websites; they tap into their experience to make sense of this new content. This is known as usage patterns. People expect certain things to be the same, such as link colors, the location of the website's logo, the behavior of tabbed navigation and so on.

All (25)

[Android \(7\)](#)

[Apps \(4\)](#)

[Communication \(3\)](#)

[Maps \(5\)](#)

[Search \(12\)](#)

[Other \(1\)](#)

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[Fast Flip](#)

Blindingly fast overviews of headline pages of top newspapers.

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[Android Scripting Environment](#)

Android Scripting Environment brings scripting languages to Android.

August 25, 2009 ★★★★★ 17 Ratings [Details and feedback »](#)



[Google Listen](#)

Android app providing a personalized audio news-magazine loaded with fresh and interesting news.

August 20, 2009 ★★★★★ 52 Ratings [Details and feedback »](#)



[Google Checkout Store Gadget](#)

A Google Gadget that lets you set up a store in minutes by filling out a Google Docs, Blogger, iGoogle, or your own web site.

July 29, 2009 ★★★★★ 57 Ratings [Details and feedback »](#)

[Google](#) keeps all links on its websites blue for a reason: the color is familiar to most users, which makes it easy to locate.

What color should your links be? The first consideration is contrast: links have to be dark (or light) enough to contrast with the background color. Secondly, they should stand out from the color of the rest of the text; so, no black links with black text. And finally, research shows (Van Schaik and Ling) that if usability is your priority, sticking to blue for links is best. The browser's default link color is blue, so people expect it. Choosing a different color is by no means a problem, but it may affect the speed with which users find it.

6. The Ideal Search Box Is 27-Characters Wide

What's the ideal width of a search box? Is there such a thing? Jakob Nielsen performed a usability study on the length of search queries in website search boxes (Prioritizing Web Usability). It turns out that most of today's search boxes are too short. The problem with short boxes is that even though you can type out a long query, only a portion of the text will be visible at a time, making it difficult to review or edit what you've typed.

The study found that the average search box is 18-characters wide. The data showed that 27% of queries were too long to fit into it. Extending the box to 27 characters would accommodate 90% of queries. Remember, you can set widths using ems, not just pixels and points. One em is the width and height of one "m" character (using whatever font size a website is set to). So, use this measure to scale the width of the text input field to 27-characters wide.



[Google](#)'s search box is wide enough to accommodate long sentences.

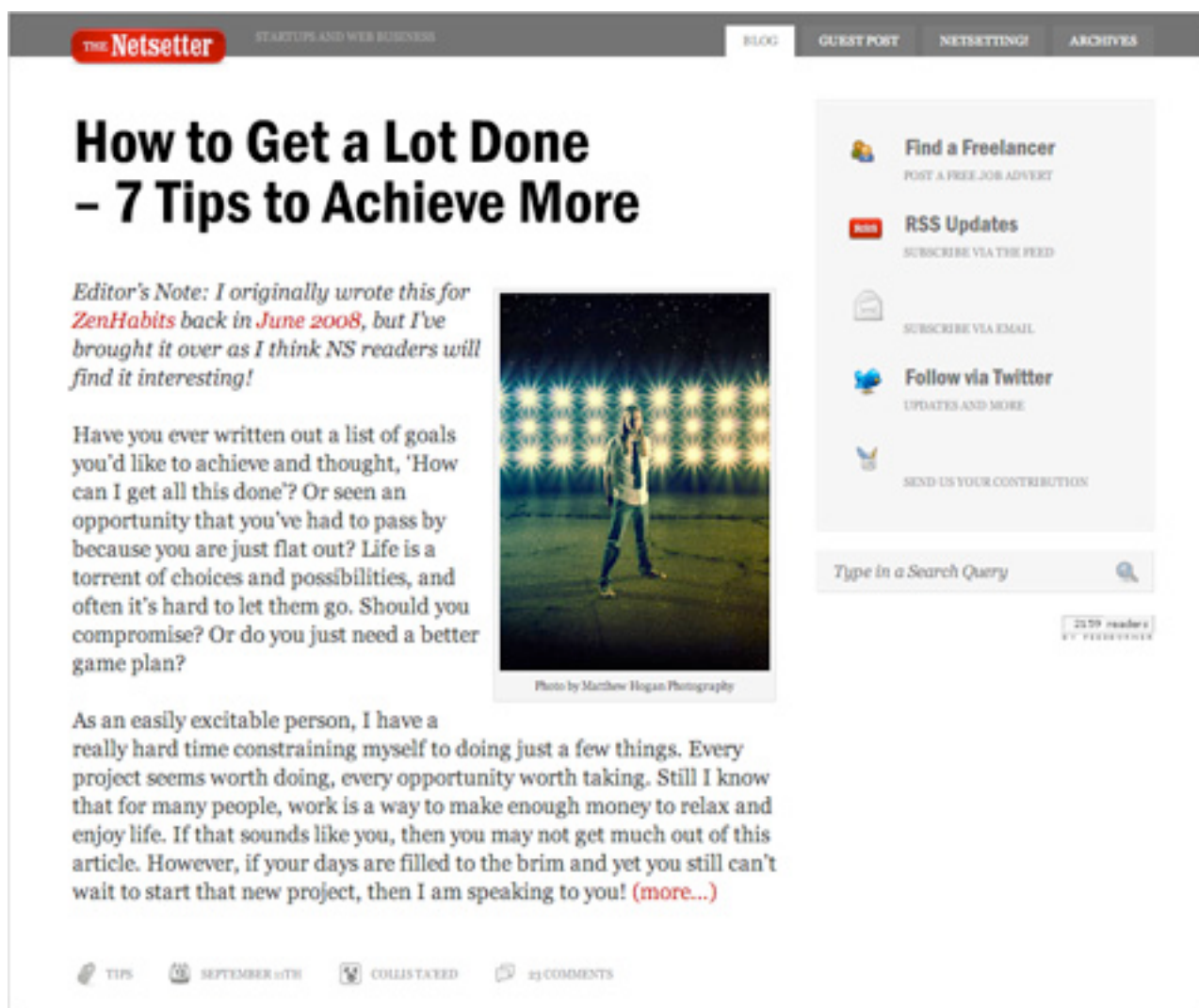


[Apple](#)'s search box is a little too short, cutting off the query, "Microsoft Office 2008."

In general, search boxes are better too wide than too short, so that users can quickly review, verify and submit the query. This guideline is very simple but unfortunately too often dismissed or ignored. Some padding in the input field can also improve the design and user experience.

7. White Space Improves Comprehension

Most designers know the value of white space, which is the empty space between paragraphs, pictures, buttons and other items on the page. White space de-clutters a page by giving items room to breathe. We can also group items together by decreasing the space between them and increasing the space between them and other items on the page. This is important for showing relationships between items (e.g. showing that *this* button applies to *this* set of items) and building a hierarchy of elements on the page.



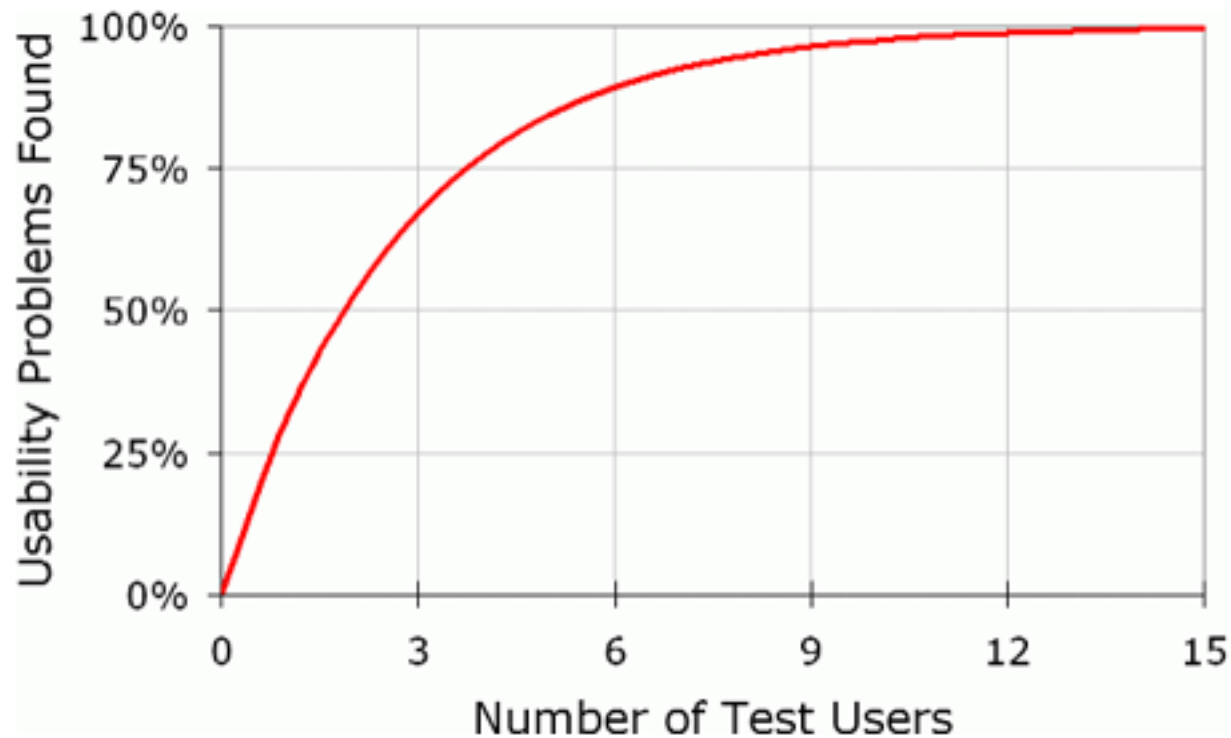
Notice the big content margin, padding and paragraph spacing on [The Netsetter](#). All that space makes the content easy and comfortable to read.

White space also makes content more readable. A study (Lin, 2004) found that good use of white space between paragraphs and in the left and right margins increases comprehension by almost 20%. Readers find it easier to focus on and process generously spaced content.

In fact, according to Chaperro, Shaikh and Baker, the layout on a Web page (including white space, headers, indentation and figures) may not measurably influence performance but does influence user satisfaction and experience.

8. Effective User Testing Doesn't Have To Be Extensive

[Jakob Nielsen's study](#) on the ideal number of test subjects in usability tests found that tests with just five users would reveal about 85% of all problems with your website, whereas 15 users would find pretty much all problems.

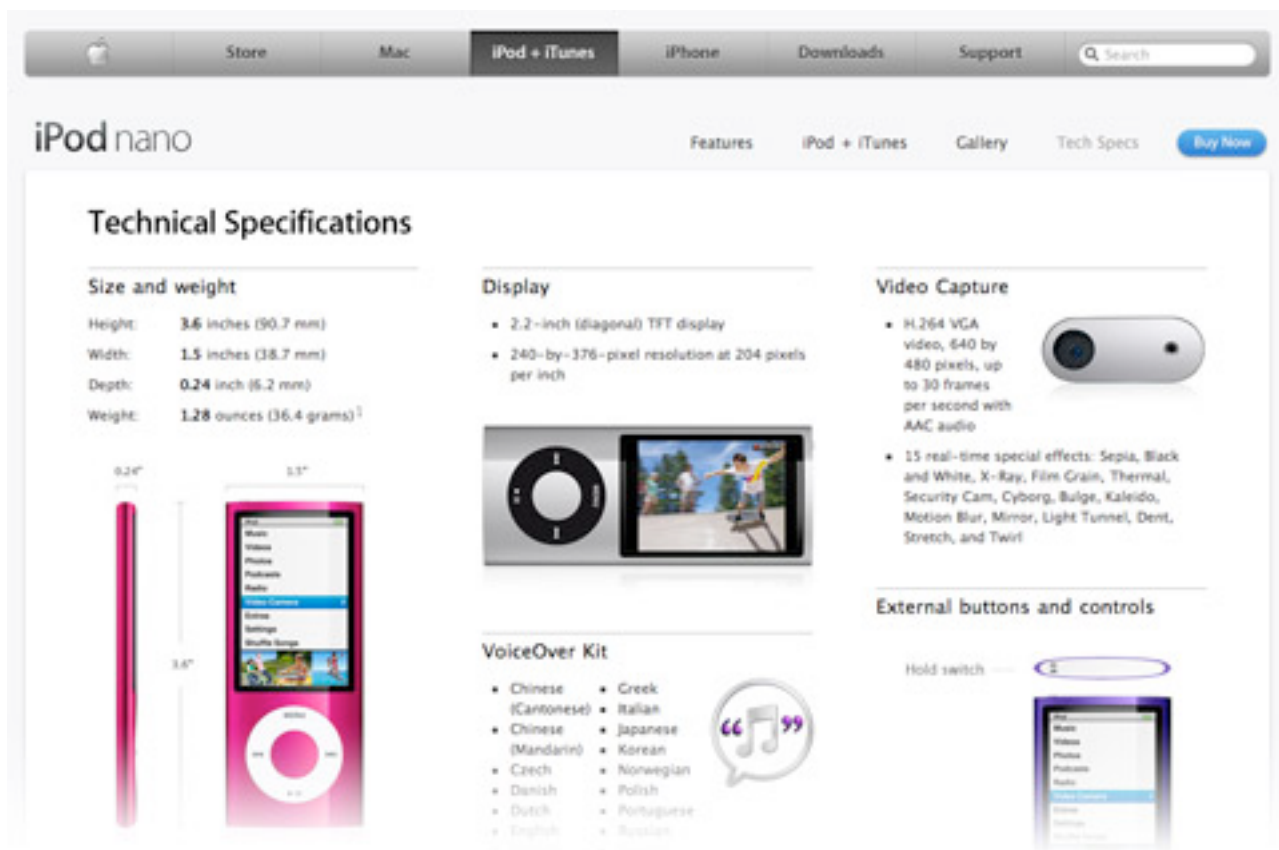


Source: [Jakob Nielsen's AlertBox](#)

The biggest issues are usually discovered by the first one or two users, and the following testers confirm these issues and discover the remaining minor issues. Only two test users would likely find half the problems on your website. This means that testing doesn't have to be extensive or expensive to yield good results. The biggest gains are achieved when going from 0 test users to 1, so don't be afraid of doing too little: any testing is better than none.

9. Informative Product Pages Help You Stand Out

If your website has product pages, people shopping online will definitely look through them. But many product pages lack sufficient information, even for visitors doing a quick scan. This is a serious problem, because product information helps people make purchasing decision. Research shows that poor product information accounts for around 8% of usability problems and even 10% of user failure (i.e. the user gives up and leaves the website) (Prioritizing Web Usability).



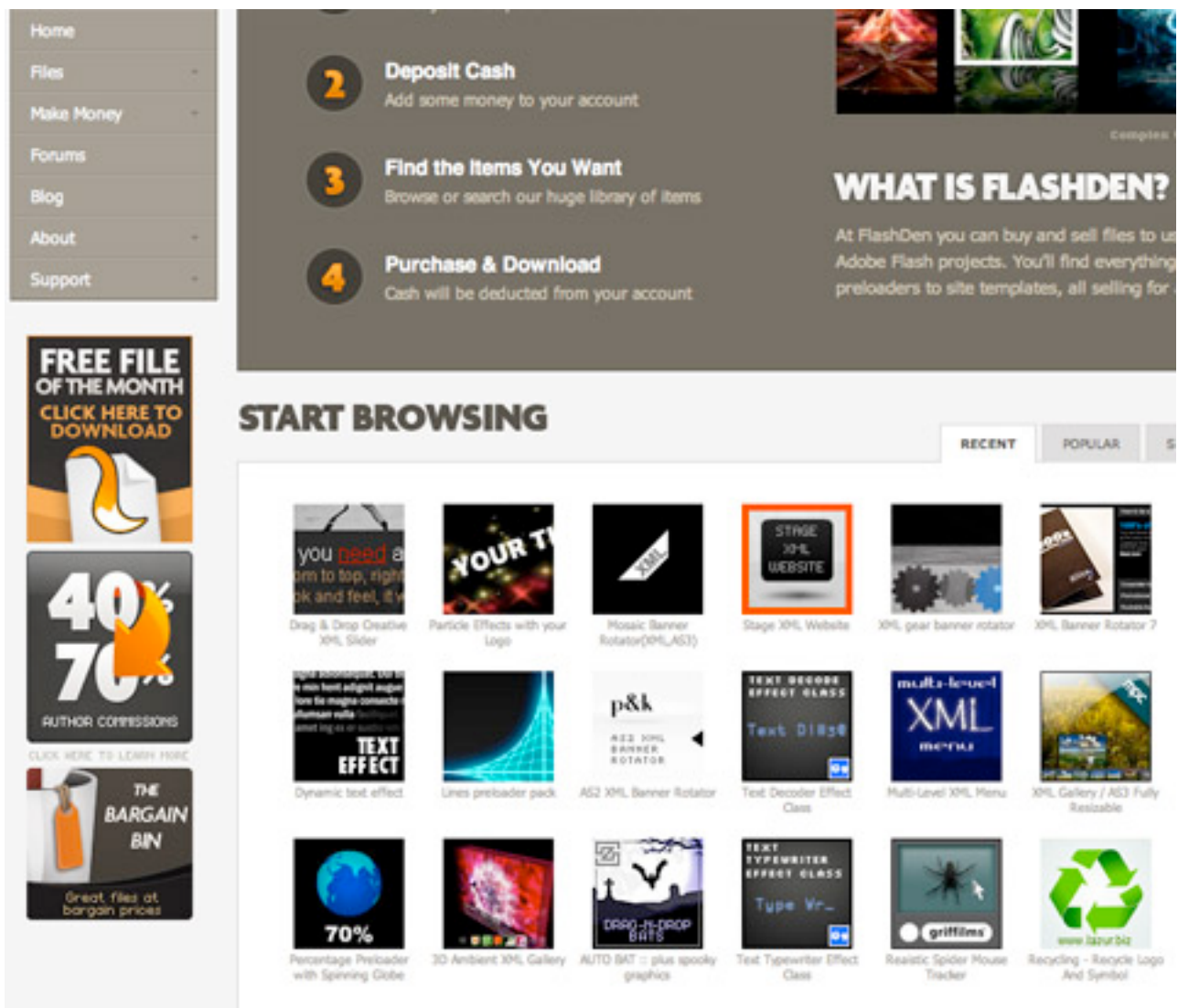
[Apple](#) provides separate “Tech Specs” pages for its products, which keeps complicated details away from the simpler marketing pages, yet provides easy access when they’re needed.

Provide detailed information about your products, but don't fall into the trap of bombarding users with too much text. Make the information easy to digest. Make the page scannable by breaking up the text into smaller segments and using plenty of sub-headings. Add plenty of images for your products, and use the right language: don't use jargon that your visitors might not understand.

10. Most Users Are Blind To Advertising

Jakob Nielsen reports in his [AlertBox entry](#) that most users are essentially blind to ad banners. If they're looking for a snippet of information on a page or are engrossed in content, they won't be distracted by the ads on the side.

The implication of this is not only that users will avoid ads but that they'll avoid anything that *looks* like an ad, even if it's not an ad. Some heavily styled navigation items may look like banners, so be careful with these elements.



The square banners on the left sidebar of [FlashDen](#) are actually not ads: they're content links. They do look uncomfortably close to ad banners and so may be overlooked by some users.

That said, ads that look like content will get people looking and clicking. This may generate more ad revenue but comes at the cost of your users' trust, as they click on things they thought were genuine content. Before you go down that path, consider the trade-off: short-term revenue versus long-term trust.

Bonus: Findings From Our Case-Studies

In recent years, Smashing Magazine's editorial team has conducted a number of case studies in an attempt to identify common design solutions and practices. So far, we have analyzed Web forms, blogs, typography and portfolios; and more case studies will be published next month. We have found some interesting patterns that could serve as guidelines for your next design.

Here, we'll review some of the practices and design patterns that we discovered in our case studies in this brief, compact overview, for your convenience.

According to our [typography study](#):

- **Line height (in pixels) ÷ body copy font size (in pixels) = 1.48**
1.5 is commonly recommended in classic typographic books, so our study backs up this rule of thumb. Very few websites use anything less than this. And the number of websites that go over 1.48 decreases as you get further from this value.
- **Line length (pixels) ÷ line height (pixels) = 27.8**
The average line length is 538.64 pixels (excluding margins and padding), which is pretty large considering that many websites still have body copy that is 12 to 13 pixels in font size.

- **Space between paragraphs (pixels) ÷ line height (pixels) = 0.754**

It turns out that paragraph spacing (i.e. the space between the last line of one paragraph and the first line of the next) rarely equals the leading (which would be the main characteristic of perfect vertical rhythm). More often, paragraph spacing is just 75% of paragraph leading. The reason may be that leading usually includes the space taken up by descenders; and because most characters do not have descenders, additional white space is created under the line.

- **Optimal number of characters per line is 55 to 75**

According to classic typographic books, the optimal number of characters per line is between 55 and 75, but between 75 and 85 characters per line is more popular in practice.

According to our [blog design study](#):

- Layouts usually have a fixed width (pixel-based) (92%) and are usually centered (94%). The width of fixed layouts varies between 951 and 1000 pixels (56%).
- The home page shows excerpts of 10 to 20 posts (62%).
- 58% of a website's overall layout is used to display the main content.
- According to our [Web form design study](#):
- The registration link is titled "sign up" (40%) and is placed in the upper-right corner.
- Sign-up forms have simple layouts, to avoid distracting users (61%).
- Titles of input fields are bolded (62%), and fields are vertically arranged more than they are horizontally arranged (86%).
- Designers tend to include few mandatory fields and few optional fields.

- Email confirmation is not given (82%), but password confirmation is (72%).
- The “Submit” button is either left-aligned (56%) or centered (26%).
- According to our [portfolio design study](#):
- 89% of layouts are horizontally centered, and most of them have a large horizontal navigation menu.
- 47.2% of portfolios have a client page, and 67.2% have some form of standalone services page.
- 63.6% have a detailed page for every project, including case studies, testimonials, slideshows with screenshots, drafts and sketches.
- Contact pages contain driving directions, phone number, email address, postal address, vCard and online form,

30 Usability Issues To Be Aware Of

Vitaly Friedman

You don't have to agree upon everything. As a professional web developer you are the advocate of your visitors' interests and needs; you have to protect your understanding of good user experience and make sure the visitors will find their way through (possibly) complex site architecture. And this means that you need to be able to protect your position and communicate your ideas effectively — in discussions with your clients and colleagues. In fact, it's your job to compromise wrong ideas and misleading concepts instead of following them blindly.

In this context nothing can support you more than the profound knowledge of fundamental issues related to your work. But even if you know most of them it's important to know how to name these concepts and how to refer to them once they appear in the conversation. Furthermore, it's always useful to have some precise terms ready to hand once you might need them as an argument in your discussions.

In this article we present 30 important usability issues, terms, rules and principles which are usually forgotten, ignored or misunderstood. What is the difference between readability and legibility? What exactly does 80/20 or Pareto principle mean? What is meant with minesweeping and satisficing? And what is Progressive Enhancement and Graceful Degradation? OK, it's time to dive in.

Usability: Rules and Principles

7±2 PRINCIPLE

Since human brain has some limits on its capacity for processing information, it deals with complexity dividing information into chunks and units. According to George A. Miller's studies humans' short term memory can retain only about 5-9 things at one time. This fact is often used as an argument for limiting the number of options in navigation menus to 7; however there are heated debates about [The Myth of “Seven, Plus or Minus 2”](#). Therefore it's not clear how the 7±2 Principle can, could or should be applied to the Web. [Miller's studies](#).

2-SECOND-RULE

A loose principle that a user shouldn't need to wait more than 2 seconds for certain types of system response, such as application-switching and application launch time. The choice of 2 seconds is somewhat arbitrary, but a reasonable order of magnitude. Reliable principle: the less users have to wait, the better is the user experience. [\[UF\]](#)

3-CLICK-RULE

According to this rule users stop using the site if they aren't able to find the information or access the site feature within 3 mouse clicks. In other words, the rule emphasizes the importance of clear navigation, logical structure and easy-to-follow site hierarchy. In most situations the number of clicks is irrelevant; what is really important is that visitors always know where they are, where they were and where they can go next. Even 10 clicks are OK if users feel that they have a full understanding of how the system works.

80/20 RULE (THE PARETO PRINCIPLE)

The Pareto principle (also known as *the law of the vital few* and *the principle of factor sparsity*) states that 80% of the effects comes from 20% of the causes. This is the basic rule of thumb in business (“80% of your sales comes from 20% of your clients”), but can also be applied to design and usability. For instance, dramatic improvements can often be achieved by identifying the 20% of users, customers, activities, products or processes that account for the 80% of contribution to profit and maximizing the attention applied to them.

EIGHT GOLDEN RULES OF INTERFACE DESIGN

As a result of Interface Design Studies, Ben Shneiderman proposed a collection of principles that are derived heuristically from experience and applicable in most interactive systems. These principles are common for user interface design, and as such also for web design.

1. Strive for consistency.
2. Enable frequent users to use shortcuts.
3. Offer informative feedback.
4. Design dialog to yield closure.
5. Offer simple error handling.
6. Permit easy reversal of actions.
7. Provide the sense of control. ~~Support internal locus of control.~~
8. Reduce short-term memory load.

FITTS' LAW

Published by Paul Fitts in 1954, Fitts' law is a model of human movement which predicts the time required to rapidly move to a target area, as a function of the distance to the target and the size of the target. The law is usually applied to the movement of the mouse visitors have to perform to get from point A to point B. For instance, the rule can be important to place the content areas in a more usable way to maximize their accessibility and improve click rates.

INVERTED PYRAMID

The inverted pyramid is a writing style where the summary of the article is presented in the beginning of the article. This approach makes use of the “waterfall effect” well-known in journalism where writers try to give their readers an instant idea about the topic they're reporting. The article begins with a conclusion, followed by key points and finally the minor details such as background information. Since web users want instant gratification, the inverted pyramid style, [as supported by Nielsen](#), is important for web writing and for better user experience.

SATISFICING

Web users don't prefer optimal ways to find the information they're looking for. They aren't interested in the most reasonable and sound solution to their problem. Instead they permanently scan for quick'n'dirty-solutions which are “good enough”. Applied to Web, satisficing describes exactly this approach: users settle with a solution to a problem that is “good enough” — even if alternative solutions can better fulfill their requirements in a long run. [\[I-D\]](#)

Psychology Behind Usability

BABY-DUCK-SYNDROME

Baby Duck Syndrome describes the tendency for visitors to stick to the first design they learn and judge other designs by their similarity to that first design. The result is that users generally prefer systems similar to those they learned on and dislike unfamiliar systems. This results in the usability problems most re-designs have: users, get used with previous designs, feel uncomfortable with new site structure they have to find their way through.

BANNER-BLINDNESS

Web users tend to ignore everything that looks like advertisement and, what is interesting, they're pretty good at it. Although advertisement is noticed, it [is almost always ignored](#). Since users have constructed web related schemata for different tasks on the Web, when searching for specific information on a website, they focus only on the parts of the page where they would assume the relevant information could be, i.e. small text and hyperlinks. Large colourful or animated banners and other graphics are in this case ignored.



Source: [Banner Blindness: Old and New Findings](#)

CLIFFHANGER-EFFECT (ZEIGARNIK-EFFECT)

Human beings can't stand uncertainty. We tend to find answers to unanswered questions we are interested in as soon as possible. Cliffhanger-effects are based upon this fact; movies, articles and plots with Cliffhanger-effect have an abrupt ending, often leaving with a sudden shock revelation or difficult situation. The effect is often used in advertisement: asking the

visitors unanswered and provocative questions advertisers often tend to force them to read the ad, click on the banner or follow a link.

Found out by Bluma W. Zeigarnik in 1927, this effect establishes an emotional connection with readers and is extremely effective in terms of marketing. Visitors can better remember what the ad is about and even smallest details are stored more clearly and precisely. In Web writing the Cliffhanger-effect is also used to bound the visitors to a web-site (e.g. “Grab our RSS-Feed to ensure you don’t miss the second part of the article!”).

GESTALT PRINCIPLES OF FORM PERCEPTION

These principles are the fundamental rules of human psychology in terms of human-computer-interaction-design.

- **The law of proximity** posits that when we perceive a collection of objects, we will see objects close to each other as forming a group.



A real-world example of the law of proximity from MTV Music Awards 2002.

[Source.](#)

- **The law of similarity** captures the idea that elements will be grouped perceptually if they are similar to each other.
- **The Law of Prägnanz (figure-ground)** captures the idea that in perceiving a visual field, some objects take a prominent role (the figures) while others recede into the background (the ground).



The Macintosh logo can be viewed as a regular happy face and a happy face in profile (looking at a computer screen). [Source](#).

- **The law of symmetry** captures the idea that when we perceive objects we tend to perceive them as symmetrical shapes that form around their centre.
- **The law of closure** posits that we perceptually close up, or complete, objects that are not, in fact, complete.



We perceive the letters 'I', 'B', and 'M' although the shapes we see, in fact, are only lines of white space of differing length hovering above each other. [Source](#).

You can find more information in the article [Gestalt principles of form perception](#)

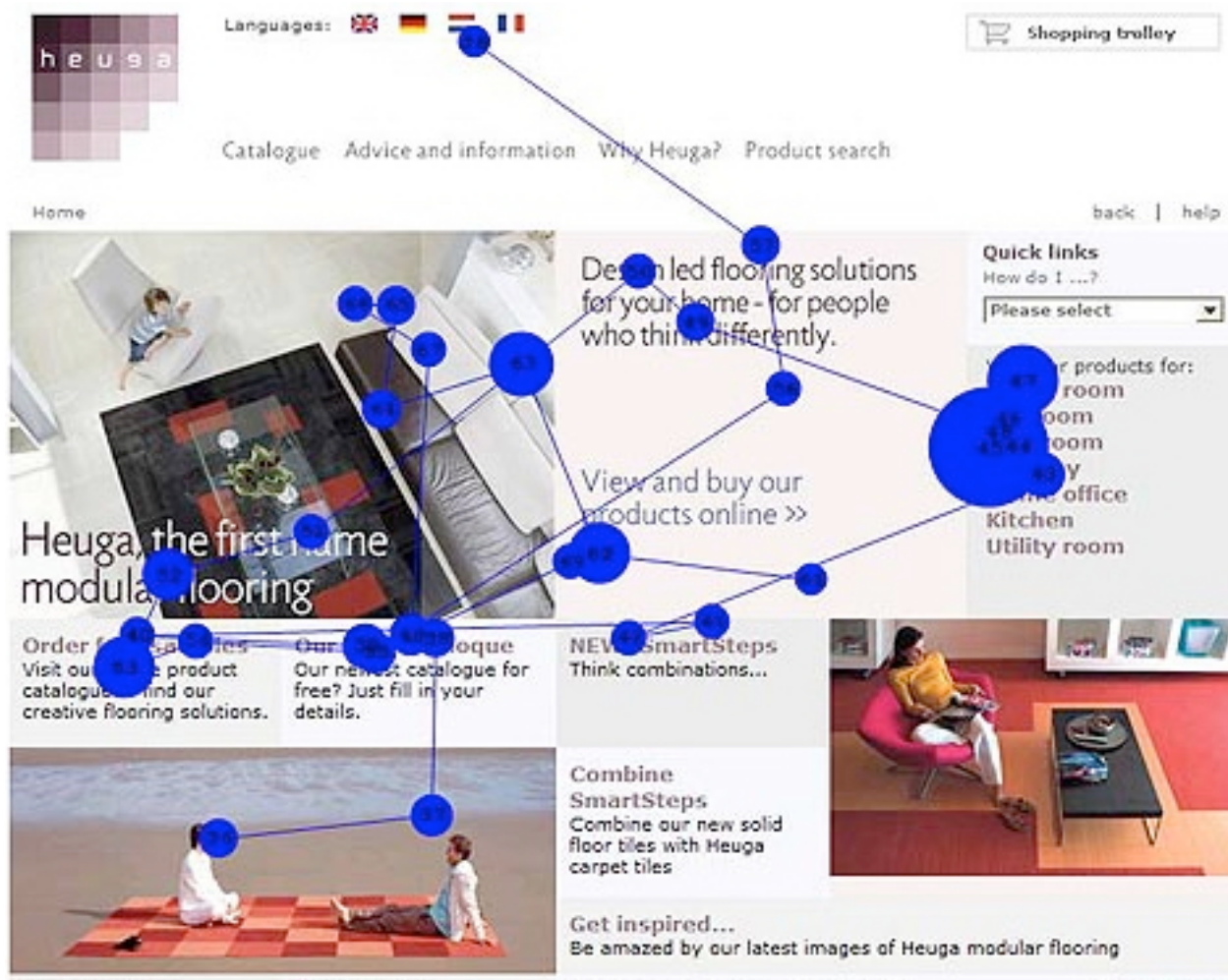
THE SELF-REFERENCE EFFECT

Self-reference effect is particularly important for web writing and can dramatically improve the communication between authors and readers. Things that are connected to our personal concept are remembered better than those which aren't directly connected to us. For instance, after reading an article users better remember the characters, stories or facts they had personal experience with. In Usability the self-reference effect is usually used in terms of web writing and content presented on a web-site.

Usability Glossary: Terms and Concepts

EYE-TRACKING

Eye tracking is the process of measuring either the point of gaze (“where we are looking”) or the motion of an eye relative to the head. eye tracking monitor records every eye movement and highlights the most active areas on the site visually. Eye-tracking studies can help to estimate how comfortable web users are with the web-site they're browsing through and how quickly they can understand the structure and system behind it. You can find some interesting usability findings from recent eye-tracking study [Eyetrack07](#).



Eye-Tracking: [Source](#).

FOLD

The fold is defined as the lowest point where a web-site is no longer visible on the screen. The position of the fold is, of course, defined by the screen resolution of your visitor. The region above the fold (also called **screenful**) describes the region of a page that is visible without scrolling. Since the fold is seen directly without scrolling, it is often considered as the area which guarantees the highest possible ad click rates and revenues. However, [Fold area isn't that important](#). [[Usability.gov](#)]

FOVEAL VIEWPORT (FOVEAL AREA)

The fovea, a part of human's eye, is responsible for sharp central vision, which is necessary in humans for reading, watching television or movies, driving, and any activity where visual detail is of primary importance. Foveal area is a small wide space area where your eyes are aimed at and it is the only area where you can perceive the maximum level of detail. Foveal area is a tight area of about two degrees of visual field or two thumbnails held in front of your eyes. This is the place where you'd like to deliver the most important messages of your visitors.

Foveal viewport is important, because outside of this wide screen area how your visitors see your web-pages change dramatically. Inside this area is the only part of your vision with the maximal resolution – only here no eye scanning is necessary. [\[Source\]](#)

GLOSS

Gloss is an automated action that provides hints and summary information on where the link refers to and where it will take the user once it's clicked. Hints can be provided via `title`-attribute of links. From the usability point of view users want to have the full control over everything what is happening on a web-site; clear and precise explanations of internal and outgoing links, supported by sound anchor text, can improve the usability of a web-site.

GRACEFUL DEGRADATION (FAULT-TOLERANCE)

Graceful Degradation is the property of a web-site to present its content and its basic features even if some of its components (partly or at all) can't be displayed or used. In practice it means that web-sites display their content in every possible "fault" scenario and can be used in every configuration (browser, plug-ins, connection, OS etc.) the visitor might have. "Power-users"

are still offered a full, enhanced version of the page. For instance, it's typical to offer alternatives for Multimedia-content (for instance image) to ensure that the content can be perceived if images can't be displayed. [[Wikipedia](#)]

GRANULARITY

Granularity is the degree to which a large, usually complex data set or information has been broken down into smaller units.

HOTSPOT

Hotspots are clickable site areas which change their form or/and outer appearance once they are clicked. This is typical for :focus-effects when a link or any other site element is clicked.



Screensavers - Best Of

Long, long time ago screensavers have been used to prevent permanent disfigurement of areas on a CRT display caused by displayed continuously for long periods of time. To avoid this..



Selected Wallpapers For Your Desktop

If you can't live without a nice wallpaper on your desktop you the search for the Selected Wallpapers For Your Desktop resolution and of the desktop images is often not the one you'd praise over..

Hotspot and gloss on Smashingmagazine.com

LEGIBILITY

Legibility indicates how clear the text is visually.

MINESWEEPING

Minesweeping stands for user interactions which aim to identify the links on a web-site. In most cases minesweeping is a clear alarm signal for usability problems. Usually minesweeping involves the user rapidly moving the cursor or pointer over a page, watching to see where the cursor or pointer changes to indicate the presence of a link. [Usability.gov]

MYSTERY-MEAT NAVIGATION (MMN)

In Web mystery-meat navigation describes designs in which it is extremely difficult for users to recognize the destinations of navigational hyperlinks — or determine where the hyperlinks are.

PHYSICAL CONSISTENCY

This concept describes the consistent outer appearance of a web-site — e.g. the position of logos, navigation, the use of graphic elements and typography. Physical consistency is essential for better orientation and effective site navigation.

PROGRESSIVE ENHANCEMENT (PE)

Progressive Enhancement is a design strategy in which sites are created in a layered fashion — from the basic functionality for all browsers to the additional, enhanced features for modern browsers. The main advantage of progressive enhancement lies in its “universal usability” — i.e. the fact that it allows everyone to access the basic content and functionality of a web page, using any browser or Internet connection, while also providing those with better bandwidth or more advanced browser software an enhanced version of the page.

READABILITY

Readability describes the degree to which the meaning of text is understandable, based on the complexity of sentences and the difficulty of vocabulary. Indexes for readability usually rank usability by the age or grade level required for someone to be able to readily understand a reading passage. Readability is **not** legibility.

USER-CENTERED DESIGN (UCD)

User-centered design is a design philosophy in which users, their needs, interests and behavior define the foundation of web-site in terms of site structure, navigation and obtaining the information. UCD is considered as a standard approach for modern web-applications, particularly due to the rise of user generated content. In Web 2.0 visitors have to be motivated to participate and therefore need conditions optimized for their needs.

VIGILANCE (SUSTAINED ATTENTION)

Vigilance is the ability to sustain attention during prolonged, monotonous tasks such as proofreading a text looking for spelling errors, reminding of appointments, auto-saving word processor documents etc. In modern web-applications vigilance tasks are performed in background, automatically and thus improve the usability of the service. [\[I-D\]](#)

WALK-UP-AND-USE DESIGN

A Walk-up-and-use design is self-explanatory and intuitive, so that first-time or one-time users can use it effectively without any prior introduction or training. [\[I-D\]](#)

WIREFRAME

A wireframe is a basic structure — skeleton — of a site that describes the ideas, concepts and site structure of a web-site. Wireframes can be designed as presentations which explain to the stake holders how the site is designed, which functionality it offers and how users can accomplish their tasks. Wireframes usually don't have any visual elements or a complete page layouts; they are often first drafts and sketches designers create on paper. Example?



Wireframes: [Example](#).

Designing For Start-Ups: How To Deliver The Message Across

Andrew Maier

Start-up organizations provide an extraordinary example of chaos organized into manageable chunks. Perhaps more than anyone else, the individuals who comprise a start-up team are required to understand their team's goals across a variety of disciplines — research, marketing, design, development, architecture, etc. — as well as their own responsibility to move the company's overarching objective forward. Entrepreneurs must choose the direction, designers must think through the options, and developers must cull a functional product or service, all while giving feedback to and receiving it from their colleagues.

At least, that's the idea. Most **start-ups tend to take liberties** somewhere along the way. Some start-ups begin with a novel business model, whereas others begin with a beautiful design. Still others try to test things out first with a functional prototype, even if it is a bit ugly. All of them — regardless of their initial approach — adapt their process over time in order to create a well-rounded product or service. And for this reason, most of today's start-ups describe themselves as “agile.”

Agile start-ups, as the name implies, should be capable of changing their design, development and/or business objectives on a dime. This is much easier said than done — especially for today's user experience designers. The user experience (UX) designers who work at agile start-ups are required to do two things exceptionally well: (1) grasp the **intent** of the product or service being developed, and (2) effectively communicate those good

intentions to end users in a language they'll understand. Neither of these is as straightforward as it might sound.

Ideally, designers will jumpstart their design process by carefully selecting well-reasoned entrepreneurs to work with; but what happens when the designer is altogether alien to the community he is designing for? The breakneck speed of agile start-ups makes it incredibly **difficult for designers to craft appropriate messages** to their audience at large. Only by understanding the processes and opinions that dominate start-ups can designers begin to reach out and make a difference for the end users of their product or service.

User-Centered Design, Sans User

Designing with a clear idea of who the users are has [never been simple](#). Most designers who have experience with the trial by fire known as a “[lean start-up](#)” will almost vehemently agree: because there are more than a few fires to fight, adopting a [big-d Design process](#) at start-up organizations is, simply put, exceedingly difficult. Invariably, this means that most start-up organizations **devolve** to the point that salability reigns supreme, or [form trumps function](#). But whereas flexible, agile environments are very good for getting those things done, good design takes time, which makes the design process of start-ups almost universally hamstrung.

self-fulfilment satisfaction efficiency effectiveness utility safety

is it fun?
do I lose myself in it?
does it make me feel good? or look good?
does it empower me?
can I use it to communicate?
does it let me be me?

does it understand me?
do I prefer it?
can I control it? is it confusing?
does it make things quicker? or easier?
does it understand my work?
will it annoy me? is it repetitive/mundane?
does it fit in with everything else?

will it support me when I'm an expert?
will I make mistakes?
is it fast to use?
can I learn it quickly?

does it do the job well?
does it work?
can I do it?

is it better?
does it get the job done?
do I want it?
do I need it?

is my reputation safe?
is my identity safe?
is my data safe?
will it hurt? will I hurt anyone?
is it dangerous?

 Levels of User Experience by Jon Duhig. Creative Commons Attribution 3.5 Australia License.

Keep the levels of UX in mind. (Image: [Jon and Barb](#))

In short, [agile, user-centered design](#) tends to ignore the aesthetic, intangible, [ambient](#) qualities that good experiences are all about. As a consequence, budding [artistic directors](#), brand ninjas and interaction designers have been [apt to worry](#). Without the ability to intimately understand the audience for whom they're designing, these team members can't do their jobs. The logical question becomes, how *can* they? How can designers effectively communicate with an audience they've yet to meet?

The textbook definition(s) of UX design yields some clue. User-centered designers are encouraged to perform [design research](#) and then create personas as well as other deliverables. Certainly *those* would spotlight the factors that affect a company's relationship with its users... right? Perhaps.

While research is undoubtedly necessary to the design process, its deliverables are not.

I've written before that designers should [bootstrap their own culture of UX](#) within an organization. In this article, I'll take that idea one step further: in order for a start-up to effectively communicate with its target audience, a spirit of empathy must pervade its every design decision — empathy cultivated by engaging in an ongoing, outward, user-centered conversation.

Where Has All The Empathy Gone?

The task of any designer who works in a start-up environment requires **empathy**. The designer, perhaps more than any other team member, must empathize with stakeholders (to understand the project's business objectives), developers (to understand its technical requirements) and, of course, users (to understand the nature of the problem they're solving), all at once. Designing with consideration for all [three parties](#) effectively frames their strife.

Valuable though it may be, however, most start-up environments discourage empathy. Consider the number of times you've heard something like, "We're targeting wealthy single males, ages 45 to 55," or "We're just like Amazon, but for baby boomers." Well, that's just great. A product description like that might initially help a team grok (a word that, ironically, means "understand by empathy") an idea, but as far as rhetoric goes, merely saying that you know what segment you're targeting isn't enough.

Every e-commerce company sells products. Newcomers to the space can, and often do, learn a lot by studying the [desire paths](#) paved by industry notables (indeed, [entire books](#) are written on the subject). But let's be clear: "I want to be Amazon" doesn't imbue the designer with empathy. Creating something that looks and feels like Amazon will, of course, look and feel like

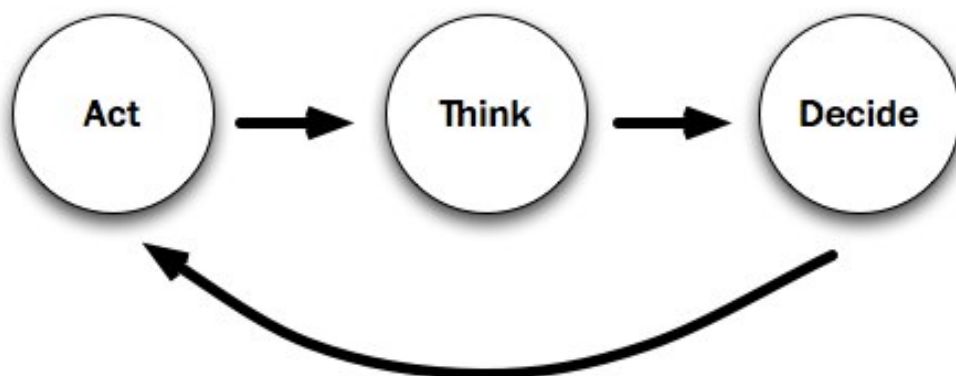
Amazon. If that website is then marketed to a wholly different crowd, then the resulting outfit will be disingenuous — the polar opposite of empathetic.

In order to create something real, unique, of lasting value and with a look and feel of its own, members of start-up teams must vacate their cubicles.

One... Erm, Three Processes

Adding to this perceived resistance are the various processes that drive start-up organizations at any given time. A [recent blog post by Whitney Hess](#) contrasts three specific types. It's worth noting that all of the approaches detailed below show the exact same verbs in the exact same sequence. What's different in each is the primary action that drives change along the way. To cite Hess:

Reactive

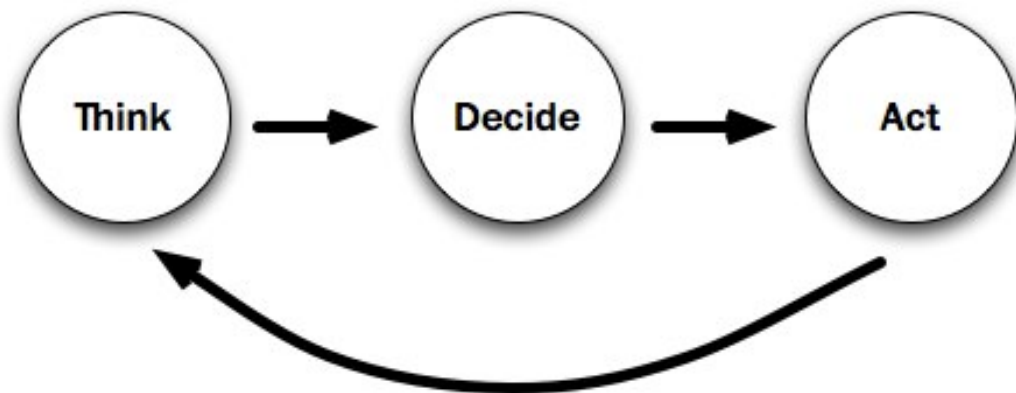


I see a lot of products developed using the Reactive Procedure:

- 1. I'm scratching my itch.*
- 2. Should I keep scratching this itch?*
- 3. I'll scratch this other itch.*

As a designer who frequently consults with agile start-ups, I concur with Whitney's sentiments: the reactive approach ("build it and they will come") is far and away the most common. There is, of course, a good reason for all that *action*: development drives change. Start-ups *act* in order to build an initial [prototype](#). Prototypes, in turn, move the company — indeed, the user feedback loop — forward. Unfortunately, the prototypes developed by most start-ups exhibit a keen lack of consideration. Who is the prototype targeted at? 40 to 50 somethings? There are certainly a lot of them. Will those 40 to 50 somethings be able to grok it? That is, will users be able to tell what it's "all about" from the design? Because this kind of subjectivity is incredibly nebulous, prudent start-ups rely on experienced UX designers to help them uncover the answers. It's no wonder that Whitney and I see this in our line of work.

Preactive



As a user experience designer, consultant and member of the New York tech community, I instead advocate for using the Preactive Procedure:

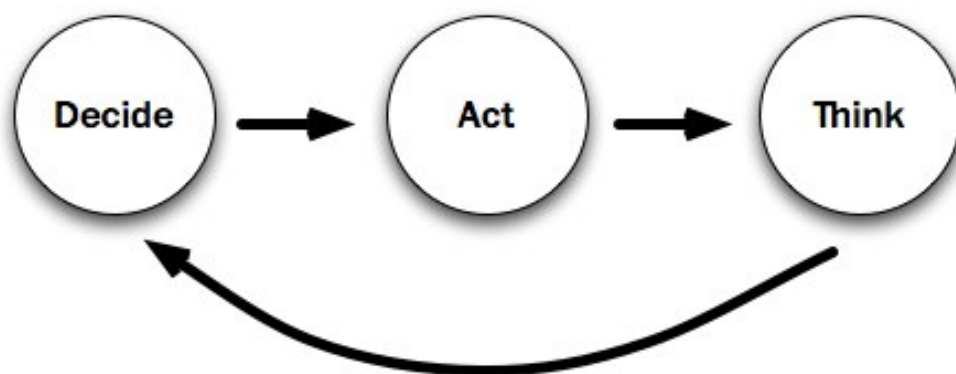
- 1. Who's itchy?*
- 2. That itch isn't being scratched.*
- 3. This is how to scratch that itch.*

I believe that most UX designers would agree — dare I say, empathize — with Whitney’s prescribed preactive approach. Beginning with thinking — with research — is in a user-centered designer’s blood; it helps them understand their audience and voice their messages appropriately. Further still, “preactivity” appears to be the only real way for designers to gain empathy. But most start-up environments run counter to this approach. Acting and *then* thinking usually leaves little room for the voice of research. Has Whitney encountered a start-up that tries to reconcile the two?

As luck would have it, she has. Whitney recently worked with an entrepreneur who marches to a different beat:

[Campbell McKellar](#), founder of [Loosecubes](#), is the first person to make me realize that there’s something even better than the Preactive Procedure — the Proactive Procedure.

Proactive



By acting sooner, you are actually achieving more. You are creating the future instead of just predicting and accommodating for it. You are inventing a new reality, based half in what people need, and half in what you want them to have. You can observe behavior sooner and

course-correct. It is the most transformative of all three procedures for both the subject and the object.

An entrepreneur at heart, I want to agree here, too. The proactive process appears to be a viable alternative to the unenviable tension between designers and developers at start-ups. But just because a group is humming along with a decision-based proactive process doesn't mean that the organization's designer *understands* its users any better. By UX standards, this process almost seems to disenfranchise them: it moves “thinking” — and here, I presume, research — all the way to the back of the bus.

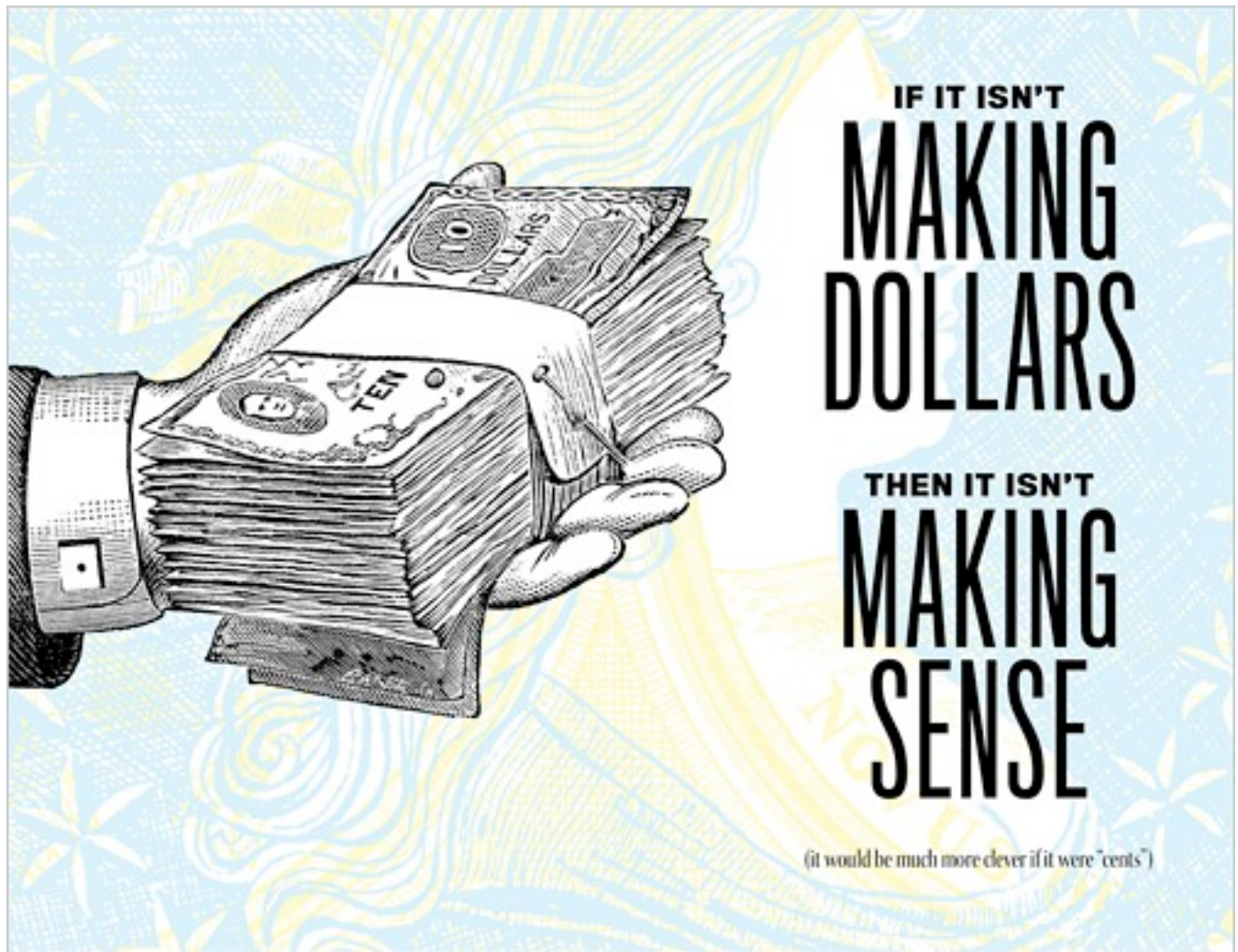
In sum, it's easy to envision scenarios at a start-up in which a given development process proves more valuable, more productive, than its alternative. Should the team think, act or decide? It depends. Regardless, as designers join start-ups, they're very likely to find that design is secondary to the process unless, of course, their organization follows a preactive process. But for most start-ups, that's simply not the case.

In order for an organization to learn more about its users, the design-minded members must *advocate* to that effect, changing the way that design is approached. Designers must stand up for their part of the process. As UX designer Joshua Porter [attests](#), “The further a designer is from the people they're designing for, the harder it is to design for them.”

Start-ups — or more specifically, the designers at start-ups — need to get as close to users as they can. Product development can't rest in the entrepreneurs' and/or the developers' hands alone.

Why Design Fails

When asked, most designers don't take long to provide honest, valid reasons why the design process is important to developers and entrepreneurs alike. There is firm precedent to that end, and they are designers by choice, after all. But just because the truth and beauty of good design is evident to most designers doesn't exactly mean that their colleagues share their sentiments.



If it isn't making Dollars... (Image: [Kristian Bjornard](#))

Start-ups — and more importantly, the individuals who comprise them — have a great number of mental hurdles standing in the way of their empathy with end users. The aforementioned quickened pace and changing processes aside, here are those hurdles:

- **Start-up teams have strong convictions.**

Anyone who believes strongly in a cause (be it an idea or a Web application... or both) will identify with it. If a designer [questions the validity of an idea](#), then they are questioning the team. This is a difficult, integral part of the design process.

- **Research doesn't (immediately) sell.**

It doesn't take weeks of research to sell a product to someone, and given enough time a good marketer can sell anyone almost anything — especially something beautiful. As a consequence, team members are likely to judge the design book by its cover. Research rarely affects their notion of beauty.

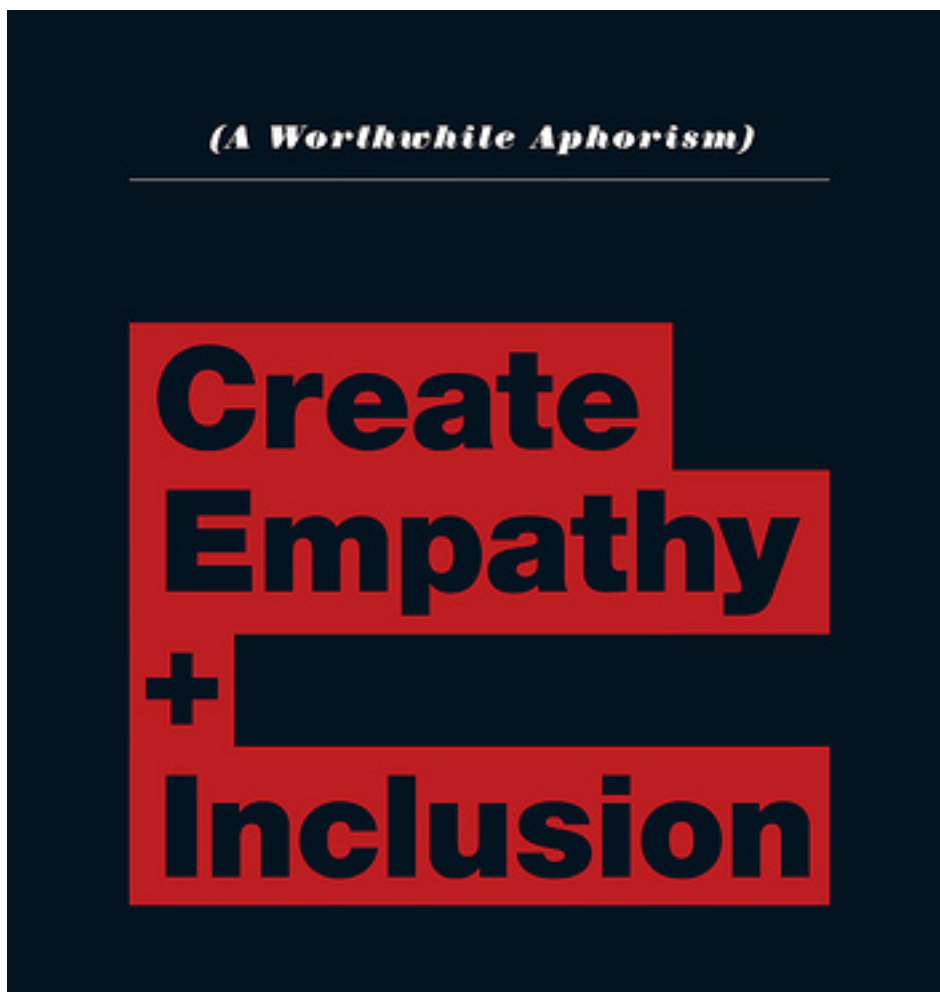
- **Start-ups trust results they can measure (preferably in dollars).**

Web metrics are currently the bread and butter of [today's Web-savvy marketers](#). Saying that a design is good is one thing. Saying that a design has increased conversions by 200% is another. Attaching a number to something makes entrepreneurs (and, yes, designers, too) feel better about the problem being addressed. If the current process is measurable, should an up-front design process be allowed to slow that down?

In sum, short-term, yes-or-no, go-or-no-go (Decide! Act!) thinking pervades the start-up space. The reality is that most agile start-ups favor a “design-less” process. While UX designers might trust that empathy (or understanding) is tantamount to a start-up's success, their teammates won't necessarily believe so. In order to effect change, designers must fight for the integrity of their design from the inside out.

Leading The Way With Empathy

To be clear, good design doesn't come about at start-ups just by studying the metrics generated from a prototype or by talking to users through a proxy — say, support emails. That isn't to say that these things aren't valuable — they certainly can (and often do) point to the consequences of prior decisions. But feedback, by definition, cannot determine the company's next — or, more importantly, first — steps. There's the rub. Unfortunately, that is the problem routinely faced by start-up designers.



Create Empathy and Inclusion. (Image: [Kristian Bjornard](#))

No one would argue that determining what's "good" for a Web design is subjective, which makes it a frightening prospect. As [D. Keith Robinson wrote on A List Apart](#) all the way back in 2005:

Knowing what people want on the Web can be hard. You either need to have incredible empathy or have done fairly extensive research. This empathy I'm talking about, in my opinion, can really only be built up over time observing all kinds of people doing all kinds of things on all kinds of websites and applications. Even then, as you move from project to project, the people, problems and needs change.

With every new project comes a new target user, a new person to empathize with. And just as with meeting a new person, understanding what they like and don't like takes time. If designers are to appeal to this new person, they first have to get to know them. As both Whitney Hess and Cennydd Bowles have asserted, focusing on a rapid proactive process — decide, act, think — gives most start-ups a solid plan of attack. Not only do teams get to test market viability first, they can then think about how they'll differentiate the product shortly thereafter.

Yes, this process makes brand-conscious designers uneasy, and understandably so. In the beginning, though, without the context that a prototype creates, designers must lean towards the relatively "safe" side, where all interaction design begins: [buttons look like buttons](#), drop-downs look like drop-downs and perhaps even the names of start-ups [sound like start-ups](#). Robert Hoekman, Jr. calls this [Designing the Obvious](#). I call it designing the boring bits.

Because what this approach makes up for in usability, it certainly lacks in propriety. To determine what's appropriate (which is subjective), designers must conduct field research.

HOLD YOUR OWN CONVICTIONS

Plenty of UX designers preach preactivity; they are the ones who want to understand — to empathize with — their audience and build something tailored to them. Moreover, these designers have the relative luxury of working within organizations. For them, Cennydd Bowles and James Box have written a lovely book, [Undercover User Experience Design](#). If you're at a company where design is ailing and you want to fix it, I suggest picking up a copy right away.

If you're an independent consultant or a designer working with a start-up that's out to craft the best possible experience, then I would suggest a couple of things, all centered on the same concept, which is to make listening a part of the company's design process:

1. **Create a design strategy.**

Articulate who you'll be designing for (even if they're only make-believe) and how they'll use the website. I've written before [how I do this](#). Regardless of how you do it, **know who you're trying to know**.

2. **Have a solution.**

Work with a development team to [generate a quick prototype](#) that demonstrates your best (albeit uninformed) solution. Have at least two people use the prototype the way it is intended to be used. Befriend them, and see if they'll contribute feedback as you refine your vision.

3. **See for yourself.**

Finally, and most importantly, [see for yourself](#). Visit your users in their natural environment, and make sure their concerns are addressed. If you're in a position to do this, ask them questions related to the problem your start-up addresses.

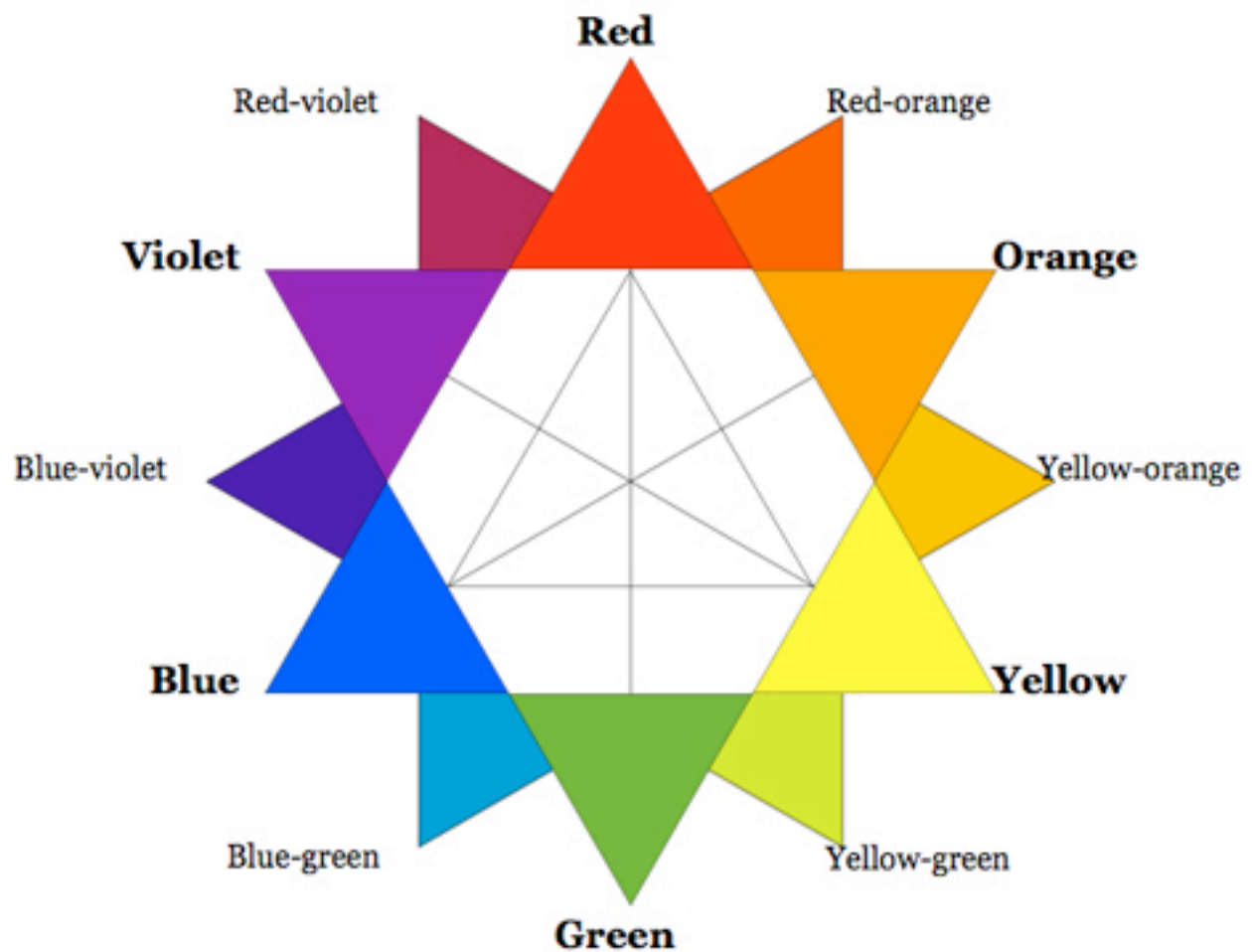
In all cases, start-up designers should center their design process on **listening** to users. Instead of speaking *to* users by way of the design, converse *with* users to inform the design. Empathy, the human connection, makes or breaks an informed experience.

Because most of us work behind computers for hours, days or weeks at a time, gaining empathy is obviously easier said than done. However, empathy is the only way to turn a good business idea into a well-articulated design conversation. Respect is earned, a brand is born, when every interaction that an organization has with its users is open, earnest, honest and, most of all, appropriate.

Color Theory For Designers, Part 1: The Meaning Of Color

Cameron Chapman

Color in design is very subjective. What evokes one reaction in one person may evoke a very different reaction in someone else. Sometimes this is due to personal preference, and other times due to cultural background. Color theory is a science in itself. Studying how colors affect different people, either individually or as a group, is something some people build their careers on. And there's a lot to it. Something as simple as changing the exact hue or saturation of a color can evoke a completely different feeling. Cultural differences mean that something that's happy and uplifting in one country can be depressing in another.



This is the first in a three-part series on color theory. Here we'll discuss the meanings behind the different color families, and give some examples of how these colors are used (with a bit of analysis for each). In Part 2 we'll talk about how hue, chroma, value, saturation, tones, tints and shades affect the way we perceive colors. And in Part 3 we'll discuss how to create effective color palettes for your own designs.

Warm Colors



Warm colors include red, orange, and yellow, and variations of those three colors. These are the colors of fire, of fall leaves, and of sunsets and sunrises, and are generally energizing, passionate, and positive.

Red and yellow are both primary colors, with orange falling in the middle, which means warm colors are all truly warm and aren't created by combining a warm color with a cool color. Use warm colors in your designs to reflect passion, happiness, enthusiasm, and energy.

RED (PRIMARY COLOR)



Red is a very hot color. It's associated with fire, violence, and warfare. It's also associated with love and passion. In history, it's been associated with both the Devil and Cupid. Red can actually have a physical effect on people, raising blood pressure and respiration rates. It's been shown to enhance human metabolism, too.

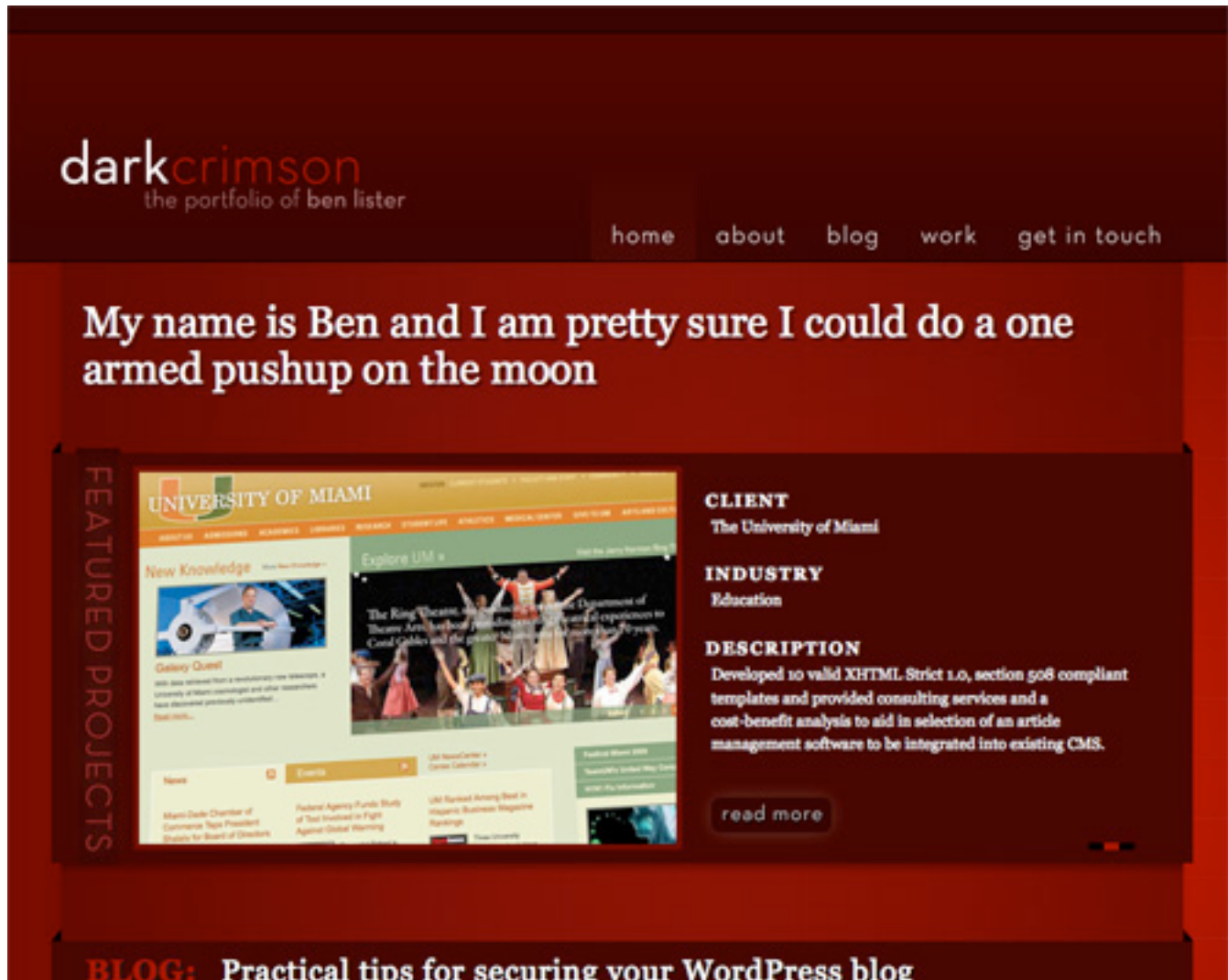
Red can be associated with anger, but is also associated with importance (think of the red carpet at awards shows and celebrity events). Red also indicates danger (the reason stop lights and signs are red, and that most warning labels are red).

Outside the western world, red has different associations. For example, in China, red is the color of prosperity and happiness. It can also be used to attract good luck. In other eastern cultures, red is worn by brides on their wedding days. In South Africa, however, red is the color of mourning. Red is also associated with communism. Red has become the color associated with AIDS awareness in Africa due to the popularity of the [RED] campaign.

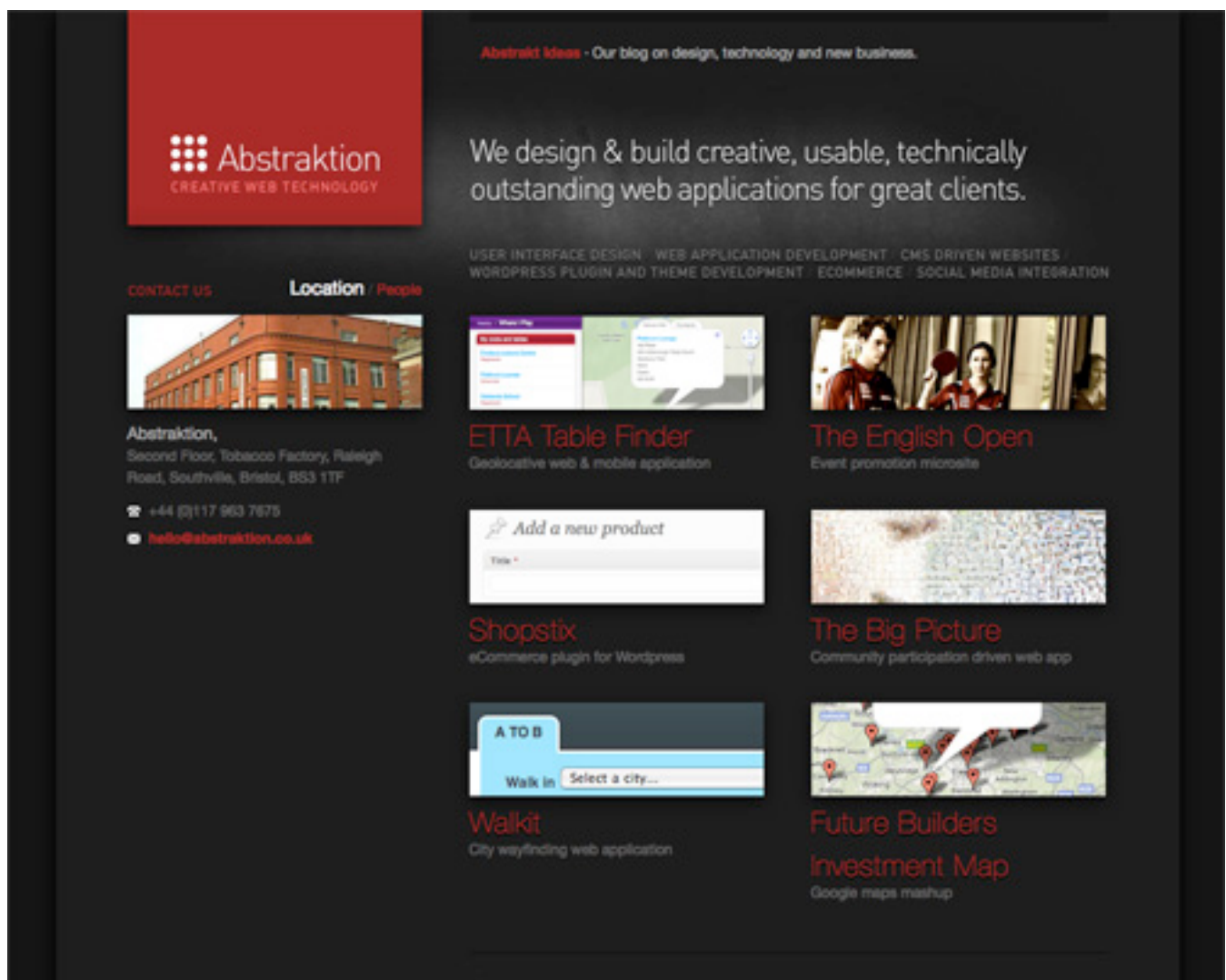
In design, red can be a powerful accent color. It can have an overwhelming effect if it's used too much in designs, especially in its purest form. It's a great color to use when power or passion want to be portrayed in the

design. Red can be very versatile, though, with brighter versions being more energetic and darker shades being more powerful and elegant.

Examples



The dark shades of red in this design give a powerful and elegant feel to the site.



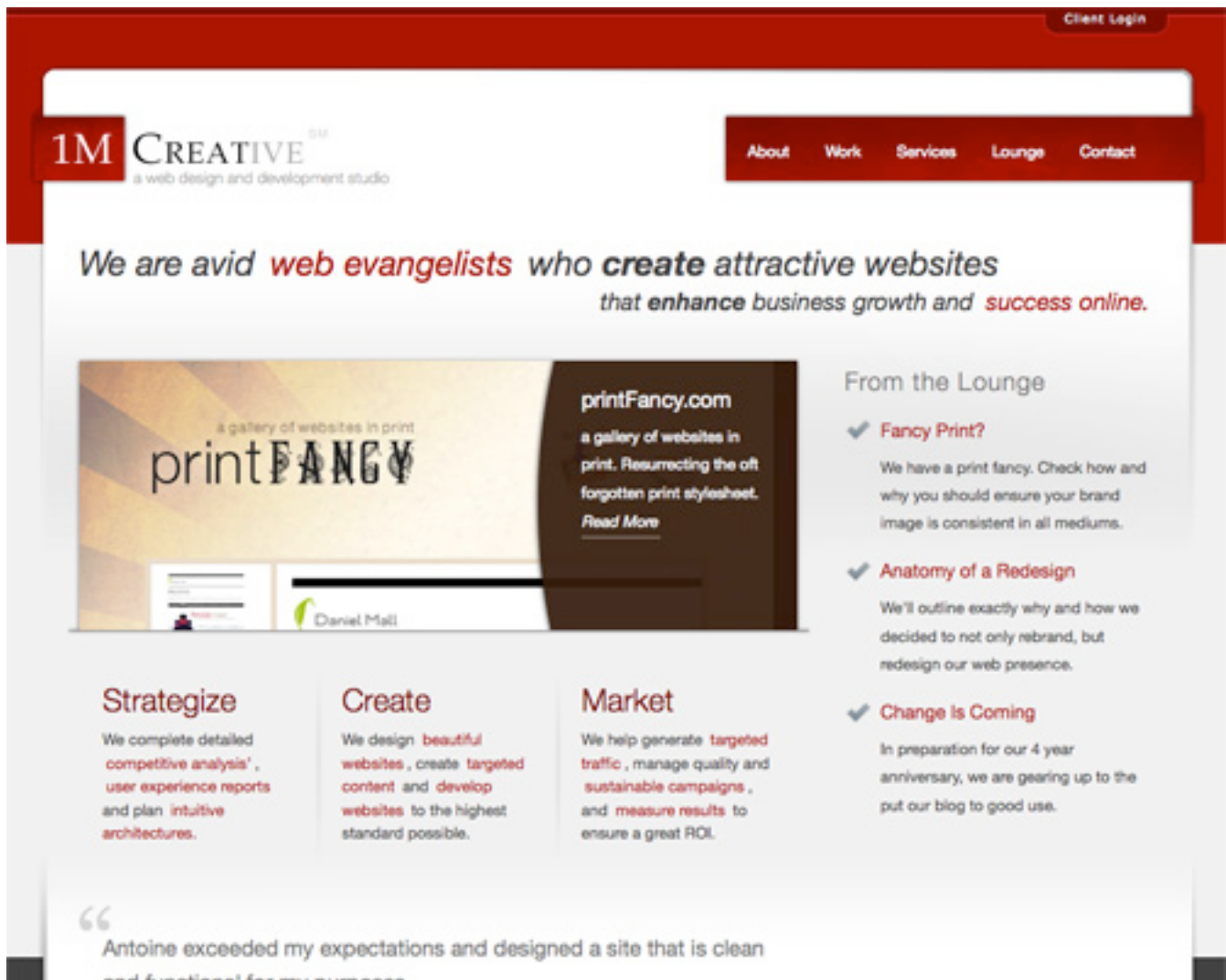
The true red accents stand out against the dark black background, and give a powerful and high-end feeling to the site.



The very bright red accents on this site give a sense of energy and movement.



The dark red on this site, because it's combined with grunge elements, seems more like the color of blood.



Dark red, when combined with white and gray, gives a very elegant and professional impression.

ORANGE (SECONDARY COLOR)



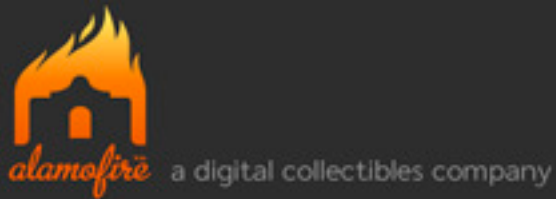
Orange is a very vibrant and energetic color. In its muted forms, it can be associated with the earth and with autumn. Because of its association with the changing seasons, orange can represent change and movement in general.

Because orange is associated with the fruit of the same name, it can be associated with health and vitality. In designs, orange commands attention without being as overpowering as red. It's often considered more friendly and inviting, and less in-your-face.

Examples



The bright orange box draws attention to its contents, even with the other bright red elements on the page.

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Orange is used here in its most obvious incarnation, to represent fire.



The dark orange, when set against the lime green, almost acts as a neutral and grounding color here.



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Orange is used here to give a friendly and inviting impression.

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OUR FINE COMPANY

The Plant's engineers are among the best in the industry: experts at designing and developing web applications, including content management systems, e-commerce systems, and social networks. We have offices in Japan and China and service domestic and multinational companies in the US, Europe, and Asia.

We also run our own successful web services and lead several open source projects. These experiences make us better development partners for our clients as we measure success not by completion of a spec, but by how our work addresses all of our clients' goals, from user experience to profitability.

RECENT WORK



PiqShare

PiqShare is a pet project that we developed to answer a specific problem that one of The Plant's employees identified: It's difficult to share private photos with your

The orange accents here add a lot of visual interest and bring attention to the call to action.

YELLOW (PRIMARY COLOR)



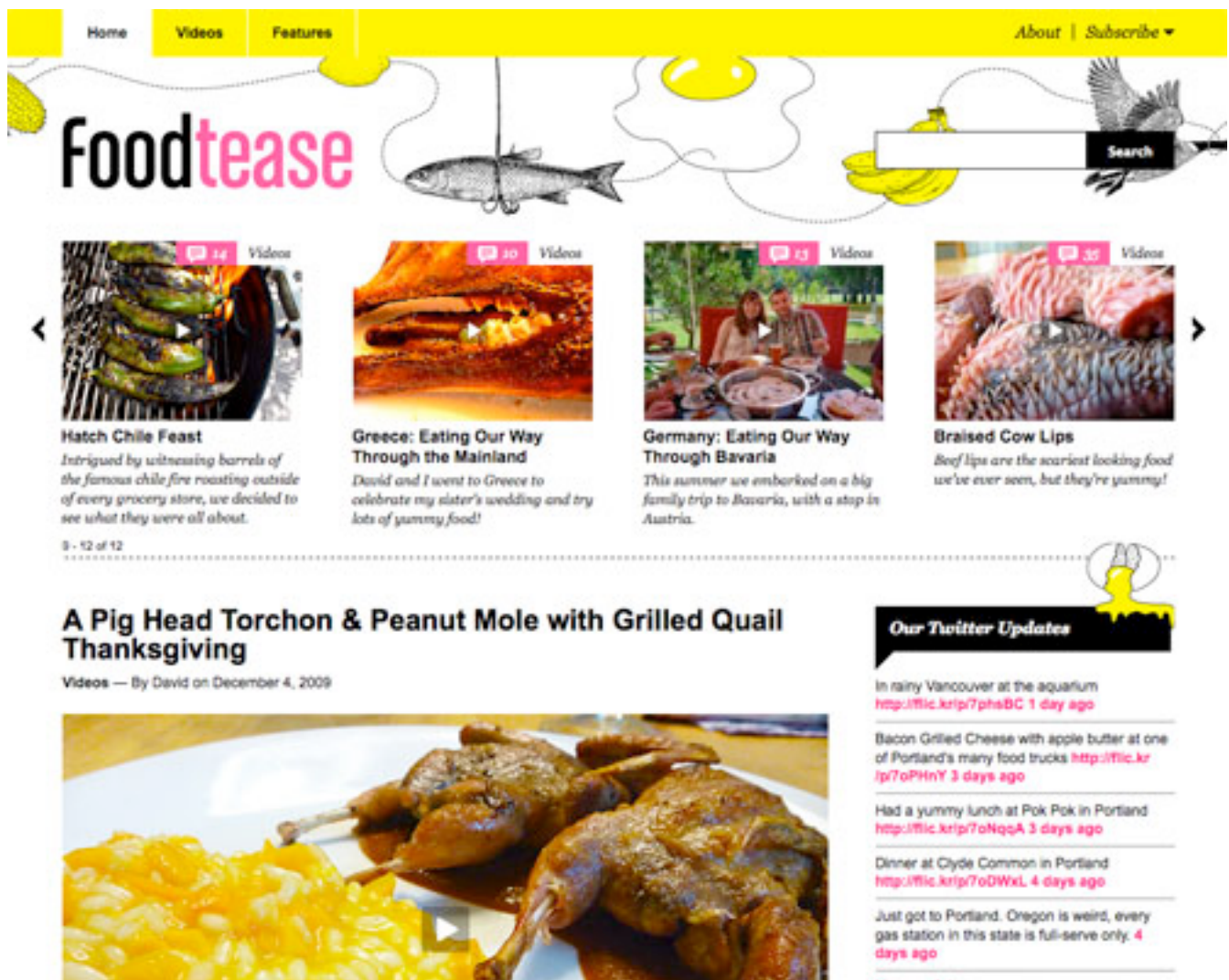
Yellow is often considered the brightest and most energizing of the warm colors. It's associated with happiness and sunshine. Yellow can also be associated with deceit and cowardice, though (calling someone yellow is calling them a coward).

Yellow is also associated with hope, as can be seen in some countries when yellow ribbons are displayed by families who have loved ones at war. Yellow is also associated with danger, though not as strongly as red.

In some countries, yellow has very different connotations. In Egypt, for example, yellow is for mourning. In Japan, it represents courage, and in India it's a color for merchants.

In your designs, bright yellow can lend a sense of happiness and cheerfulness. Softer yellows are commonly used as a gender-neutral color for babies (rather than blue or pink) and young children. Light yellows also give a more calm feeling of happiness than bright yellows. Dark yellows and gold-hued yellows can sometimes look antique and be used in designs where a sense of permanence is desired.

Examples



The bright yellow header and graphics used throughout this site give a sense of energy and positivity.



The light yellow is used almost as a neutral in the header here, and combined with the hand-drawn illustrations gives a very cheerful impression.



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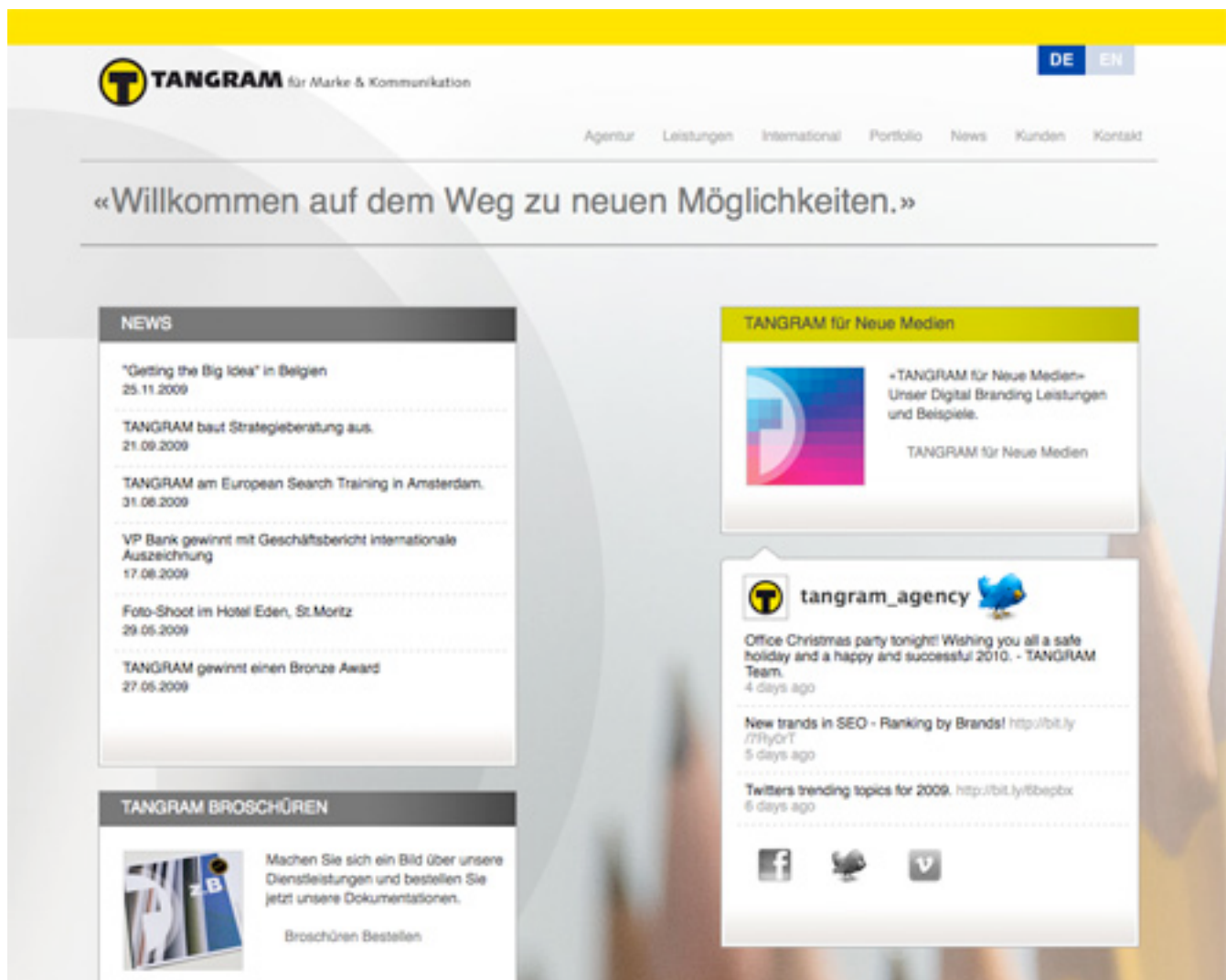
Maka oss

TV3:s nya position

The bright yellow accents bring attention to the most important parts of this site.



The bright yellow sunflower reminds visitors of summer on this site, and combined with the antique-yellow background, it gives a homey and established feeling.



The bright yellow header here adds a bit of extra energy to this design.

Cool Colors



Cool colors include green, blue, and purple, are often more subdued than warm colors. They are the colors of night, of water, of nature, and are usually calming, relaxing, and somewhat reserved.

Blue is the only primary color within the cool spectrum, which means the other colors are created by combining blue with a warm color (yellow for green and red for purple). Greens take on some of the attributes of yellow, and purple takes on some of the attributes of red. Use cool colors in your designs to give a sense of calm or professionalism.

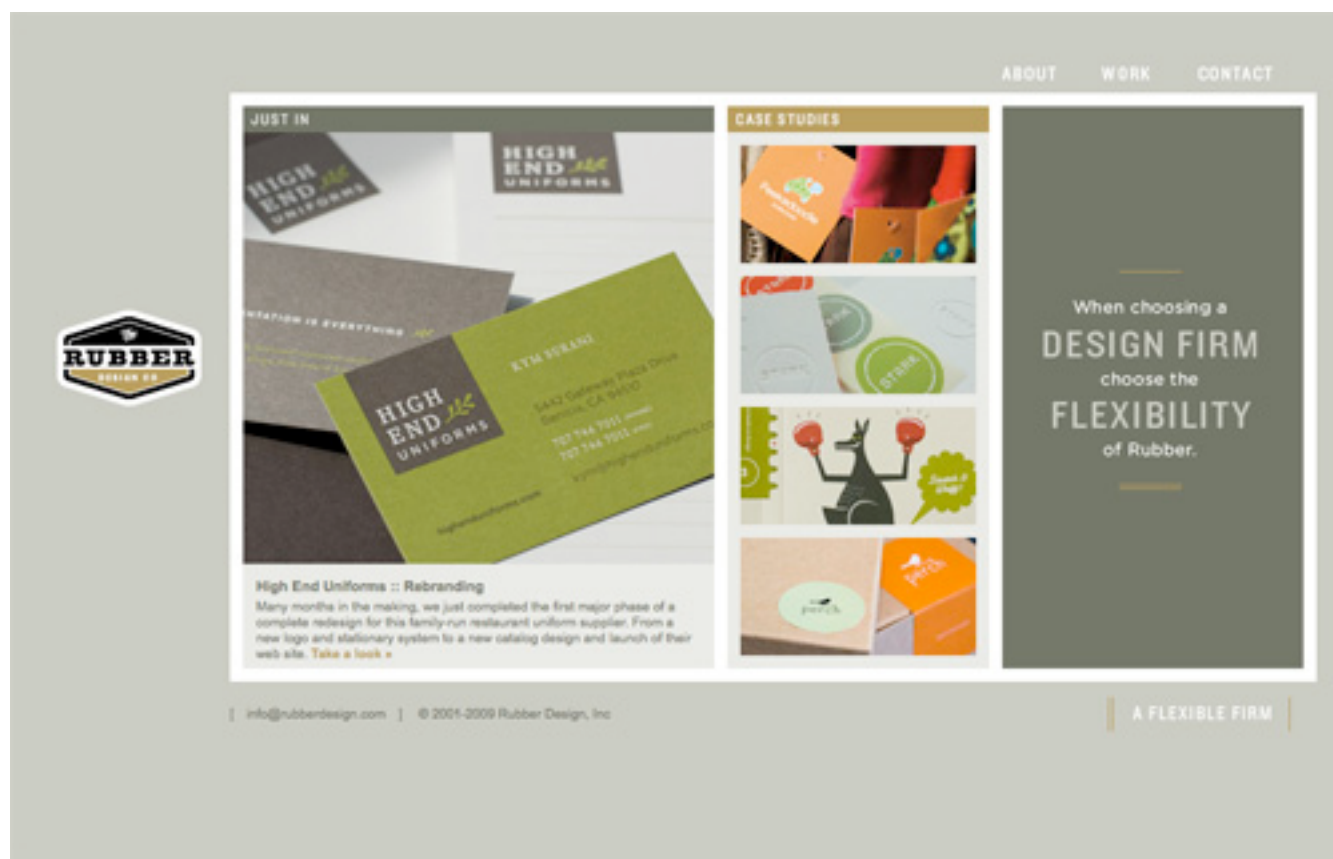
GREEN (SECONDARY COLOR)



Green is a very down-to-earth color. It can represent new beginnings and growth. It also signifies renewal and abundance. Alternatively, green can also represent envy or jealousy, and a lack of experience.

Green has many of the same calming attributes that blue has, but it also incorporates some of the energy of yellow. In design, green can have a balancing and harmonizing effect, and is very stable. It's appropriate for designs related to wealth, stability, renewal, and nature. Brighter greens are more energizing and vibrant, while olive greens are more representative of the natural world. Dark greens are the most stable and representative of affluence.

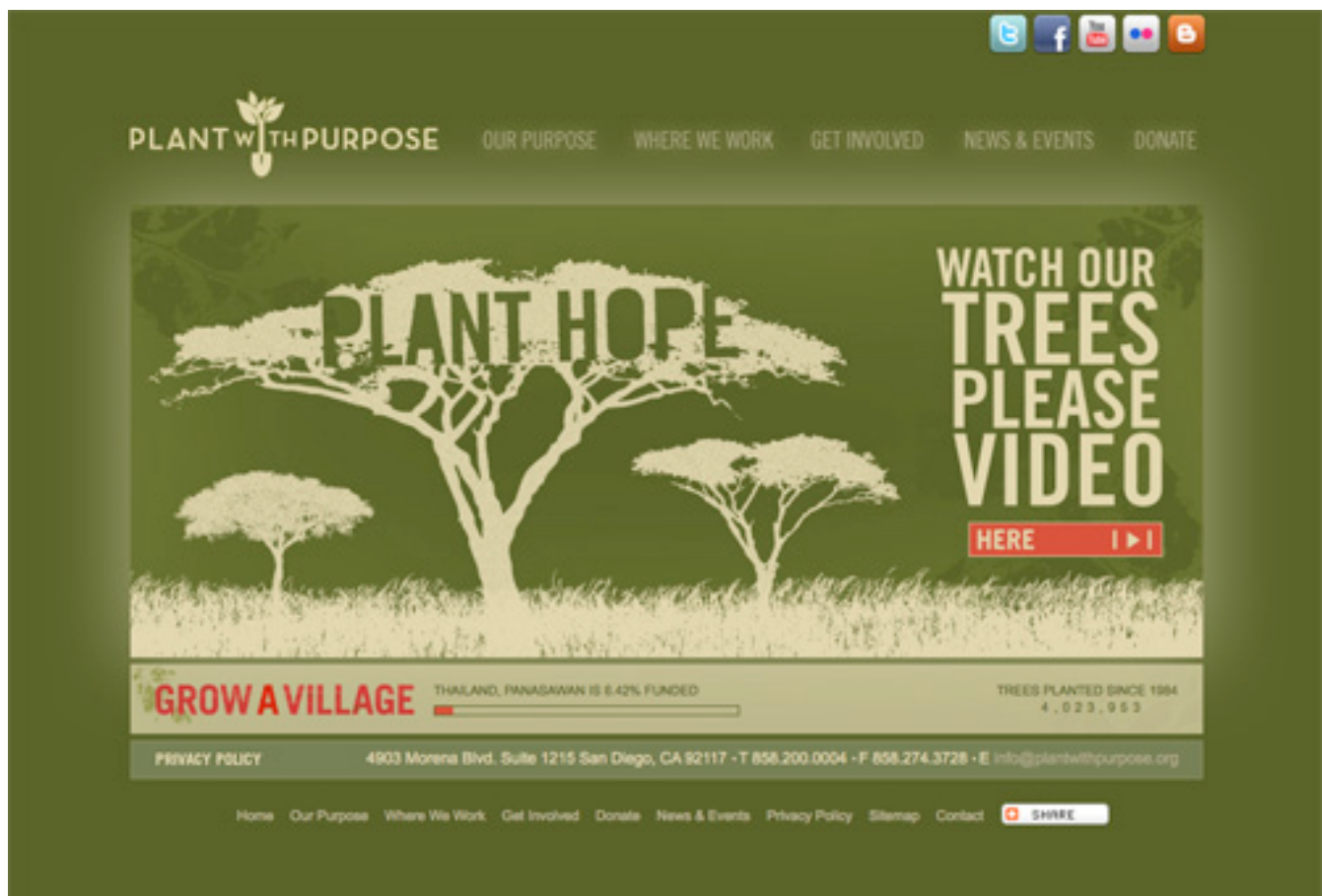
Examples



The extremely muted greens of this site give it a very down-to-earth and natural feeling.



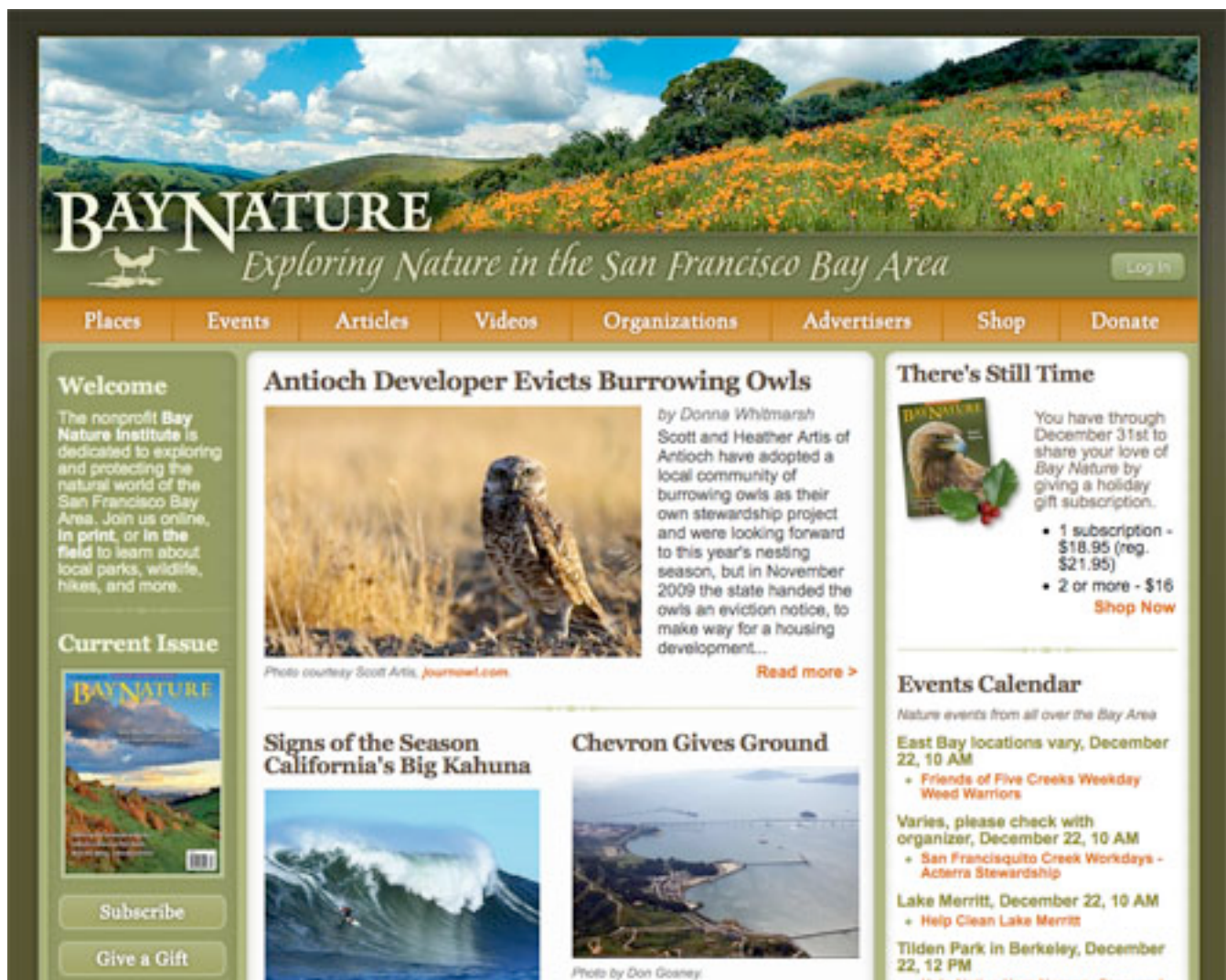
The bright green header of this site mixed with the leaf motif gives it a very natural and vibrant feeling.



The more olive-toned green of this site gives it a natural feeling, which is very appropriate for the content.



The brighter, more retro-looking greens of this site give it a very fresh, energized feeling.



Another olive green site with a very natural feeling.

BLUE (PRIMARY COLOR)



Blue is often associated with sadness in the English language. Blue is also used extensively to represent calmness and responsibility. Light blues can be refreshing and friendly. Dark blues are more strong and reliable. Blue is also associated with peace, and has spiritual and religious connotations in many cultures and traditions (for example, the Virgin Mary is generally depicted wearing blue robes).

The meaning of blue is widely affected depending on the exact shade and hue. In design, the exact shade of blue you select will have a huge impact on how your designs are perceived. Light blues are often relaxed and calming. Bright blues can be energizing and refreshing. Dark blues are excellent for corporate sites or designs where strength and reliability are important.

Examples



The dark blues give this a feeling of reliability, while the brighter and lighter blues keep it from feeling staid.



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Website design & development

Working in collaboration with Total Communications Group, Industrial Media has redesigned and developed the Nuden Vinyl Products website. The new site showcases Nuden's service offering and products and helps re-enforce their family-focused brand.

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Courage in Red Website

Website design & development

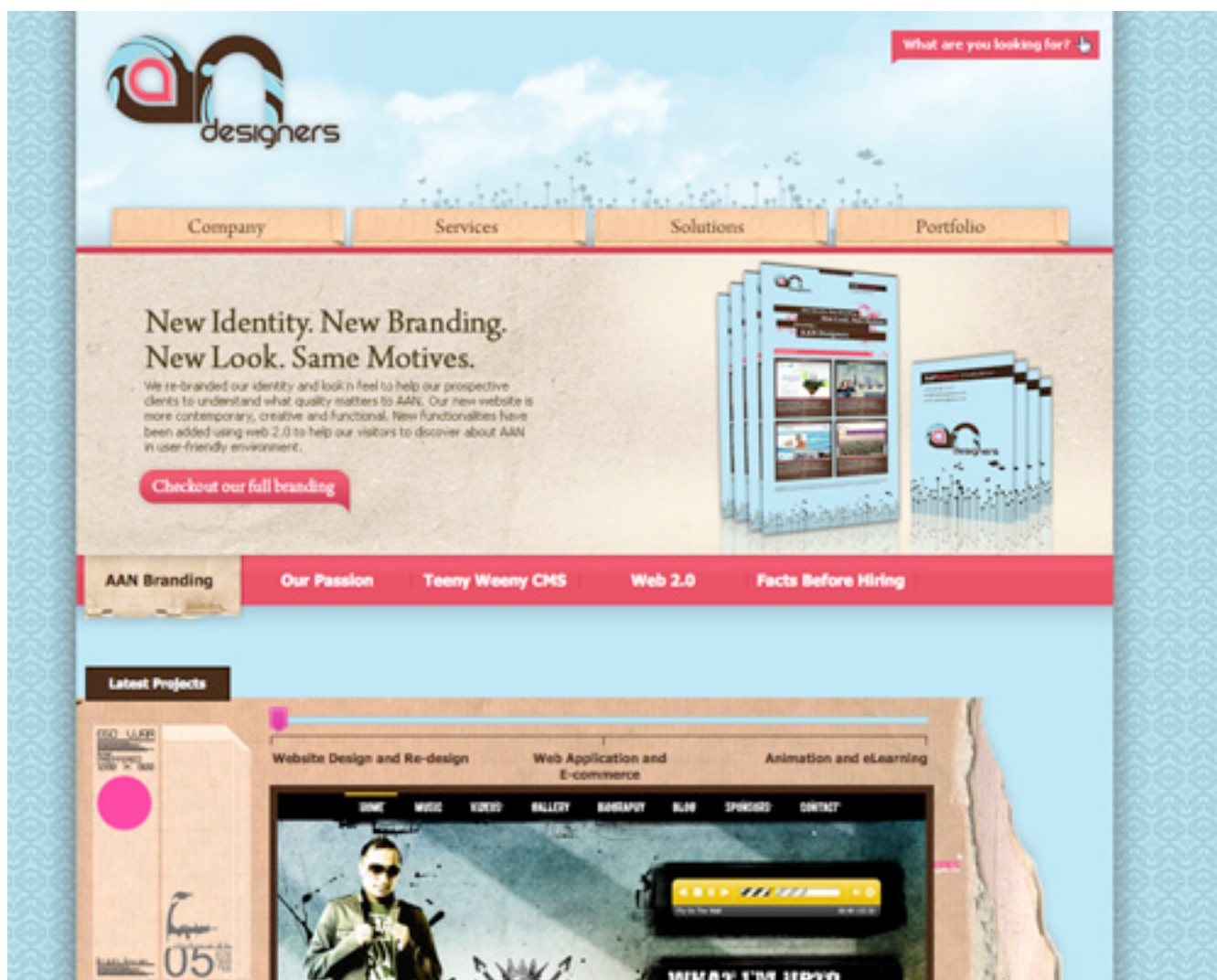
Working with JenCor Entertainment, Industrial Media designed and developed an interactive new website for the Courage in Red documentary television series.

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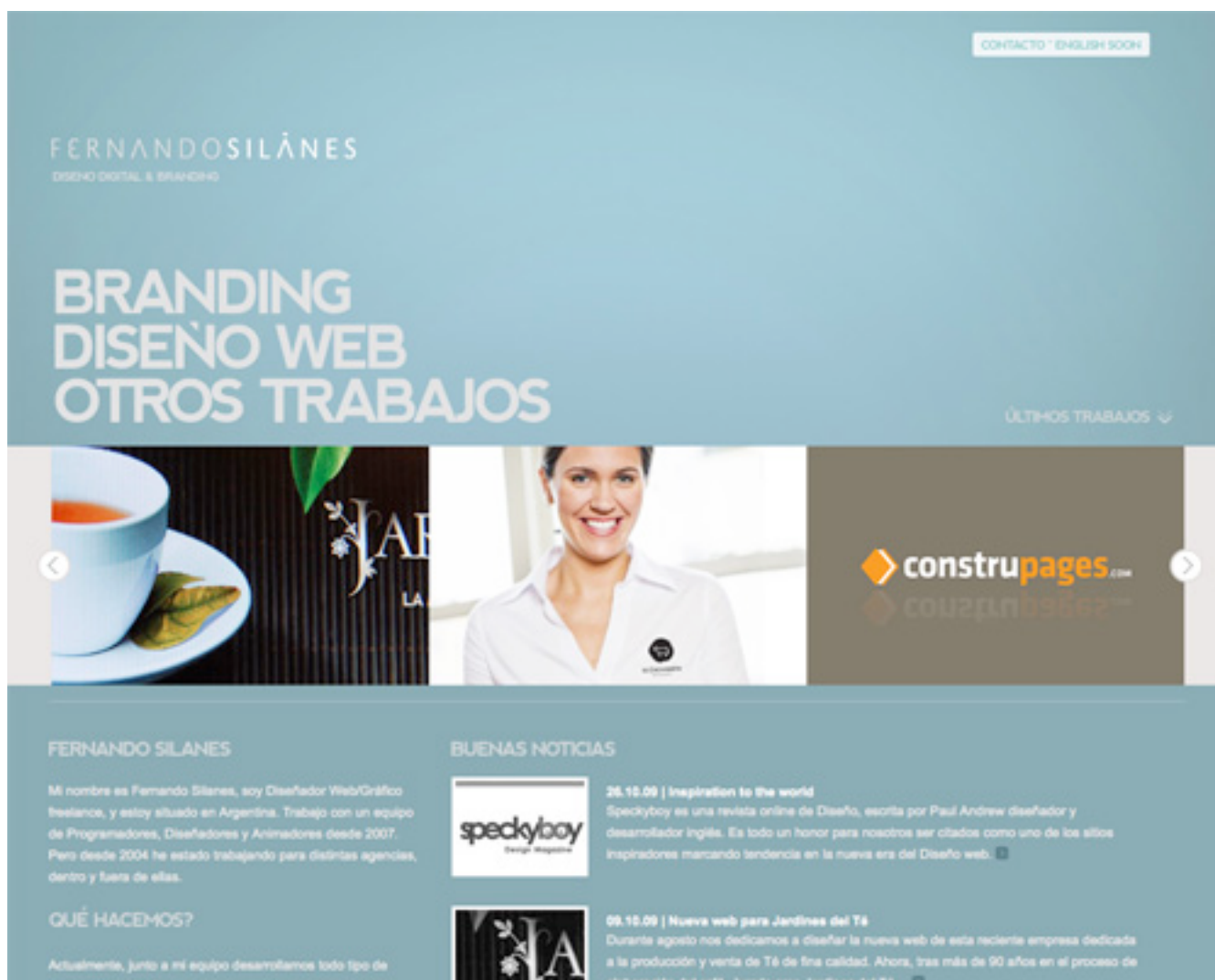
The dark blue gives this a site a professional feeling, especially when combined with the white background. But the lighter blue accents add a bit more interest.



The bright, sky blue of this site gives it a young and hip feeling, which is emphasized by the reddish accents.



This site combines a range of blues, which gives it a refreshing feeling overall.



The light, muted blue of this site gives a very relaxed and calm impression.

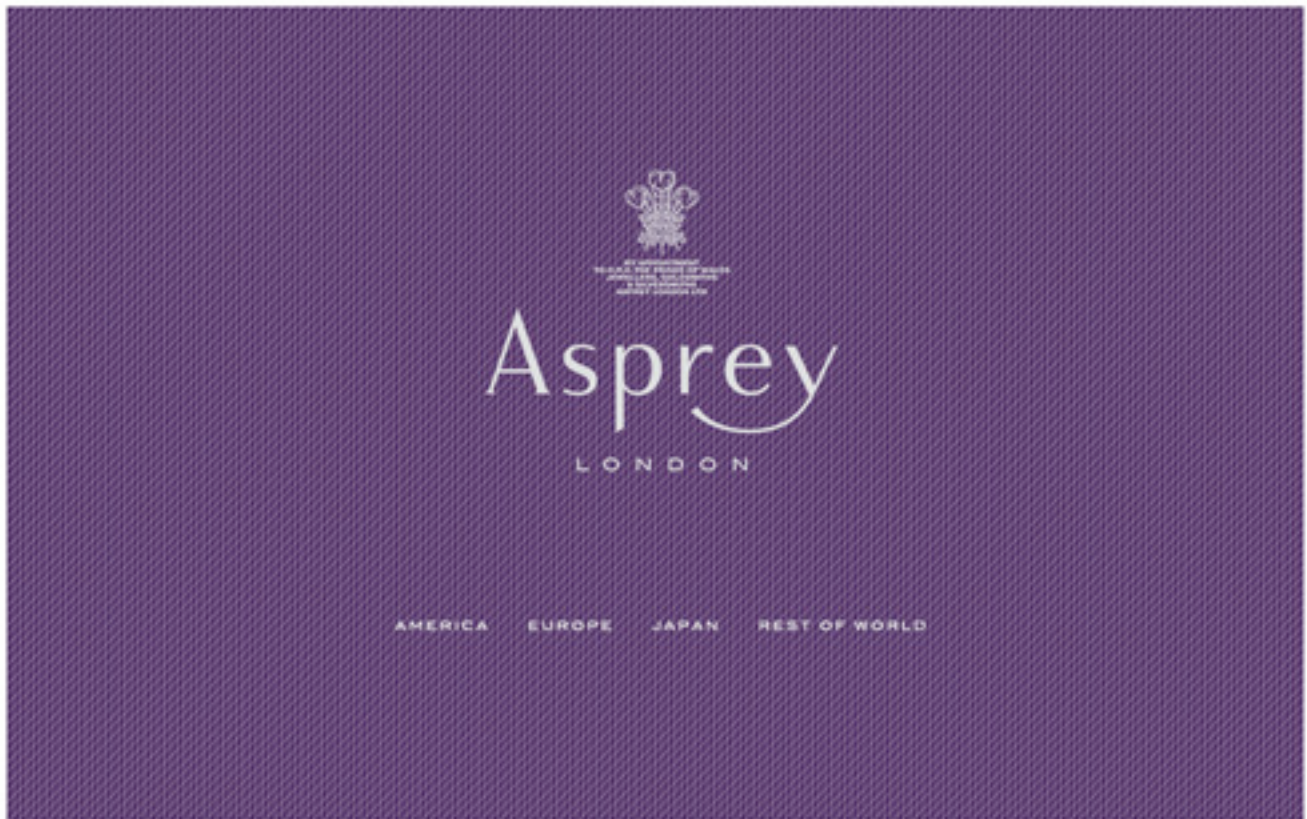
PURPLE (SECONDARY COLOR)



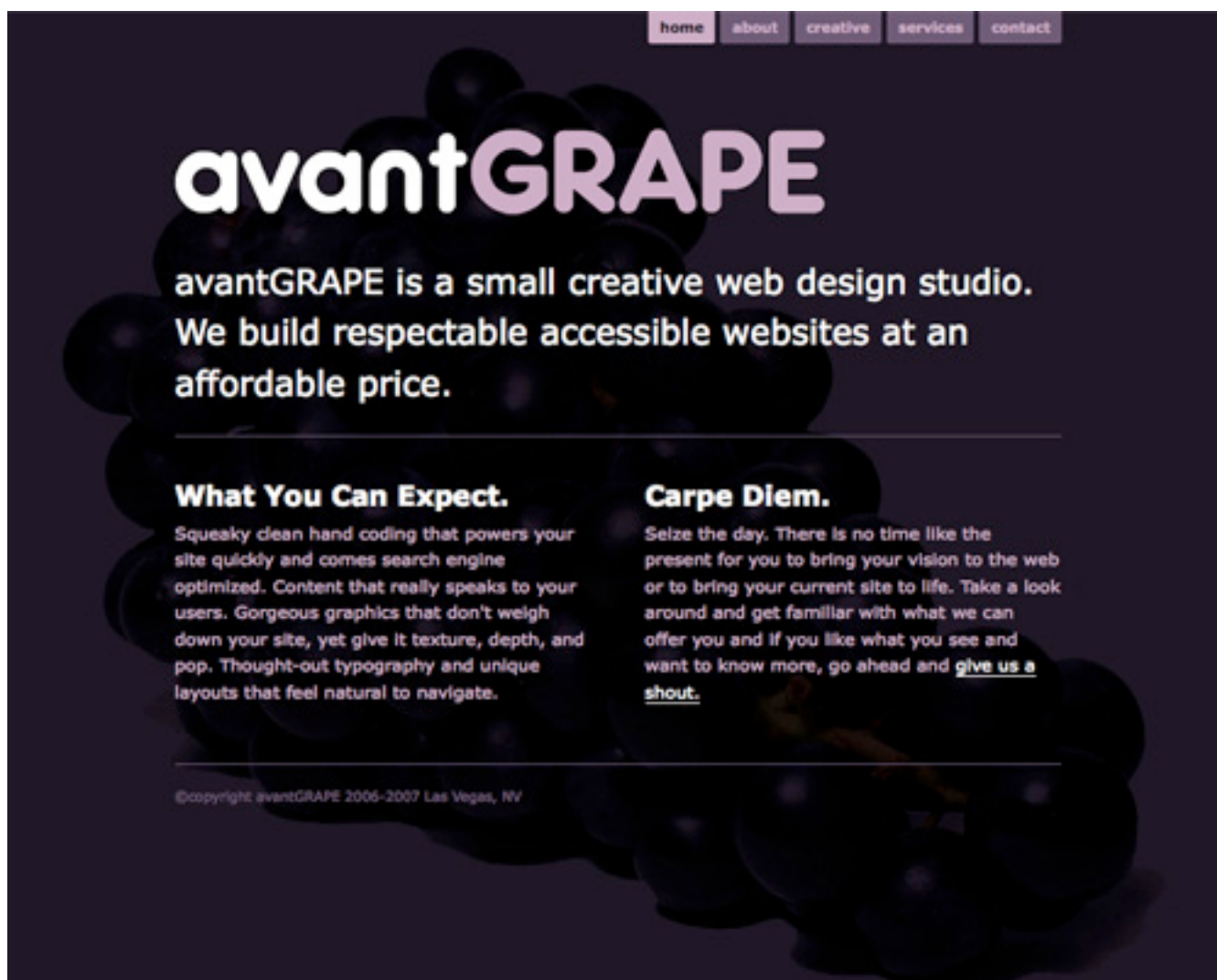
Purple was long associated with royalty. It's a combination of red and blue, and takes on some attributes of both. It's associated with creativity and imagination, too.

In Thailand, purple is the color of mourning for widows. Dark purples are traditionally associated with wealth and royalty, while lighter purples (like lavender) are considered more romantic.

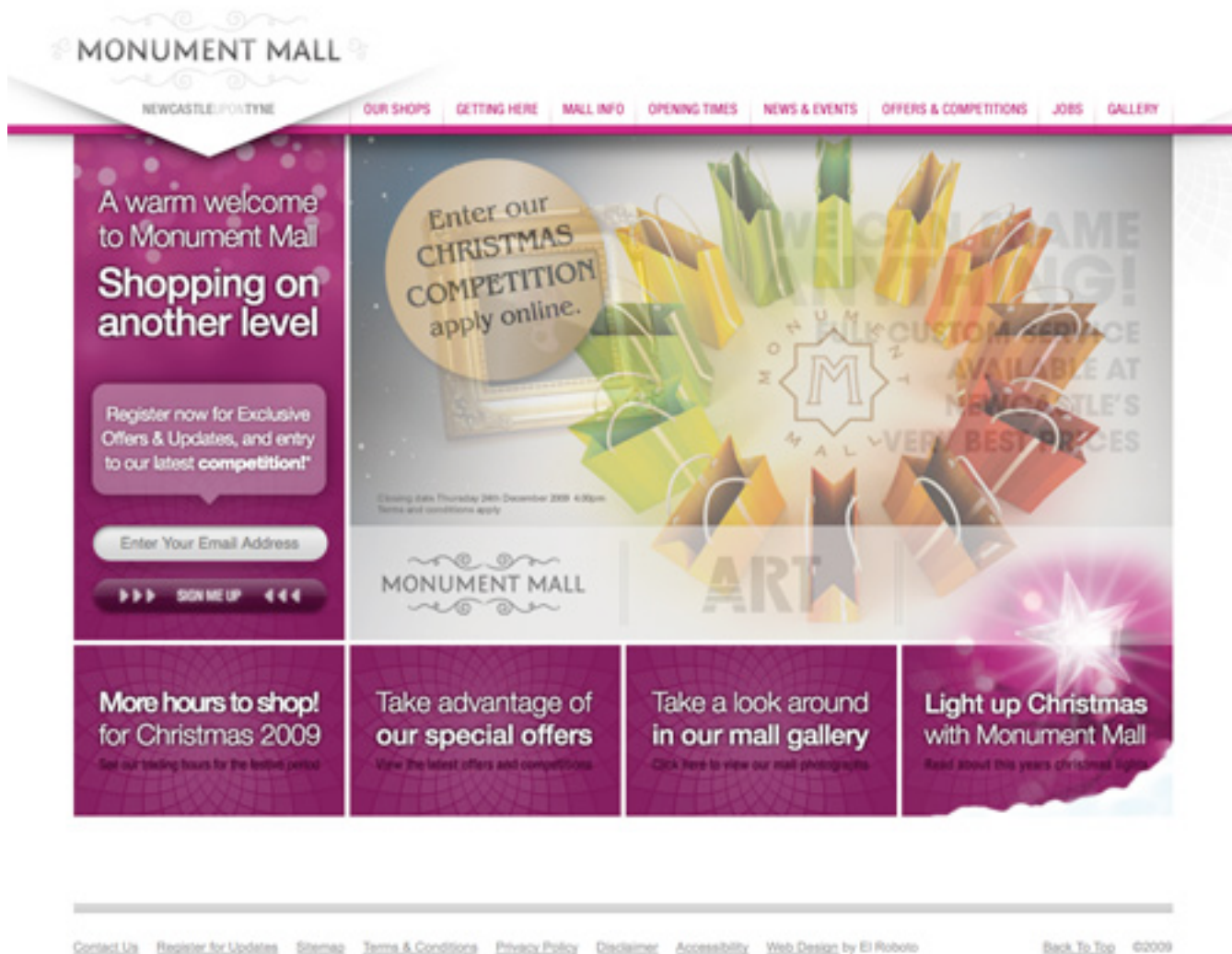
In design, dark purples can give a sense wealth and luxury. Light purples are softer and are associated with spring and romance.



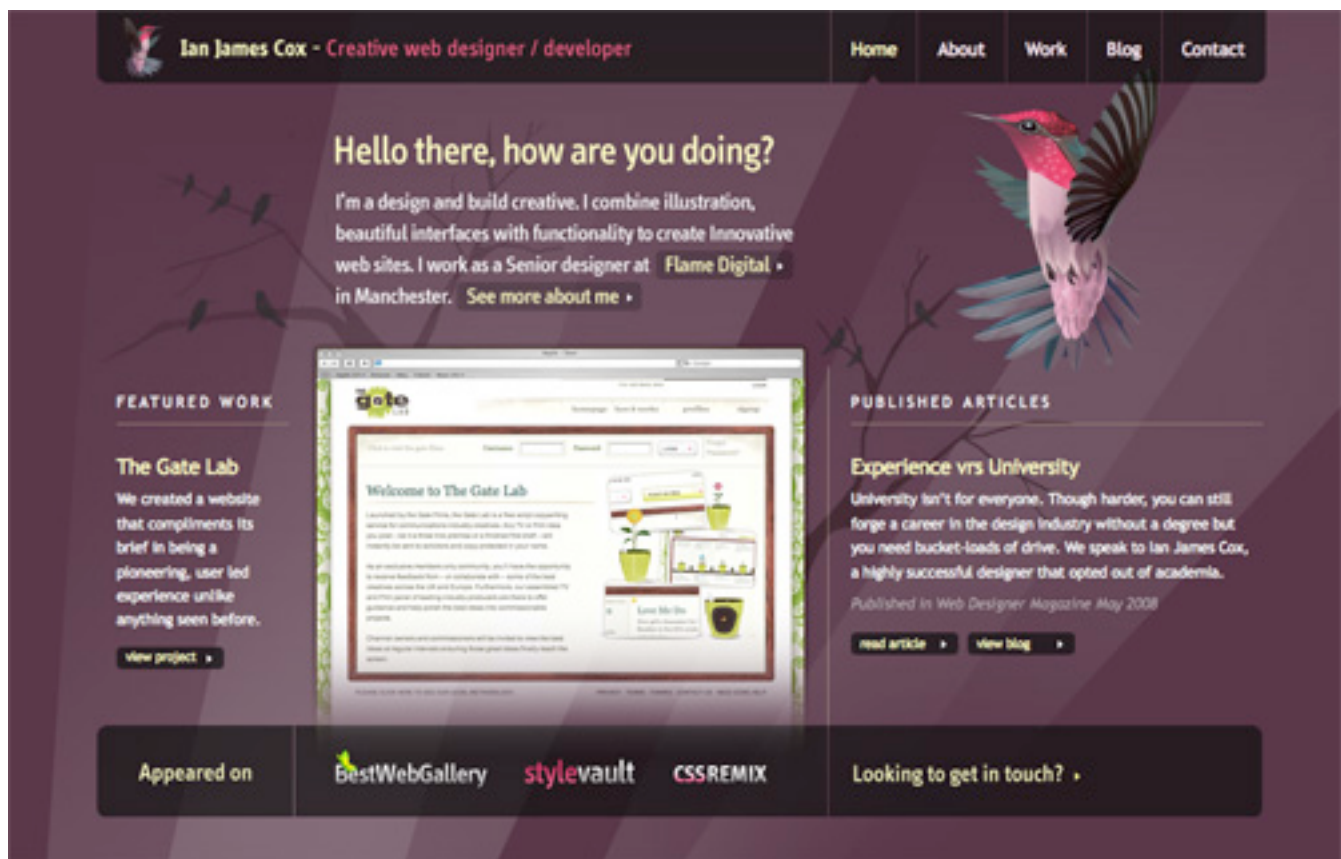
The dark shade used here evokes the royal heritage of purple, which is very appropriate for the Asprey luxury goods brand.



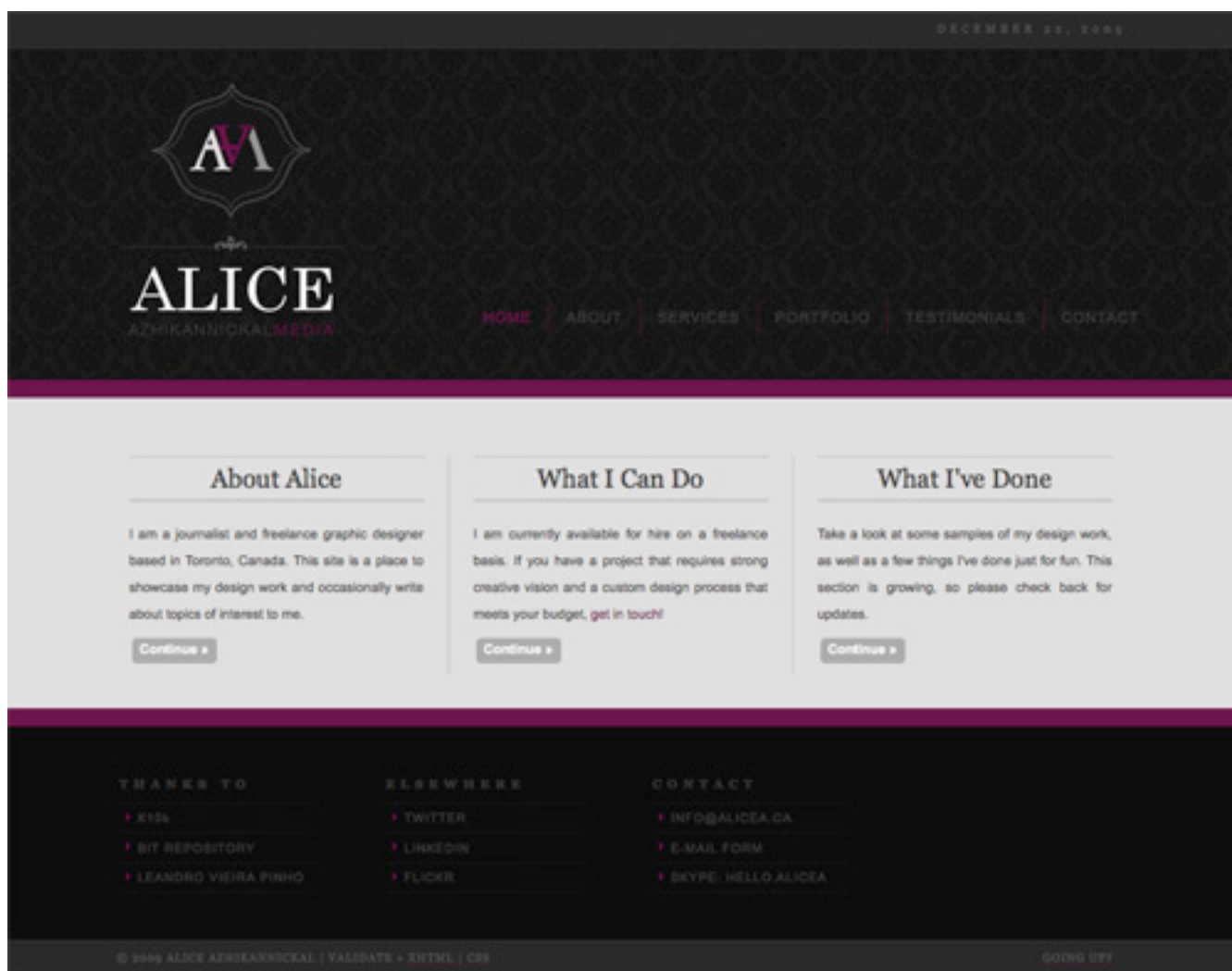
The light and medium purples here work well to convey a sense of creativity.



The brighter, more reddish purple of this site gives it both a rich and energetic look.

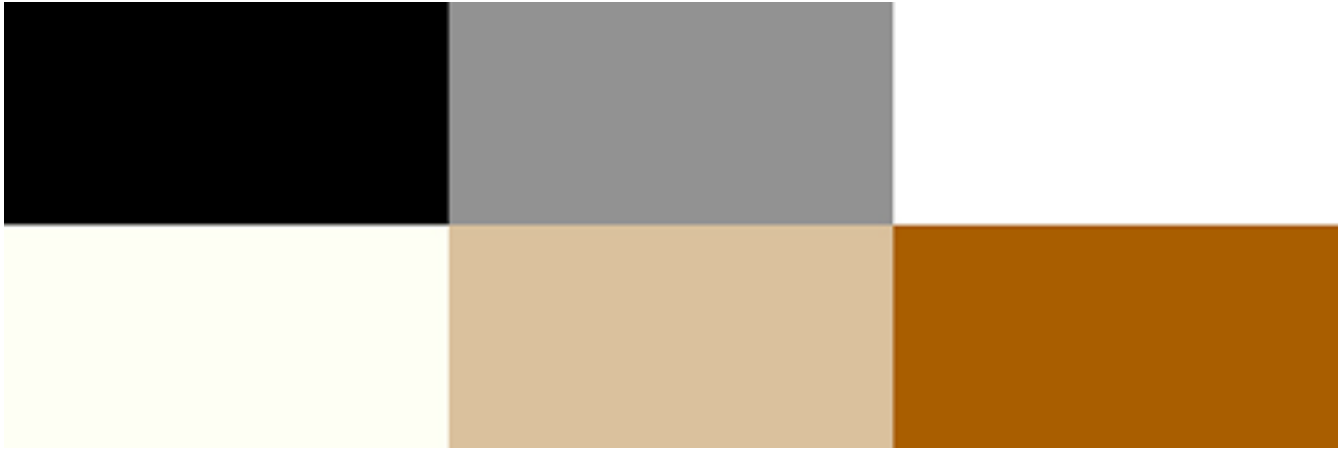


The dark purple background here adds to the creative feeling of the overall site.



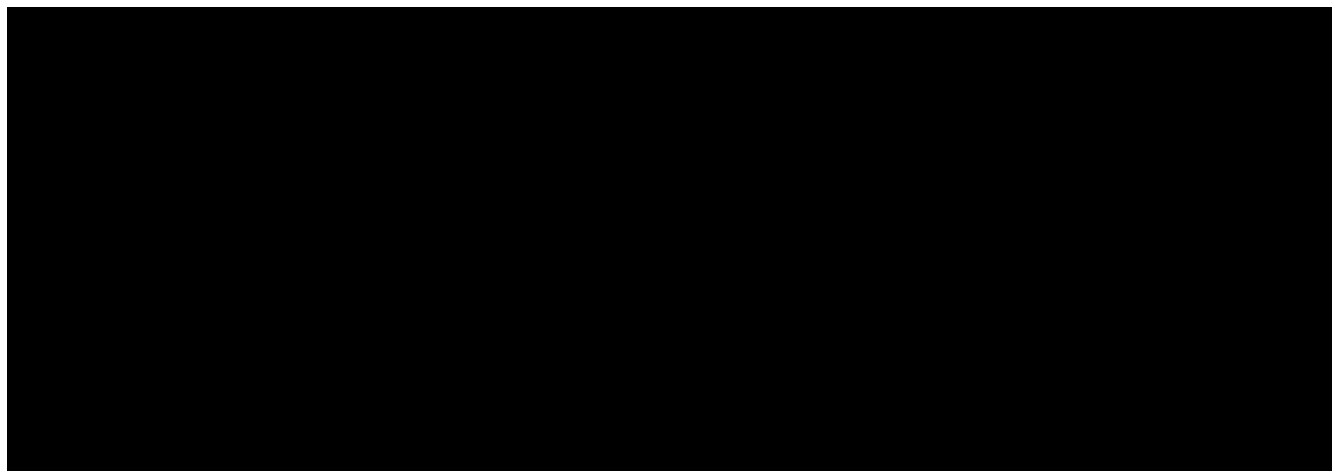
The dark purple accents on this site give a sense of luxury and refinement.

Neutrals



Neutral colors often serve as the backdrop in design. They're commonly combined with brighter accent colors. But they can also be used on their own in designs, and can create very sophisticated layouts. The meanings and impressions of neutral colors are much more affected by the colors that surround them than are warm and cool colors.

BLACK



Black is the strongest of the neutral colors. On the positive side, it's commonly associated with power, elegance, and formality. On the negative side, it can be associated with evil, death, and mystery. Black is the traditional color of mourning in many Western countries. It's also associated with rebellion in some cultures, and is associated with Halloween and the occult.

Black is commonly used in edgier designs, as well as in very elegant designs. It can be either conservative or modern, traditional or unconventional, depending on the colors it's combined with. In design, black is commonly used for typography and other functional parts, because of its neutrality. Black can make it easier to convey a sense of sophistication and mystery in a design.

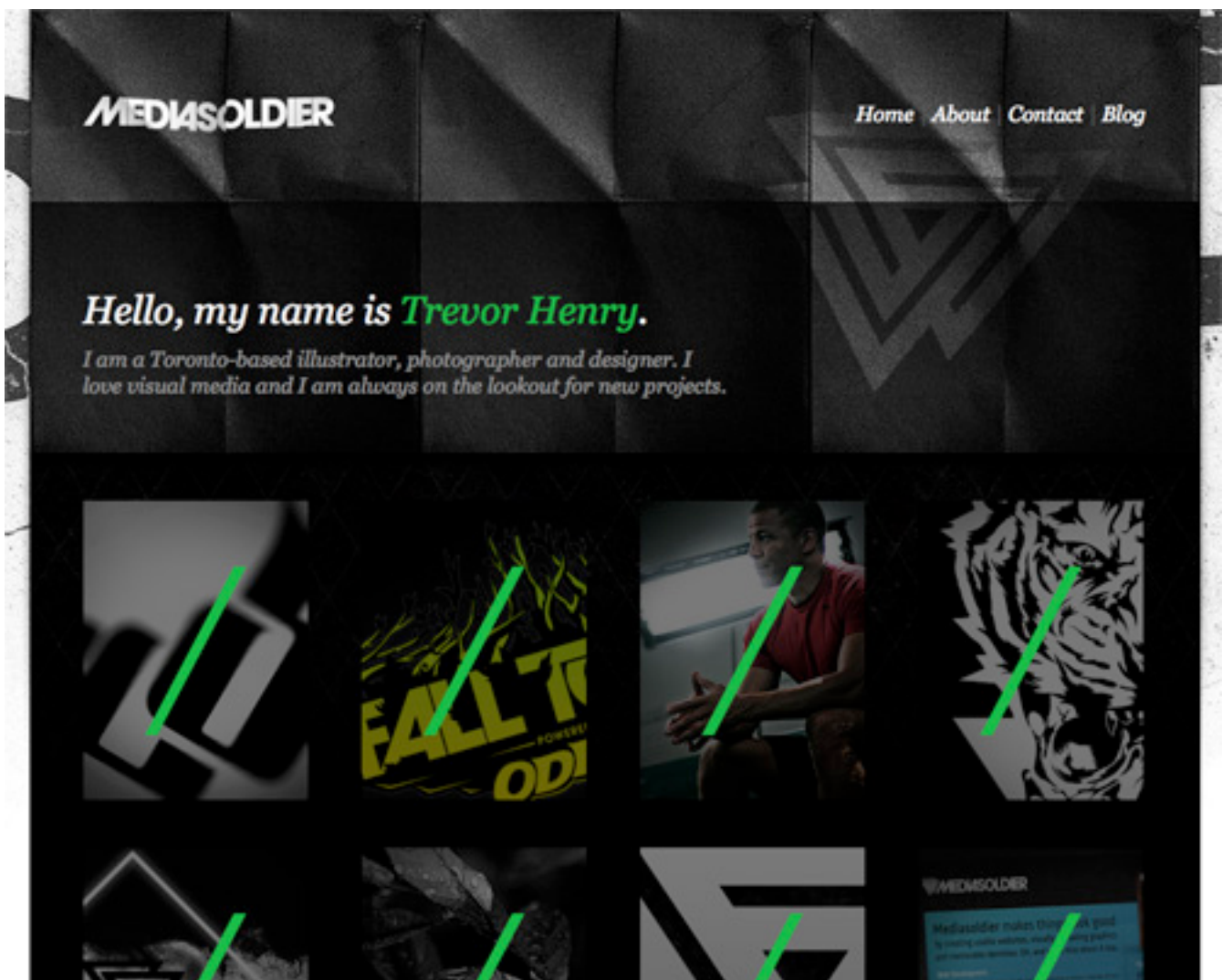
Examples



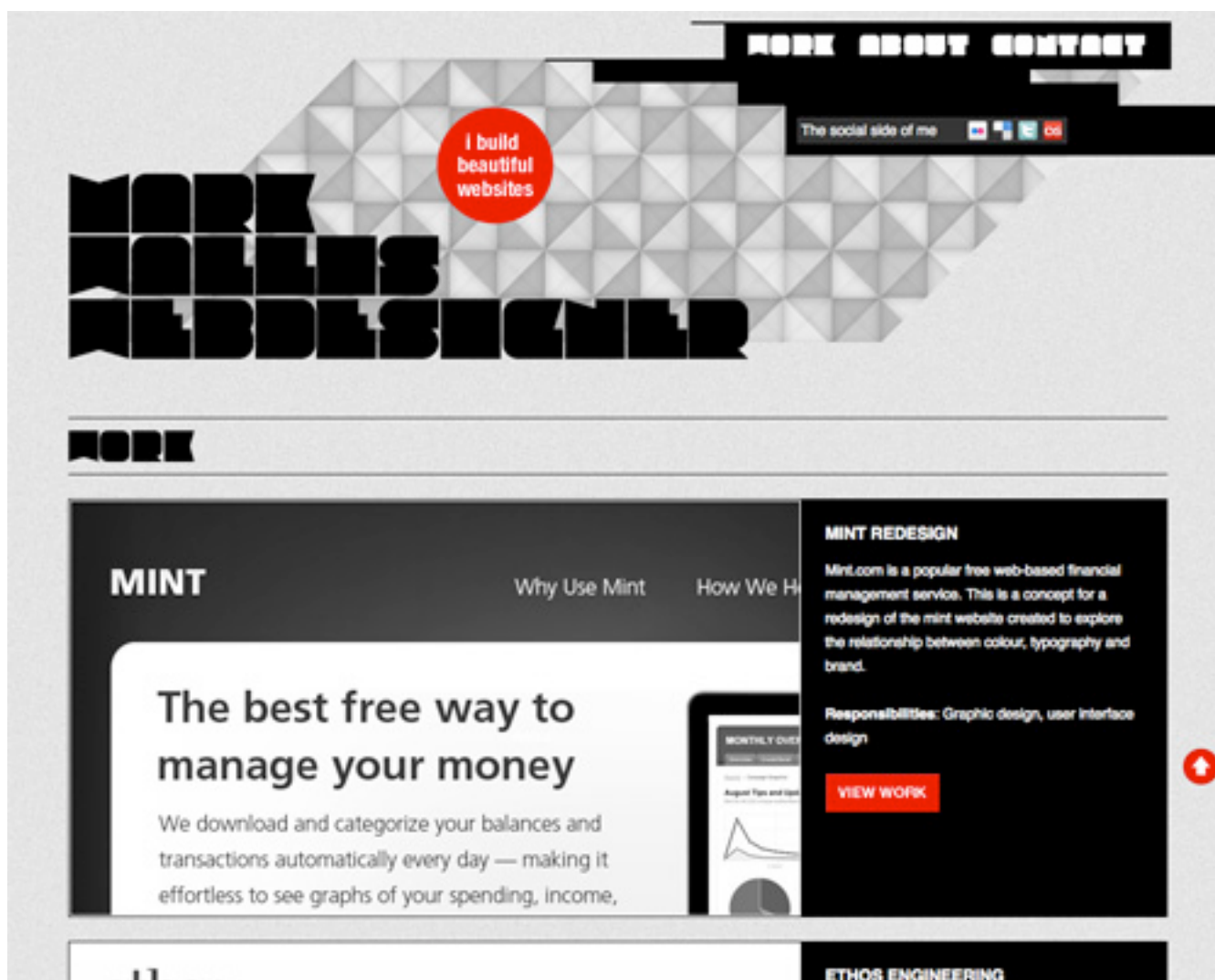
The black accents, mixed with the brighter colors and very dark brown background add an edgier look to the overall design.



Black, when mixed with icy blues, looks colder.



The black here, mixed with dark grays and lime green, and an overall grungy theme, adds to the edginess of the design.



The black accents here add an extra layer of sophistication and modernity to the site.



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Seasons Greetings from The Swish Life Magazine

Seasons Greetings from The Swish Life Magazine! We hope that you have a safe, fun and warming holiday, enjoying time with friends and family, and taking some time to relax and enjoy yourself.

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The strong black accents on this site add to the overall sophistication of the design.

WHITE

White is at the opposite end of the spectrum from black, but like black, it can work well with just about any other color. White is often associated with purity, cleanliness, and virtue. In the West, white is commonly worn by brides on their wedding day. It's also associated with the health care industry, especially with doctors, nurses and dentists. White is associated with goodness, and angels are often depicted in white.

In design, white is generally considered a neutral backdrop that lets other colors in a design have a larger voice. It can help to convey cleanliness and simplicity, though, and is popular in minimalist designs. White in designs can also portray either winter or summer, depending on the other design motifs and colors that surround it.

Examples



The white on the Fuelhaus site is used to contrast against the electric blue.



chama inc.

*when was the last time you
took the temperature of your
business & communications strategy?*

Life has changed and so has the way we all live communicate and do business. If you haven't refreshed your businesses communication, sustainability & visibility strategy recently, we got news for you...you're going to get left behind. So what can you do about it? Embrace the new world of the empowered consumer.

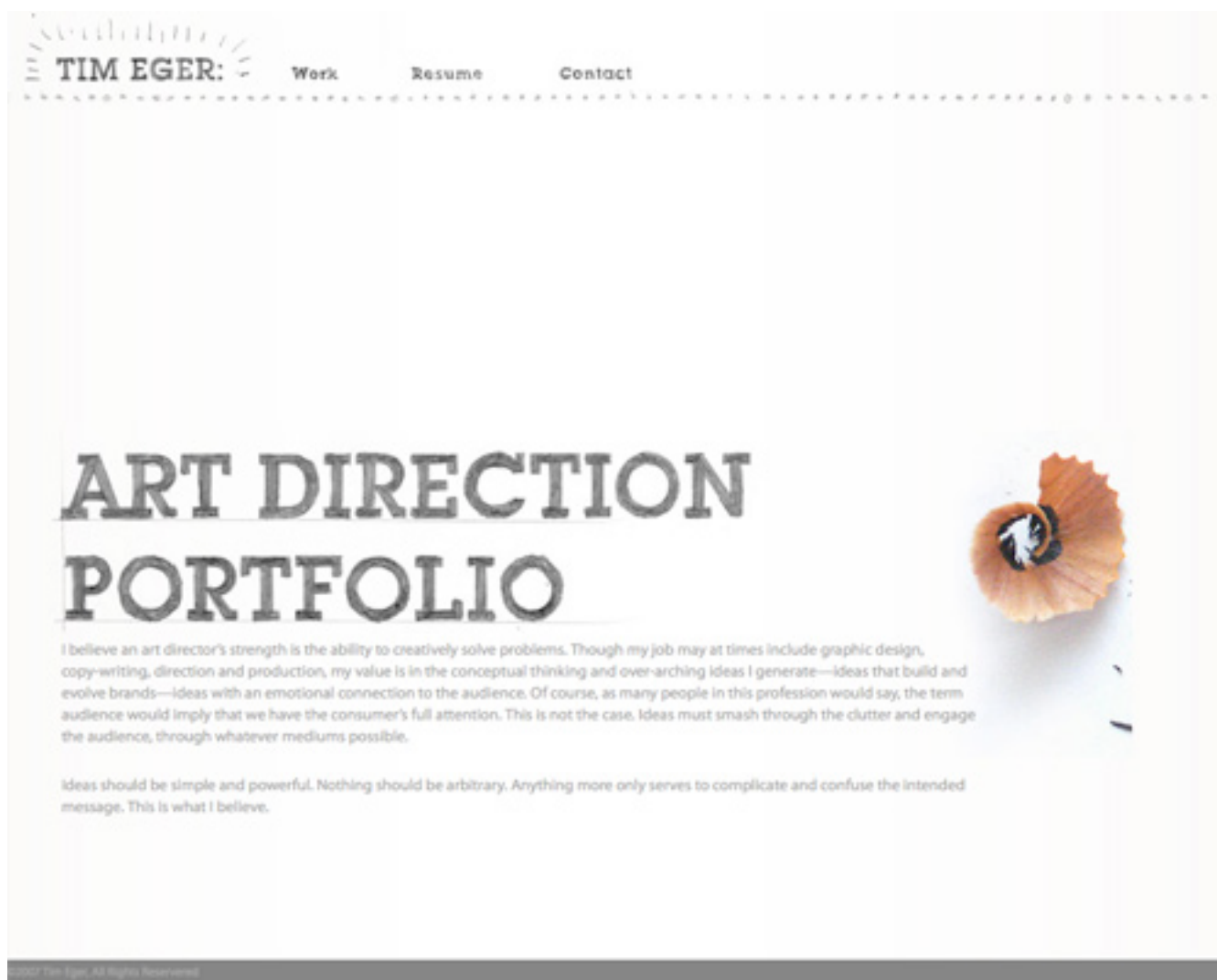
about }

Chama is a different kind of company; we see the world through "strategic information fast lane" kind of glasses. The kind that put you in front and in touch with your customers the way they want to interact and connect today. Consumers today live in a super connected world where they are interacting, doing business and evolving their exchanges daily. The methods used to get their attention 10 years ago, don't apply to today. Technology has changed our world and is rapidly picking up speed, so how can your business keep up and not loose

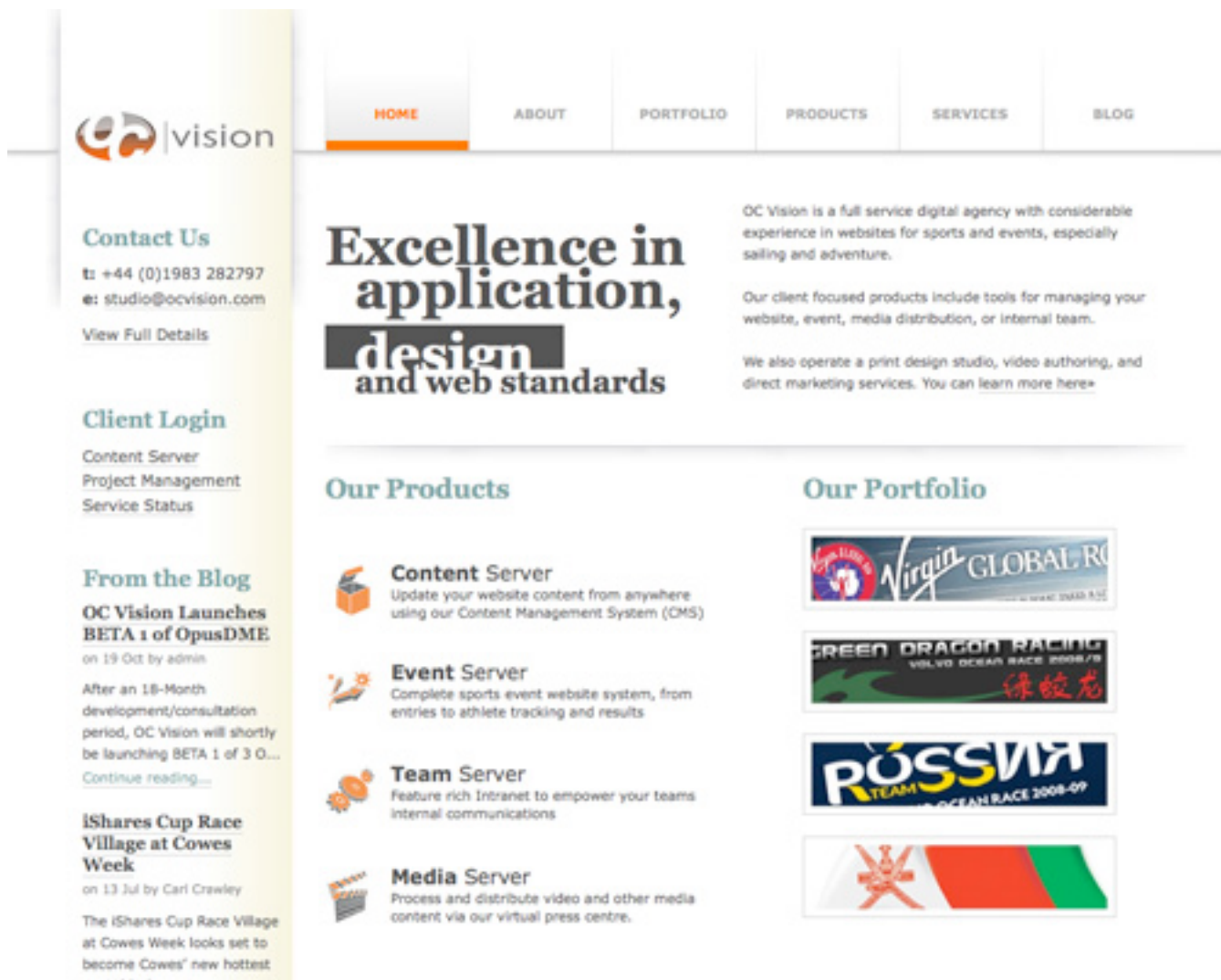
White backgrounds are very popular on minimalistic sites, and provide great contrast to black typography.



Here, white is used as an accent color, which lightens the overall effect of the site.



White combined with gray gives a soft and clean feeling to this design.



Again, white used as a background lightens the whole design.

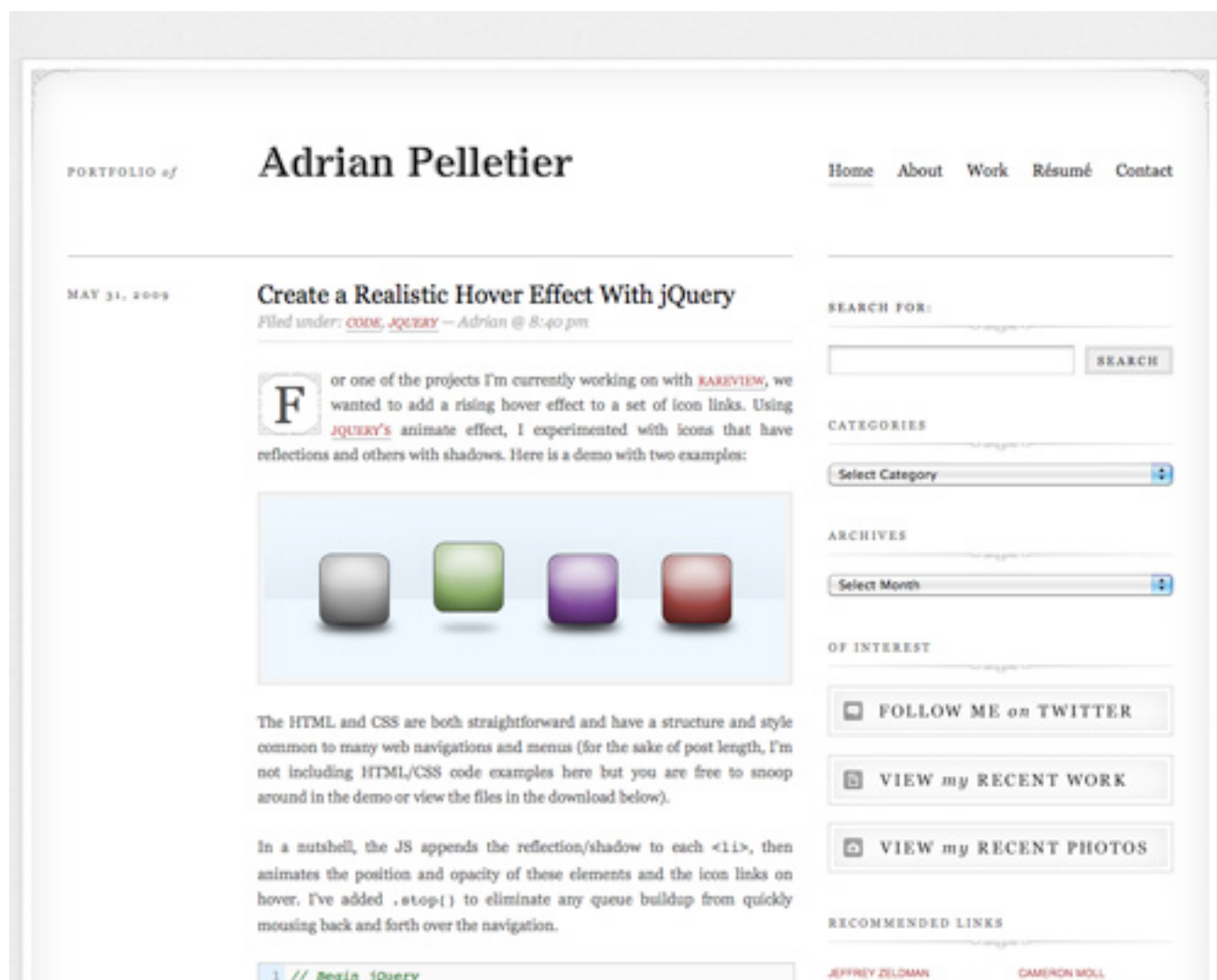
GRAY



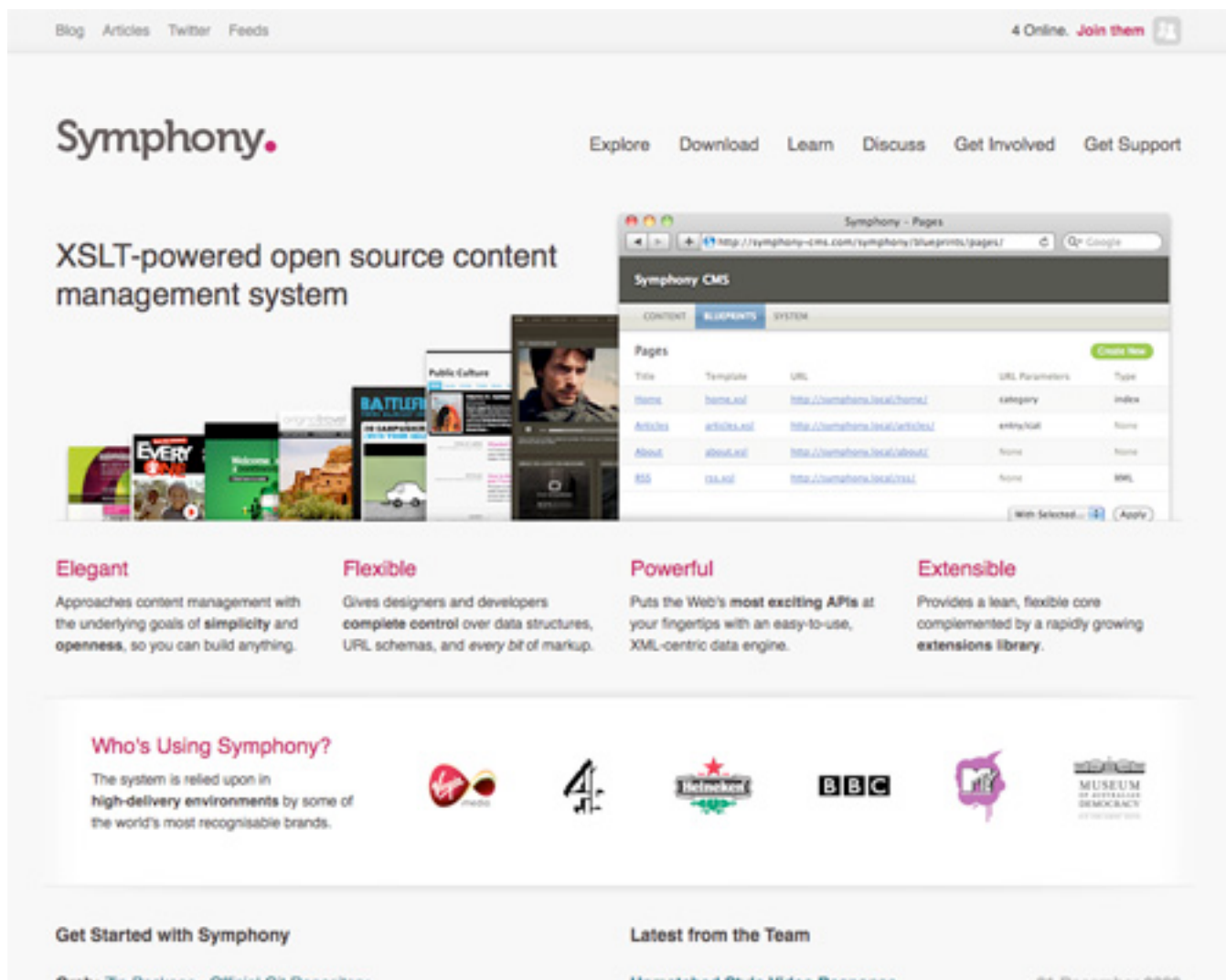
Gray is a neutral color, generally considered on the cool end of the color spectrum. It can sometimes be considered moody or depressing. Light grays can be used in place of white in some designs, and dark grays can be used in place of black.

Gray is generally conservative and formal, but can also be modern. It is sometimes considered a color of mourning. It's commonly used in corporate designs, where formality and professionalism are key. It can be a very sophisticated color. Pure grays are shades of black, though other grays may have blue or brown hues mixed in. In design, gray backgrounds are very common, as is gray typography.

Examples



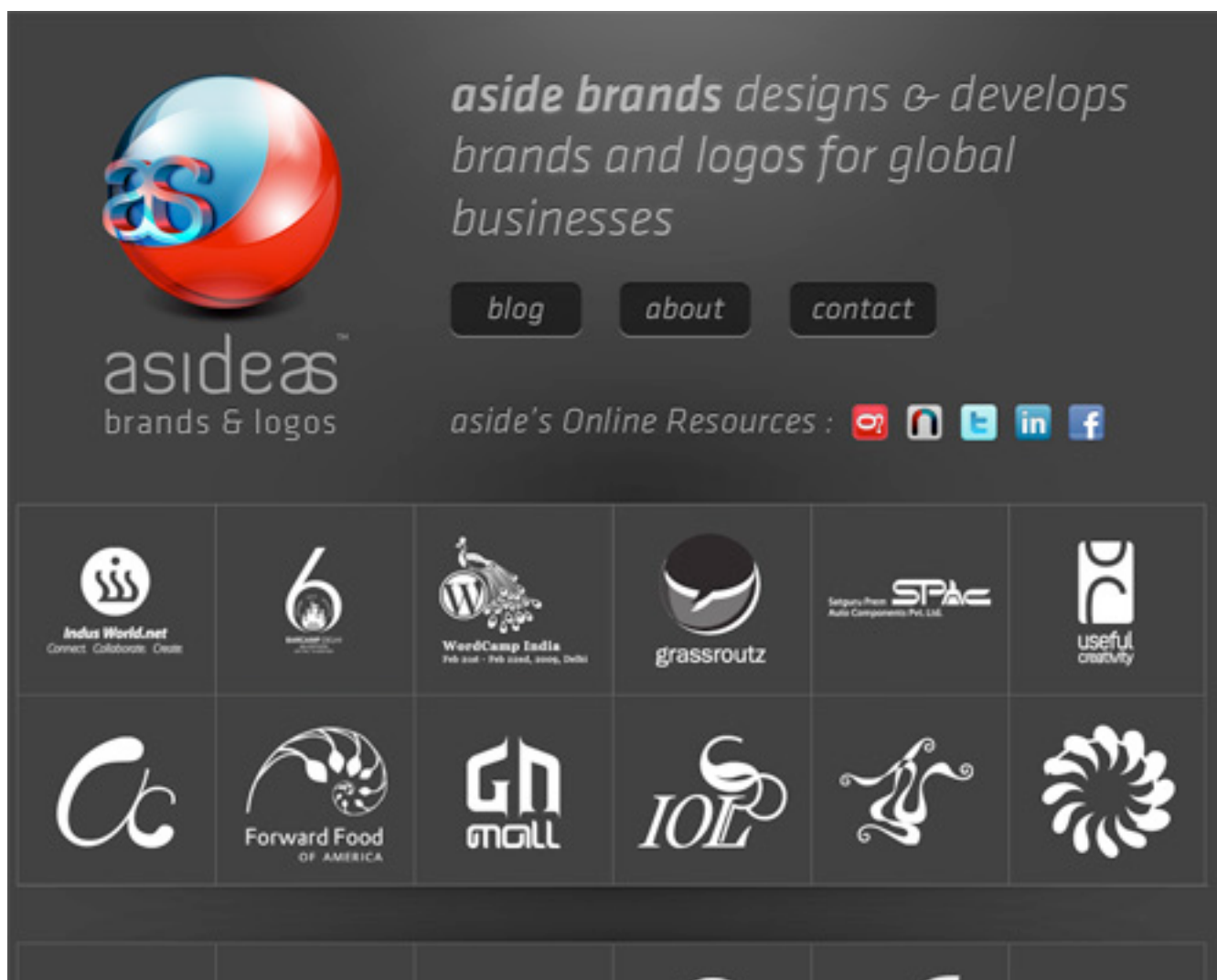
Light gray gives a very subdued and quiet feeling to this design.



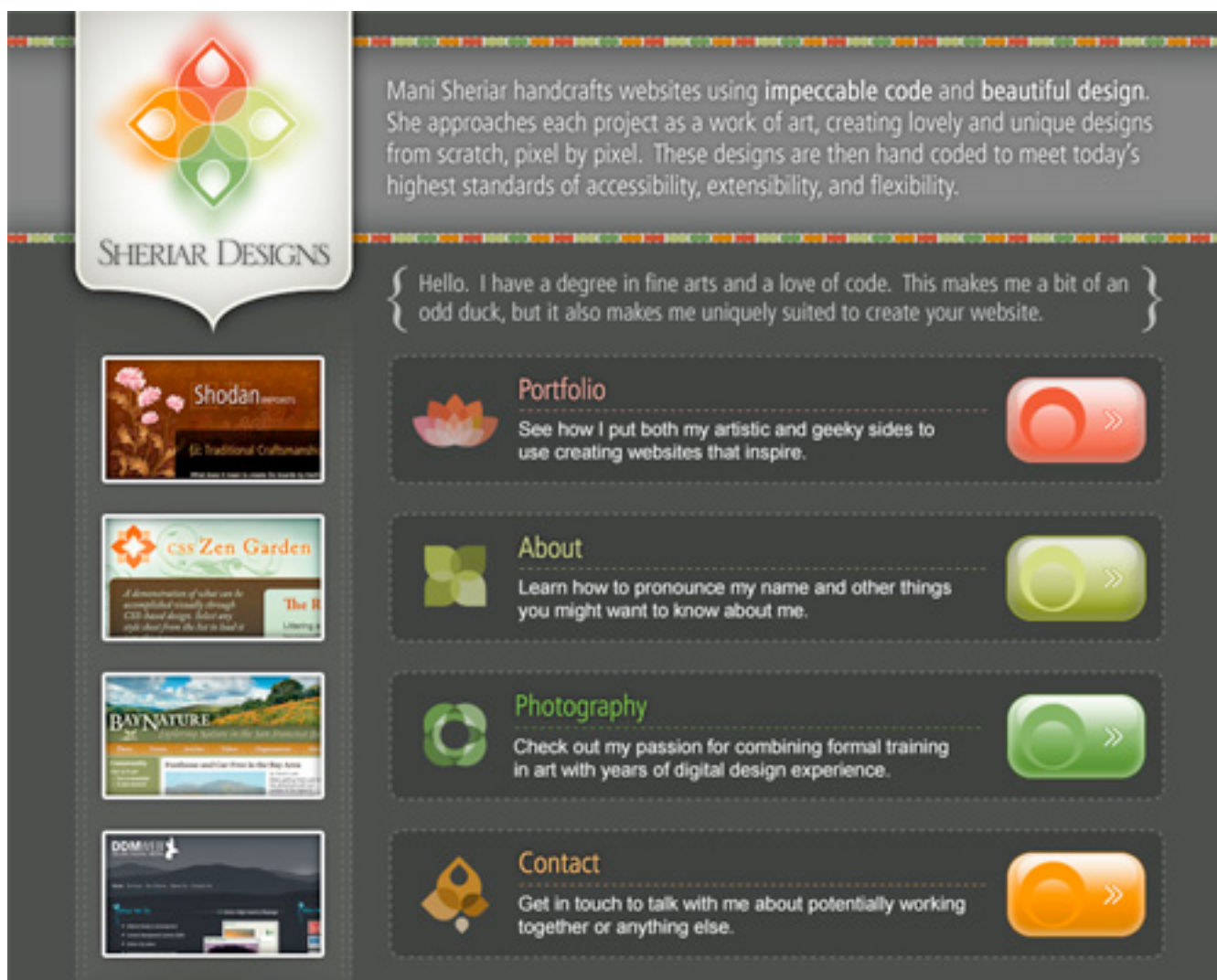
The light gray background here adds to the modern feeling created by the typography.



The cooler gray on this site gives a modern, sophisticated feel to the site.



The dark gray background and lighter gray typography lend a decidedly modern look to this design.



The wide spectrum of gray shades used in this design combine to give a sophisticated and professional look to the site.

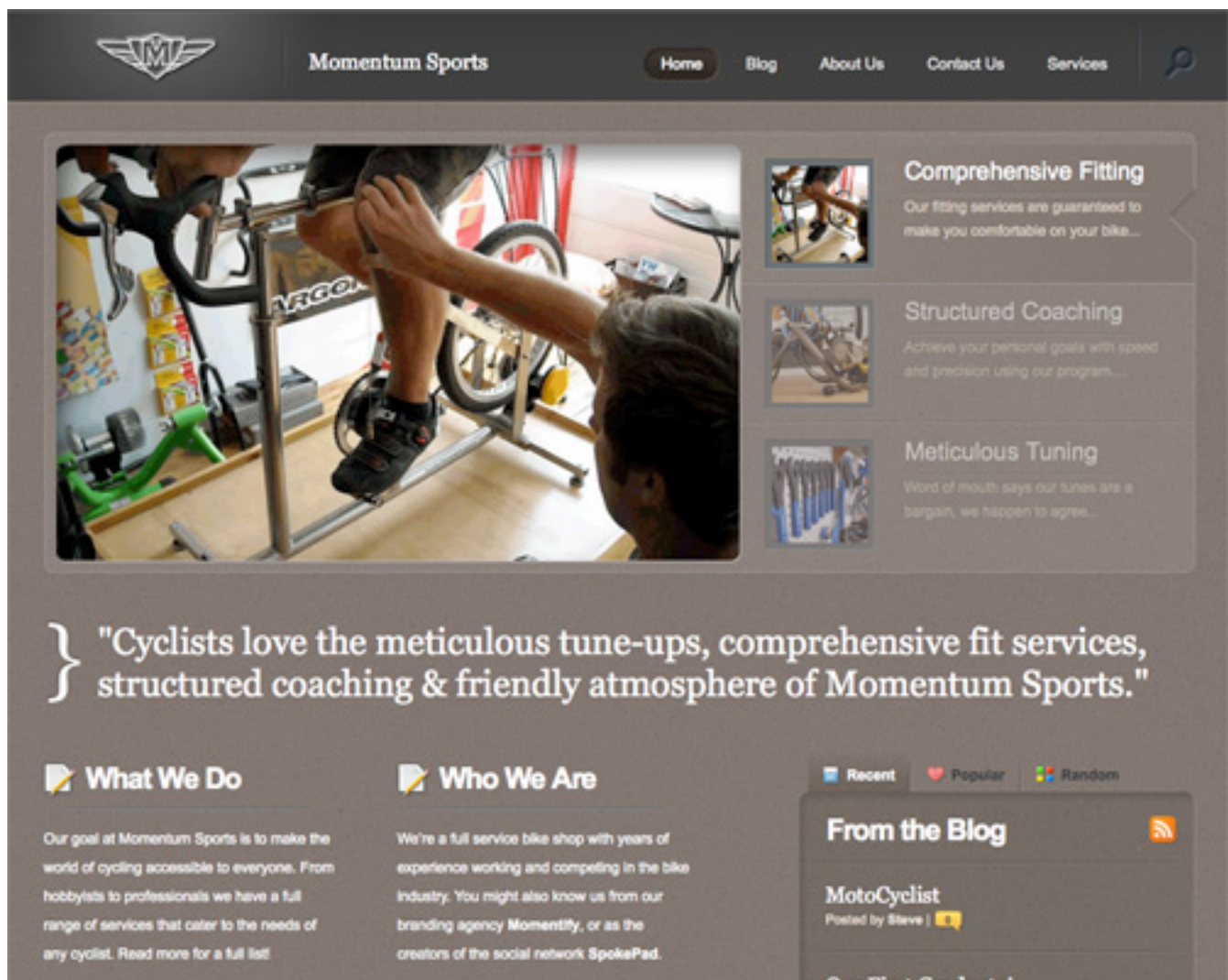
BROWN



Brown is associated with the earth, wood, and stone. It's a completely natural color and a warm neutral. Brown can be associated with dependability and reliability, with steadfastness, and with earthiness. It can also be considered dull.

In design, brown is commonly used as a background color. It's also seen in wood textures and sometimes in stone textures. It helps bring a feeling of warmth and wholesomeness to designs. It's sometimes used in its darkest forms as a replacement for black, either in backgrounds or typography.

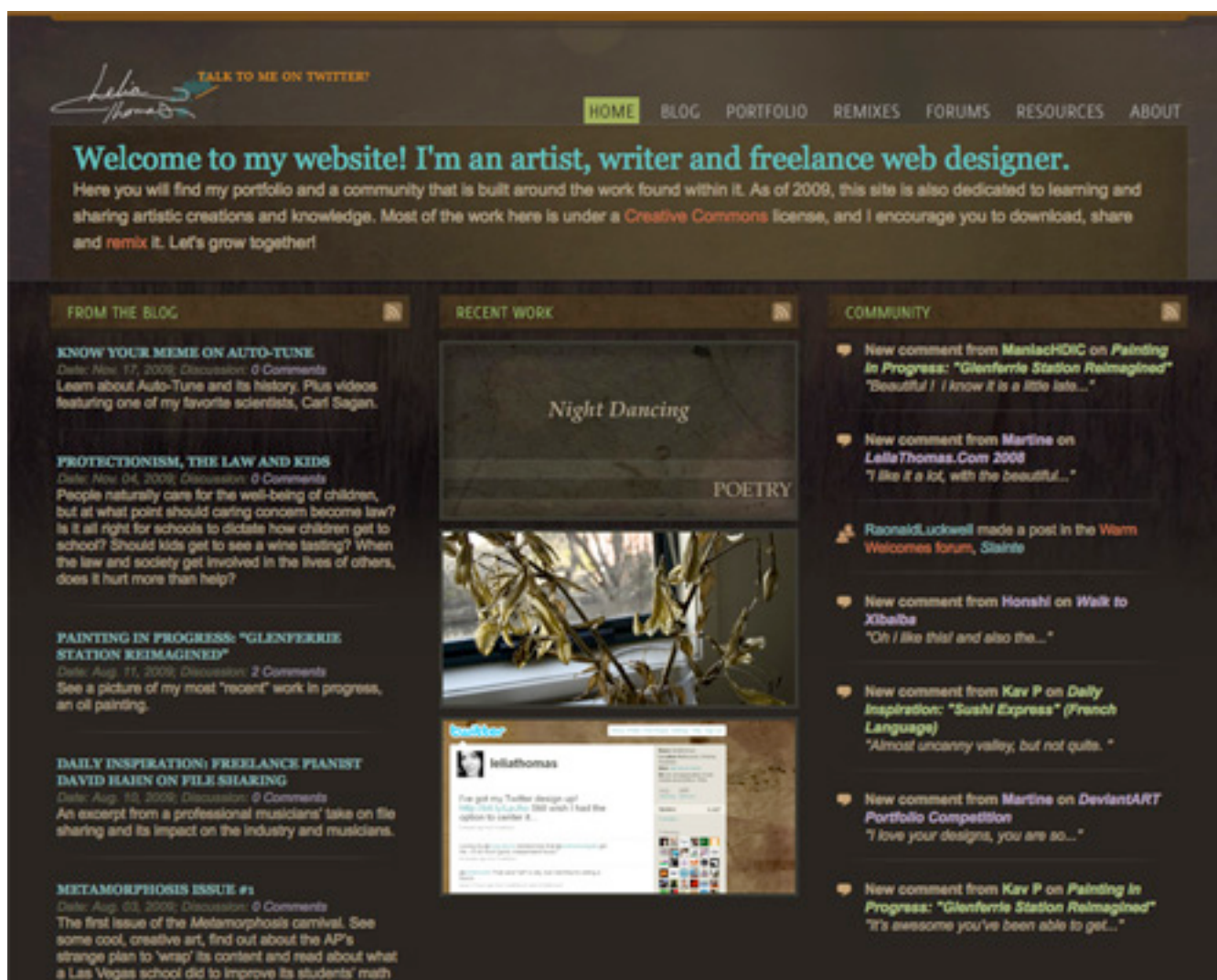
Examples



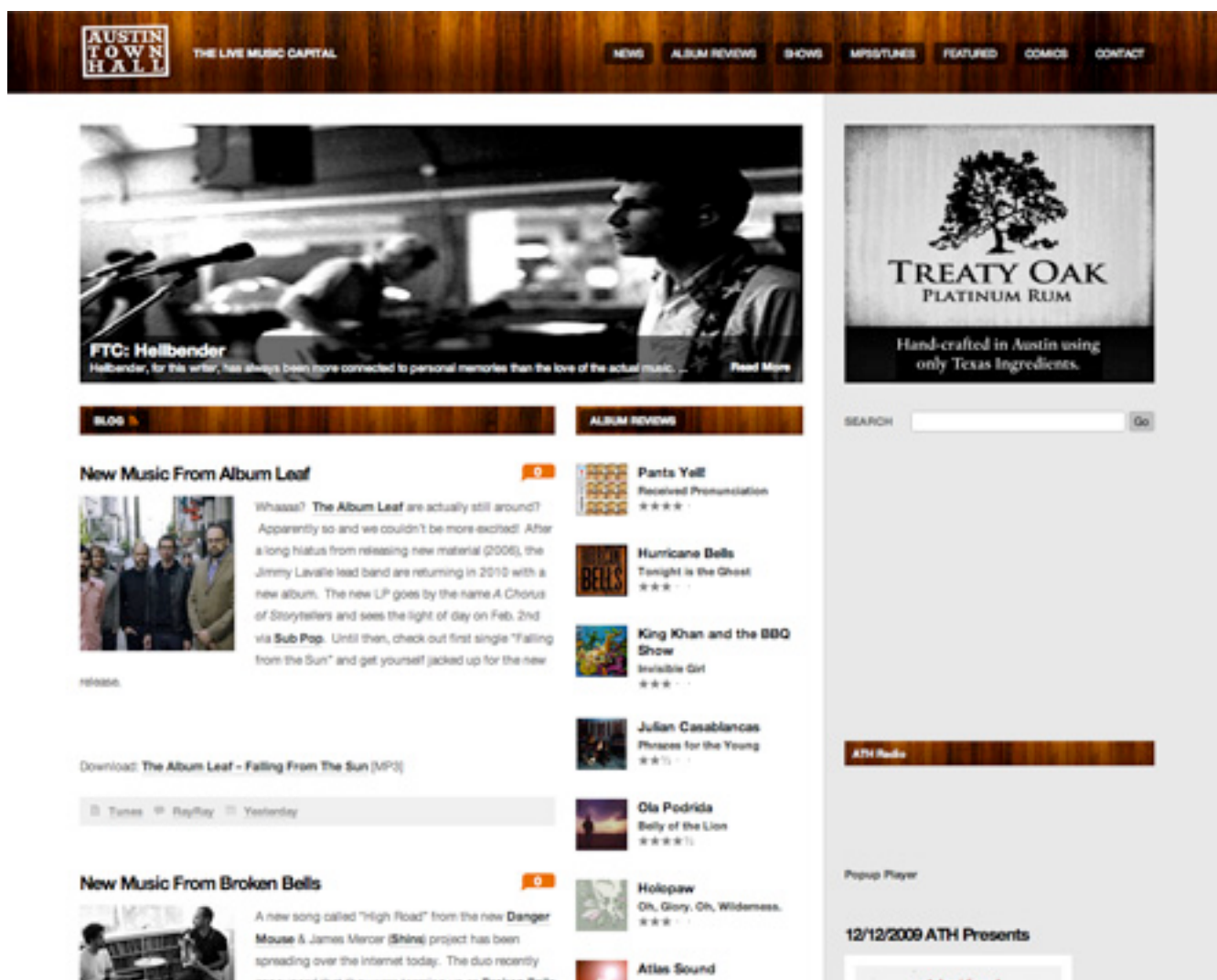
The grayish-brown here lends a sense of responsibility and dependability.



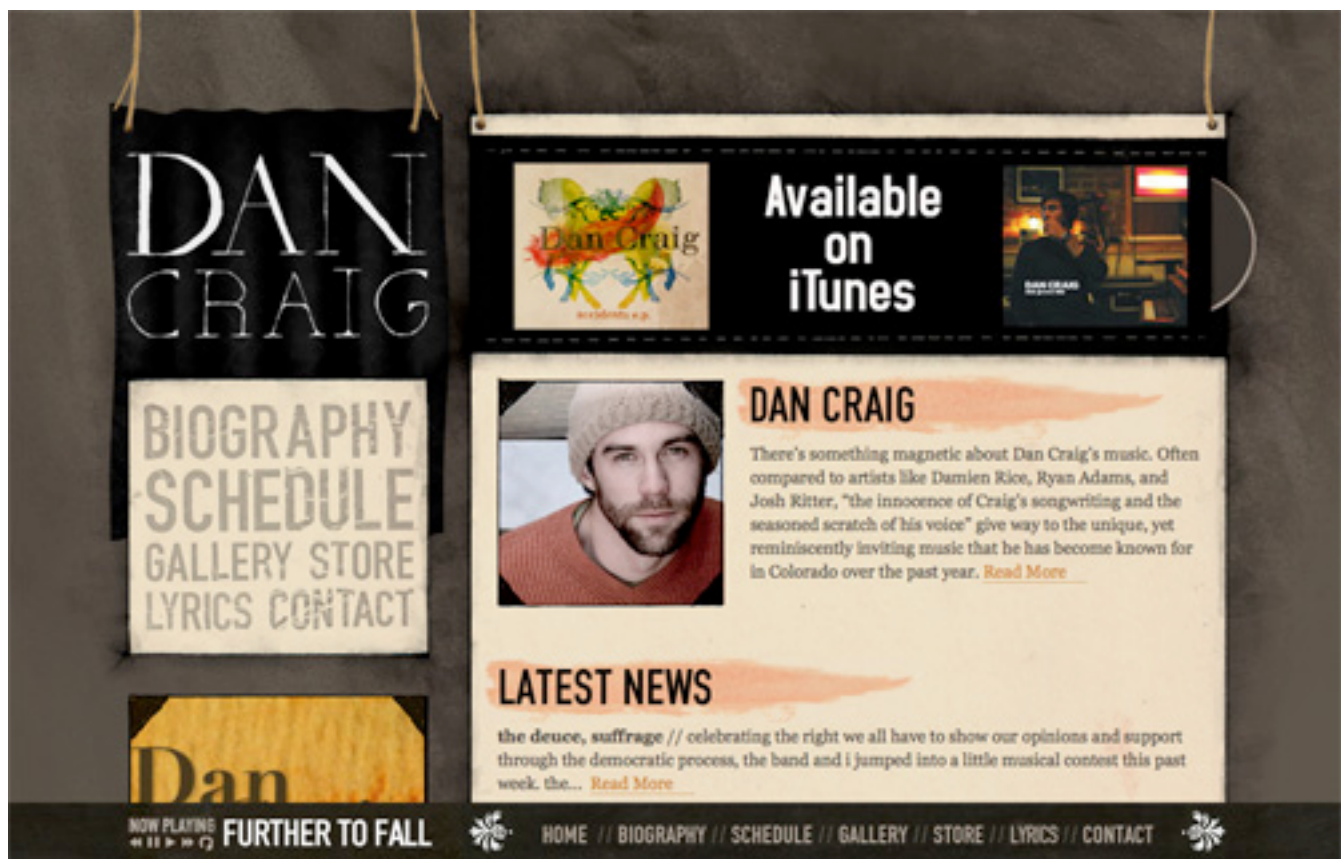
The orangish-brown here gives a very earthy and dependable feeling.



The dark brown used in the background here lends an earthy and steadfast look to the overall layout, and lets the brighter colors in the design really get to stand out.



Woodgrain is a popular use of brown, and in this case the warm brown adds some friendliness to an otherwise minimalist site.



The grayish-brown background here lends a feeling of stability and down-to-earthness.

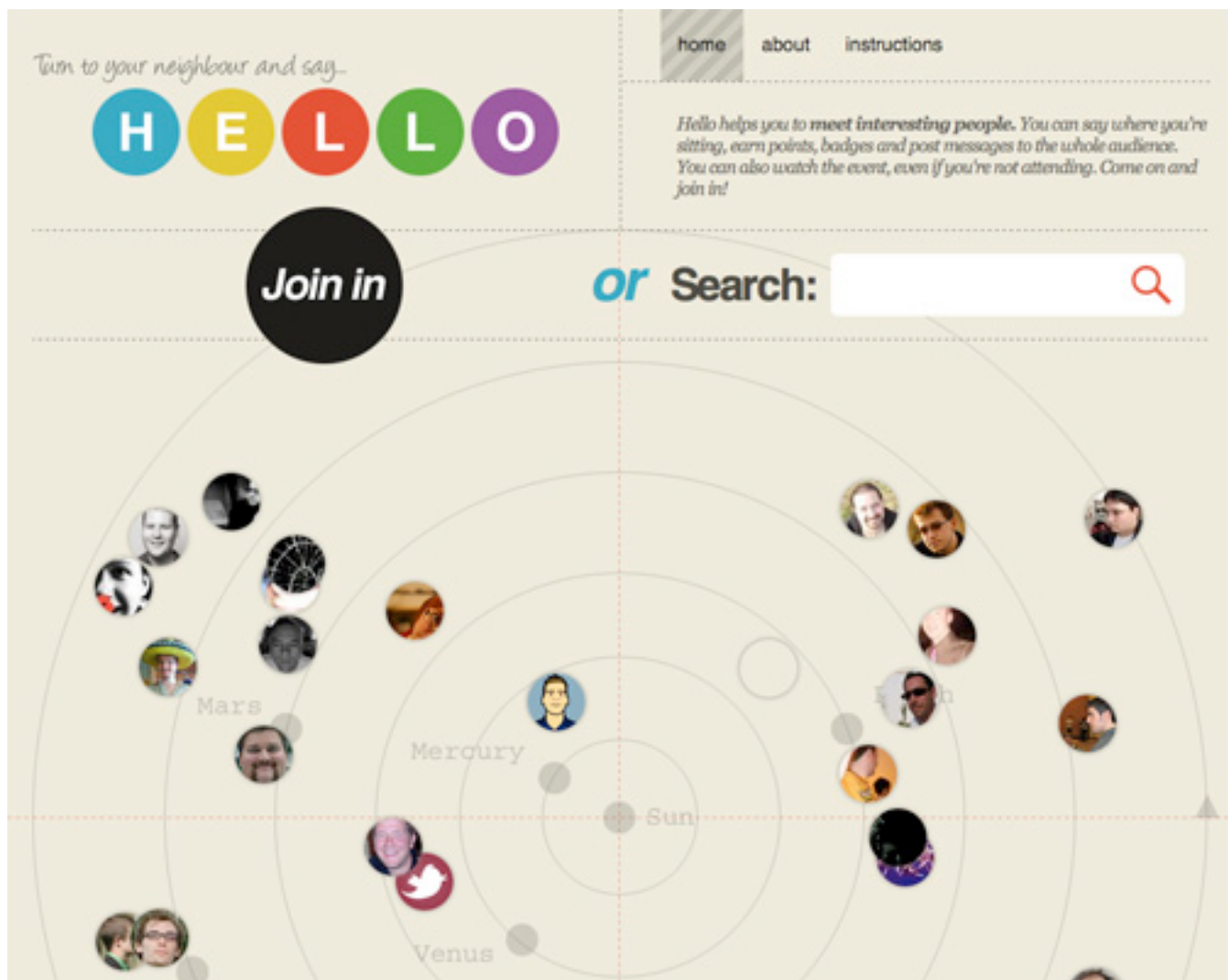
BEIGE AND TAN



Beige is somewhat unique in the color spectrum, as it can take on cool or warm tones depending on the colors surrounding it. It has the warmth of brown and the coolness of white, and, like brown, is sometimes seen as dull. It's a conservative color in most instances, and is usually reserved for backgrounds. It can also symbolize piety.

Beige in design is generally used in backgrounds, and is commonly seen in backgrounds with a paper texture. It will take on the characteristics of colors around it, meaning it has little effect in itself on the final impression a design gives when used with other colors.

Examples



The light tan background here feels young and fresh because of the bright colors around it.



The light tan background here lends a more conservative and elegant feeling to the overall design.



The yellowish tan background is made even warmer by the orange and brown accents throughout this site's design.



Tan is popularly used as a paper-bag texture, and in its more grayish form as a concrete or stone texture.



1

"The best trip of our boomer lives"

Posted on December 7, 2009

There's a romance to river travel. Off the highway and out of the traffic, you experience places you might otherwise not visit, at a deliberate pace you seldom get to travel. In June of 2009, Leslie and I flew to Amsterdam and checked into the Scenic Diamond, a five-star floating hotel that would be our home for the next two weeks. Cruise-virgins, we didn't know what to expect. The luxury almost made us blush. See for yourself.

Category: [Cruises](#)

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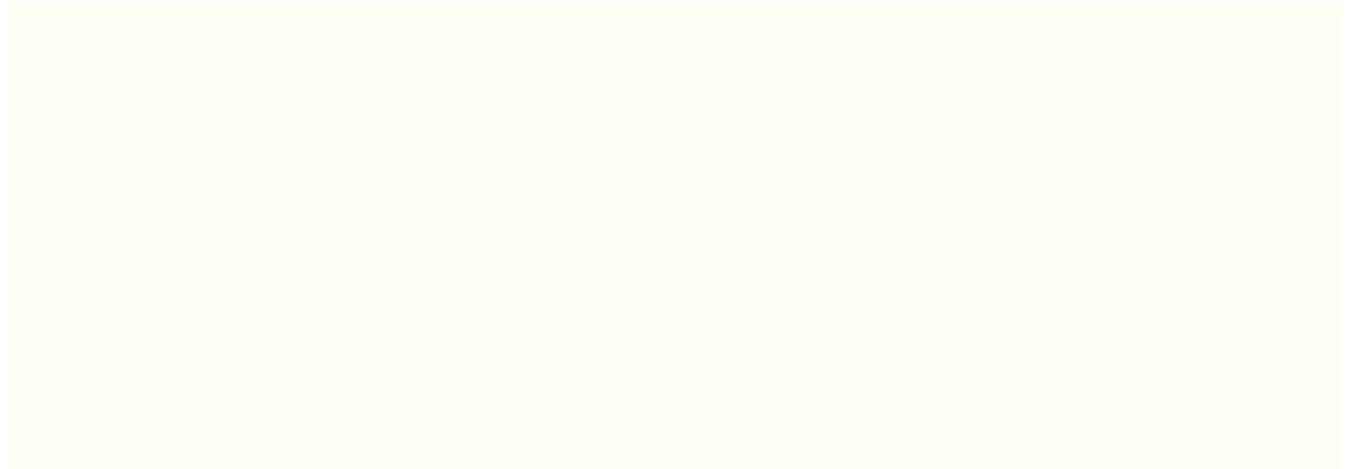
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The beige header background and other accents on the site lend a refined and traditional feeling to the overall design.

CREAM AND IVORY



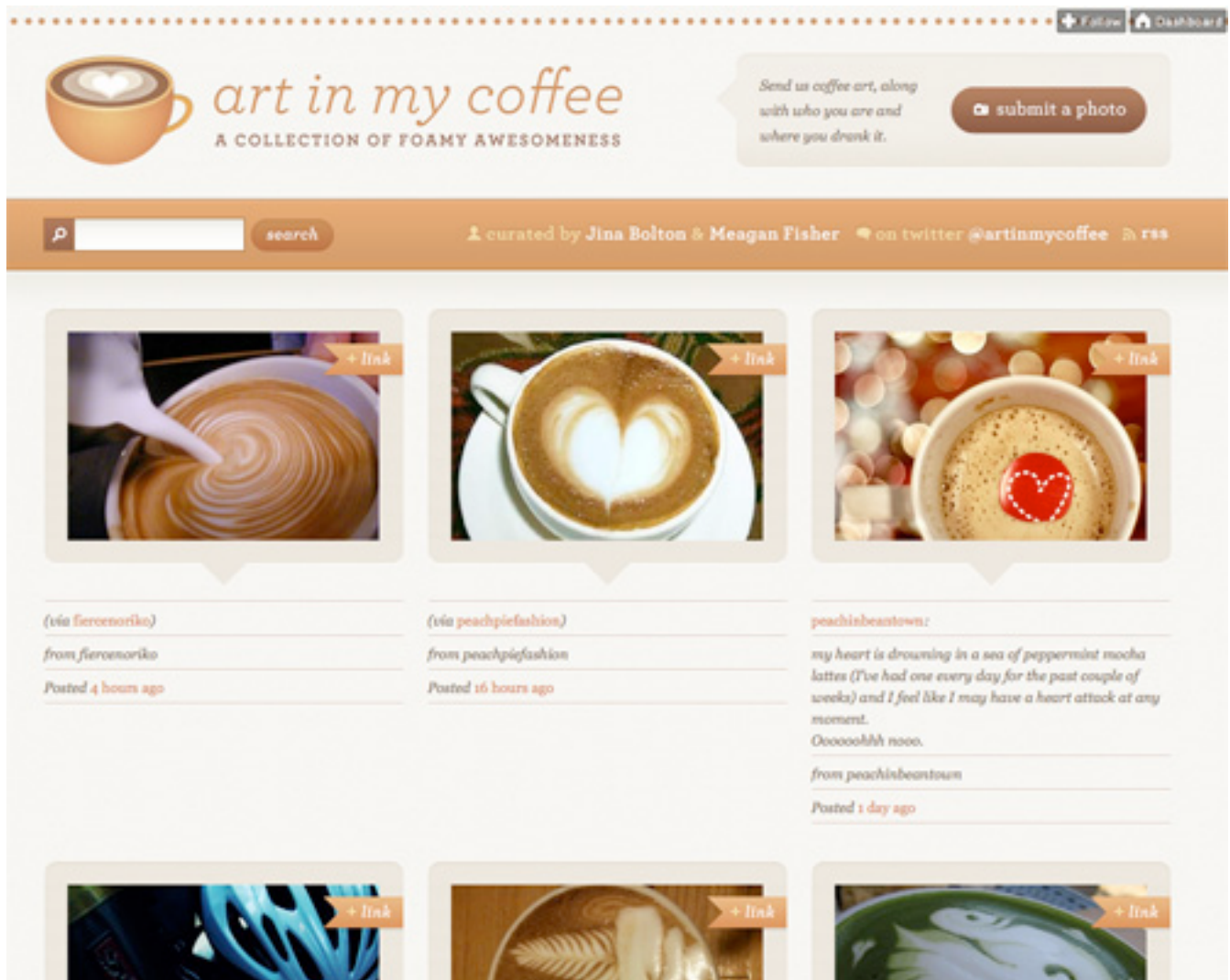
Ivory and cream are sophisticated colors, with some of the warmth of brown and a lot of the coolness of white. They're generally quiet, and can often evoke a sense of history. Ivory is a calm color, with some of the pureness associated with white, though it's a bit warmer.

In design, ivory can lend a sense of elegance and calm to a site. When combined with earthy colors like peach or brown, it can take on an earthy quality. It can also be used to lighten darker colors, without the stark contrast of using white.

Examples



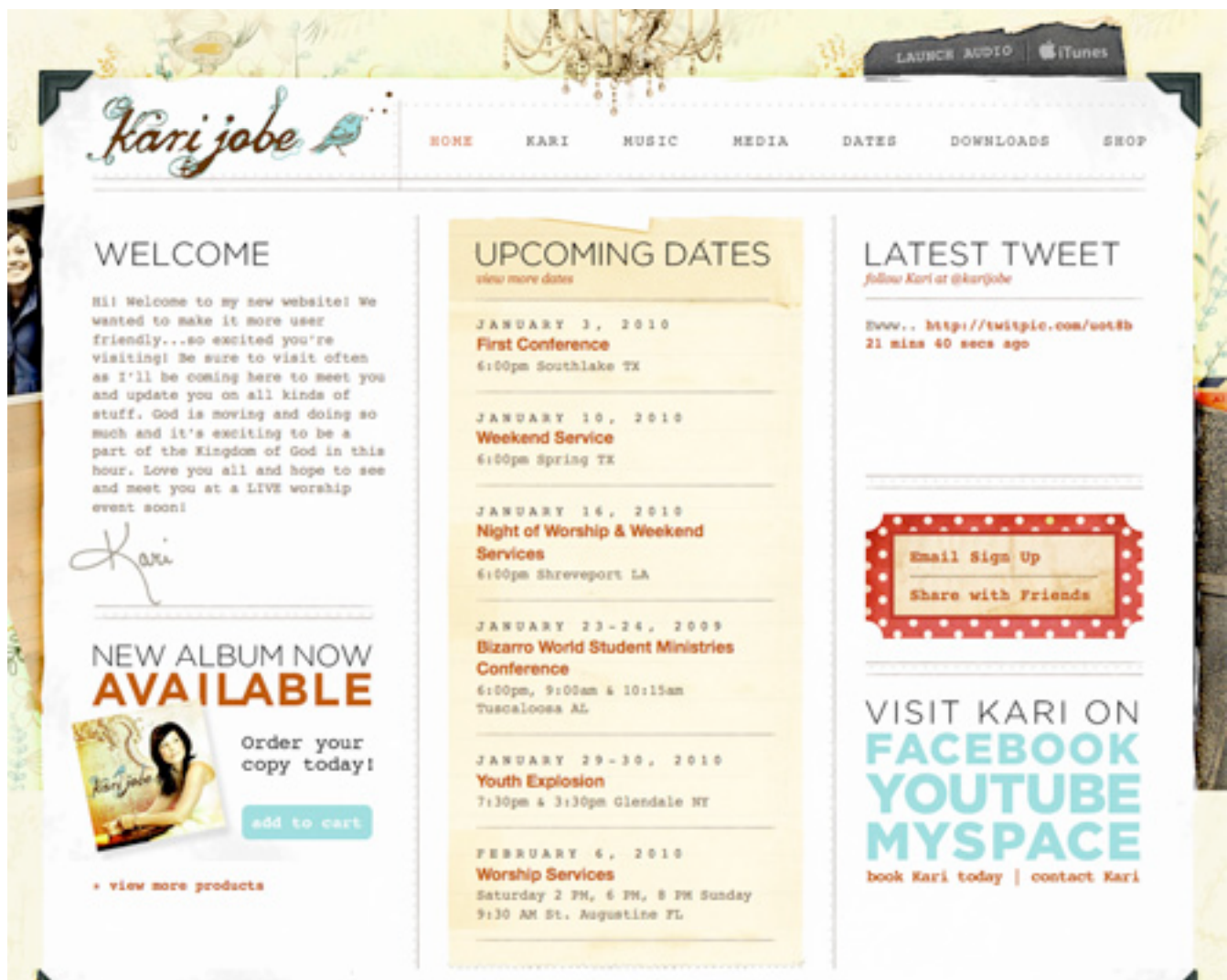
The ivory background here has a warm quality that's tempered by some of the cooler colors on the site.



The grayish-cream background here is made warmer by the orangish-brown accents.



The cream background adds a sense of understated elegance this site would otherwise be lacking.



The cream background here reinforces the antique theme that runs throughout the design's graphics.



The ivory combined with other light colors and jewelry tones makes this site have a very elegant overall appearance.

In Brief...

While the information contained here might seem just a bit overwhelming, color theory is as much about the feeling a particular shade evokes than anything else. But here's a quick reference guide for the common meanings of the colors discussed above:

- **Red:** Passion, Love, Anger
- **Orange:** Energy, Happiness, Vitality
- **Yellow:** Happiness, Hope, Deceit
- **Green:** New Beginnings, Abundance, Nature
- **Blue:** Calm, Responsible, Sadness
- **Purple:** Creativity, Royalty, Wealth
- **Black:** Mystery, Elegance, Evil
- **Gray:** Moody, Conservative, Formality
- **White:** Purity, Cleanliness, Virtue
- **Brown:** Nature, Wholesomeness, Dependability
- **Tan or Beige:** Conservative, Piety, Dull
- **Cream or Ivory:** Calm, Elegant, Purity

Color Theory For Designers, Part 2: Understanding Concepts And Terminology

Cameron Chapman

If you're going to use color effectively in your designs, you'll need to know some color concepts and color theory terminology. A thorough working knowledge of concepts like chroma, value and saturation is key to creating your own awesome color schemes. In [Part 1: The Meaning of Color](#) of our color theory series, we covered the meanings of different colors. Here, we'll go over the basics of what affects a given color, such as adding gray, white or black to the pure hue, and its effect on a design, with examples of course.

Hue

[Hue](#) is the most basic of color terms and basically denotes an object's color. When we say “blue,” “green” or “red,” we’re talking about hue. The hues you use in your designs convey important messages to your website’s visitors. Read part 1 of this article for the meanings conveyed by various hues.

EXAMPLES



The primary hue of the background and some of the typography on the Happy Twitmas website is bright red.



Using a lot of pure hues together can add a fun and playful look to a design, as done in the header and elsewhere on this website.

Hacemos [páginas web](#) con gusto y sentido común. Pero como eso es difícil de explicar, lo mejor será que le eches un vistazo a [nuestros trabajos](#) o te pongas en [contacto](#) con nosotros.

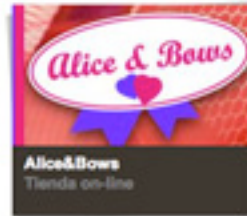
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Novedades

Problemas de correo (solucionado)

Actualización: hemos solucionado el problema con nuestro servidor de correo.

Estamos experimentando ciertos problemas con nuestro servidor de correo. Por favor, temporalmente contacta con nosotros a través de estilorama@gmail.com

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Pure red is a very popular hue in Web design.



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FEATURES



Introducing Incarnate ⁹

by *Karsten Januszewski* on Dec 14, 2009 in *News*

Our latest lab, Incarnate, finds your avatars around the web, so you don't have to upload a new one every time you join a service or leave a comment. [Read More...](#)



VIEWING • • • • •

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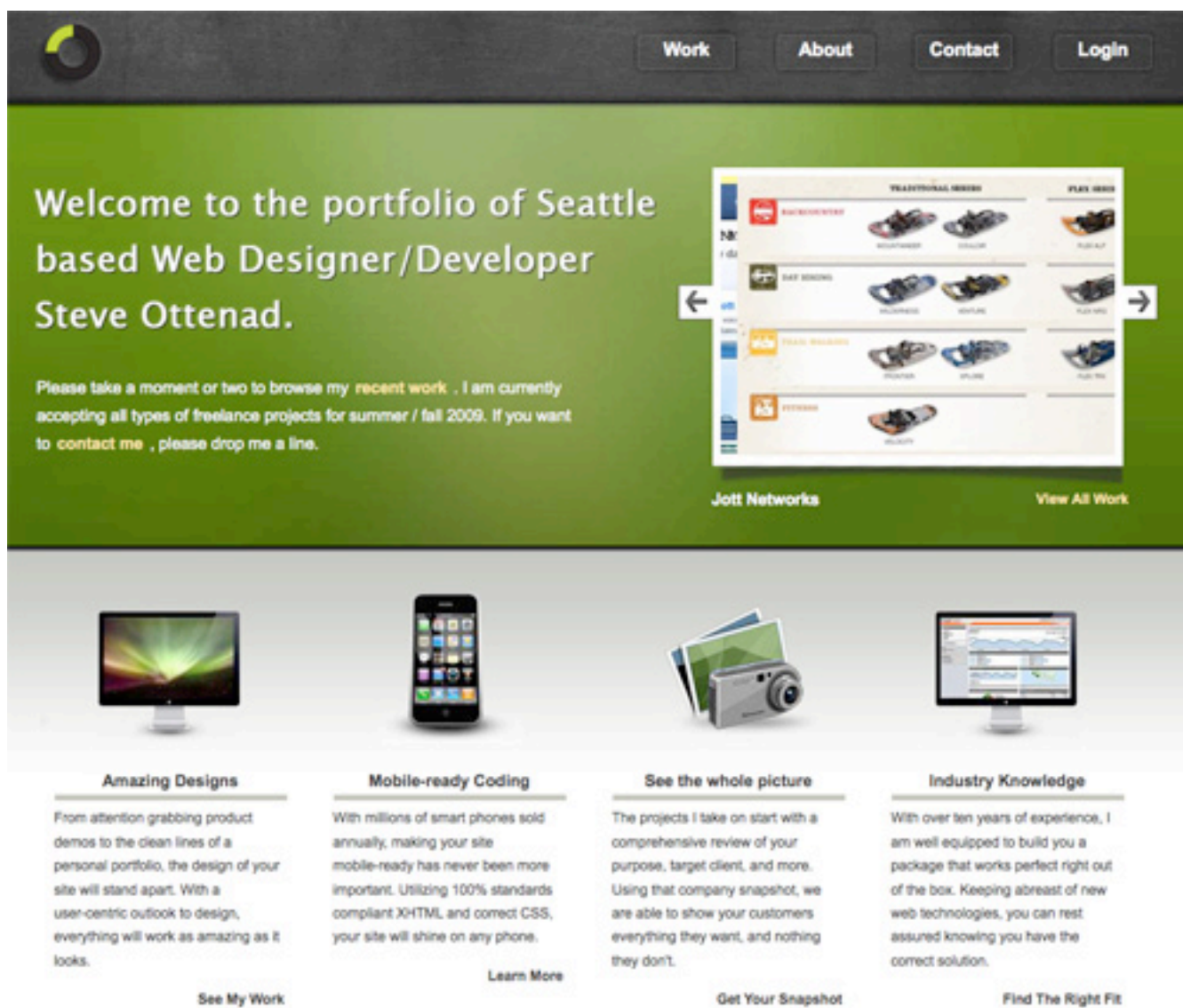
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EVENTS & SPEAKING

We host, speak at, and attend lots of events.

Mix uses a number of pure hues in its header and logo.



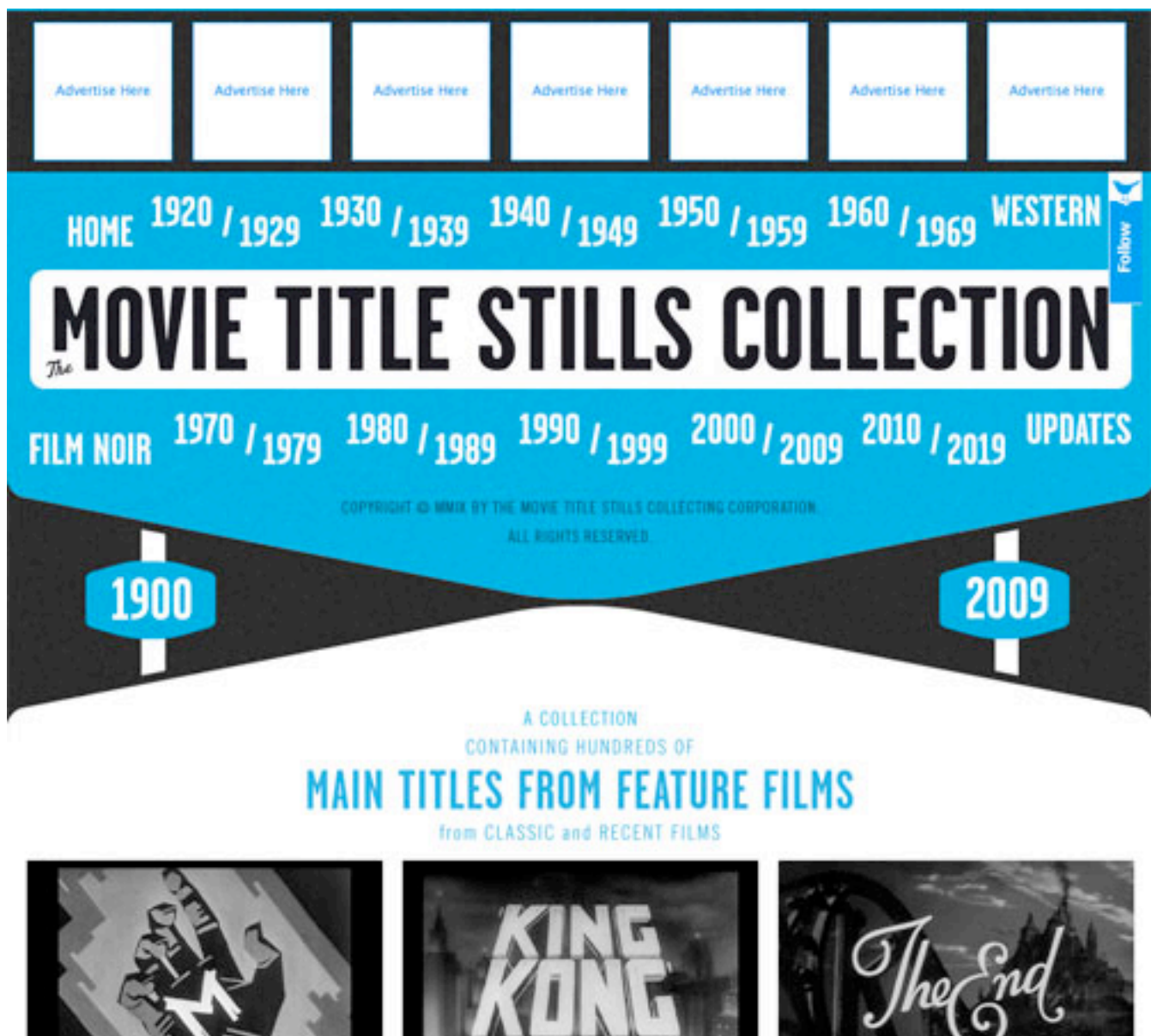
Green in its purer forms is seen less often and so stands out more than some other colors.

Chroma

[Chroma](#) refers to the purity of a color. A hue with high chroma has no black, white or gray in it. Adding white, black or gray reduces its chroma. It's similar to saturation but not quite the same. Chroma can be thought of as the brightness of a color in comparison to white.

In design, avoid using hues that have a very similar chroma. Opt instead for hues with chromas that are the same or a few steps away from each other.

EXAMPLES



Cyan has a high chroma and so really stands out against black and white.



Another website with a high chroma blue, though it includes some tints and shades with somewhat lower chromas.



Combining high and low saturation in the same hue can make for a sophisticated and elegant design.

Buonasera.

auf Italienisch heisst frühjahr 'primavera'.

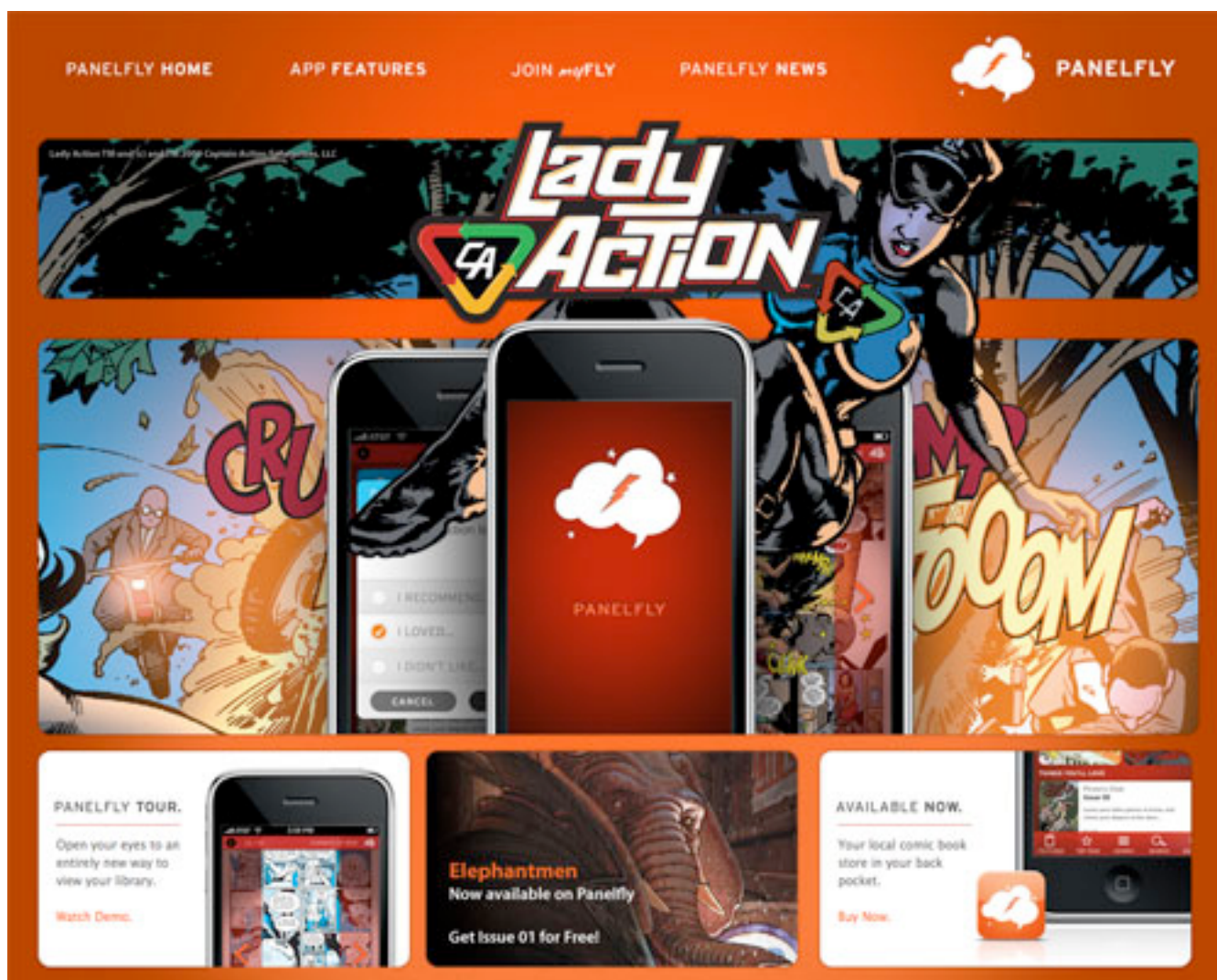
Wir sind eine junge Grafikagentur mit den Spezialgebieten Grafikdesign, Webdesign und Fotografie.

- ✓ Wir konzipieren, gestalten, realisieren und beraten.
- ✓ Corporate Design ist unsere Passion.
- ✓ Webdesign können wir inklusive 2.0
- ✓ Wir lieben Kunden mit hohen gestalterischen Ansprüchen.
- ✓ Wir sind schnell, sehr schnell.

[zum Portfolio](#)



Colors with very high chroma are best used in moderation, as done here.



Differences in chroma can make for a visually pleasing gradient.

Saturation

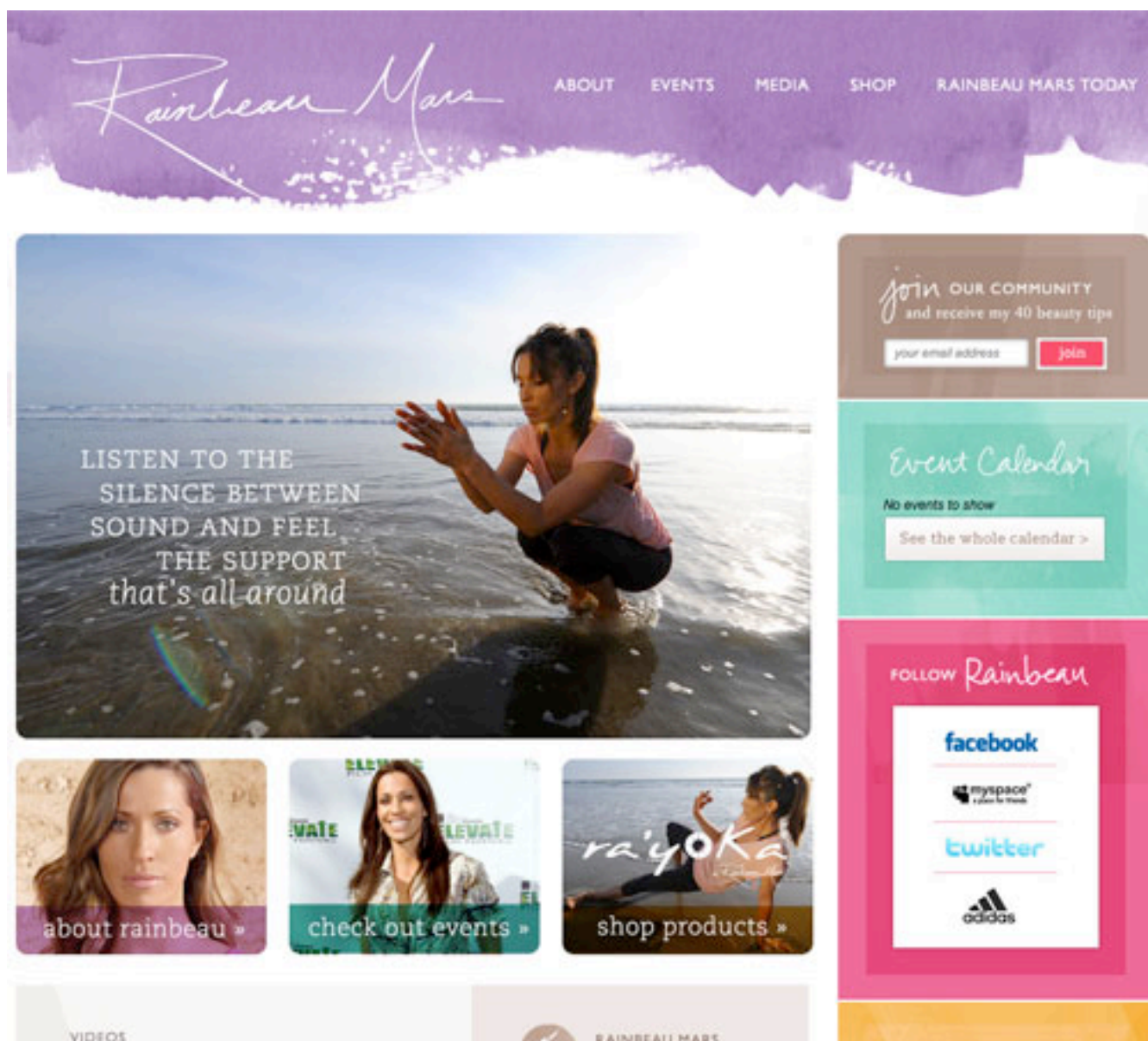
[Saturation](#) refers to how a hue appears under particular lighting conditions. Think of saturation in terms of weak vs. strong or pale vs. pure hues.

In design, colors with similar saturation levels make for more cohesive-looking designs. As with chroma, colors with similar but not identical saturations can have a jarring effect on visitors.

EXAMPLES



The saturation levels of many of the different hues used here are similar, adding a sense of unity to the overall design.



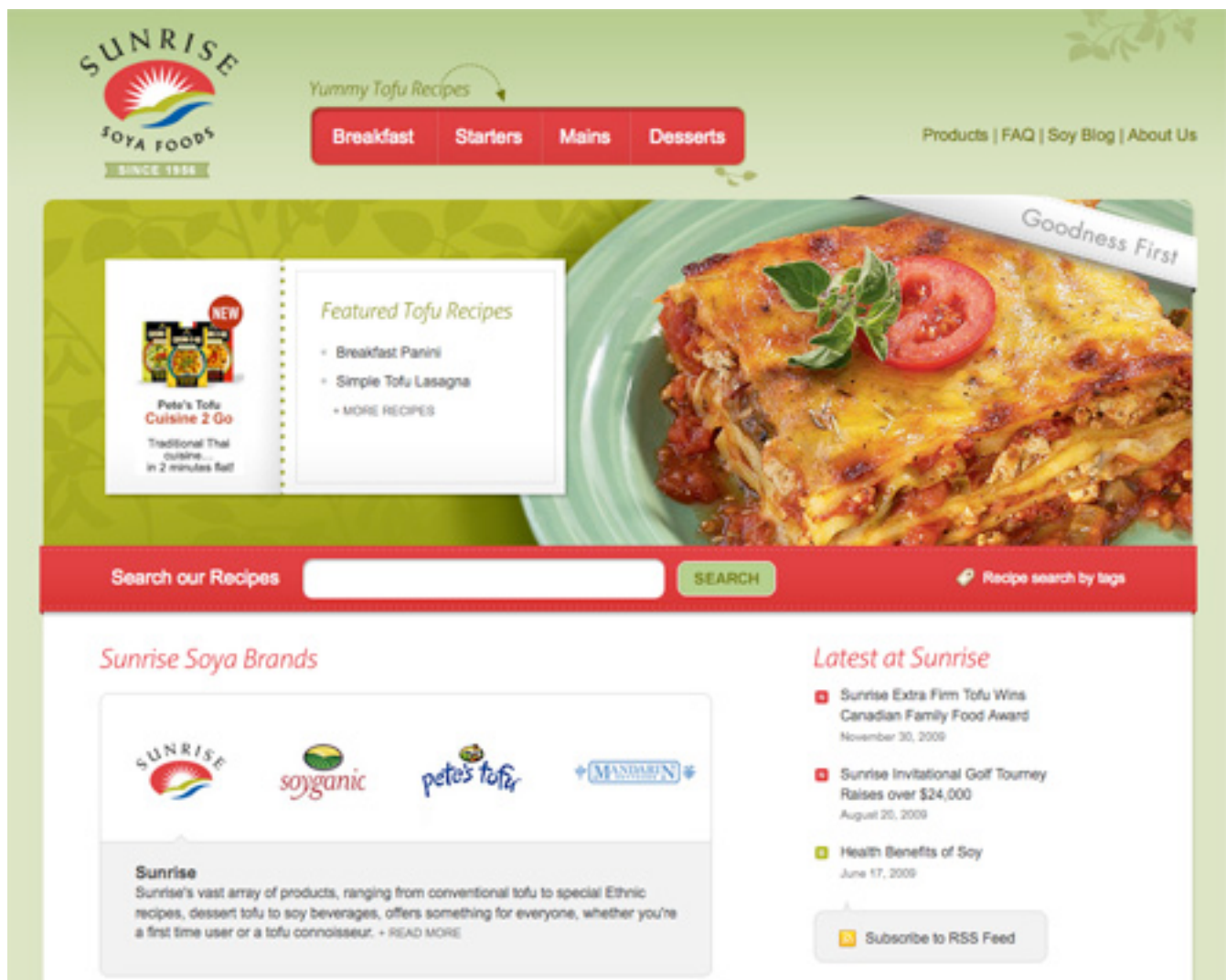
Combining colors with similar muted saturation levels creates a soft design, which is emphasized by the watercolor effects.



Hues with lower saturation levels aren't necessarily lighter, as shown here.



An excellent example of how using a hue with a high saturation against a background with low saturation can make the former really stand out.



Another example of how low saturation colors make nearby high saturation colors really stand out.

Value

[Value](#) could also be called “lightness.” It refers to how light or dark a color **is**. Lighter colors have higher values. For example, orange has a higher value than navy blue or dark purple. Black has the lowest value of any hue, and white the highest.

When applying color values to your designs, favor colors with different values, especially ones with high chroma. High contrast values generally result in more aesthetically pleasing designs.

EXAMPLES



The high value of the yellow used here really stands out against the lower-value black and gray.



This website combines blue hues with two different values. Because the different values have enough contrast, the overall look is visually appealing.



Combining colors with similar values makes for an energetic and lively background (which is enhanced by the design itself).



The red here has a lower value than the light blue, which itself has a lower value than the white.



The human eye can pick up differences in value even among such similar hues.

Tones

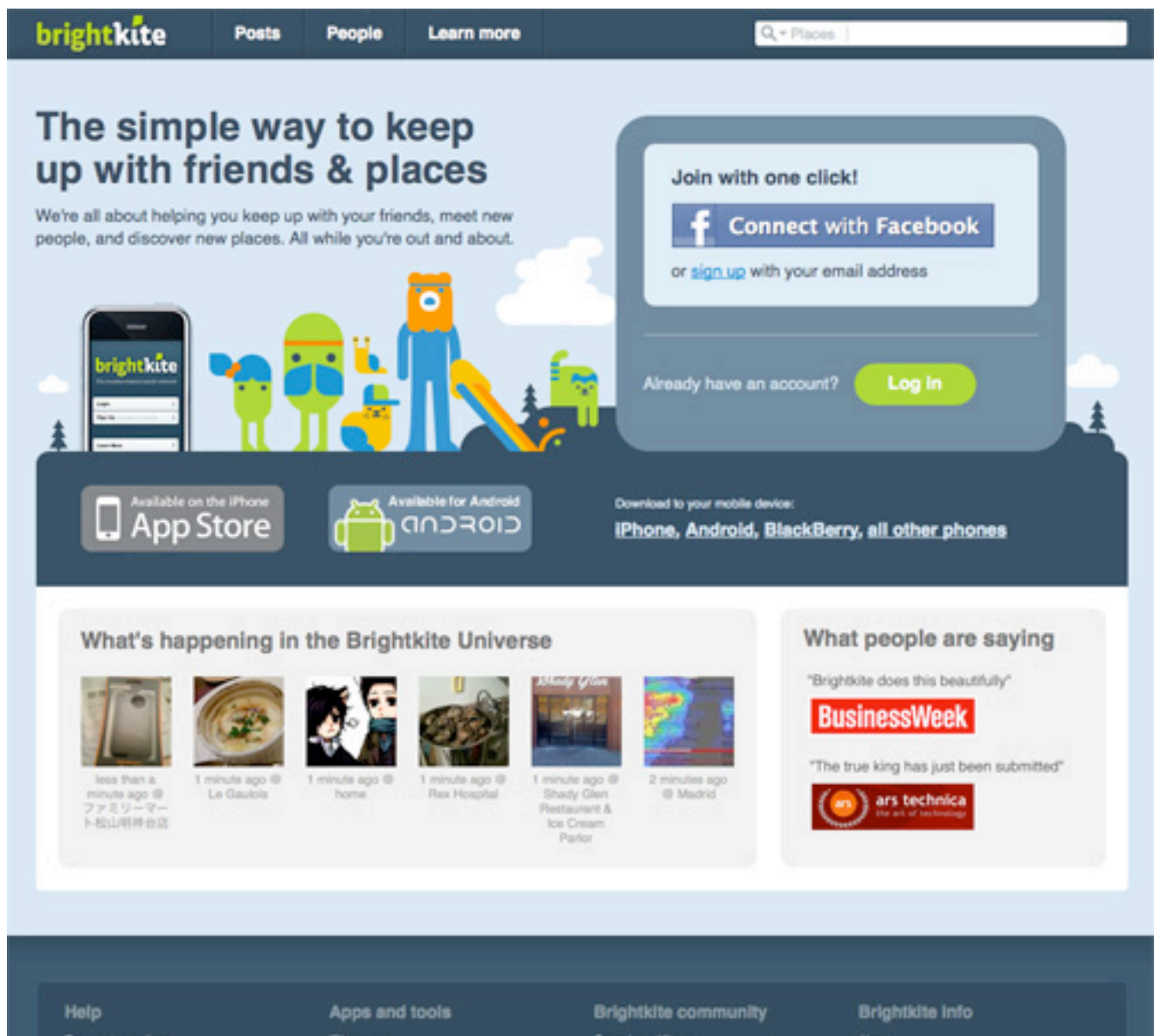
Tones are created when gray is added to a hue. Tones are generally duller or softer-looking than pure hues.

Tones are sometimes easier to use in designs. Tones with more gray can lend a certain vintage feel to websites. Depending on the hues, they can also add a sophisticated or elegant look.

EXAMPLES



Tones can give websites a sophisticated look while adding some vintage and antique flair.



This website combines blues in a variety of tones, shades and tints.

Web services as books

on 14/12/2009 | 0 comments



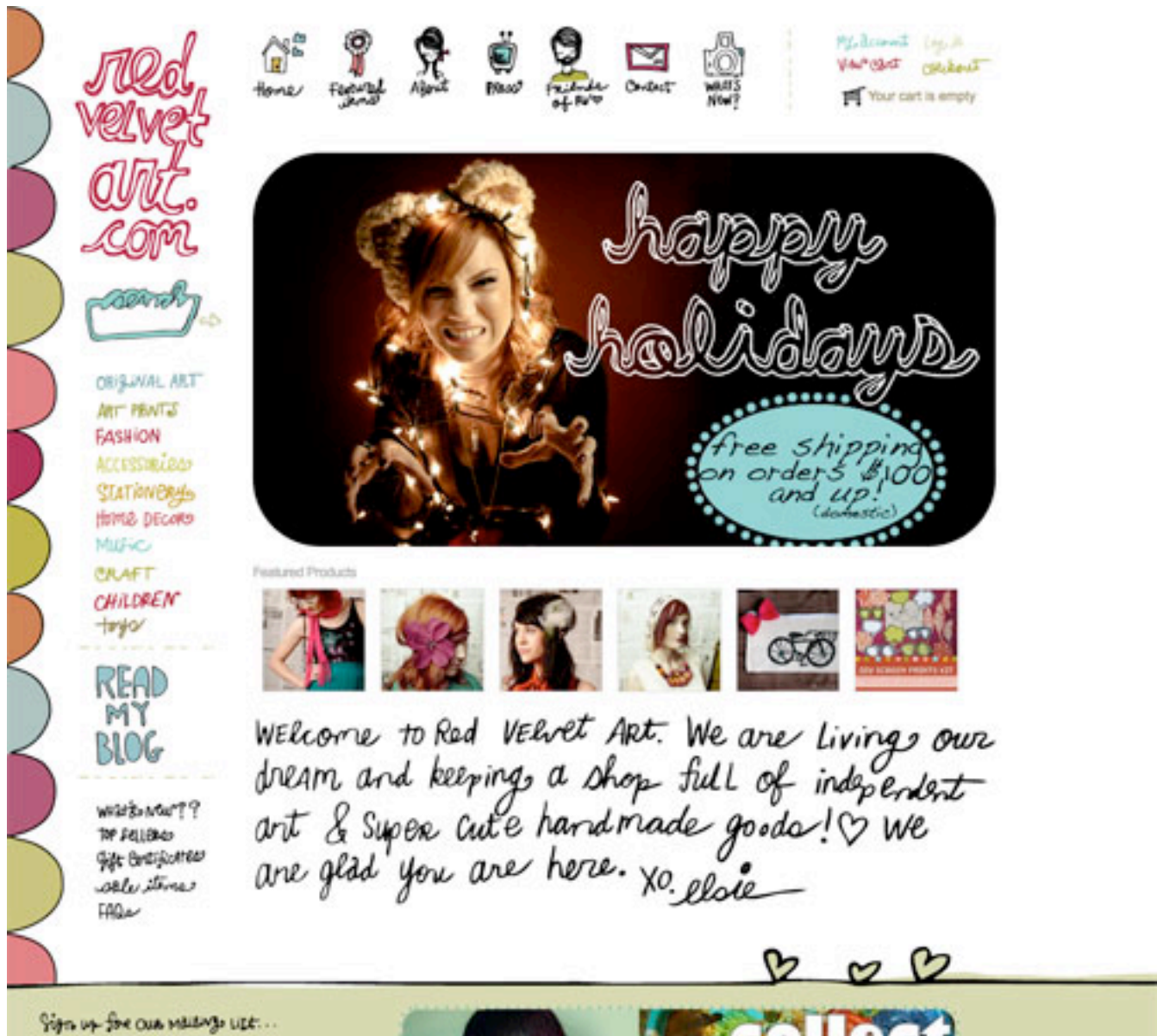
Stéphane Massa-Bidal redesigned web services as retro books. Cool thing is that you actually can buy them – as posters, of course! [Check it out at Stéphane's Flickr.](#)

Easter eggs!

on 23/11/2009 | 1 comment

Who doesn't like good surprises? I'm sure you do... and so do I. Hidden

Tones can be intensified by adding gray around them, as done here.



The tones used in the navigation and background design here give this website a vintage, hand-made feel.



A great example of how a pure hue can really stand out against a background of tones.



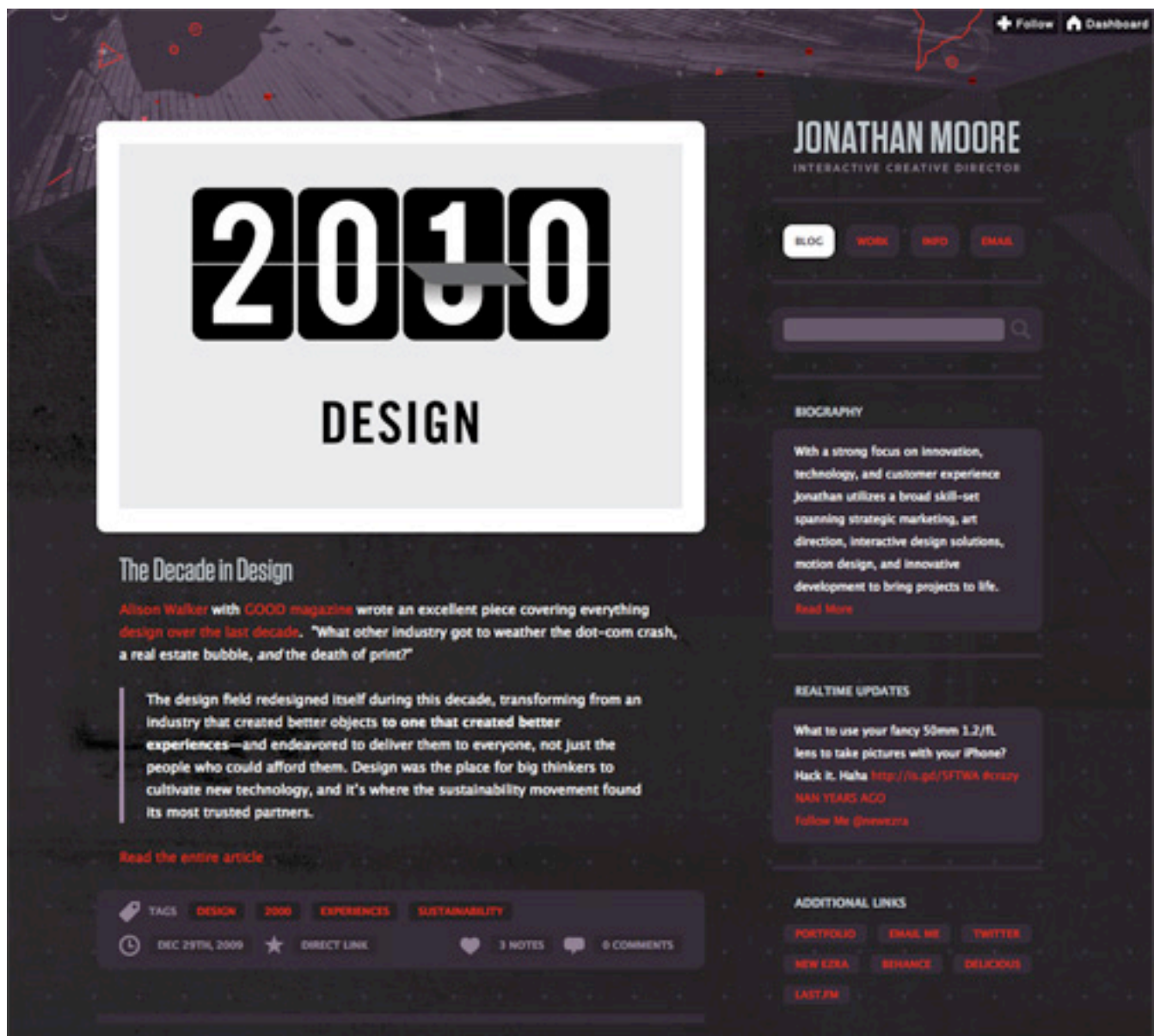
Some colors that we might consider gray are actually tones of other colors. In this case, the background is a blue tone but with a lot of gray added.

Shades

A [shade](#) is created when black is added to a hue, making it darker. The word is often incorrectly used to describe tint or tone, but shade only applies to hues made darker by the addition of black.

In design, very dark shades are sometimes used instead of black and can serve as neutrals. Combining shades with tints is best to avoid too dark and heavy a look.

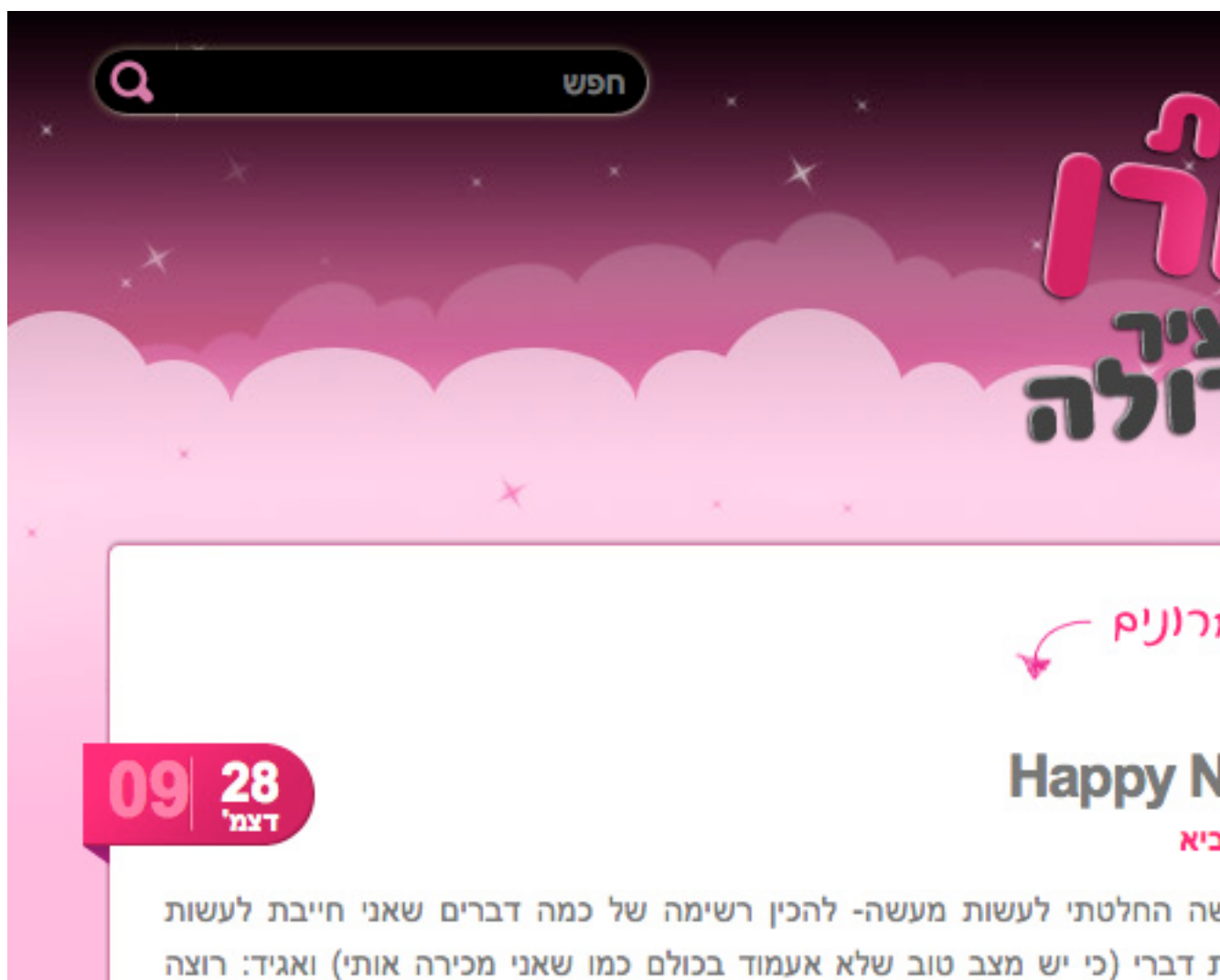
EXAMPLES



Jonathan Moore's website has a variety of different shades of purple in the background (and a couple of tints in other parts).



Using different shades together works well, as long as sufficient contrast between them is maintained.



An effective combination of shades and tints, particularly in the header.



Another background design that has shades (and a few tints) in a textured gradient.



Read about our background and website design process

A little of our recent website design work from our favourite projects

And All That Malarkey, a popular blog about website design and more

Get on the dog and bone, email or write to us the old fashioned way

A little of our recent web design work

Here are just a few of our favourite projects. If you like what you see and you think that working with us would be a fun, profitable experience for both of us, get in touch — we love hearing about new and interesting projects.

xstrata

Xstrata grow and manage a diversified portfolio of metals and mining businesses with the single aim of delivering industry-leading returns for their shareholders. They achieve this through genuine partnerships with employees, customers, shareholders, local communities and other stakeholders. The site will be launched in late 2009.

Combining shades within textures adds interest to this website.

Tints

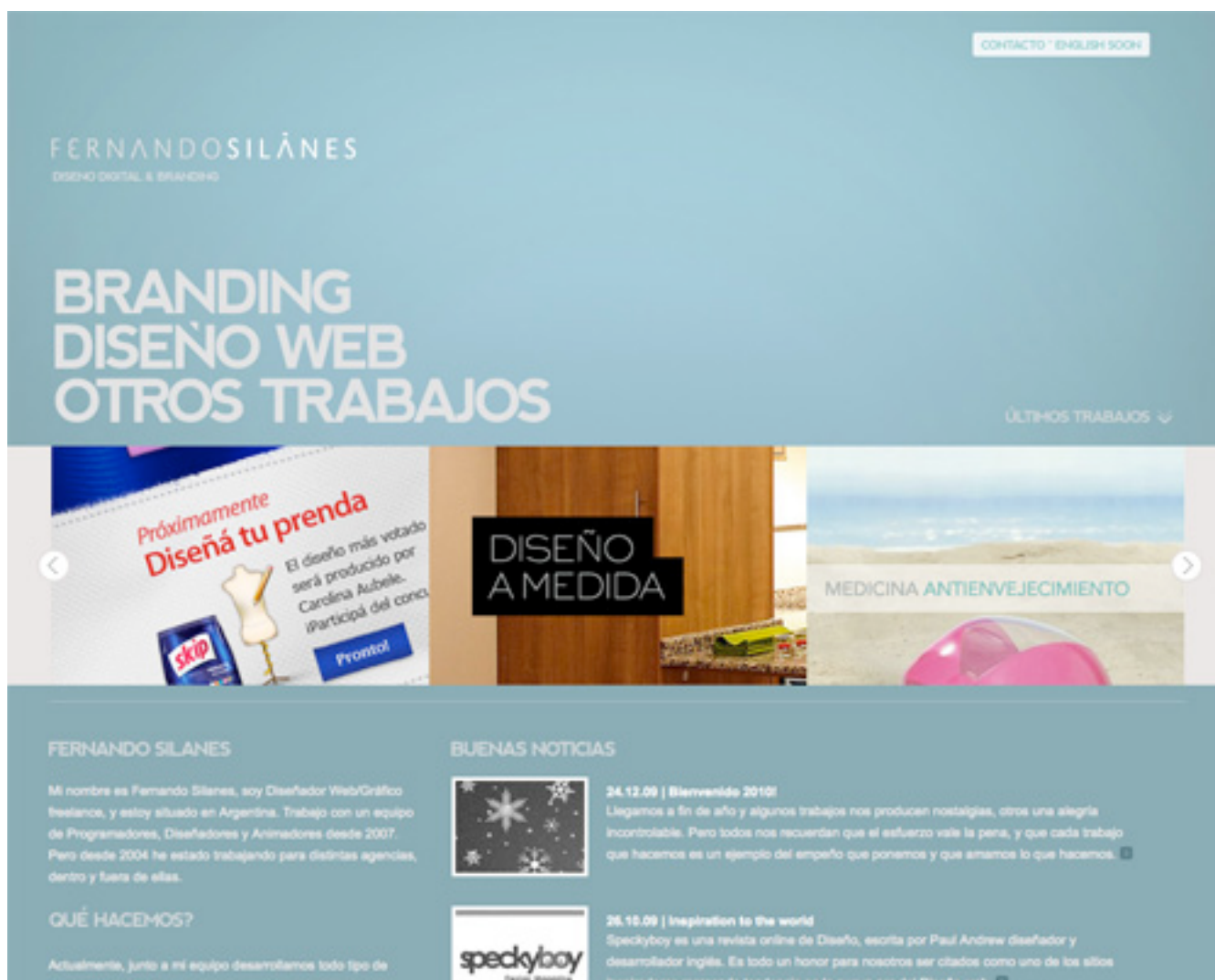
A tint is formed when white is added to a hue, lightening it. Very light tints are sometimes called pastels, but any pure hue with white added to it is a tint.

Tints are often used to create feminine or lighter designs. Pastel tints are especially used to make designs more feminine. They also work well in vintage designs and are popular on websites targeted at parents of babies and toddlers.

EXAMPLES



Caio Cardoso's website has a variety of green tints in the background and in other elements.



The blue tint on Fernando Silanes's website creates a soft and sophisticated look.

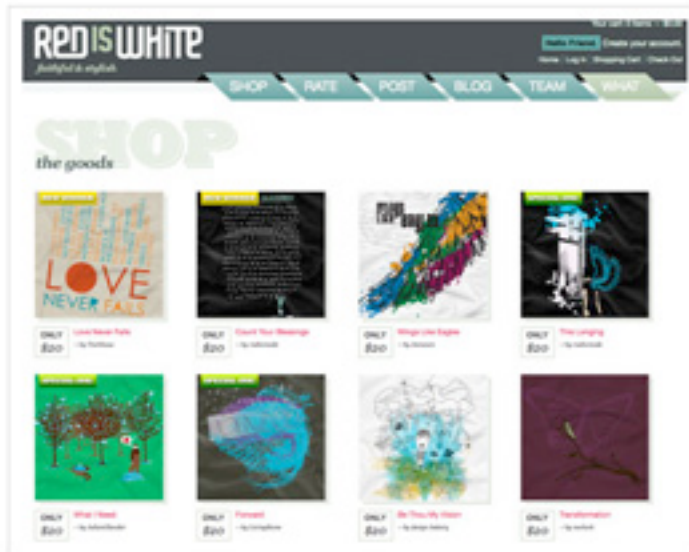


Blue tints are popular for sky and nature motifs.



Tints are also popular in watercolor-based designs.

10.06 Next Steps



Huge News.

I'm excited and honored to be stepping into my new role as CEO of RedisWhite.



Hello. I am Garth.
I partner with a select group of forward-thinking companies to create stellar brands, marketing campaigns, product launches, and online experiences.

ways and places to reach me

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Krop

it's a twitter thing...follow?

Day 2 of twitter thinking my account had been compromised :P 12 hrs ago

RT @TheDonutProject: Graphic Design Favors
<http://bit.ly/8jOuci> 22 hrs ago

Tints combined together make for a sophisticated gradient.

Conclusion

While you don't necessarily have to remember all of these technical terms, you should be familiar with the actual concepts, especially if you want to master part 3 of this series (in which we create our own color schemes). To that end, here's a cheat sheet to jog your memory:

- **Hue** is color (blue, green, red, etc.).
- **Chroma** is the purity of a color (a high chroma has no added black, white or gray).
- **Saturation** refers to how strong or weak a color is (high saturation being strong).
- **Value** refers to how light or dark a color is (light having a high value).
- **Tones** are created by adding gray to a color, making it duller than the original.
- **Shades** are created by adding black to a color, making it darker than the original.
- **Tints** are created by adding white to a color, making it lighter than the original.

Color Theory For Designer, Part 3: Creating Your Own Color Palettes

Cameron Chapman

Previous two parts of this series on color theory, we talked mostly about the meanings behind colors and color terminology. While this information is important, I'm sure a lot of people were wondering when we were going to get into the nitty-gritty of actually creating some color schemes.

Well, that's where Part 3 comes in. Here we'll be talking about methods for creating your own color schemes, from scratch. We'll cover the traditional color scheme patterns (monochrome, analogous, complementary, etc.) as well as how to create custom schemes that aren't based strictly on any one pattern. By the end of this article, you'll have the tools and skills to start creating beautiful color palettes for your own design projects. The best way to improve your skills is to practice, so why not set yourself a goal of creating a new color scheme every day.

A Quick Review

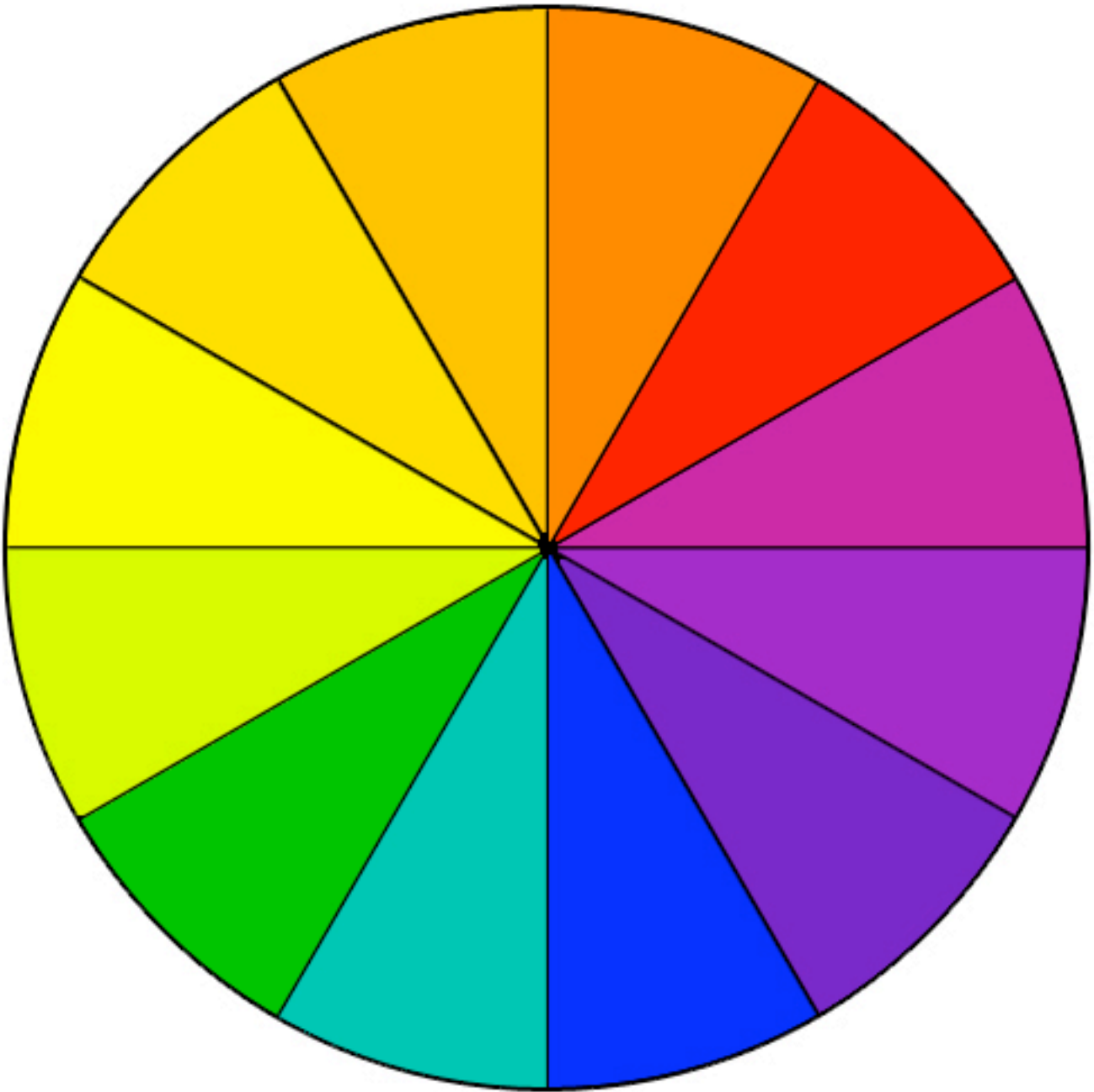
Let's start with a quick review of what was covered in parts 1 and 2. In part 1, we talked about how all colors have inherent meanings, which can vary depending on the country or culture. These meanings have a direct impact on the way your visitors perceive your site, even if it's just subconsciously. The colors you choose can either work for or against the brand identity you're trying to create.



In part 2, we covered color terminology: hue (what color something is, like blue or red); chroma (how pure a color is, the lack of white, black or gray added to it); saturation (the strength or weakness of a color); value (how light or dark a color is); tone (created by adding gray to a pure hue); shade (created by adding black to a pure hue); and tint (created by adding white to a hue). These are important terms to know as we move forward and create our own color schemes.

Traditional Color Scheme Types

There are a number of predefined color scheme standards that make creating new schemes easier, especially for beginners. Below are the traditional schemes, with a few examples for each.



The basic, twelve-spoke color wheel is an important tool in creating color schemes.

MONOCHROMATIC

Monochromatic color schemes are made up of different tones, shades and tints within a specific hue. These are the simplest color schemes to create, as they're all taken from the same hue, making it harder to create a jarring or ugly scheme (though both are still possible).

Examples:

Here are three examples of monochrome color schemes. For the most part with these schemes, the first color (if we look at this from left to right) would likely be used for headlines. The second color would be used for body text or possibly the background. The third color would likely be used for the background (or body text if color #2 was used as the background). And the last two colors would be used as accents or within graphics.





ANALOGOUS

Analogous color schemes are the next easiest to create. Analogous schemes are created by using three colors that are next to each other on the 12-spoke color wheel. Generally, analogous color schemes all have the same chroma level, but by using tones, shades and tints we can add interest to these schemes and adapt them to our needs for designing websites.

Examples:



This is a traditional analogous color scheme, and while it's visually appealing, there isn't enough contrast between the colors for an effective website design.



Here's a color scheme with the same hues as the one above, but with the chroma adjusted to give more variety. It's now much more suitable for use in a website.



Another example of a traditional analogous scheme.



And the above theme modified for use in a website design.

COMPLEMENTARY

Complementary schemes are created by combining colors from opposite sides of the color wheel. In their most basic form, these schemes consist of only two colors, but can easily be expanded using tones, tints, and shades. A word of warning, though: using colors that are exact opposites with the same chroma and/or value right next to each other can be very jarring visually (they'll appear to actually vibrate along their border in the most severe uses). This is best avoided (either by leaving white space between them or by adding another, transitional color between them).

Examples:



A wide range of tints, shades, and tones makes this a very versatile color scheme.



Another complementary color scheme with a wide range of chromas.



Don't forget that beige and brown are really tints and shades of orange.

SPLIT COMPLEMENTARY

Split complementary schemes are almost as easy as the complementary scheme. In this scheme, instead of using colors that are opposites, you use colors on either side of the hue opposite your base hue.

Examples:



A scheme where yellow-green is the base hue. It's important to have enough difference in chroma and value between the colors you select for this type of scheme.



Another palette with a wide range of chromas.

TRIADIC

Triadic schemes are made up of hues equally spaced around the 12-spoke color wheel. This is one of the more diverse color schemes.

Examples:



Using a very pale or dark version of one color in the triad, along with two shades/tones/tints of the other two colors makes the single color almost work as a neutral within the scheme.



Alternately, using one very bright hue with paired muted hues makes the single bright hue stand out more.

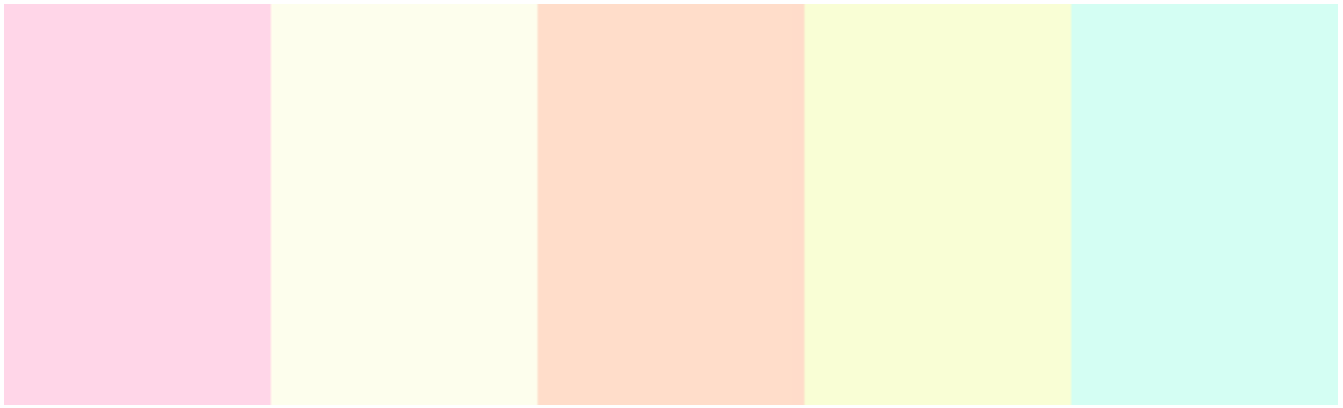
DOUBLE-COMPLEMENTARY (TETRADIC)

Tetradic color schemes are probably the most difficult schemes to pull off effectively.

Examples:



A rather unimpressive tetradic color scheme. The best way to use a scheme like this is to use one color as the primary color in a design and the others just as accents.



Tetradic color schemes can work well for creating color schemes with similar chromas and values. Just add a neutral (such as dark gray or black) for text and accents.



It works just as well for darker color schemes.

CUSTOM

Custom color schemes are the hardest to create. Instead of following the predefined color schemes discussed above, a custom scheme isn't based on any formal rules. Keep in mind things like chroma, value, and saturation when creating these kinds of color schemes.

Examples:



The colors here all have similar chroma and saturation levels.



Again, using colors with similar chroma and saturation is effective and creates a sense of cohesion across a color scheme.



Using one color with a high chroma among other colors with lower chromas is another effective method (the higher chroma color can act as an accent).

Creating a Color Scheme

Creating your own color schemes can be a bit intimidating. But it's not as complicated as many people think. And there are quite a few tricks you can employ to create great color palettes right from the start.



We've been over the different types of color schemes above. Now, let's try creating a few of our own. There are plenty of tools online that will help you create a color scheme, but let's forget about those for now and just use Photoshop.

Lets try breaking away from the color scheme types already mentioned, and create some custom schemes. While it's important to know the ways that different colors interact and how traditional schemes are created, for most design projects you'll likely create custom schemes that don't strictly adhere to any predefined patterns.

So, for the purposes of our project here, we'll create three color schemes each for two different websites. Our hypothetical clients are a modern

architecture design blog and a high-end women's clothing retailer who specializes in Victorian-influenced apparel.

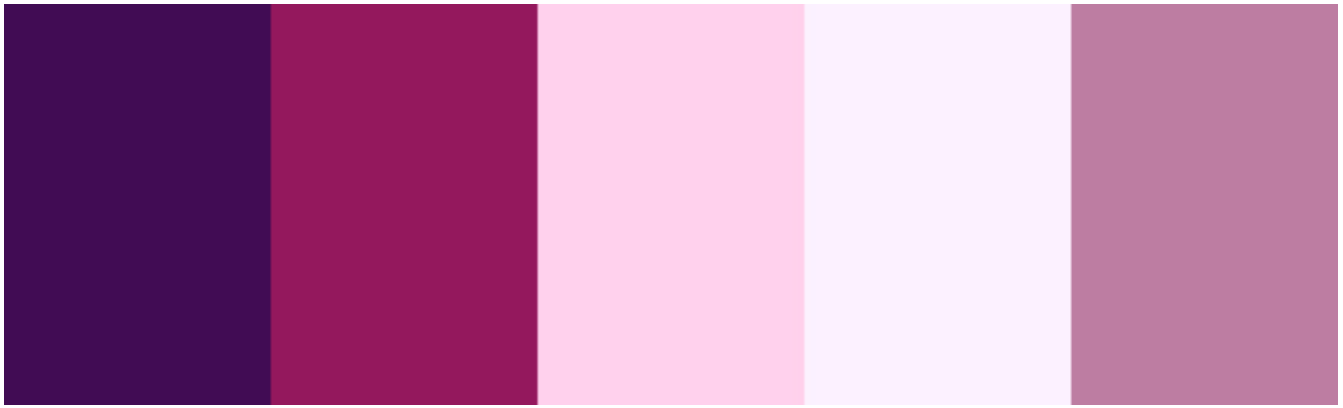
We'll start with a basic monochromatic scheme, just to get a feel for each. While I mentioned that traditional color scheme patterns aren't used as often in design, monochromatic color schemes are the exception to that rule. You'll likely find yourself using monochromatic schemes on a fairly regular basis.



For our apparel store, here's a traditional monochromatic scheme, with white added in as a neutral.



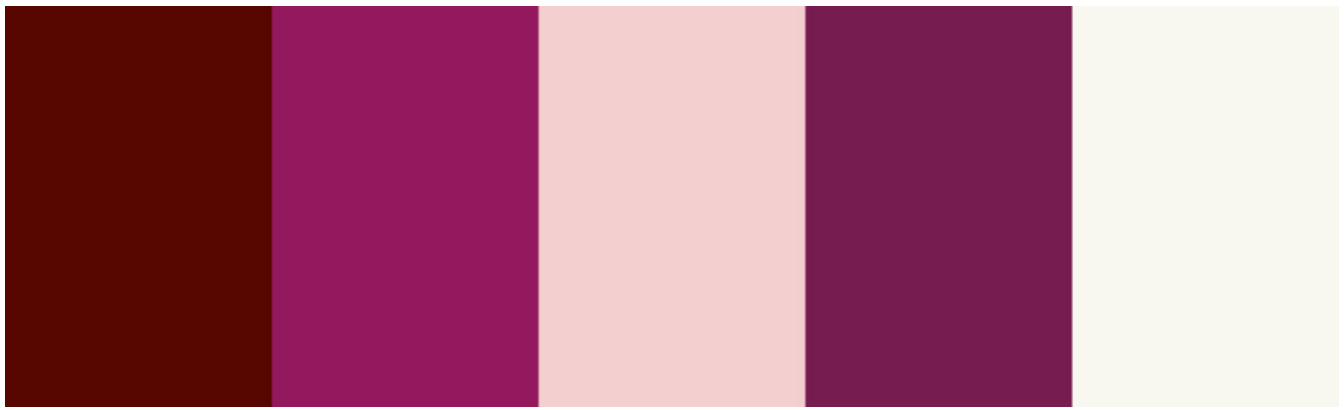
For our design blog, we've gone with a color scheme made up of shades and tints of gray.



This is almost an analogous color scheme, but we've left out one color. It's made up of shades of purple and reddish-purple. These two colors fall next to each other on the color wheel, and work well together, especially when they're used in different values and saturation levels.



Adding a couple shades of red to the gray color scheme adds a lot of visual interest and the potential for creating extra emphasis on certain parts within your designs.



Here, we've gotten rid of the purple hues and switched over to a burgundy. Again this is next to the reddish-purple on the color wheel. We've also added in a very pale yellow tone, which sits opposite purple on the color wheel. This serves as our neutral, and looks more like an off-white color when compared to our other hues.



While this color scheme at first glance looks like another standard gray and red palette, if you look more closely you'll see that the grays are actually tones of blue. Blue and red make up two thirds of a tetradic color scheme, but work just fine together without yellow, especially when the red is kept pure but the blue is toned down to the point of almost being gray.

WHY SHADES, TONES, AND TINTS ARE IMPORTANT

As you can see from the color schemes above, using tints, tones, and shades in your color schemes is vital. Pure hues all have similar values and saturation levels. This leads to a color scheme that is both overwhelming and boring at the same time.



When you mix in tones, shades, and tints, you expand the basic 12-spoke color wheel into an infinite number of colors for use in your designs. One of the simplest ways to create a professional looking color scheme is to take a few tones, tints, and shades of a given color (avoiding the pure hue), and then add in another pure hue (or close to pure) that's at least three spaces away on the color wheel (part of a tetradic, triatic, or split-complementary color scheme) as an accent color. This adds visual interest to your color scheme while still retaining a sense of balance.

ADDING IN SOME NEUTRALS

Neutrals are another important part of creating a color scheme. Gray, black, white, brown, tan, and off-white are generally considered neutral colors. Browns, tans, and off-whites tend to make color schemes feel warmer (as they're really all just tones, shades, and tints of orange and yellow). Gray will take on a warm or cool impression depending on surrounding colors. Black and white can also look either warm or cool depending on the surrounding colors.



Black and white are the easiest neutrals to add into just about any color scheme. To add a bit more visual interest, though, considering using a very light or very dark shade of gray in place of white or black.

Adding browns, tans, and off-white hues are a bit trickier, but with some practice you'll find adding them gets easier. For browns, consider using a very dark, chocolate brown in place of black. A pale off-white can be used in place of white or light gray in many cases. And tan can be used in place of gray, as well (create a tone by adding some gray to make it even easier).

USING PHOTOS FOR COLOR SCHEMES

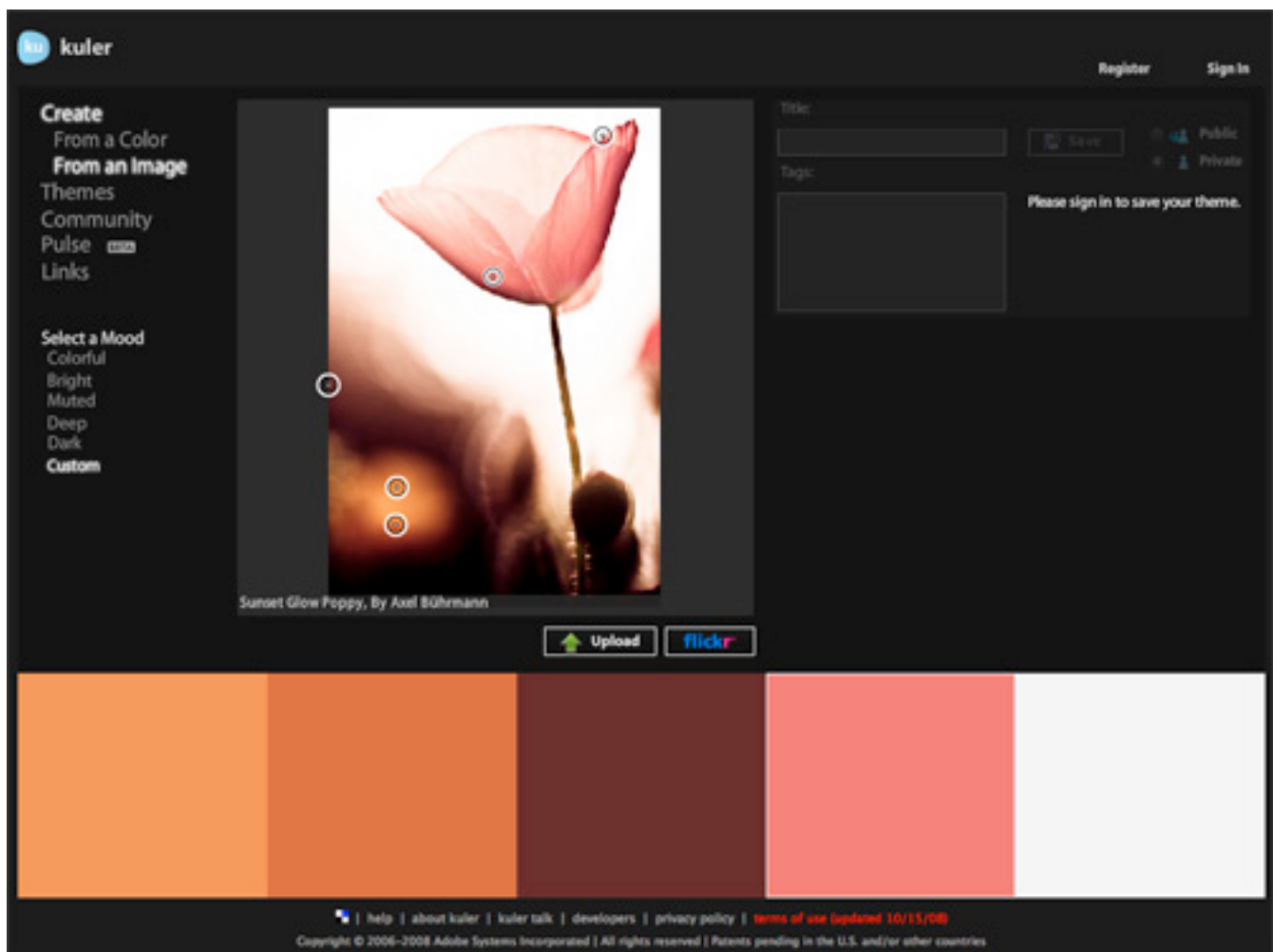
One of my personal favorite ways to create a color scheme is to use a photograph. There are automated tools online that can do this automatically for you ([Adobe Kuler](#) is one of them, and my personal favorite), or you can do it in Photoshop yourself.

Using Adobe Kuler, you can either browse or search for photos on Flickr, or you can upload your own image. If you're stumped for what colors you want to use in a website design, try searching for related words on Flickr. Sometimes this can result in finding color schemes that you might not have thought of on your own.

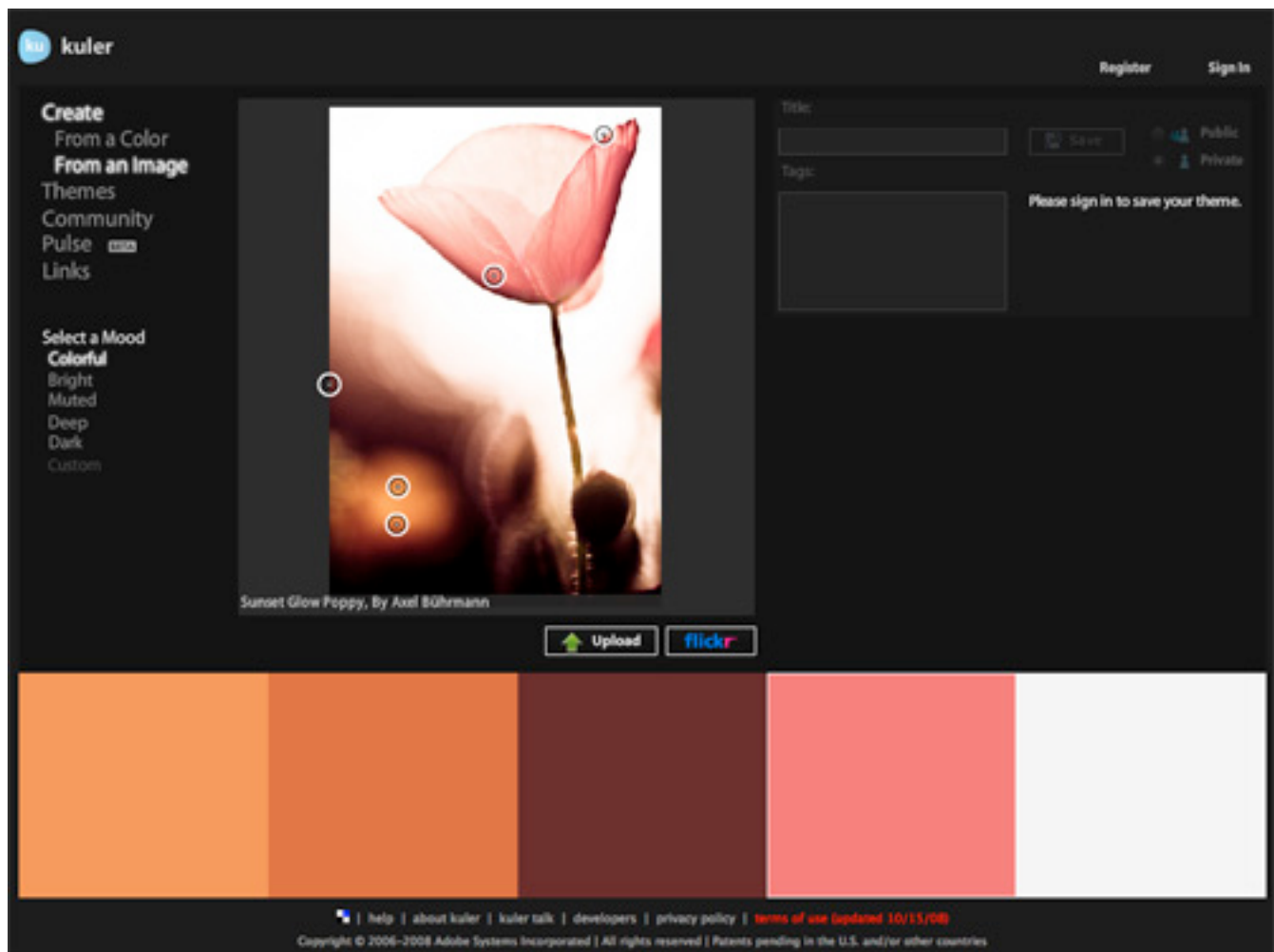
Let's try this method out, both ways (using Kuler and Photoshop). Find a photo you like on Flickr, one that you think evokes the feeling of the design you want to create. I chose this one:



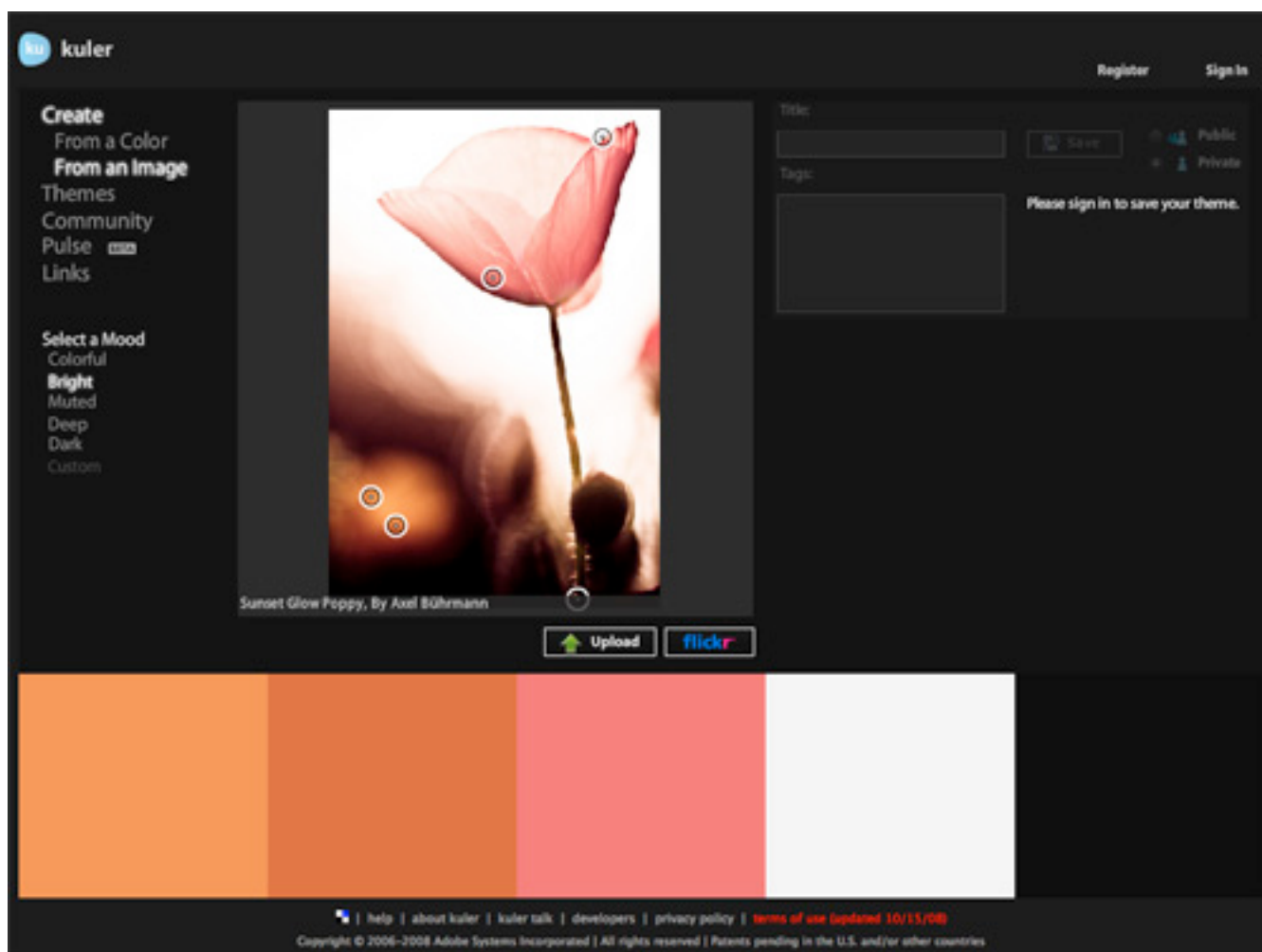
Here's the original color scheme that [Kuler](#) gives us when using this image:



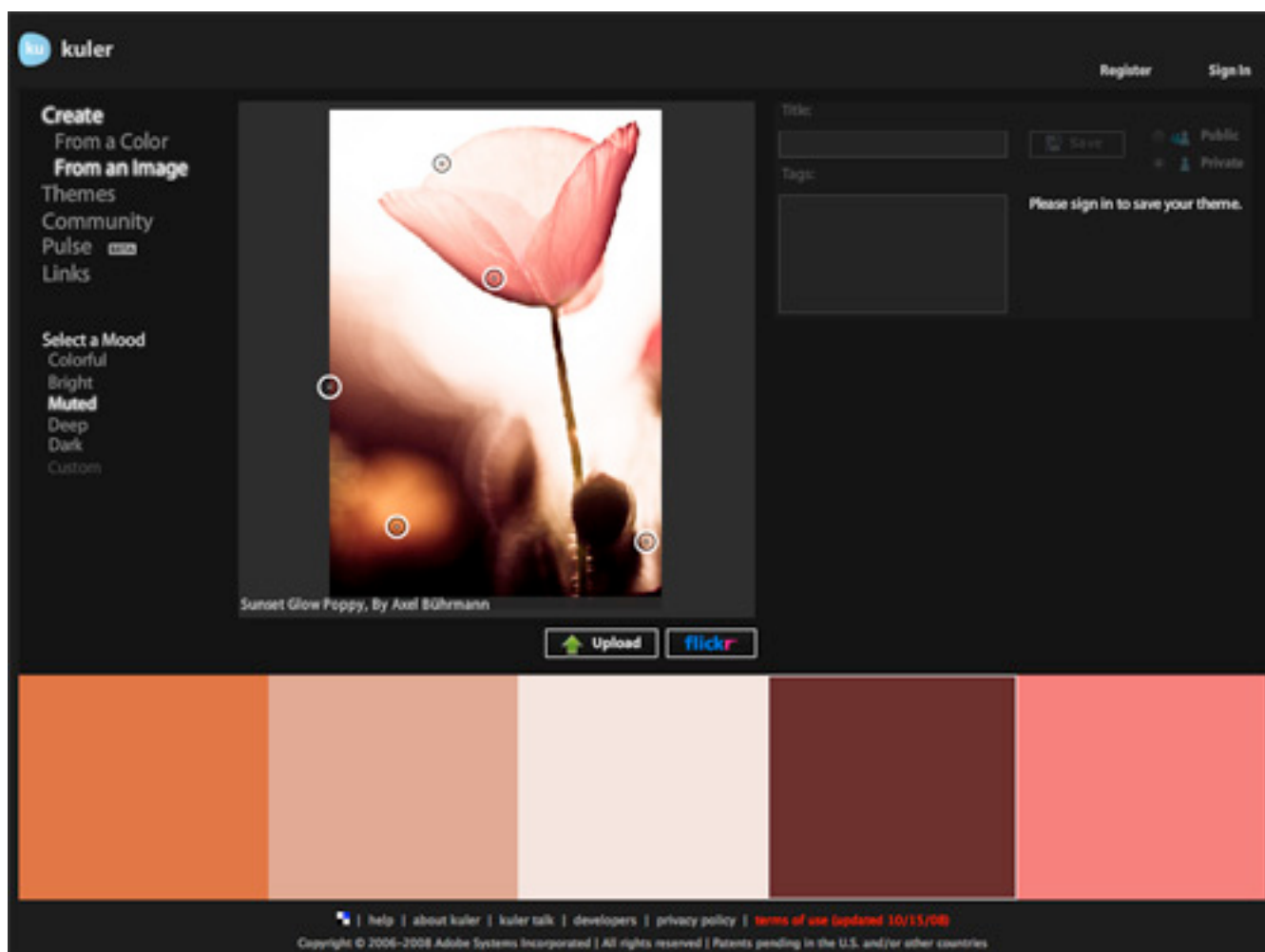
One of the coolest features Kuler has for creating color schemes from images is their “Select a Mood” option. Included here are Colorful, Bright, Muted, Deep, and Dark. These are the schemes we get when using each of those moods with the same photo:



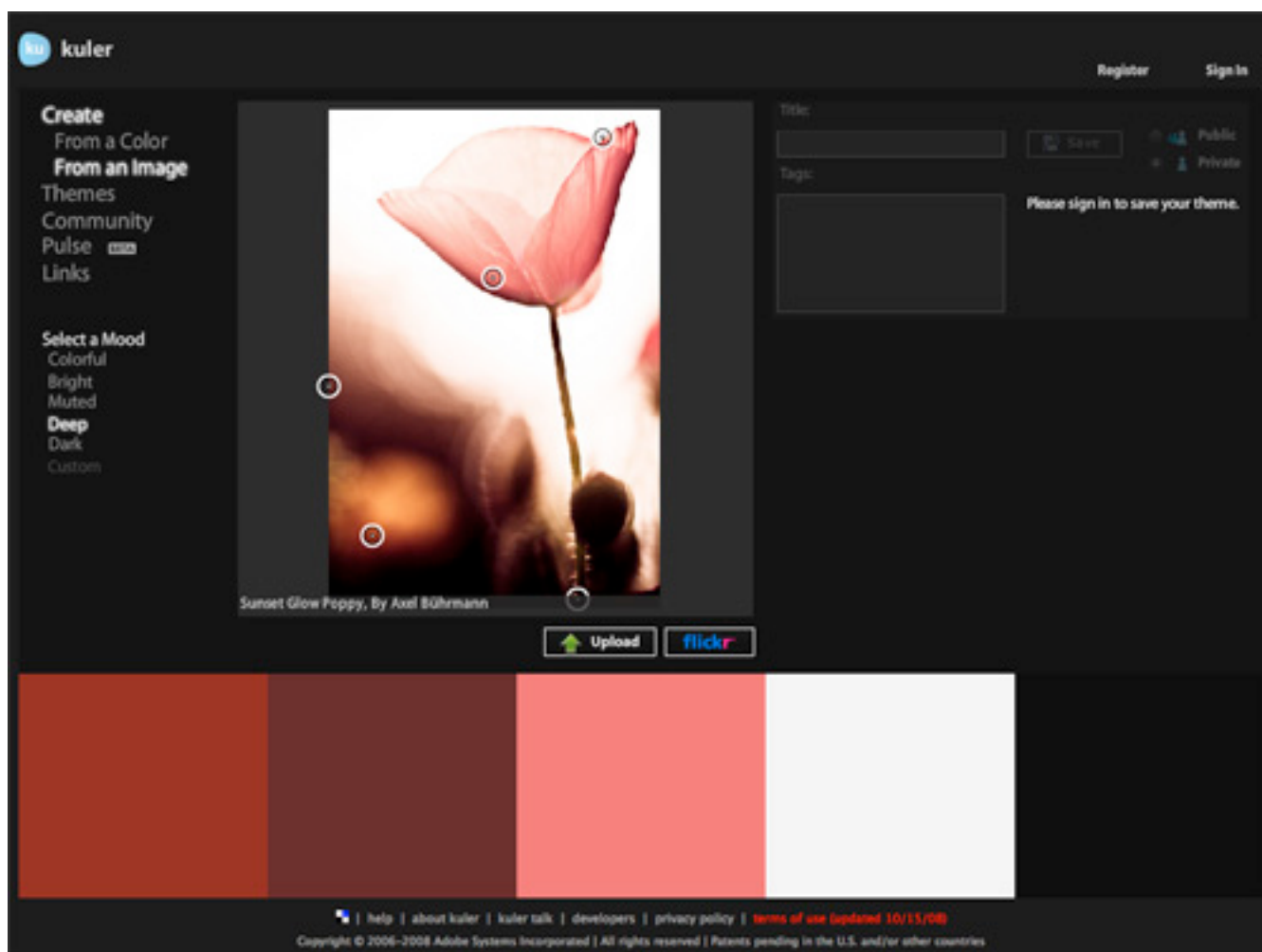
Colorful



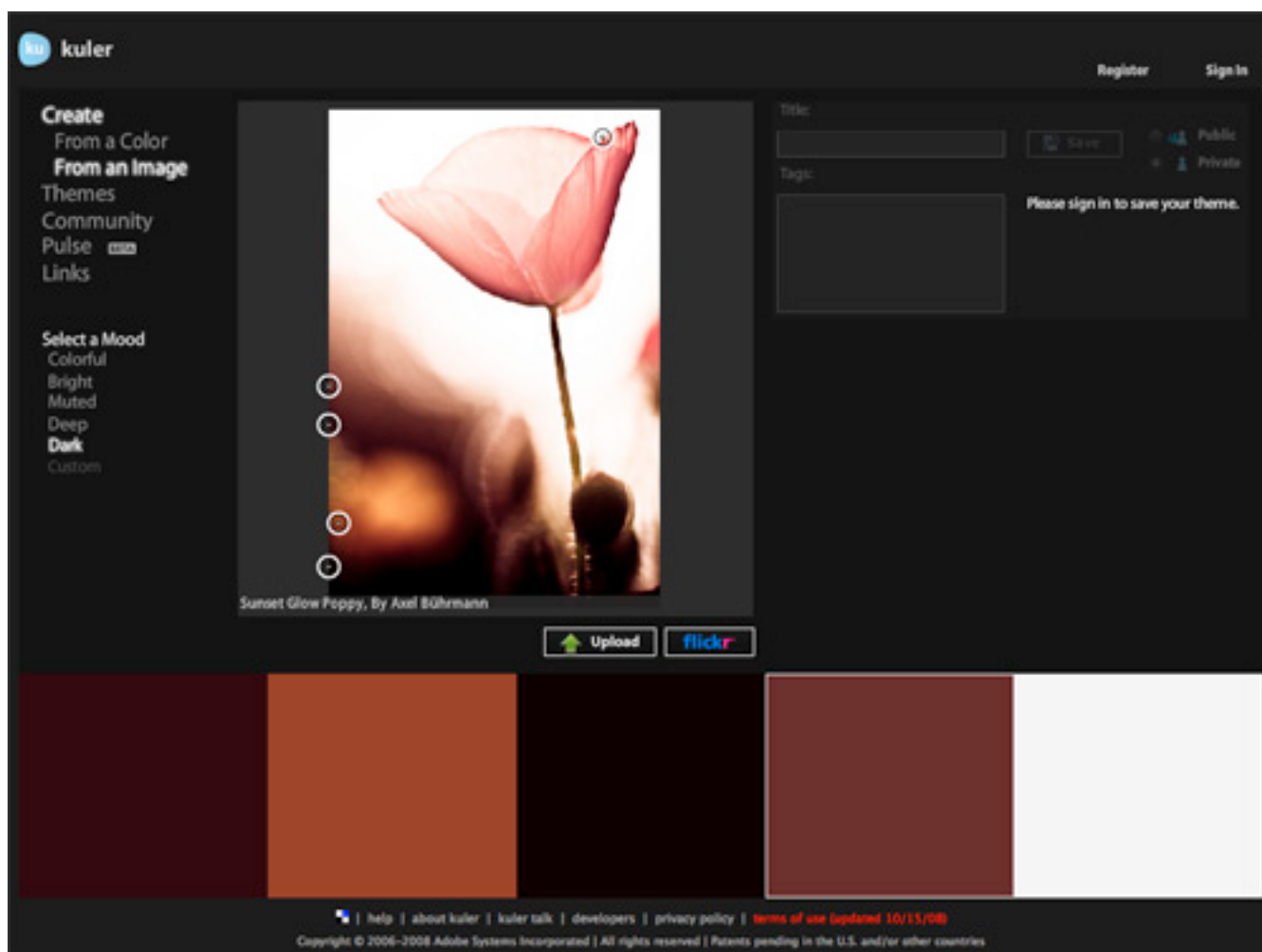
Bright



Muted



Deep



Dark

Now, let's create a color scheme in Photoshop using the same image. This is a bit less scientific than the way Kuler does it. I usually just pick a color with the eyedropper tool, and then keep clicking on different spots in the image until I find other colors that go with it. Here are the results (this took less than five minutes to do in Photoshop, so it's not as time-intensive as it sounds):

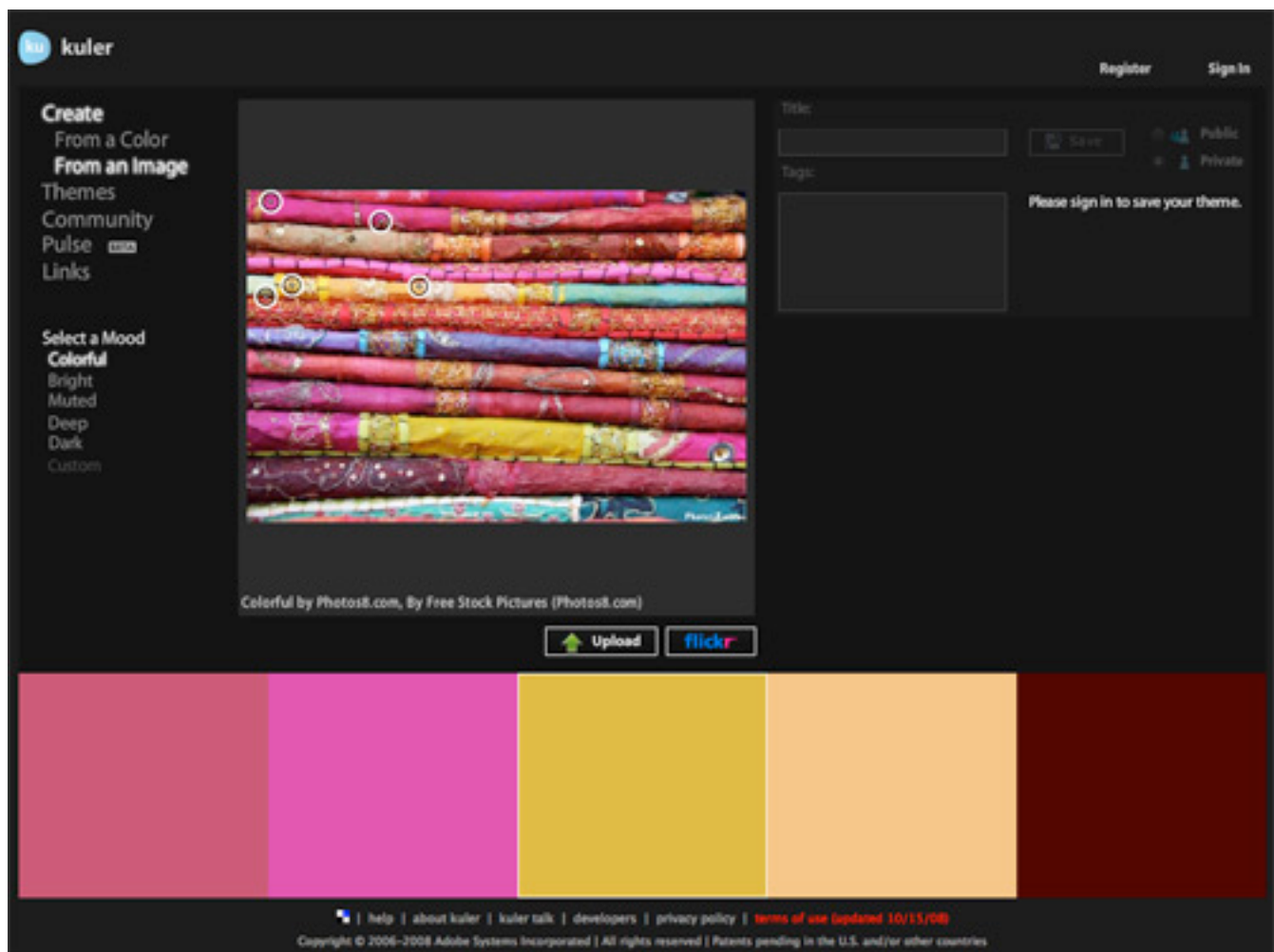


Creating color schemes from images in Photoshop is easiest with images that are relatively monochromatic to begin with. With more colorful images, it gets trickier.

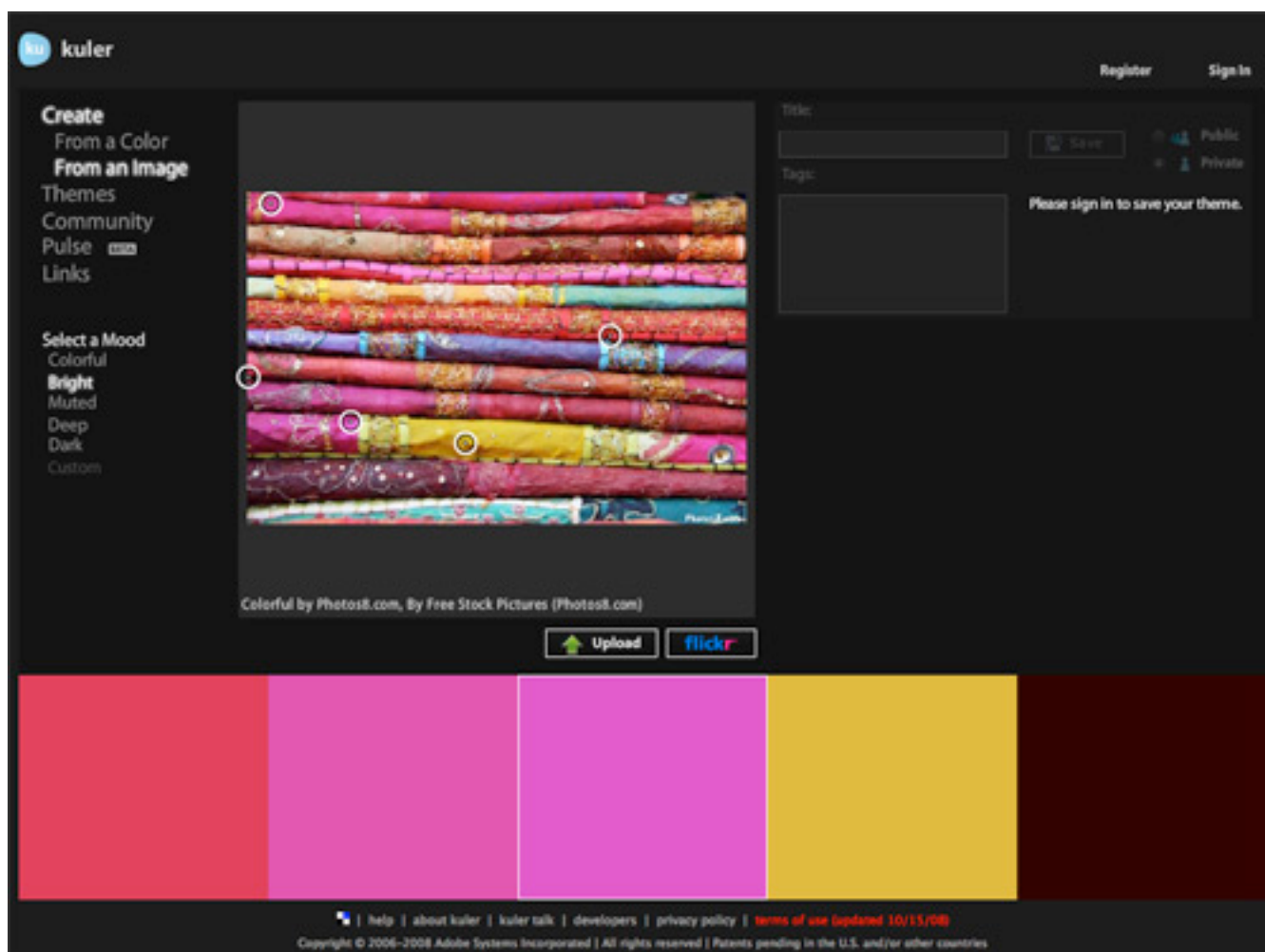
Let's try another one, something more colorful this time. Here's the original image we'll work with:



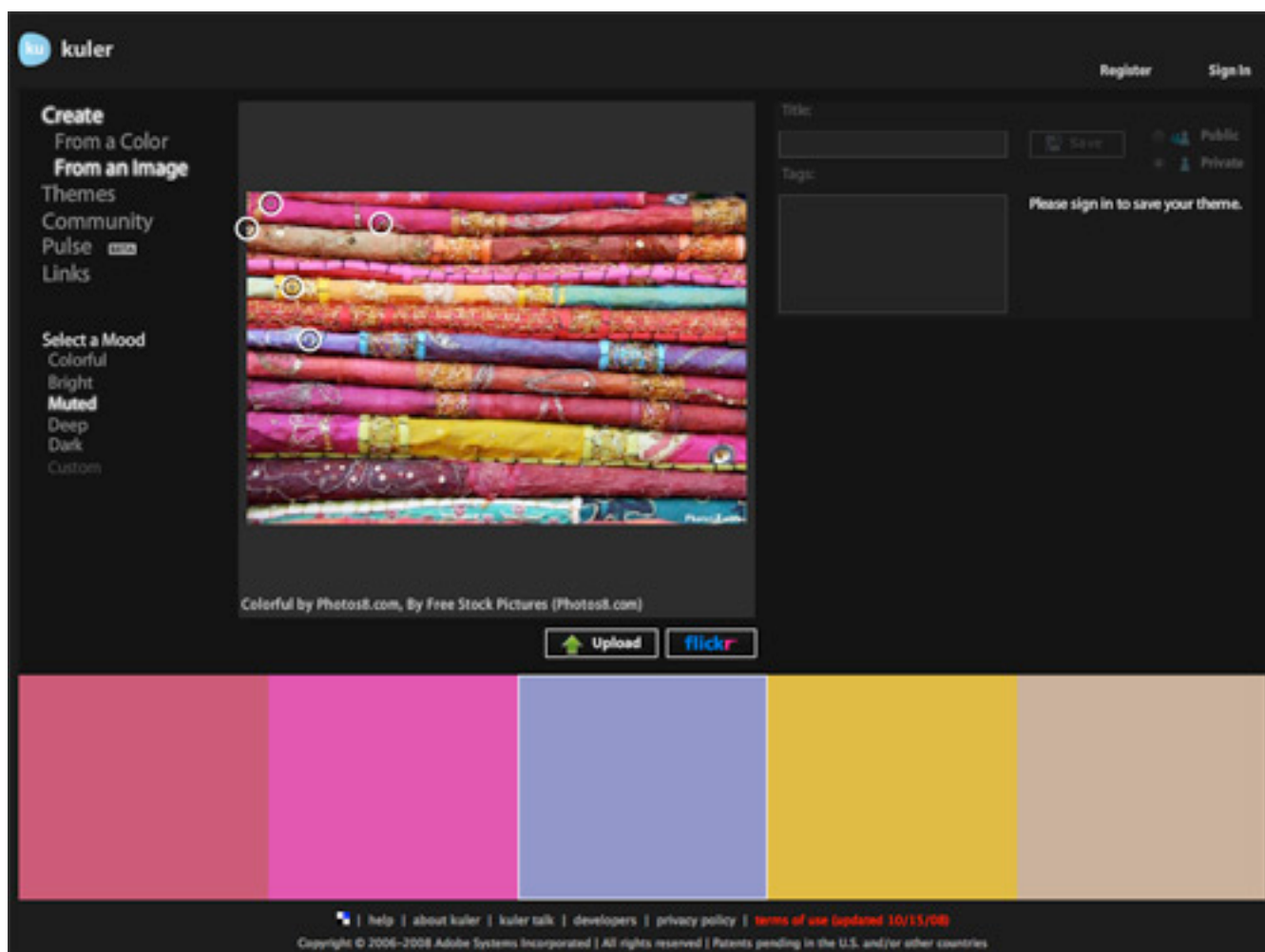
And here are the five color schemes that Kuler gives us from this image:



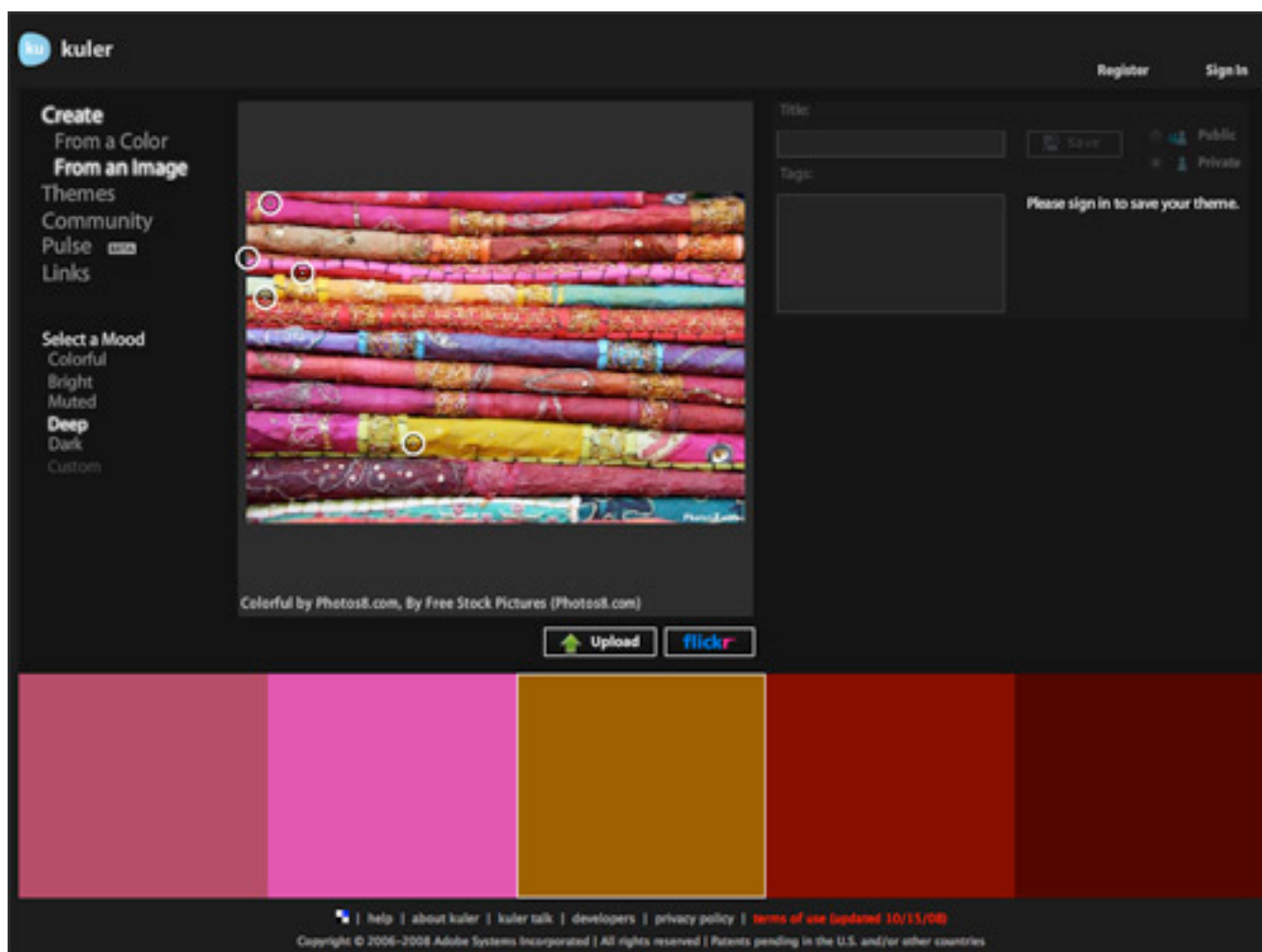
Colorful



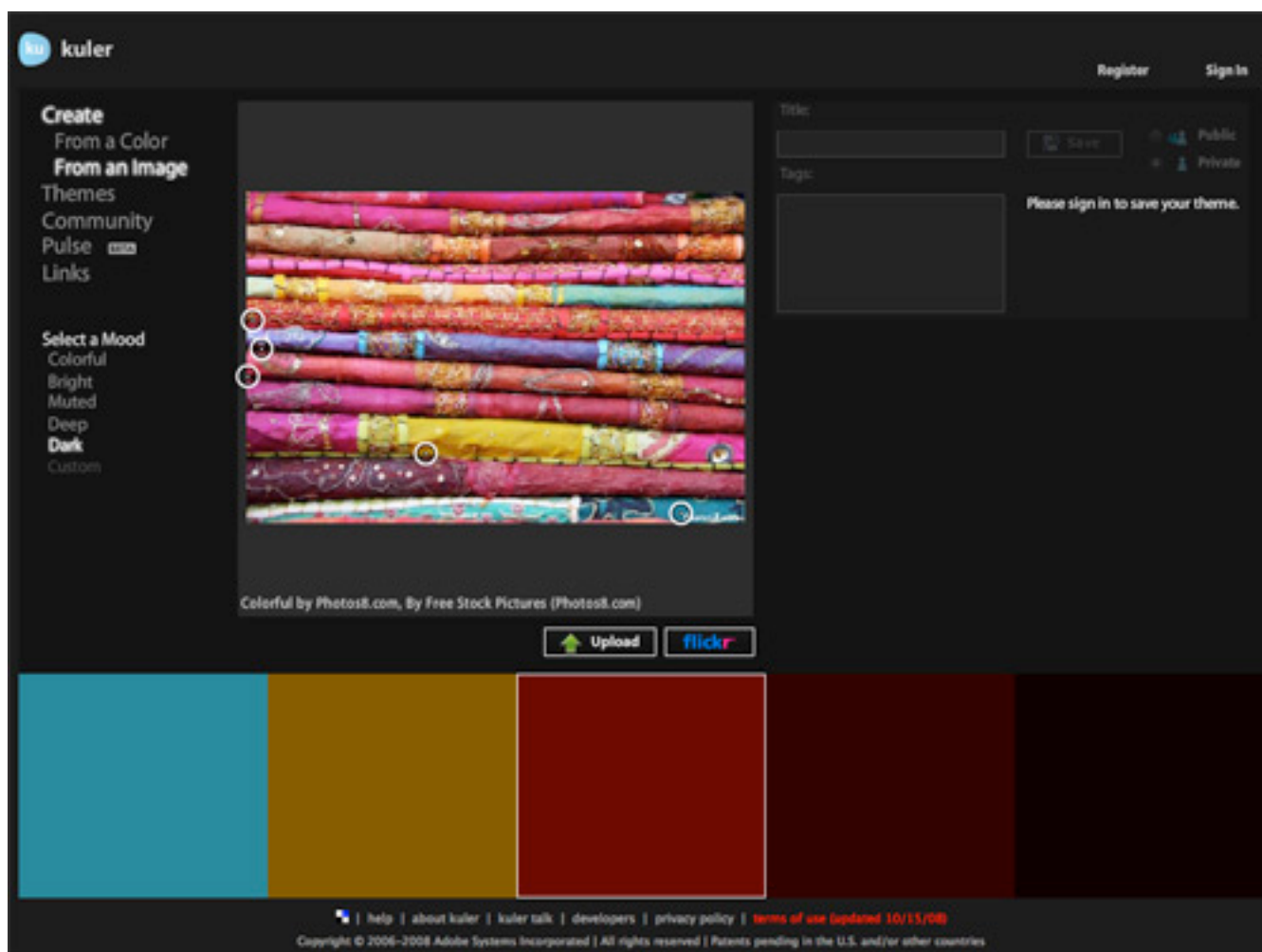
Bright



Muted



Deep



Dark

And here's what I came up with in Photoshop using the same image:



As you can see, the Photoshop version I came up with is completely different than what Kuler came up with, but all of the schemes above are visually appealing. The Photoshop version here took a bit longer than the one above, partly because of the diversity of colors present in the image.

THE EASIEST COLOR SCHEMES

We've touched on this a bit before, but adding a bright accent color into an otherwise-neutral palette is one of the easiest color schemes to create. It's also one of the most striking, visually. If you're unsure of your skills in regard to creating custom schemes, try starting out with these types of palettes.

Here are a few examples to give you an idea of what I'm talking about:





You can see here how using browns instead of grays makes the entire scheme look warmer, even with the blue accent color.

You can use tones of any color instead of gray or brown in this type of scheme, just keep it very close to the gray end of the spectrum for the most fool-proof results. As a general rule, cool grays and pure grays are best for more modern designs. For traditional designs, warmer grays and browns often work better.

HOW MANY COLORS?

You'll notice that throughout this article we've used color schemes with five separate colors. Five is a good number that gives plenty of options for illustrating the concepts here, and it's a workable number in a design. But feel free to have more or fewer colors in your own schemes.

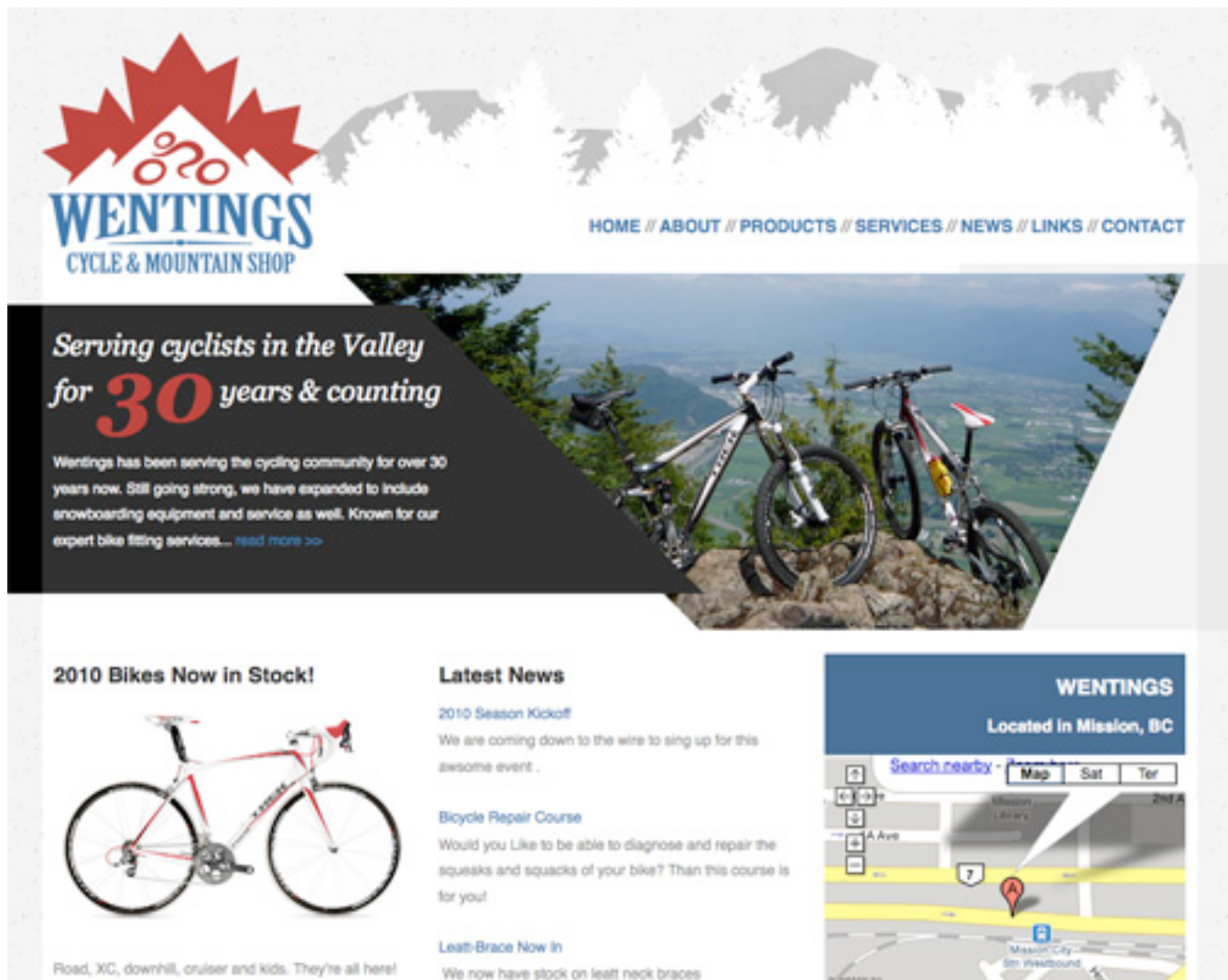
A lot of websites might only use three colors in their designs. Others use only two. And some might use eight or ten (which is a lot trickier than using fewer colors). Experiment and use as many or as few colors as you need to for your design. But you may want to start with a palette of five colors, and then add or subtract as you see fit and as you progress through the design process.

The easiest way to add a color is to start with one of the predefined, traditional color schemes and then work out from there. That at least gives you a bit of direction as far as which other colors to consider.

10 Sites With Great Color Schemes

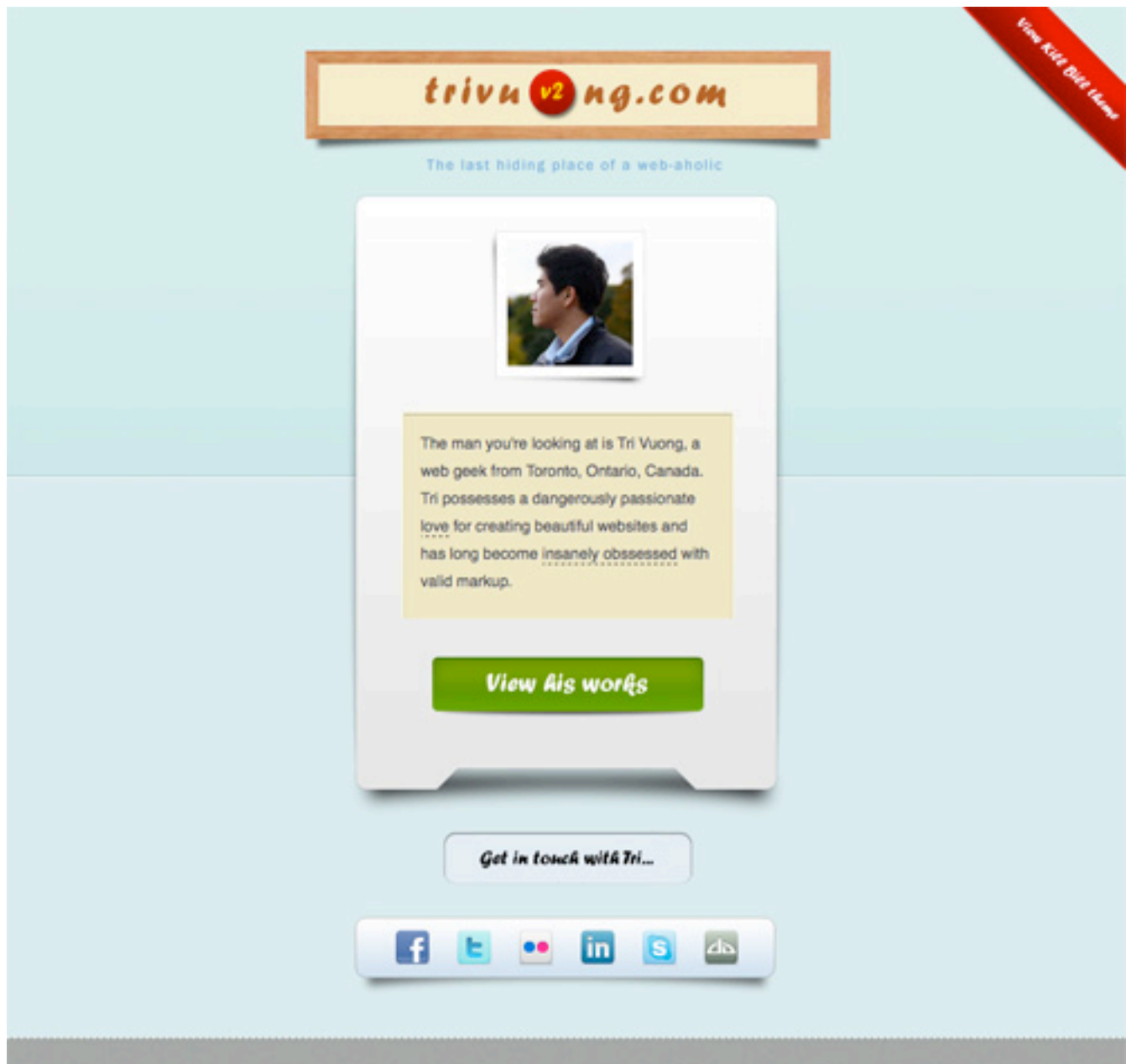
To give you more inspiration, here are ten websites that have excellent color schemes. Some of the schemes below might look a bit odd at first glance but seeing how they're actually used shows the wide range of possibilities color schemes can present.

WENTINGS CYCLE & MOUNTAIN SHOP



Scheme:

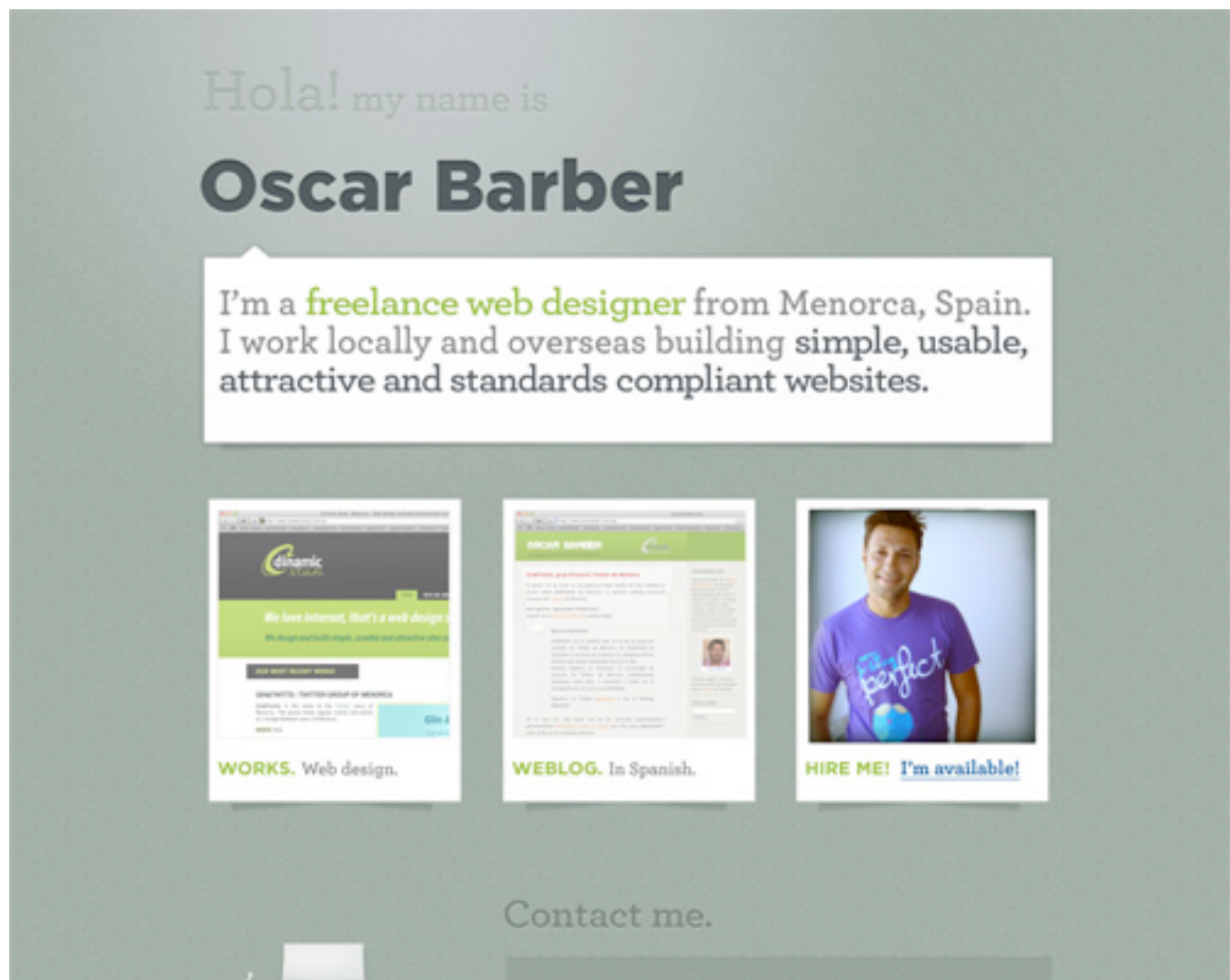




Scheme:



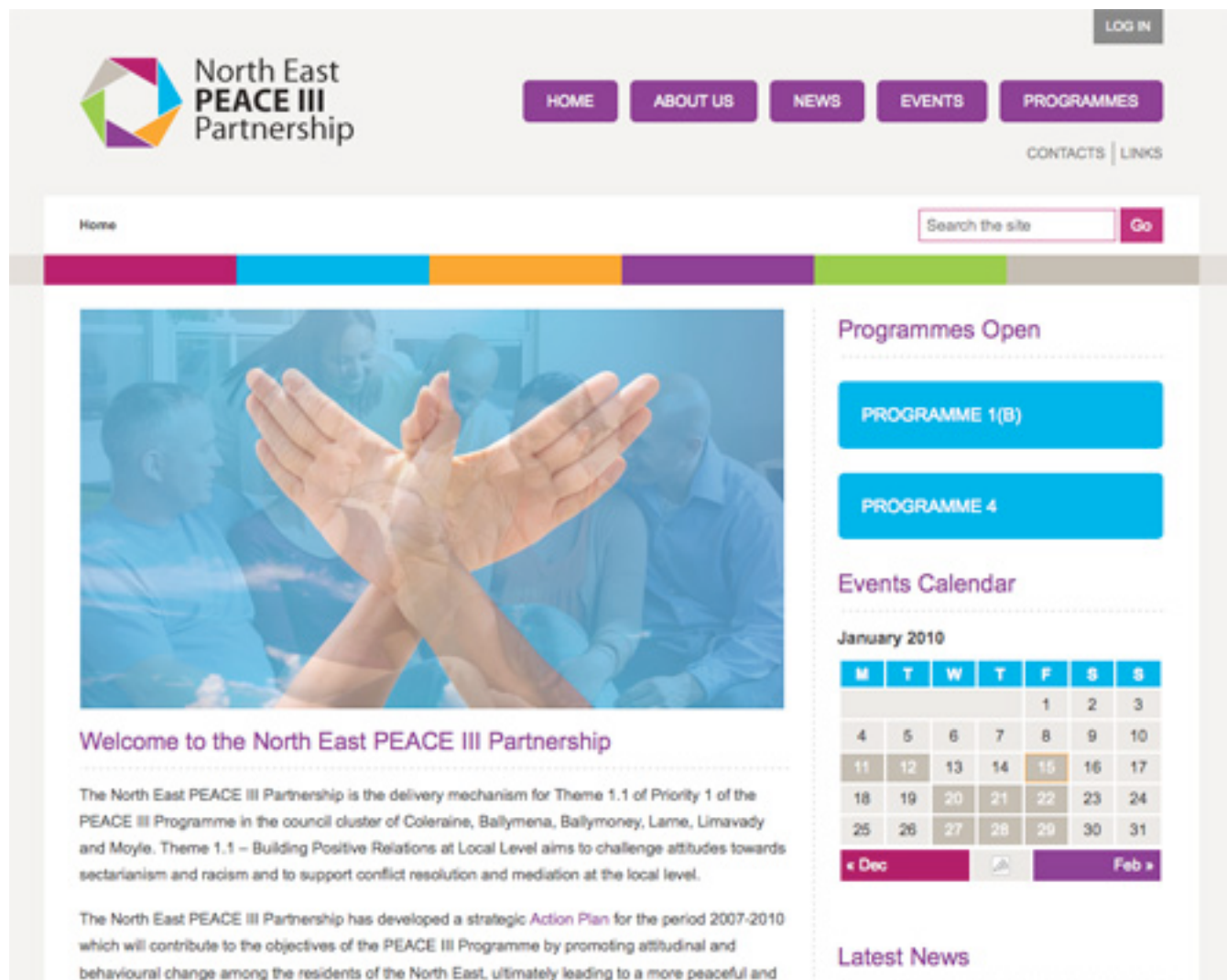
OSCAR BARBER



Scheme:



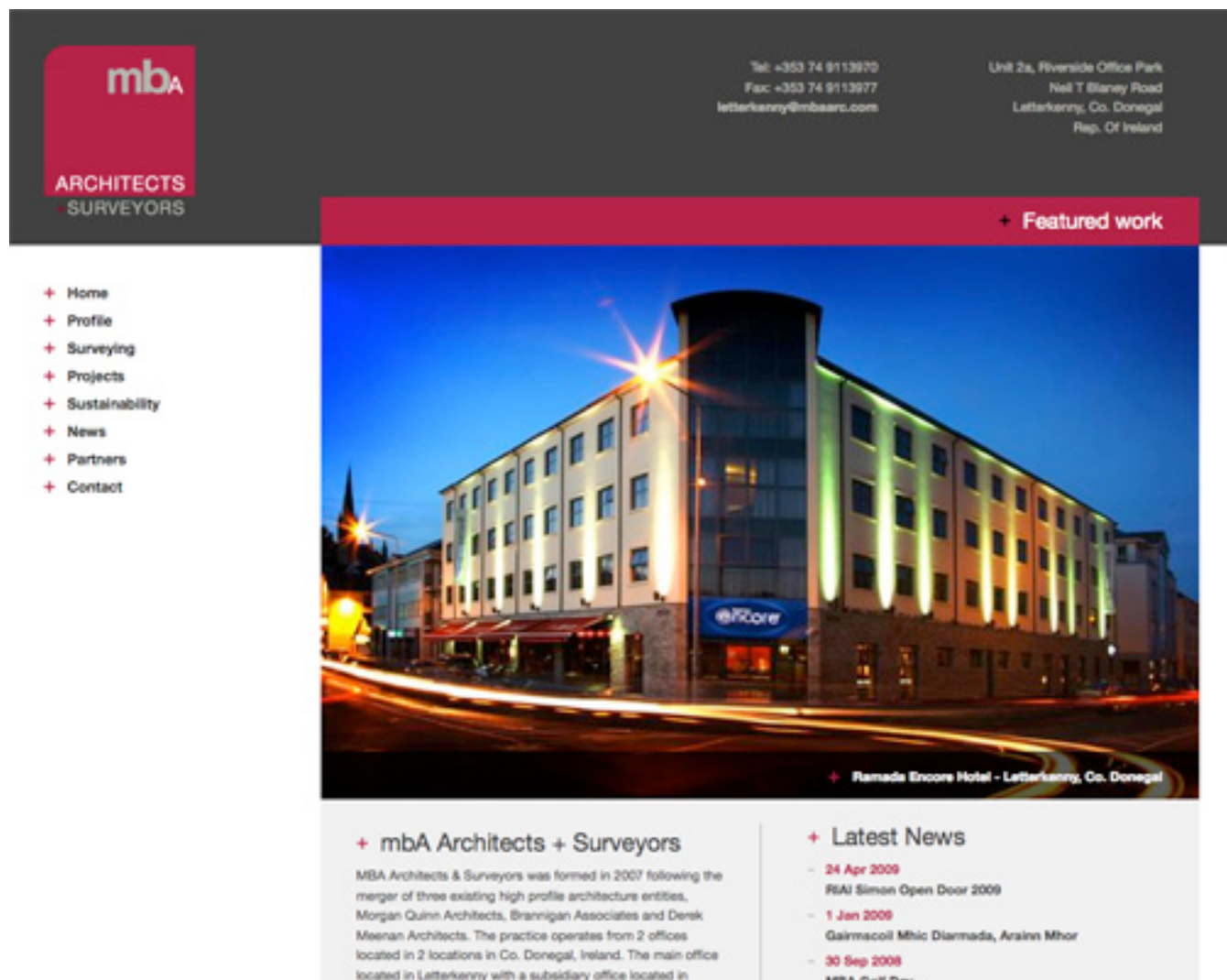
NORTH EAST PEACE III PARTNERSHIP



Scheme:



MBA ARCHITECTS



Scheme:



STUDIO 13



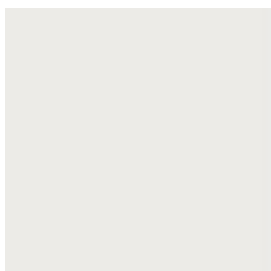
Scheme:



JOY PROJECT



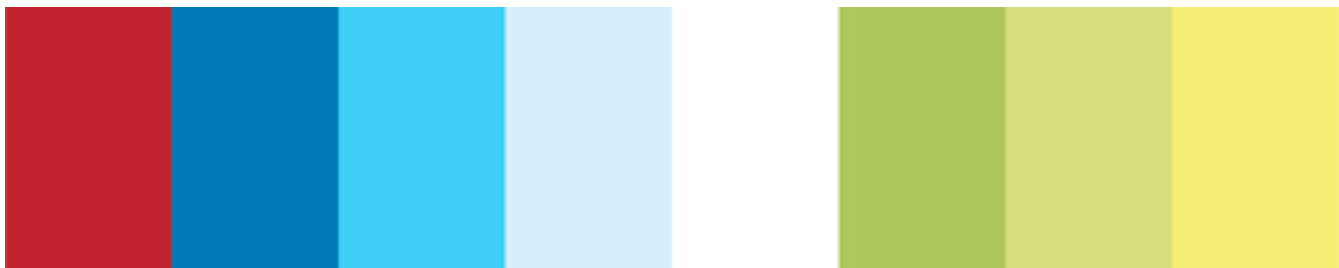
Scheme:



MORPHIX BLOG



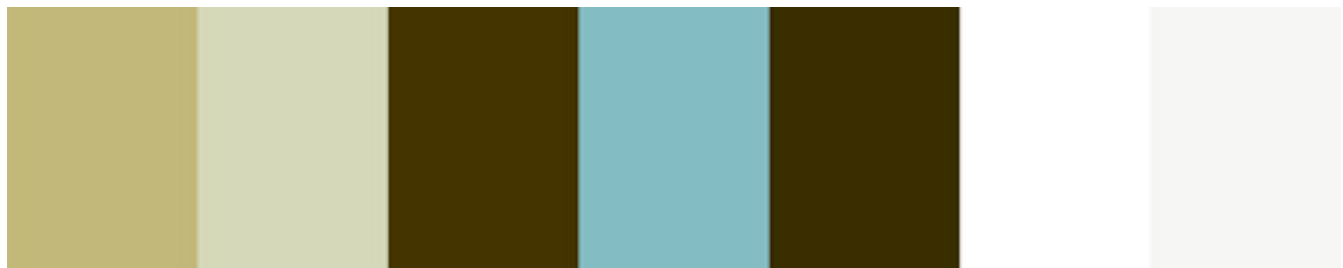
Scheme:



EL DESIGNNO



Scheme:



LEMONSTAND



Designers love it

Use any HTML, CSS or JavaScript. With LemonStand you have complete control over the look and feel of your eCommerce store. Easily build templates and pages using the included CMS.

Marketers think it's the bomb

Marketers love LemonStand because you can sell anything, develop creative promotions and sales, seamlessly integrate with Google Analytics, view beautiful sales reports and more.

Developers love it too

With LemonStand's powerful API you can easily develop modules to extend the functionality. Add specific, custom features to your store or integrate with other third party services.

Store owners are in heaven

Store owners want simple and easy, fortunately LemonStand gives them just that. It's easy for anyone to manage the product catalog, process orders and edit your content.

Screenshots



Get Sent Updates on LemonStand

We'll let you know as soon as it's ready for you.

SUBSCRIBE

Scheme:



Conclusion

We've really only just touched on color theory in this series. There are specialists out there who have literally spent years refining their ability to choose colors that are appropriate to any situation.

The best way to learn to create beautiful color schemes is to practice. Create a scheme on a daily basis. You can use automated tools to do this at first (like Kuler's tool for creating schemes from images), or just open up Photoshop and start. If you see a particularly beautiful or striking color in your daily life, try creating a scheme around it. And take advantage of all the sites out there that let you upload your color schemes and organize them for later reference. This makes all those color schemes more practical and easier to use in the future.

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Andrew Maier designs interactions and user experiences for a variety of clients having formerly worked with Hashrocket, a world-class web application consultancy. He writes, speaks, and teaches about design and its intersection with the internet. In addition he serves as the editor-in-chief of the user experience blog, UX Booth. When he's not crazy busy, Andrew likes singing, practicing yoga and drinking coffee. You should follow him on twitter, [here](#).

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