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An Introduction to Color Theory for Web Designers

by [Thomas Cannon](#) 12 Sep 2012Length: Medium Languages: English ▾

Design Theory

Color Theory

Typography

Adobe Kuler

Paletton



This post is part of a series called [Web Design Theory](#).

◀ [Mathematics and Web Design: A Close Relationship](#)

▶ [The Gestalt Principle: Design Theory for Web Designers](#)

Today we're going to learn the importance of color in Web Design and how to choose a pleasing color scheme. This article is part of our Basix series, which is aimed at providing practical and concise explanations of design principles for those with little design experience.

Before we get started, have a look through our [Web Templates](#), if you need a pro theme for your next project. There's also a number of great examples of website color themes as well.

Now, let's begin this tutorial.

Who this Article is Written for:

This article is written for people that are just starting to learn formal design principles. It is not meant to be a comprehensive study of how to apply color to a design (we'll have plenty of those in

the future), but rather, it's an overview for those looking for practical advice that will help them approach color theory within the context of a web design project.

I'm writing this because I've always found it difficult to decide on a color scheme that works well for a project; it's probably one of the toughest decisions that I have to make as a designer. However, by learning the basics of Color Theory and some excellent tools available on the web, I've been able to strengthen my designs and account for this weakness.

A Few Candidates for the Target Audience:

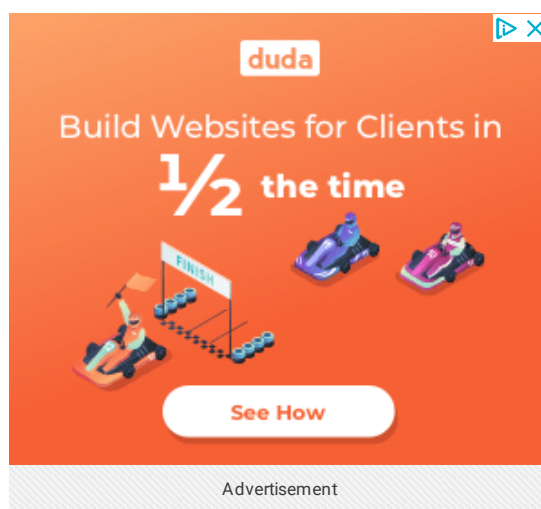
- A programmer looking for advice to help them create a visually appealing prototype.
- An aspiring designer who wants a brief overview of the subject
- Someone who doesn't understand the difference between Web Development and Web Design.

In A Nutshell, What is Color Theory?

Color Theory actually covers a number of things, but at the most basic level it is the interaction of colors in a design through complementation, contrast, and vibrancy.

The interaction of colors in a design through complementation, contrast, and vibrancy.

While the first part of this definition is straightforward (and admittedly bland), it is the last 3 terms which define the basic Color Theory:



Complementation

Complementation refers to the way we see colors in terms of their relationships with other colors. When colors occupy opposite ends of the color spectrum, they lead people to consider a design visually appealing by establishing a happy medium the eye can reside in. Rather than straining to

accommodate for a particular area of the color spectrum, the eye is provided a balance. There are two common uses of complementation: the Triadic and Compound color scheme that we will be discussing later. Complementation can take you to new heights of design sophistication when you can begin to master the intricacies of color combinations.

Contrast

Contrast reduces eyestrain and focuses user attention by clearly dividing elements on a page. The most apparent example of contrast is an effective selection of background and text color, as shown below:

By choosing stark, complementary colors, text becomes easily readable.

Sometimes, choosing a color scheme in which the text is the brightest element of the design reduces eyestrain by focusing the User's attention.

A lack of contrast between text and its background will drive your users insane. Their eyes don't know which color to focus on, which will almost instantly strain their eyes.

A complementary color scheme does not necessarily mean the contrast between text and background is strong enough. Sometimes, one of your colors will be too bright in comparison to the other, which will lead to eventual eyestrain.

If you're ever in doubt, the best practice is usually to choose a very light color for the background, and a very dark color for the text itself. This is one area where color theory is crucial to the usability of a web design; In most projects, large text areas aren't a place to try to be really creative - so keep it simple and legible.

Along with establishing readable text, contrast can also draw the viewer's attention towards specific elements of a page. Think about highlighting a textbook: when you want to draw your attention to a specific portion of the page, you make the surrounding area look different than the rest of the text. The same principle applies to Web Design: **Using a variety of contrasting colors can help focus the viewer's attention on specific page elements.**

If your website has a dark background, focus on the main content with a lighter color.

This principle also applies to Analogous colors (which we will discuss later):

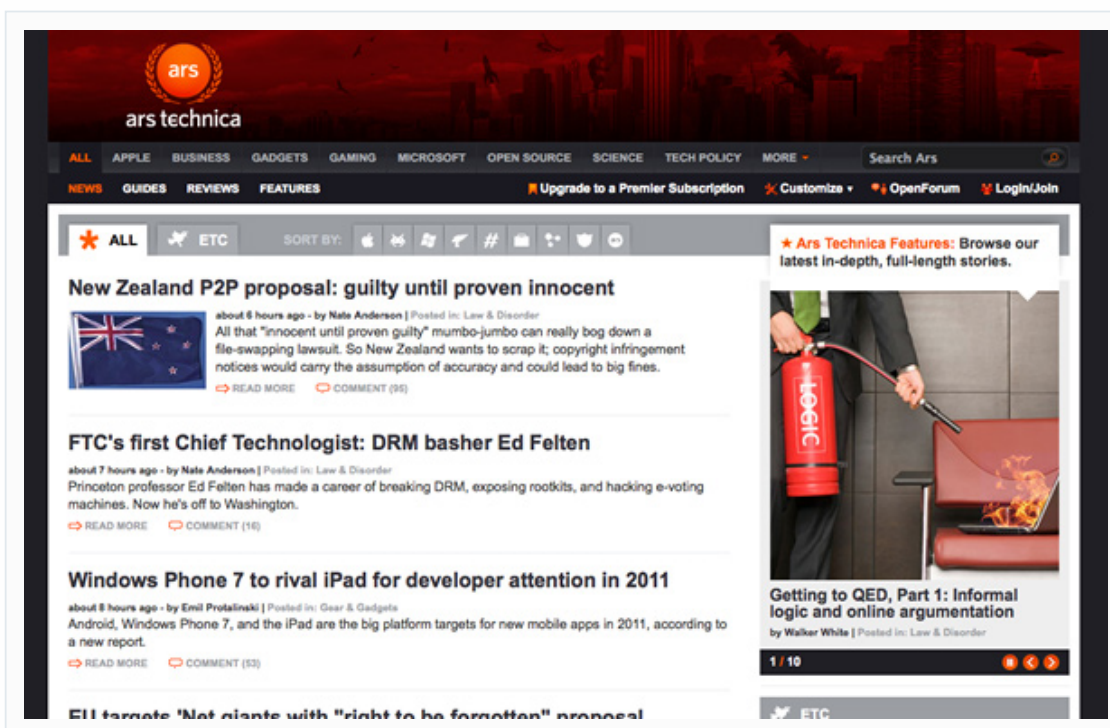


Vibrancy

Not to sound silly, but vibrancy dictates the emotion of your design. Brighter colors lead the user to feel more energetic as a result of your design, which is particularly effective when you are trying to advertise a product or invoke an emotional response. Darker shades relax the user, allowing their mind to focus on other things. A great example of this is a comparison between CNN and Ars Technica:



CNN's website features a stark red banner across the top, which leads to heightened emotions from users as they are stimulated by the vibrancy of the design (and the contrast between red, white, and black- the primary color scheme of the website).



Ars Technica utilizes a darker color scheme for its background and header to relax the user and focus their attention towards their content. By doing so, their technical and detailed writing is considered the forefront of the site. And more importantly, the user is allowed to transfer the mental energy traditionally reserved for responding to vibrant colors to understanding the article's contents.

How Do I Select an Effective Color Scheme?

Here are 3 of the commonly accepted structures for a good color scheme: triadic, compound, and analogous:

Triadic Color Scheme



Composed of 3 colors on separate ends of the color spectrum. There is a very easy way to create a Triadic color scheme:

1. Take a color wheel, and choose your base color.
2. Draw an Equilateral Triangle from this point.
3. The three points of the triangle will form your tri-color scheme.

By using an Equilateral Triangle, you can ensure the colors have equal vibrancy and compliment each other properly.

Compound Color Scheme (aka Split Complimentary)



The Compound color scheme is based on providing a range of Complementary Colors: two colors are chosen from opposite ends of the color spectrum. By doing so, the designer is allowed more freedom in their design while also benefiting from the visual appeal of complementary colors.

Analogous



An Analogous color scheme is based on a careful selection of colors in the same area of the color spectrum. Usually the colors are differentiated by their vibrancy, and their contrast when compared to each other.

Two examples of an Analogous color scheme are:

1. Shades Yellow and Orange
2. A Monochromatic Selection (**Shades of a base color**)

Just the Beginning...

The beauty of where we are in history right now is that we can benefit from centuries of scientific and artistic color theorists. There are entire volumes that have been written about the minutia of color theory, so I'll encourage those of you who really want to dig deep into the subject to find one of the numerous academic books available to harness some of the deeper concepts. We'll also be releasing deeper articles on "color theory for web designers" in the future here on Webdesigntuts+ :).

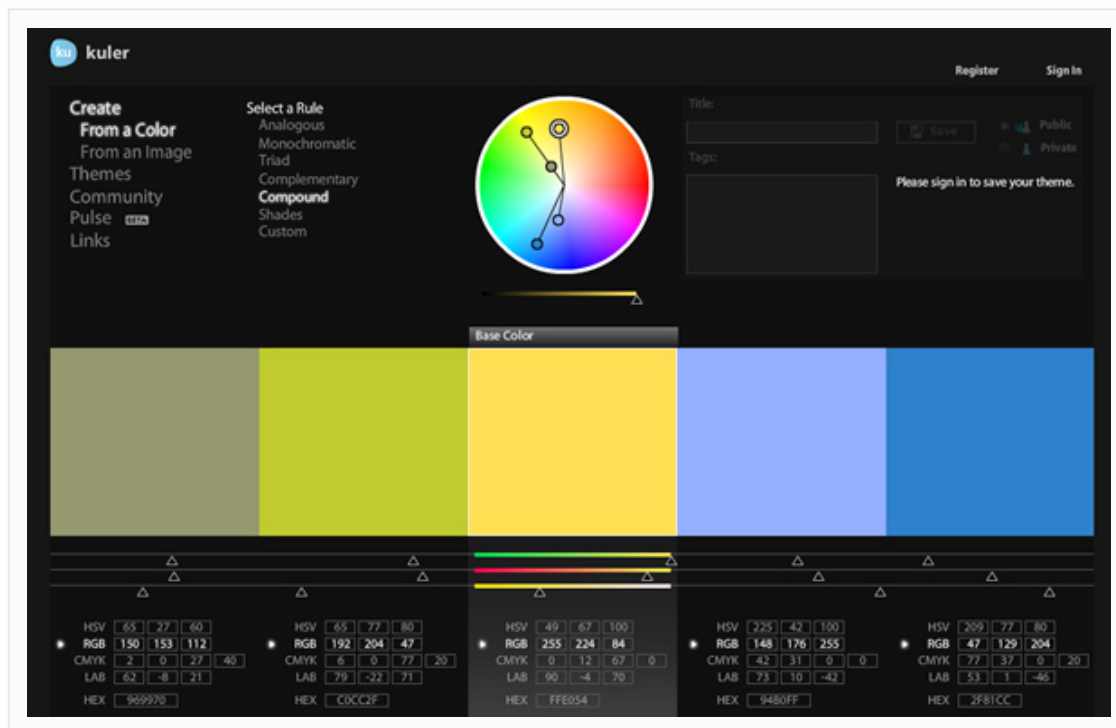
Now let's look at some great tools that you can use to experiment on your own:

Ways to Make Your Life Easier

Thankfully, there are a few tools at our disposal that make color selection extremely easy when utilized properly. And best of all, they will further our understanding of Color Theory.

By experimenting in a guided environment, we are able to learn how to apply these principles without becoming frustrated when things are not working perfectly. Think of these tools as a sort of "color theory safety net", to help you explore your own creativity without ever needing to stray far from the established rules for pleasing color combinations.

Kuler



A tool developed by Adobe, Kuler is aimed at providing an intuitive way to create a color palette. Every color on the palette can be individually modified, or chosen as the base color, with a few simple clicks. Palettes can be saved and published, and there are a number of great community entries available on their site. Under each color, the export codes are provided (including hexadecimal). However, the interface can be cumbersome at times, adjusting the vibrancy of a specific color can alter the entire palette (I wish they had a "lock" feature which prevented other colors from shifting). Overall, I would recommend this tool for those with a decent grasp of the concepts and patience for when things don't run as smoothly as they would hope.

Color Scheme Designer 3 (Paletton)



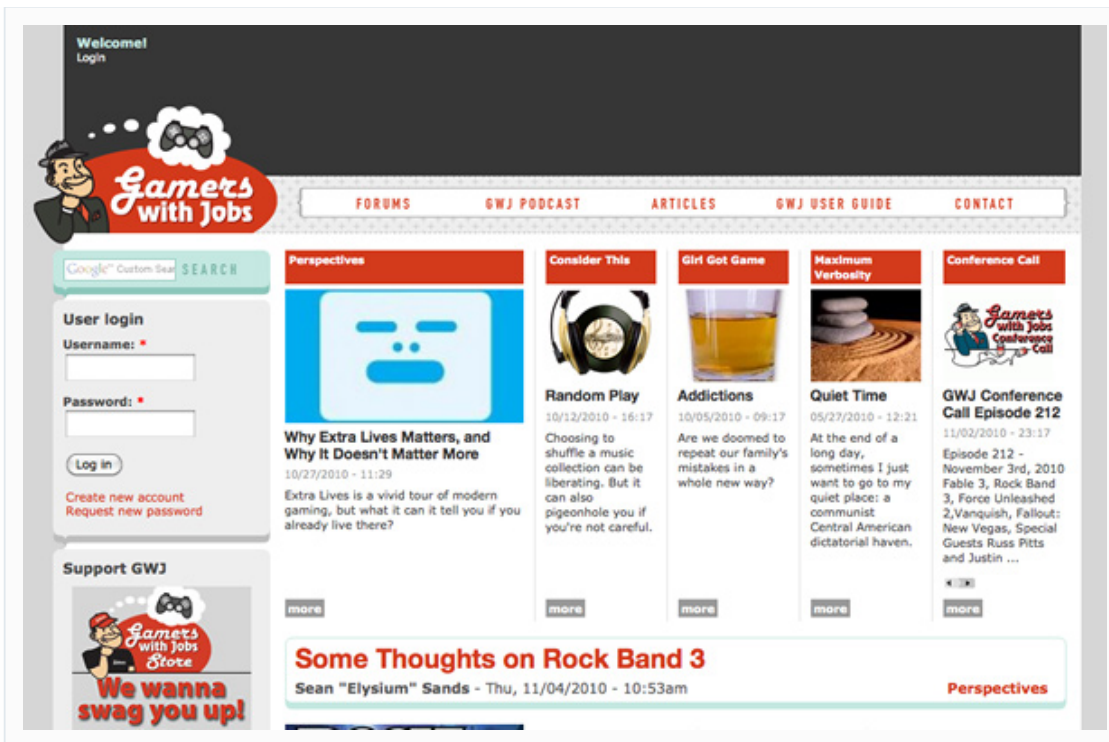
This tool is quickly becoming my preferred choice for absolute beginners, those with little patience, or people on a deadline. By providing a very simple and controlled selector, Color Scheme Designer provides a very low barrier of entry, and its choice of color principles present a variety of options. While it doesn't teach its users why the colors work well together (Kuler's dynamic color wheel is much more effective in that regard), its results are great as a starting point or to finish a prototype.

Its more advanced options are very useful: features such as the ability to adjust an entire palette's saturation and contrast, color blind overlays, and sample website previews are things I hope Kuler implements very soon. However, I feel this tool shouldn't be the primary tool used by those who want to learn Color Theory- as it does too much of the work for the user and does not allow them to intuitively experiment while maintaining the basics of each color principle.

Yes, there are lots and lots of other sites where you can find great color schemes... and we'll actually be rounding these sites up and analyzing them in the near future (search the site for our resource roundups when it comes out).

Case Study: Gamers With Jobs

To finish this article, let's examine a website using some of the principles that we've discussed. Gamers with Jobs is a website devoted to a higher analysis of videogames, through its features, podcast, and forum.



- The grey page background with the white content background focuses the user's attention towards the center of the website.
- The dark bar across the page (usually reserved for advertising) "frames" the user's view into the content.
- The use of orange-red in the headers draws the user to the categories, feature titles, and aspects of the website.
- The neutral color scheme provides enough visual stimulation to keep the audience interested, while still allowing them enough mental freedom to enjoy the site's content.

Closing Remarks and Summary

One of the hardest aspects of working with colors is that sometimes when colors have not yet been arranged in a design, they do not appear to work well together. However, once they are applied, their visual harmony usually becomes apparent. I've caused myself a fair amount of frustration by adjusting the colors chosen in Kuler before applying them to a design, only to find that the color scheme was altered just enough to be unappealing.

Trust in the theory! Apply the colors chosen through a color principle, and **then** adjust as needed. Doing so will save you a lot of time, and strengthen your design skills as you'll begin to see color in more refined, artistic, and even scientific ways!

Summary

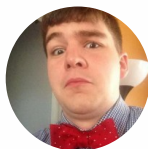
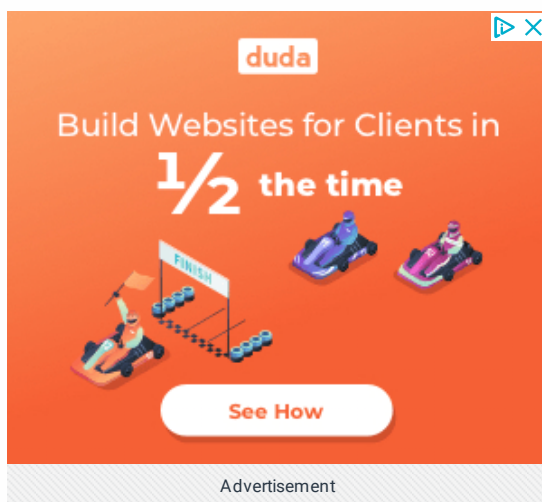
- Choosing colors on opposite ends of the spectrum creates a visual harmony for the eyes.

- A high contrast between elements makes text easily readable, and guides your reader's attention.
- The brighter the colors, the more mental energy they will consume.
- Don't be afraid to use tools such as Kuler and Color Scheme Designer 3, they only make your life easier and prevent you from becoming frustrated with the learning process.

Thank you for reading my first article, I had a ton of fun writing it. Please provide some feedback in the comments section if you feel so inclined, I want to make these articles as useful as possible.

Oh! And if you're eager to read more, check out another great theory-based article that relates to what we just talked about: "[Understanding Visual Hierarchy in Web Design](#)".

If you need a pro theme for your next project, then browse through our [Web Templates](#). There are lots of great website color theme examples to deconstruct on [ThemeForest](#) as well. Or [hire a designer](#) on Envato Studio.

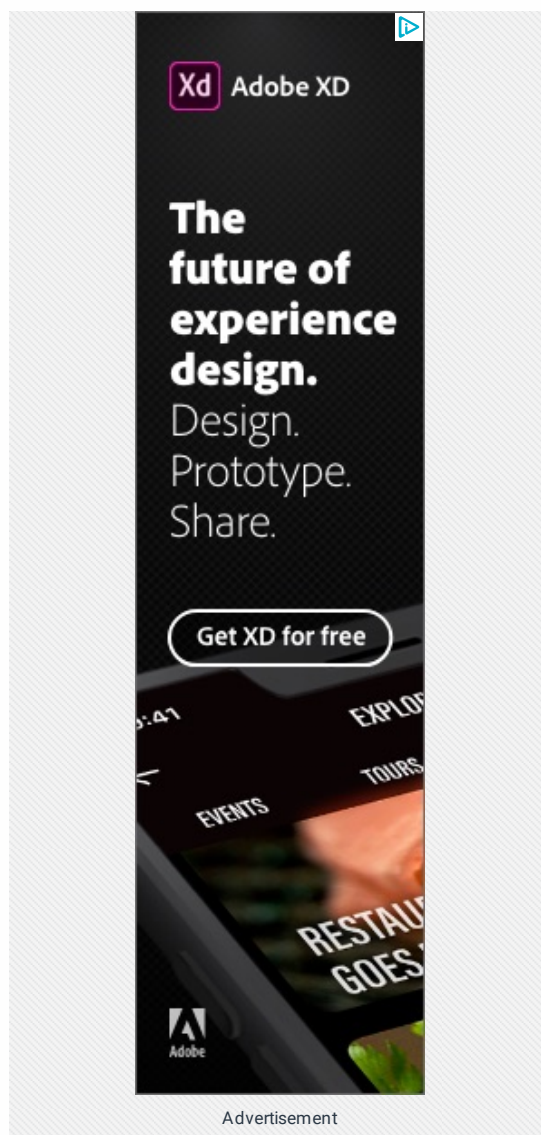


Thomas Cannon

Thomas Cannon is a writer who also happens to program and design for the web. His designs focus on visual practicality, and his methodology is based on creating appealing prototypes in a short timespan (since the design process is usually cut short during a tight development schedule). An interest in a broad range of topics has led Thomas to experiment with many forms of expression (from web design, to a 20 minute documentary on Copyright in the Digital Age. Thomas posts all of his work on his portfolio site: CodeMonkey Developer.

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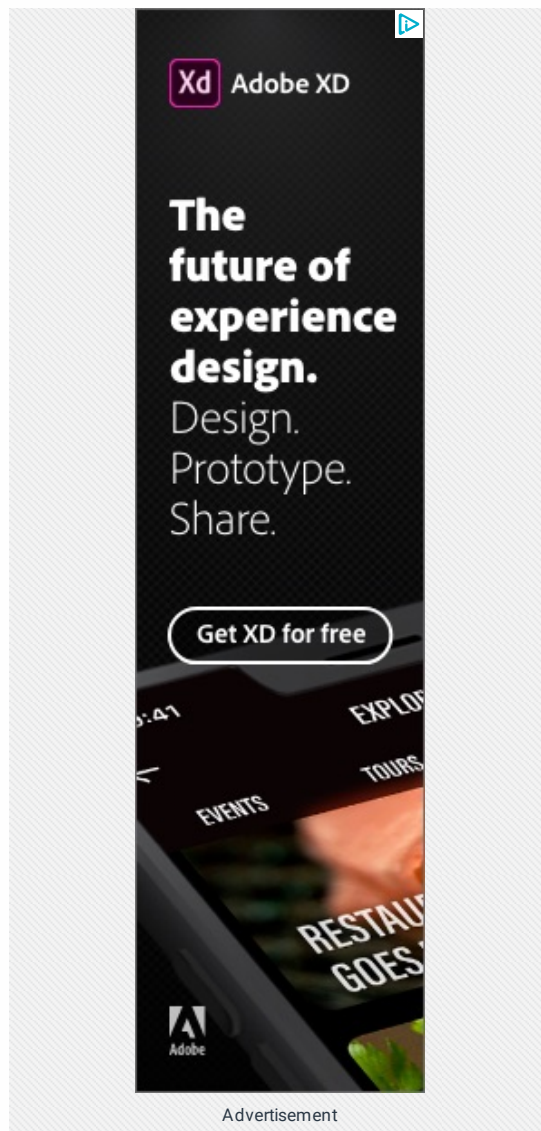
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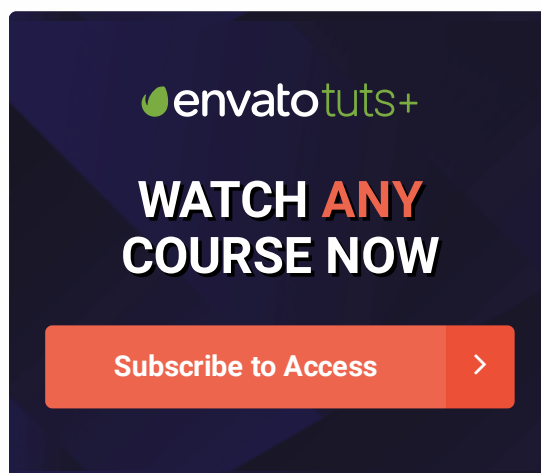
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Name



Valentine North • 2 years ago

Still relevant, still useful, still appreciated. Thank you very much.

44 ^ | ▾ • Reply • Share >



PeteZaria → Valentine North • a year ago

I definitely agree.

This article was delivered to me before the expected date of delivery

The article was comfortable to read and was informative that it stayed in my memory in 2 weeks tops

The colors used were understandable and had many symbolisms

10/10 - would read again

^ | ▾ • Reply • Share >



Miroslav • 6 years ago

As a total beginner in web design and theory of it I can say this article is very infomative. Good starting point in pursue of knowledge. Tnx and keep going!

29 ^ | ▾ • Reply • Share >



Abu Md. Al Mozahidi • 5 years ago

As a beginner I learn lots from this article. Thanks for sharing your ideas.

24 ^ | ▾ • Reply • Share >



nasir khatri • 5 years ago

that is all right but how to make this design at webpage? plz explain it at my email add, nasirkhatri80@gmail.com thanks and keep going.

8 ^ | ▾ • Reply • Share >



Vincent • 6 years ago

Sometimes I just look at a color scheme and it just looks right to me lol. It's great to finally see a little bit behind the theory involved with it.

7 ^ | ▾ • Reply • Share >



PCTutorials • 6 years ago

Informative article.I am looking forward to the next more in-depth articles ! Keep on good work ! Thanx !

6 ^ | ▾ • Reply • Share >



Daniel Dogeanu • 6 years ago

What if you found a combination of colors that doesn't respect any principles of Color Theory, but look good together?

3 ^ | ▾ • Reply • Share >



Richard → Daniel Dogeanu • 6 years ago

You likely have found that you like the colors and 'how they speak to each other'. And it can be personal. For example: imagine 3 distinct characters or actors you like or dislike, etc, grouped together. Now think about the mood of the group. Who they are, personalities (color) affect the

temperature/culture/disposition of the group, how they 'relate' to each other. If you take one of them out and replace them with a distinctly different one, think how that affects the personality (mood) of the group. That is exactly how it is in color grouping as well.

6 ^ | v • Reply • Share >



zdoug • 8 years ago

Great article!! Congratulations and thank you for share your wisdom with us, man! This article was very good for me to improve my knowledge in design.

Congratulations from Brazil!

2 ^ | v • Reply • Share >



GreatAndFabulus • a year ago



1 ^ | v • Reply • Share >



bob • 6 years ago

churr

1 ^ | v • Reply • Share >



ashish • 6 years ago

Love the article. I would like to add another resource for colour palette inspirations

<http://www.colourlovers.com/>

1 ^ | v • Reply • Share >



SJ.....(sujith) • 8 years ago

""""I'm writing this because I've always found it difficult to decide on a color scheme that works well for a project; it's probably one of the toughest decisions that I have to make as a designer.'"""

Now I am another person now with the same problem.Many clients are not happy with my color schemes. Many times my taste on color schemes and not matching with that of clients. I always make designs and I believe that the color schemes I used are good ones but client will come and say that the color schemes are really boring. Now this is my present problem.

Duuno how this article will help me..hoping for best. Anyway I felt it very useful.

1 ^ | v • Reply • Share >



Cliff Tyllick ➔ **SJ.....(sujith)** • 8 years ago

Sujith, read my reply to Thomas' reply to Martin.B's comment above. You need to use the technique of getting your client to pick a picture that captures the feeling they want their website to have, and then using one of the apps that will produce a palette from that picture

even using one of the apps that will produce a palette from that picture.

It doesn't even have to be a picture you would actually use on the website — it just has to capture the feeling the client wants.

You don't even have to tell them why you're asking them to choose the picture. Just tell them it has to capture the right feeling. They'll end up picking the color scheme without even knowing they're doing it!

1 ^ | v • Reply • Share >



Jeremy → Cliff Tyllick • 8 years ago

I would think more than feeling like you don't have to tell them why would be that perhaps you actually shouldn't tell them why is actually the better route to go. Otherwise it seems it would be the risk of swaying their decision-making process back to whatever jacked-up colors they thought they wanted in the first place.

At any rate, I think it is a fantastic idea; one which I am going to implement immediately.

^ | v • Reply • Share >



This comment is awaiting moderation. [Show comment.](#)



Saurabh Hooda → Charu Malik • 8 months ago

Thanks for sharing this, Charu.

24 ^ | v • Reply • Share >



Ram Krishna Maharjan • 5 months ago

NEWSPAPER SITE

<http://mayongnews.com/>

^ | v • Reply • Share >



Addcolours • 5 months ago

I used the best color scheme for the below websites.

<http://jquerydesignswall.com/>

<http://onlinelearningclass....>

^ | v • Reply • Share >



Addcolours • 5 months ago

I like this article, before starting the design we have to plan the color scheme. Bright colors give more attraction. I used the best color scheme. Check here.

<http://jquerydesignswall.com/>

<http://onlinelearningclass....>

^ | v • Reply • Share >



Charu Malik • 8 months ago

Well written and quite informative. Thanks

^ | v • Reply • Share >



Isaac Cromie • a year ago

reeeeeeeeeeeeeeeeeeeeeeee

^ | v • Reply • Share ›



PeteZaria → Isaac Cromie • a year ago

Dude stop your memes are weak kid.

^ | v • Reply • Share ›



samuraiweedy • a year ago

Color Scheme Designer 3 - This site is incredibly useful! I recommend!

^ | v • Reply • Share ›



Mofizul I • 2 years ago

Is it possible to upgrade the article?

^ | v • Reply • Share ›



PeteZaria → Mofizul I • a year ago

dai mo alam

^ | v • Reply • Share ›



Mofizul I • 2 years ago

Thomas,

Thanks for your article. It'll help me a lot. :)

BTW, I'm a WordPress developer. Most of the clients want to make a website with WordPress. But they have no design or PSD file. they give me content (text, images) and I create a website. Problem is - after creating website client show me objection that - site functionality is working fine but the design isn't good. I mean color, font-size, font-family, line-height, image selection isn't good.

How to I can skip these problems, which article is good for me?

^ | v • Reply • Share ›



PeteZaria → Mofizul I • a year ago

dai mo alam

^ | v • Reply • Share ›



h • 2 years ago

hi drew

^ | v • Reply • Share ›



Mohammad Shahriar • 2 years ago

thanks

^ | v • Reply • Share >



Alaxender Blake • 2 years ago

I agree too, however I have seen the complete opposite working while a/b testing. Although, more times than not, the brighter colors seem to have a big impact on CTA's.

[House Painting Companies Brooklyn](#)

^ | v • Reply • Share >



William Bullard • 2 years ago

"Hi, I'm Rick Harrison, and this is my pawn shop. I work here with my old man and my son, 'Big Hoss.' Everything in here has a story and a price

^ | v • Reply • Share >



Doki-Doki Literature Club → William Bullard • a year ago

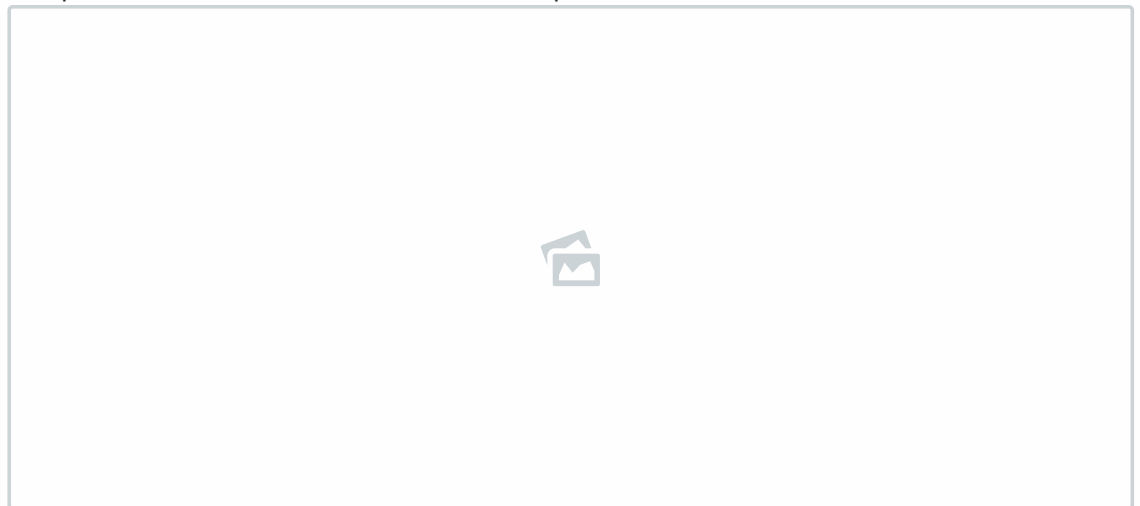
I just realized that you replied to your own comments :/

^ | v • Reply • Share >



PeteZaria → Doki-Doki Literature Club • a year ago

The person in the comment above is me: Peeps



^ | v • Reply • Share >



William Bullard → William Bullard • 2 years ago

Dude stop your memes are weak kid.

^ | v • Reply • Share >



William Bullard → William Bullard • 2 years ago

Wtf did you just sya about me?

^ | v • Reply • Share >



William Bullard → William Bullard • 2 years ago

I said your memes are weak

^ | v • Reply • Share >



William Bullard → William Bullard • 2 years ago

you don't understand meme formats

^ | v • Reply • Share >



William Bullard → William Bullard • 2 years ago

DOGGO

^ | v • Reply • Share >



PeteZaria → William Bullard • a year ago

You suck.

^ | v • Reply • Share ›



Tsarina Spades • 2 years ago

Hello!

Good article and I also read the one about visual hierarchy.

However, I was wondering how to use color.

For example, should all the buttons have the same color?

Should you stick with two colors only?

I'm a total beginner and I've been told I was using too many colors even though the color palette was good.

^ | v • Reply • Share ›



Kdrama-Holic • 3 years ago

Thanx it helped alot ^^

^ | v • Reply • Share ›



Rudy - Smart Money Today • 3 years ago

Hi Thomas,

Thanks to share your knowledge.

It's been very useful to recolor my website from a "scary" gray to a white color background. I've also defined the Triadiac Color for my logo and overall website giving a professional look and brand which people can remember.

I'm not a professional designer like you, but in 20 minutes I've re-branded my website. I wrote down the process step by step so everyone can benefit from it.

Keep up the good job, I will stick around.

^ | v • Reply • Share ›



Donald Trump • 3 years ago

wow... mamesh

^ | v • Reply • Share ›



Donald Trump → Donald Trump • 3 years ago

It's just so amazing

^ | v • Reply • Share ›



Donald Trump → Donald Trump • 3 years ago

Vote for me

^ | v • Reply • Share ›



Funny Video • 3 years ago

You are toooooo good guys. This articles make my projects easier and now i am to perfect in making colour scheme. And my boss is now too much happy by me . thank you guye you are mind blowing

^ | v • Reply • Share ›



Abraham Tugalov • 3 years ago

Though i already heard of color schemes from Photoshop lessons, it is very useful to look at them again, but now from the view point of a web designer. Thanks for article, great job!

^ | v • Reply • Share ›



Nagaraja Thangavelu • 3 years ago

That's an awesome explanation... Thanks

^ | v • Reply • Share >

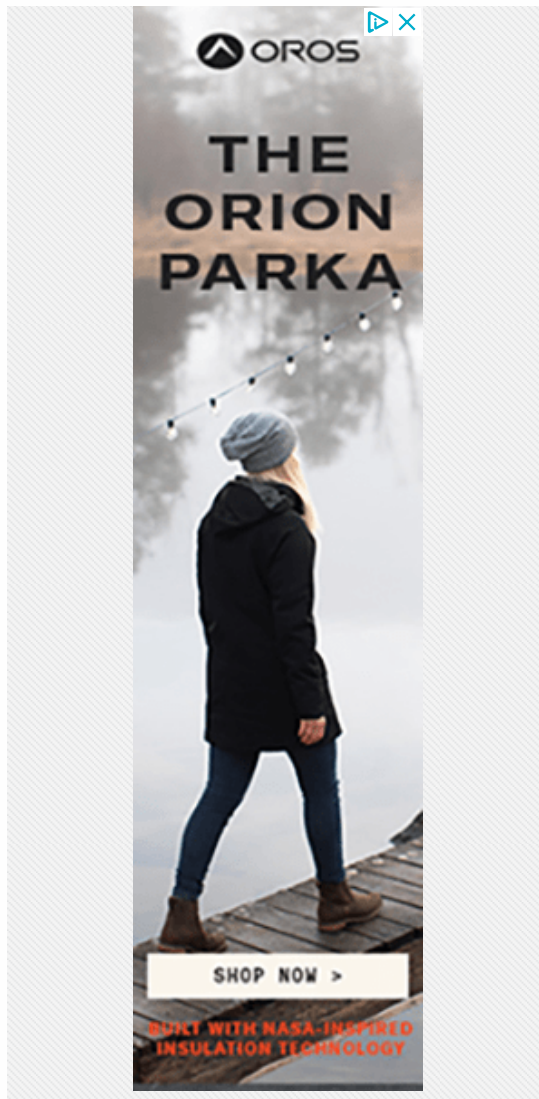
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