## 5 designing with color

## Moving Beyond Monochrome

 *

Color is the unsung hero of web design. A good color palette can draw your audience into your site, give them a powerful feeling of immersion, and keep them coming back for more. And when it comes to color and web design, it's not just about picking a good color palette, it's also about how you apply those colors. You can have a great color palette, but if you don't use those colors thoughtfully, people might avoid your site like the plague. By the end of this chapter, you'll not only be intimately familiar with the impact that color has on the web user, but you'll also be able to choose a great looking color palette that fits in—and even complements—your user-centered websites.

## Help support your local music scene

The site you designed for RPM Music was a big hit. Sam, the store owner, has received such good feedback that he wants to extend his reach and create a new site called SampleRate that offers coverage of the local music scene - and he wants you to design his new website. The thing is, Sam has got it in his head that he wants the new site to the site (and you as a designer).
be part of the 9Rules Music network (http://9rules.com/music). If this new site is chosen to be part of the network, it would mean a lot of exposure for the store and

> Here's the storyboard we already worked up and got Sam to sign off on. SampleRate is the perfect complement to RPM's online store. But the SampleRate site has to be top notch... I'm counting on you!

Sam, RPM owner and music afficionado

## 9Rules: The blog network gold standard

In today's web, blogs are everywhere. The problem is that there are so many that it's hard to know where to find the good ones. That's where 9Rules comes into the picture. 9Rules (http://9rules.com) is a cross between a blog aggregator and a blog network. It syndicates the posts of its members (which are conveniently organized by topic categories, such as music, photography, science, design, and games) and provides a one stop shopping spot for those wanting to find top quality blogs.


So how do we get SampleRate onto the site? Periodically through the year, 9Rules has a 24 hour submission process. During this time, site owners can submit their blogs to be reviewed for membership. On average, 9Rules only accepts about 30 or 40 sites per submission round (out of thousands). The bottom line is that getting accepted into 9Rules is a huge deal and the goal of many designers, content producers, and bloggers.


It takes more than just a great design to get on 9Rules. What are three really effective way to get a site noticed online?

## Sometimes your choices are a bit... limited

Sam loves your storyboards, but there's a catch: he's already got a logo for SampleRate that he loves. No matter what else you come up with, you've got to make the new SampleRate site mesh with the existing logo Sam's picked out.
That means we've got some choices taken care of for us, like colors. Take a look at the SampleRate logo... what will this dictate about our design?
a This is the logo that This is the logo that
Sam's set on using for Sam's set on using for

## SampleRate

Sam personally chose this
typeface, so we may want to use
that font within the site, too.

Uh, I hate to bring up the obvious, but how can we learn anything about color when this is all in black and white?

## You've got a good point.

We didn't need to do this whole book in color (that just means we'd have to charge you more, and who wants that?), but obviously this becomes a problem when we do have to talk about color. And now's the time to talk about color. So we're providing this chapter in color for free online. Head on over to www.headfirstlabs.com/books/hfwd, where you'll be able to download the color version of this chapter.

## Color has an emotional impact

Now that you've got this chapter in color, how did you feel when you first looked at the SampleRate logo? No matter whether you liked it or hated it, you probably felt something. That's because color creates emotion. For example, red is associated with excitement, purple is dignified and stately, yellow is cheerful, and blue is associated with comfort and security.
When we're designing a site that involves strong colors, we've got to think about the emotions those colors generate. Pages that use color well have a feeling that you don't get from sites that don't consciously use color as a design element or that use color poorly. You should treat color as an element, one that's just as important as navigation, images, or content.

Take a look at these bold colors and the sites that use them. You can't help but have a reaction... and that's what we want with SampleRate: a strong, positive reaction!


Take a look at these four screenshots and write down what you feel when you look at them. Use any kind of descriptive words you want. Excited, playful, happy, sad, curious-whatever you feel.

## (1) freshairapps.com



## (3) bigbluedev.com



## (3) caxtonstreetfestival.com.au


(4) le-moulin-desauvage.com



## The color wheel (where it all begins)

Before we can even think about what colors we're going to use for SampleRate, let's get acquainted with the mother of all color tools in the design world: the color wheel. The color wheel (or color circle as it's sometimes called) is a circular diagram that displays different colors and shows the relationship between those colors.

Those relationships are key... and the color wheel lets us choose colors that go well together. Let's start by finding some of the colors in the SampleRate logo on the color wheel:

The red and green in the SampleRate logo are located across from each other on the wheel and are referred to as complimentary colors.


The wheel is based on three primary colors (red, green, blue), three secondary colors (yellow, cyan, magenta), and six colors formed by mixing the two.

Take a look at the sites below and circle each site's main colors on the accompanying color wheel. Once you've circled the colors, try drawing lines between them. Notice any patterns?



## Use the color wheel to choose colors that "go together"

You might already be thinking, "Yeah, the color wheel is cool and all, but how do I use it to actually pick colors that work together and don't look like a dog barfed on my web page?" This is where color schemes come into the picture. Color schemes are more than just collections of colors. A color scheme is a certain grouping of colors that goes well together.

And here's the kicker: all good color schemes start with a single color and your handy-dandy color wheel.


The site above has a fairly deep green all over the place. That's the base color of the site: the color that most represents the visual metaphor and that all other colors are based on. For SampleRate, we'll need to begin by choosing a base color. Then, we base everything else - other colors, their depth, their hue-off of that base color.

But don't get too stressed out! There's no right or wrong base color... and you can always abandon a scheme that you end up not liking and start over.

## Use the triadic scheme to create usable color patterns

Color schemes come in all shapes and sizes - and they all have fancy-sounding names (monochromatic, analogous, complementary, triadic, tetradic, etc.). Don't worry, once you get past their names, they're really just pretty simple ways to pick different kinds of color palettes that you can use for your site. Think of color schemes as just another helpful tool in your web design toolbox.

## The triadic color scheme is

 one of the most commonly used color schemes around. Triadic uses three colors, equally spaced around the color wheel. So once you pick your base color, you can just draw an equalateral triangle (three equal sides), and pick your other two colors:Because all the colors in a triadic scheme are equally spaced around the wheel, any color in the palette can be the base.


When using the triadic scheme, each color should be equally spaced around the wheel. For you math buffs out there, that's 120 degrees all the way around.

Create a three-color palette based on the SampleRate logo that Sam provided. Make sure you start with a base color and build your palette from there.


We used the deep green as our base color... and came up with the palette below. What colors did you choose? Did the combinations surprise you?

## Exercise Solution

## SampleRate

This green seems like a logical choice for a base color. Plus it's easy to match on our color wheel.
The base color
 same distance from our base color.

## - RBRAN <br> -PONER

Did it surprise you that some of the colors in your triadic scheme were so different from the SampleRate logo? Do you think that's a problem?

## Get started on the SampleRate markup

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" 
<head>
    <title>Sample Rate</title>
    <meta http-equiv="Content-Type" content="text/html; charset=utf-8"/>
    <link rel="stylesheet" href="stylesheets/screen.css" type="text/css"
            media="screen" />
</head>
<body>
                                    Make sure to include your stylesheet, which should be
                                    located in a directory called/stylesheets.
    <div id="header">
        <div id="logo"><img alt="sample rate logo" src="images/samplerate2.gif" /></div>
    </div>
    <div id="nav">
        <ul>
            <li><a class="active" title="title" href="#">Home</a></li>
            <li><a title="title" href="#">Archive</a></li>
            <li><a title="title" href="#">Music</a></li>
            <li><a title="title" href="#">About</a></li>
            <li><a title="title" href="#">Contact</a></li>
        </ul> This is the guitar image that the owner
    </div>
    <div id="wrap">
                                    wanted to see on the site. V
        <img id="masthead" alt="header image" src="images/gitfiddle.jpg" width="740px" />
        <div id="content">
            <h1>Heading One</h1>
            <p>Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Fusce
                    consequat arcu in mauris.</p>
            <h1>Heading Two</h1> 
                    consequat arcu in mauris.</p>
        </div>
        <div id="sidebar">
                    <p>Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Fusce
                    consequat arcu in mauris.</p>
        </div>
        <div id="footer">
            <p>Copyright &copy; SampleRate and RPM Music, all rights reserved.</p>
        </div>
    </div>
</body>
</html>
```


index.html


## Typing-challenged? Go online!

If you don't want to type all this in, you can download the SampleRate files from the Head First Labs website. You may want to work through these examples on your own, though... who knows what you might learn in the process?

## Create the basic page layout with CSS

```
body {
    margin: 0;
    padding: 0;
    font-family: Verdana, sans-serif;
}
h1 {
    margin: 0 0 5px 0;
}
p {
    margin: 0 0 20px 0;
    line-height: 1.4em;
}
#header {
    margin: 0;
    padding: 20px 0 10px 0;
}
#header #logo {
    margin: 0 auto;
    width: 800px;
}
#nav {
    background: #ccc;
}
#nav ul {
    margin: 0 auto;
    width: 800px;
    list-style-type: none;
}
#nav ul li {
This CSS will serve as the frame for our layout. Later, well add more color and some detail to let Sam really get a feel for our design.
    display: inline;
}
#nav ul li a {
    text-decoration: none;
}
#nav ul li a.active {
}
#wrap {
margin: 0 auto;
    width: 800px;
}
#masthead {
    margin: 20px 20px 0 20px;
}
                    Like we've done before,
                                use margin: O auto to
                                center the layout in the
                                browser.
```



```
margin: 20px 20px 0 20px; \}
-marg
```



\#content \{
margin: 20px 000 ;
padding: 0 20px 0 20px;
width: 180px;
\}
\#footer \{
\}
\}
\#content

```
        float: right;
        margin: 10px 0 0 0;
        padding: 0 20px 0 20px;
        width: 540px;
}
#sidebar {
    float: left;
    screen.css
```

    screen.css
    ```
    clear: both;
    text-align: center;
\#footer p \{
\}

Content chunks below floated <div>'s must be cleared so they appear below those elements.


Remember, this it the board Sam liked... here's what we're going for.

Kuler allows you to select
different patterns

\section*{We need a digital color wheel.}

CSS requires hexadecimal values for all but the most basic colors. Hex values are 6 characters long, like \#572266. A hex value tells the browser how much red, green, and blue to display. So we need a way to take the values we chose on the color wheel and turn them into hex.

Fortunately, there's a program perfect for the job: Kuler (available at kuler.adobe.com). Kuler not only has a digital color wheel and hex-conversion tool, it lets you check out other people's palettes and even export your own palettes.

Great, I've got circles on my pretty little color wheel. How do I turn that into CSS? I need those funny hex values, right?

\section*{00} Kuler allows you patterns and see
different pork pork work toger.
how the colors


Sliders allow you to make small adjustments to colors, and Kuler automatically adjusts your other colors to fit the color scheme you've chosen.

Stop! Go load Kuler by going to kuler.adobe.com now. You'll see it throughout the rest of the chapter.

Color output is given in
multiple formats, including
HEX and RGB.

Our familiar color wheel


\section*{Kuler Up Clase}

Kuler's color wheel lets you interactively select base colors and then build palettes with different schemes.

The slider view lets you adjust colors with more detail and also displays the selected color in multiple formats.



Kuler doesn't show a triangle, but it's the same idea: the triadic scheme uses three colors, equally spaced on the wheel.

Kuler displays the hex value for a color, as well as its hue-saturation-value (HSV), red-green-blue \((R G B)\), and cyan-magenta-yellow-black (CMYK) values. You can even get \(L A B\) values from Kuler.


\section*{Some of Kuler's features} require an Adobe ID.
In order to take advantage of Kuler's more advanced features (especially the social stuff), you need to have an Adobe ID. Don't worry, signing up is easy, fast, and free.

Use Kuler to take the base color you selected in the previous exercise and build a digital color palette based on the triadic scheme. Once you have your palette, add the hex color values to your SampleRate CSS file and see how they work together. Use your colors for the background colors of the various <div>s in the SampleRate site.
- There are more <div>s than colors in a threecolor triadic scheme. Try picking some extra colors that are a little lighter or darker than your main three colors to fill out SampleRate.

SampleRate
minus any
color is


\section*{.......isampleRate}

Home Archive Music About Contact


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\section*{Heading One}

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\section*{Heading Two}

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Copyright (c) 2008, SampleRate and RPM Music, all rights reserved.


Kuler's a lot more accurate than choosing colors by hand. You might get different colors than we did back on page 172 when we chose colors by hand.

The handle with the white ring represents your base color in Kuler.

Creative Commons by-sa to http://www flickr.com/rickharris (http://flickr.com/ rickharris/368538048/)


Your job was to pick some colors on the color wheel and fill in the CSS for SampleRate using Exercise
Solution those colors. What did you come up with? Here are the colors we chose:
\#59ad41
\#427236 (Base)
\#945737
\#adbc49

Each color in this palette is represented in the wheel below. Even though this is a triadic scheme, five colors are possible because 2 of though this is a triadic scheme, fighter shades of two triadic colors.

Our "base" green ended up as the background color for the page.
```

body {

```
    margin: 0;
    padding: 0;


    font-family: Verdana, sans-serif;
    background: \#427236;
\}
\#header
    margin: 0;
    padding: 20px 0 10px 0;
    background: \#ad6c49;
    Light brown for the header.
\#nav \{
    background: \#59ad41
\}

Light green for the navigation.
```

\#wrap {

```
    margin: 0 auto;
    width: 800px;
    background: \#ff;
\}

The SampleRate logo still has a white background. Once we finalize a color

I don't know, the site just feels... heavy and oppressive. palette, we can change the logo so that it matches the header.
.
Home Archive Music About Contact


Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Fusce consequat arcu in mauris. Cras nec nulla. Phasellus eget mauris. Integer lorem dolor, volutpat eget, lacinia eget, hendrerit at, nisi. Curabitur ultrices ipsum sit amet felis.

We made the wrap <div> background white so the content of the page stands out a bit better... that makes it more readable.

\section*{Heading One}

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Fusce consequat arcu in mauris. Cras nec nulla. Phasellus eget mauris. Integer lorem dolor, volutpat eget, lacinia eget, hendrerit at, nisi. Curabitur ultrices ipsum sit amet felis. Sed metus quam, pulvinar at, iaculis et, lobortis vitae, lectus. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus.

\section*{Heading Two}

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Fusce consequat arcu in mauris. Cras nec nulla. Phasellus eget mauris. Integer lorem dolor, volutpat eget, lacinia eget, hendrerit at, nisi.

 Dumb Questions

Q: What happened to our blue color?
\(A\) : Good question. We just couldn't find a natural place to use that color, although it might work well for the link color for text. Just because your scheme results in three colors, you're not bound to use them. Always trust your judgment over a color wheel or best practice. Ultimately, you're the designer!

Q: Where did that light green come from?

A: Kuler gives you lots of varying colors when you're choosing a scheme, including lighter and darker versions of colors you've already chosen. Those additional colors will go well with your scheme, and that's where our light green came from.

\section*{Q: My version of SampleRate} looks totally different!
A: Good! Your sites should reflect your choices and your client's tastes.

\section*{The opposite of heavy is... light}

Sam thinks SampleRate looks heavy. That's not surprising... remember, color causes people to feel things more than any other type of web element. So what do we do about a site feeling heavy? Well, we try and make the site feel lighter.

The great thing about the triadic color scheme (or any other type of color scheme) is that as long as you stick to the general location of a color on the color wheel, you can change its saturation. Saturation is just a fancy design term for the darkness or lightness of a color. So we can lighten the saturation of our color scheme... it's the same colors, but a lighter feeling result.



You can grab the circles and move them around on the wheel. Because you have "Triad" selected, you don't have to worry about messing up your scheme.


Each color in this palette is represented in the wheel below. Even
though this is a triadic scheme, five colors are possible because 2 of them are lighter shades of two triadic colors.


\section*{Select a Rule Analogous Monochromatic Triad Complementary Compound Shades Custom}
 color scheme.



When people find a site boring, that may mean the colors are too light... but we already know that Sam doesn't like a darker triadic color scheme for SampleRate. So if you can't go darker, consider adding colors. In other words, go from a three-color scheme to a four-color scheme.

One of the most common four-color schemes is the tetradic color scheme. The tetradic color scheme (which is sometimes also called the double complementary scheme) is the richest of all the schemes because it uses four colors arranged into two complementary color pairs.

Be careful, though. Four different colors is a lot to deal with, and you can't use all four colors equally or your site will look like a mess. But for adding some extra complexity and energy to a site, a fourth color can really make a difference.

Colors in a tetradic scheme are in pairs across from one another and about 20 degrees to the left or right of the other pair.


Create a new color palette for SampleRate based on a more complex color scheme like tetradic (split complimentary). Use Kuler to find the hex values for the colors you choose.

\section*{Exercise}
(1) Choose a swatch from the logo colors to set as the base color of your palette (any one that you like, it really doesn't matter).
......isampleRate

(2) Set this as the base color in Kuler and play around with the controls until you find a palette you like (make sure you select the "Compound" option from the Rule menu).

You should see this setup when you work with compound color schemes in Kuler. Notice the four handles on the color wheel you can adjust now.

\section*{Select a Rule \\ Analogous \\ Monochromatic \\ Triad \\ Complementary \\ Compound Shades Custom}


We used a tetradic scheme based on the dark green in the SampleRate logo. Kuler gave us four colors in the tetradic scheme, and we also took a lighter swatch of one of the greens Kuler provided for a little more variety.

there are no
Dumb Questions

\section*{Q: Are there only two color schemes? Triadic and tetradic?}

A: No, there are a bunch of others. Most of the them are simpler schemes: monochromatic, analogous, complementary, and split complementary. All of the schemes follow the same general principles as triadic and tetradic. They find colors related to each other by certain angles that go well together. For more information on these and other color schemes, check out http://www.color-wheel-pro.com/colorschemes.html

Q: Do I really need to use a color scheme to create a good color palette? Seems like a lot of work to go through when I can just pick some colors off the color wheel.

A: Sure, you could randomly choose some colors off of the color wheel for your color palette. However, most of the time you are going to get at least two colors that clash. Color schemes are based on solid color theory that has been around for ages. They are designed specifically to help you create harmonious color combinations.

OWhat if I want lighter colors than the ones available on the color wheel?
\(A\) : Color wheels can either get progressively lighter or darker as you get closer to the center. If lighter colors are what you're after, just drag your colors toward the center of the wheel. Or you can adjust the hue or opacity of a darker color until you've got the lighter swatch you're looking for.


\section*{Create contrast}

Although there's
definitely a
Golden Ratio!

If you want to separate different areas of your layout (say a main column and sidebar), use contrasting colors. This contrast creates a border between two areas. That border lets users know that the two areas are different and probably have different functions or uses within the context of the site.
> adipiscing elit. Fusce consequat arcu in mauris. Cras nec
\begin{tabular}{|l} 
adipiscing elit. Fusce \\
consequat arcu in \\
mauris. Cras nec
\end{tabular}


\section*{Emphasis-0-matic}

If you want to emphasize certain areas of your layout, use the most dominant color in your color palette. If you surround an important area of content (like a header or page title) with the palette's dominant color, that area will be emphasized.


\section*{Let's update the SampleRate CSS}

Here is the completed CSS for the SampleRate site. The colors for the design are blank (and represented by the grey bars). Get the CSS linked up with your XHTML and double check the layout. We'll add the color in the next few pages.

All the blanks are places we need colors... we'll add those in over the next few pages.
\#nav ul li a.active \{ background: \#eee; color: \#333;
\}
\#wrap \{
margin: 0 auto; width: 800px;
background: \#eee;
border-left: 10px solid
 border-right: 10px solid
\}
\#masthead \{
    margin: 20px 20px 0 20px;
    border: 10px solid \#ddd;
\}
\#content \{
    float: right;
    margin: 10px 000 ;
    padding: 0 20px 0 20px;
    width: 540px;
\}
\#sidebar \{
    float: left;
    margin: 20px 000 ;
    padding: 0 20px 0 20px;
    width: 180px;
\}
\#footer \{
    margin: 20px 20px 0 20px;
    padding: 10px 20px 10px 20px;
    clear: both;
    background:
    text-align: center;
    color: \#fff;
\}
\#footer p \{
    margin: 10px \(000 ;\)
    font-size: small;
\}
\#nav ul li \{
    display: inline;
\}
\#nav ul li a \{
    padding: 10px 20px 20px 20px;
    text-decoration: none;
    color: \#fff;
    font-weight: bold;
\}

Write the hex values for your colors in the spaces where you think the color fits Exercise best. Think about contrast and the best way to make the content stand out. We'll build these colors into our actual design in just a few pages. Remember, white space is your friend! Use \#ffffff for white.


Here's the layout we came up with. What do you like? What don't you like?

Exercise Solution

We used the color pulled from the logo on the header, which ties the logo into the rest of the page.
 \#447236 \(\longleftrightarrow\)


We've got a whole new logo! Your job is to update your color palette to fit the new design and add the new hex color codes to your SampleRate CSS file.

\section*{Exercise}

1 Select a base color from the new logo (your choices are a bit more limited this time).

(2) Use Kuler to develop a color palette that meets the new SampleRate site's needs (and that of the site's content). Write the hex color codes you chose in the blanks below:
\(\qquad\)
(3) Update your CSS file to reflect the new colors. Experiment as much as you like!

- Color has a powerful impact on your site's visitors.
- Use the color wheel to choose colors for your site's design.
- Color schemes are tools to help you choose a harmonious color palette.
- The triadic color scheme has three colors spaced equally from around the color wheel.
- The triadic color scheme is popular because it provides strong visual contrast while retaining balance, color richness, and harmony.
- The triadic scheme is not as contrasting as some other schemes.
- The tetradic color scheme has 4 colors arranged into two complementary color pairs.
- The tetradic color scheme is the richest of all the schemes.
- The drawback to the tetradic scheme is that it's sometimes hard to harmonize.
- Use a tool like Kuler to crate a color palette (and get the hex values of the colors in the palette.)```

