

Topic:**The Accessibility of Color on the Web**

Some of the earliest users of the Web experienced its many wonders through just words, but it didn't take long for graphical web browsers to come along. These browsers began presenting information with more than just text. Images, whether they were photographs or banners, brought the experiences to life in much stronger, captivating ways.

Then, just like today, some experiences were inspiring and enjoyable, while others were ugly and frustrating. Regardless, web sites use color for many reasons. They don't use it solely for aesthetic appeal – often times it's a way to deliver important information.

For most people, this isn't any different from the world around them. Everything they look at is colorful. Traffic lights provide instruction through color. Green lights on pieces of equipment signify it's ready to use. There are countless other examples.

However, not everyone sees color the same. Not everyone sees, period. A web site with vibrant colors that convey beauty, meaning, and information doesn't work for everyone. If it is relying solely on color to get a message across, people who see color differently or not at all are in for a poor, if not unusable experience.

That's not to say that it's wrong to make web sites colorful. Accessibility is about creating useful, enjoyable experiences for all people, regardless of disability. The Internet would be a bland place otherwise.

It's about balance. Using color is perfectly fine – it just shouldn't be the sole method of conveying important information.

Here are three examples of common problems and how to avoid them.

Pictures Sharing Information Through Color Alone

One of the surest ways good web sites avoid accessibility pitfalls is to make sure that color isn't the only way it is sharing information.

Take for example a transit map showing four different bus routes in a city's downtown area. There are a few different ways that this information could be conveyed.

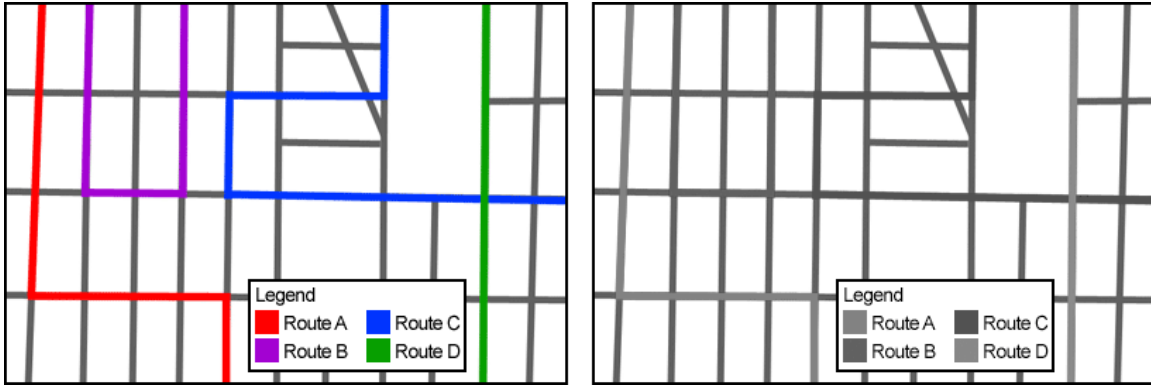


Figure 1

The map could simply show the four routes in four different colors, with a legend identifying which is which. However, there are potential accessibility problems with this option. One, depending on the colors used, a colorblind user may have troubles differentiating which route is which, even with a legend. Even if the colors are distinct enough, a person who has troubles seeing clearly may still not be able to make them out. See Figure 1 for an example of the original, and how it may appear if color is out.

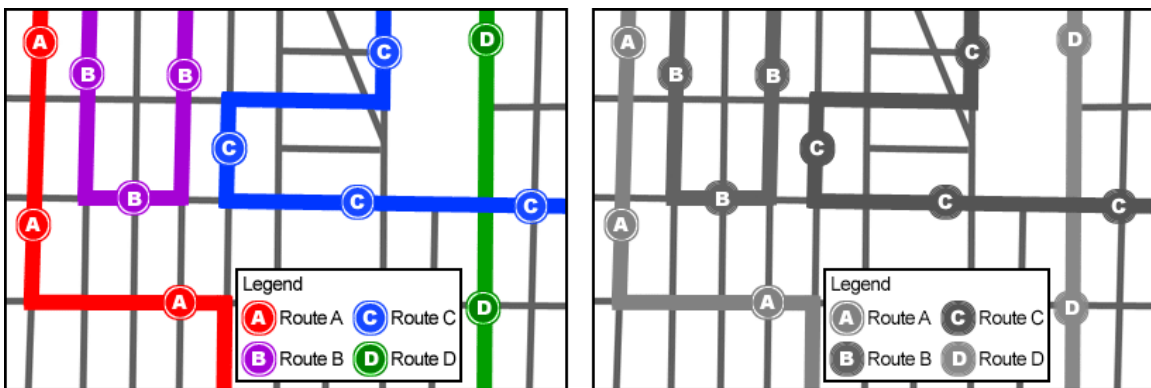


Figure 2

There are alternatives that may solve these problems. Each route could, in addition to being colored differently, have a symbol or number to go along with the color (See Figure 2). This may solve some problems facing those with different types of color blindness.

What about a person who cannot see at all? Many blind people use screen reader technology – software that reads aloud the contents of the web page they are navigating. Some people, due to disability or even technology limitations (slow Internet connections, for example), choose to turn off images entirely in their web surfing.

There are a couple ways to take care of this. A paragraph or two on the page itself recapping everything in the image would be quite helpful. Also, it's recommended to

have “alt tags” on images on the web. This is the text that shows up in a box when you mouse over an image. The alt tag for a bus route map could list out which bus route goes where. Screen reader software reads aloud the contents of all alt tags.

In short, alternatives alienate fewer visitors to a web site. A map simply coloring things differently won't work for many people. Web sites that provide text equivalents and additional visual aids or symbolism get their message across to a much larger audience.

Another example - colors and links

Since the early days of the web, pages have links to other pages. While it's been a long-standing convention to identify these links with an underline, some sites just make links a different color than the rest of the text around them. A lot of times this is done for aesthetic reasons – underlines may seem too heavy handed or just don't go with the intended design.

Here is an example:

For more information, read our [2011 brochure of features](#).

Those without visual disabilities can easily see that something is different about “2011 brochure of features”, and discover that by clicking on those red words, they'll go somewhere else for more information.

An individual with colorblindness – such as tritanopia, where an individual has troubles distinguishing blue from green and yellow from purple -- sees this differently.

It may look something like this:

For more information, read our [2011 brochure of features](#).

Or in more extreme cases, it may even look closer to this:

For more information, read our 2011 brochure of features.

In both examples, it's not easy to make out the link from the rest of the page.

An underline may not be prettiest, but it remains a long-standing, clear method to avoid confusion. Bolding the link is also a viable alternative, if underlines are too unappealing. In either case, if the user cannot see differences in color, he or she can still see that the underlined or bold text is different in some way.

Colors and Contrast

Color contrast is an important requirement in ensuring web sites are accessible. In a nutshell, this refers to the level of difference between colors that are next to or on top of each other.

People with different types of colorblindness have difficulty distinguishing color combinations when they aren't distinct enough. In rare cases, some individuals cannot see color at all.

Here is an example of web site navigation with bad color contrast:



[Home](#) | [About Our Company](#) | [Our Products](#) | [Customer Service](#)

This may seem extreme (and hideous!) but it's amazingly common on the Internet. People with red-green color blindness would struggle to even read the words. Those who have troubles seeing in general probably would have to strain very hard to make out what they are reading as well.

This is how some colorblindness may render our Christmas-inspired colors:




[Home](#) | [About Our Company](#) | [Our Products](#) | [Customer Service](#)

How deuteranopia (a type of red-green color-blindness) may see this
(credit: www.vischeck.com)



[Home](#) | [About Our Company](#) | [Our Products](#) | [Customer Service](#)

How protanopia (another type of red-green color-blindness) may see this
(credit: www.vischeck.com)



[Home](#) | [About Our Company](#) | [Our Products](#) | [Customer Service](#)

Gray scale representation

Ensuring that colors are sufficiently distinct from one another isn't an insurmountable challenge. There are numerous resources to help makers of web sites test colors. It isn't required to make every single image properly contrasted – that would be impossible. However, for things as key to a successful user experience as navigation or instructions, it definitely is key to enabling people to find what they need.

In short, web sites can make full use of color, creating captivating, stunning experiences that showcase what it is they are selling or sharing. However, when trying to convey information, it's imperative to do everything possible to avoid

alienating users. People of all backgrounds -- some with disabilities, some with old or inferior computers -- want to shop, do research, or just enjoy the Internet like everyone else. Web accessibility is about making these experiences enjoyable and effective for everybody.