

# Web Accessibility

*“Just when you think you’re done, a cat floats by with buttered toast strapped to its back.”*

**– Steve Krug**

# Course Updates

Rough draft due Friday at midnight!

*This is an important, big part of your final project grade.*  
**Please submit on time.** I gotta grade 'em!

Afterwards, I'll get back to you with feedback for your final project submission as quickly as I can.

Office hours this Thursday?

# Web Accessibility

What kind of disabilities are we worried with?

# Web Accessibility

What kind of disabilities are we worried with?

- **Visual** (color blindness, blindness, poor eyesight)
- **Motor** (tremors, loss of muscle control...)
- **Auditory** (deafness, poor hearing)
- **Seizures**
- **Cognitive** (dyslexia, various memory problems, etc.)



# Web Accessibility

I'd like to hope that you all have a good enough taste for design that you'll avoid seizures pretty easily.

Some of this stuff we've already talked about (like color blindness in our Visual Design lecture), and some of it really is solved by good, semantic HTML.

But there's a lot more we can learn about how to make the "online" lives of disabled people a lot better.

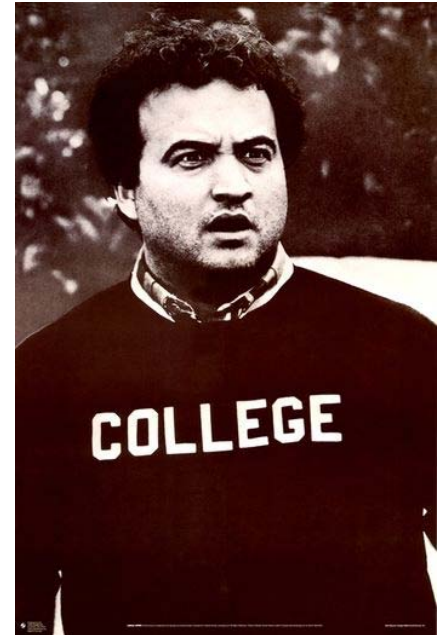
# Web Accessibility

But let's take a step back.

*Why* should we be concerned with accessibility?

After all, the world is made up of young college students with perfect sight, hearing, and cognition (unless they're drunk).

Right?



# Web Accessibility

Stats from a research paper in 2003:

*“750 million people have a disability. 4 in 10 disabled Americans are online, and they spend more time logged on and surfing the web than nondisabled users (average 20 hours/week).”*

Blah blah blah. So there’s money to be made. True.

How about a simpler approach:

***“It’s the right thing to do.”***

# Web Accessibility



**Steve Krug put this best:**

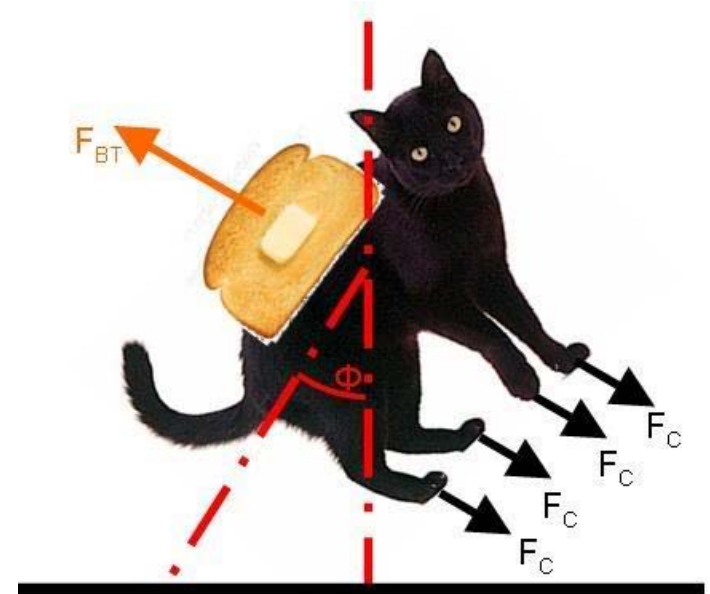
*“And not just the right thing; it’s profoundly the right thing to do... Personally, I don’t think anyone should need more than this one example: **Blind people with access to a computer can now read the daily newspaper on their own.** Imagine that.*

*How many opportunities do we have to dramatically improve people’s lives just by doing our job a little better?”*

# Web Accessibility

## The buttered cat.

There's a common misconception that designing for disabled users and designing for normal users will lead to different, conflicting approaches... thus, the misguided idea that by making a site accessible, we make it less perfect to normal users.



# Web Accessibility

**In reality, this is by no means true.**



*“I think for some designers, though, accessibility conjures up an image something like the Vonnegut short story where the government creates equality by handicapping everyone.” – Krug*

# Web Accessibility

*(BTW, government-associated sites **have** to be accessible. Section 508, since 1998. Ironic, considering the government's history of less-than-stellar IT.)*

So I'm now going to assume that everybody is on board with this cool accessibility thing.

**So how do we make our site accessible?**

# The 'Simple' Fixes

Again...

- **Visual**
- **Motor**
- **Auditory**
- **Seizures**
- **Cognitive**



# The 'Simple' Fixes

So avoiding seizures is easy.

Just... well, don't be these guys. Remember them (visual design lecture)?



# The 'Simple' Fixes

Motor skill problems are a little bit tougher, but you can help by avoiding *ttiiiiinnnnyyyy* links.

Remember our discussion of Fitts's Law? So this actually makes things more usable for everybody, too!

# The 'Simple' Fixes

Aiding users with cognitive issues generally comes down to how your content is written and presented.

Write tersely and omit words. Include diagrams and illustrations. **Write for the web.**

# The 'Simple' Fixes

Notice that, so far, *nothing we've suggested* harms the usability of the site for normal users. In fact, the opposite is true.

No buttered cats here.

# Deafness as a Culture

Unfortunately, deafness is a really tough problem to solve... fortunately, not many of us have to worry too much about audio output.

It's important to recognize, though, that the deaf community may have English as a *second* language...  
**...but their first language is always *sign language*.**



# Deafness as a Culture

As a result, the usual solution (providing subtitles or transcripts for key audio material) is rarely a perfect fit for deaf people.

However, other solutions (providing sign language captioning) are far, far from perfect:

- Expensive and time-consuming (obviously)
- Still unclear that we've solved the culture problem (how many sign language dialects are there?)



# Deafness as a Culture

Another side effect is that phonetics and wordplay become extremely confusing.

Anything based on *phonetics* (jokes and slogans that are based on similar-sounding words, for example) runs the risk of not being understood.

“CU 18r.” ← Simple example. How is a deaf person going to get that one? *(Not that it should ever be on your site anyway.)*



# Deafness as a Culture

## In conclusion...

The implications of not hearing are *a lot* more subtle and nuanced than you might originally suspect, and will even affect how they read captions.

...this is why direct subtitling and transcripts are an imperfect solution. In practice, though, it's the most common.

# Visual Impairments

We already touched on **poor eyesight**...

- Make things resizable (elastic design and the impact of full page zoom)

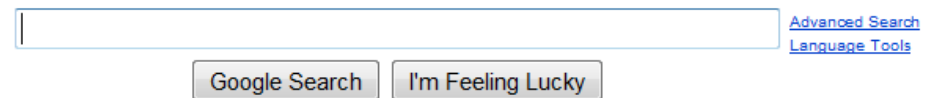
...and **color blindness**.

- Avoid relying on color alone, especially where color is critical (this includes links; in this case, underlines or other visual cues can be important)

# Visual Impairments

Vischeck (<http://www.vischeck.com/vischeck/>) runs a quick simulation of various types of color blindness on any website or image that you provide.

Unfortunately doesn't handle background images, Flash, etc., so most of the time you'd take a screenshot and use the image checker.

The Google logo is displayed in its characteristic multi-colored font (blue, red, yellow, blue, green, red).A screenshot of the Google search interface. It features a search input field, a "Google Search" button, an "I'm Feeling Lucky" button, and links for "Advanced Search" and "Language Tools".

[Advanced Search](#)  
[Language Tools](#)

Google Search I'm Feeling Lucky

98|30

Blindness & Screenreaders



# Screenreaders

To understand how to improve the lot of blind people, we have to understand how they browse the web.

They use **screenreader programs** that run through the HTML (from top to bottom), reading things out to the blind user.

These programs are generally imperfect, but get the job done.



# Screenreaders

Really good paper on blind user experience:

<http://redish.net/content/papers/interactions.html>

We'll talk about some key observations.



# Screenreaders

**Screenreader users scan with their ears.**

*“Many set the voice to speak at an amazingly rapid rate.”*

Again, write for the web. Get your point across quickly.

Also, since screenreaders will read out alternate text for media, use empty ALT tags for decorative images.

```

```

**vs.**

```

```

# Screenreaders

**Navigation is read out, too.**

On every page.

...you can imagine how this is a little frustrating.

A simple solution is a *skip link* at the top of your body.

# Screenreaders

```
<a href="#content" class="skip">Skip to main content</a>  
...navigation and other stuff here...  
<div id="content">Main content here!</div>  
...  
.skip { position: absolute; left: -10000px; }
```

The CSS ensures that the skip link is hidden to normal users. Meanwhile, the wording of the link is chosen carefully for screenreaders: studies show that users don't understand what "skip navigation" means, and "skip to content" pronounces 'content' as in 'satisfied.'

# Screenreaders

**Screenreader users sometimes only choose to read links in order to get to the page they want.**

So all context is removed from the links.

As a result, nondescriptive links like “click here” become totally useless.

# Screenreaders

**When screenreader users are in “form-filling” mode, they only hear text that is part of a form field or <LABEL>.**

So if you have explanatory text inside your form that isn't inside a label, they're not going to hear it.

Use <LABEL>s well.



# Screenreaders

```
<form>  
  <label for="name">Full Name</label>  
  <input id="name" type="text" />  
</form>
```

<https://secure.wufoo.com/signup/2/> is a really good example of how to use labels. Let's check it out, and see how labels actually provide a usability benefit to normal users, too.

# Conclusion

There are more good points in the aforementioned paper. I encourage you to check it out for a deeper understanding of how blind people use the web.

If you've been astute, you'll have noticed that **most of these ideas provide usability benefits for *all* users.**

So much for the buttered cat theory.

# Conclusion

Closing out this course, we have:

*This Friday:* due date for rough draft.

**Submit a link or a .zip containing your project.**

*Next Tuesday:* no class, Thanksgiving!

*Next next Tuesday:* a special, cool lecture on the **future of web development**, including some fun demos of new standards and... pizza? **Final projects due.**