

DSGN-270

Day #1

Class Information

Things you need to know

Heather Tovey

heather@htovey.com
heather.tovey@sait.ca

If you need to contact me
you can send me questions after the class is over

feel free to email me any time, after class is over



skim instead of reading

you don't need to memorize

General Schedule

- 8:00-3:00 every day
- lunch is 11:30-12:30
- 15-minute morning & afternoon
breaks

Course Overview

Over the next 4 days we'll cover:

- a brief intro to the web & responsive design
- user experience design
- accessibility
- workflow, discovery, research,
- content, copyright, information architecture
- privacy and legal issues
- wireframing & layout
- visual design: typography, color, navigation
- diversity in tech

for this class – mostly reading & talking (& some videos)

you'll do a lot more hands on in later classes as you start to learn code

Attendance & Participation

(Professionalism)

professionalism – think of this like a job
for those of you new to working world

be on time in the morning and after breaks
inconsiderate to others in class if you're late

late once, not a big deal
more than that, may affect grade
helps if you email or text if you're going to be late

Course Grading

50% Social Media

50% Web Design Theory

25% Attendance & Participation

25% Website Review Assignment

50% Sitemap/Wireframes
Assignment

activities in class are not graded, only the two assignments

how to get a good grade

- follow the instructions
- put some effort into it
- incorporate the things you learned in class

no tests

Tips for Learning

Keep Learning

things change often

html & css versions mean these are already changing

You Can't Know Everything

too much for any person to learn

know the underlying theory of design/code
look things up when you need to know them

Laurie Voss
@seldo

If anyone ever gets access to my Google search history they'll discover that I actually don't know how to program at all.

12:23 AM - 31 Jul 2017

631 Retweets 2,216 Likes

64 631 2.2K

** this is a really well-known web developer who is co-founder of NPM

Resources for Learning

Google

The screenshot shows a Google search results page. The search query 'CSS rounded corners' is entered in the search bar. The results are filtered by 'All' category. The first result is a link to 'CSS3 Borders - Rounded Corners - W3Schools' from www.w3schools.com/css/css3_borders.asp. The second result is 'Rounded Corners | CSS-Tricks' from css-tricks.com/rounded-corners/. The third result is 'Border-radius: create rounded corners with CSS! - CSS3 . Info' from www.css3.info/preview/border-radius/. The fourth result is 'Rounded corner generator : css3 or images & css' from cssround.com/. The fifth result is 'border-radius - CSS | MDN' from developer.mozilla.org/en-US/docs/Web/CSS/border-radius.

search for answers

be careful what sites you trust
don't use w3Schools as their information is often inaccurate, and this is not a respected website in the industry
Remove W3Schools – Chrome Extension

Stack Overflow

The screenshot shows the homepage of Stack Overflow. At the top, there's a navigation bar with links for 'sign up', 'log in', 'tour', 'help', and a search bar. Below the navigation is the Stack Overflow logo and a banner encouraging users to join the community. The main content area displays 'Top Questions' with three listed:

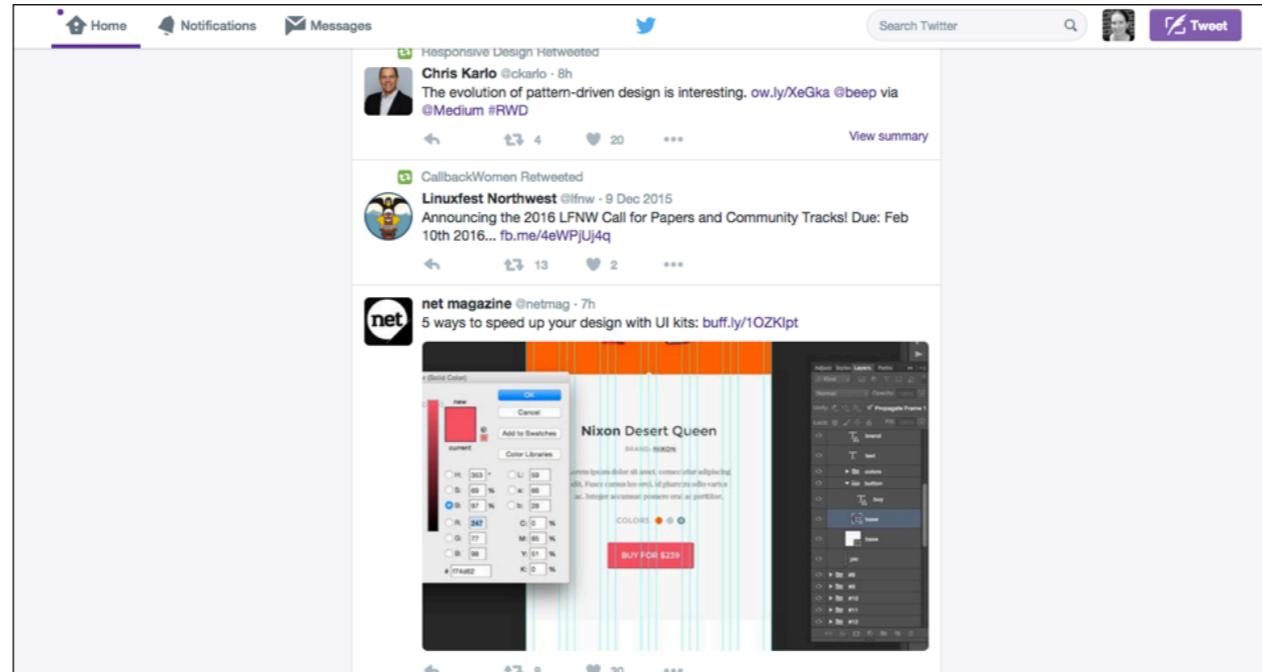
- 0 votes, 0 answers, 7 views: Repaint method in swing timer causing JTextField too reset constantly (tags: java, swing, graphics2d, repaint)
- 0 votes, 0 answers, 3 views: Is there any string manipulation commands/libraries I can use in bash/fishshell? (tags: string, bash, shell, command-line, fish)
- 0 votes, 0 answers, 7 views: How can I avoid too much recursion error when trying to extend a javascript function?

To the right of the questions, there's a blue advertisement for Microsoft's open-source cloud offering, featuring the Microsoft logo and the text "OPEN SOURCE Try it free for 30 days. Get \$200 in open source-friendly cloud." A "SIGN ME UP" button is at the bottom of the ad.

<http://stackoverflow.com/>

Stack Overflow – programmers
not every answer is correct, get votes
green check mark if accepted

Twitter



here you can find new ideas, new ways to do things
create an account, find people in industry to follow

Meetups

The screenshot shows the Meetup.com website interface. At the top, there is a search bar with the text "web development" and a location filter "within 50 miles of Calgary, Alberta, CA". Below the search bar are two buttons: "Groups" and "Calendar". A "Sort by Recommended" link is visible. The main content area displays six meetup group cards arranged in two rows of three. The groups are: "Calgary Oracle Developers" (35 members), "The Calgary Web Design Meetup Group" (185 members), "HackerNest Calgary Tech Socials" (598 members), "Accessibility Calgary (A11yYYC)" (7 members), "Pixels and Pints" (1,398 members), and "PyYYC" (283 members). Each card includes a small thumbnail image, the group name, the number of members, and a brief description.

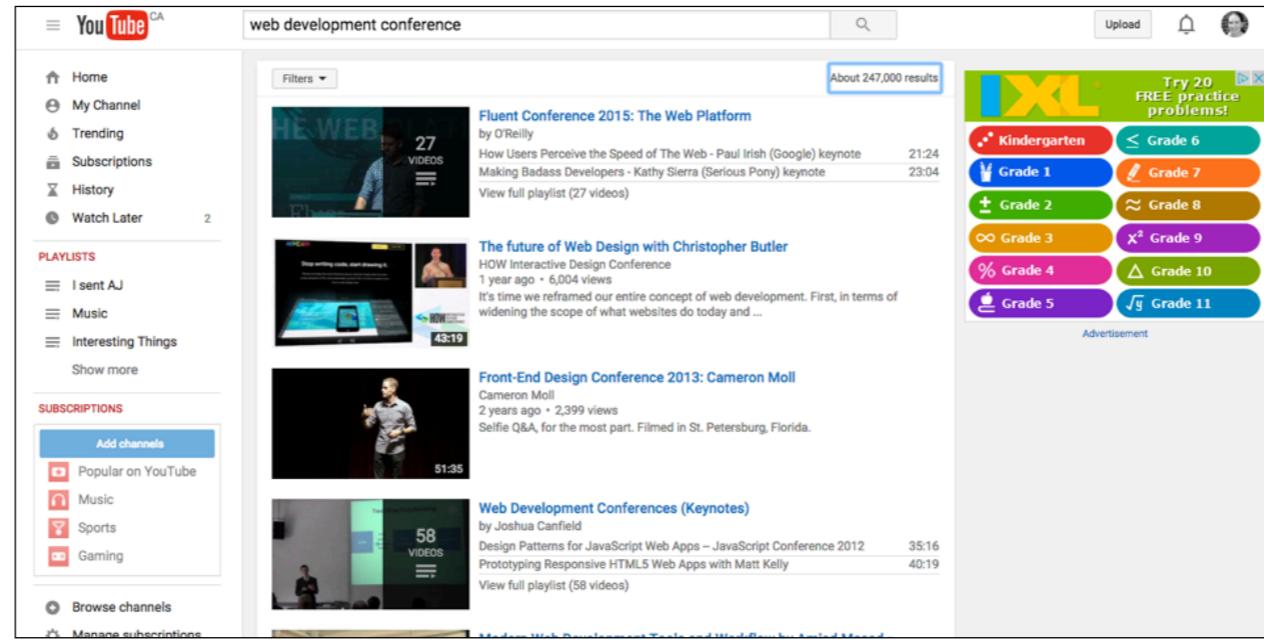
<http://www.meetup.com/>

mostly free event
presentations or social
Pixels & Pints

some other Calgary meetups:

JavaScript
WordPress
Startups
SEO
UX
Agile Development
Python

Conference Talks



– see if your company will send you to a conference

many conference talks posted online for free, search for topics on youtube

Books

The screenshot shows the search results for 'web development' on the Calgary Public Library website. The search interface includes dropdown menus for Catalogue, All Formats, and Keyword, all set to their default values. The search term 'web development' is entered in the Keyword field. Below the search bar, the results are displayed under the heading 'web development'. A sidebar on the left allows filtering by availability ('Available now...') and format ('Format: Books'). The main results area shows a single item: 'Web Development With JQuery' by York, Richard, published in 2015. The book's cover image is visible, along with its call number (005.2762 JAV Y) and a note that all copies are in use. A 'Place a Hold' button is present.

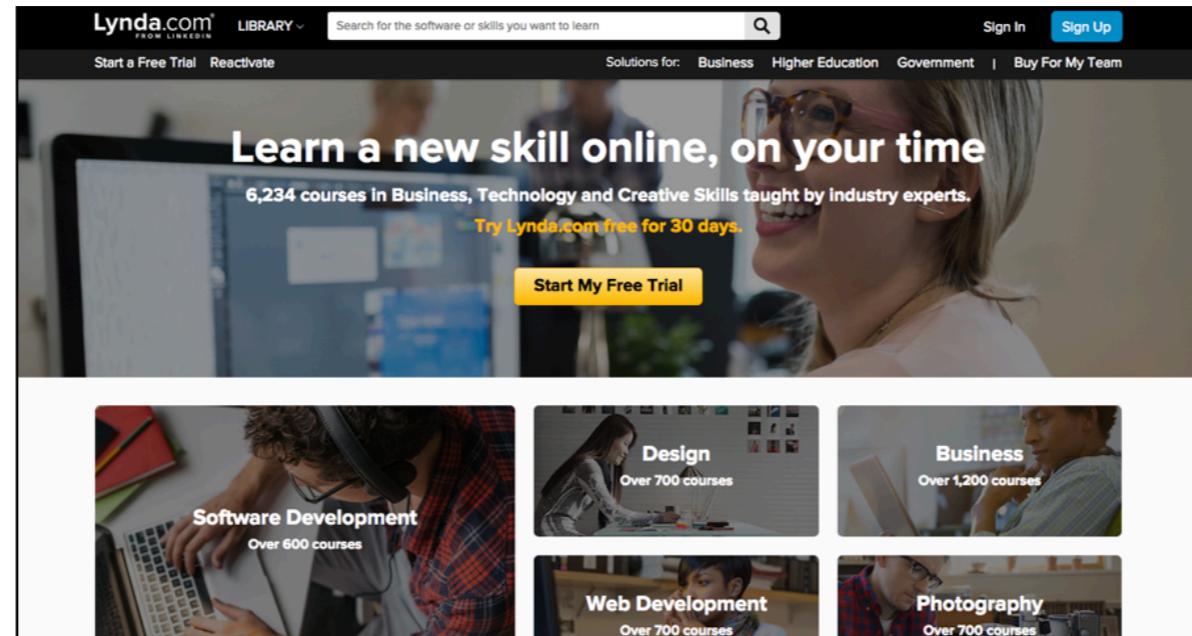
<http://calgarylibrary.ca/>

library card is free in Calgary

lots of web development, web design
53 results for CSS

Lynda.com

(free with Calgary Library card)



<https://calgarylibrary.ca/news/free-online-courses-with-lynda-com/>

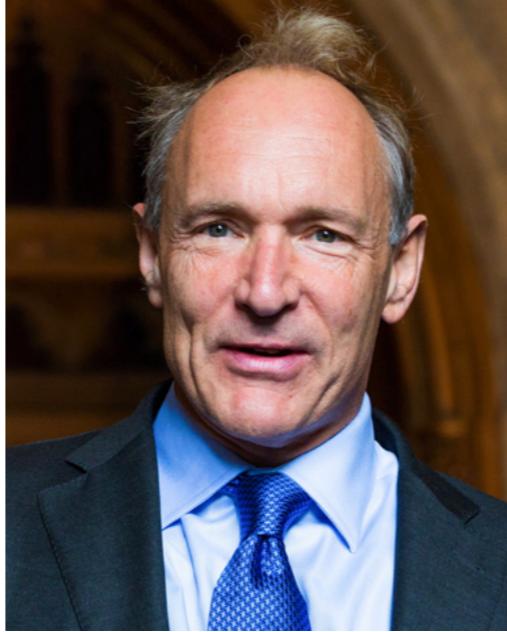
so many courses
free access if you have a library card

(I have a course on there)

History of the World Wide Web

important to understand background

1989 - Tim Berners-Lee



Source: [Paul Clarke via Creative Commons](#)

1989 – Tim Berners-Lee, a CERN scientist, proposed a distributed information system that his laboratory could use to link related documents together over a network

1990 - First Website

World Wide Web

The WorldWideWeb (W3) is a wide-area [hypermedia](#) information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an [executive summary](#) of the project, [Mailing lists](#) , [Policy](#) , November's [W3 news](#) , [Frequently Asked Questions](#) .

[What's out there?](#)

Pointers to the world's online information, [subjects](#) , [W3 servers](#), etc.

[Help](#)

on the browser you are using

[Software Products](#)

A list of W3 project components and their current state. (e.g. [Line Mode](#) ,[X11 Viola](#) ,[NeXTStep](#) ,[Servers](#) ,[Tools](#) ,[Mail robot](#) ,[Library](#))

[Technical](#)

Details of protocols, formats, program internals etc

[Bibliography](#)

Paper documentation on W3 and references.

[People](#)

A list of some people involved in the project.

[History](#)

A summary of the history of the project.

[How can I help ?](#)

If you would like to support the web..

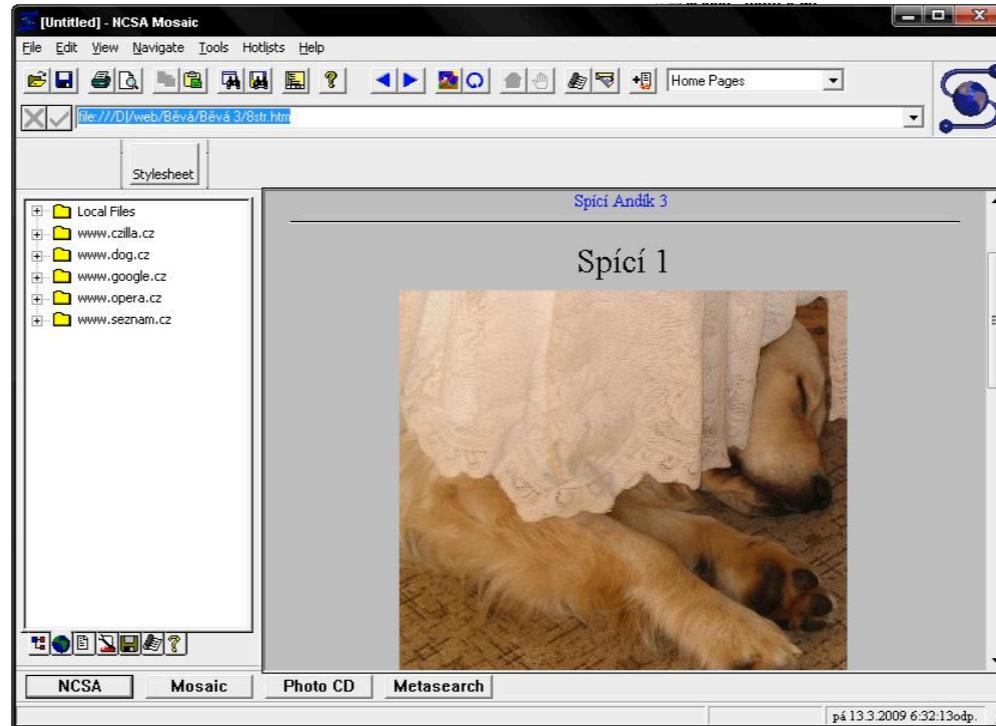
[Getting code](#)

Getting the code by [anonymous FTP](#) , etc.

<http://info.cern.ch/hypertext/WWW/TheProject.html>

By 1990, Tim Berners-Lee had written the first browser and server software. And info.cern.ch was the address of the world's first website.

1993 - Mosaic



Source: [Daewoo via Creative Commons](#)

1993 – The Mosaic browser was released in 1993 and popularized the world wide web and the internet. It was also the first browser to display images inline with text instead of a separate window.

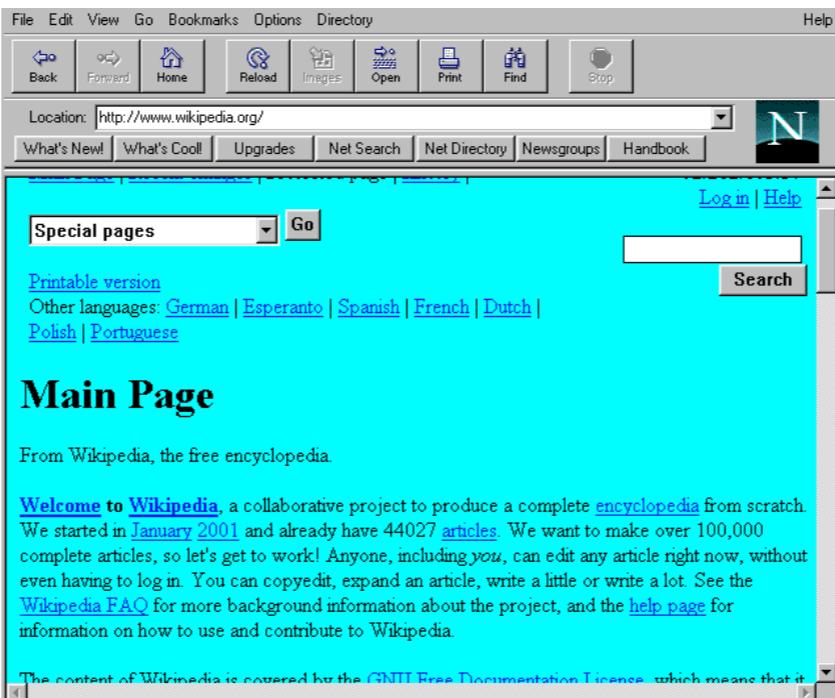
→ **1994 - World Wide Web
Consortium (W3C)**



<https://www.w3.org/>

In 1994, Tim Berners-Lee founded the World Wide Web Consortium (or W3C) to act as the main international standards body for the world wide web.

1994 - Netscape Navigator



In 1994, Netscape Navigator was released and became the first popular browser.

→ 1995 - Internet Explorer



In 1995, Microsoft released Internet Explorer, starting the First Browser War.

Internet Explorer and Netscape Navigator ignored the standards created by the W3C and competed against each other on releasing features. The features didn't work with each other and web developers often had to write two versions of their website. Many times, web developers would place "Best viewed in Netscape" or "Best Viewed in Internet Explorer" logos on their websites.

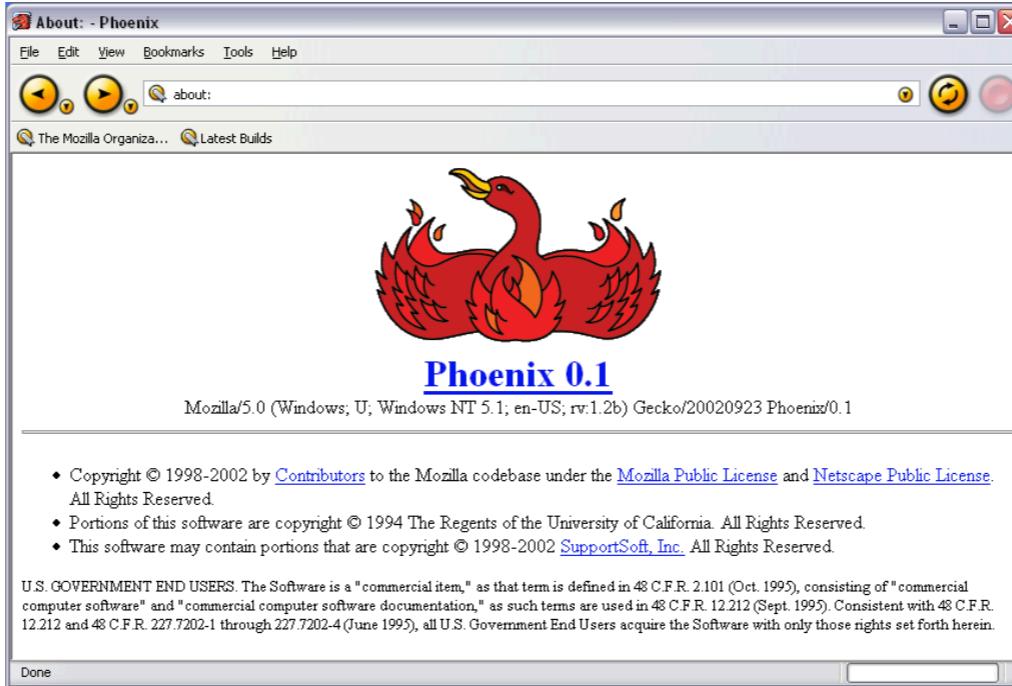
1998 - Web Standards



The Browser Wars led to the Web Standards Project forming up in 1998. This organization's goal was to get browser makers to support the standards set forth by the World Wide Web Consortium (W3C). They advocated for a standardized web to reduce the cost and complexity of development.



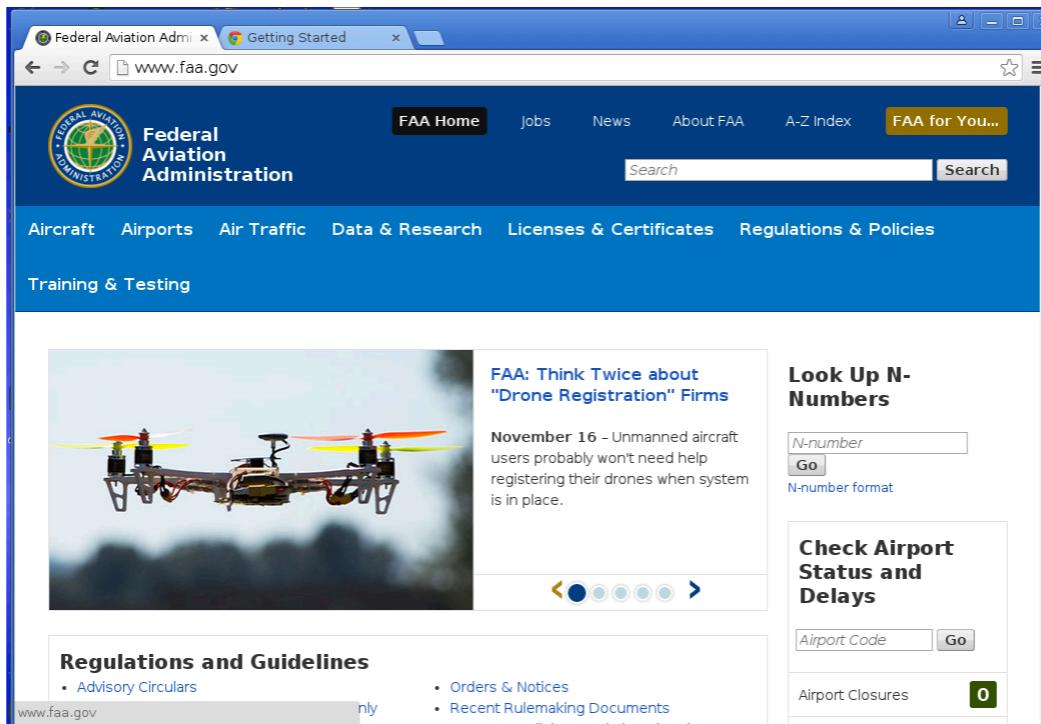
2004 - Firefox



Source: [Fsf02 via Creative Commons](#)

In 2004, Firefox was released. It was an innovative browser with features like tabbed browsing.

Current Day - Browsers



This leads us to current day where the Browser Wars are largely over and standardization across the web is highly valued.

Modern day browsers include Chrome, Firefox, Safari, Opera, IE/Edge, and more.

There are now more than 2 billion websites.

Mobile Browsers

important to understand background

1994 - PocketWeb



Source: [Von TECO, KIT - Eigenes Werk, CC BY-SA 3.0](#)

In 1994, the first mobile browser for a PDA was PocketWeb for the Apple Newton.

In 2007, the first browser for a mobile phone was released.



2007 - iPhone



Source

The first iPhone was released in 2007.

It displayed web pages as if you were on a full-size monitor, and required pinching and zooming to read the entire website.

Since then, there are many many many more mobile devices with separate browsers.

How does the internet work?

So now let's cover how the internet works. This is a good video that goes over it.

https://www.youtube.com/watch?reload=9&v=C3sr7_0FyPA

(5:27)



Client-Side

- **HTML** - Structure Layer
- **CSS** - Presentation Layer
- **JavaScript** - Behaviour Layer

Two parts of web development. There is client-side and server-side development. Client-side is what happens in the browser.

HTML is the content.

CSS is how the content should appear.

JavaScript – makes the page an interactive experience

- checking forms for valid entries
- making browser remember information for next visit
- interface widgets like expanding menus

Server-Side

- **Programming** - C#, Visual Basic, .Net, Java, Perl, PHP, Python, Ruby, etc.
- **Database** - Apache, MySQL, Oracle

client-side (in browser)

HTML – content

CSS – how content should appear

JavaScript – makes the page an interactive experience

- checking forms for valid entries
- making browser remember information for next visit
- interface widgets like expanding menus

server-side (remote computer)

can make site all client-side

commercial sites – advanced functionality

- forms handling, dynamically generated pages, shopping carts, content management systems, databases
- handled by web applications running on the server

Web Developer

- Front-end Developer
 - HTML, CSS, JavaScript
- Back-end Developer
 - Programming languages
- Full Stack Developer
 - all of the above

what does a web developer do

jobs usually in three categories
client-side, server-side

not always clear

job ads tend to ask for everything

Related Jobs You May Do

- Visual design
- User experience design
- Coding (HTML/CSS)
- Programming (PHP/Python/Ruby)
- Content Strategy
- Multimedia
- Project Management
- Social Media

other related jobs you might have

if working alone, hire others to fill skills

if on large team, specialize

if on small team, do everything!

What is Design?

for web,
allows user to focus on site content and not structure

“Design is not just what it looks like and feels like. **Design is how it works.**”

Steve Jobs

Design Solves Problems

Design solves problems. So let's take a look at some examples.



Credit: [Warren Layton via Creative Commons](#)

Industrial design is where you design products that will be manufactured through mass production.

This is opposed to craft-based design where you design it right before you make it.

KitchenAid mixer is an example of industrial design at work.



Credit: [Cindy Funk vis Creative Commons](#)

It was designed in 1937. And it's kept a similar design over many decades. It hasn't completely changed so much as it has been improved over time.

The important part of this design is all in how it works. It's important that the Kitchenaid Mixer can mix. Appearance also matters because people want appliances that look nice sitting on their counters so they don't have to hide it in a cupboard.

But if it looked pretty and didn't work well, no one would buy it.

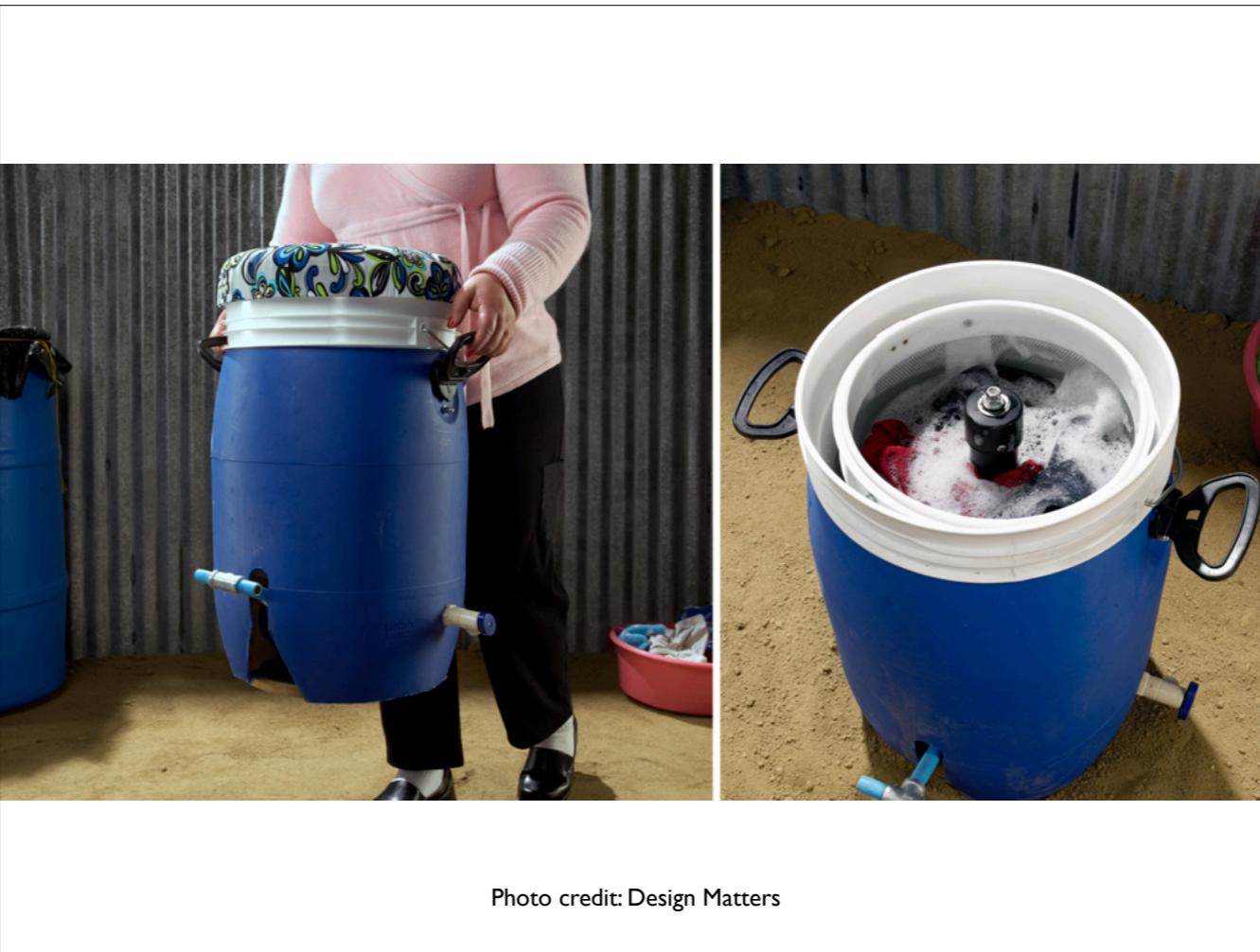


Photo credit: Design Matters

- Another example of how design solves problems.
- This was a design created by some students who were doing a challenge focusing on water poverty.
- In Lima, Peru women spend hours carrying water for drinking, cooking, and washing.
- So this design is a hand-operated combination washer and dryer that costs less than \$40 to produce.
- The students designed it to work like a giant salad spinner. You sit on top and spin with foot pedal.
- They designed it to be portable so the person using it can take it directly to the water source.
- far less time than washing by hand, more free time for women



Photo credit: Gabriele Diamanti

Another example of design solving problems. This is a solar still that turns salt water into fresh drinking water.

- Doesn't need to be mass produced
- It was designed and then instructions can be given to local craftspeople who can use the design to make the still out of local materials and sell it at a low price to the community.

Design Disciplines

- Applied arts
- Architecture
- Automotive design
- Biological design
- Communication design
- Configuration design
- Design management
- Engineering design
- Experience design
- Fashion design
- Game design
- Graphic design
- Information architecture
- Information design
- Industrial design
- Instructional design
- Interaction design
- Interior design
- Landscape architecture
- Lighting design
- Modular design
- Motion graphic design
- Organization design
- Product design
- Process design
- Service design
- Software design
- Sound design
- Spatial design
- Strategic design
- Systems architecture
- Systems design
- Systems modeling
- Urban design
- User experience design
- Visual design
- Web design

Source: <https://en.wikipedia.org/wiki/Design>

other types of design

clothing design – has to fit well, not wear out, easy to put on

interior design – not just decorations, but **shaping the experience of interior space** (wikipedia), how you walk through a room, where people sit to have conversations, light for reading

architecture

what are some types of design?

design is for people (users)

Learn From Other Designs

- When you find website designs you like, save them for future inspiration
- Take screenshots or bookmark them
- Don't just focus on visual design, but how the websites solves problems

- not just design, but how it works
- remember/keep track of specific things you like and that you might find useful; e.g. a particular way to display a shopping cart
- good design is not the same as whether you like a design
- you may not be the intended audience

Activity: Design

- Visit a few different websites.
- What problem are they trying to solve overall?
- How do they approach solving that problem?
- Look at different parts of the site and look at what works well and what doesn't work well.

20 minutes – work with someone else

For example, if you go to Amazon, the problem is how can people get merchandise they want delivered to them quickly and easily. The problem is not as simple as how to sell things.

If you're on an ecommerce site, check how they display what is in your cart? If you're on a news site, look at how they display local news vs national or world news.

Then a few of you can share what you found.

User Experience Design (UX)

Through good UX, you are trying to reduce the friction between the task someone wants to accomplish and the tool that they are using to complete that task.

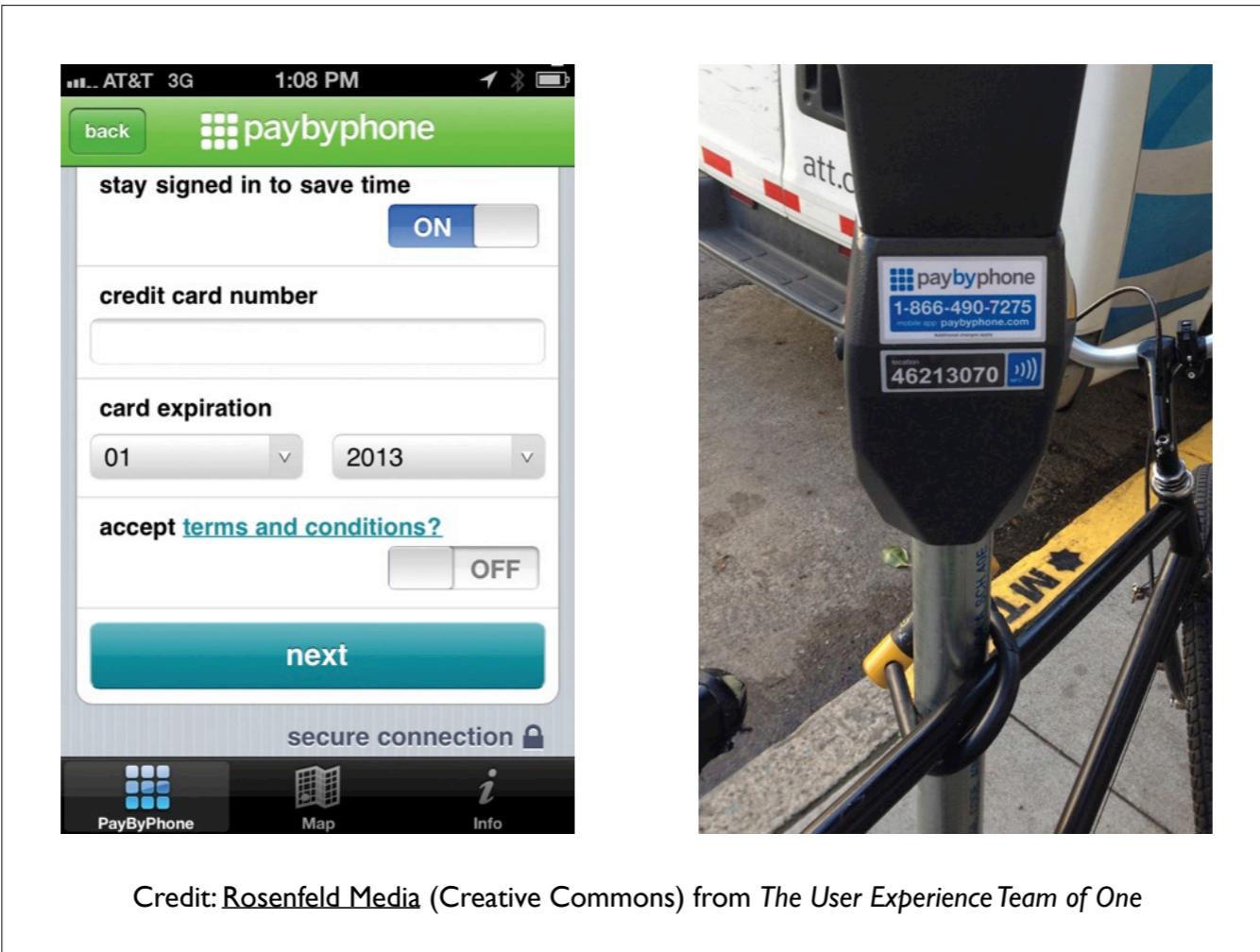
Example Amazon

- can find what you want on site
- easy to find information like dimensions, colors, description
- check out process is painless
- know when your order is going to arrive

User Interface (UI)

– may have heard this term

screen through which people interact with the device/computer



A lot of people get these terms confused. A good UI is part of a good UX. But the UI is not all there is to User Experience.

Some examples of user experience. This is a parking payment app.

- Do they know how to get to website/app?
- Can they find the parking zone number?
- How can they be sure their payment went through?
- Is it clear how to add time?

Usability

Usability is a big part of User Experience.

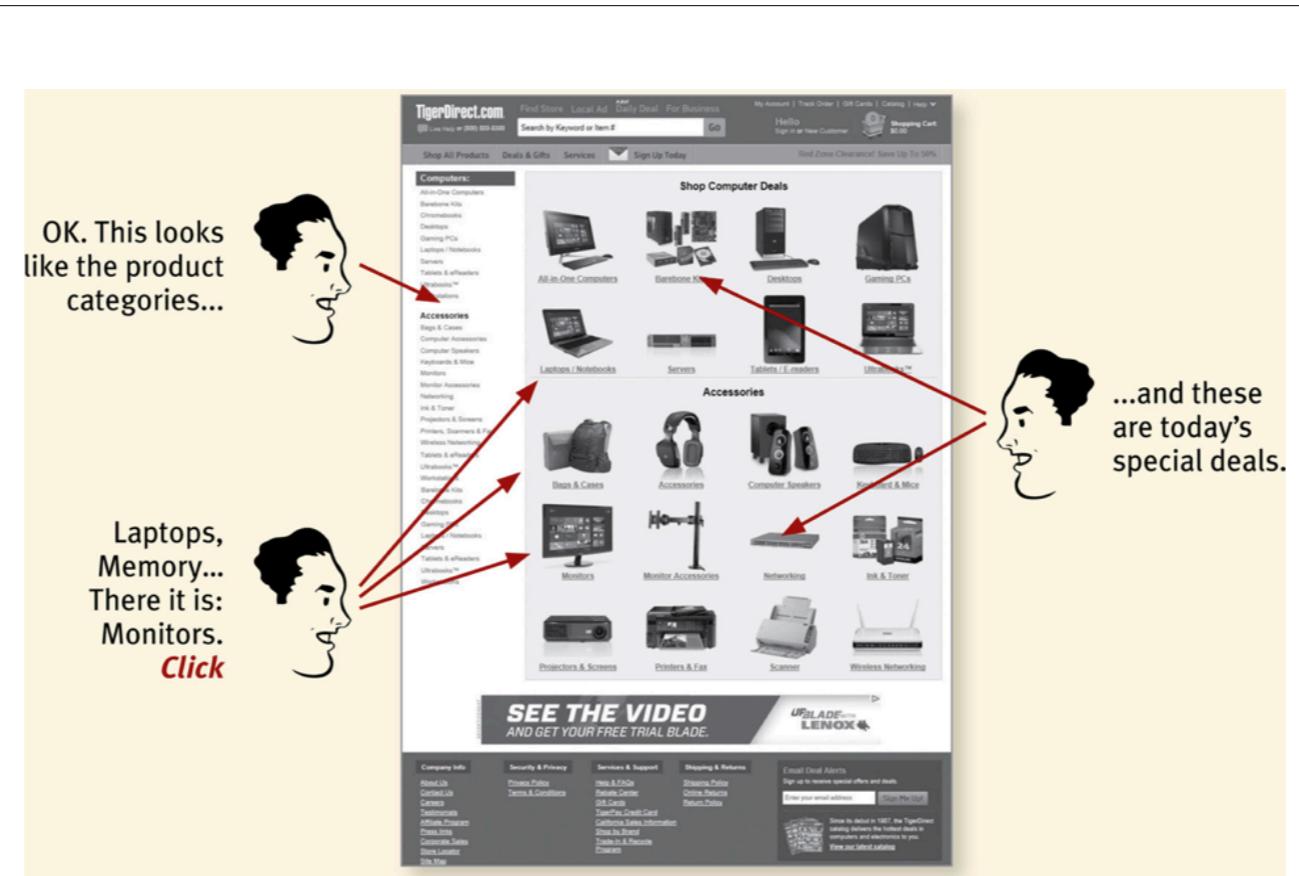
“A person of average (or even below average) ability and experience can figure out how to use the thing to accomplish something without it being more trouble than it's worth.”

- **Steve Krug, *Don't Make Me Think***

People need to easily be able to figure out how something works. The process needs to be pleasant.

As a developer, you need to consider who the typical user is. It's not whether or not you find something easy to use, it's whether or not they find something easy to use.

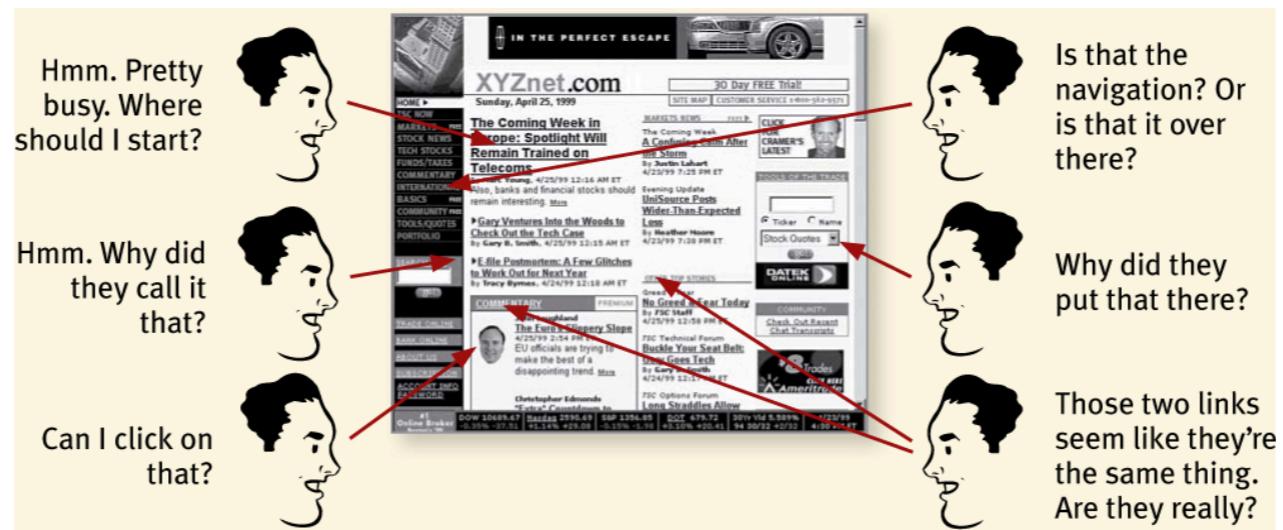
Your users want different things. They have different goals when using your site and they have different abilities.



Credit: Steve Krug, *Don't Make Me Think*

Here's an example from *Don't Make Me Think*.

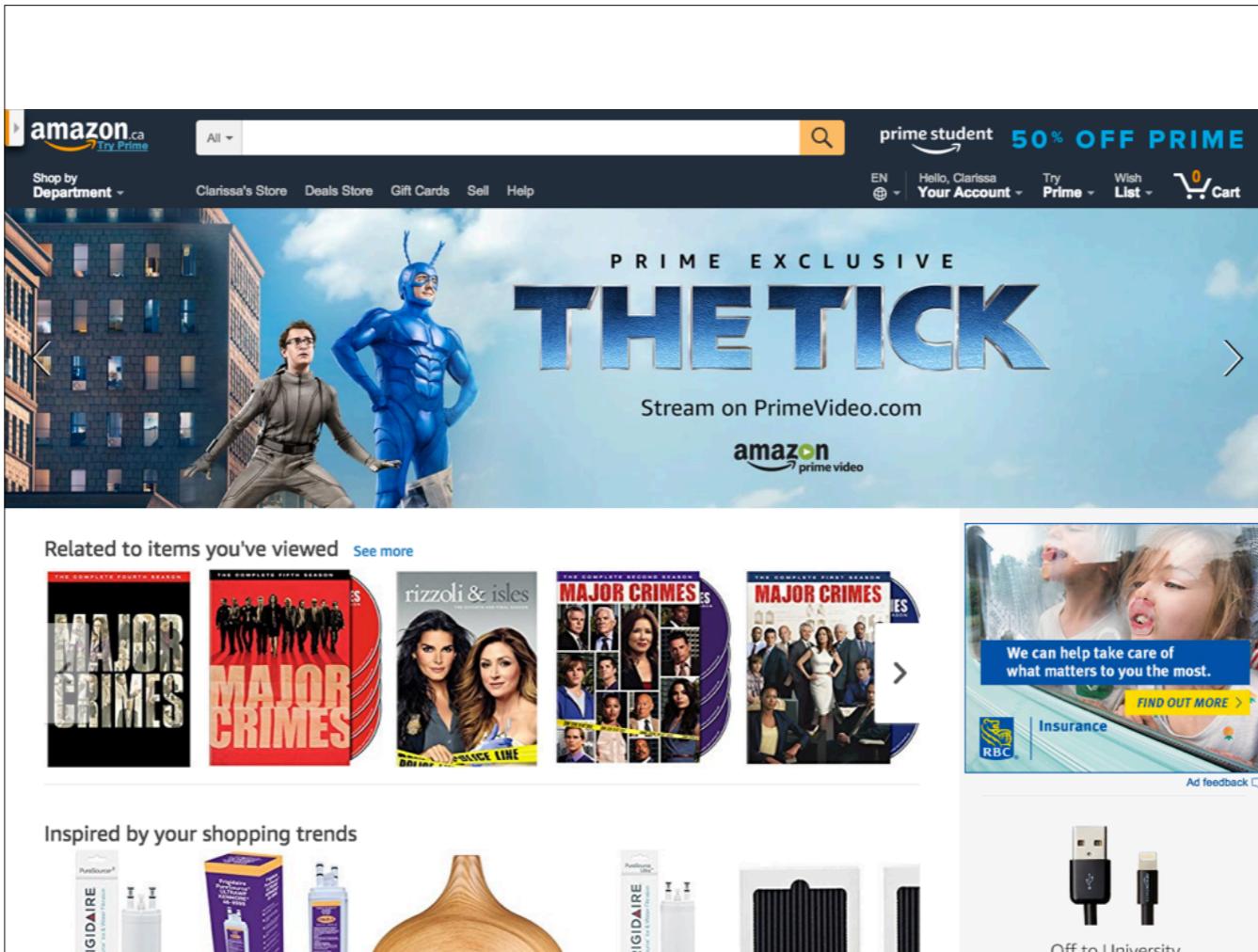
Everything on your website should be obvious. Your visitors should be able to understand what everything does without needing to spend a lot of time to figure it out.



Credit: Steve Krug, *Don't Make Me Think*

Convention

A convention is when something is usually seen a certain way, so people expect it to be that way.



- top left is logo which is home link
- Menu is across the top or on the left
- Links are underlined in text (not in navigation)
- Stores use shopping cart model.

Sometimes the convention isn't really the most usable way to do something. But the fact that everyone will already understand the convention should be taken into account.



Don't be innovative just to be innovative.

Not following conventions can make it harder for the designer and the user.

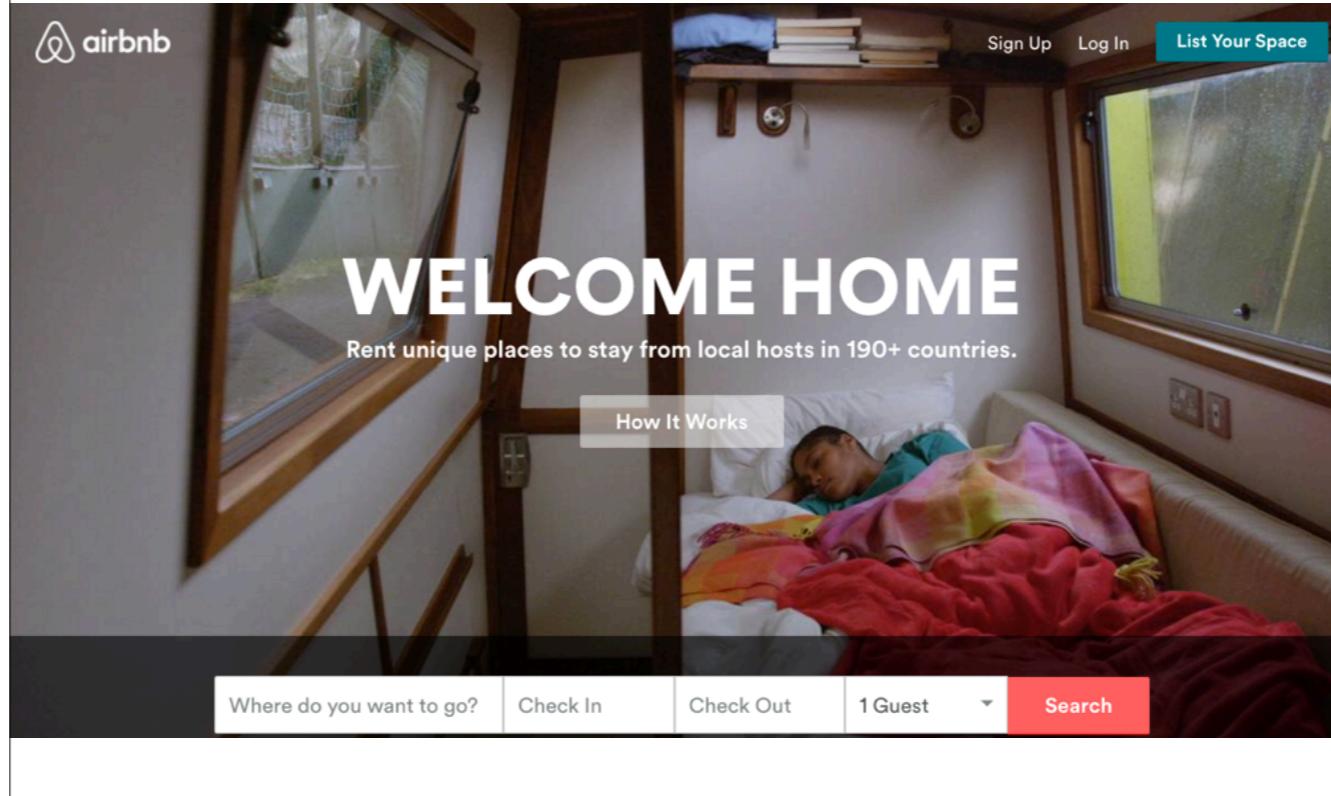
Houses don't have to be rectangles, but

- they're easier to build because builders know how they work, materials are standard
- furniture fits better in rooms with corners (try putting a bookshelf against a curved wall)

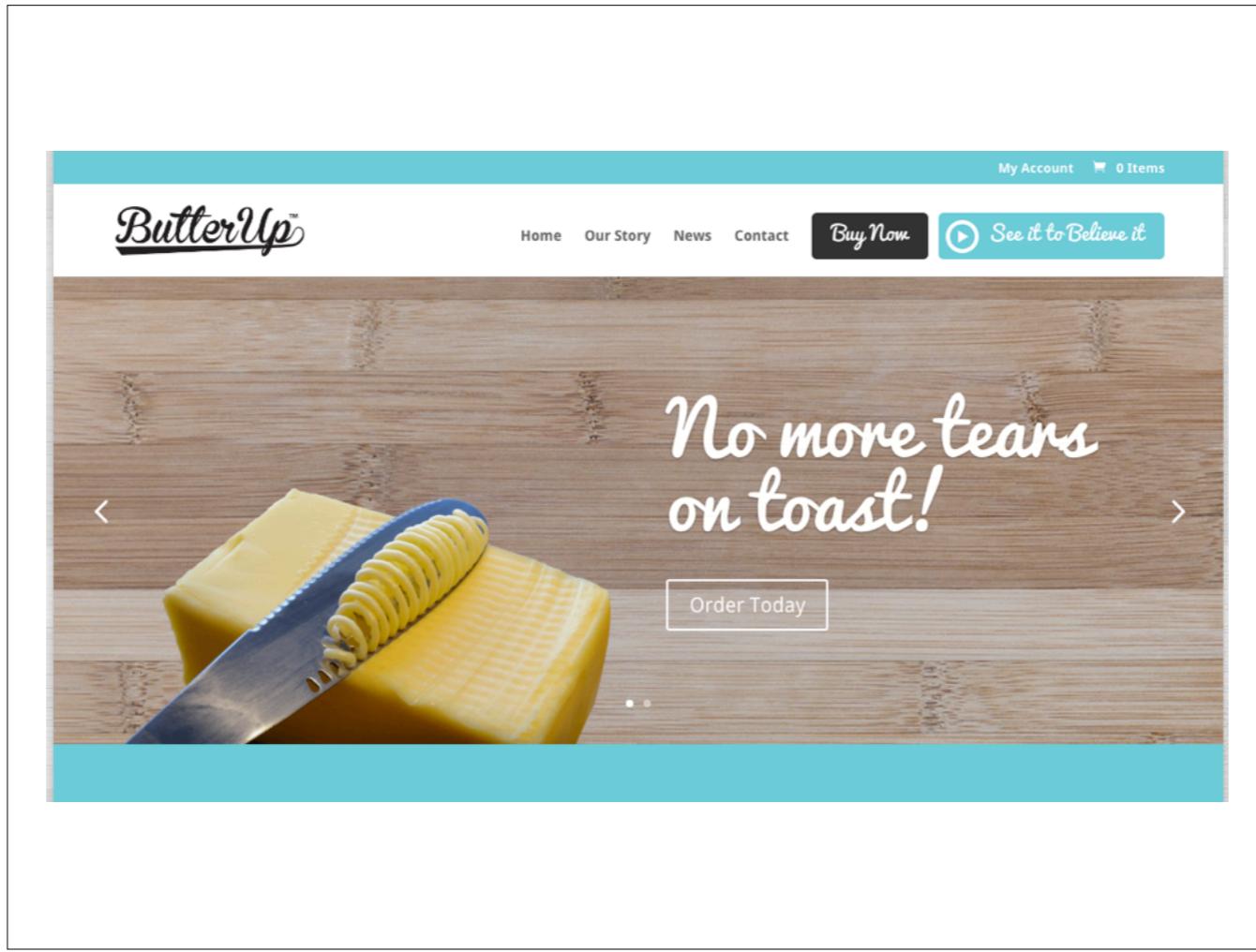
Links

It needs to be obvious what you can click and you need to give an idea of where those links will take someone.

What is this site for?



We have a headline – Welcome home. We have a little description – Rent unique places to stay from local hosts in 190+ countries. And we have a link that says “How it Works” that will take you somewhere to learn more about how this works. – this is good, this is obvious, and people don’t have to think too hard about what the website is for.



So this website is less obvious. It's hard to tell what the product is at first glance.

Does anyone want to give it a try? What is this website for?

This website is all about selling a butter knife to spread cold butter without tearing bread.

It's not super obvious, and some users may wonder if it's is "tears" like crying or "tears" like ripping something.

Accessibility

Accessibility is another important part of User Experience.

You want to make sure that your design works for people with different environmental restraints and different capabilities.

“Like usability, accessibility is a quality—in this case, it means how easily and effectively a product or service can be accessed and used.”

- A Web for Everyone

Types of Disabilities

ASK QUESTION – What are some types of disabilities that may affect how someone uses a website?

vision – blind or low vision

hearing – deaf or hard of hearing (caption on videos)

mobility – unable to use mouse, only uses keyboard

- uses voice commands

cognitive disabilities – brain injury/disease

- dyslexia

- memory

- ADHD

epilepsy

also temporary disabilities like broken arm

or context like holding a baby. There are many different contexts in which your users may not be able to use your website as well as another person.

“Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.”

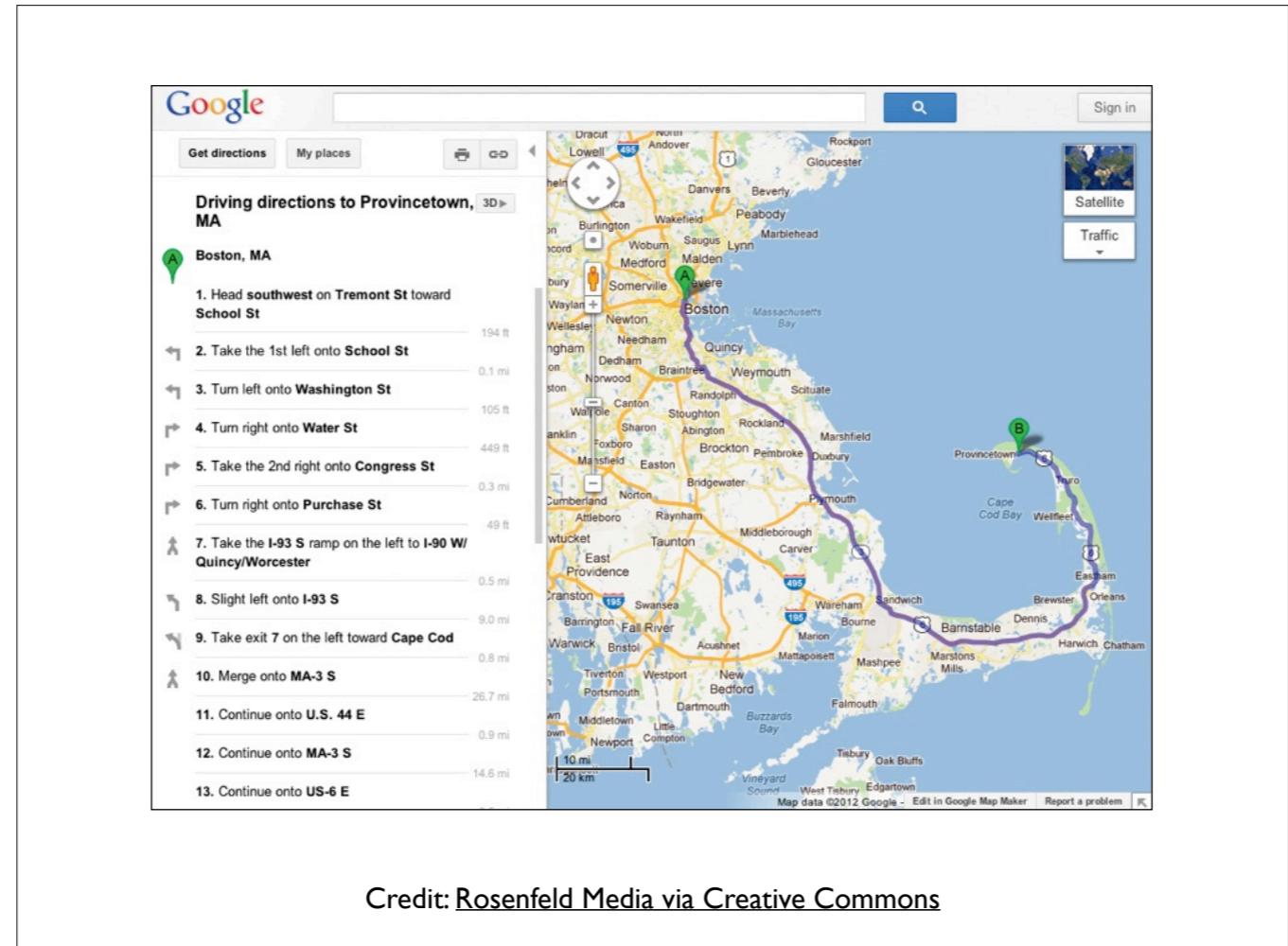
- Ron Mace

The Principles of Universal Design

So every design should start with the idea that there is no typical, average, or normal user.

For example, when building a ramp:

- if you make it work better for people with disabilities, it works better for everybody
- wheelchair ramp also helpful to people with strollers or rolling luggage, or people who are just tired and don't want to climb stairs



Credit: [Rosenfeld Media via Creative Commons](#)

An example of this is the step by step directions in Google Maps. This started as an accessibility feature in 2006. But it's useful to everyone, and now just about everybody uses it.

Skip to Content | Change text size or colors


Web Accessibility initiative

WAI: Strategies, guidelines, resources to make the Web accessible to people with disabilities

W3C Home

- [Web Accessibility Initiative \(WAI\) Home](#)
- [Getting Started](#)
- [Designing for Inclusion](#)
- [Guidelines & Techniques](#)
- » Web Content (WCAG)**
 - [WCAG 2.0 technical](#)
 - [How to Meet \(Quick Reference\)](#)
 - [WCAG 2.0](#)
 - [Techniques](#)
 - [Understanding](#)
 - [Conformance Logos](#)
 - [Translations](#)
- [WCAG 2.0 educational](#)
- [The WCAG Documents](#)
- [WCAG at a Glance](#)
- [WCAG 2 FAQ](#)
- [Applying to Non-Web ICT](#)
- [Transition to 2.0](#)
- [How 2.0 Differs from 1.0](#)
- [Comparison of 1.0 to 2.0](#)

Web Content Accessibility Guidelines (WCAG) Overview

Web Content Accessibility Guidelines (WCAG) is developed through the [W3C process](#) in cooperation with individuals and organizations around the world, with a goal of providing a single shared standard for web content accessibility that meets the needs of individuals, organizations, and governments internationally.

The WCAG documents explain how to make web content more accessible to people with disabilities. Web "content" generally refers to the information in a web page or web application, including:

- natural information such as text, images, and sounds
- code or markup that defines structure, presentation, etc.

Who WCAG is for

WCAG is primarily intended for:

- Web content developers (page authors, site designers, etc.)
- Web authoring tool developers
- Web accessibility evaluation tool developers
- Others who want or need a standard for web accessibility

Related resources are intended to meet the needs of many different people, including policy makers, managers, researchers, and others.

WCAG is a technical standard, not an introduction to accessibility. For introductory material, see [Where should I start?](#) in the

Quick links:

- [How to Meet WCAG 2.0 \(Quick Reference\)](#)
- [WCAG 2.0 Technical Standard](#)
- [WCAG 2.0 at a Glance](#)

Page Contents

- [Who WCAG is for](#)
- [What is in WCAG 2.0](#)
- [WCAG 2.0 is ISO/IEC 40500](#)
- [WCAG with other guidelines](#)
- [Who develops WCAG](#)
- [More Information](#)

<https://www.w3.org/WAI/intro/wcag>

W3C Web Accessibility Initiative (WAI)

- develops web accessibility standards and guidelines for web and software developers

The two most important are

- Web Content Accessibility Guidelines (WCAG 2.0)
- Accessible Rich Internet Applications (WAI-ARIA) standard.

WCAG 2.0 Four Principles

1. **Perceivable** - Information and user interface components must be presentable to users in ways they can perceive.
2. **Operable** - User interface components and navigation must be operable.
3. **Understandable** - Information and the operation of user interface must be understandable.
4. **Robust** - Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including assistive technologies.

1. it can't be invisible to all of their senses
2. the interface cannot require interaction that a user cannot perform
3. The information on the website needs to be simple enough that everyone can understand how to get around the website and what the website content is talking about.
4. The content or functions need to work across a wide range of technology including different browser versions, mobile phones, and also technology that assists people like screen readers.

Assistive Technology

- Screen reader
- Screen magnification software
- Text reader
- Speech input software
- Alternative input devices
 - Head pointer
 - Motion tracking/eye tracking
 - Single switch entry device

Source: <https://webaccess.berkeley.edu/resources/assistive-technology>

Screen reader – for blind people

Screen magnification software – like holding a magnifying glass

Text reader – for people with learning disabilities, may have highlighter

Speech input software – limited commands to perform mouse actions

Alternative input devices – if can't use mouse/keyboard

– Head pointer – stick or object mounted to head

– Motion tracking/eye tracking – interpret where user wants mouse pointer

– Single switch entry device – cursor moves through webpage based on pressing the switch

Screen Readers

- visually-impaired users (blind, low vision)
- reads everything on computer out loud
- there are things you need to do to make sure your site works on screen readers which you'll learn about more when you're writing HTML and CSS



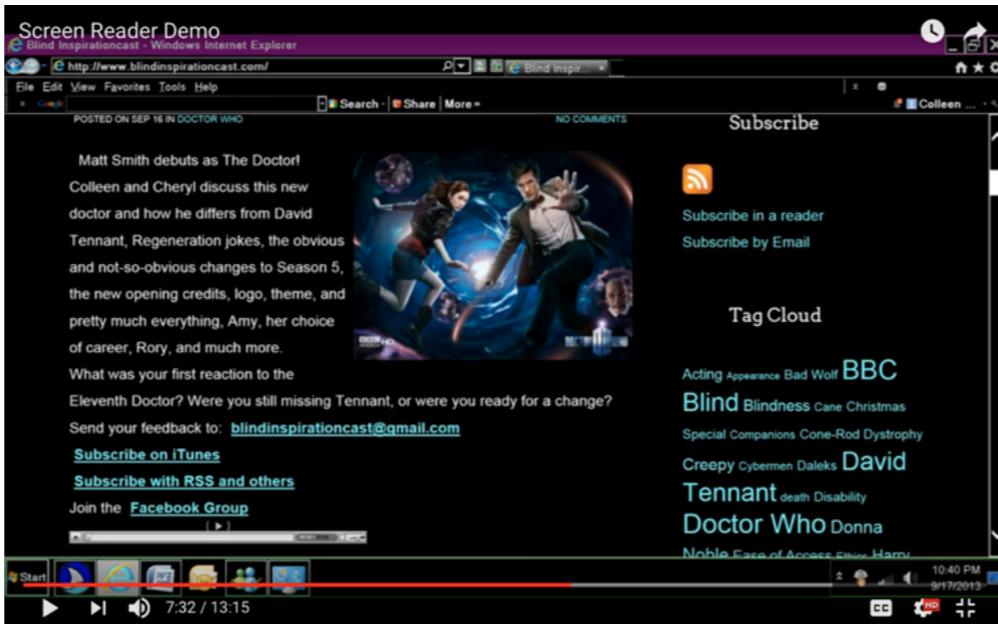
here is a person using a screenreader

they need

- alt text on pictures (description)
- heading levels
- link text

(public domain image)

Screen Reader Demo by Blind InspirationCast



<https://www.youtube.com/watch?v=2PMuBQ7LyOw>

So now we're going to watch a Screen Reader Demo by Blind InspirationCast.

Example of what her screenreader reads:

"Page has 9 regions, 10 headings, 42 links"

Tells you which links are visited

Don't use click here text



Example of what her screenreader reads:
"Page has 9 regions, 10 headings, 42 links"
Tells you which links are visited

Don't use click here text

Alt Text (Alternate Text)

tells user what's in the image, within the context of where the image is found

To create good alternate text, pretend you're reading aloud, when you get to image, what do you say?

Don't:

- duplicate caption
- Duplicate information you already have on the page
- use a super short description like "trees"
- Start with "a picture of" something

Do:

- stick to 256 characters or less
- Try turning off images in your browser so you can see and test your alt text



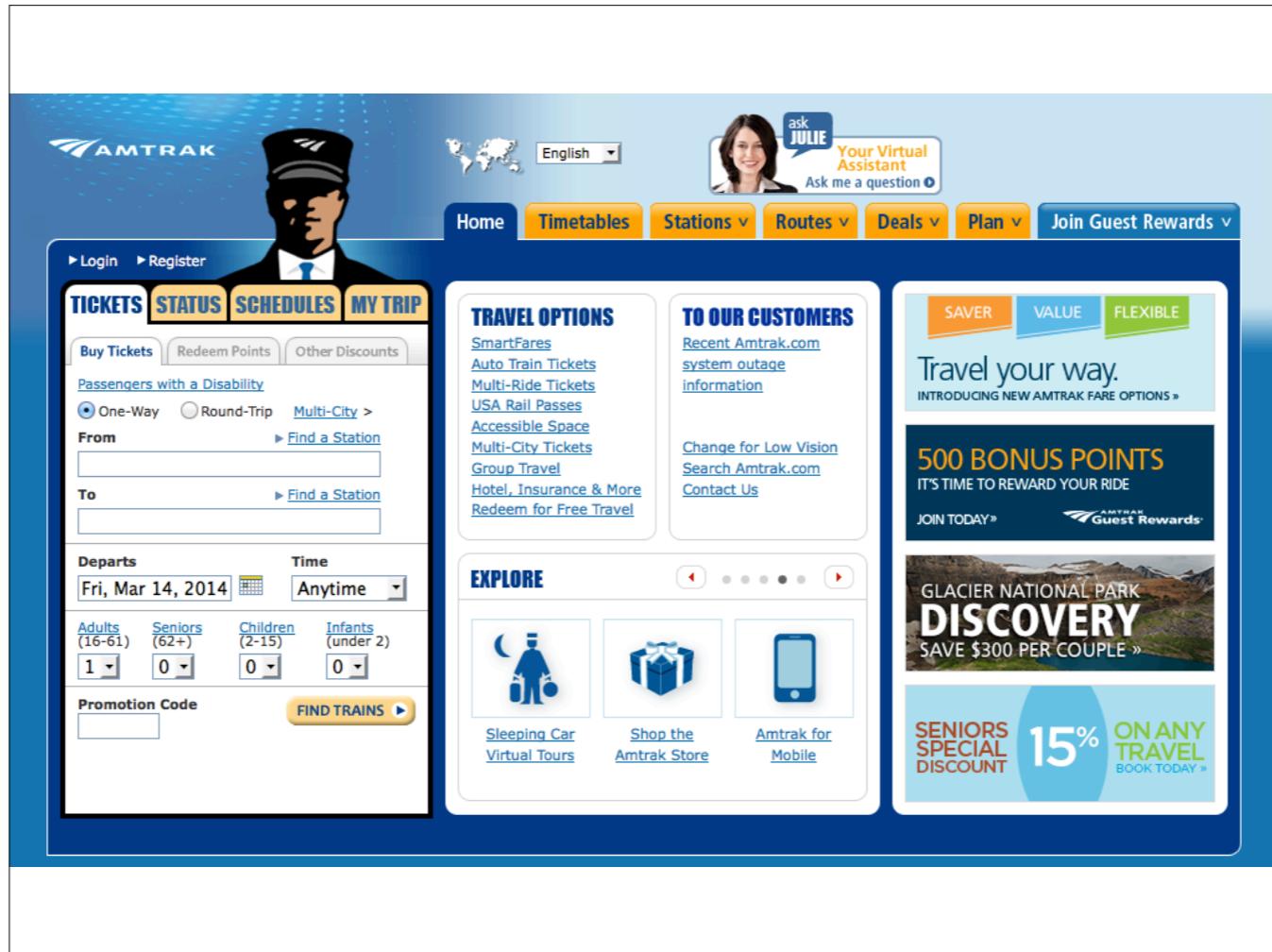
Let's go through some examples.

Depending on the purpose of this image in the page, the alt text might read:

- "A young panda at the National Zoo in Washington, DC"

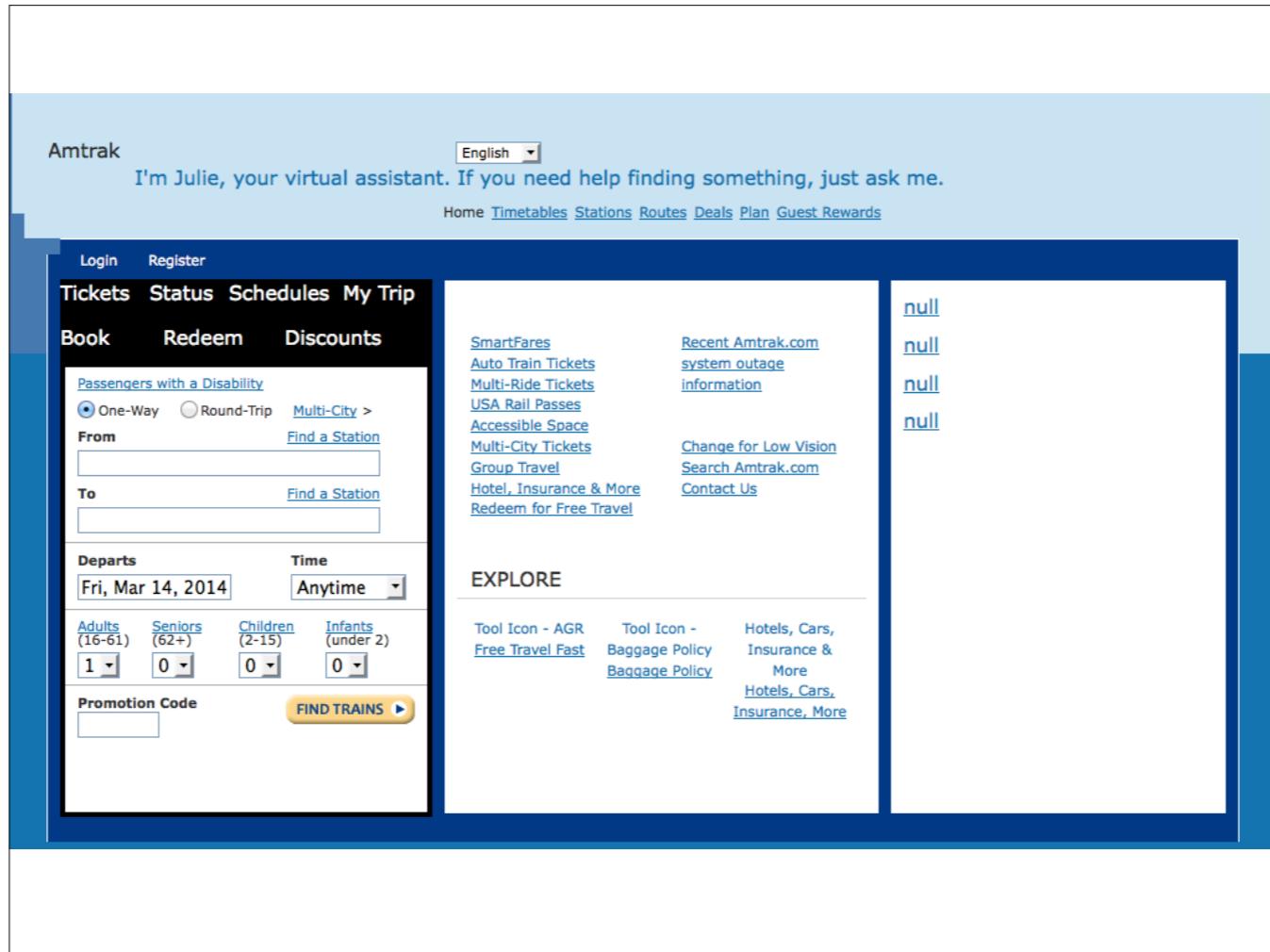
Maybe the article is about how much pandas like carrots

- "A panda greedily eyes a carrot before pouncing on it and eating it."



So here's an example of a page with a lot of images.

(go to next page)



And here's the same page with alt text instead of pictures.

So here, we can see that the:

- logo has alt text
- tabs and headings have alt text
- the icons under Explore have alt text, but you don't actually need them here because they duplicate content in links
- the image of the conductor's head correctly doesn't have alt text since it's just for decoration
- ads on right should have alt text but don't, so screenreader user can't learn about them

Hours & Locations Help Log In / My CPL

CALGARY PUBLIC LIBRARY

Search Q

Explore E-Library Programs Services Membership School

LIBRARY SERVICES

Technology
[The Book Truck](#)
Book a Tour
Book a Meeting Space
Using Other Library Systems
Special Services
Local History
Sun Life Financial Arts + Culture Pass
Art at the Library
ResearchPlus
Author in Residence

The Book Truck



Meet Calgary Public Library's newest addition: The Book Truck!

Our two new "libraries on wheels" are now on the road. The Book

GET A LIBRARY CARD

Get your FREE Library card today!

So one key point is that you should describe content in images inside alt text, but don't replace decorations with alt text.

- Logo = alt text is "Calgary Public Library" not snowflake in alt text
- The search icon also doesn't need alt text because it already has a label.

Actual alt text = "Book Truck" – but an important piece of information is the size of the truck so that the user knows what the book truck is better – "large van with the words Book Truck on the side"

[HOME](#) > [PROGRAMS](#) > [SCHOOL PROGRAMS](#) > [MUSEUM PROGRAMS](#) > [EDUCATOR-LED PROGRAMS](#) > [SECRETS OF THE LOST QUARRY](#)

EDUCATOR-LED PROGRAMS **SECRETS OF THE LOST QUARRY**

Now available in French/Maintenant
disponible en français!

In the early 20th century, fossil hunters did not always document their excavation sites and key information was often lost. With the students' help, we locate and uncover one of these lost quarries. During this interactive, multi-media program, participants experience the badlands and discover how scientists find fossils.

Pendant le début du vingtième siècle, les chercheurs de fossiles oubraient souvent de noter où ils trouvaient les fossiles et



– **Seven Wonders Of The Badlands**



Marvel at the wonders of the badlands on this guided hike.

[FIND OUT MORE](#) 

• **Palaeontology as a Career**

• **Preparation Lab**

- the image helps the user understand what this museum program is about, example of an activity (so describe activity in alt text)

SCHOOL PROGRAMS TEACHER RESOURCES

Help your students ignite their passion for palaeontology with resource materials designed just for teachers. We also offer professional development workshops.

Booking Information

Toll free in North America
(outside Alberta)
1-888-440-4240

Toll free in Alberta



Teacher Resource Guides

- ARTiculation



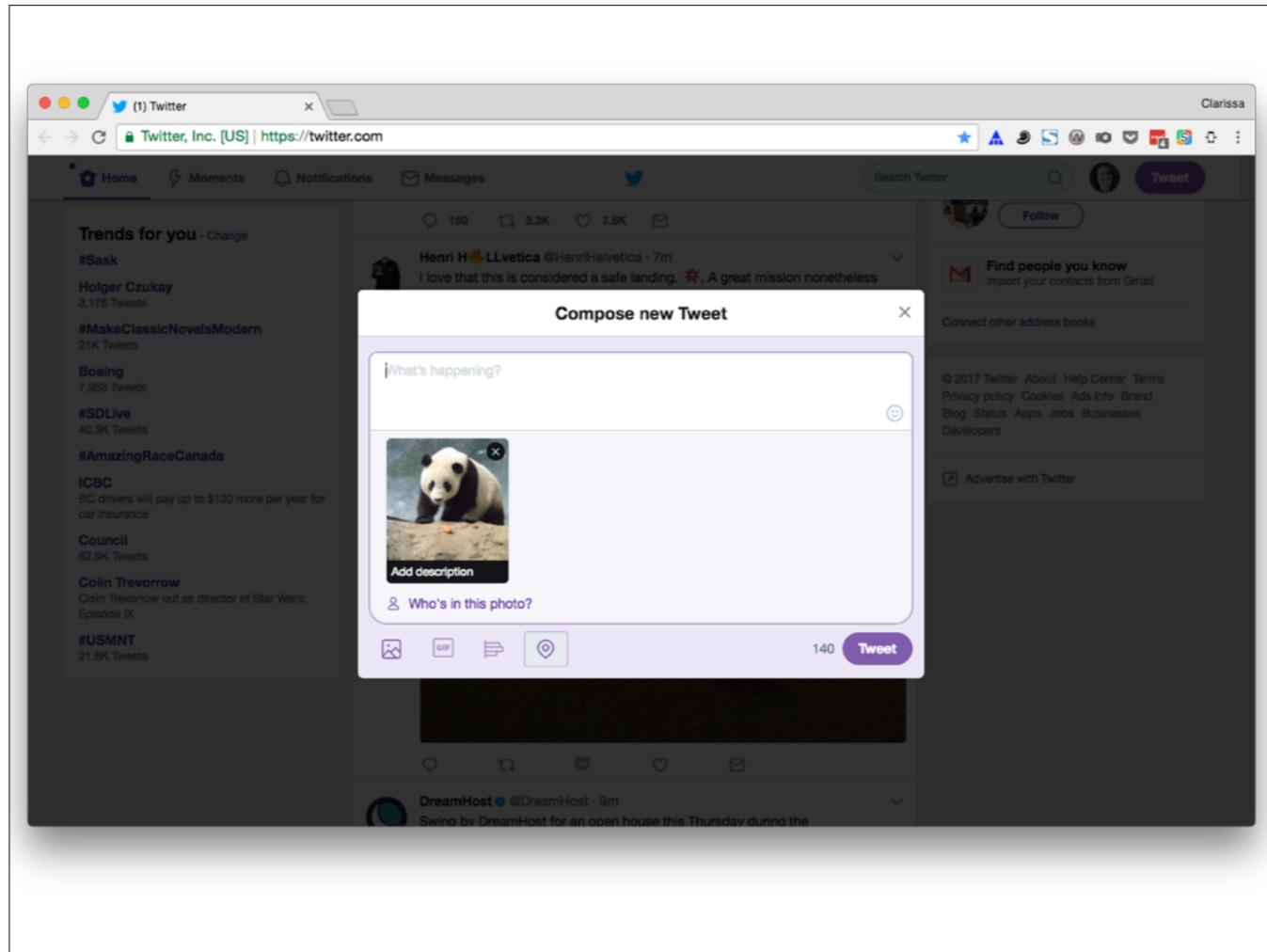
Art and science come together as students create and paint a complete skeleton of a small carnivorous dinosaur.

[FIND OUT MORE](#) >

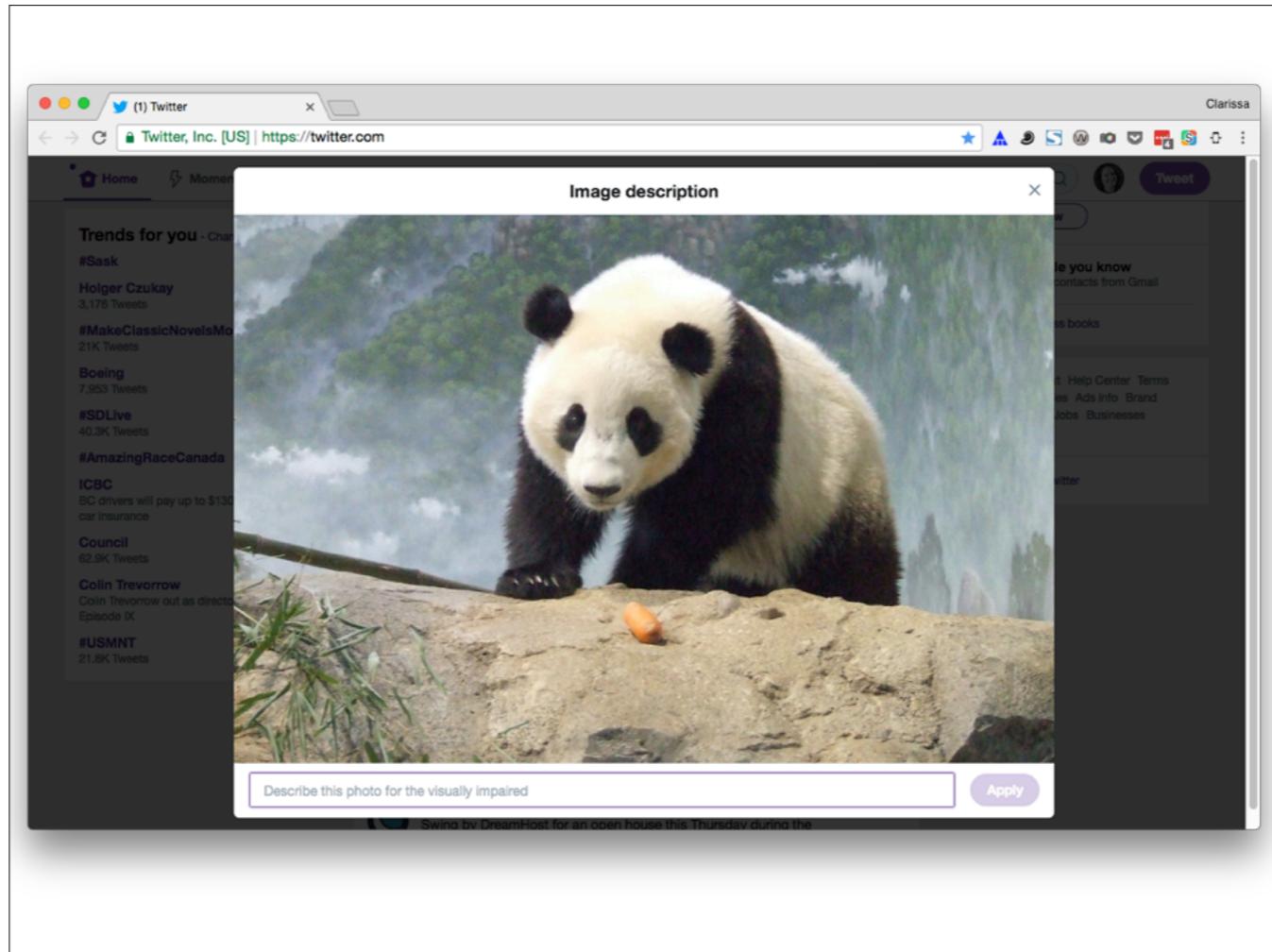
* Palaeontology as a Career

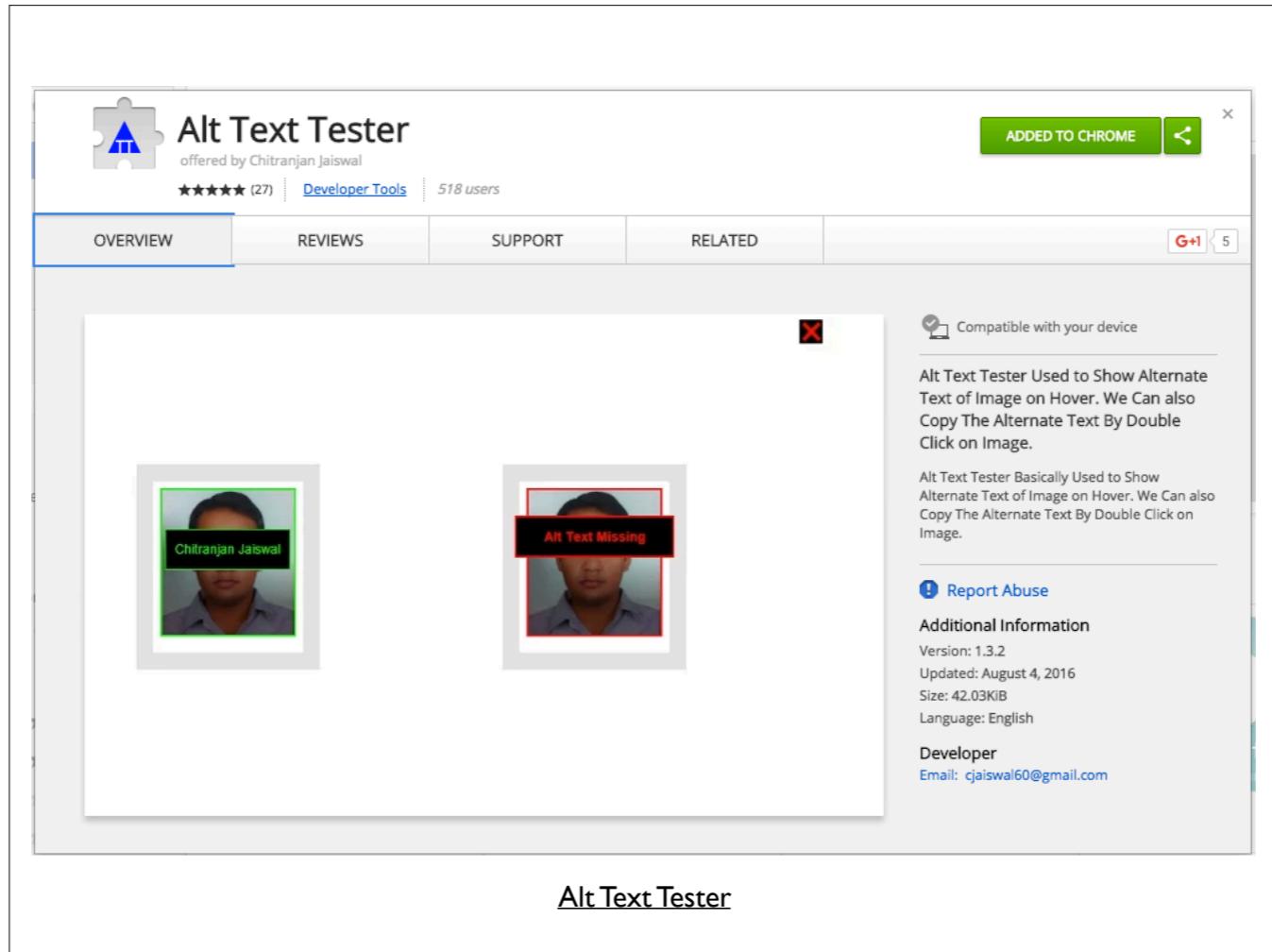
* Preparation Lab

- photo does not add new information, really just decorative
- alt text should be empty



You can add alt text to your images on Twitter.





add-on for Chrome to see which images have alt text

- demo this in class

<https://axesslab.com/alt-texts/>

Link Text

- Height 6'3"

For rates, [click here](#)

Sherbrook Street Underground Garage
Entrance: 820 Sherbrook Street

- Limited space available
- Tunnel and elevator access to Children's Hospital, Thorlakson Building and Rehab/Respiratory Hospital
- Height 6'8"

For rates, [click here](#)

Rehab Underground Garage
Entrance: McDermot Avenue at Olivia Street

- Limited space available
- Connected to HSC by tunnel
- Close to Rehab/Respiratory Hospital, CancerCare Manitoba
- Height 9'5"

For rates, [click here](#)

Emily Street Parkade
Entrance: 10 Emily Street

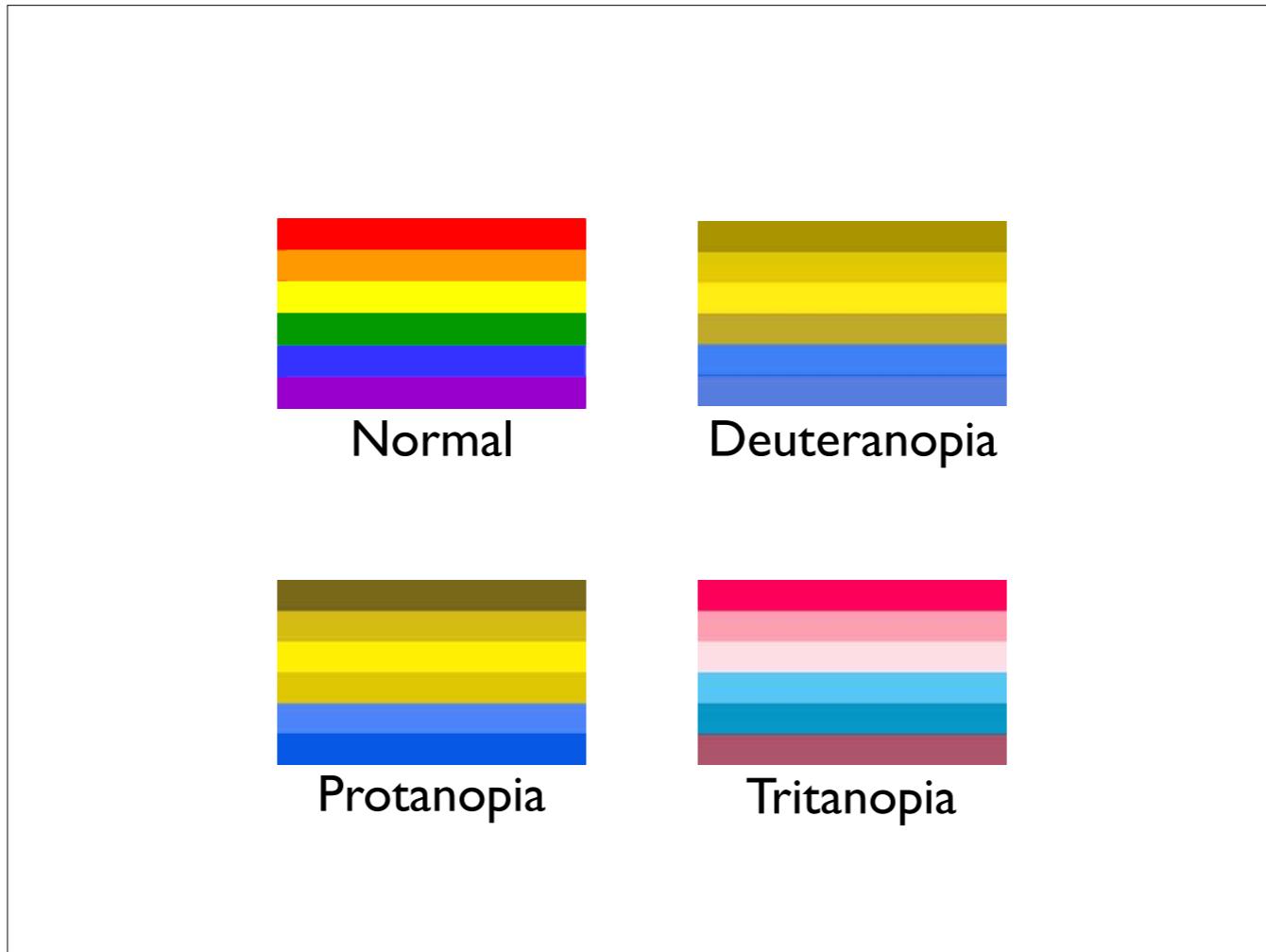
- Connected to HSC by tunnel
- Close to 707 McDermot Avenue Entrance, Women's Hospital, Lennox Bell Lodge, John Buhler Research Centre, U of M and CancerCare Manitoba
- Height 7'

For rates, [click here](#)

- screen reader users can hear list of links
- don't use "click here"
- every link should be descriptive
- imagine the links are being read out loud to you

Colour Blindness

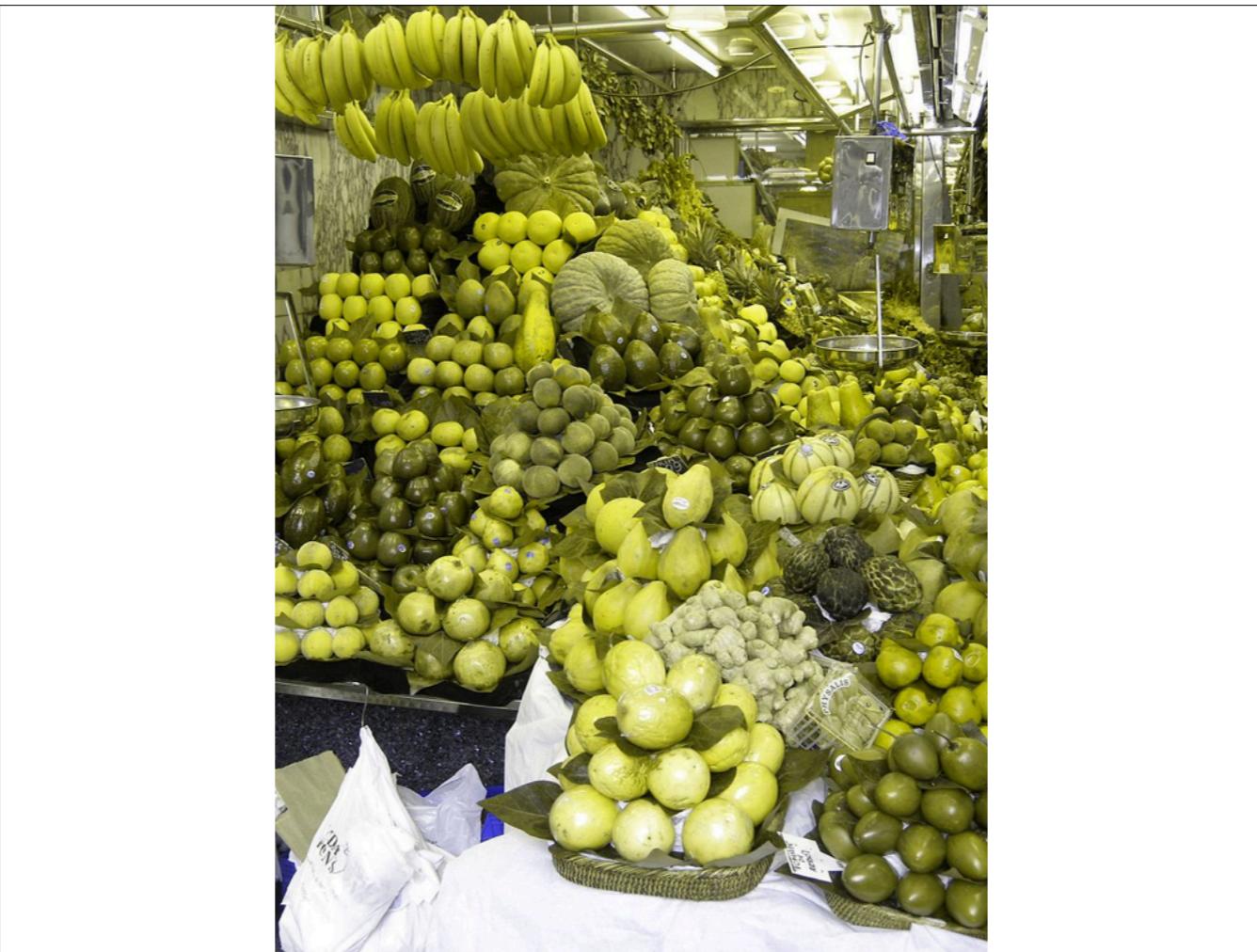
Question: Is anyone here color blind?



three types of color blindness, this is what they see for “normal” rainbow



most common green/red colorblindness
reds look green
this is normal >>



this is red/green colourblindness
doesn't just affect red - whole spectrum

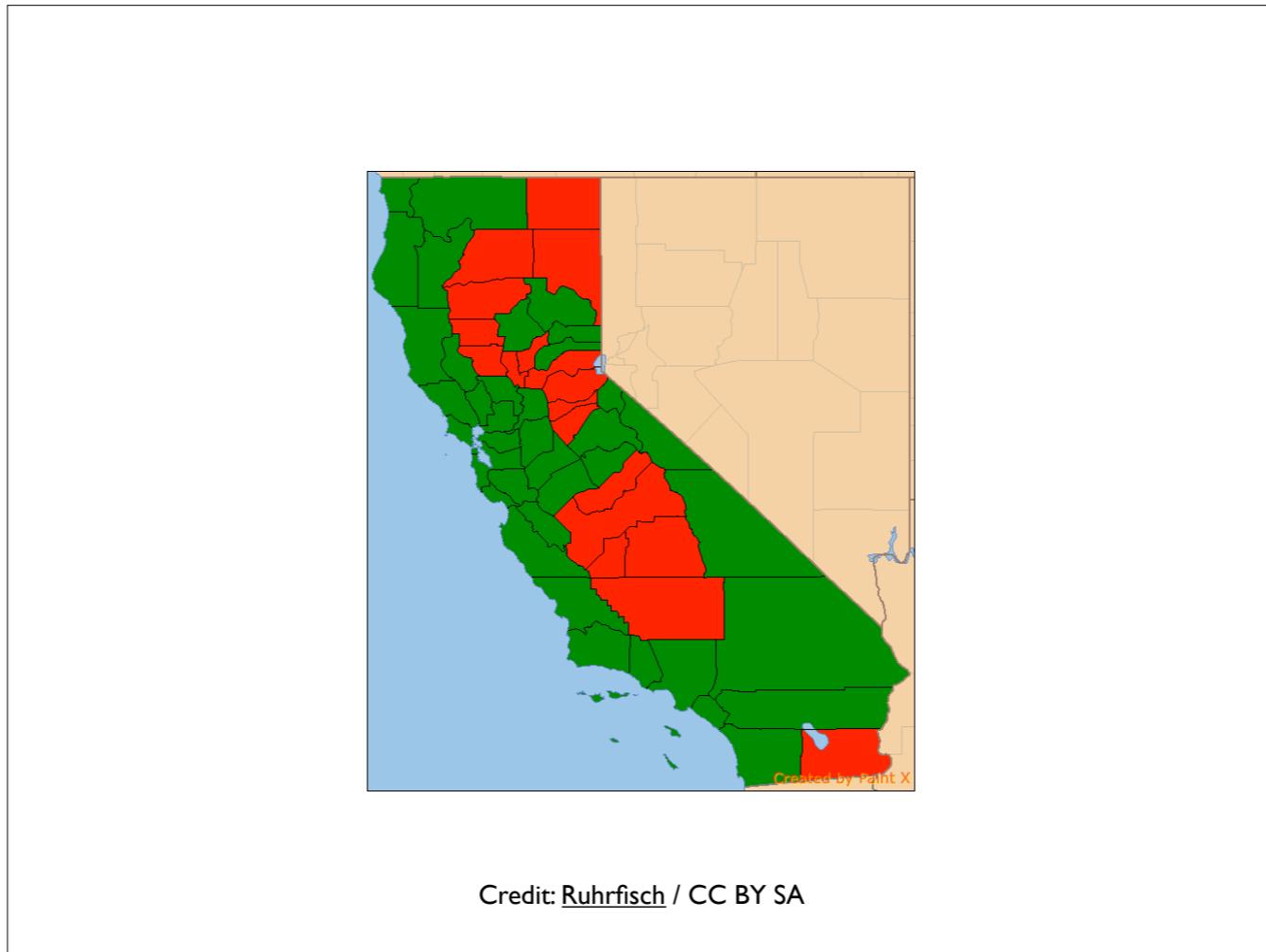


Credit: thecrazyfilmgirl <https://flic.kr/p/5X3ixX>

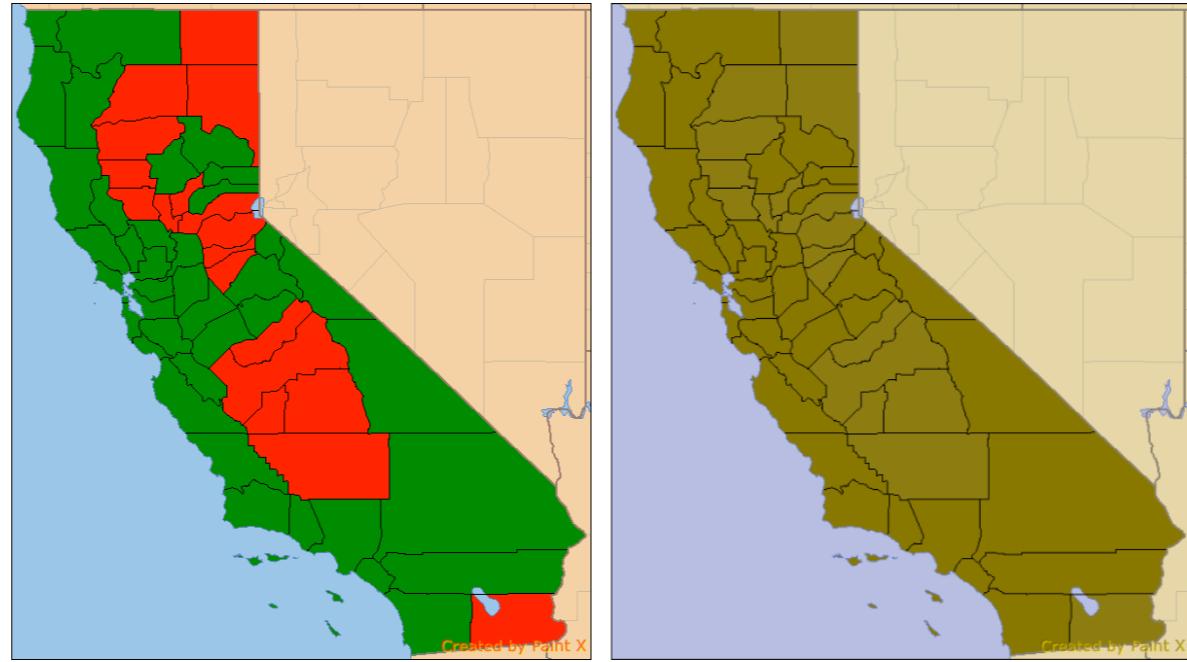
accessibility – don't rely on color

- stop sign is only sign that is red so it stands out
- but also only sign with eight sides
- (besides, of course, the word stop)

don't do required items on form in red, do red plus something else like asterisk

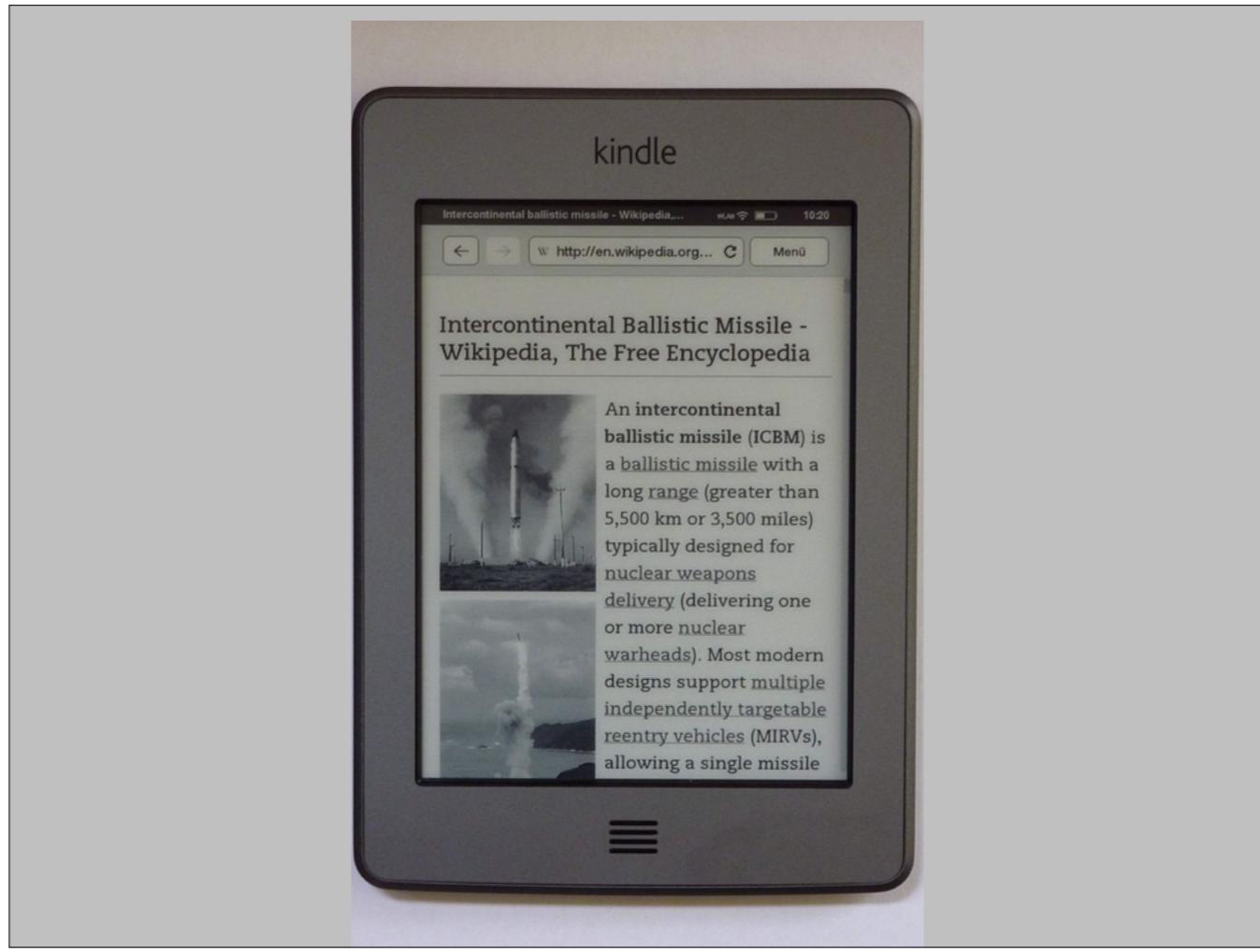


example from wikipedia, shows result of a referendum vote

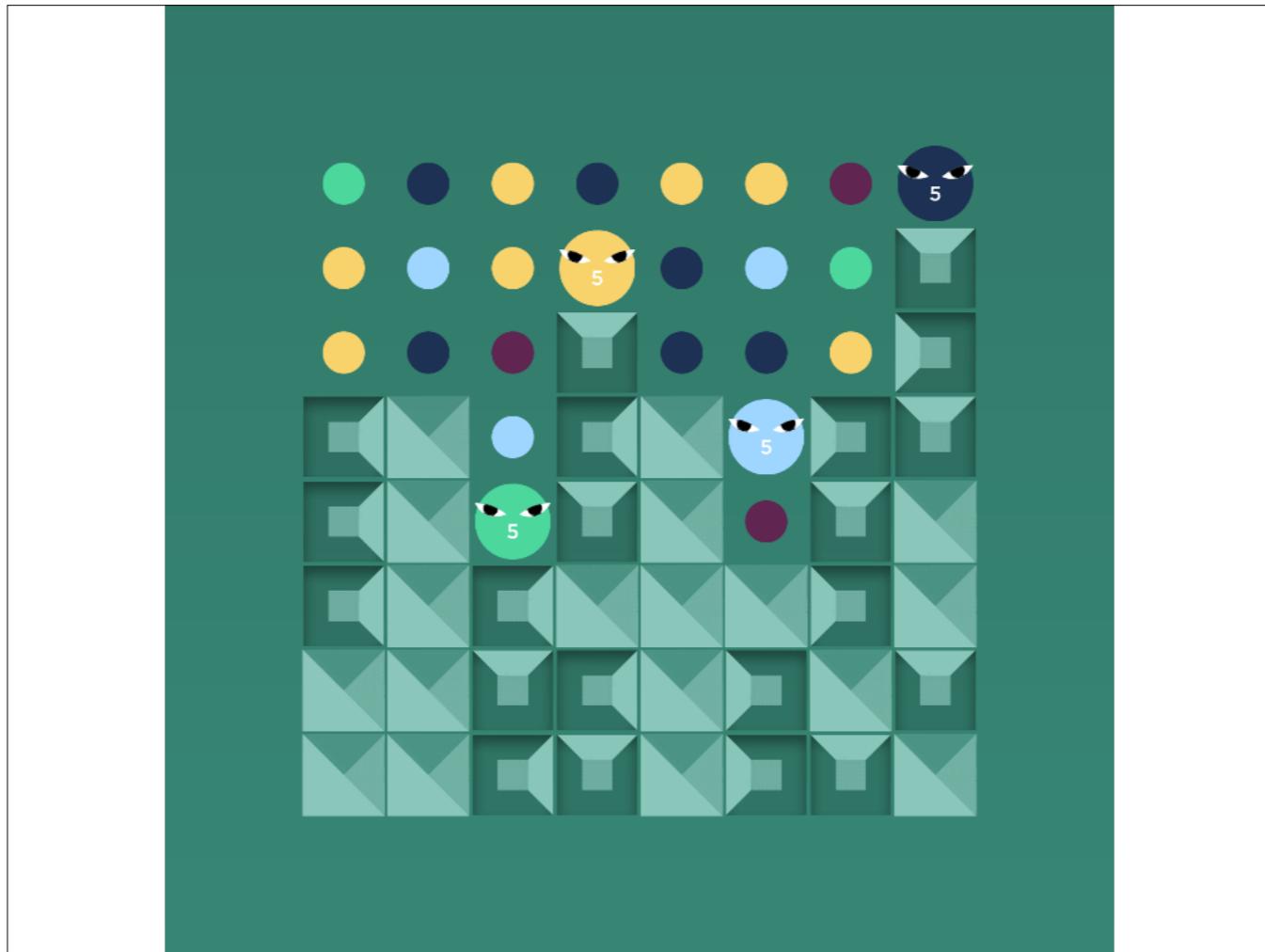


Credit: [Ruhrfisch](#) / CC BY SA

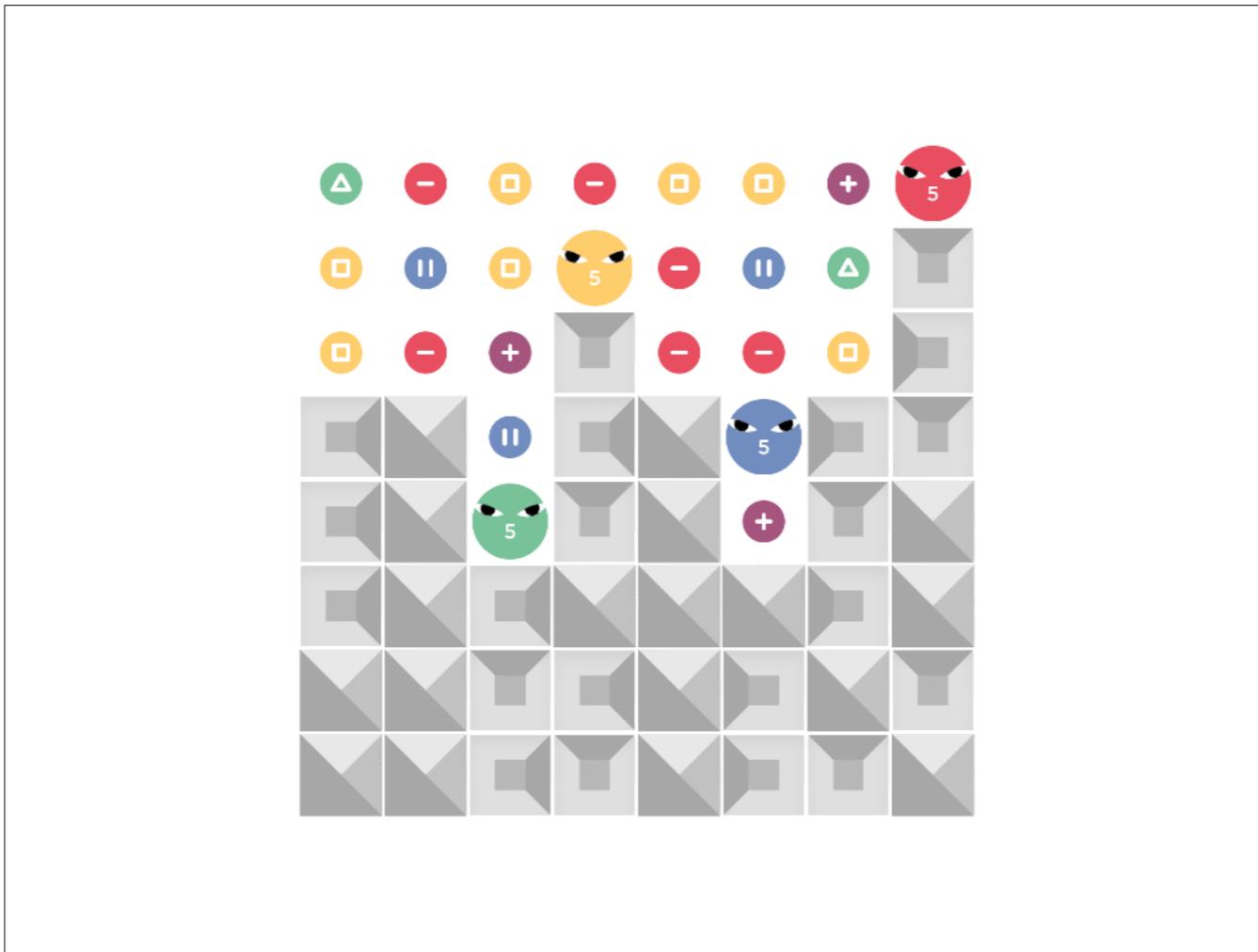
how it looks for colorblind users



also relevant for grayscale browsers



Two Dots game



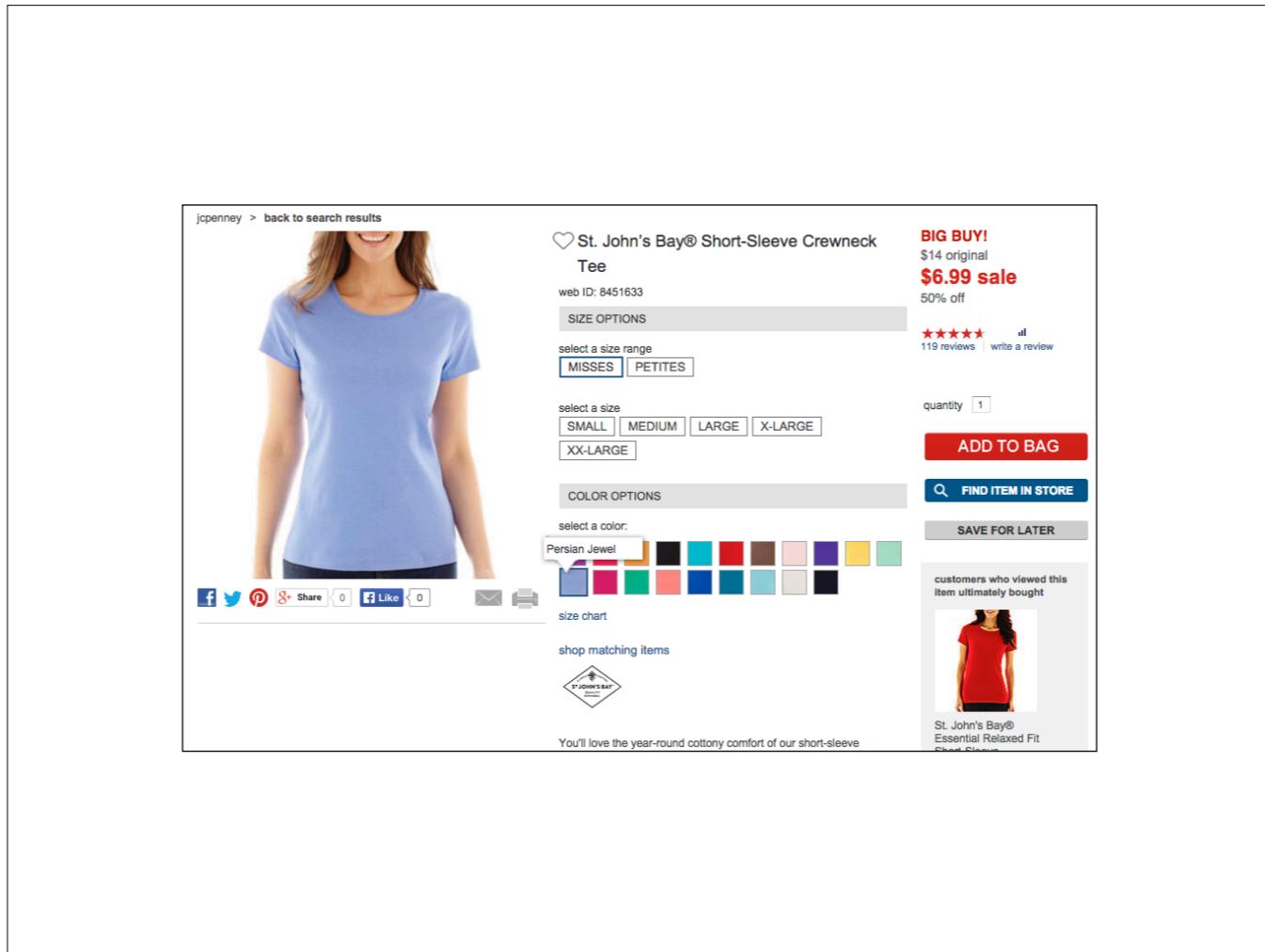
Users can turn on colorblind mode.

- uses specific colors that are more likely to be distinguished by colorblind users
- also uses shapes

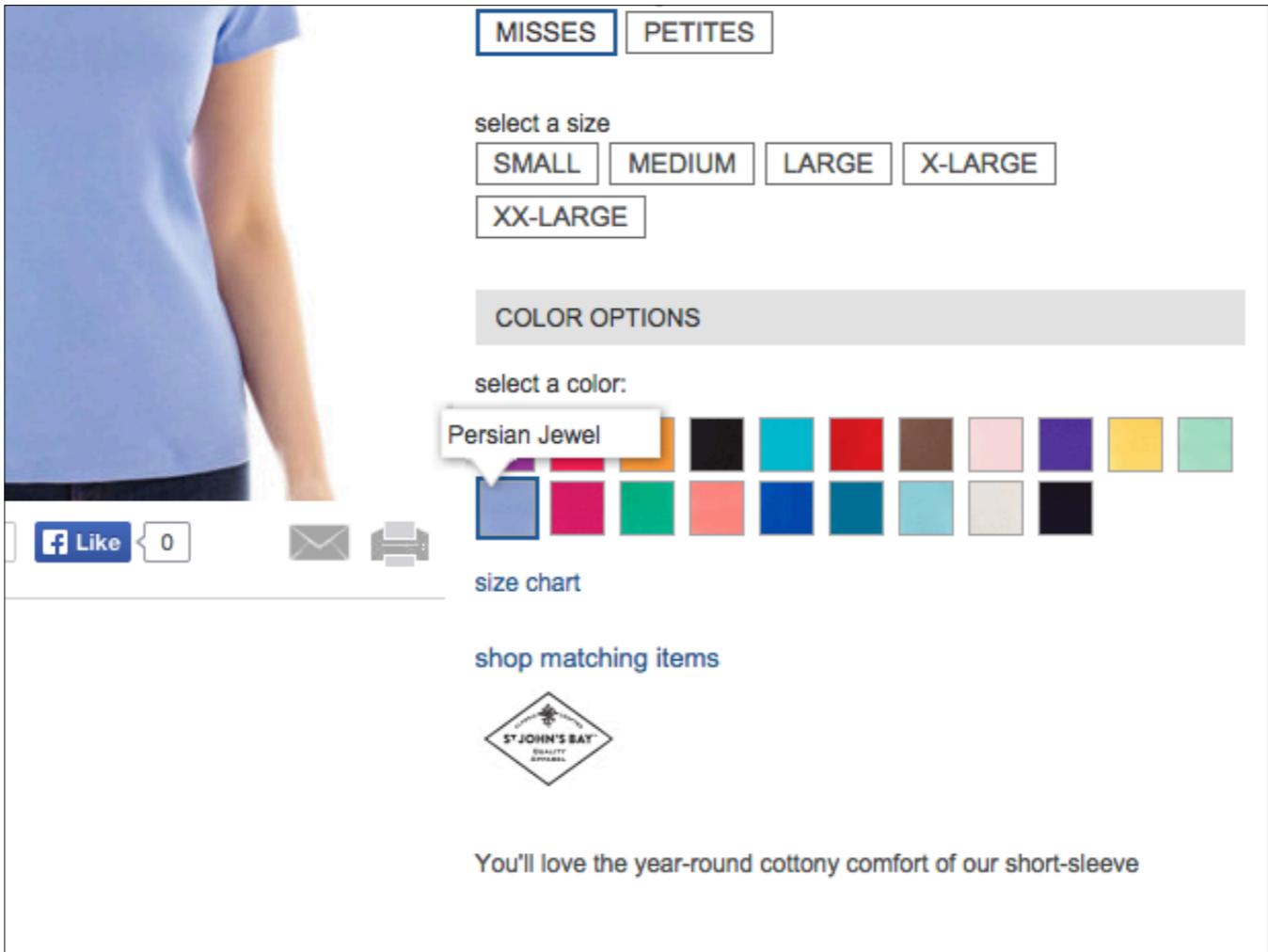


Color is sometimes important like when choosing clothes.

colorblind people may look for clothes in specific colors because someone has told them they look good in blue, for example
this shows the colors in little boxes



When you hover over a color, the image changes to show the shirt in that color.



In this case, we can also see that the name of the color is Persian Jewel.
A colorblind user may not know that Persian Jewel is blue.

Use real color names like light blue, even if just in parentheses

Tools

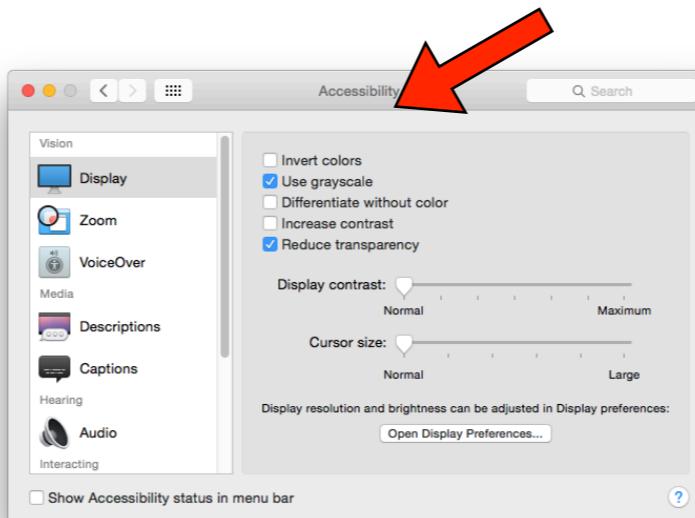
The screenshot shows the Toptal Colorblind Web Page Filter tool. At the top, the Toptal logo and tagline "Toptal connects the top 3% of freelance designers all over the world." are visible. Below this, the title "Colorblind Web Page Filter" is displayed, followed by a subtitle "What are color blind anomalies? ⓘ". A instruction "Please indicate a resource to be viewed, and a color filter to be applied to that resource." is present. Two input fields are shown: one for "Type a URL:" containing "http://www.calgary.ca/SitePages/cocis/Scripts/Dt" and another for "And then pick a color filter:" containing "Protanopia". A green button labeled "FETCH AND FILTER!" is located to the right of these fields. Below the inputs, two side-by-side screenshots of the Calgary website are shown, demonstrating the color filtering effect. The left screenshot shows the original website with red and blue colors, while the right screenshot shows the same website with yellow and green colors, corresponding to the Protanopia color filter. The URL <https://www.toptal.com/designers/colorfilter> is displayed at the bottom of the tool's interface.

demo this briefly

ask students to take a few minutes to go to this site and enter some URLs

- many other tools available: browser add-ons, download

Grayscale

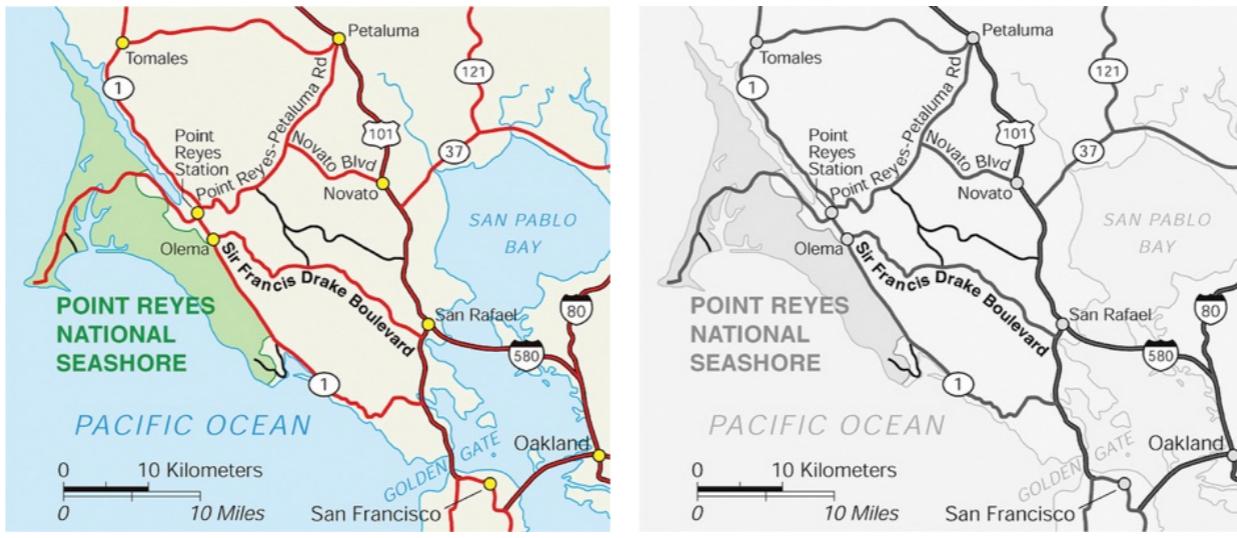


Check that your design make sense in grayscale.

mac, can easily change setting to grayscale for whole computer
windows you need an app to do same

browser add-ons

also can do it temporarily while working on website by using CSS to override all the colors



Credit: [Rosenfeld Media via Creative Commons](#)

think about printing

red/green okay in grayscale if using other things like

- different width lines for major roads
- different shades of gray (check how your colors look in gray)

Contrast (Low Visibility)

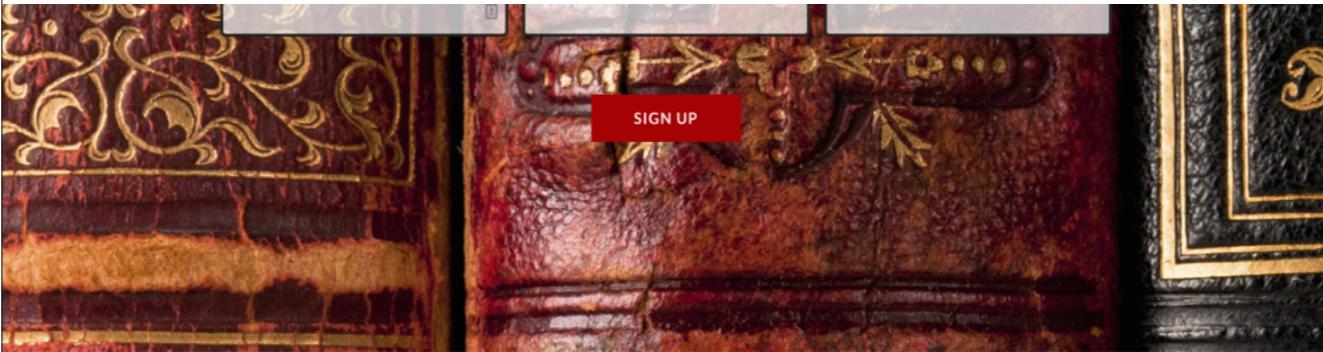
Create significant contrast between your text and background.



Credit: [Yahoo! Accessibility Lab](#) / CC BY SA

- here is a user with a vision disability using a smartphone. She needs lots of contrast.

Foreground & Background



Address:

The Shakespeare Company
PO Box 22401
RPO Bankers Hall
Calgary, AB - T2P 4 J1

Social Media



grey text on bottom left, most can't see at all



G18: Ensuring that a contrast ratio of at least 4.5:1 exists between text (and images of text) and background behind the text

Important Information about Techniques

See [Understanding Techniques for WCAG Success Criteria](#) for important information about the usage of these informative techniques and how they relate to the normative WCAG 2.0 success criteria. The Applicability section explains the scope of the technique, and the presence of techniques for a specific technology does not imply that the technology can be used in all situations to create content that meets WCAG 2.0.

On this page:
Important Information about Techniques
Applicability
Description
Examples
Resources
Related Techniques
Tests

Applicability

Any technology that produces visual output.

This technique relates to:

<https://www.w3.org/TR/WCAG20-TECHS/G18.html>

people have done studies and found ideal minimum contrast

two levels, one for regular text and another for large text

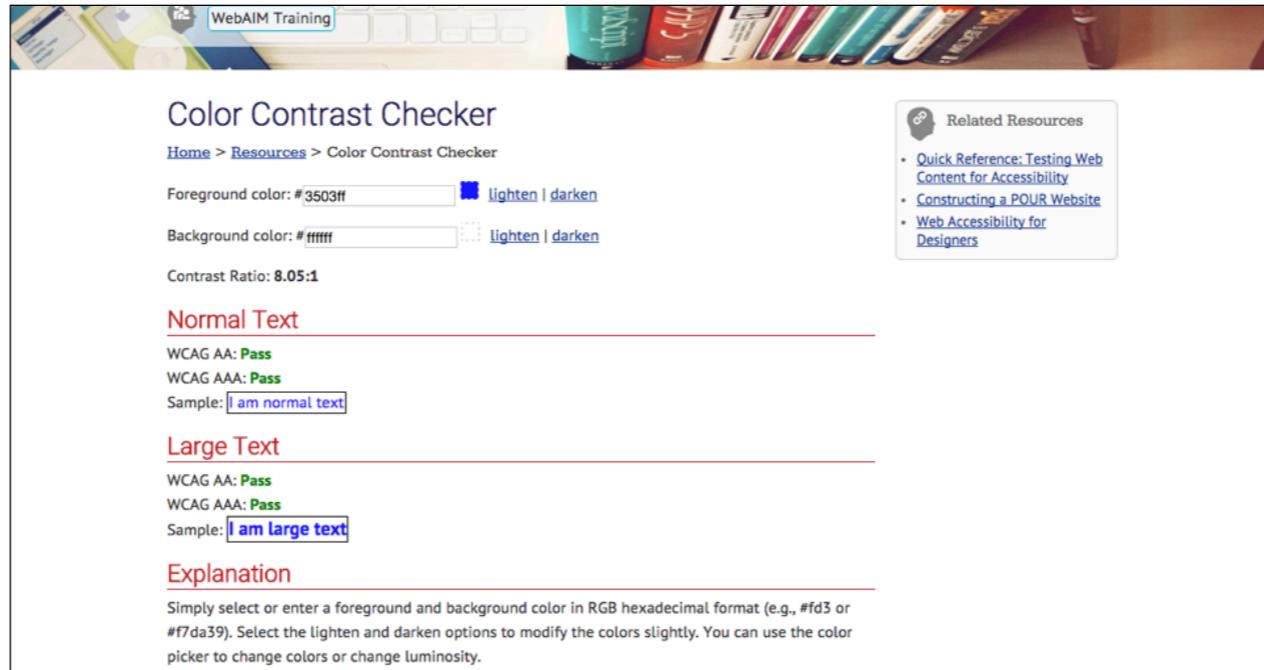
Grey Level	WCAG Ratio
#000000 (Black)	21 : 1 (pass)
#333333	12.6 : 1 (pass)
#666666	5.7 : 1 (pass)
#777777	4.5 : 1 (fail)
#777777 (large)	OK for large text
#999999	2.8 : 1 (fail)
#CCCCCC	1.6 : 1 (fail)

Colors	WCAG Ratio
sea green on green #DDFFEE on #82C1B4	1:9:1 (fail)
sea green on darker green #DDFFEE on #32796D	4.8:1 (pass at AA)

Credit:[Accessibility and Usability at Penn State](#)

Here are some examples of where the color contrast test passes or fails.

Colour Contrast Checker



The screenshot shows the 'Color Contrast Checker' page from WebAIM Training. At the top, there's a navigation bar with links for Home, Resources, and Color Contrast Checker. Below the navigation is a banner featuring a row of colorful books. The main content area has a header 'Color Contrast Checker' and a breadcrumb trail 'Home > Resources > Color Contrast Checker'. It includes input fields for 'Foreground color' (#3503ff) and 'Background color' (#ffffff), each with 'lighten' and 'darken' buttons. A 'Contrast Ratio' of '8.05:1' is displayed. To the right is a 'Related Resources' sidebar with links to 'Quick Reference: Testing Web Content for Accessibility', 'Constructing a POUR Website', and 'Web Accessibility for Designers'. Below the main form, there are three sections: 'Normal Text', 'Large Text', and 'Explanation'. Each section contains WCAG AA and AAA status ('Pass') and a sample text input field ('I am normal text', 'I am large text'). The 'Explanation' section provides instructions on how to use the tool.

<http://webaim.org/resources/contrastchecker/>

demo this briefly

type in two colors

(explain hex numbers briefly)

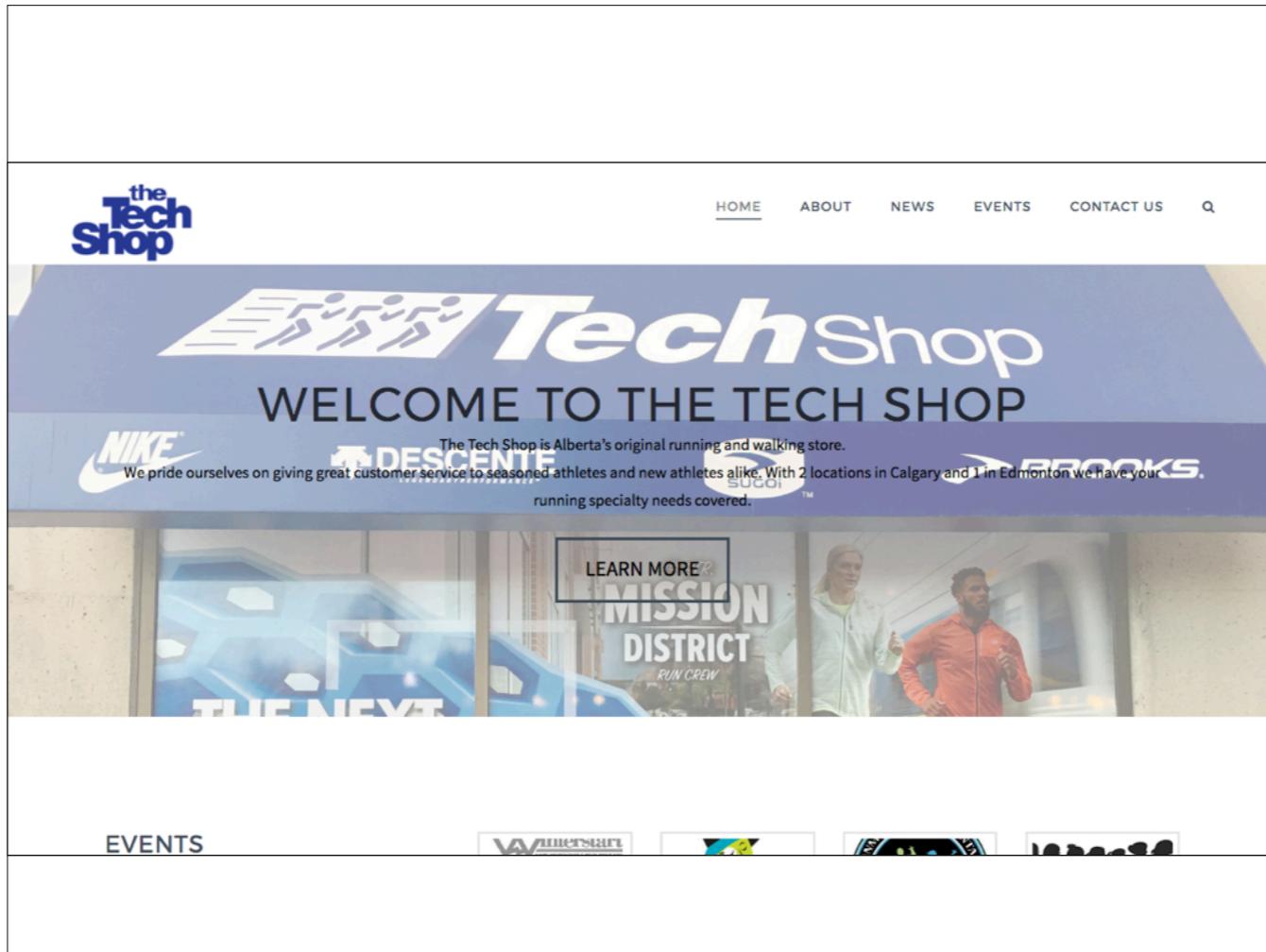


Credit: ClearFrost flic.kr/p/o9mSXd

Colors can also change appearance based on the light in the room or the brightness of the screen.

If you have bright sunlight on your screen, everything on the screen will look washed out.

Make sure to test your website in different light conditions.



- text on top of photos can also be a problem
- use lighter background behind dark text

Focus Indicators

- Links
- Buttons
- Form Fields
- Menu Items
- Anything you can hover on (like tooltips)
- Widgets

Focus state indicates where your cursor is or what is selected.

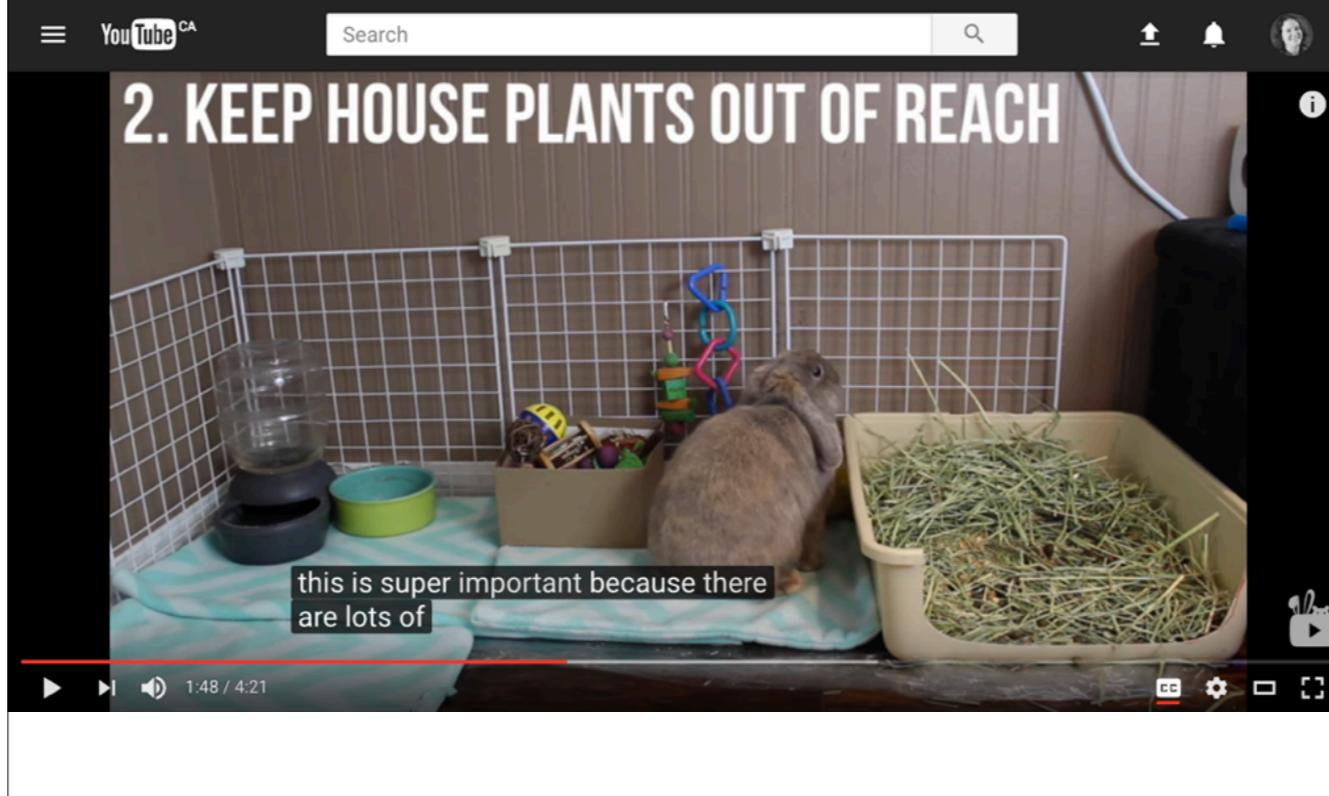
demo keyboard navigation with <http://calgarylibrary.ca>

- this works by default in html
- but you can break it by changing styles for :focus

Usability & Accessibility

If something is hard for most people, it's even harder for someone with a disability

Video Captions



- youtube does automatic captions if it can understand
- you can go back and edit them
- great low effort, low cost option

also benefits:

- people at work without headphones
- SEO

You can also provide a transcript that goes with the video, but providing captions is a better experience for your users.

Accessible PDFs

examples of what you need to consider:

alt text on images

use heading levels

reading order

need to use Acrobat pro to do all this

“Web accessibility is ultimately about **building a better quality product** that reaches a broader audience.”

- Denis Boudreau

Denis Boudreau is a Principal Web Accessibility Consultant, Strategist and Trainer.

ADHD and learning disabilities

important:
good headings
simple text

– also benefits users with English as second language

The screenshot shows the homepage of the Accessibility Guidelines website. At the top right, there are links for "OUR PHILOSOPHY" and "ABOUT THIS PROJECT". The main title "Accessibility Guidelines" is prominently displayed in a large, dark font. Below the title is a subtitle: "Making work accessible creates a better experience across the board. Use this checklist to help build accessibility into your process no matter your role or stage in a project." In the center, there is a section titled "The Checklist" in a green font. Below this, there are three instructions: "Check the boxes of the guidelines that apply to your project", "Preview and copy the checklist to your clipboard", and "Paste the checklist into a document, Slack, Trello—or however else your team organizes projects". At the bottom of this section is a link: <http://accessibility.voxmedia.com/>.

The Checklist

Check the boxes of the guidelines that apply to your project
Preview and copy the checklist to your clipboard
Paste the checklist into a document, Slack, Trello—or however else your team organizes projects

<http://accessibility.voxmedia.com/>

- good checklist to use
- you will learn more of what you need to do for accessibility in HTML/CSS class
- accessibility should not be an afterthought!

<https://chrome.google.com/webstore/detail/wave-evaluation-tool/jbbplnpkjmmebjpijfedlgcdilocfhh>

don't need to demo this
they might find this useful in HTML/CSS course

- see ARIA labels
- see alt text
- no way to automatically test everything on site for accessibility, but this will give you some good hints

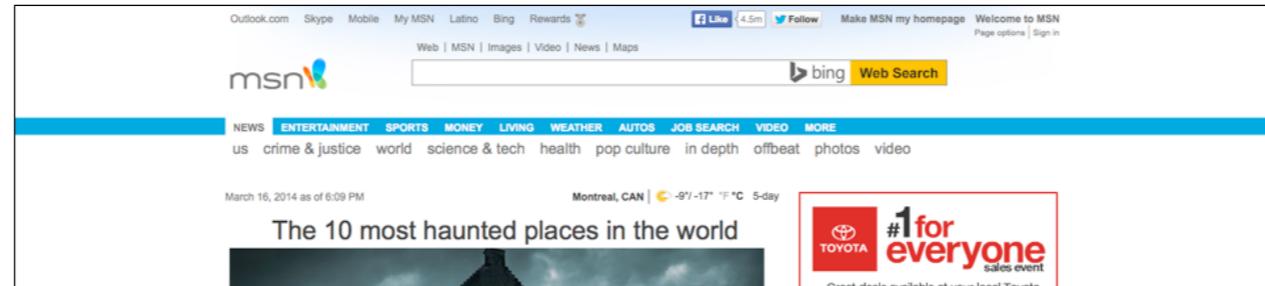
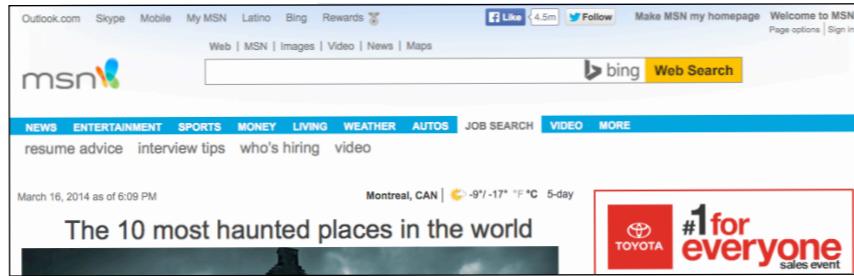
Why Responsive Design?

(A little history)

how many know what responsive design is?

you've all seen it
(well, has anyone not used a smartphone?)

Fixed-Width



2000 – typical width of 800 pixels (what are pixels)
mid-2000s, width of 1024 pixels

design size to fit on most screens
960 for 1024 (account for scrollbar & edge of browser)

fluid/liquid design in early 2000s, some traction
– end up with very wide sites

many sites still fixed width



Credit: [Carl Berkeley via Creative Commons](#)

older phones with browsers, only basic info

mid-2000s smartphones

iPhone in 2007

- display web pages as on a full-size monitor

first with multitouch – pinch & zoom



at first
automatically shrink web pages to fit in viewport

Sprint 3:45 AM 68 %

on Tuesday evening at a crow
hotel, sipping mango juice on a j
the threats coming from the Am
governments.

[Enlarge This Image](#)



Esam Omran Al-Fetori/Reuters
A man near the American Mission in
Benghazi, Libya, after the attack last
month.

Related

[Clearing the Record About
Benghazi](#) (October 18, 2012)

[Attack on U.S. Mission in Benghazi
Becomes Subject of Strongest
Words](#) (October 17, 2012)

Libya's fledgli
“national chic
Khattala said,
rhyme. Asked
responsibility
mission’s atta
the idea that t
government c
And he accus

[... 1 more](#)



zoom in, hard to read

Sign In | My Account SUBSCRIBE: Home Delivery | Digital | Gift Subscriptions Real Estate | Rentals | Cars | Today's Paper | Going Out Guide | Find&Save | Home Repairs

PostTV Politics Opinions Local Sports National World Business Tech Lifestyle Entertainment Jobs More

The Washington Post

60° Washington, DC March 15, 2014 Edition: U.S. | Regional | Make us your homepage

In the News Malaysia Airlines Ukraine Charles Severance David Brenner India rape case Capital One

Get a digital subscription today SUBSCRIBE wp

Kiev denounces 'invasion' by Russian forces
Anthony Falola and Will Englund 7:25 PM ET
Russia's military stages a new act of aggression, occupying a natural gas distribution center and Ukrainian village.
Russia vetoes U.N. resolution

In Moscow, thousands rally to show support for Ukraine
Will Englund
Tens of thousands of demonstrators waving Ukrainian, Russian and European Union flags chanted "No war!"

Putin wanted Ukraine. But he's getting Crimea.
Will Englund

Focus on foul play in search for Malaysia Airlines flight
Chico Harlan, Ashley Halsey III and Annie Gowen 8:00 PM ET
Rescue team searches in the Andaman Sea. (Reuters)
Police search the homes of the pilots as the Malaysian prime minister says the plane's disappearance was "deliberate."
Malaysian PM: 'Deliberate action' in missing jet | Transcript

Map shows possible areas jet last made contact
Chico Harlan
WORLDVIEWS | Based on new analysis of satellite data, officials say the plane may have made last contact along one of two corridors.

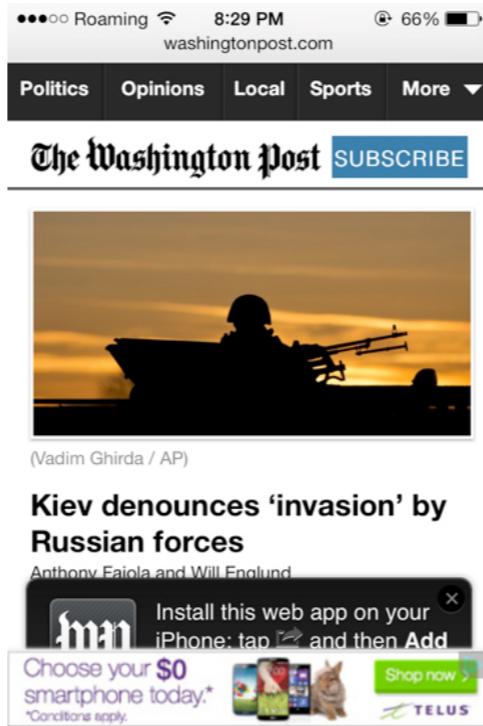
ADVERTISEMENT
All-New kindle fire HD
Stunning HD, Breakthrough Price.
JUST \$139
SHOP NOW
amazon

The Post Most

- 1 Update on the snow that almost nobody wants (including map and timeline)
- 2 Crimea as consolation prize: Russia faces some big costs over Ukrainian region
- 3 Jet was hijacked, Malaysian official tells AP
- 4 Possible search corridors for

another website had separate full size site and separate mobile site

Mobile Websites



design site just for 320 pixels

phones automatically redirected to mobile version
called m-dot websites

justification, mobile users on the go
– sometimes missing functionality
– less stuff on mobile site

but phones had different size screens

then 2010 – iPad
some developers create separate iPad sites

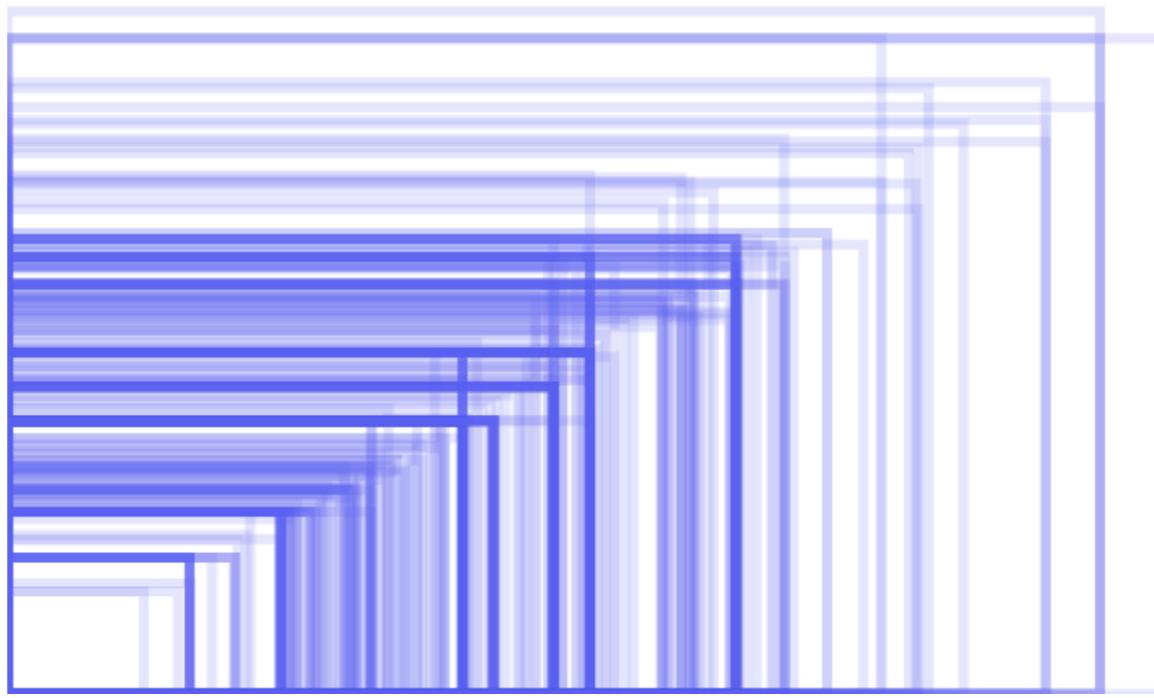
so many screen sizes, separate sites no longer sustainable



Photo: Brad Frost <https://flic.kr/p/cfQwL7>

design for an inclusive range of device widths, not just set widths like phone/tablet/desktop.

these are devices from several years ago, already wide range of screen sizes



Source: <http://opensignal.com/reports/fragmentation.php>

- over 6 months, 3997 different devices visited Open Signal's site
- these were all the different device sizes



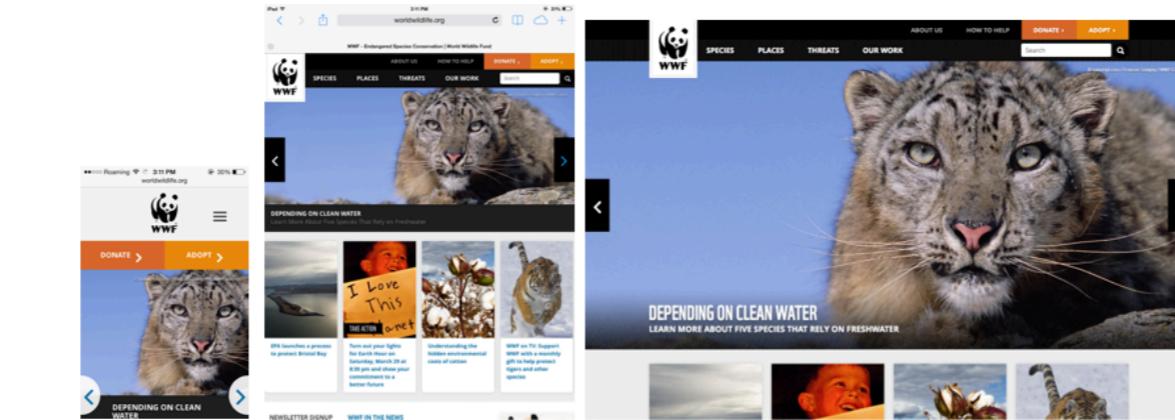
wide range of phone sizes, these are both phones



Photo: [Kārlis Dambrāns via Creative Commons](#)

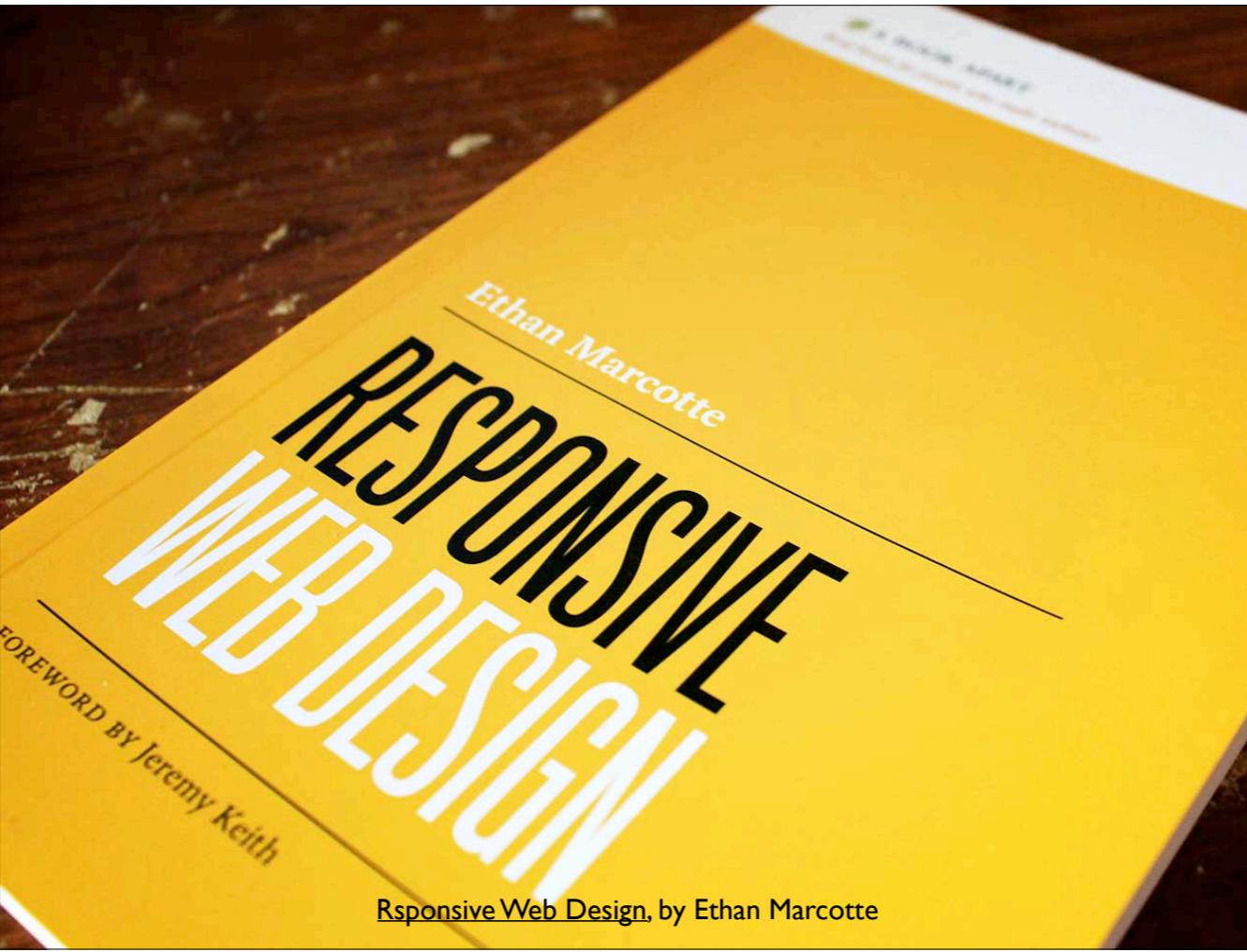
big phones sometimes called a phablet

Responsive Design



responsive design rearranges and scales the content to present it in the best possible way to all users.

this is same site on three different devices



Ethan Marcotte's book got this started

Flexible

responsive design is flexible

The Boston Globe

WEDNESDAY, SEPTEMBER 3, 2014

SUBSCRIBE: DIGITAL | HOME DELIVERY | LOG IN

72° Intermittent clouds WEATHER | TRAFFIC

BOSTON.COM CARS | JOBS | REAL ESTATE

The Boston Globe

NEWS METRO ARTS BUSINESS SPORTS OPINION POLITICS LIFESTYLE MAGAZINE INSIDERS TODAY'S PAPER



SUZANNE KREITER/GLOBE STAFF

Obama vows justice for beheadings of US reporters

President Obama didn't give a timeline for deciding on a strategy to go after the Islamic State group's operations in Syria. 58 minutes ago

- Zest for journalism began in N.H.
- Militants execute 2d US hostage

Beacon Hill activist seeks handicap ramps' replacement

A Beacon Hill Civic Association member urged the state to redo the ramps with materials "appropriate" to Beacon Hill.

- Discuss: What do you think of the ramps?
- Harmon: Residents have right idea on ramps
- Farragher: No empathy for disabled

 **Wes Welker says he didn't knowingly take drone**

Obama calls Russia a threat to peace in Europe

President Obama promised to come to the defense of NATO allies that fear they could be Vladimir Putin's next target. 34 minutes ago

- Ukraine retracts announcement of cease-fire with Russia

 **Files show months of woe in Mass. jobless system**

KILL 99.9% OF GERMS ON SURFACES.*

* Use as directed on hard, non-porous surfaces

Opinion →

ENDORSEMENT | DEMOCRATIC PRIMARY **Marian Ryan for Middlesex District Attorney**

The Globe's editorial board writes that Ryan should be given the opportunity to show that she can be the DA that her admirers envisioned.

MORE IN OPINION

video in keynote

this is a flexible site

Washington Post: Breaking News, World, US, DC News & Analysis

Sign In | My Account | SUBSCRIBE | Home Delivery | Digital | Gift Subscriptions | Real Estate | Rentals | Cars | Today's Paper | Going Out Guide | Find&Save

PostTV | Politics | Opinions | Local | Sports | National | World | Business | Tech | Lifestyle | Entertainment | Jobs | More

The Washington Post

79° Washington, DC | September 3, 2014 | Edition: U.S. ✓ | Regional | Make us your homepage

In the News | Ukraine | Nude photo hack | Apple | 4chan | Home Depot | Steven Sotloff | **EDGE** |

Ukraine: Truce progress made after Putin chat

Michael Bimbaum and Annie Gowen 8:12 AM ET
The Ukrainian president's office said a "process for achieving a cease-fire" had been reached in a phone call with Putin. But Russia stressed no deal had been made since it is not a party to the conflict.

Obama to Islamic State: 'We will not be intimidated'

Katie Zezina 8:32 AM ET
The president sharpened his tone against the terrorist group that released a video showing the execution of U.S. journalist.

- U.S. concludes video is authentic
- Did Obama refer to IS as a 'JV' team?

Morning Mix
Stories from all over

Opinions
Obama's unnerving happy talk
Colby Itkowitz | Dana Milbank

ADVERTISEMENT



Michelle Nunn greets supporters last month in Macon, Ga. (AP)

Is following dad's footsteps enough?

Colby Itkowitz
Democrat Michelle Nunn's strategy to make former senator Sam Nunn a centerpiece in her Senate campaign will test the enduring value of her family name in Georgia.



video in keynote

this is a non-flexible site

Adjustable

responsive design is adjustable
rearrange what's on the page



Sydney / Local
2000. Sponsored
by ansarada.



Richmond /
Local 804.
Sponsored by
Mobelux.



Pittsburgh /
Local 412.
Sponsored by us.

\$28



\$28
Sydney / Local
2000.
Sponsored by
ansarada.



\$28
Richmond /
Local 804.
Sponsored by
Mobelux.

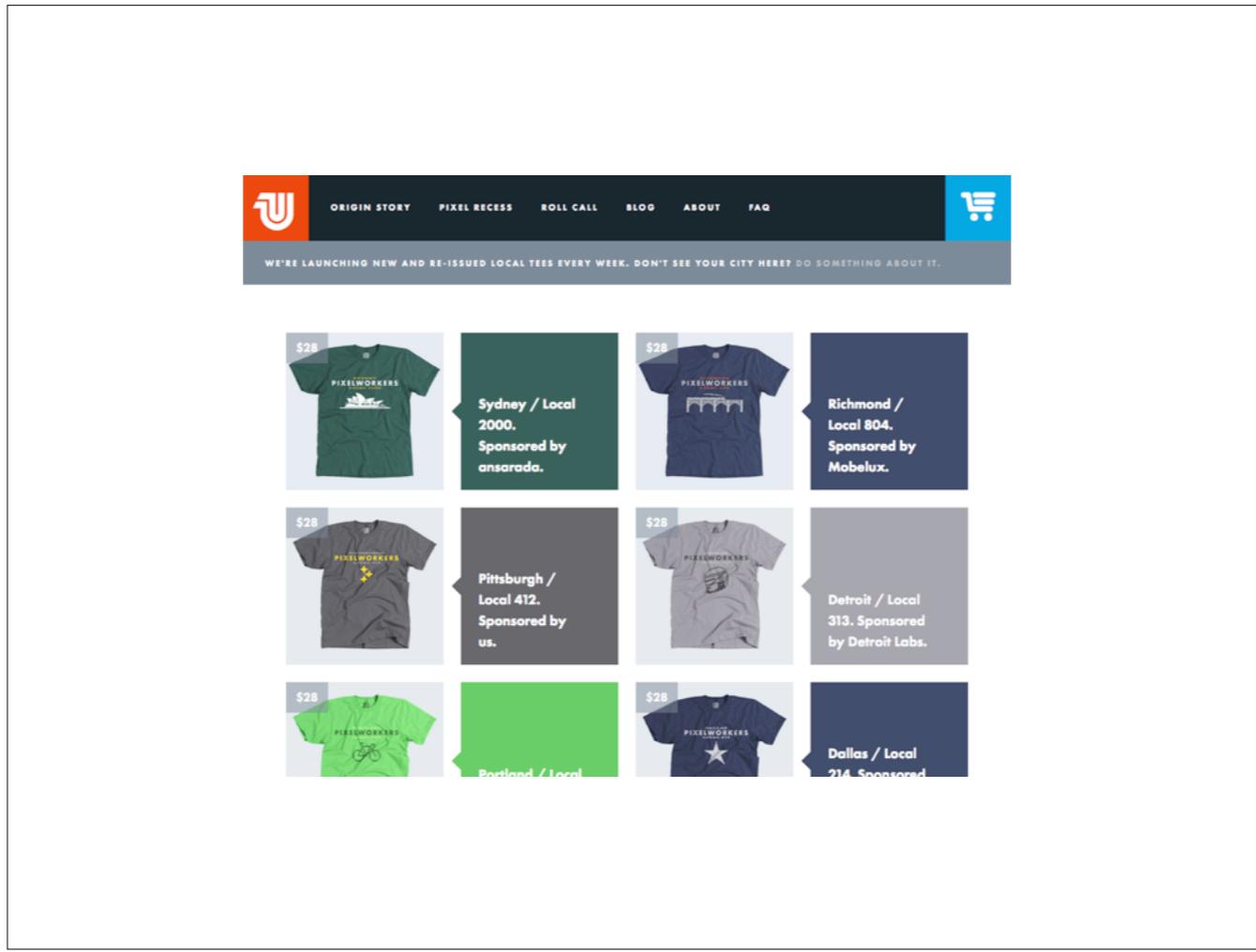


\$28
Pittsburgh /
Local 412.
Sponsored by
USW.

The screenshot shows a website interface for a company called Pixelworkers. At the top, there's a dark header bar with a stylized orange logo on the left, followed by the word "NAVIGATION" and a shopping cart icon with "0 ITEMS / \$0" on the right. Below the header, a message reads: "WE'RE LAUNCHING NEW AND RE-ISSUED LOCAL TEES EVERY WEEK. DON'T SEE YOUR CITY". A subtext below it says "DO SOMETHING ABOUT IT."

The main content area features three rows of promotional cards:

- Sydney / Local 2000.** Sponsored by ansarada. A green t-shirt is shown with a bridge graphic and the text "PIXELWORKERS".
- Richmond / Local 804.** Sponsored by Mobelux. A dark blue t-shirt is shown with a bridge graphic and the text "PIXELWORKERS".
- Pittsburgh / Local 412.** A grey t-shirt is shown with a bridge graphic and the text "PIXELWORKERS".
- Our new podcast "Origin Story" is here. Go listen.** This card features a blue background with a white microphone icon and text about the new podcast.
- Follow us on Twitter. 8,000+ strong and counting.** This card features a blue background with a white Twitter bird icon and text about following them on Twitter.



not just columns, also nav changes

The screenshot shows the homepage of the Pixelworkers website. At the top, there's a dark header with a stylized orange 'U' logo, followed by navigation links: ORIGIN STORY, PIXEL RECESS, ROLL CALL, BLOG, ABOUT, and FAQ. To the right of the header is a blue shopping cart icon. Below the header, a grey banner contains the text: "WE'RE LAUNCHING NEW AND RE-ISSUED LOCAL TEES EVERY WEEK. DON'T SEE YOUR CITY HERE? DO SOMETHING ABOUT IT." A grid of t-shirts is displayed in three rows. Each t-shirt has a small price tag in the top left corner (\$28). The first row includes a green t-shirt for Sydney, a dark blue t-shirt for Richmond, and a teal t-shirt for a podcast. The second row includes a dark grey t-shirt for Pittsburgh and a light grey t-shirt for Detroit. The third row includes a lime green t-shirt for Portland and a red t-shirt for Dallas.

Sydney / Local 2000. Sponsored by ansarada.

Pittsburgh / Local 412. Sponsored by US.

Detroit / Local 313. Sponsored by Detroit Labs.

Richmond / Local 804. Sponsored by Mobelux.

Our new podcast "Origin Story" is here. Go listen.

Follow us on Twitter. 8,000+ strong and counting.

Portland / Local

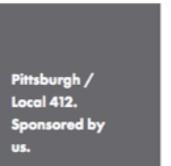
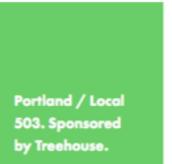
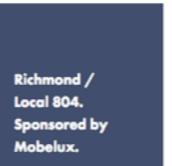
Dallas / Local 214. Sponsored



ORIGIN STORY PIXEL RECESS ROLL CALL BLOG ABOUT FAQ



WE'RE LAUNCHING NEW AND RE-ISSUED LOCAL TEES EVERY WEEK. DON'T SEE YOUR CITY HERE? DO SOMETHING ABOUT IT.



\$28
Sydney / Local
2000.
Sponsored by
ansarada.

\$28
Detroit / Local
313. Sponsored
by Detroit Labs.

\$28
Calgary / Local

\$28
Richmond /
Local 804.
Sponsored by
Mobelux.

\$28
Portland / Local
503. Sponsored
by Treehouse.

Just in time for
the end of
winter.

\$28
Pittsburgh /
Local 412.
Sponsored by
us.

\$28
Dallas / Local
214. Sponsored
by Circles
Conference.

\$40
Fitted SOCIETY

 ORIGIN STORY PIXEL RECESS ROLL CALL BLOG ABOUT FAQ

WE'RE LAUNCHING NEW AND RE-ISSUED LOCAL TEES EVERY WEEK. DON'T SEE YOUR CITY HERE? DO SOMETHING ABOUT IT.

 \$28 Sydney / Local 2000. Sponsored by ansarada.	 \$28 Richmond / Local 804. Sponsored by Mobelux.	 \$28 Pittsburgh / Local 412. Sponsored by us.	 \$28 Portland / Local 503. Sponsored by Treehouse.	 \$28 Dallas / Local 214. Sponsored by Circles Conference.	 Follow us on Twitter. 8,000+ strong and counting.
 \$28 Detroit / Local 313. Sponsored by Detroit Labs.	 \$28 Calgary / Local	 \$22 Just in time for the end of winter.	 \$40 Fitted 50FIFTY		

Adjustable & Flexible

change width of browser window to see if a site is responsive

sometimes you cannot see that there's a different mobile site unless on mobile device

demo of good responsive site:

<https://www.theatlantic.com/>

Alternatives to Responsive Design

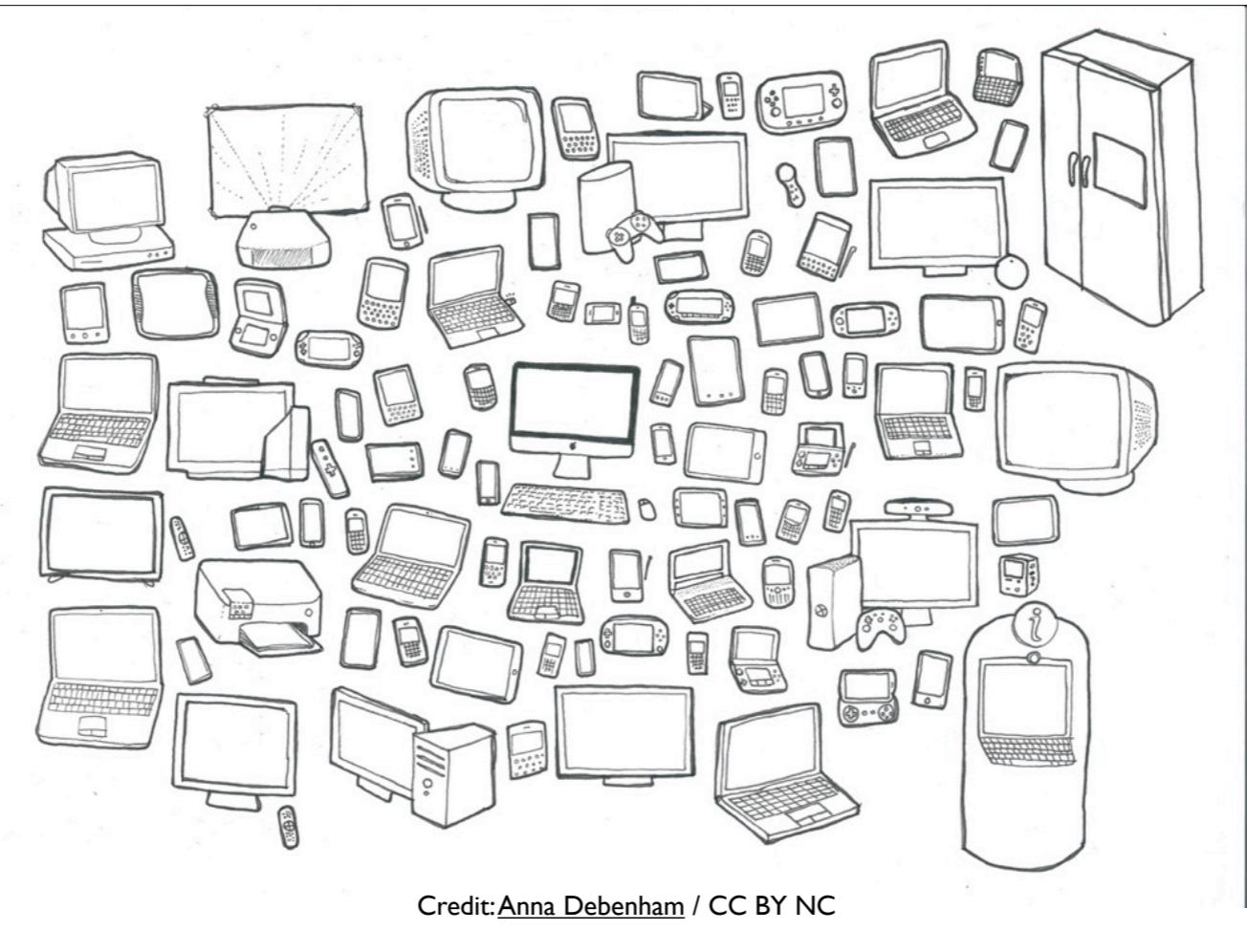
responsive design should almost always be the default now

as sites transition:

some still have separate mobile site

some have responsive mobile site + desktop site

Devices & Capabilities



Credit:[Anna Debenham](#) / CC BY NC

- I'm sure you know users these days have all sorts of devices
- different screen sizes
- different input (mouse, keyboard, touch, voice)
- different capabilities
- can't ignore mobile

desktop monitors sometimes also have touch

When you test sites, you need to test on different devices in addition to changing your browser width.



Credit: [WOCinTech Chat](#) / CC BY

- many users switch between different devices
- or use different devices at the same time
- they expect consistency for same site on different devices

Activity: Responsive

- Go to several different websites
- Change the width of your browser window
- Is the site responsive?
- What parts of the site change for different screen widths (besides the obvious like number of columns)?
- For non-responsive sites, try viewing them on your phone/tablet.

30 minutes with partners

what do you notice when you change the screen width?
look on your phone also, see if it's the same

go back to seats

- ask them for several examples of good/bad
- show them on projector

why do you think responsive design is important?

Workflow

Let's switch things up a bit and talk about development workflow. I'm not going into detail on this topic, but wanted to briefly cover it.

Project Management Methodologies

Waterfall

Design —————> Develop

used to be very common in web dev

You'd get all the project requirements, then you'd design the website, then you'd develop the website, then you'd test the website. Very linear.

Agile



Now, a lot of companies choose to use an agile method. With this method, you build software incrementally from the start of project, rather than delivering the completed product at the end

There are different ways to do this:

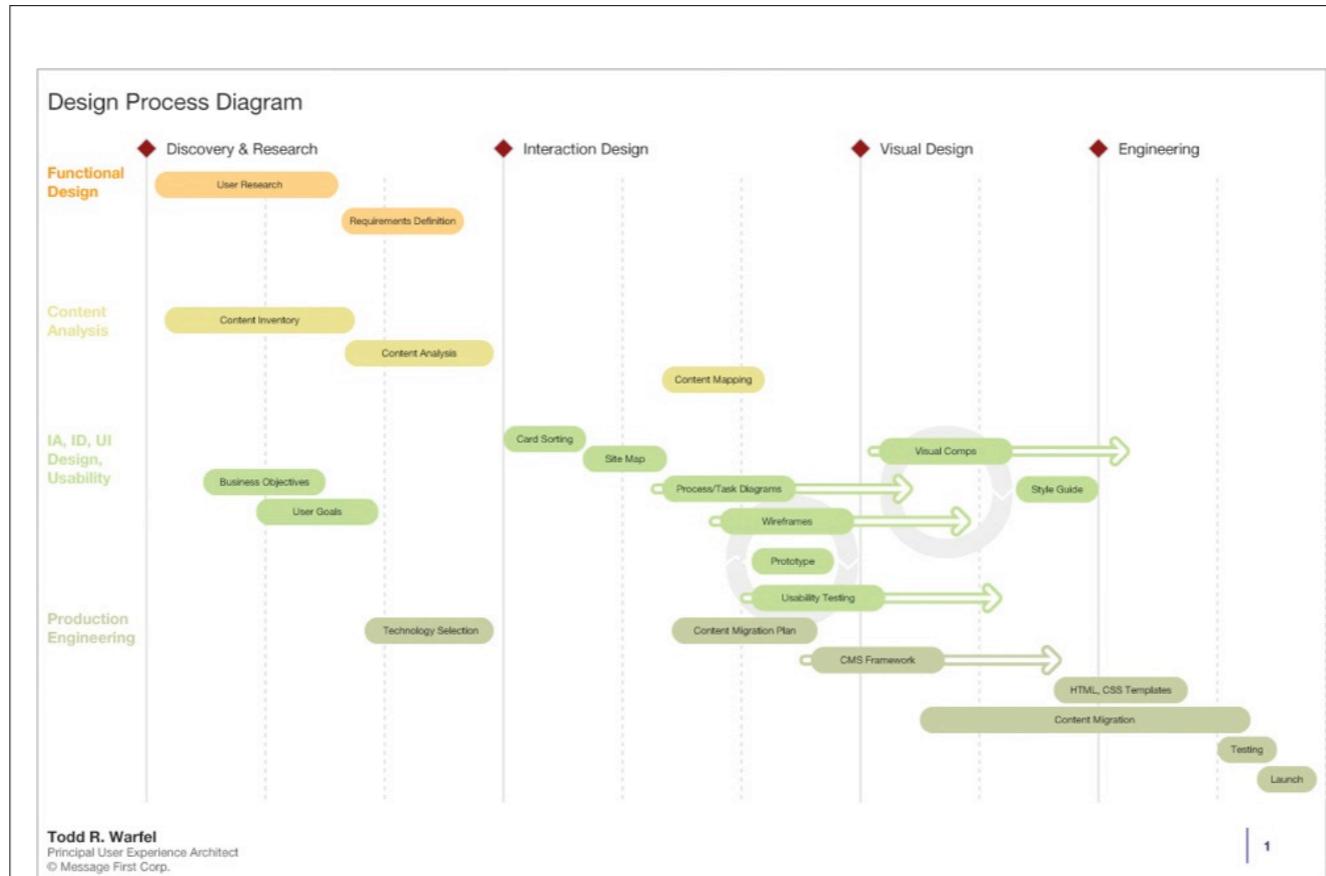
- frequent delivery (two week cycles) – sprints
- finish each feature before moving on to next
- test early and often
- collaborative approach

Cross-Functional



Credit: [Rosenfeld Media via Creative Commons](#)

A cross-functional team is a group of people with different functional expertise working toward a common goal. It may include people from finance, marketing, operations, and human resources departments. Using a cross-functional team can empower others to feel ownership and involvement in the process.



Credit: [Rosenfeld Media](#) (Creative Commons) from *The User Experience Team of One*

This is an example of a design process.

—not every design process will look the same

Discovery & Research

Like we went over before, design is about solving problems.

When creating a website, your goal isn't to build a website, it's to solve a problem.

The website is the tool that solves the problem. But to know how to build the best solution, you need to do some discovery and research.

Find out who the clients and stakeholders are and discover the goals of the project from them.

goals impact design decisions throughout the project

Discovery and Research lets you:

- figure out where you are starting
- get all the information you need
- work with stakeholders and team members to figure out what is required and how it must be implemented

(things you thought were important may change after you do research)

Talk to the Team & Stakeholders

Your key decision makers are often the project manager, CEO, department managers, and team members.

You need to talk to them to find out:

- who needs to approve the decisions?
 - who is most involved with the project? (don't miss lower-level people)
 - who knows the history of the project?
 - who will maintain the finished product?
-
- one-on-one meetings are often better because you can really get in-depth information

Identify Project Goals & Strategy

Ask your client important questions:

- What are they trying to accomplish?
 - For example, do they want to make their website work on mobile?
 - Do they want to get more users signing up for their service?
 - Do they want to cut down on phone calls to support?
 - Why are they doing this project now?
 - What are their expectations?
 - How does this interact with other marketing (print ads, etc.) Do they already have branding in place?
 - What are the success measures?
 - Key dates
- Write everything up and share with the team to make sure everyone is on the same page

Audit the Current Site

Take a look at the client's current website.

- Do some Usability testing. What is working and not working?
- Take a look at Analytics and marketing data
- Check existing customer feedback
- Look at Customer service data, like calls to help line
- Look at what technologies are in place. Can they be replaced?
- Do a Content audit

Research the Industry & Competition

- Learn about the industry to understand the client
- Who is the competition?
 - McDonald's competition is Burger King
 - But it's also customers who decide to go to a sit-down restaurant instead
 - Local bookstore may be competing with Amazon or the library
- Look at competitors' sites
 - Identify features for each (sites might have live chat)
 - What makes these sites the same? What makes them different?

Create a Project Plan

A project plan is usually created by the project manager

- make sure your own tasks are adequately represented (make sure you have enough time to finish each task and that you will have all the information you'll need to complete the task)

User Research

So what is user research?

Questions include:

- Who do they think their target audience is?
- Who are the users actually?
- Which is more important?

- Make assumptions, but change course based on market and user research.

Instagram

- started as a check-in app with the ability to add photos
- people started just using photos
- they stripped out all the other features and now just photos

Google

- went from a search engine to ads as their main business

Think about:

- who are your users
- what motivates them



Source: [Phil via Creative Commons](#)

Segway

- talked about a lot, everybody thought it would be super successful
- but slower than a car
- 10x more expensive than a good commuter bicycle
- people aren't sure what to do with it: you can't take kids to school, carry groceries, or commute to work in it
- no one actually needs a Segway
- for normal people just a novelty, very low sales
- but they found a small market with airports police and tours

this sounded like a good idea

exciting

something nobody else is doing

but didn't do research

Field Research

It's important to do field research before designing a product.

- Actually talk to users
- A few is better than none

- Who are your target users and where would you find them?
- reach out to friends/social network and say what you're looking for
- make sure they know you're doing research and get consent
- ask open-ended questions

Surveys

- Another way of doing research is to use surveys.
- Surveys are typically given to existing customers.
- You'll find them in newsletters and popups on websites.
- Surveys may not be representative of typical users. Instead, they may represent users with more time or users who have a very strong opinion (good or bad).

Activity: Research

- Imagine you have been hired to build a website for the Calgary Candy Emporium, a new business.
- They are a store in the North Hill Centre (by SAIT) and they sell all different kinds of candy.
- Who are the potential users of this website? What are their goals?
- Who is the competition for this business? Your answer may be types of businesses and/or particular stores.
- Compare the features of competitor's websites. What do you think you should include on your site?
- What do you think your site could do better than the competitors?

– work in pairs
60 minutes (or whatever time is left)

(imaginary business)