

# Web Design and Databases

## WD: Class 6: Accessibility & Copyright

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(based on slides by Dr Helen Hastie)

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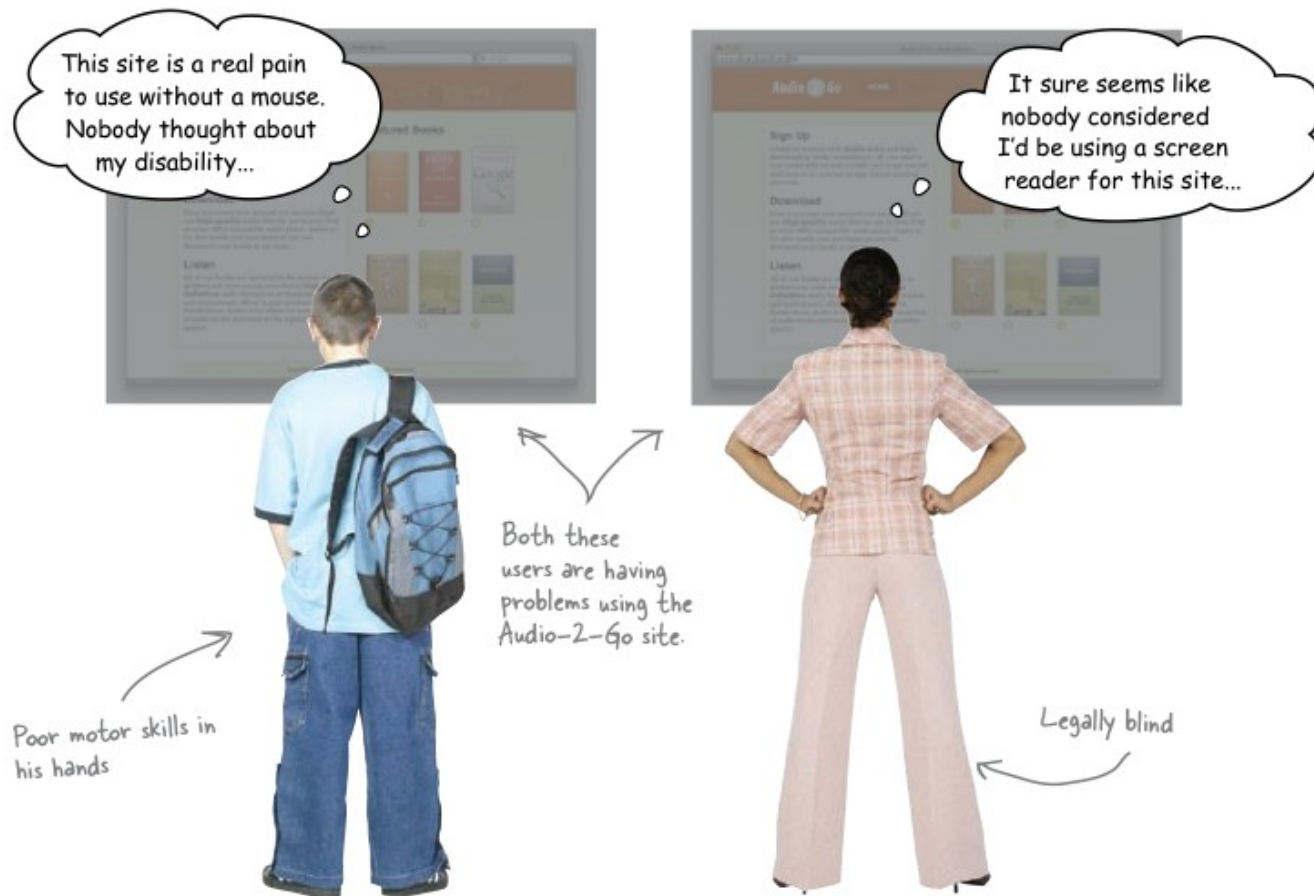
Heriot-Watt University

Some material from Web Accessibility Initiative  
<http://www.w3.org/>

# What is Web Accessibility

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making the web accessible to *everyone*



# Why is Accessibility important?

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- Use of the Web has spread into all areas of society and age groups
- There are barriers on the Web for many types of disabilities
- Some Web sites are required to be accessible
- Web accessibility also has carry-over benefits for other users

*An accessible Web means unprecedented access to information for people with disabilities.*

# Why should we bother?

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In the UK, 18% of people have disabilities of some level- that's approximately 11 million people.

6.7 million of those are in the working population.

# Why should we bother?

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One in every three people either has a disability  
or has a close relative or friend who is  
disabled

# Why should we bother?

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The estimated annual purchasing power of people with disabilities is £80 billion

# Why should we bother?

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Average age of population increasing



# In some cases it's a requirement

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- A number of governments require accessibility of specific kinds of Web sites.
- Often required for **government** Web sites first;
- Sometimes for **educational** or **commercial** sites;
- Corporations and non-governmental organisations sometimes set own requirements.

# Different kinds of disabilities

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- Visual (inc colour blindness):
  - What to do?
    - described graphics or video;
    - well marked-up tables or frames;
    - screen readers.
- Hearing impaired:
  - What to do?
    - captioning for audio, supplemental illustration.

# Different kinds of disabilities

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- Physical, Speech:
  - What to do?
    - keyboard support, e.g. easy tabbing;
    - alternatives for speech input on voice portals - multimodal;
- Cognitive, neurological conditions including illiteracy and learning difficulties:
  - What to do?
    - consistent navigation, appropriate language level;
    - illustration; no flickering or strobing designs.
- Older individuals
  - What to do? Improve usability

# Read article and discuss

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Photo: Makoto Ishida

1. What's wrong with the IEEE website according to Chieko?
2. What motivated Chieko to create software for the blind?
3. What allowed Chieko to read emails and write code?
4. What was special about IBM's browser plugin?
5. What other 2 group of users does she discuss?

# Web Accessibility covers:

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- Websites and applications
  - that people with disabilities can perceive, *understand, navigate, and easily interact* with.

# Web Accessibility covers:

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- Web browsers and media players
  - that can be used effectively by people with disabilities, and
  - that work well with assistive technologies that some people with disabilities use to access the Web;

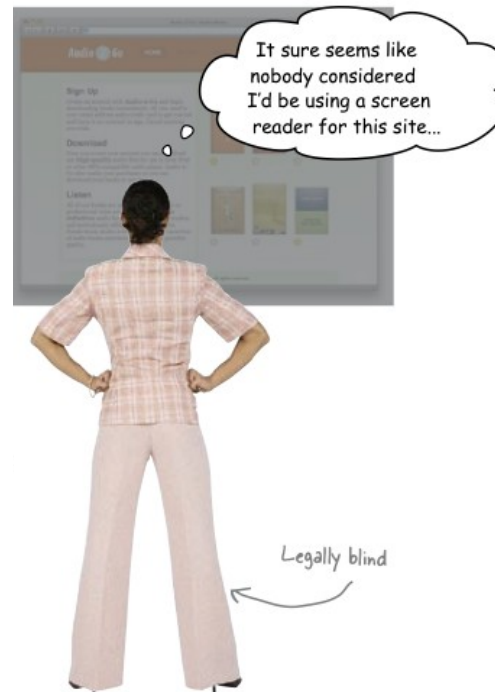
# Web Accessibility covers:

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- Web authoring tools, and evolving Web technologies
  - that support production of accessible Web content and Web sites, and
  - that can be used effectively by people with disabilities.

# Screen Readers for visually impaired

- Most visually impaired use a screen reader, e.g. VoiceOver for Mac, JAWS for Windows





# Computers don't understand

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- Humans see a picture...
- Computer has a file name ngk535.png



# You need to tell the computer

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- Humans see a picture...
- Computer now calls file ngk535.png but says “Lost grey kitten”

```
<img alt=“lost grey kitten”  
src=“ngk535.png”/>
```

The alt attribute goes inside <img/>  
and briefly describes the image

*Get into the habit!*



# alt tags



## The new, faster MacBook Air

Everyone should have a notebook  
this advanced.

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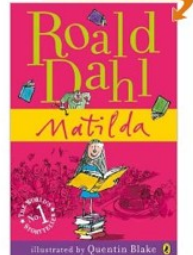
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# You may also see this

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```
<a href="http://www.myhomepage.com/hobbies.com" title="my awesome hobbies"> My Hobbies </a>
```

Some screen readers will support this, e.g. read the title if the link is empty.

It will pop up if you hover over the link.

Only use if the link isn't obvious (otherwise some screen readers will say the same thing twice).

Note: it doesn't make any difference to search engines and can get annoying.

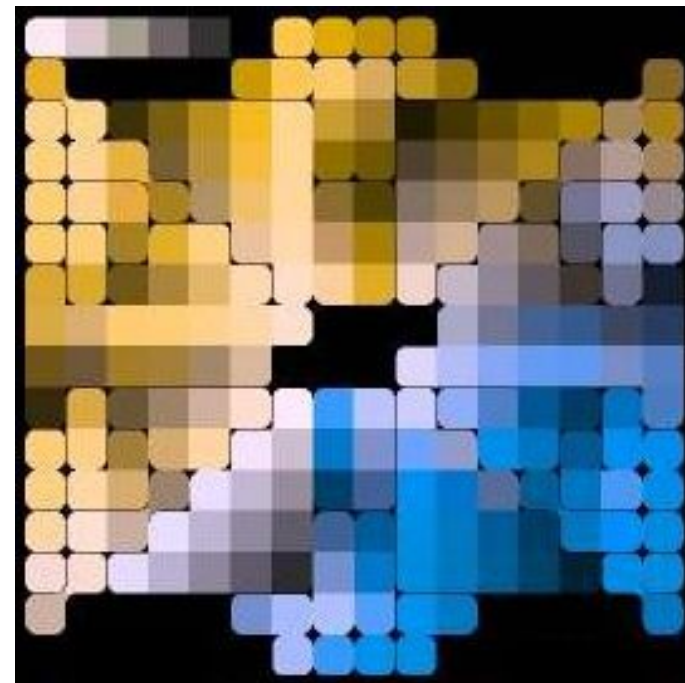
# Make sure your website *sounds* good





## Another kind of visual disability: colour blindness

- 8% of males in the US are colour blind (more men than women)



# Colour blindness

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- Don't use colour alone to convey meaning.
- E.g.



Top rating

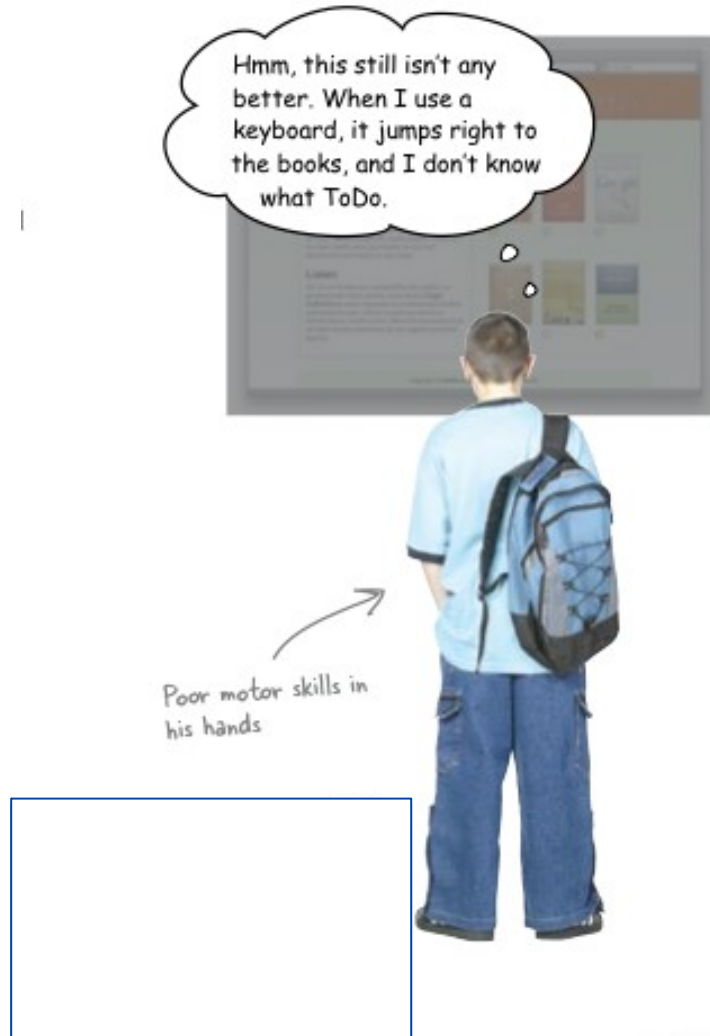


Bad rating



No rating

# Not just about visual issues





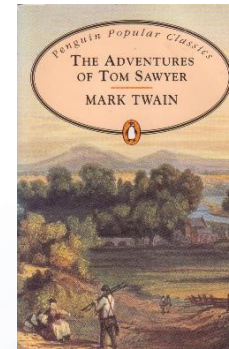
# Let's try using a website without a mouse

# Tab Index

- User will tab through the the links as ordered in your HTML.
- So put them in a good order.
- To be doubly sure, you can use tab index

```
<a tabindex="1" href="book1.html"> </a>
```

```
<a tabindex="2" href="book2.html"> </a>
```



# We've talked about

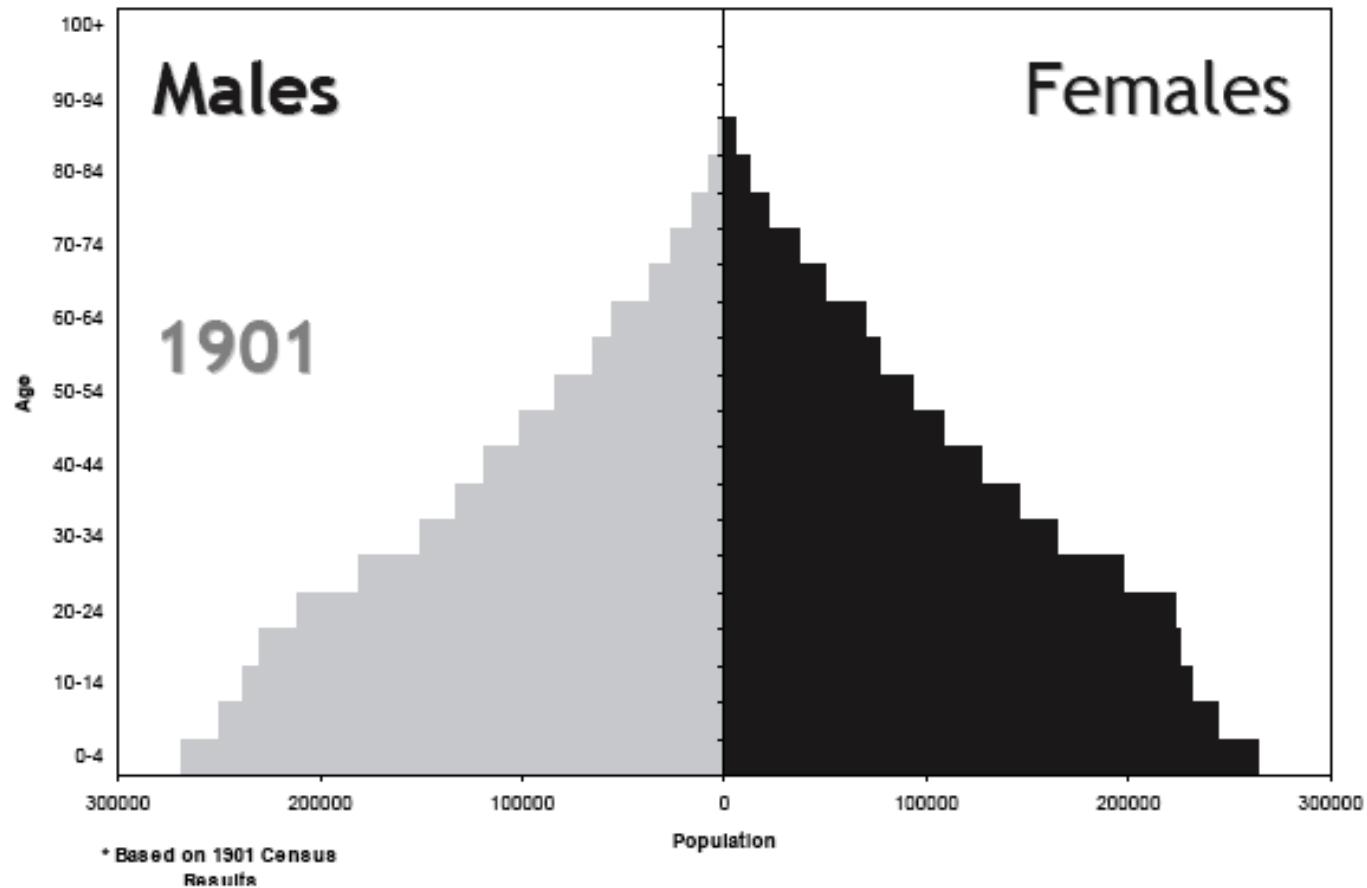
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- Visual impaired
- Motor skills issues
- Colour blindness

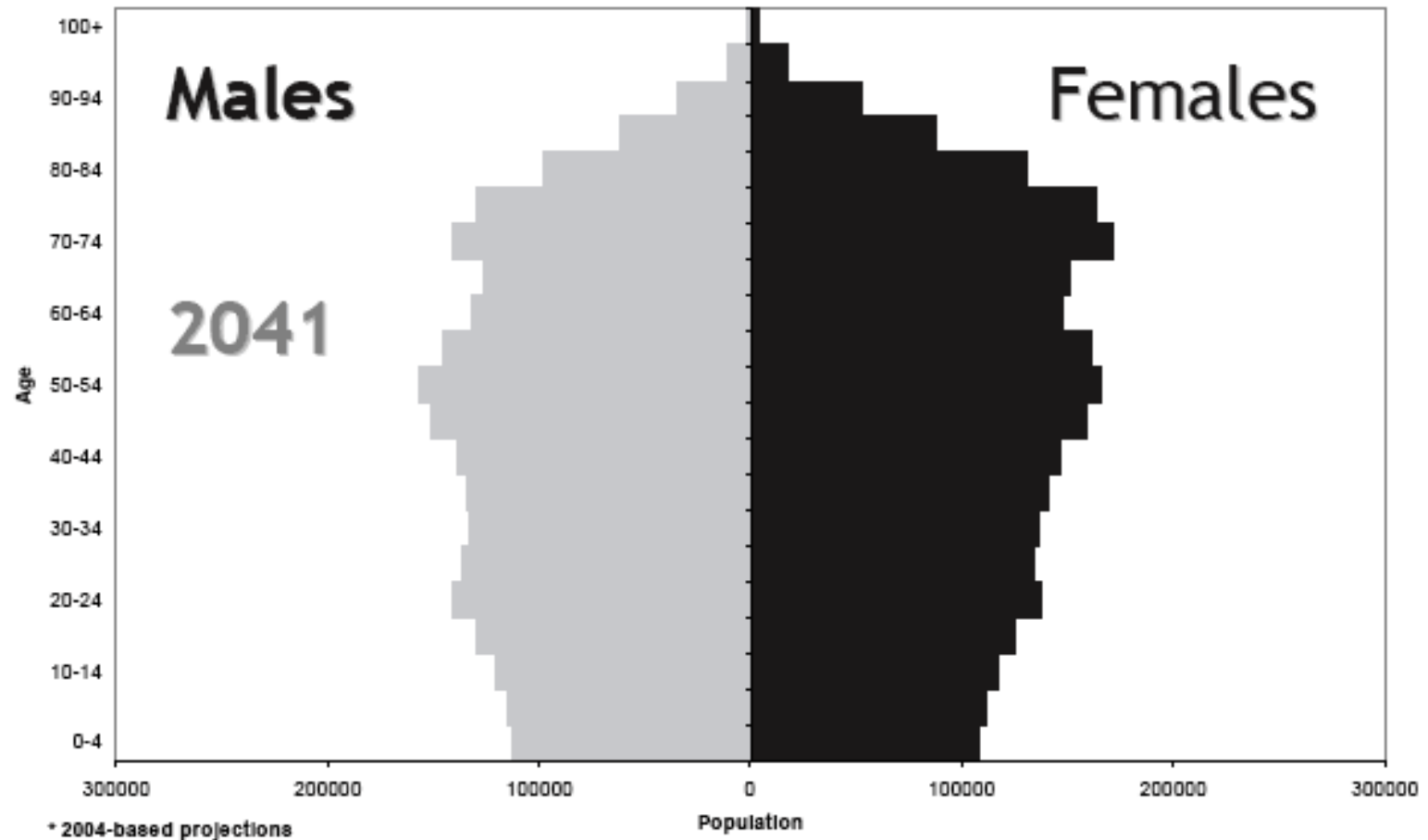
What about your Nan?



# Elderly population



# Elderly population



# Silver surfers

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- Do mostly the same things younger generation does, i.e. communication and information searches (Morris, Goodman and Brading (2007))
  - Product research (66%)
  - Purchase goods (47%)
  - Make travel arrangements (41%)
  - Visit government websites (100%)
  - Religious/spiritual (26%)
  - Online banking (20%)

# Elderly users

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- Problems
  - Sight
  - Hearing
  - Motor skills (e.g. arthritis, Parkinsons)
  - Cognitive decline (e.g. dementia)
- For more details see  
<http://www.w3.org/TR/wai-age-literature/>

*The proportion of your website users that are elderly will be constantly growing- address accessibility now.*

# Other initiatives

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- The Web Accessibility Initiative (WAI):
  - Coordinates with all the other domains of the W3C
  - Provides Web Content Accessibility Guidelines (WCAG)
  - <http://www.w3.org/WAI/intro/wcag>
- Hot off the press
  - Cognitive Accessibility Research
  - <http://www.w3.org/TR/coga-user-research/>



# More on WCAG 2.0

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- Exhaustive set of guidelines- try to take care of the applicable checkpoints
  - Guideline 1.1 Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language.
  - Guideline 1.2 Provide alternatives for time-based media.
  - Guideline 1.3 Create content that can be presented in different ways (for example simpler layout) without losing information or structure.
  - Guideline 1.4 Make it easier for users to see and hear content including separating foreground from background.
  - .....

# Standards Compliance

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- We've talked about validating our HTML and CSS...
- Making sure your site meets WCAG checkpoints is related but not the same
- WCAG makes sure that your site as accessible as possible...
- ...whereas HTML/CSS standards makes sure your site is valid and your markup is correct and without errors.

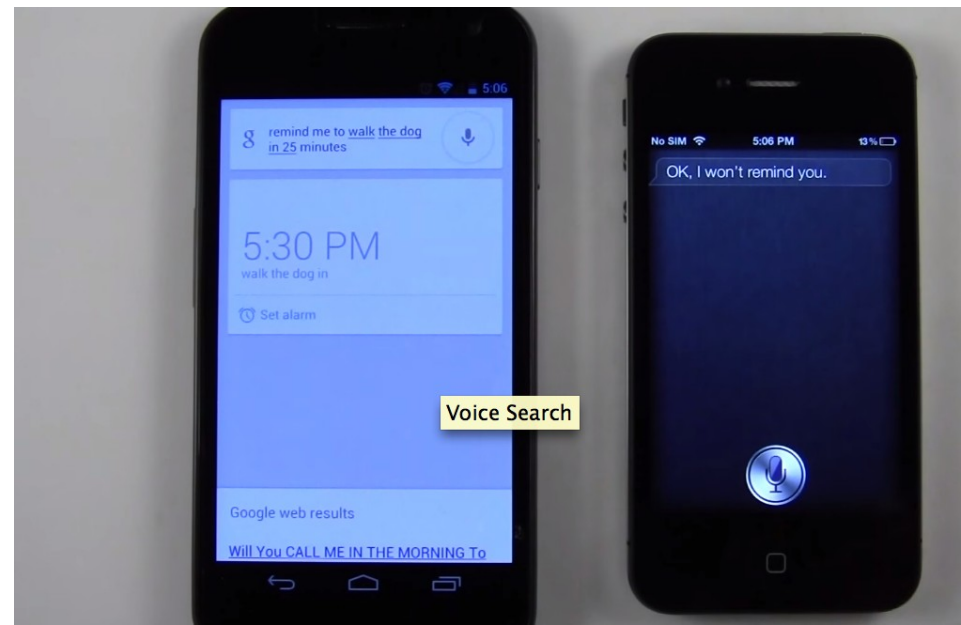
# Pushing Technology Forward for All

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- Text/audio/video can support:
  - different learning styles; low literacy levels; second-language access.
- Style sheets can support:
  - more efficient page transmission and site maintenance.
- Captioning of audio files supports:
  - better machine indexing of content; faster searching of content.

# Voice Search

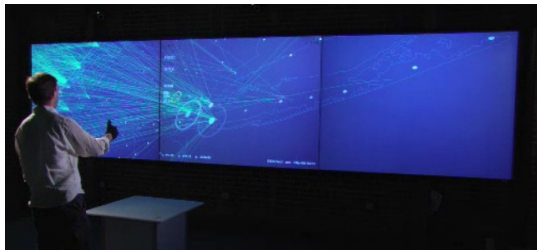
- Siri
- Google voice
- Cortana
- Can support users with learning difficulties (e.g. dyslexia) or motor skills issues



# Pushing Technology Forward for All



- Multi-modality provides support for visual, auditory, tactile access.
- Multi-modality increases usability of Websites in different situations, e.g. noisy environments, visual impairment



# The future?

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# Accessibility: takeaways

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- Get into good habits (e.g. using alt)
- Check your website with a screen reader
- Make sure it tabs correctly
- Be careful how you use colour
- Check out the WCAG guidelines- especially if your website requires it
- Think about usability for the older generation

# A note on Copyright ©

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- You climb to the top of Everest and take an amazing picture and post it on your website.
- Who owns that picture?
- People start using your photo on their websites without mentioning you.
- How would you feel?
- Copyright is the LAW.



# 'Piracy' student loses US extradition battle over copyright infringement

TVShack's Richard O'Dwyer faces 10 years in jail for operating website US authorities say hosts links to copyrighted material

**Peter Walker**

[guardian.co.uk](http://guardian.co.uk), Friday 13 January 2012 20.16 GMT

[Article history](#)



TVShack founder Richard O'Dwyer, 23, with his mother, Julia, after appearing at Westminster magistrates court in London. Photograph: Luke Macgregor/Reuters

A judge ruled on Friday that a 23-year-old student can be extradited to the [United States](#) for running a website posting links to pirated TV shows and films, despite significant doubts over whether such sites break any UK laws.

# Copyright ©

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- Make sure you have the right to use material on your website (includes images, movies, sound etc.)
- If it doesn't explicitly say "no copyright" - it is by default copyrighted.
- Be careful what you put on your website - you could get into trouble.....
- Protect your stuff: put in footer  
© *Donald Duck All Rights Reserved*

# If in doubt

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... get legal advice

See here for more details

<http://www.ipo.gov.uk/copy.htm>

# Summary

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- Think about how accessible your website is for the entire online community
  - Everyone benefits from it
  - It can help your website/business be accessible to a wider audience
  - It's the right thing to do
- Copyright:
  - Protect your stuff
  - Make sure you have the right to use everything on your site

# Next time

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- Creating structure with div, spans