Is accessibility actually usability?

Alastair Campbell – Director of User Experience

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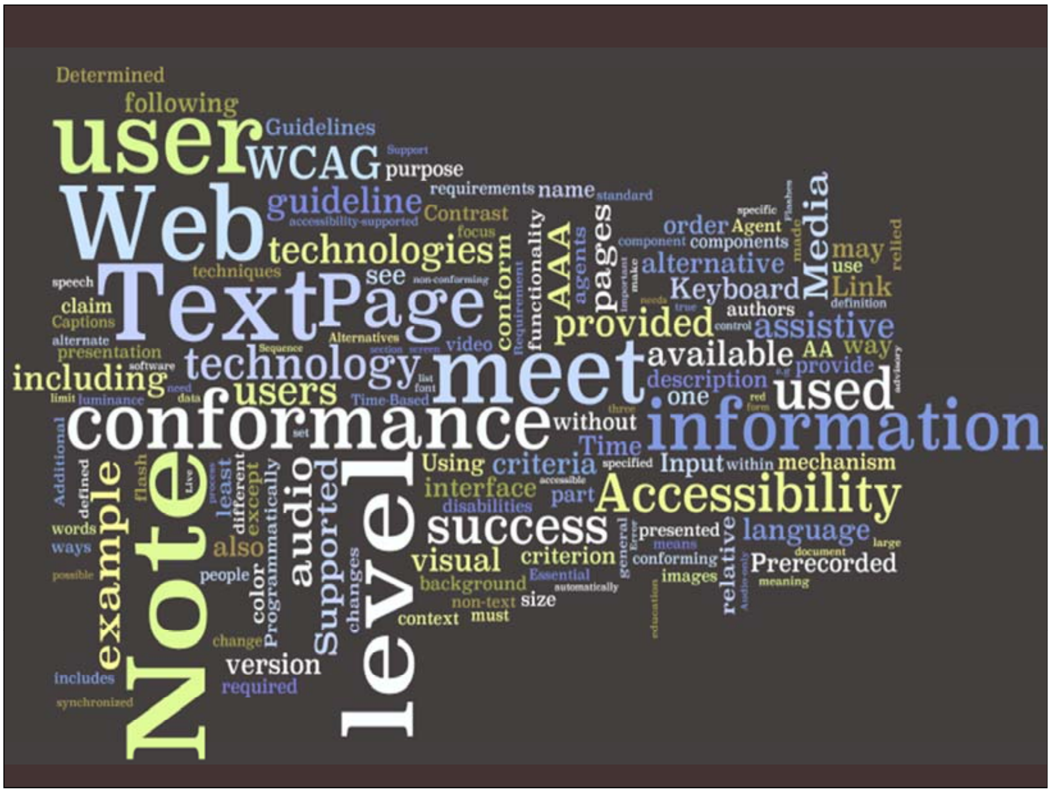
Introductions / hello

Out of interest, **how many people have actively tried** to build accessible sites? (Show of hands)

So to look at this question, I’m going to show you the **mental process** I go through when working out how easy a website is to use for people with different disabilities.

With that in place, you start to see the connections, and I promise, there is an answer at the end!

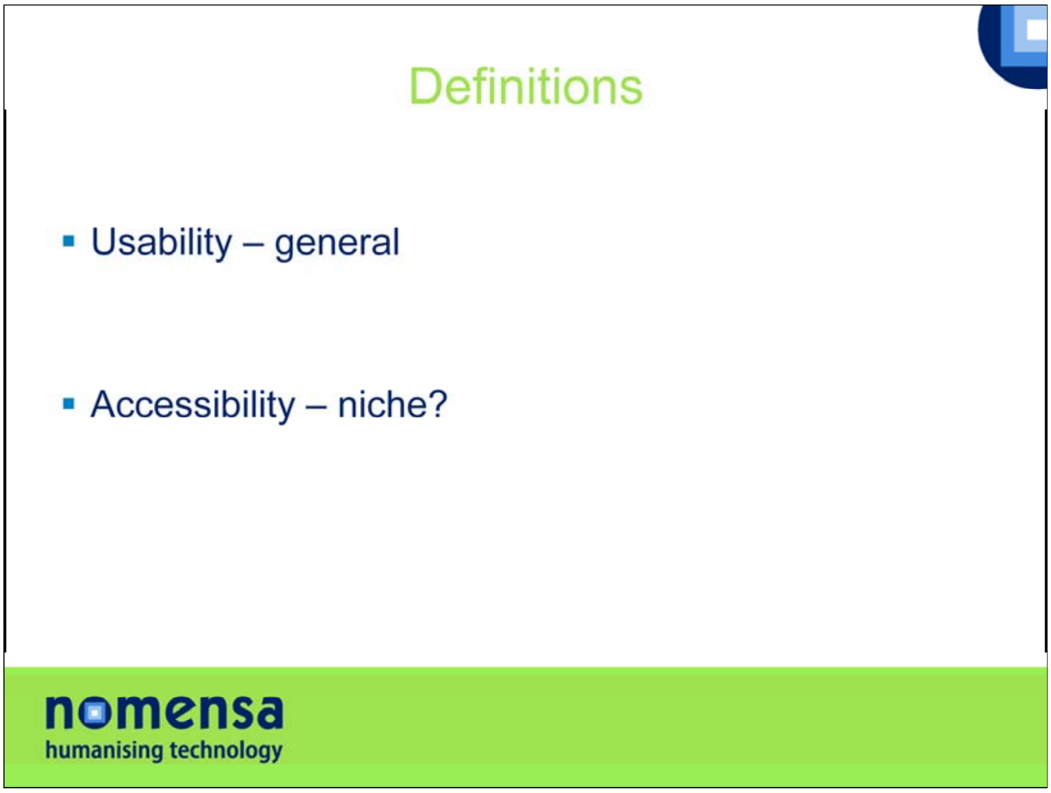


When people talk of accessibility terms like conformance level, guidelines, and checkpoints are common.

Don’t worry, I won’t be quoting checkpoints, unless someone asks later.

So the question is how can this be connected to usability?

I’m going to examine how different accessibility is from every day usability.



Definitions

- Usability – general
- Accessibility – niche?

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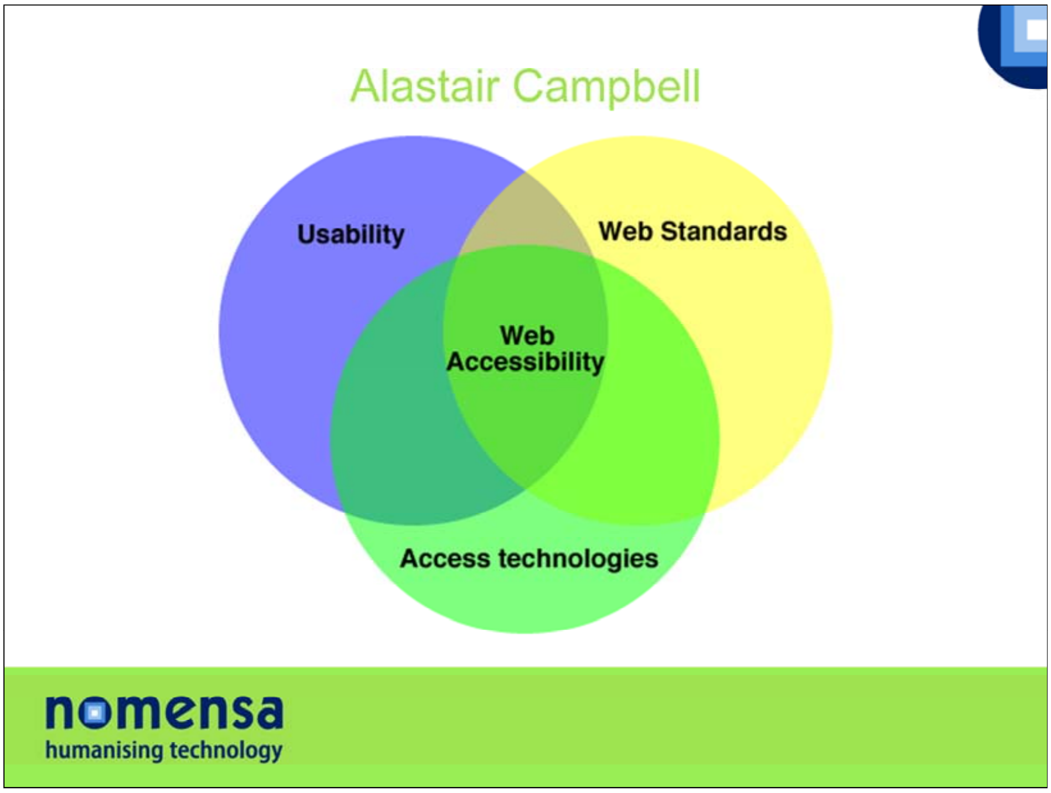
Ok, with a **title like this** I need to make sure we’re talking about the same thing!

Both these terms tend to get used to **describe a product,** whether it’s a website or a TV. They are also used to refer to the **process** of making something.

Usability: how easy something is to learn, use, and how enjoyable that experience is.

I’m using this in the fairly general sense, and **include Information Architecture** in that. Whilst they are fairly distinct disciplines, I just mean that finding things impacts the usability of a site.

Web Accessibility, simply means that people with disabilities can use the web.



Alastair Campbell

Usability

Web Standards

Web Accessibility

Access technologies

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I guess everyone knows I’m here to talk about accessibility, but it might help to know where my perspective comes from?

Way back at university, I rebelled against doing engineering, and did psychology. But then, found I was most interested in human-computer interaction, and did a post-graduate degree in that, graduating just in time for the dot-com crash.

Thanks to starting a small company at the worst possible time, we had to learn new things pretty quickly. Our first project was creating a website for a University, and I was put in charge of the front end code!

The University team said that the accessibility of the site was a key factor, so I looked into some organization called the W3C. After almost giving up on CSS layouts, we started doing accessible, CSS based sites from 2001. (I have to thank a site called Blue Robot for showing me the key to CSS layouts.)

However, I tend to think in terms of structure and usability, I have no sense of design so I rely on the designers at Nomensa for that!

Interaction styles

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Something I find useful when assessing websites for accessibility is to consider the **different interaction styles** that people use.

Different abilities lead people to use technologies that suit them, and there are a **huge number** of different technologies.

Broadly there are input and output based issues:

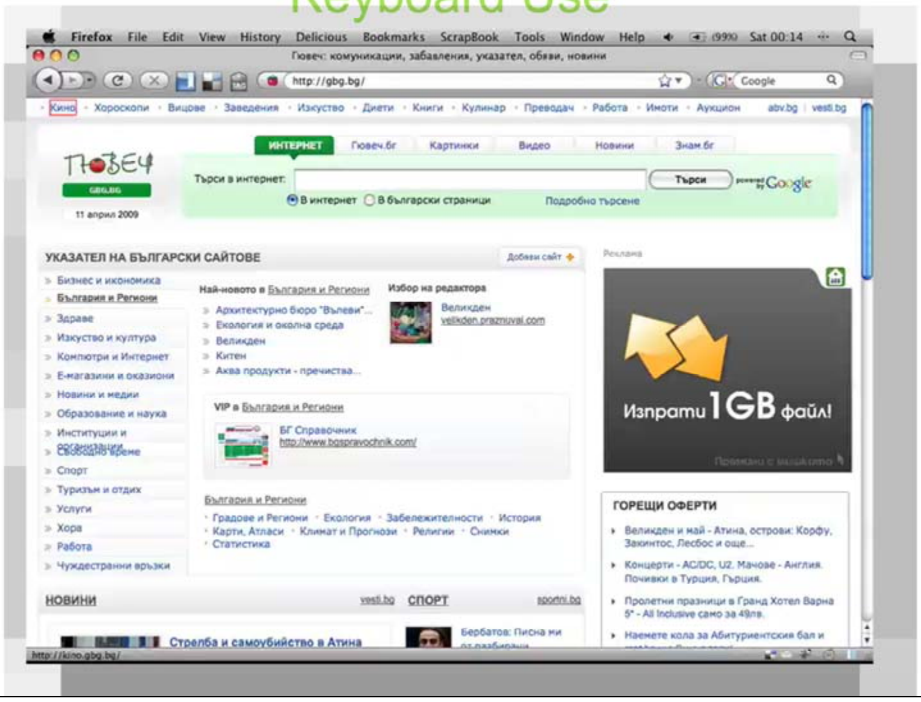
- If you can't see, you need to **hear or feel** your way around websites. (the top-right picture is a braille display)

- If you **can't use a mouse**, other input devices can help.

There is something of a problem when it comes to the design process though. There are **too many ways of interacting** with a site to test against, or even to have experience with them all.

So in practice, I **categorise the interaction styles** for use when creating something, and use the guidelines or testing to check it afterwards.

Keyboard Use


Firefox File Edit View History Delicious Bookmarks ScrapBook Tools Window Help
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ИНТЕРНЕТ Гювеч.бг Картинки Видео Новини Знам.бг
Търси в интернет:
Търси
В интернет В български страници
Подробно търсене
11 април 2009
УКАЗАТЕЛ НА БЪЛГАРСКИ САЙТОВЕ
Бизнес и икономика
България и Региони
Здраве
Изкуство и култура
Компютри и Интернет
Е-магазини и оказиони
Новини и медии
Образование и наука
Спорт
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http://kino.gbg.bg/

There are a range of people who cannot use a mouse, or find it very difficult to do so. People with issues such as **Parkinson’s** disease (muscle tremors & stiffness), muscular dystrophy, motor neurone disease, or **arthritis** to name a few, may not be able to use a mouse at all.

There is a **massive range** of keyboard-style input devices, but they all follow the same principle, a linear progress through the source order of the page. Remember, we are thinking of people who **can see** the screen, but are **using a keyboard-like device**.

Common navigation strategies are:

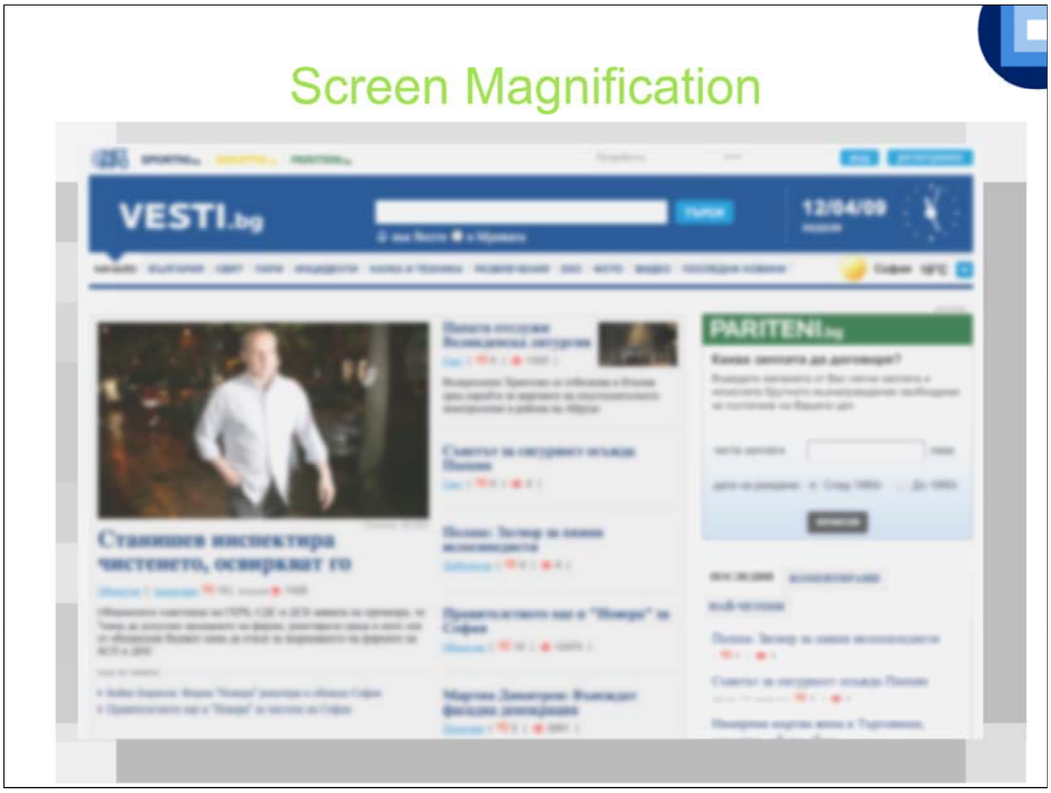
- **Tabbing** through links.
- Using the browser’s **find** function (this also maps to speech input fairly well.)

This **example** uses a little CSS to make the **keyboard focus visible**, and shows how time consuming it can be to navigate by keyboard. Imagine you want to get to a link in the middle.

Demo: 01-keyboard

I tried **a ‘find’ method** at the end, although there were only two links I could actually find with keys that I have!

So the find method gets straight to a link, even though the focus was a long way off.



Screen Magnification

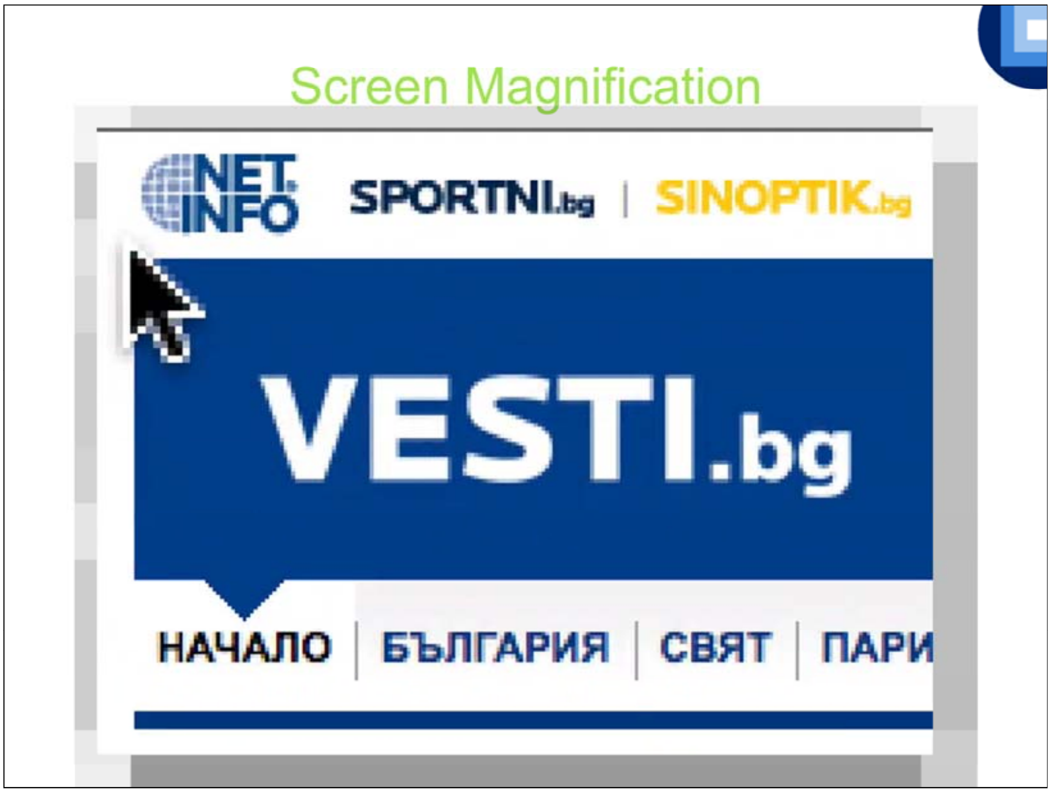
For people with a sight impairment, but who can still see, there is quite a **wide continuum** of assistance needed.

It goes from minor impairments where the person might just increase the sizing of things **in their browser**, through **screen magnification**, to using **a screen reader**.

Using a screen magnifier is quite a **mouse driven experience**.

The entire screen is often zoomed in, to between 2 and 8 times magnification, and **the focus is moved around** with the mouse.

Screen magnifiers come in several forms and **configurations**. For example, the way the mouse moves the screen can change, and some magnifiers use a **looking-glass approach**, only magnifying the area around the mouse pointer.



Demo: 02_screen-mag.mov

In this example, I'm zooming in to **three or four times magnification**. This site is quite reasonable in this scenario of just reading a couple of articles.

Although, as you can see at the end, **a page taking a while to load** doesn't give much feedback. Imagine what this would be like with a **pop-up window** that loaded to one side?

It's a little harder to find common interaction patterns, but one is that **people tend to zoom out,** get an idea of layout and zoom in again.

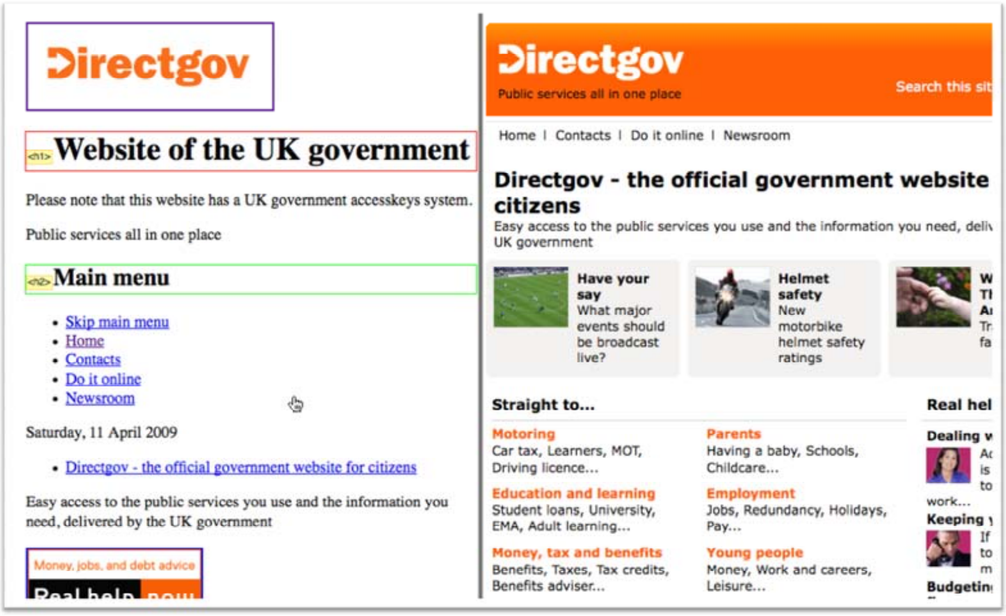
However, in testing it's noticeable that people will **miss things outside of their view** when they are in the middle of a task. It is also a very mouse-driven interaction, and people tend to stick to using the mouse unless they really have to type something in.

The main things I look for when designing with magnification in mind are:

- **Consistency**, for example, if people learn to use the navigation at the top, don't throw in an essential right hand side navigation on random pages.
- Making the **results from actions appear close** to where the action is performed. This typically affects forms, where help text might be far from where you are typing.
In fact, making sure that **labels align next to the inputs** is important in itself!
- Making sure that **colours and sizes are separated, in CSS**, rather than hard-coding styles into HTML. This helps those who change the colour scheme using their browser.

Another thing I tend to think of at this stage is people who do use a mouse, but may **struggle to hit small targets.** Big hit area targets help people using magnification as well as those who struggle with detailed co-ordination.

Screen readers



Directgov

<h1> Website of the UK government

Please note that this website has a UK government accesskeys system.

Public services all in one place

<h2> Main menu

- Skip main menu
- Home
- Contacts
- Do it online
- Newsroom

Saturday, 11 April 2009

- Directgov - the official government website for citizens

Easy access to the public services you use and the information you need, delivered by the UK government

Money, jobs, and debt advice

Real help now

Directgov

Public services all in one place

Search this sit

Home | Contacts | Do it online | Newsroom

Directgov - the official government website citizens

Easy access to the public services you use and the information you need, deli UK government

Have your say What major events should be broadcast live?

Helmet safety New motorbike helmet safety ratings

W Tl A Tr fa

Straight to...

Motoring Car tax, Learners, MOT, Driving licence...

Parents Having a baby, Schools, Childcare...

Education and learning Student loans, University, EMA, Adult learning...

Employment Jobs, Redundancy, Holidays, Pay...

Money, tax and benefits Benefits, Taxes, Tax credits, Benefits adviser...

Young people Money, Work and careers, Leisure...

Real hel

Dealing w Ac is to work...

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Budgetin

Screen readers are the **extreme end** of accessibility technologies in several senses.

Using a screen reader is more different from 'normal' web use than any other technology I've come across. The programs were not originally intended for web access, that has been developed in more recent years.

A full screen reader is intended for using your **whole system**, from the Operating System to Office programs, through media programs, to accessing the web.

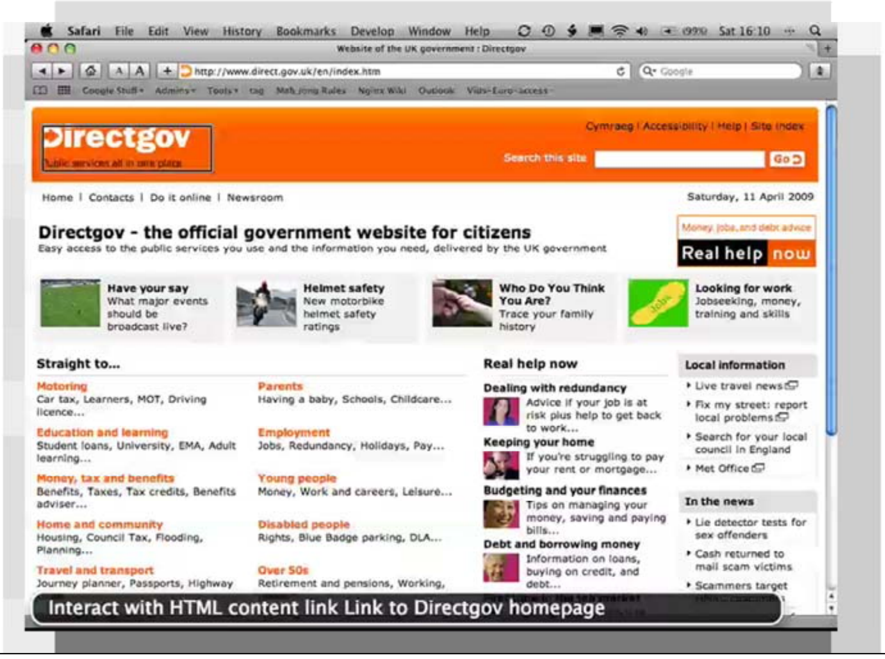
It **reads** out the text, it **reports** if that text has functionality, and they provide a huge number of **keyboard commands** to navigate, access content, and perform actions.

The **understanding of the code** that a web developers has can help – the experience is usually linear, one thing at a time, in the order of the source code.

In this double-screenshot, the right side is the UK Government's main portal for citizens. The left side is the **same page with the styling removed, and headings highlighted**. This view, easily created with Firefox's web developer toolbar, also helps highlight the structure that is embedded in the code.

If you take this non-styled version, one line at a time, this is pretty close to a visual version of what a screenreader would read out.

Screen readers


Safari File Edit View History Bookmarks Develop Window Help
Sat 16:10
Website of the UK government : Directgov
http://www.direct.gov.uk/en/index.htm
Google
Google Stuff Admins Tools tag Mah Jong Rules Nginx Wiki Outlook Vids-Euro-access
Directgov
Public services all in one place
Cymraeg | Accessibility | Help | Site index
Search this site
Go

Home | Contacts | Do it online | Newsroom

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Money, jobs, and debt advice

Real help now

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Helmet safety New motorbike helmet safety ratings

Who Do You Think You Are? Trace your family history

Looking for work Jobseeking, money, training and skills

Straight to...

Motoring
Car tax, Learners, MOT, Driving licence...

Education and learning
Student loans, University, EMA, Adult learning...

Money, tax and benefits
Benefits, Taxes, Tax credits, Benefits adviser...

Home and community
Housing, Council Tax, Flooding, Planning...

Travel and transport
Journey planner, Passports, Highway

Parents
Having a baby, Schools, Childcare...

Employment
Jobs, Redundancy, Holidays, Pay...

Young people
Money, Work and careers, Leisure...

Disabled people
Rights, Blue Badge parking, DLA...

Over 50s
Retirement and pensions, Working,

Real help now

Dealing with redundancy
Advice if your job is at risk plus help to get back to work...

Keeping your home
If you're struggling to pay your rent or mortgage...

Budgeting and your finances
Tips on managing your money, saving and paying bills...

Debt and borrowing money
Information on loans, buying on credit, and debt...

Local information

- Live travel news
- Fix my street: report local problems
- Search for your local council in England
- Met Office

In the news

- Lie detector tests for sex offenders
- Cash returned to mail scam victims
- Scammers target

Interact with HTML content link Link to Directgov homepage

Design aspects that really help people using screen readers are:

- **Consistent layout** (within the code).
- Proper use of web standards, where the **appropriate HTML elements** are used for each item on the page.
- **Skip links**, so you can avoid repeated navigation.
- Putting **keywords first**, so that you can hear the most important thing first and decide to move on or not.

One **myth** to put to rest though is that screen readers are basic, and don't understand things like JavaScript.

Although it's currently quite a complex issue, screen reader users have the **same browsers** that we do – and the screen reader uses the browser.

The browsers understand CSS and JavaScript, and the screen readers try to provide an equivalent experience as possible.

So, **don't assume** that screen reader users are without scripting…

Screen readers

Typical strategies for people using screenreaders when arriving at a website

- Skim through a site's **homepage first**, before moving onto other strategies.
- Create a **links list**, something that's built into many screen readers.
- **Skip** lists of **links**, either using a site-provided link, or with build in functions.
- **Skimming headings** is very common, assuming the site has headings!
- **Within page search**, either the browser's built in one, or more advanced ones built into the screen reader.

In this example, I'm using VoiceOver, the screen reader built into Apple's OSX (mostly because it's easy to add captions!).

Demo: 03_screen-reader.mov

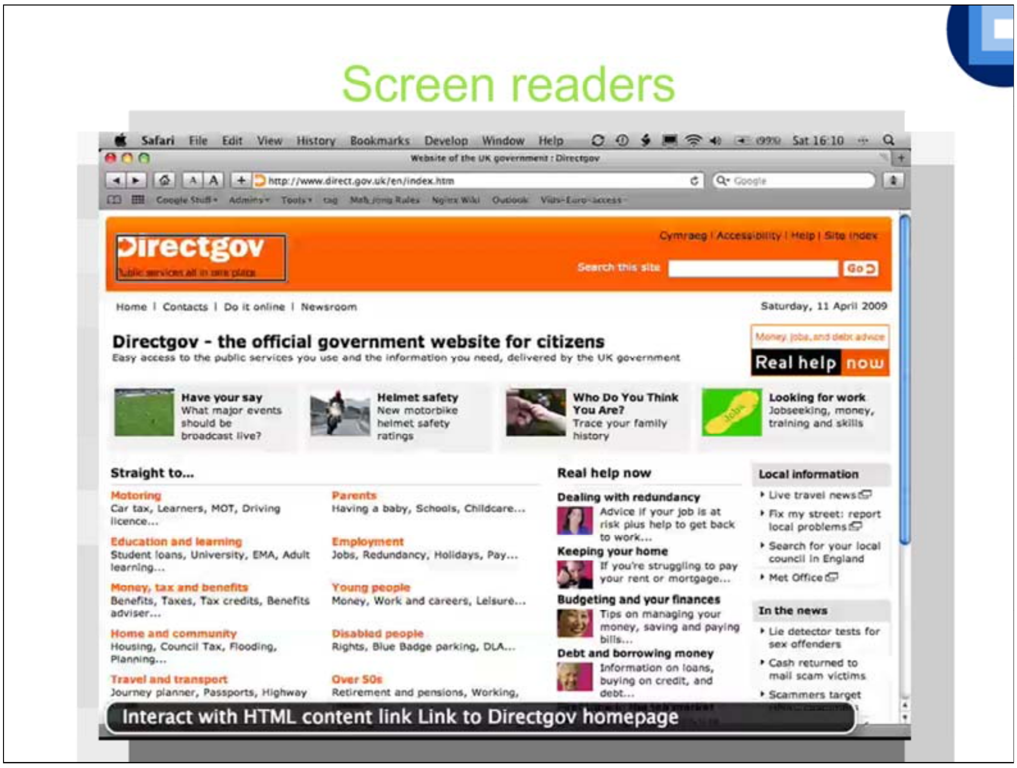
I skim down the page, notice how headings and links are read out based on the HTML used.

(After "Education")

After going through a few lists of links, I **start skimming by heading**.

I realise that I want the motoring section, so I open **a list of links and type "mot",** leaving a couple of links.

I go though to that page. Notice how the site has some **hidden headings** for screen reader users



Screen readers

Safari File Edit View History Bookmarks Develop Window Help
Sat 16:10
Website of the UK government : Directgov
http://www.direct.gov.uk/en/index.htm
Google
Google Stuff Admins Tools tag Mah Jong Rules Nginx Wiki Outlook Vids-Euro-access
Directgov
Public services all in one place
Cymraeg | Accessibility | Help | Site index
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Tips on managing your money, saving and paying bills...

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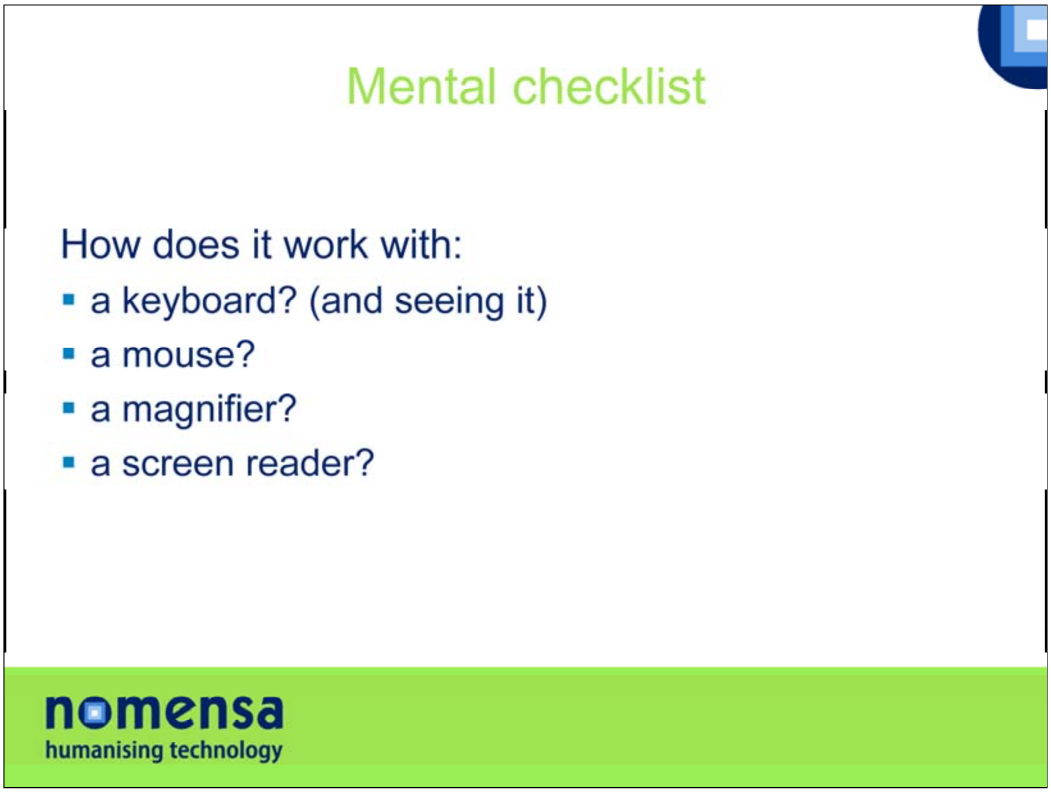

Mental checklist

How does it work with:

- a keyboard? (and seeing it)
- a mouse?
- a magnifier?
- a screen reader?

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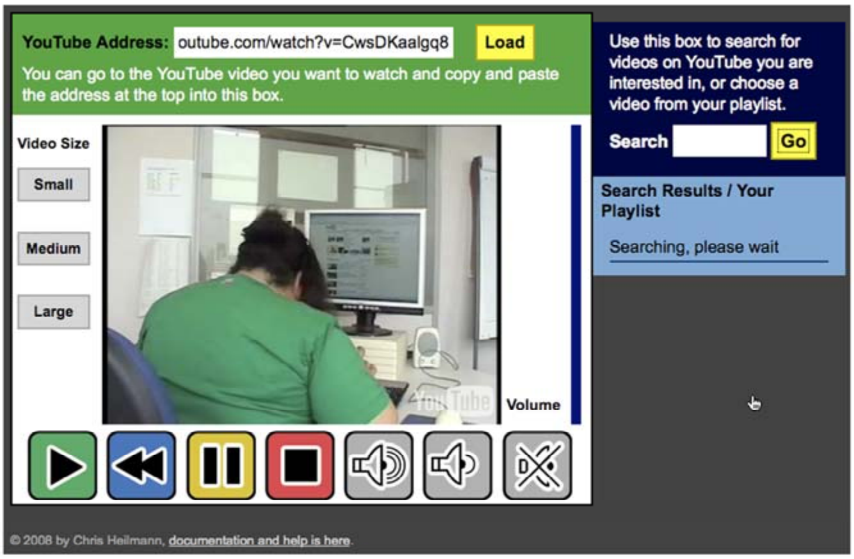
When creating a site, a page or an interaction, I tend to run through this mental checklist.

You are thinking of the same interaction in several different scenarios, and this should really help make the interface more robust.

Cognitive issues

But wait, what about cognitive issues?



YouTube Address: outube.com/watch?v=CwsDKaalgq8

You can go to the YouTube video you want to watch and copy and paste the address at the top into this box.

Use this box to search for videos on YouTube you are interested in, or choose a video from your playlist.

Search Results / Your Playlist

Searching, please wait

© 2008 by Chris Heilmann, documentation and help is here.

Ok, well, this is a difficult issue, partly because there is generally **no difference in technology** at the users end, they are using a standard browser, nothing special.

‘Cognitive issues’ as a category, is **incredibly wide**. It can mean everything from **Dyslexia**, to learning difficulties, to autism, to **memory** issues, and just about any psychological ailment you’ve come across.

Even with a degree in Psychology and 10 years web experience, I shudder at the thought of trying to work-out design guidelines within any of the sub-groups, let alone tackling ‘cognitive’ as a whole. When the W3C released the new version of the Web Content Accessibility Guidelines, they **explicitly said** that they did not fully cover cognitive issues, because there simply isn’t enough research to create guidelines from.

However, there was an excellent **conference** late last year that included a lot of information about people with cognitive issues – which is fairly rare in web accessibility**. Scripting Enabled** (http://scriptingenabled.org/)

In broad terms, the advice came down to:

- **Simplify** as much as you can, and then a bit more. Everything item on the page **distracts** from the other items, and the less distraction the better.
- Provide **aids** such as a drop-down of common results when typing into a search (like Google Suggest).
- Make the **distinctions** between content and functionality as clear as possible.

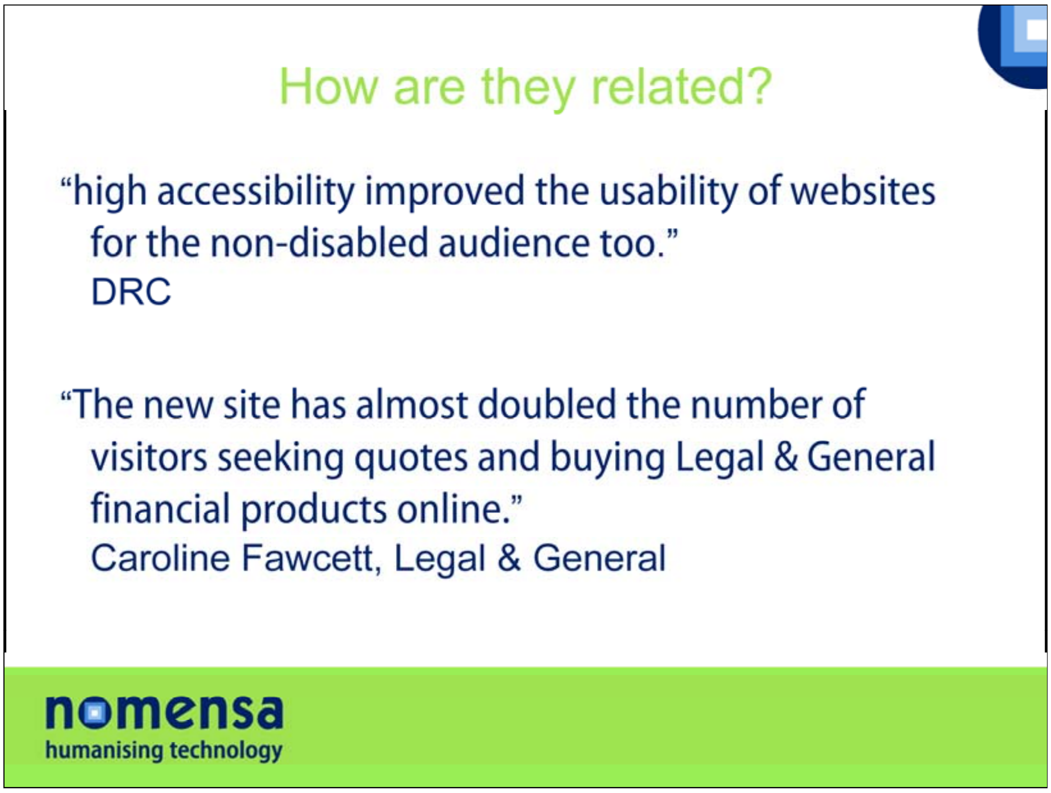
The example here is something the conference organiser created: **Easy Youtube**. It uses the Youtube API to create a whole new, simpler version.

(http://icant.co.uk/easy-youtube/)

By the way, the conference organiser was a developer at Yahoo! – Christian Heilmann, possibly the most prolific developer on the accessibility scene?

It seems likely that any technical innovation for people with cognitive issues is likely to mean **alternative versions** of sites, or building on **APIs** so that people can create adapted versions of things.

Although hardly equivalent, I quite often use a ‘**squint test**’, where you look at the site through half closed eyes to see if areas are clearly differentiated.



How are they related?

"high accessibility improved the usability of websites for the non-disabled audience too."
DRC

"The new site has almost doubled the number of visitors seeking quotes and buying Legal & General financial products online."
Caroline Fawcett, Legal & General

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So, how are usability and accessibility **related**?

The **Disability Right's Commission** in the UK did quite a large study of accessibility, with plenty of usability testing.

"Part of the research involved a controlled study taking 6 websites - **three with high accessibility** and three with **low** accessibility to determine the disenfranchisement of non-blind users. For a high accessible website it **took 36 seconds** for a non-disabled person to complete the tasks. On a low accessible website it took non-disabled people **52 seconds** to complete the tasks. The conclusion is that high accessibility improved the usability of websites for the non-disabled audience too."

http://www.isolani.co.uk/blog/access/DrcReportOnUkWebAccessibility

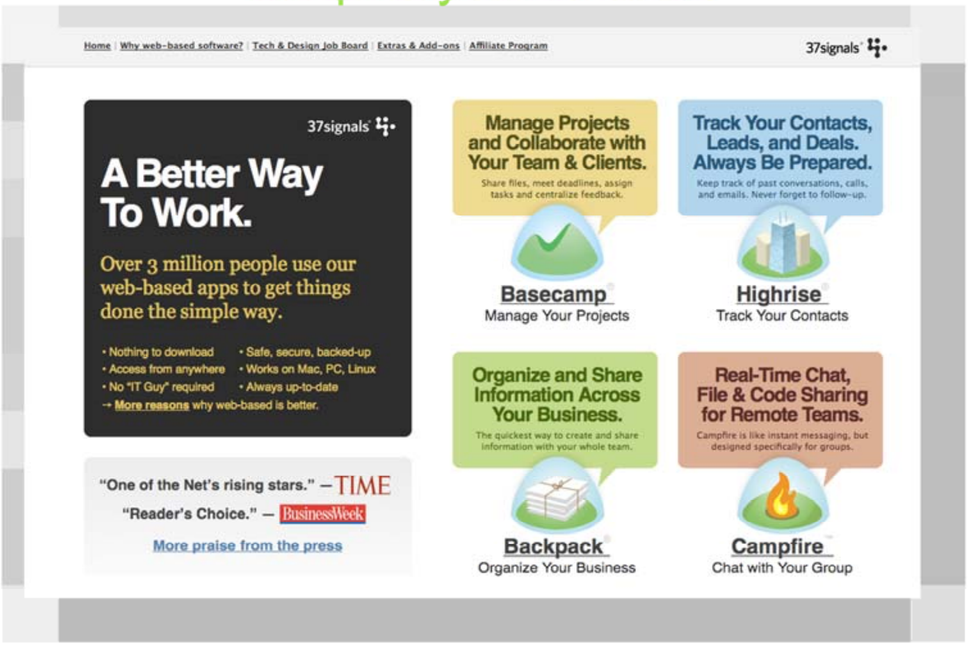
The legal and general case study showed the **redevelopment for accessibility** doubled the **number of visitors**, doubled **conversion**, cut maintenance costs by two thirds, and increased the amount of natural search traffic by 50%.

http://www.isolani.co.uk/presentations/wsg/wsg-webaccessibility.pdf

These are pretty good **ROI statistics** for any usability project.

So why is this? **What is it about making a site accessible that makes it more usable?**

Simplicity and Focus



Home | Why web-based software? | Tech & Design Job Board | Extras & Add-ons | Affiliate Program

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A Better Way To Work.

Over 3 million people use our web-based apps to get things done the simple way.

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- Access from anywhere
- No "IT Guy" required
- Safe, secure, backed-up
- Works on Mac, PC, Linux
- Always up-to-date

→ More reasons why web-based is better.

"One of the Net's rising stars." – TIME

"Reader's Choice." – BusinessWeek

More praise from the press

Manage Projects and Collaborate with Your Team & Clients.

Share files, meet deadlines, assign tasks and centralize feedback.

Basecamp
Manage Your Projects

Track Your Contacts, Leads, and Deals. Always Be Prepared.

Keep track of past conversations, calls, and emails. Never forget to follow-up.

Highrise
Track Your Contacts

Organize and Share Information Across Your Business.

The quickest way to create and share information with your whole team.

Backpack
Organize Your Business

Real-Time Chat, File & Code Sharing for Remote Teams.

Campfire is like instant messaging, but designed specifically for groups.

Campfire
Chat with Your Group

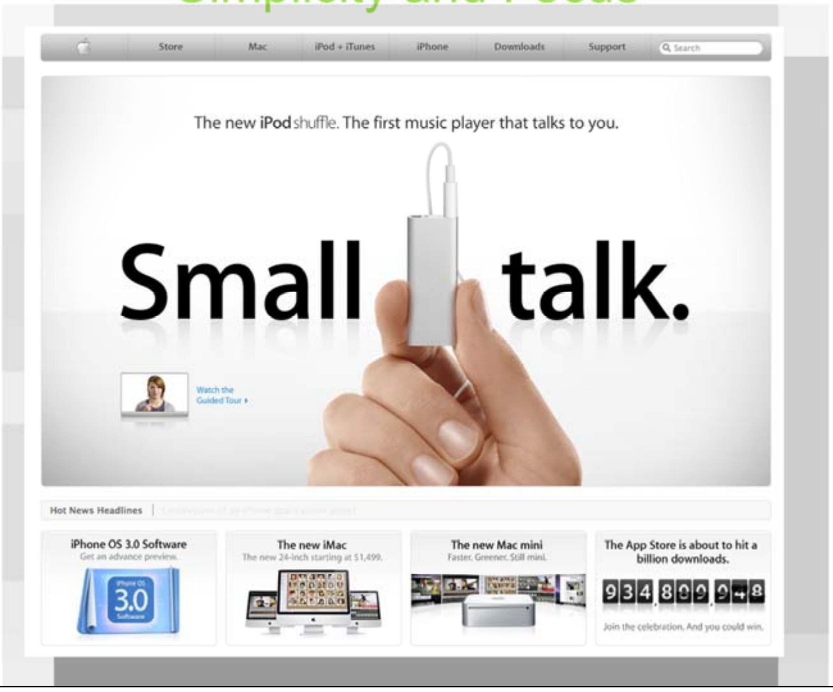
Lets take a few **usability principles as examples**.

Simplifying helps many people, especially that least defined of all groups: those with cognitive impairments.

This is generally the hardest thing for a team to accomplish, because there are so many **demands** from different areas of an organisation. **Homepages** can turn into battlegrounds, where the easiest option is to **throw everything** onto it.

This example is the 37 Signals homepage, where the **small number** of options, use of **whitespace** between elements, and large, **clear messages** really make this page easy for all. (NB: I'm not making any comment about the accessibility of their applications, this is just the homepage!)

Simplicity and Focus



The new iPod shuffle. The first music player that talks to you.

Small talk.

iPhone OS 3.0 Software
Get an advance preview.

The new iMac
The new 24-inch starting at $1,499.

The new Mac mini
Faster. Greener. Still mini.

The App Store is about to hit a billion downloads.

Join the celebration. And you could win.

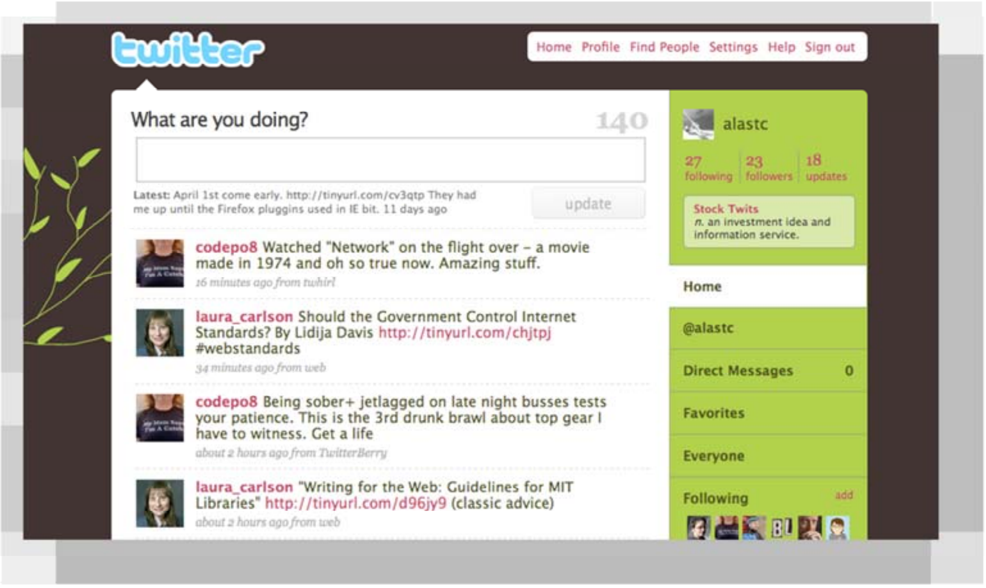
In this example, whilst Apple sometimes makes things too simple (hiding useful options), the homepage is a good example of keeping it simple.

They promote up to **5 things** on the page, otherwise you use one of **6 main menu items**, or **search**. That is pretty simple.

I’m not saying that these companies came to these design through thinking about accessibility, but the usability has certainly helped people who:

- Struggle to understand **complexity**.
- Navigate with the **keyboard**.
- Only **view part of the screen** at a time.

Simplicity and Focus



Latest: April 1st come early. http://tinyurl.com/cv3qtp They had me up until the Firefox pluggins used in IE bit. 11 days ago

codepo8 Watched "Network" on the flight over – a movie made in 1974 and oh so true now. Amazing stuff.
16 minutes ago from twhirl

laura_carlson Should the Government Control Internet Standards? By Lidija Davis http://tinyurl.com/chjtpj #webstandards
34 minutes ago from web

codepo8 Being sober+ jetlagged on late night busses tests your patience. This is the 3rd drunk brawl about top gear I have to witness. Get a life
about 2 hours ago from TwitterBerry

laura_carlson "Writing for the Web: Guidelines for MIT Libraries" http://tinyurl.com/d96jy9 (classic advice)
about 2 hours ago from web

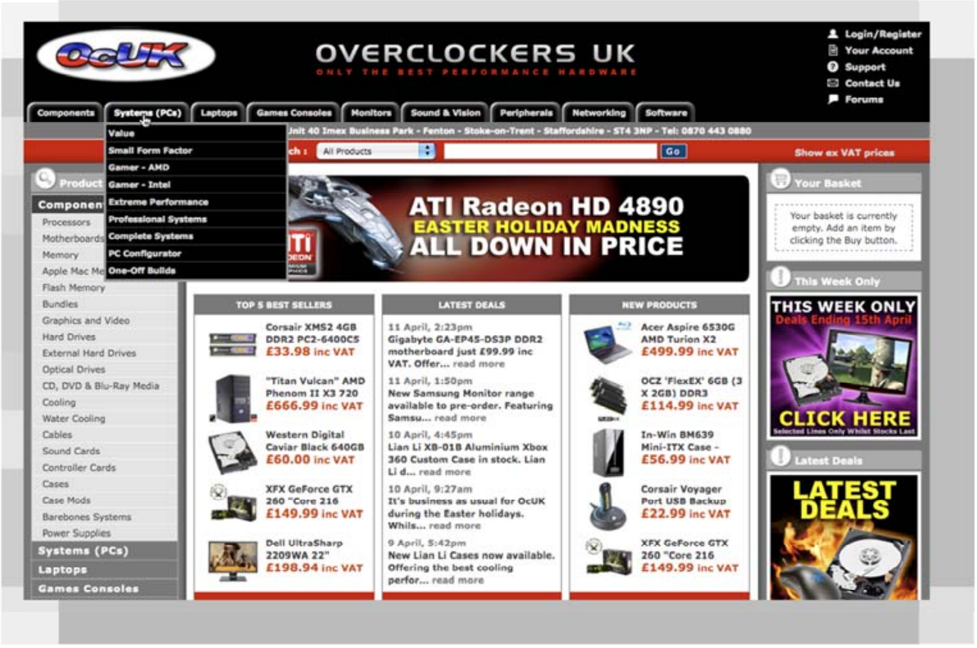
Stock Twits
n. an investment idea and information service.

There seems to be a trend at the moment towards sites that do **one thing well**, and stick to it, twitter is a good example of this.

From a usability point of view, the designs accomplish several well known usability goals as well:

- People tend to **skim-read** online, so keep it short.
- **Reduce the clutter** and potentially irrelevant items, so people are directed to the most appropriate task.

Not so simple



Jnit 40 Imex Business Park - Fenton - Stoke-on-Trent - Staffordshire - ST4 3NP - Tel: 0870 443 0880

Your basket is currently empty. Add an item by clicking the Buy button.

TOP 5 BEST SELLERS

Corsair XMS2 4GB DDR2 PC2-6400C5 £33.98 inc VAT

"Titan Vulcan" AMD Phenom II X3 720 £666.99 inc VAT

Western Digital Caviar Black 640GB £60.00 inc VAT

XFX GeForce GTX 260 "Core 216 £149.99 inc VAT

Dell UltraSharp 2209WA 22" £198.94 inc VAT

LATEST DEALS

11 April, 2:23pm
Gigabyte GA-EP45-DS3P DDR2 motherboard just £99.99 inc VAT. Offer... read more

11 April, 1:50pm
New Samsung Monitor range available to pre-order. Featuring Samsu... read more

10 April, 4:45pm
Lian Li XB-01B Aluminium Xbox 360 Custom Case in stock. Lian Li d... read more

10 April, 9:27am
It's business as usual for OcUK during the Easter holidays. Whils... read more

9 April, 5:42pm
New Lian Li Cases now available. Offering the best cooling perfor... read more

NEW PRODUCTS

Acer Aspire 6530G AMD Turion X2 £499.99 inc VAT

OCZ 'FlexEX' 6GB (3 X 2GB) DDR3 £114.99 inc VAT

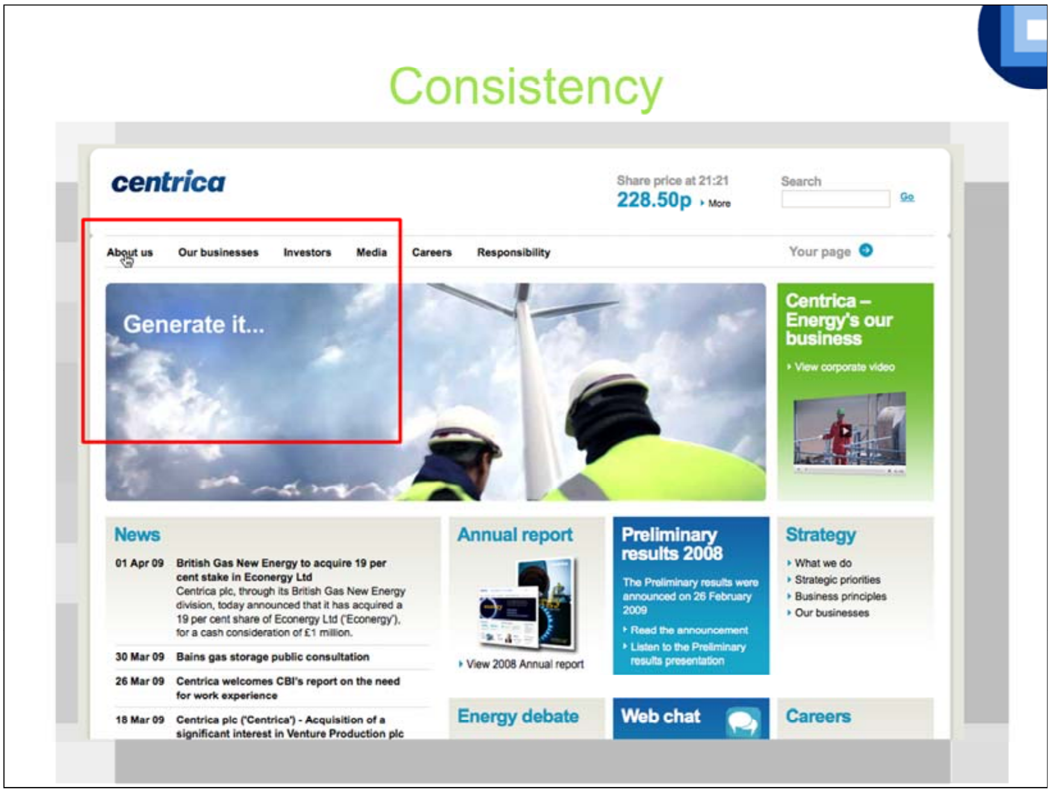
In-Win BM639 Mini-ITX Case - £56.99 inc VAT

Corsair Voyager Port USB Backup £22.99 inc VAT

XFX GeForce GTX 260 "Core 216 £149.99 inc VAT

As a not so simple example, this page has **hundreds of links**, with lots of duplicate navigation.

I can understand the wish to display the latest kit and top sellers etc (and they do have a lot more choice than Apple), but dividing people's attention between two **different forms of the main navigation** (top and left have the same links) seems counter productive for most people, and this will affect people with accessibility issues even more.



Consistency

01 Apr 09 **British Gas New Energy to acquire 19 per cent stake in Econergy Ltd**
Centrica plc, through its British Gas New Energy division, today announced that it has acquired a 19 per cent share of Econergy Ltd ('Econergy'), for a cash consideration of £1 million.

30 Mar 09 **Bains gas storage public consultation**

26 Mar 09 **Centrica welcomes CBI's report on the need for work experience**

18 Mar 09 **Centrica plc ('Centrica') - Acquisition of a significant interest in Venture Production plc**

Preliminary results 2008

The Preliminary results were announced on 26 February 2009

▸ Read the announcement

▸ Listen to the Preliminary results presentation

Some people think of consistency as being the same as other sites. From a user's point of view, if a site **follows conventions** that is often easier.

However, the consistency I'm thinking of here, is a site being **consistent across it's pages**:

- People using a keyboard will quickly get used to **hitting tab a certain number of times** to get to the search or content area (if there are no skip links).
- People using a screen reader **get used to the source order**, and whether to skip over bits or search for key words on the page.
- **Inconsistency** is a **nightmare** for people with **memory** or learning difficulties.

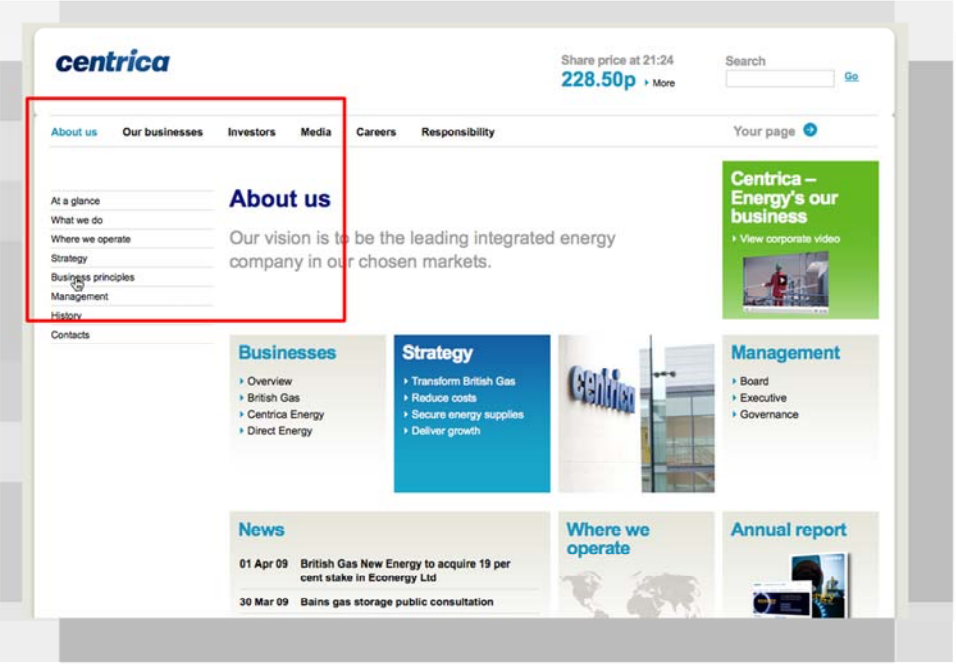
In a similar way, users in general create **navigation strategies** very quickly, and once something works a couple of times, that will always be **the first method tried**.

If you throw in navigation on the right, it should really be backed up via the primary navigation methods as well.

This is an example from a fairly typical corporate site, which **starts off with top-navigation**. Imagine I'm looking for some of their **policies**.

The red outline indicates what a screen magnifier user might see.

Consistency



centrica

Share price at 21:24
228.50p ‣ More

Search
Go

About us Our businesses Investors Media Careers Responsibility Your page

At a glance
What we do
Where we operate
Strategy
Business principles
Management
History
Contacts

About us

Our vision is to be the leading integrated energy company in our chosen markets.

Centrica – Energy's our business
‣ View corporate video

Businesses
‣ Overview
‣ British Gas
‣ Centrica Energy
‣ Direct Energy

Strategy
‣ Transform British Gas
‣ Reduce costs
‣ Secure energy supplies
‣ Deliver growth

Management
‣ Board
‣ Executive
‣ Governance

News
01 Apr 09 British Gas New Energy to acquire 19 per cent stake in Econergy Ltd
30 Mar 09 Bains gas storage public consultation

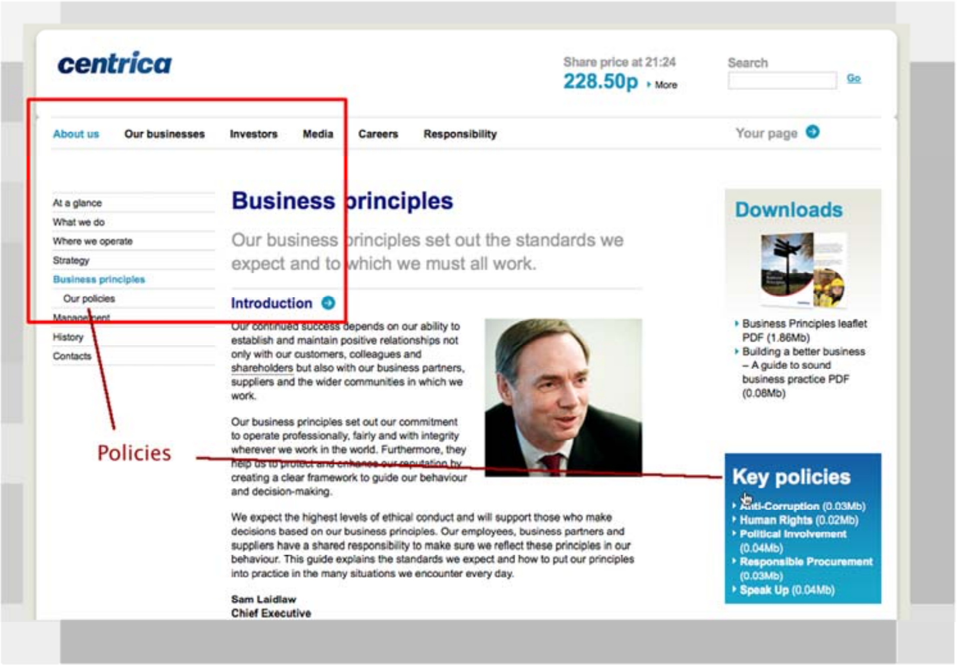
Where we operate

Annual report

The secondary navigation **appears close by**, and obviously a navigation bar.

On this site, the left navigation is the **first navigation strategy** that people in general are likely to remember.

Consistency



Business principles

Our business principles set out the standards we expect and to which we must all work.

Introduction

Our continued success depends on our ability to establish and maintain positive relationships not only with our customers, colleagues and shareholders but also with our business partners, suppliers and the wider communities in which we work.

Our business principles set out our commitment to operate professionally, fairly and with integrity wherever we work in the world. Furthermore, they help us to protect and enhance our reputation by creating a clear framework to guide our behaviour and decision-making.

We expect the highest levels of ethical conduct and will support those who make decisions based on our business principles. Our employees, business partners and suppliers have a shared responsibility to make sure we reflect these principles in our behaviour. This guide explains the standards we expect and how to put our principles into practice in the many situations we encounter every day.

Sam Laidlaw
Chief Executive

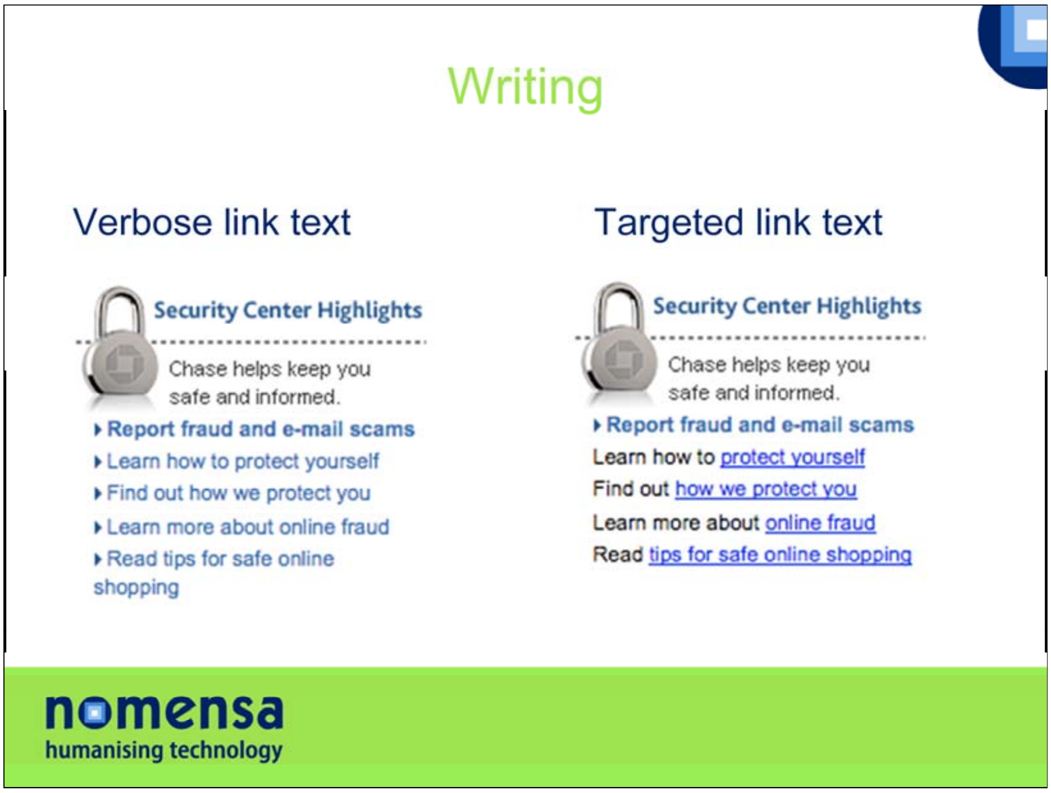
- Business Principles leaflet PDF (1.86Mb)
- Building a better business – A guide to sound business practice PDF (0.08Mb)

Key policies

- **Anti-Corruption** (0.03Mb)
- **Human Rights** (0.02Mb)
- **Political Involvement** (0.04Mb)
- **Responsible Procurement** (0.03Mb)
- **Speak Up** (0.04Mb)

Here the link to the policies is **a short-cut on the right**, but a page with that information is also available through the method used already – the left navigation.

In this way your typical user is likely to find the policies, and those using magnification software are as well.



Writing

Verbose link text

Security Center Highlights

Chase helps keep you safe and informed.

- Report fraud and e-mail scams
- Learn how to protect yourself
- Find out how we protect you
- Learn more about online fraud
- Read tips for safe online shopping

Targeted link text

Security Center Highlights

Chase helps keep you safe and informed.

- Report fraud and e-mail scams

Learn how to protect yourself
Find out how we protect you
Learn more about online fraud
Read tips for safe online shopping

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Good writing: being concise and free of jargon helps everyone.

I am making an **assumption** that this applies in the Bulgarian language as well, but there are certainly a lot of wasted words on most UK websites!

Reading **speed and comprehension** are improved by what people generally call ‘**writing for the web**’, which Dimiter talked about earlier.

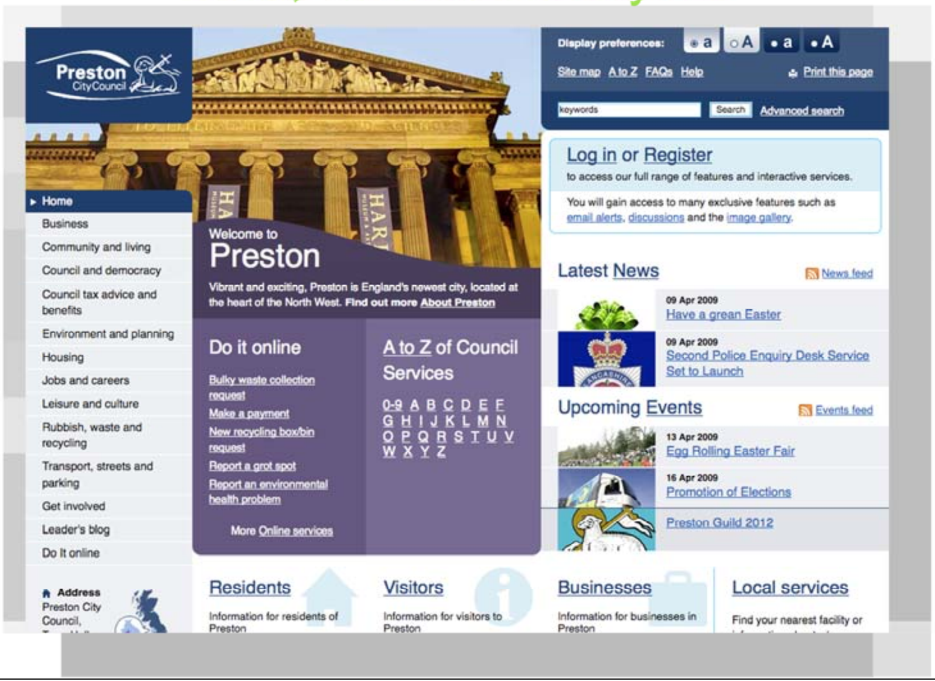
For people who are deaf from birth **sign-language** is often their **first language**, so good writing is essential for this audience.

Recent research by Jacob Neilsen has supported something known in the accessibility community for a while: Putting the **keywords first** in links and headings makes it easier to scan.

It was mentioned in the first version of the WCAG guidelines, because it helps screen reader users **skim in an audio** fashion more easily. I’ve seen this in testing with the general public and for people with visual or cognitive impairments.

This is a simple example from a Banking website. On the left is the original box of links, on the right I’ve adjusted it so that the link text represents the **target page** better, taking out the irrelevant aspects from the link.

Size, Contrast & Layout



Preston CityCouncil

Display preferences: ● a ○ A ● a ● A

Site map A to Z FAQs Help

Print this page

keywords Search Advanced search

- Home
- Business
- Community and living
- Council and democracy
- Council tax advice and benefits
- Environment and planning
- Housing
- Jobs and careers
- Leisure and culture
- Rubbish, waste and recycling
- Transport, streets and parking
- Get involved
- Leader's blog
- Do It online

Welcome to

Preston

Vibrant and exciting, Preston is England's newest city, located at the heart of the North West. Find out more About Preston

Do it online

- Bulky waste collection request
- Make a payment
- New recycling box/bin request
- Report a grot spot
- Report an environmental health problem

More Online services

A to Z of Council Services

0-9 A B C D E F
G H I J K L M N
O P Q R S T U V
W X Y Z

Log in or Register

to access our full range of features and interactive services.

You will gain access to many exclusive features such as email alerts, discussions and the image gallery.

Latest News

News feed

09 Apr 2009
Have a grean Easter

09 Apr 2009
Second Police Enquiry Desk Service Set to Launch

Upcoming Events

Events feed

13 Apr 2009
Egg Rolling Easter Fair

16 Apr 2009
Promotion of Elections

Preston Guild 2012

Address
Preston City Council,

Residents

Information for residents of Preston

Visitors

Information for visitors to Preston

Businesses

Information for businesses in Preston

Local services

Find your nearest facility or

I've lost count of the number of times I've sat with non-disabled participants who've either **complained about small text** size, or **leaned forward squinting** at the screen.

There are a lot of people who benefit from sites which have default text that is a **reasonable size** and **good contrast**, which also helps people with visual impairments as well.

You'll notice more people **completing tasks** if they can read more easily.

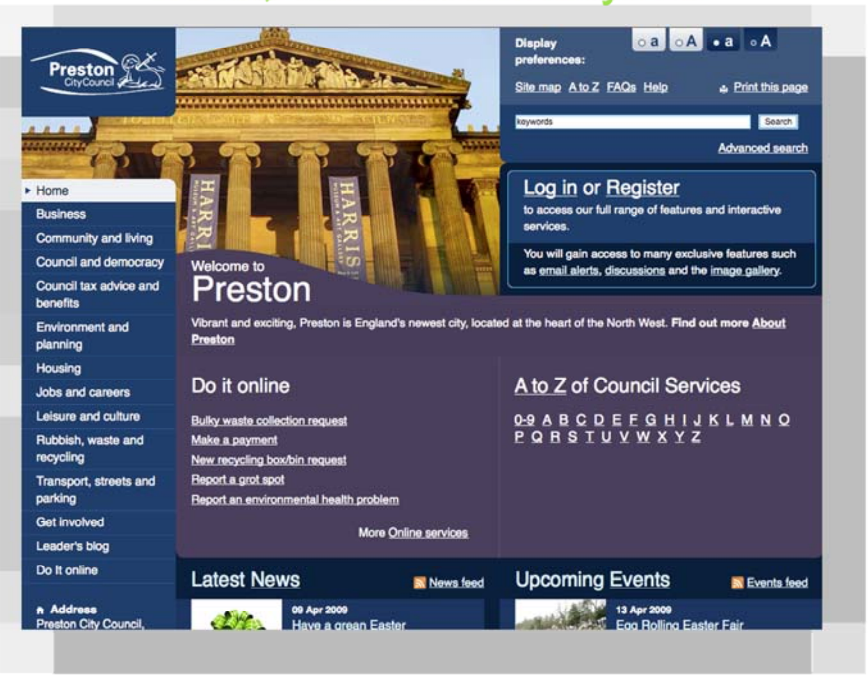
Now, if you ask me afterwards about **text-resizing tools**, I'll give you quick rant on why they are a bad idea.

(Or read: http://www.netmag.co.uk/zine/home/access-all-areas).

However, we have implemented something that fulfils a similar goal.

This is a site we re-designed recently for a local government organisation, notice the "**display preferences**" in the top-right.

Size, Contrast & Layout



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A to Z of Council Services

0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Latest News News feed

09 Apr 2009 Have a green Easter

Upcoming Events Events feed

13 Apr 2009 Egg Rolling Easter Fair

This is the light on dark, default text size option.

Although the display preferences do very little to the font size, in fact, two of the options **remove all the font-sizes**, allowing the browser default to show.

When the font-sizing is removed, we also **reduce the number of columns**, giving the layout more **buffer** so that people can increase the text size significantly using their browser.

The other aspect of the display preference is to switch the foreground / background combination, two of the options are light text on a dark background, and two are the other way around.

This covers some of the main user requirements (both visual impairment and dyslexia), and the fact that the styles are well separated means that assistive technology is more likely to be able to change things on it’s own.

Usability magnified

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So, my assertion is that accessibility is usability, magnified.

Well, hopefully it’s not as hard as Rocky Balboa training in Siberia, but the analogy is that:

Training at something in more difficult circumstances makes you better at it.

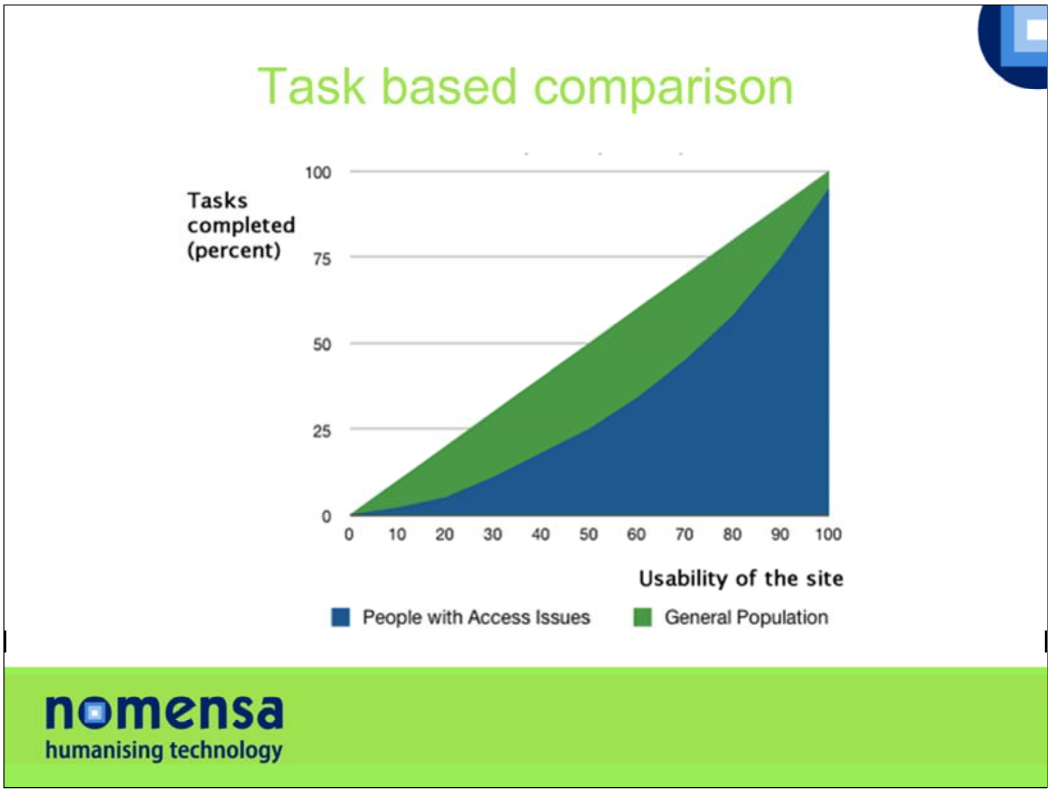
Pulling a slay through deep snow is going to get you fitter than jogging around a track.

Testing with people who have disabilities will highlight more issues, more quickly, as usability issues are magnified.

For example:

- Complexity and inconsistency will be highlighted in big neon lights by users with many types of disability.
- Zooming in with a magnifier is similar to peoples focus of attention, but more so.
- Small, low contrast text will affect more people than you think.

Testing with people who have disabilities will show you issues you’ve previously missed. Making improvements that stopped someone with Dyslexia will often mean that the cognitive overhead for everyone is reduced. In usability testing, you might wonder why someone had spent a little time looking around, when you’ve done some accessibility based testing this can be obvious.



Task based comparison

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I’m afraid that like many statistics, this graph is **blatantly made up** based on anecdotal experience, not research.

However, I have observed a lot of usability testing, and a lot of that has been with people who have disabilities.

If you could score each site by the **percentage of tasks** that the general population could complete, that could be used to create a usability score. The vertical axis is the percentage of tasks completed, the horizontal axis is the usability of the site, based on **the number of tasks the general population can complete**.

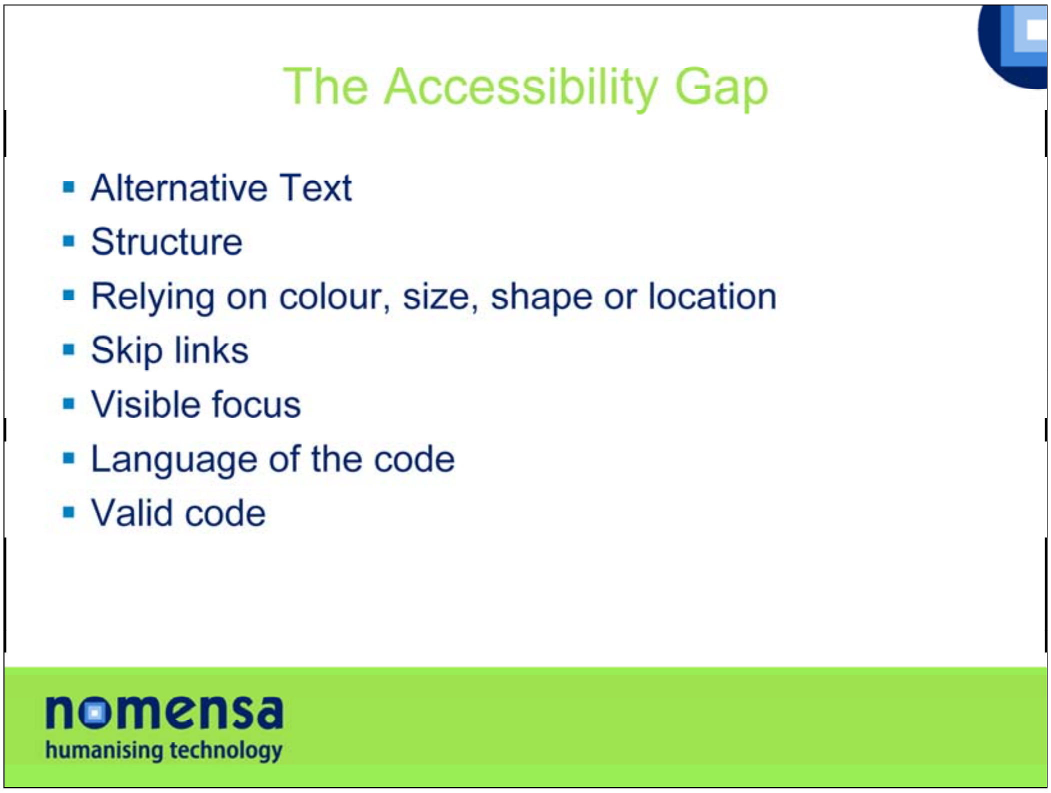
Therefore it’s a **straight line from 0 to 100**, on a site where people completed 50% of the available tasks, it would would score 50%, and so on.

If you then tested the same sites with a range of people with disabilities, I believe that you would see scores like this. **A logarithmic curve** that starts slowly but almost catches up for the highly-usable sites.

Unusable sites are also inaccessible (although perhaps not discriminating?), but it isn’t too long before some people with disabilities could also complete some tasks.

The **dip in the middle** is simply based on the fact that it until sites really start paying attention to usability, the extra overhead of using assistive technology, or a cognitive issue, makes it harder to get over usability issues.

However, **there is still a gap**



The Accessibility Gap

- Alternative Text
- Structure
- Relying on colour, size, shape or location
- Skip links
- Visible focus
- Language of the code
- Valid code

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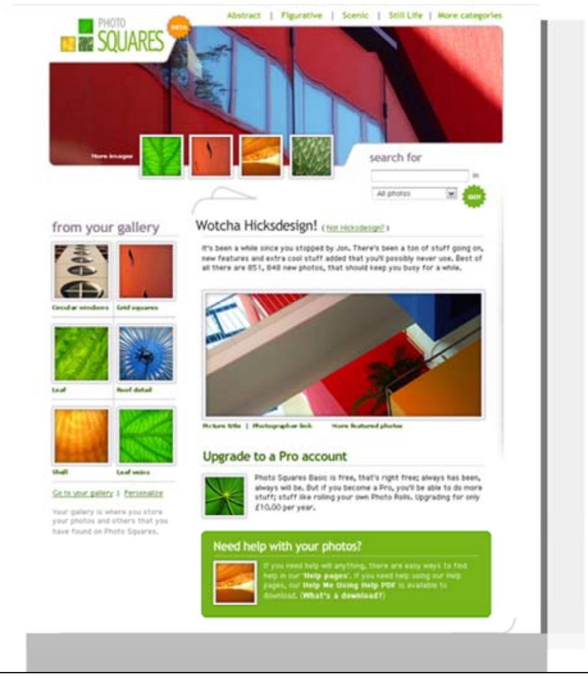
The gap is the things that most people don’t notice.

This isn’t an exhaustive list, but a few things that are important for accessibility but not usability (for the general population):

- **Alternative text** for images and other media.
- Using the right **structure** for each element of the page.
- **Relying on** colour / shape / size / location is a nightmare for people using alternative browsers or with colour-blindness.
- **Skip links** &
- Having a **visible keyboard focus**: both of these help people not using a mouse. If you remember the very first example, I had to use custom CSS to highlight the location of the keyboard focus.
- (Human) **Language** of the text can be encoded into the page, telling a screen reader which voice synthesiser to use.
- **Valid code** is partly a robustness measure, but I have had content disappear to assistive technology when the tags weren’t closed properly.

Structure



Abstract | Figurative | Scenic | Still Life | More categories

PHOTO SQUARES BETA

More images

search for

in

All photos

GO!

from your gallery

Circular windows | Grid squares

Leaf | Roof detail

Shell | Leaf veins

Go to your gallery | Personalize

Your gallery is where you store your photos and others that you have found on Photo Squares.

Wotcha Hicksdesign! (Not Hicksdesign?)

It's been a while since you stopped by Jon. There's been a ton of stuff going on, new features and extra cool stuff added that you'll possibly never use. Best of all there are 851, 848 new photos, that should keep you busy for a while.

Picture title | Photographer link   More featured photos

Upgrade to a Pro account

Photo Squares Basic is free, that's right free; always has been, always will be. But if you become a Pro, you'll be able to do more stuff; stuff like rolling your own Photo Rolls. Upgrading for only £10.00 per year.

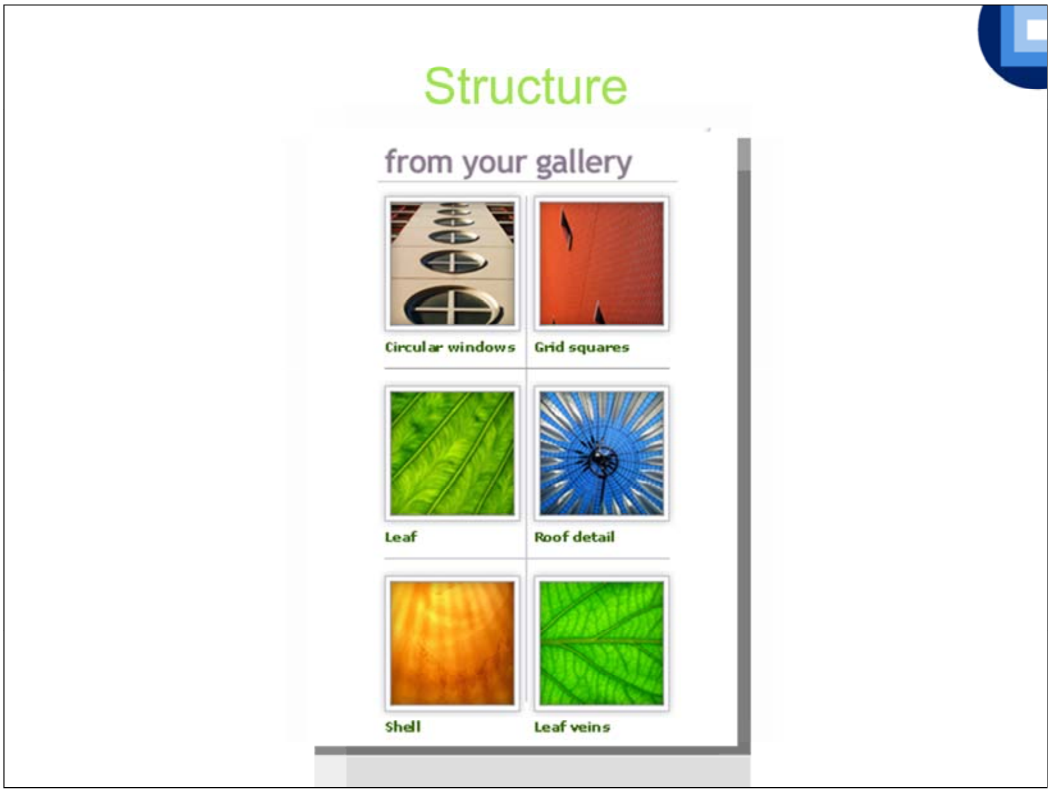
Need help with your photos?

If you need help wit anything, there are easy ways to find help in our 'Help pages'. If you need help using our Help pages, our Help Me Using Help PDF is available to download. (What's a download?)

In accessibility terms, **structure** is generally something that screen readers users would benefit from, but most people would not notice. (Well, apart from Google.)

However, I've found it can really help the **team** developing a site to **think structurally**. One of my favourite examples is from Andy Clark's "Transcending CSS" where he takes this example page.

We'll look just at that left hand area as an example.

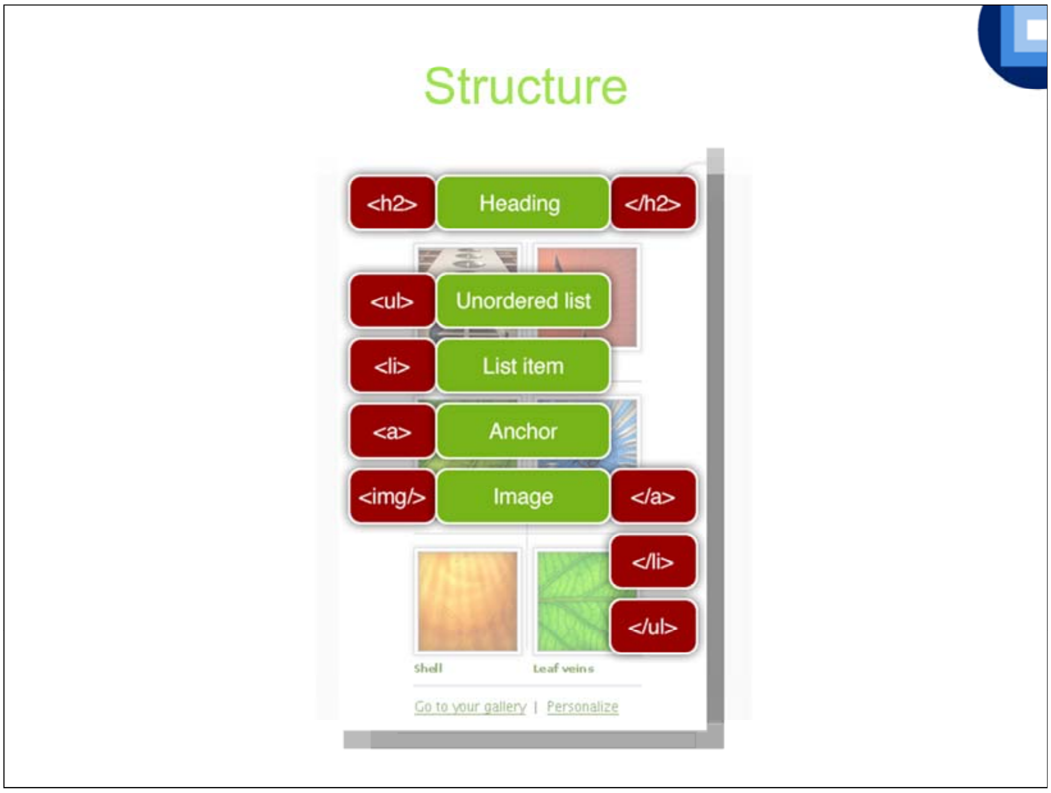


Structure

Just taking this little section from the left of that page, **historically** this would be marked up in HTML as a table.

Although web developers have generally moved to using CSS for style and layout, often the **first step** of using **appropriate HTML** for each element is **missed**.

Andy’s book really helps make that **mental leap** of going from a design to HTML structure – think about what sort of HTML you would use for each element here.



Structure

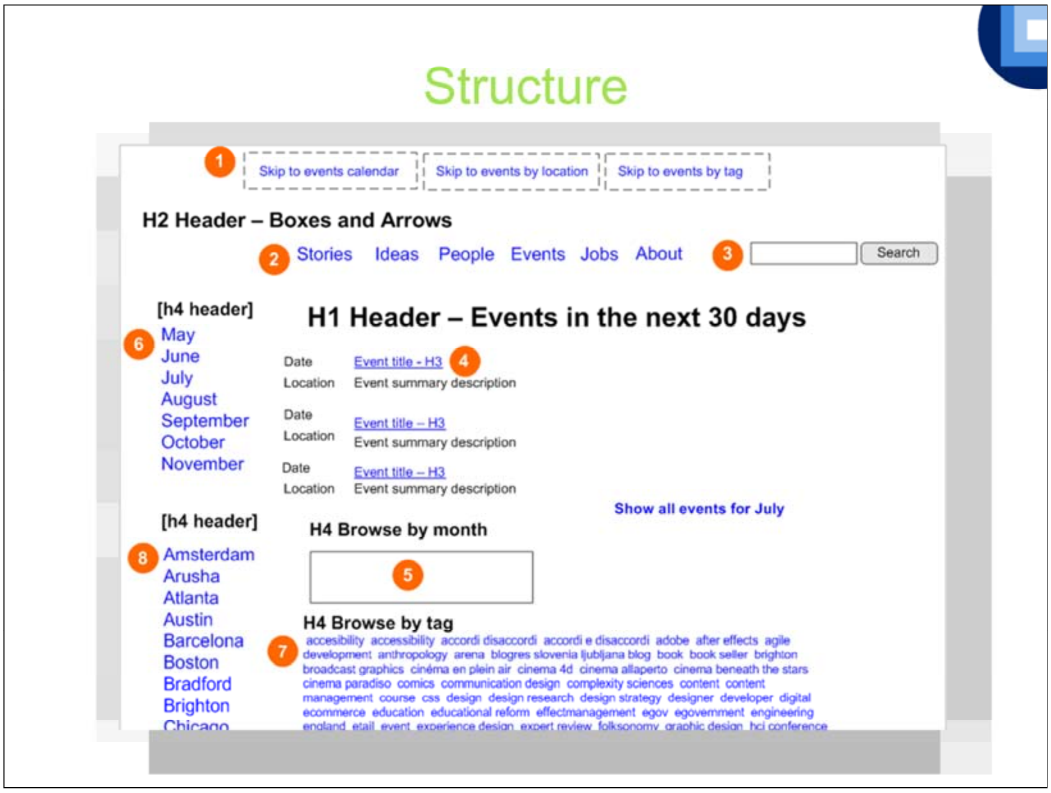
Here is what Andy used (and no argument from me!)

I recommend it as **a step in the web site creation process**, when you have a Photoshop type design, spend 10 minutes working out what the markup of the page is going to be before starting to code.

The possible markup will be a little richer when HTML5 hits the main stream, but in the meantime I recommend reading Tantek Celics “Elements of XHTML” as a reminder of what we can currently do:

http://tantek.com/presentations/2005/09/elements-of-xhtml/

Depending on your process, you might even consider it at the wireframe stage.



Structure

Skip to events calendar | Skip to events by location | Skip to events by tag

H2 Header – Boxes and Arrows

Stories Ideas People Events Jobs About [ ] Search

[h4 header]
May
June
July
August
September
October
November

H1 Header – Events in the next 30 days

Date Location Event title - H3 Event summary description

Date Location Event title – H3 Event summary description

Date Location Event title – H3 Event summary description

Show all events for July

H4 Browse by month

[h4 header]
Amsterdam
Arusha
Atlanta
Austin
Barcelona
Boston
Bradford
Brighton
Chicago

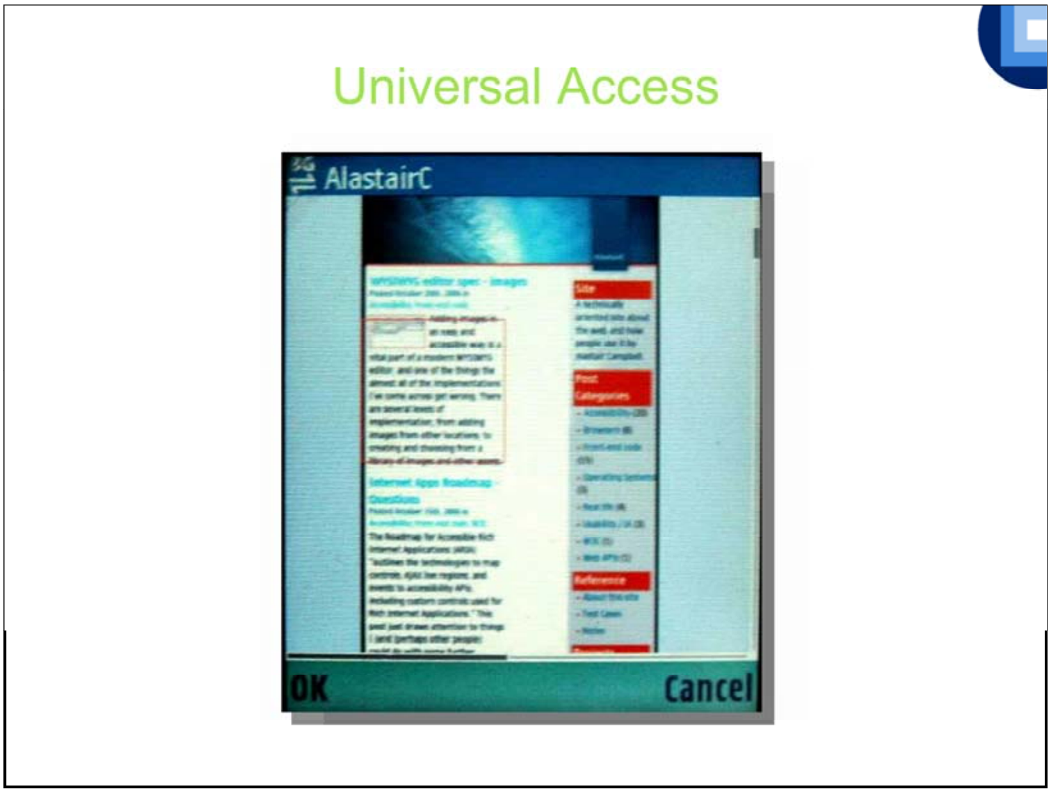
H4 Browse by tag

accesibility accessibility accordi disaccordi accordi e disaccordi adobe after effects agile development anthropology arena blogres slovenia ljubljana blog book book seller brighton broadcast graphics cinéma en plein air cinema 4d cinema allaperto cinema beneath the stars cinema paradiso comics communication design complexity sciences content content management course css design design research design strategy designer developer digital ecommerce education educational reform effectmanagement egov egovernment engineering england etail event experience design expert review folksonomy graphic design hci conference

This example is from a former colleague's article on Boxes and Arrows, showing **the intended order of elements** on a page.

http://www.boxesandarrows.com/view/practical-plans-for

Whilst not contributing directly to the usability of a site, dealing with the site layout and structure in **a systematic way** generally helps maintain **consistency** across a site.



Universal Access

AlastairC
WYSIWYG editor spec - images
Internet Apps Roadmap - Questions
Site
Post Categories
Reference
OK
Cancel

The thing is, it isn’t only people with disabilities that benefit from those things in the accessibility gap.

These also help with **Search Engines** and other forms of access, like **mobile access**.

There’s a great quote that “**Google is like a blind user with a billion friends**”, and aspects like alternative text, heading structure, and setting the language all help Google analyse your content.

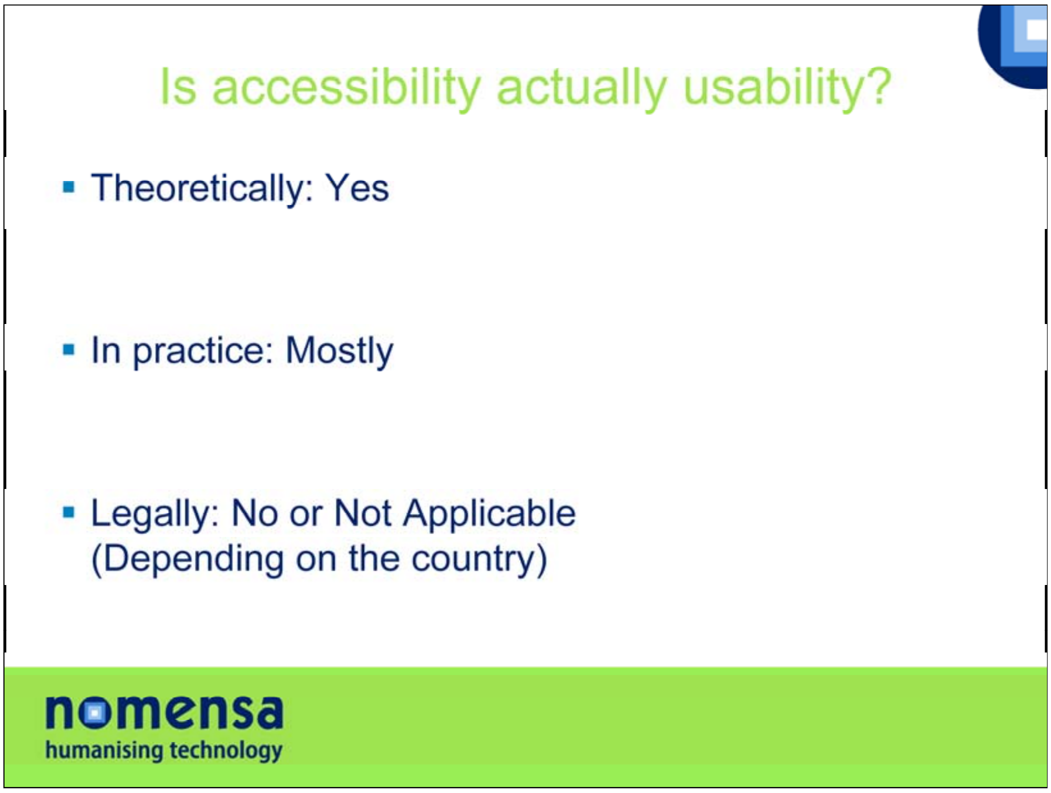
Also, the difference between **accessibility and mobile access** is not that great, and the basic mobile browser benefit from the same things as screen readers (alt text, skip links etc.)

This **screen shot** is from the nokia N80, and the **red-box is the zoom-in map**.

Mobile phone access has also improved dramatically with the Webkit based browsers. Does the interaction style of the iPhone or high-end Nokias remind you of anything from earlier?

Demo: 04_iphone.mp4

The iPhone uses a similar idea, but the implementation is more graceful.



Is accessibility actually usability?

- Theoretically: Yes
- In practice: Mostly
- Legally: No or Not Applicable
  (Depending on the country)

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So, I promised an answer to the question: is accessibility actually usability?

Well, I'm cheating slightly, I think there are **three answers**:

The definition of usability talks about "**specified users**" in a "**specified context**", so if you include people with disabilities using assistive technology, then yes.

In practice, **most accessibility issues overlap with usability issues**. In fact, this can be used to your advantage. If you have a fairly usability interface, put it under the **microscope of accessibility testing**, and you'll find more things you can improve for most people.

However, in the UK and many EU states, there is **legislation about accessibility, but not usability**. In some ways this has acted like a setback, creating an artificial difference between the two attributes.

But hopefully you can **see the overlap**, and also **the gap** between accessibility and usability.

Thank You

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Any questions?

Links

- All will go up on: http://alastairc.ac/ (Tomorrow)

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