



20th May 2003

Bridging the gap with all users

Jon Dodd

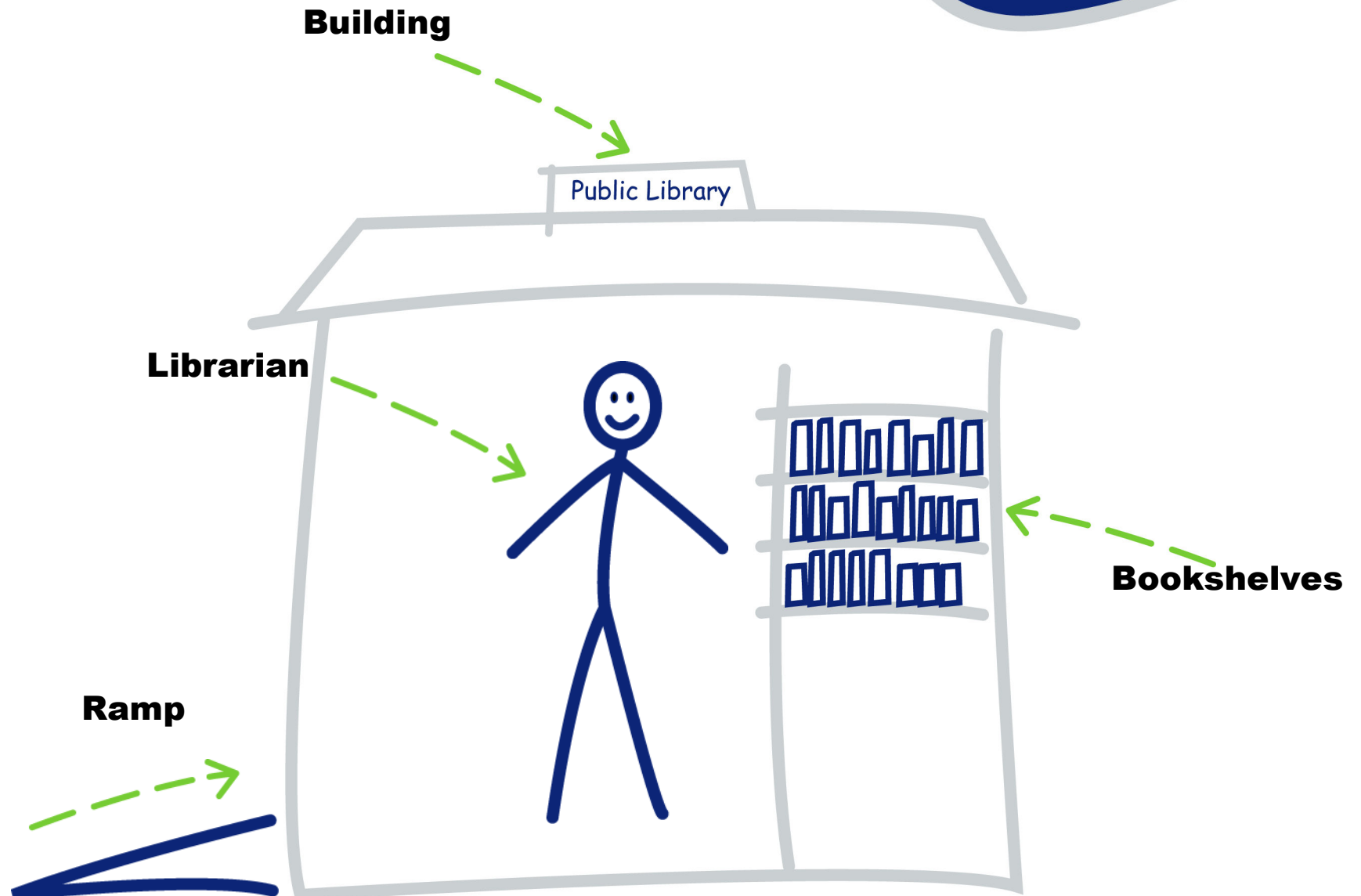
Driving interactive
behaviour through
usability and accessibility



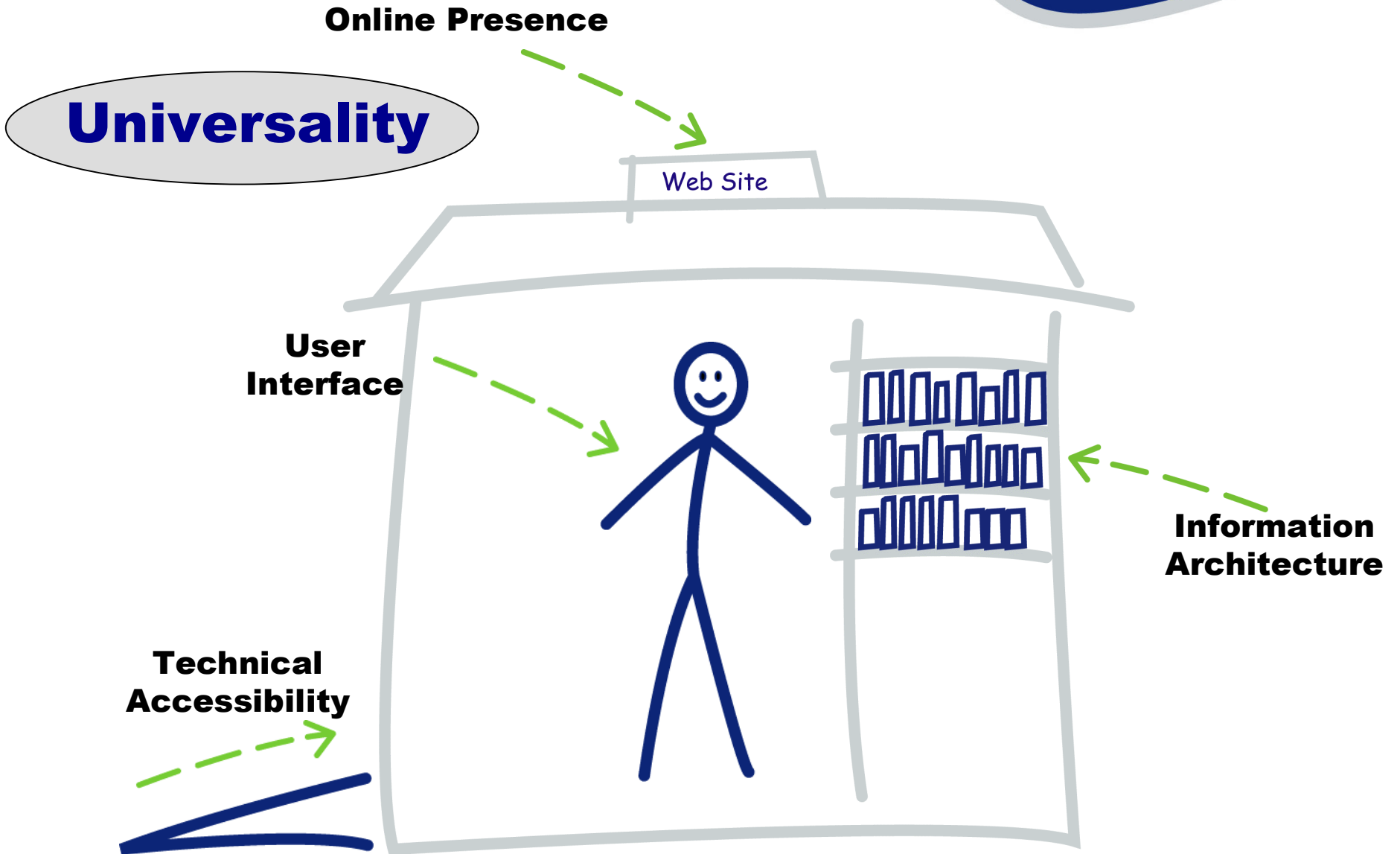
What is usability & accessibility?

Lessons from bricks and mortar

What makes a good library?



What makes a good website?



- 'Technical accessibility' is not enough
- Usability benefits everyone
- Both required for a successful site



Why is accessibility Important?

Reasons for accessibility



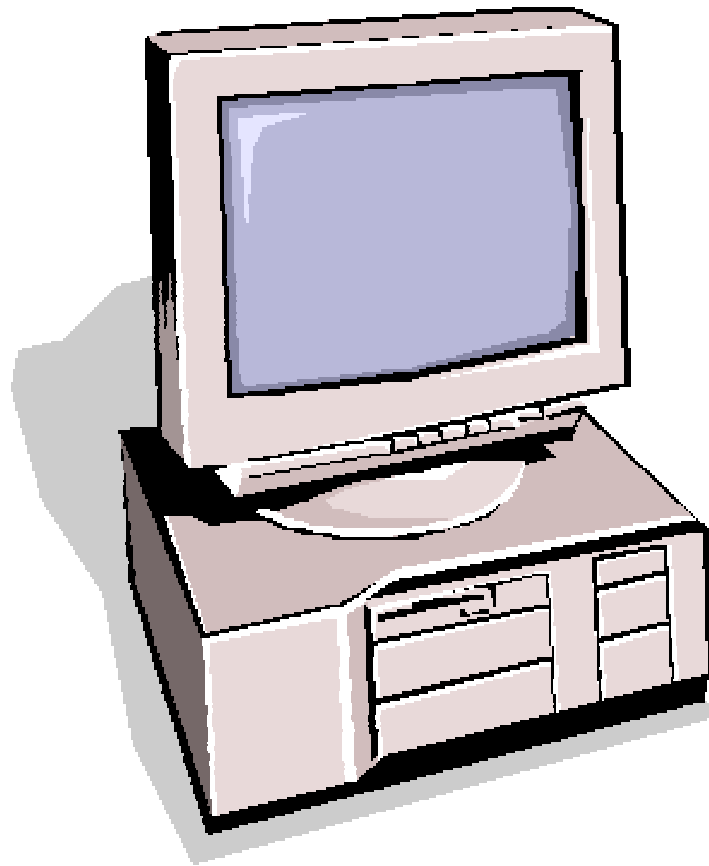
- Rational (business)
- Moral
- Legal / obligational

Rational reasons



- Greater audience reach
 - >37 million disabled in Europe (1 in 10)
 - Equipment and location unpredictable
- Lower support costs
- 1 source of information instead of many
- Easier/cheaper to change/maintain/update...
- Enhanced reputation

Not everyone uses one of these



From handhelds



...to Internet cars



[1x](#)
Science Traveller International
[Air Mosaic Demo](#)
Sprynet
[AliiWorld Explorer](#)
G.O. International Air Service
[Amaya](#)
W3C
[Arachne](#)
xChaos
[Ariadna](#)
Advanced Multimedia System Design
[AtomNet](#)
Change 7
[AWeb](#)
AmiTriX
[Beonex](#)
Ben Bucksch
[Bobby](#)
Center for Applied Special Technology
[Bohemian Net Browser](#)
BohemianNet
[BrownIE](#)
Compunet
[Browse2000](#)
1st Choice Software
[CAB](#)
Alexander Claus
[Cello](#)
Thomas Bruce
[Charlie](#)
Mundial Avenue
[ChiBrow](#)
KCS & Associates
[Chimera](#)
University of Nevada Las Vegas
[Custom Browser](#)
LION
[Cyberdog](#)
Apple Computer, inc.
[CyberGate](#)
BlackSun Interactive
[Cyber Passage](#)
Sony
[DigiCams](#)
DigiBand
[DOSLynx](#)
University of Kansas
[DR-WebSpyder](#)
Caldera
[Emacs-W3](#)
William M. Perry
[Emissary](#)
Attachmate
[FreeWebBrowser](#)
Yellow Tree Services
[Galahad](#)
Jean van Waterschoot
[goAnywhere!](#)
Mikey LeBeau
[Grail](#)
Corporation for National Research Initiatives
[GrassHopper MDI Explorer](#)
Santrim Software
[HandWeb](#)
Smartcode Software
[HexaBit Junior](#)
HexaBit
[Home Page Reader](#)
IBM
[HotJava](#)
Sun Microsystems

[I-comm](#)
Talent Communications
[I-O-D-4 - The Web Stalker](#)
Escape
[I-View](#)
EnReach Technology
[iBrowse](#)
Omnipresence International
[iCab](#)
Alexander Claus & iCab Company
[Internet Explorer](#)
Sprynet
[Internet Explorer](#)
Microsoft
[Internet Plus](#)
Dean Software Design
[Internet WorkHorse](#)
MarketNet
[KidNet Explorer](#)
Resource Communications
[KidSafe Explorer](#)
Arlington Technology
[LTS Web Browser](#)
Lahman Internet Services
[Lynx](#)
Distributed Computing Group
[MacLynx](#)
Olivier Gutknecht
[MacWeb](#)
TradeWave (EINet)
[MacWWW \(Samba\)](#)
CERN
[MathBrowser](#)
MathSoft
[Microviet First Explorer](#)
Microviet
[Minuet](#)
Universit
[M...](#)
...ing Applications
[...](#)
... Communications
[...anager](#)
Virtual Innovations
[Netomat](#)
Maciej Wisniewski
[NetPositive](#)
Se, Inc.
[NetSentry](#)
Natdat
[NetShark](#)
InterCon
[NetShift](#)
NetShift Software
[Nuthin' But Net](#)
PAKSoft Productions

[Off By One](#)
Home Page Software
[OmniWeb](#)
OmniGroup
[Opera](#)
Opera Software
[PowerBrowser](#)
[Mosaic](#)
Sprynet
[Mosaic](#)
Spyglass
[Mozilla](#)
The Mozilla Organization
[Multilingual Mosaic](#)
Accent Software
[MultiWeb Viewer](#)
MultiSource
[MyBrowser](#)
Softorange
[Navigator](#)
Netscape Communications Corporation
[NCompass](#)
ExCITE
[NeoPlanet](#)
NeoPlanet
[Net-Tamer](#)
Net-Tamer
[NetCap](#)
Still...
[WebSpeak Plus](#)
The Productivity Works
[Pythia](#)
Appian Interactive
[QuickScope](#)
Quickscape
[Santa's Browser](#)
Branded Browser Technologies
[SimulBrowse](#)
Seaglass Software
[SiteKiosk](#)
ProVisio GmbH
[SlinKnot](#)
MicroMind
[Softerm Plus](#)
Softronics
[SuperHighway Browser](#)
Frontier Technologies
[Surfin' Annette](#)
SpyCatcher
[SurfMonkey](#)
MediaLive
[Talking Browser](#)
WeMedia

[Talva Document Explorer](#)
Talva
[Tango Multilingual](#)
Alis Technologies
[The Other Browser-Emailer](#)
Pixelogic
[UdiWWW](#)
Bernd Richter
[Video On Line Browser](#)
Video On Line
[Voyager](#)
VaporWare
[WannaBe](#)
David T. Pierson
[Web-O-Matic Digital Browser](#)
Circle Group Internet, Inc.
[Web SurfACE](#)
ToolPool
[Web-Talkit](#)
Grover Industr
[WebEx](#)
IBM
[WebTV Viewer](#)
WebTV Networks
[WebView](#)
South Pacific Information Services
[WebWhacker](#)
Blue Squirrel
[Wildcat Navigator](#)
Harmony International
[WinWEB](#)
TradeWave (EINet)
[WorldWideWeb \(Nexus\)](#)
Tim Berners-Lee

Not just Internet Explorer / Netscape.....

But even if they did....



-more than 30 versions of each
 - 2.0 - 6.x
 - Widely different adherence to standards both within and between

Ethical



Everyone has a right
to equivalent chances



<http://www.eypd2003.org>

Remember disabled is not less able



- Watch the following video clip
 - Blind user
 - Using JAWS screen reader
 - Using refreshable Braille output device
 - Filling out Inland Revenue online Self Assessment tax forms (beta site not that accessible).



Disabled is not less able



Hands up who can do similar things all at once?

- Entering data and navigating - right hand
- Feeling output (checking input) - left hand
- Listening to output (checking input) - left ear
- Talking on phone - right ear

...they just do things differently



300 words per minute!



- *European:*
 - *Toward a barrier - free Europe* (2000) , the European Commission
 - September 2001, the Commission adopted a *Communication on improving the accessibility of public websites*
- Individual country, e.g. UK
 - Disability Discrimination Act (1995 - UK)
 - Disability Rights Commission code of practice (Feb 2002 - UK)
- Section 508 rehabilitation act (2001 - USA) - likely that new legislation will be similar to this
- Internet test cases:
 - NFB v AOL (out of court settlement - Title III of the ADA)
 - McGuire v Australian Olympic Commission (successful suit under Commonwealth DDA 1992)
 - More on the way



An accessibility primer



Not just 'catering' for the disabled

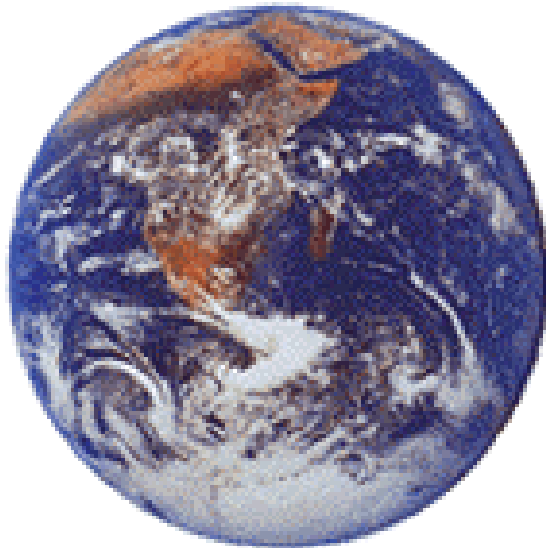
- Anyone,
- Anywhere,
- Any equipment

It has a technical aspect

HTML 4.01
XHTML 1.0
XML
XSLT
SMIL 2.0
SAMI
Flash MX
VRML
MathML
SVG...

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "  
<html lang="en">  
  <head>  
    <title>Welcome to Oasis</title>  
    <!--LINK is used by Lynx and iCab-->  
    <link href="/" rel="Home" />  
    <link href="/siteindex/by_title.html" rel="Contents" />  
    <link href="/about/copyright.html" rel="Copyright" />  
    <link href="/help/" rel="Help" />  
    <link href="/about/disclaimer.html" rel="Disclaimer" />  
    <!--external CSS-->  
    <link rel="stylesheet" href="/oasis.css" type="text/css" />  
  </head>  
  <body>
```

Needs human intervention to give appropriate meaning



?

“Photo of earth from space”

“”

“Dense clouds cover most of South America”

“Information on outer space”

Requires appreciation of wider issues



Go to [<Vital Page>](#) by clicking the red apple



'True accessibility' demands good usability

- Bad usability creates problems for all users but impacts on those with special needs even more.



How to achieve accessibility

A VERY brief introduction

General accessibility themes



- The web is an 'information medium'
- Graceful transformation
- Separate content (& structure) from presentation...
- Understandable, navigable content...
- Alternative pages/sections only as last resort...

Follow the standards...



- World Wide Web Consortium (W3C)
- Web Accessibility Initiative (WAI)

Web Content Accessibility Guidelines 1.0
– WCAG 1.0

- 13 Guidelines
- 65 categorised checkpoints

<http://www.w3c.org/WAI>



Following the guidelines can be problematic:

- **Very technical**
...so can be difficult to follow
- **Guidelines can be vague...**
...or overly prescriptive
- **Often recommend use of technologies not yet fully supported**
...also now out of date

WAI checkpoint priority levels



- **[Priority 1]**

A Web content developer **must** satisfy this checkpoint. Otherwise, one or more groups will find it impossible to access information in the document.



- **[Priority 2]**

A Web content developer **should** satisfy this checkpoint. Otherwise, one or more groups will find it difficult to access information in the document..



- **[Priority 3]**

A Web content developer **may** address this checkpoint. Otherwise, one or more groups will find it somewhat difficult to access information in the document.



5 Things to check on your site



1. All images have appropriate alternative text
2. Colour alone is not used to highlight information
3. Hyperlinks are appropriate - no “click here”
4. Pages don’t break when text size is increased
5. Everything can be done with the keyboard as well as the mouse

...there are many more things but these should send you on your way

How to really ensure accessibility



- **Audit your site for accessibility**
 - Against the 65 WAI checkpoints
 - Can be assisted with automatic checkers (caution DO NOT rely on these alone).
 - Specialist audit
 - There are a number of consultancies, Bunnyfoot being one of them
- **Test your site with people with special needs**
 - It's a 'sharp tool' for improving the usability of your site for everyone

Examples of good and bad accessibility



- Video clips from user testing sessions.
(not included in handout)