

# **Web Accessibility and Ageing**

**Improving the User Experience with WCAG 2.0**

Dr Andrew Arch

Web Accessibility and Ageing Specialist

W3C Web Accessibility Initiative (WAI)

# Overview



- § What is Web accessibility
- § What are the WAI Guidelines
- § Introduction to WCAG 2.0
- § Older users on the Web

## *Leading the Web to Its Full Potential...*

- International vendor-neutral consortium
- Evolution and interoperability of the Web:  
*for everyone, everywhere on everything*
- Operates from: [MIT](#), [ERCIM](#), and [Keio](#)
- Develops key Web technologies such as:  
HTML, CSS, XML, SVG, SMIL, ...

# Web Accessibility Initiative - WAI



- Accessibility support in W3C technologies
- Guidelines for implementing accessibility
- Methods for evaluating accessibility
- Conducting education and outreach
- Coordinating with R&D world-wide

# Web accessibility

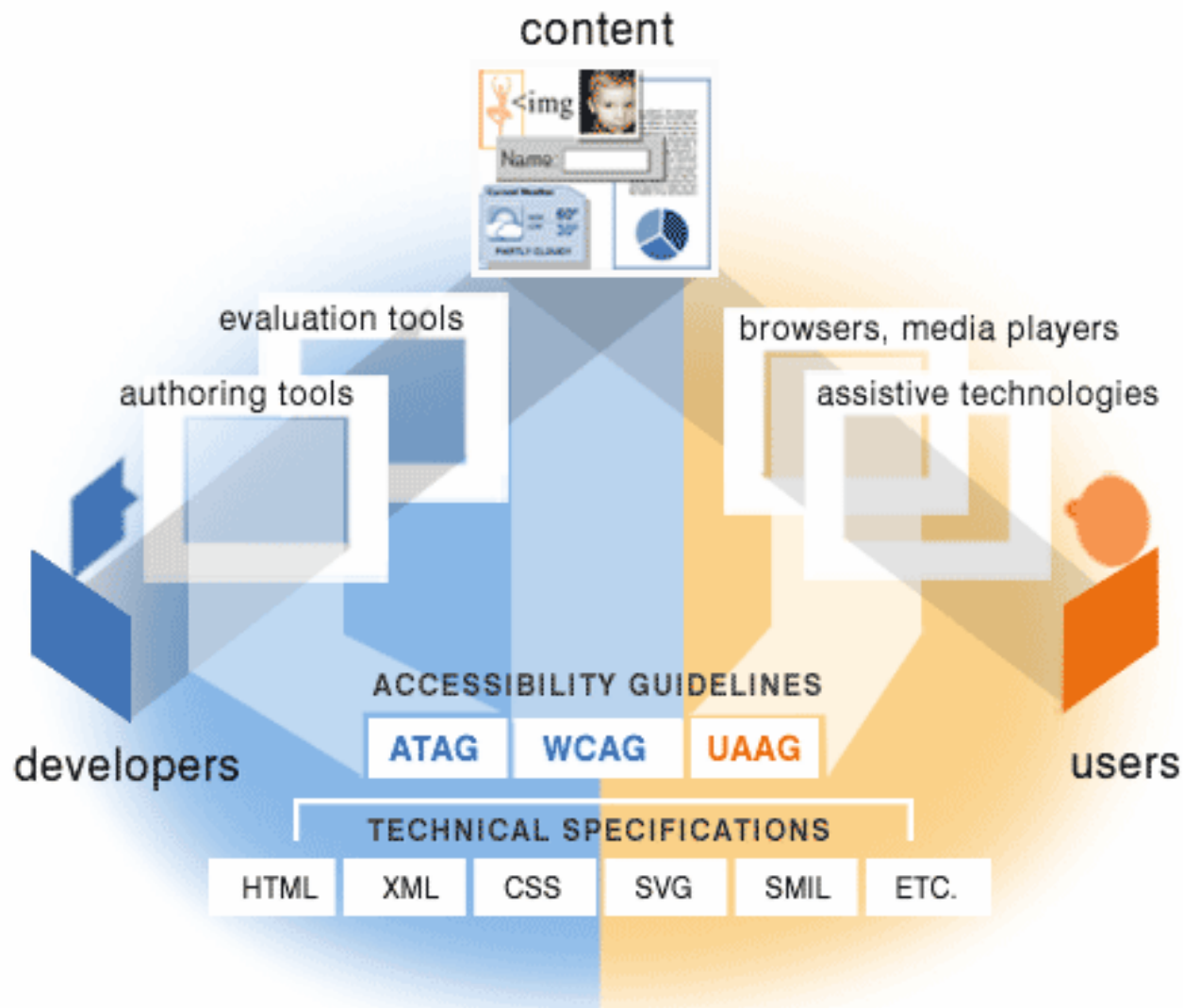


Means that individuals with disabilities can access and use the Web as effectively as people who don't have disabilities.

More specifically it means they can:

- access the Web
- interact with the Web
- contribute to the Web

# Accessibility components



Authoring tools key:

- Content management systems
- Editors and development tools
- Blogs, wikis, user-generated content
- Learning management systems
- ...

# Who develops WAI Guidelines



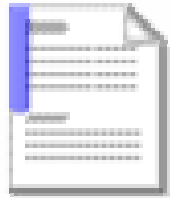
- Standards-making body for the Web
- International, multi-stakeholder development
- Formal process for broad public review
- Authorized translation policy



# Development Process



- Public Working Drafts



- Last Call Working Draft



- Candidate Recommendation  
– Implementations



- Proposed Recommendation



- W3C Recommendation  
= Web Standard

## **Web Content Accessibility Guidelines 2.0**

- International standard
- Testable Requirements
- Technology-Independent
- Adaptable and Flexible

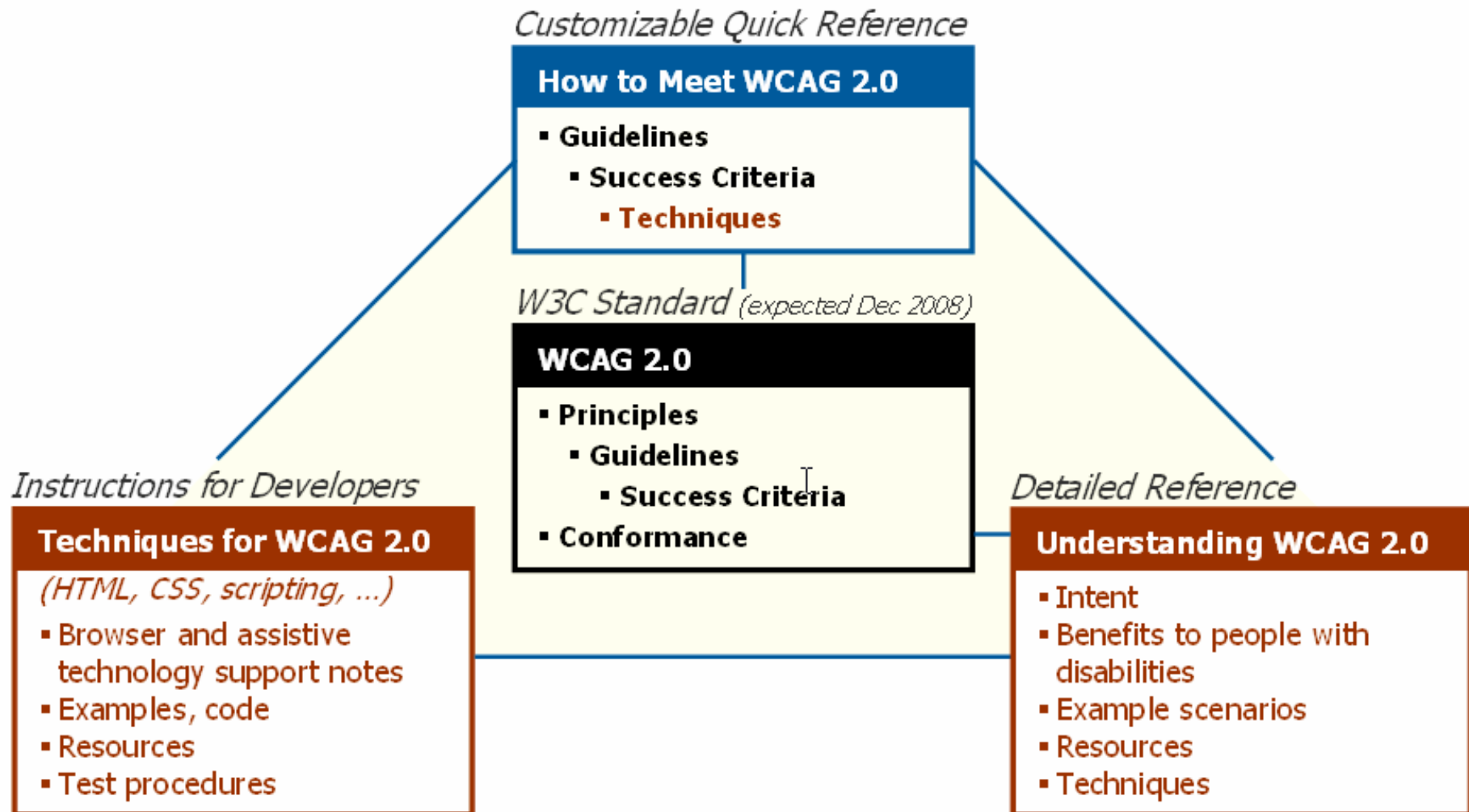
## Principles: POUR

- 1) Perceivable
- 2) Operable
- 3) Understandable
- 4) Robust

- **Guidelines**

- Success Criteria  
Level A, AA, AAA

# WCAG 2.0 Documents



# Success Criteria

**1.4.3 Contrast (Minimum):** Text (and images of text) have a contrast ratio of at least 5:1, except if the text is pure decoration. Larger-scale text or images of text can have a contrast ratio of 3:1. (Level AA) [Understanding Success Criterion 1.4.3](#)

## Sufficient Techniques for 1.4.3 (for the technologies you checked above)

**Situation A: text is less than 18 point if not bold and less than 14 point if bold**

1. [G18: Ensuring that a contrast ratio of at least 5:1 exists between text and background behind the text](#)
2. [H21: Not specifying background color, not specifying text color, and not using CSS that changes those defaults](#) (HTML)

**Situation B: text is as least 18 point if not bold and at least 14 point if bold**

1. [G145: Ensuring that a contrast ratio of at least 3:1 exists between text and background behind the text](#)
2. [H21: Not specifying background color, not specifying text color, and not using CSS that changes those defaults](#) (HTML)

## Common Failures for 1.4.3

- [F24: Failure of SC 1.4.3 and 1.4.5 due to specifying foreground colors without specifying background colors or vice versa](#)

## Advisory Techniques for 1.4.3

- Using a higher contrast value for text that is over a patterned background (future link)
- Creating foreground and background contrast (future link)

# Additional Benefits



- Mobile Web
- Ageing community

- High overlap between requirements for mobile devices and people with disabilities:
  - Resizing and reflowing
  - Use of colors and images
  - Navigation and layout
  - Multimedia and scripting

# Ageing Impacts



- Demographic changes in Europe
  - 17% over 65 in 2010
  - 30% over 65 in 2050
- Changing abilities with age
  - Visual
  - Auditory
  - Physical
  - Cognitive impairments



# WAI-AGE Project



EC project focused on:

- Better understanding the needs of the ageing community
- Working with the ageing community
- Developing educational materials
- Pursuing standards harmonisation

# Literature review



- We found the literature:
  - Not well understood by industry or users
  - Often did not build on previous work
  - Sometimes reflected a lack of technical knowledge
  - Often seemed unaware of the W3C/WAI work

# Findings



- Most requirements identified for the elderly overlap with those for people with disabilities:
  - Contrast and text size
  - Navigation and orientation
  - Link and heading identification
  - Predictability, consistency and tolerance

**WCAG 2.0 addresses these**

# Future work



- Revision of existing WAI materials
  - Business Case for Web Accessibility
  - Before & After Demonstration
- Development of additional WAI materials
  - Involving Users in Web Accessibility
  - Responding to Organisations

***Participation welcome***

# Older users



- William at a meeting
- Ada sending emails



# Thank you – Questions?



## Contact Details:

– Web Accessibility Initiative (WAI)

- [www.w3.org/WAI/](http://www.w3.org/WAI/)

– WAI-AGE Project

- [www.w3.org/WAI/WAI-AGE/](http://www.w3.org/WAI/WAI-AGE/)

– Email

- [andrew@w3.org](mailto:andrew@w3.org)



Sixth Framework Programme  
2002 - 2006

# WAI Resources



- Introduction to Web Accessibility
  - <http://www.w3.org/WAI/intro/accessibility.php>
- Essential Components of Web Accessibility
  - [www.w3.org/WAI/intro/components.php](http://www.w3.org/WAI/intro/components.php)
- Web Accessibility Business Case
  - <http://www.w3.org/WAI/bcase/>
- Evaluating Accessibility
  - <http://www.w3.org/WAI/eval/>
- How to Meet WCAG 2.0
  - <http://www.w3.org/WAI/WCAG20/quickref/>
- WAI-AGE Project
  - <http://www.w3.org/WAI/WAI-AGE/>

# WAI Guidelines



- Web content & interactivity
  - [www.w3.org/WAI/intro/wcag.php](http://www.w3.org/WAI/intro/wcag.php)
- Authoring Tools (CMS's, Blogs, etc)
  - [www.w3.org/WAI/intro/atag.php](http://www.w3.org/WAI/intro/atag.php)
- User Agents (Browsers and media players)
  - [www.w3.org/WAI/intro/uaag.php](http://www.w3.org/WAI/intro/uaag.php)



# WAI Guideline Development Process



How WAI Develops Accessibility  
Guidelines through the W3C  
Process: Milestones and  
Opportunities to Contribute

[www.w3.org/WAI/intro/w3c-process](http://www.w3.org/WAI/intro/w3c-process)

- Mobile Web Best Practices  
<http://www.w3.org/TR/mobile-bp/>
- Experiences shared with people with disabilities  
<http://www.w3.org/WAI/mobile/experiences>
- Mapping between WCAG and MWBP  
<http://www.w3.org/TR/mwbp-wcag/>