Accessibility by Design
Considerations for Digital Assessments

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Open Assessment Technologies S.A.

About Us

Brought to you by Open Assessment Technologies S.A.

Offering TAO integration, Cloud deployments & Helpdesk.

Delivering >10M tests per year.

Working with our clients to enable accessibility since 2012

- NCSC, MSAA, Florida ALT, NFER, INVALSI, DEPP…

Co-author: Ruth Williams, Head of Product Delivery and eAssessment Services at NFER

Topics

- Define Accessibility
- Rethink Your Approach
- Formulate Your Assumptions
- Follow Industry Standards
- Points To Remember
- Q&A

Defining Accessibility

- How we **access** places, things, and information.
- Much broader than what most people think
- **Accessibility** as a practice is about providing MORE access to people who, for whatever reason, can't access something with the provided affordances.

For Example

Wiener
Burgtheater

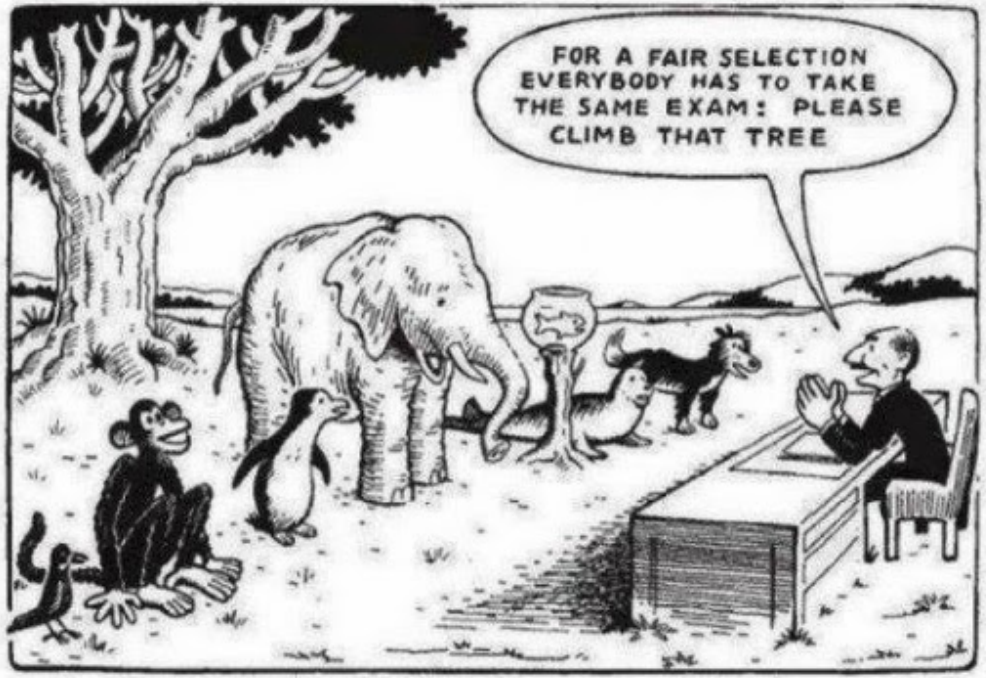
Recommended Process

- Reset people's mindset
- Define your starting point
  - Broad range of needs
    - Physical and Cognitive accommodations
  - Constraints established by Legislature
- Design from assumptions
  - Setting of test (access to room, lighting conditions, etc.)
  - Cultural connotations (objects, names, etc. that candidates may or may not relate to)
  - Type of test (paper, digital)
- Follow industry standards
  - WCAG 2.1
  - QTI 3.0
- ALWAYS finish with actual user testing!

1. Rethink Your Approach

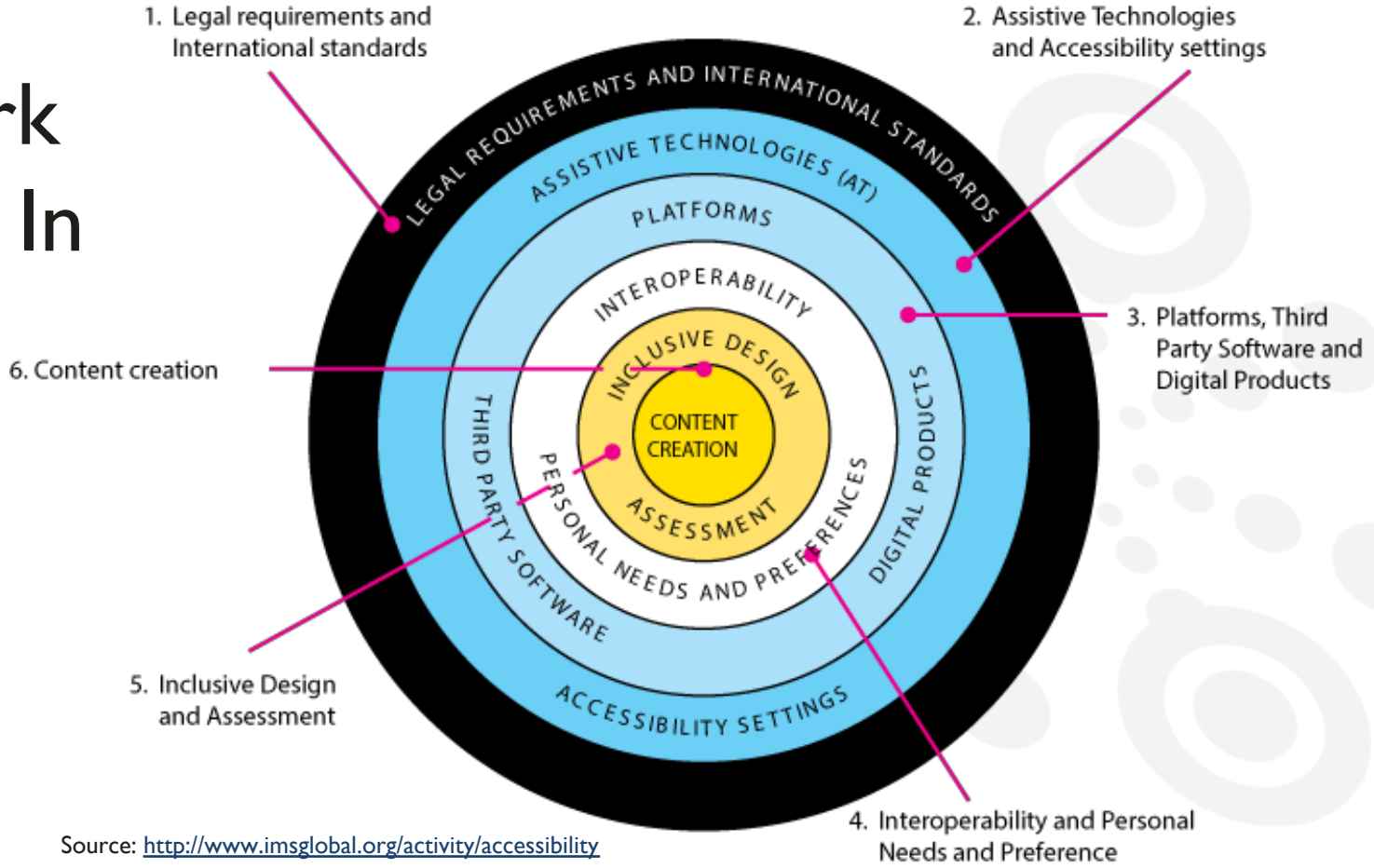
2. Define Your Starting Point

- Instead of like this:



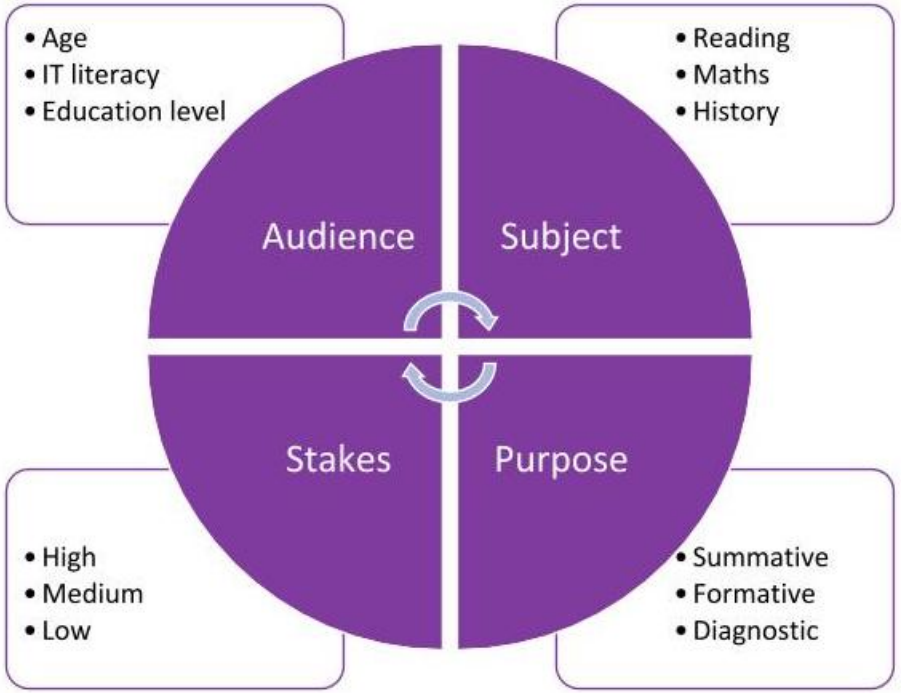
Watch Users In Their Natural Habitat

Then Work Your Way In



Source: http://www.imsglobal.org/activity/accessibility

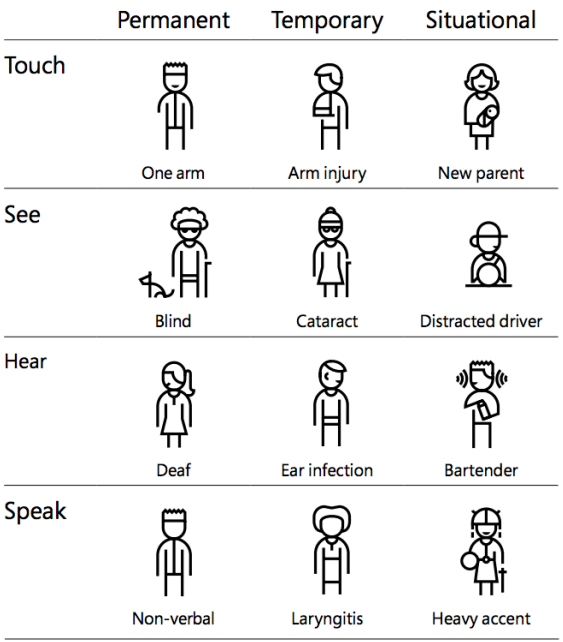
3. Formulate Your Assumptions



Source: Ruth Williams, NFER

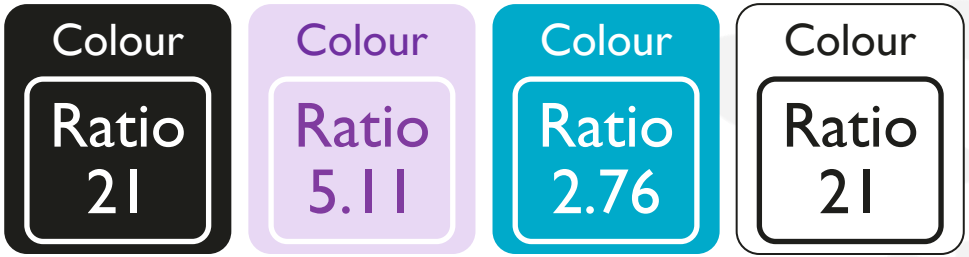
Map Assumptions To Universal Design Principles

- Impaired people are the experts of their own disability
- Design for the Unexpected (What if…)
- Aim to cover as many needs as possible

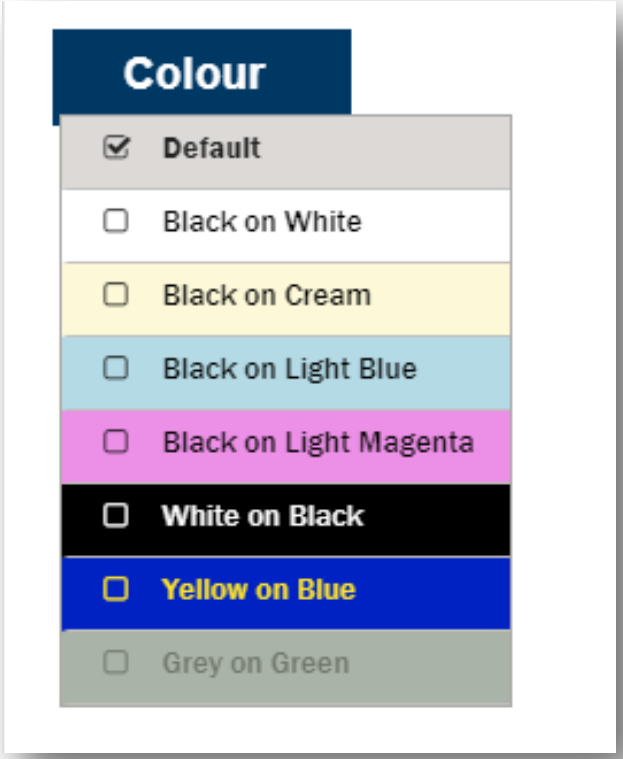


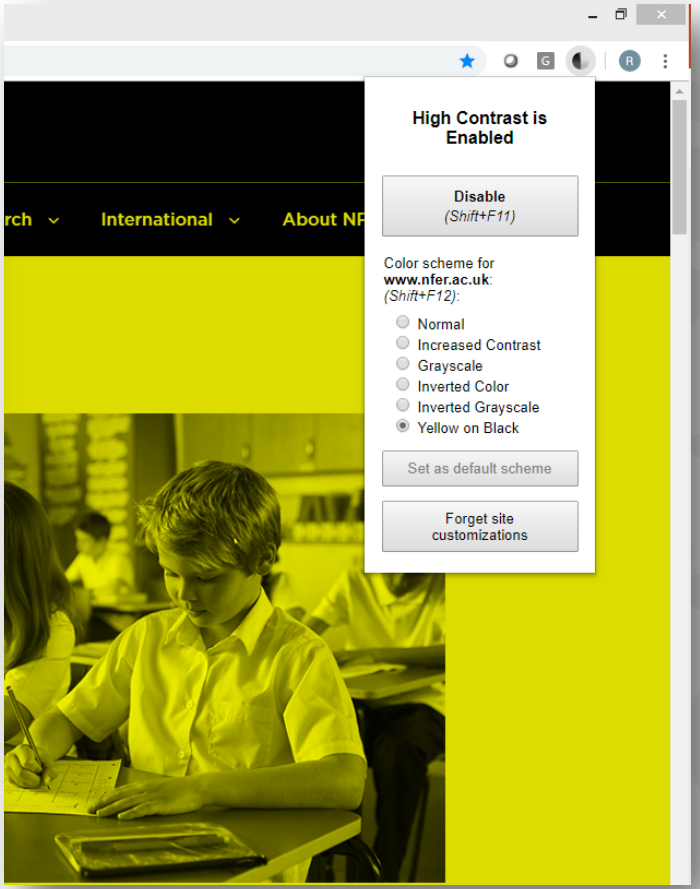
Inclusive
A Microsoft Design Toolkit

Design Considerations



- WCAG 2.1 web pages should have a minimum contrast by default
- 4.5:1 for normal sized text


Colour
Default
Black on White
Black on Cream
Black on Light Blue
Black on Light Magenta
White on Black
Yellow on Blue
Grey on Green


International
High Contrast is Enabled
Disable
(Shift+F11)
Color scheme for
www.nfer.ac.uk:
(Shift+F12):
Normal
Increased Contrast
Grayscale
Inverted Color
Inverted Grayscale
Yellow on Black
Set as default scheme
Forget site customizations

Size of the writing

Size of the writing

Size of the writing

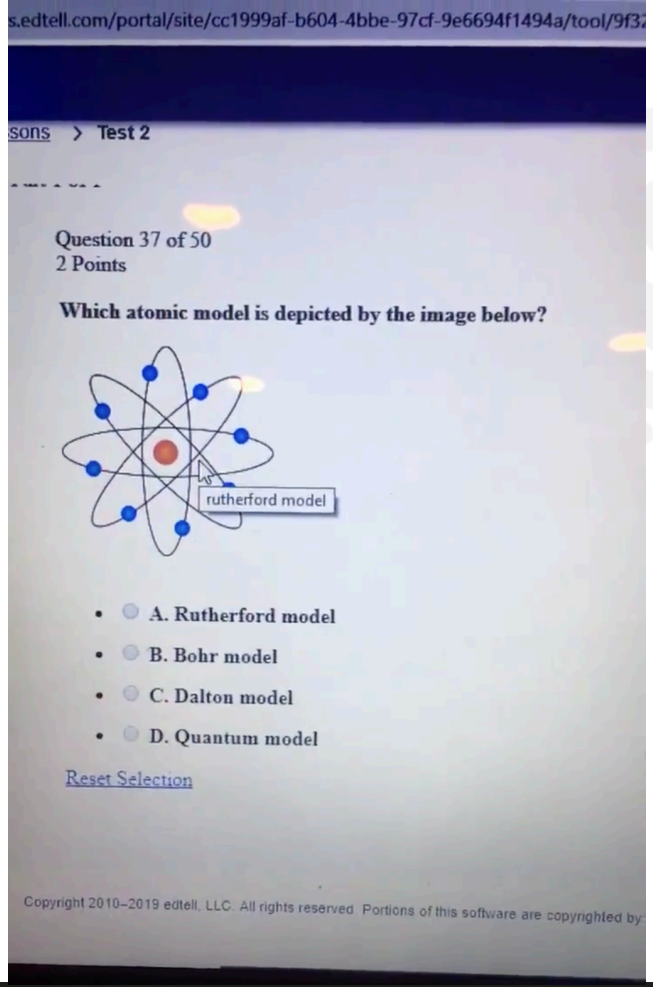
Size of the writing

Size of the writing

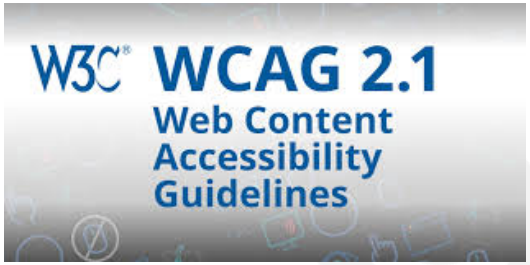
Resources and Examples

- Experiencing impairment:
  - https://www.atalan.fr/agissons/en/index.html
- Check colour contrast for compliance
  - https://accessible-colors.com/
- Lacking Alt text
  - http://107.22.217.66/tts.php
- The wrong Alt text
  - see next slide

Don’t use Alt Text in this manner



4. Follow Industry Standards



- WCAG helps create access for ALL users of online content, not just people with specific accessibility needs

- https://www.w3.org/WAI/intro/wcag

- Following WCAG allows us to move from an accommodation mindset to an **accessibility** mindset.
  - WCAG 2.1 was published in 2018 and is backwards compatible to 2.0

IMS Global

- APIP
  - Introduced the concept of PNP
  - Standard was too rigid, inflexible
  - Was difficult to implement, and difficult to author APIP content
- QTI 3.0
  - Addresses these issues
    - Builds on top of APIP and QTI 2.2
  - Leans on WCAG and web-based accessibility
    - Uses HTML5 to create the content
    - Refers to WCAG to ensure accessibility needs are met
  - Adds assessment-specific support, e.g., Glossary, Keyword translations
  - Elevated accessibility certification

Accessibility Challenges in Assessment

- Custom Interactions
  - Will you spend the time & money to make it accessible?
  - Can you make it accessible?
  - Cognitive load can be high, even if it is technically accessible
  - Unfamiliar ways of interacting with content
  - More time = more fatigue
- Technology isn't frozen
- Differences in Learning & Assessment Environments
- Security

Recommended Process

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