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Peckham DAZ

Accessible Web Development

Session 4: Accessibility & Inclusive Web Design

Date

Session Structure

- Lecture (1 hour)
- Break (15 mins)
- Labs Exercises (2 hours 30 mins)
- Debrief (15 mins)

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Accessibility

Theory and Practices

Date

What is Accessibility?

- being able to be reached or obtained easily
- being able to be entered or used by everyone, including people who have a disability
- being easy to understand or enjoy

What is Accessibility?

Accessibility (...) is concerned with whether **all users are able to access an equivalent user experience***, however they encounter a product or service (e.g., using assistive devices).

Interaction Design Foundation - IxDF. 2016. What is Accessibility? Retrieved July 5, 2024 from https://www.interaction-design.org/literature/topics/accessibility

*an approach aiming to design for everyone is called universal design and comes with a set of its own issues important to consider.

Who is Impacted by Accessibility?

- **1 out of 5** people in the world live with a disability.
- 2.2% have very significant disabilities.
- This statistic is true at any point in time, which means, **many more**
- **people will experience a disability at some point in their lives**.

Who is Impacted by Accessibility?

- Globally, there are around 285 million people experiencing a visual impairment. 39 million people are blind.
- 466 million people in the world live with hearing loss. This is 6.1% of the total population.
- It is estimated that 1 out of 10 people have dyslexia.

What Health Conditions May Impact use of Digital Technology?

- visual or hearing impairments,
- dyslexia,
- Autism Spectrum Disorder (ASD),
- physical disabilities (e.g. motor neuron disease),
- Alzheimer’s,
- ADHD,
- fatigue,
- mental health conditions,
- This is by no means an exhaustive list, and **different users with similar issues might have different needs.**

Why is Accessibility Important?

- If your apps, websites etc. aren’t accessible, you are excluding a lot of people from using the tools they need.
- This can limit access to services, information, knowledge, entertainment, etc., and seriously impact people’s lives.
- There are groups of people in intersectional categories (e.g. they have a learning difficulty and a visual impairment). The impact of inaccessible technology is much stronger for them.
- Designing accessible interfaces is not just a choice, but **a legal requirement in the UK** (to an extent).

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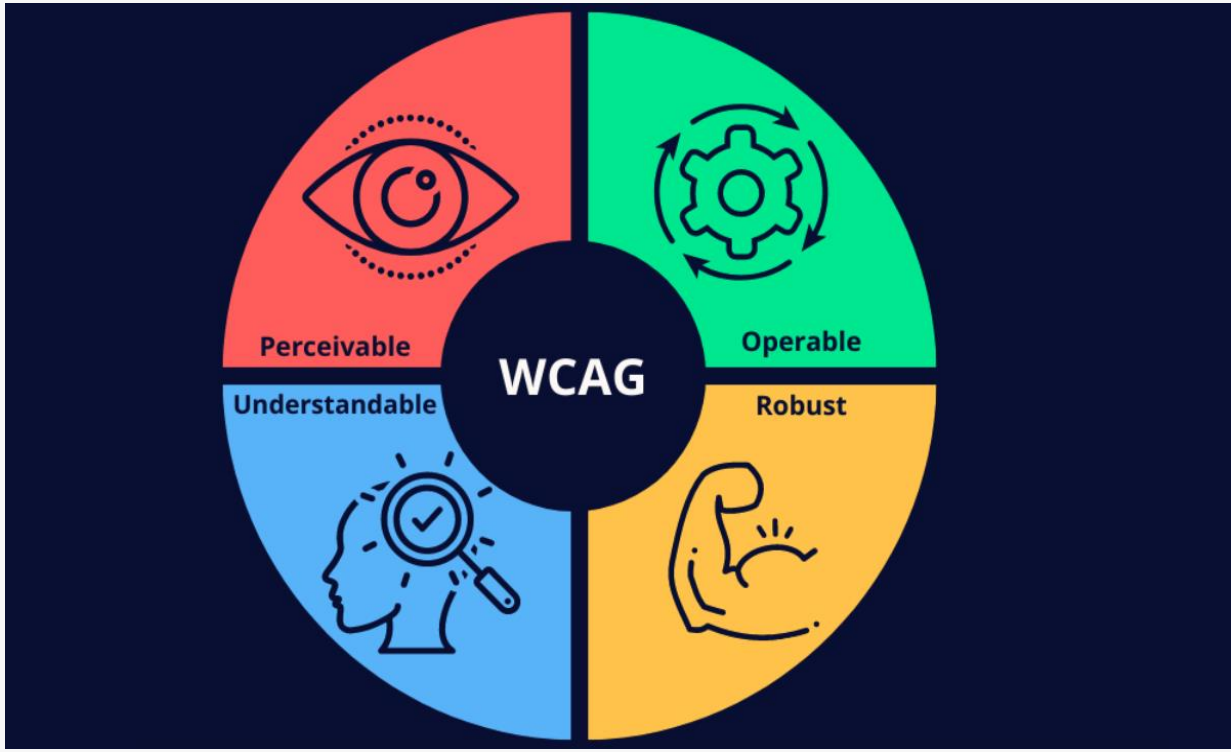
Inclusive Web Design

- Participatory Design Methods
- Accessibility Tools
- Responsive Web Design

WCAG Guidelines

Web content accessibility guidelines

- An accessibiliy guideline maintained by W3C
- Public websites must meet this standard
- There are 3 ratings **A (fail), AA (required), AAA (best)**
- Tools such as **Axe, Wave, Tenon, SiteImprove** can help you test
- **User testing** with **real people** is extrememly important!



Perceivable

- Provide alternative text for non-text content
- Provide captions for video
- Create content that can be presented in different ways *e.g text, video, audio*

Operable

- Allow keyboard-only navigation
- Create space around text
- Use labels and headings
- Make navigation as simple as possible
- Test with screen readers, screen magnifiers, voice commands

Understandable

- Make text as clear as possible
- Be clear about how things work
- Make content predictable
- Find ways to help users who are lost

Robust

- Works on different devices and browsers
- Don’t use exclusive technology *e.g plugins*
- Do not use exploitative technology

The UK GOV Dos and Don'ts

- Use good contrast and readable font size. It tells you to publish all information on web pages in HTML.
- It tells you to use a good combination of colour, shape and text, to follow a linear, logical layout and ensure text flows and is visible when text is magnified 200 percent.
- Put buttons and notifications in context.
- Don’t use low colour contrast and small font sizes.
- Don’t bury information in downloads.
- Don’t only use colours to convey meaning.
- Don’t force users to scroll horizontally.
- Make sure text is easy to find.

https://accessibility.blog.gov.uk/2016/09/02/dos-and-donts-on-designing-for-accessibility/

Participatory Design

Directly involve users into the design process to ensure their needs inform the design and development of software.

Applying PD to Accessibility

Inclusive Approach: Treat users with disability as experts of their own experience

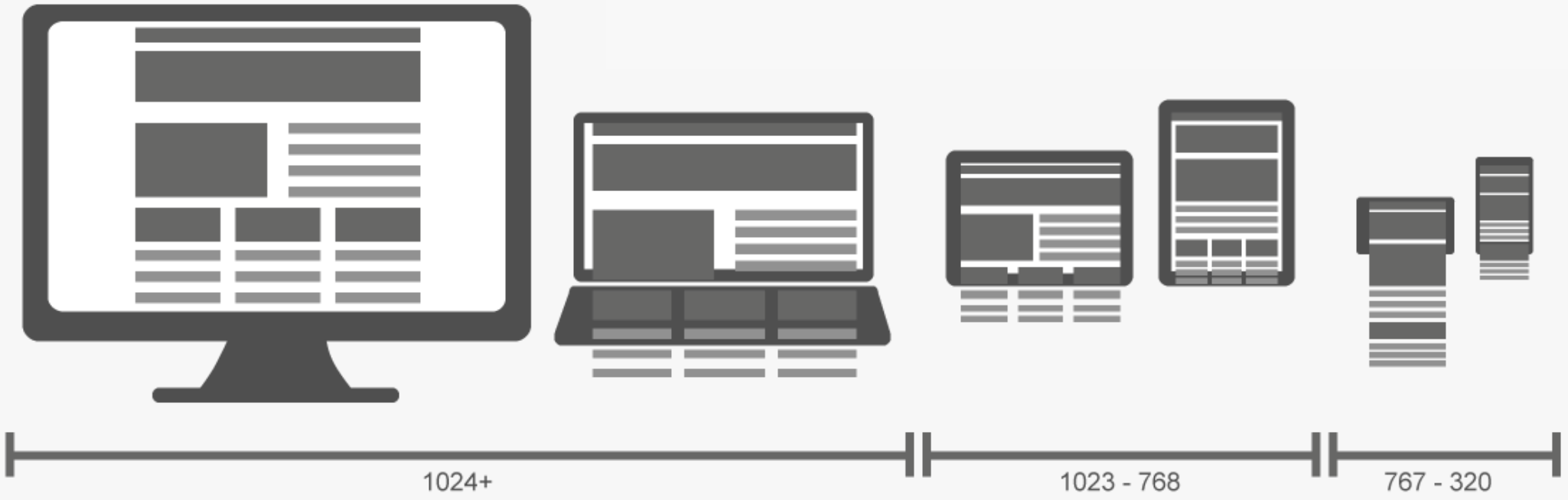
Early Involvement: Ensure accessibility needs are addressed from the onset of design

Methodologies: Conduct continuous user research and accessibility walkthroughs to refine designs iteratively

Iterative Design Article

When to use which user research methods

Responsive Web Design



Responsive Web Design

Responsive design ensures that your website **looks and functions** well on devices like smartphones, tablets, laptops, desktops, and even smart TVs – making it more inclusive!

This is important for user experience and accessibilty!

- ensures that content is **readable**, navigation is **intuitive**, and interactions are easy.
- also ensures that content is accessible and usable for users with disabilities, such as those who rely on screen readers or have mobility impairments.

Reminder of accessible coding practices...

Accessible HTML

- Use semantic HTML tags
- Provide alternative text for images using 'alt' attribute
- Use labels with form elements
- Create accessible links
- Use heading tags appropriately
- Include captions for multimedia

[Accessible HTML cheatsheet]

```
<body>
  <header>
      <img src="logo.png" alt="Company Logo">
      <nav>
          <ul>
              <li><a href="#main-content">Skip to main content</a></li>
              <li><a href="about.html">About Us</a></li>
              <li><a href="services.html">Services</a></li>
              <li><a href="contact.html">Contact</a></li>
          </ul>
      </nav>
  </header>

  <main id="main-content">
      <h1>Welcome to Our Company</h1>
      <section>
          <h2>Our Mission</h2>
          <p>Our mission is to provide high-quality products and services to our customers.</p>
      </section>
      <section>
          <h2>Contact Us</h2>
          <form action="/submit" method="post">
              <div>
                  <label for="username">Username:</label>
                  <input type="text" id="username" name="username">
              </div>
              <div>
                  <label for="email">Email:</label>
                  <input type="email" id="email" name="email">
              </div>
              <div>
                  <button type="submit">Submit</button>
              </div>
          </form>
      </section>
  </main>

  <footer>
      <p>&copy; 2024 Our Company</p>
  </footer>

  <button aria-expanded="false" aria-controls="menu">Menu</button>
  <video controls>
      <source src="video.mp4" type="video/mp4">
      <track kind="captions" src="captions.vtt" srclang="en" label="English">
  </video>
</body>
```

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Accessible CSS

- Use focus and hover states
- Ensure good colour contrast
- Use responsive layouts with media queries
- Create flexible and adaptive layouts
- Use readable font sizes
- Ensure a consistent look and feel

```css
.btn-submit {
  padding: 10px 40px;
  color: white;
  font-weight: bold;
  background-color: green;
  border-radius: 5px;
  border: 2px solid green;
  cursor: pointer;
}
.btn-submit:hover {
  color: green;
  background-color: white;
}

@media screen and (max-width: 768px) {
  /* Styles for smaller screens */
}
```

Accessible JS

- Create dynamic styling to aid accessibility and user experience
- Handle keyboard events
- Create accessible form validation
- Provide controls for media playback
- Create a dynamic user interface

```
const button = document.getElementById('button1');

function handleClick() {
  console.log('Hello, world!');
}

button.addEventListener('click', handleClick);
```

Lab Exercises

Can be found on the Peckham DAZ github

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Great work! ☺

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Date