

Web Programming

Accessibility

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Accessibility (A11y)

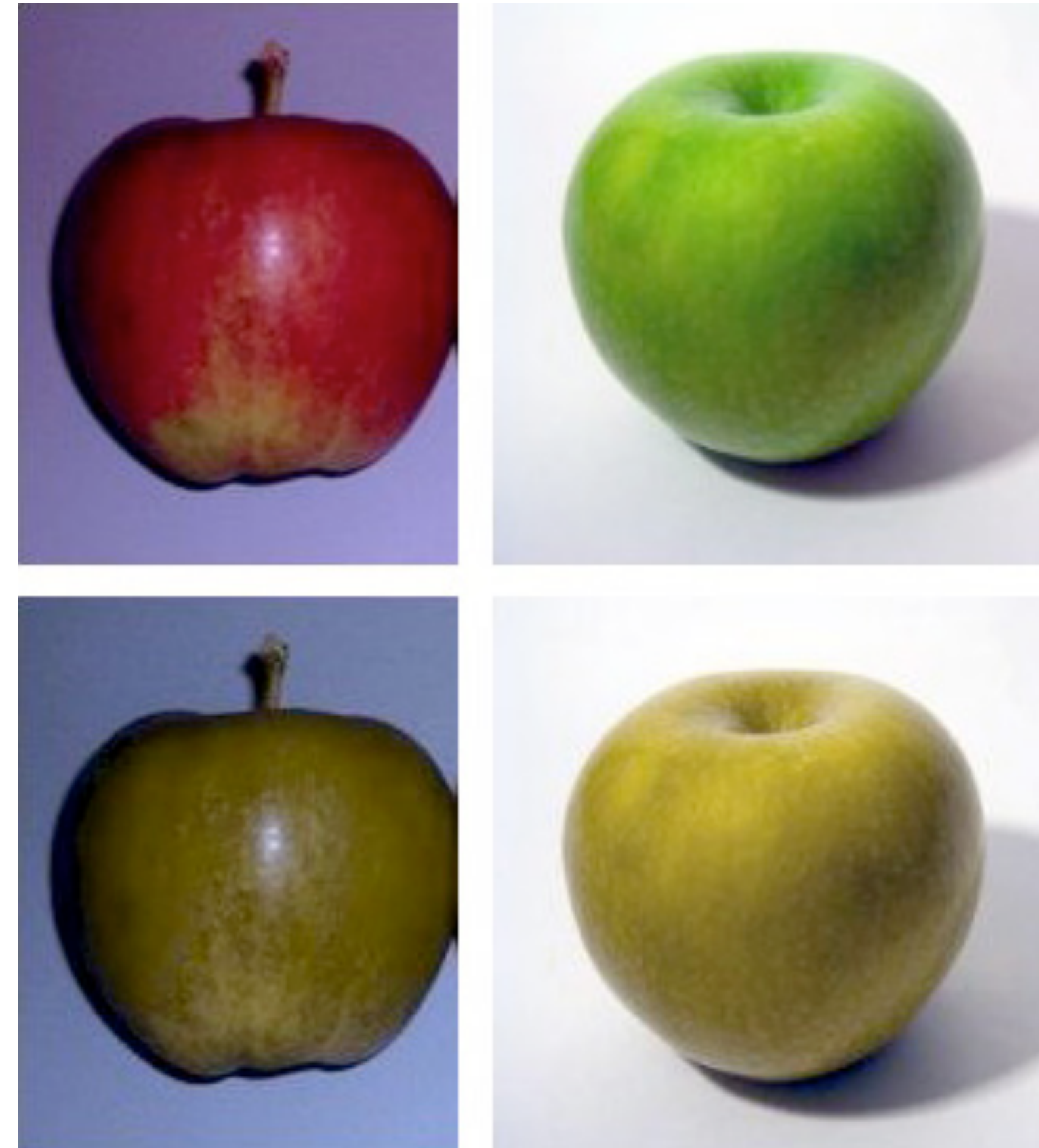
- Practice of making websites usable to as many people as possible
- Some people have
 - Impaired vision
 - Motor difficulties
 - Cognitive impairment or learning disabilities
 - Deafness or impaired hearing

At least [1 in 5 people in the UK have a long term illness, impairment or disability](#). Many more have a temporary disability.

<https://www.gov.uk/guidance/accessibility-requirements-for-public-sector-websites-and-apps>

Visual Impairment

- Colour blindness
- Near and far sightedness
- Total blindness



Simulated perception of colour blindness

Visual assistive technologies

- Software zoom
- Screen readers (Text-to-speech)
- High contrast color schemes
- Use colours and shapes to convey meaning
- Textual descriptions of images
- Make visual relations explicit

Hearing impairment

- Some frequencies cannot be heard (alarms)
- Total deafness
- Textual alternatives to sound
- Captioned videos
- Audio transcripts
- Visual cues

Mobility impairments

- Unsteady hands
 - Inability to hold multiple keys at the same time
 - Paralysis
-
- Eye tracker
 - Head pointer

Mobility impairments

- Make all functionality accessible from keyboard
- Make all functionality accessible with mouse
- Provide alternative methods to double click
- Provide alternative methods to drag&drop

Cognitive impairments

- Impaired
 - Memory
 - Attention
 - Processing speed
 - Time management
 - Recognition of letters and language, numbers and math
 - Making choices
- e.g. dyslexia, epilepsy, attention deficit disorder, etc.

Methods - Good HTML

- Use the correct HTML element of the job
- Don't reimplement the functionality with javascript

~~<div>Play video</div>~~

<button>Play video</button>

- Good structure of content (Headings, paragraphs, lists, etc.)

Methods - Page layouts

- Don't use tables
- Use navigation tags (<nav>, <main>, <article>, etc.)
- Make visual relationships explicit
 - Form labels (<label for="">)
 - Use proper table header elements (<th>) with scope attribute
 - Use caption elements
- Use meaningful text labels

Example

🔗 <examples/a11y/table.html>

```
<caption>A summary of the UK's most famous punk bands</caption>
<thead>
  <tr>
    <th scope="col">Band</th>
    <th scope="col">Year formed</th>
    <th scope="col">No. of Albums</th>
    <th scope="col">Most famous song</th>
  </tr>
</thead>
<tbody>
  <tr>
    <th scope="row">Buzzcocks</th>
    <td>1976</td>
    <td>9</td>
    <td>Ever fallen in love (with someone you shouldn't've)</td>
  </tr>
```

Methods - Provide textual alternatives

- Provide textual description of meaningful images
- ``
- ``
- ``
- No text for decorative images

Further reading

- <https://developer.mozilla.org/en-US/docs/Learn/Accessibility>
- <https://www.uutilsynet.no/>