Key concepts to know

Web development I: Front-end engineering

A dizzying multitude of devices

Sticking with the standards

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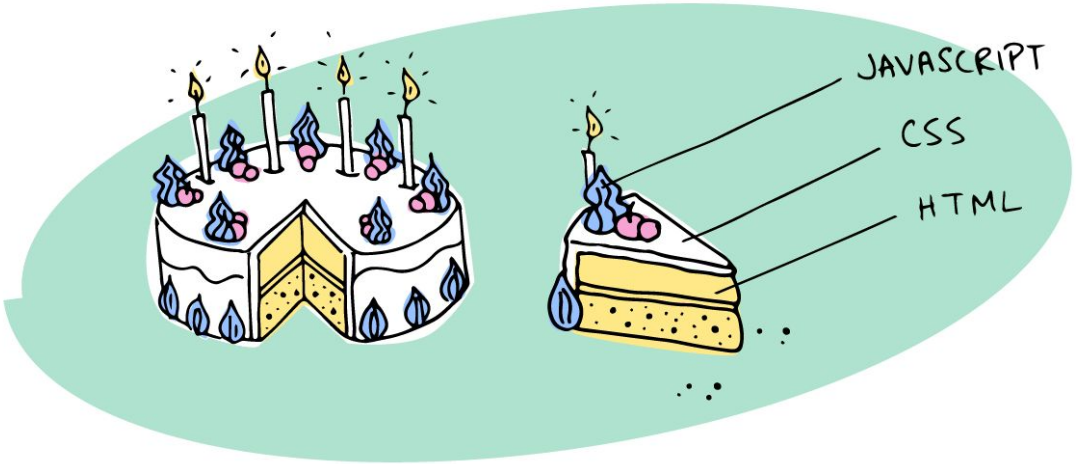
- Are a consensus-based decision process
- Reflect the views of diverse industries and global stakeholders
- Ensure interoperability
- Balance speed, fairness, accountability, and quality
- Are stable and maintained in a predictable fashion
- Consider accessibility, privacy, security, and internationalization
- No patent licensing commitments

Progressive enhancement

Content comes first. Everything else is optional.



Graceful degradation

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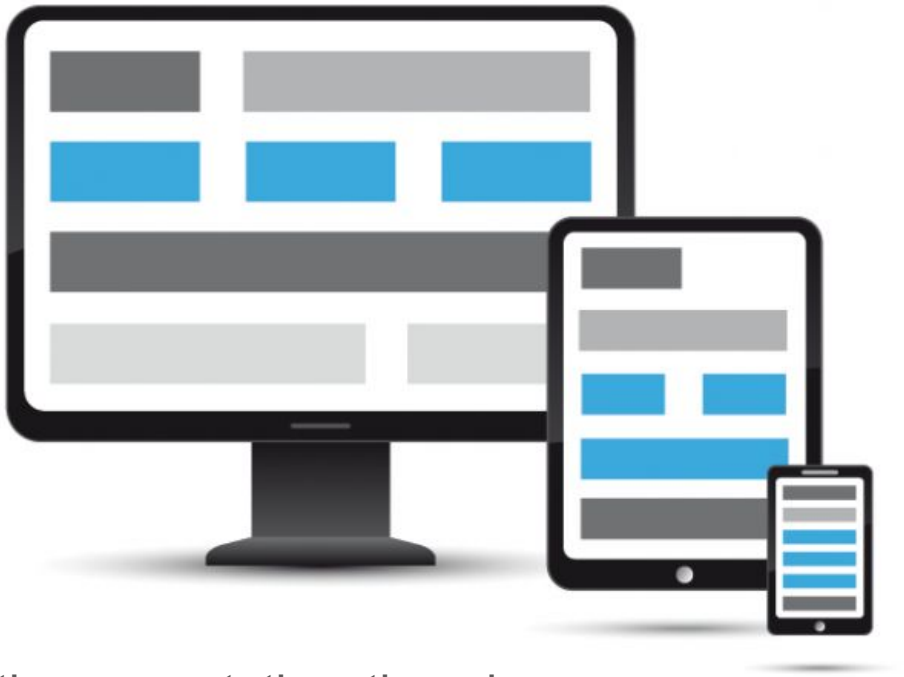
Design for failure: non-critical functionality must not impact your users

Common sources of error:

- Content: new or deprecated tags, markup validation
- Presentation: CSS features support, no renderer available (e.g. WebGL)
- Behavior: modern JS methods not available
- Other: network latency, server proximity, capacity, workload

Responsive web design



It’s not only about the presentation, though

Accessibility: One web for all

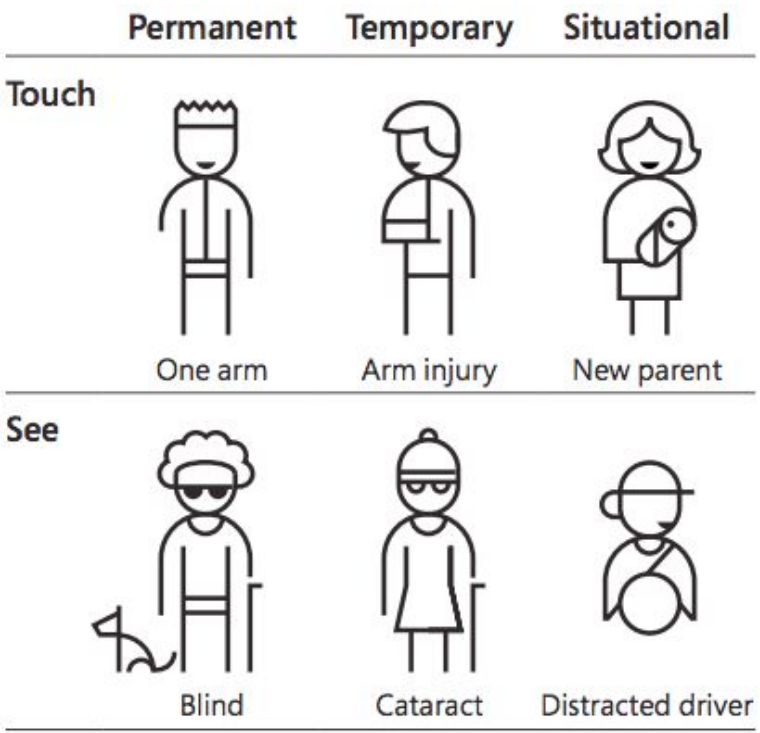
Common impairments:

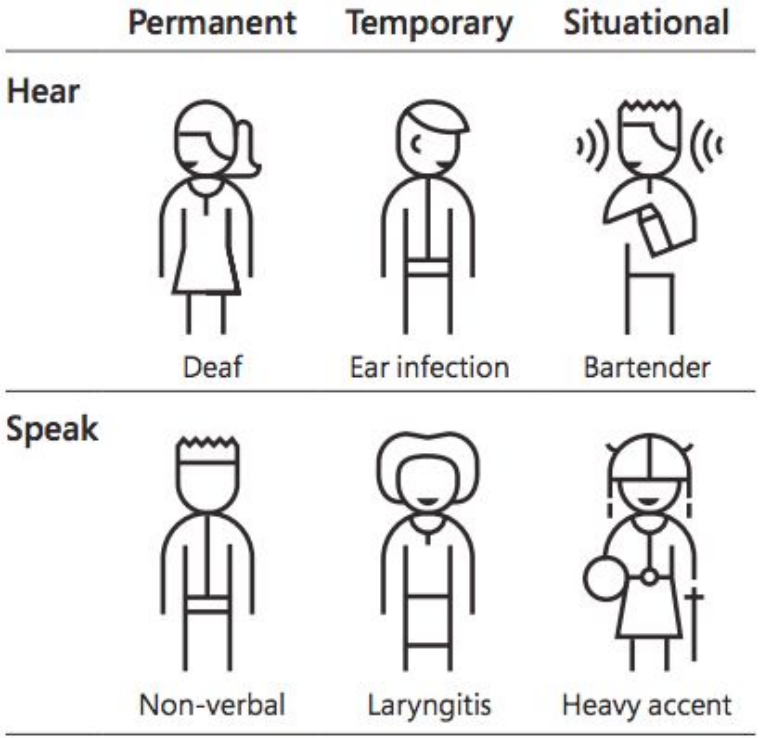
- Visual
- Auditory
- Motor
- Cognitive

See https://www.w3.org/WAI/

Accessibility should NOT be optional. It’s required in government websites.

Accessibility: One web for all





Performance: The need for speed

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Aim for a small number of small requests!

Also:

- Optimize images
- Minify resources (e.g. JSON, HTML, CSS, and JS files)
- Parallelize resource loading
- Defer non-critical resources
- Cache requests
- Use a Content Distribution Network (CDN)