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## SOME BIG CONCEPTS YOU NEED TO KNOW

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# OVERVIEW

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- **Multitude of devices**
- **Web standards**
- **Progressive enhancement**
- **Responsive web design**
- **Accessibility**
- **Site performance**

# A Multitude of Devices

- Your web pages will be viewed on all manner of devices, large and small, fast and slow, visual and non-visual.
- One of the challenges of being a web designer is creating a good experience regardless of the browsing device.



Brad Frost's depiction of the web viewing environment.

# Web Standards

- The World Wide Web Consortium (W3C) writes the specifications for web technologies:  
[w3.org/standards](https://www.w3.org/standards)
- Sticking with web standards ensures **consistency** across browsers and **forward-compatibility**.

# Progressive Enhancement

**Progressive enhancement** is a strategy for coping with unknown browser capabilities.

- Start with baseline experience that provides content and basic functionality even on minimal browsers and assistive devices
- Layer on styles, scripts, and advanced features for browsers that can handle them
- Finish with “nice to have” effects (like animation) that aren’t critical to the brand or functionality

# Progressive Enhancement (cont'd)

## **HTML strategy**

Write in a logical order, with elements marked up in a meaningful way

## **Style strategy**

Use universally supported properties as the baseline and add cutting-edge styles as embellishment

## **Scripting strategy**

Make sure basic functionality (like content display, linking, and forms) are possible when JavaScript is turned off. Enhance the experience when JavaScript is available

# Responsive Web Design

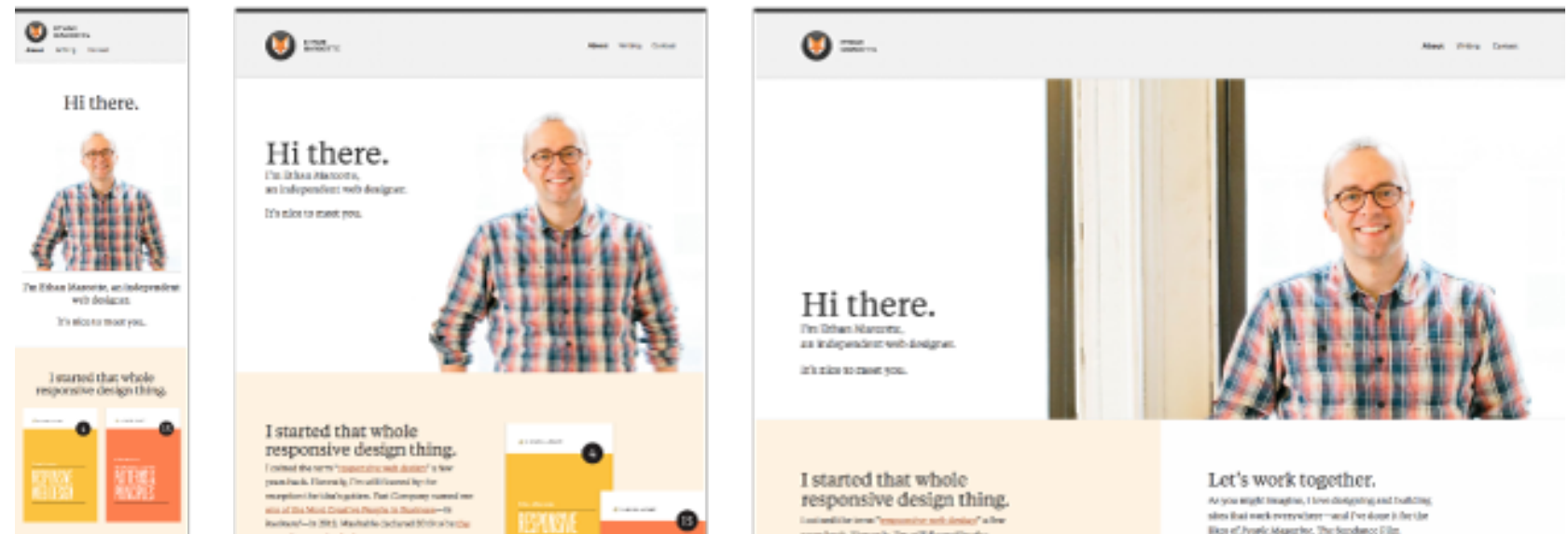
**Responsive web design** is a strategy for dealing with unknown screen size:

- The heart of the method is using one HTML source for all devices and swapping out the styles based on the size of the browser window (viewport)
- It is preferred to building separate sites just for mobile devices (“m.dot” sites)
- It may not be the solution for all sites, but making sites that adapt to screen size is now common practice

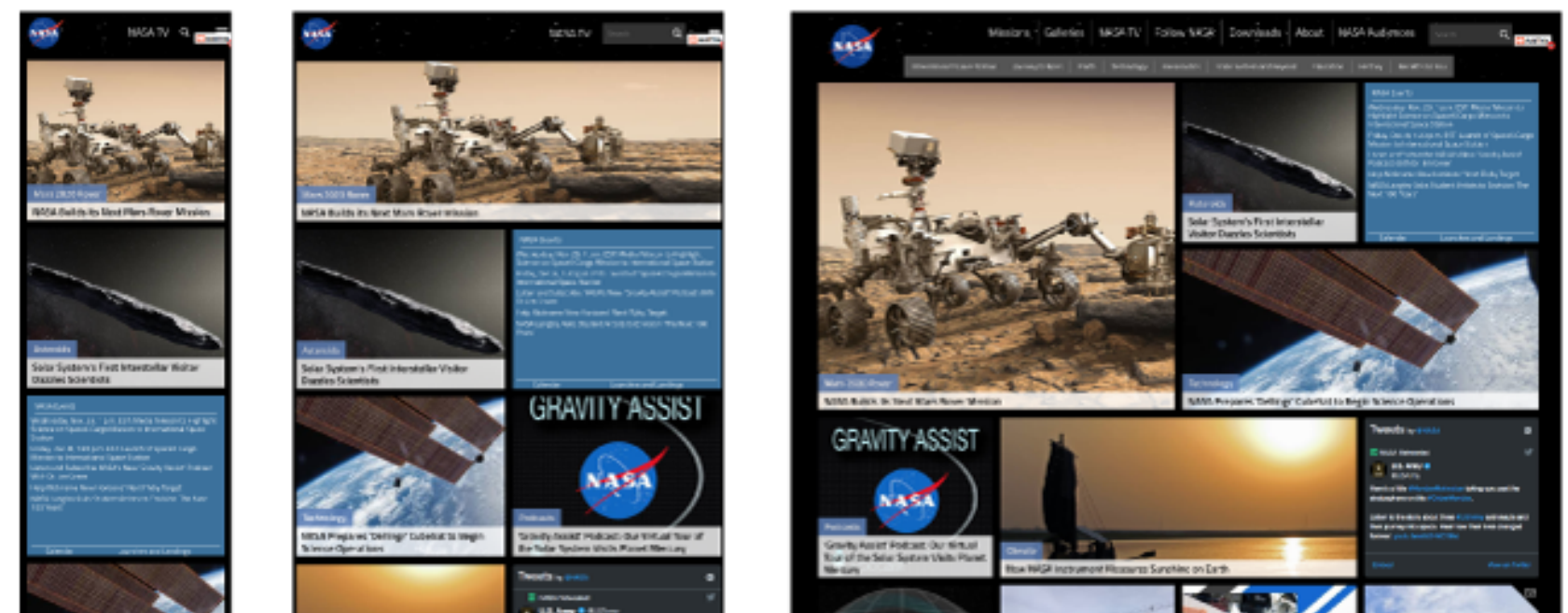
# Responsive Web Design (cont'd)

Page layout changes based on the width of the screen.

Ethan Marcotte personal site  
*ethanmarcotte.com*



NASA  
*nasa.gov*





# Accessibility

- **Users access web content in many ways:** Keyboard, mouse, voice commands, screen readers, Braille output, magnifiers, joysticks, foot pedals, and so on
- **Four broad categories of disabilities** affect how people interact with computers:
  - Vision impairment
  - Mobility impairment
  - Auditory impairment
  - Cognitive impairment

## Accessibility (cont'd)

- There are measures you can take to improve the accessibility of your web pages.
- The Web Accessibility Initiative (WAI) is the group responsible for making web technologies accessible:  
[www.w3.org/WAI](http://www.w3.org/WAI).
- The WAI-ARIA (Accessible Rich Internet Applications) specification documents accessibility features.

# Site Performance

- It is critical that web pages display as quickly as possible.
- Users on mobile devices generally leave a page if it does not display in 3 seconds.
- Even milliseconds can affect the bottom line on retail sites.

# Site Performance Tips

- Make image files as small as possible.
- Streamline HTML markup.
- Keep JavaScript to a minimum.
- Add scripts in a way that they don't block page rendering.
- Don't load unnecessary assets.
- Reduce the number of times the browser makes requests of the server.

# Site Performance Tools

- Use a **waterfall chart** to see what assets are downloading for your page and how many milliseconds they take.
- This tool is built into the Chrome browser (Developer > Developer Tools).

