The Anywhere, Everywhere Web

The Web is an Incredibly Unstable Environment
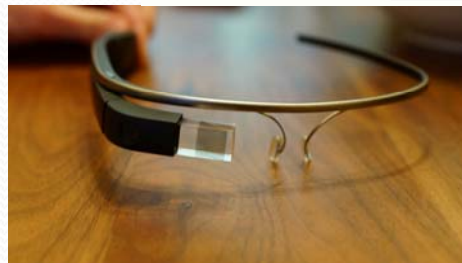
- Web Browsers constantly changing
  - New versions
  - New patches

- New Web Enabled devices
  - Phones
  - Glasses
  - Watches
  - Et al

The Web is an Incredibly Unstable Environment

- While new devices emerge, older devices and browsers remain in use
  - IE 6 is still out there
- New Technologies do not always have more powerful features e.g.,
  - Kindle

The Web is an Incredibly Unstable Environment

- It is this instability that leads to innovation and creativity

- As a new Form Factor hits the market the number of applications and situations we can build for grows

- For Example,
  - Touch screens after the release of iPhone
  - Anything can be a screen - OmniTouch

We have been slow on the Uptake

- When we started creating web sites we based in on what we knew
  - Books
- We created sites that had
  - Fixed Format
  - Enforced linear reading model
    - Top Down
    - Left to Right
- It took us a long time to design sites around the model of Hypermedia
  - Non-linear flow

We Needed to Undergo A Mind Shift

- We as producers had to learn to not be in control of everything

New versus Old

Old Approach

- We controlled the look and feel
  - Fixed Font
  - Fixed Layout
- We dictated the Platform
  - E.g., IE only site

- One style fits all

- Not scalable as number of disparate devices grows

New Approach

- User is now in control
  - They grow/shrink the text
  - Users get to adjust the layout

- User chooses their browser. We no longer get to say "Not Supported"

- Style must be platform appropriate

- Scalable as number of disparate devices grows – but is not easy

New Paradigm

- Many web applications have become Mobile 1st technologies, e.g.,
  - Twitter
  - Pandora
  - eBook Readers
  - iTunes

New Considerations

- Display Size
  - The number of different screen sizes and resolutions that we now support is significantly greater that the pre iPhone days
- Network Speed
  - These vary significantly
    - Very High-Bandwidth wired platforms
    - Wifi
    - 56K Modems (they are still out there)

New Considerations

- Standards Support
  - Standards are rapidly emerging to support emerging devices
    - E.g. W3C's HTML 5 and CSS3 standards
  - Browsers are now working to common standards. Although some lag others in standard support, and there is disagreement on the interpretation of some standards

New Considerations

- Input Devices
  - No longer can we assume that the input comes from a
    - Keyboard and
    - Pointing device (e.g., mouse or touch pen)
  - Touch screens introduce new support requirements
  - There are now other events to consider
  - We have moved on from mouseOver, onClick, … events
    - Swipe, Pinch, Accelerometres , …

New Considerations

- Context
  - The physical and architectural characteristics of a device are not the only factors to consider.
  - The context in which a device is used is another huge question mark
  - Example
    - If you are in a theme park and want information to closest souvenir shop, the response could be tailored based on where you are and where the parade is
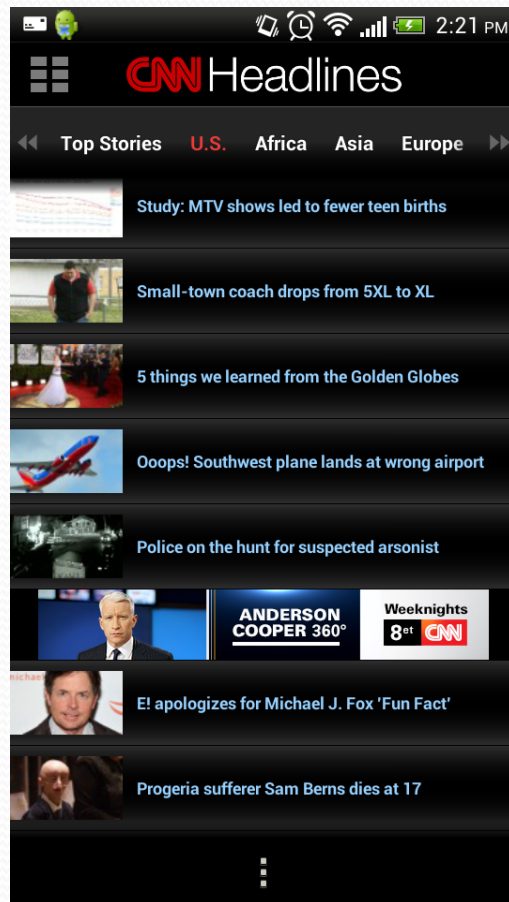
Separate Sites

- The most common approach to dealing with the diversity of devices is to create separate sites that serve specific kinds of devices

- But as we have discussed this approach does not scale
  - Ever growing number of device type
  - Development team size not increasing
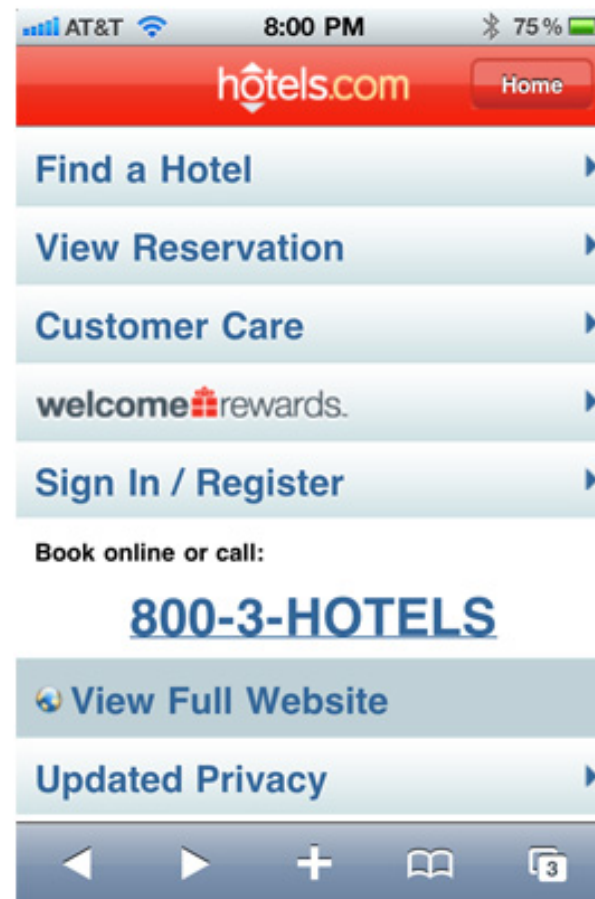
Valid Use of Separate Sites

Bad use of Separate Sites

Non-Mobile Optimized Website

Mobile-Optimized Website

New Considerations

- Divergence
  - "We cannot keep having more disparate devices"
    - This belief is false
  - Some of us want the latest and greatest
    - Look at the lines when Apples brings out its latest device
    - Look at the people wanting to be 1st users of Google Glass

Becoming Responsive

- In May 2010, Ethan Marcotte wrote an article for A List Apart titled "Responsive Web Design."

- The approach he described was both simple and revolutionary.

- He used three existing tools (media queries, fluid grids, and scalable images) to create a site that displayed beautifully at multiple resolutions

Responsive Design

- Responsive Design is not about designing a mobile site (a common misconception)
- Responsive Design is about designing a site to be device agnostic.
  - The design will work on all devices

Gradual Degradation

- For a long time, the web community advocated graceful degradation, a concept borrowed from other areas of computer science, such as networking.

- The idea is that when you create a site using all the newest features (for the most capable browsers) you made sure that older browsers would not choke on the markup and could still access the content.

Gradual Degradation

- This might not sound entirely evil, but what it evolved into was a mindset that did not put much, if any, thought into how these older browsers got to experience the content.

- As long as it was available in some form— no matter how painful the experience might be— you had successfully practiced graceful degradation.

Progressive Enhancement

- Progressive Enhancement work on the premise that you identify the core features/functionality and support that across all platforms.

- Then you progressively add features/functionality

- When you add something that a device cannot support you have at least given that device a well thought out solution

Future Friendly

- The premise of Future Friendly and the Future Friendly Manifesto is simple
  - You cannot predict what new devices are coming our way
  - You do not want support these new devices by hacking an existing solution to make it fit
  - You want to proactively design to accommodate change because the changes are coming

Future Friendly Manifesto

- Laser Focus
  - We cannot be all things on all devices.
  - To manage in a world of ever-increasing device complexity, we need to focus on what matters most to our customers and businesses.

Future Friendly Manifesto

- Orbit Around Data
  - An ecosystem of devices demands to be interoperable, and robust data exchange is the easiest way to get going.
  - Be responsive to existing and emerging opportunities by defining your data in a way that:
    - enables multiple (flexible) forms of access and notifications;
    - uses standards to be interoperable; focuses on long-term integrity;
    - includes meaningful and permanent references to all content; and
    - supports both read and write operations.

Future Friendly Manifesto

- Universal Content
  - Well-structured content is now an essential part of art direction.
  - Consider how it can flow into a variety of containers by being mindful of their constraints and capabilities.
  - Be bold and explore new possibilities but know that the future is likely to head in many directions.

Future Friendly Manifesto

- Unknown Vessel, Identify
    - Reacting to every device variance makes inclusive design extremely challenging.
    - A high-level, close-enough set of standards for device types can simplify the process of adaptation.

Future Friendly Manifesto

- Command Your Fleet
  - Having a wide range of devices in our lives enables us to distribute tasks and information between them.
  - When an experience is managed within a device collection, each device can tackle the interactions it does best.
  - This negates the need to tailor all aspects of a service to every device and allows us to work within an ecosystem of device capabilities instead.

Responsive Design

- Executing responsive design correctly is no simple feat.
- It requires a complete overhaul of the way we approach the Web.

Responsive Design

- We need to step back and ask ourselves some questions:
  - Does it make sense for the desktop to be the default experience?
  - How do we adjust the work process to accommodate designing and prototyping for many different devices and screen sizes?
  - How can we store content in a more structured manner?
  - Are CMSs (content management systems) and WYSIWYG (What You See Is What You Get) editors inherently flawed?

Responsive Design

- We need to step back and ask ourselves some questions (cont):
  - Should we reconsider our long-standing aversion to user agent (UA) strings?
  - How do we make content more portable?
  - How do we support the explosion of devices still to come in the future?
  - Are current standards (HTML, CSS) built to withstand a Web this diverse?
  - How can we embrace different contexts without losing a sense of coherence between experiences?