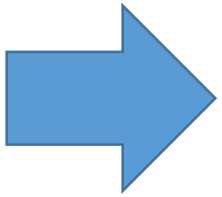
Mobile Design

Responsive & Adaptive Websites

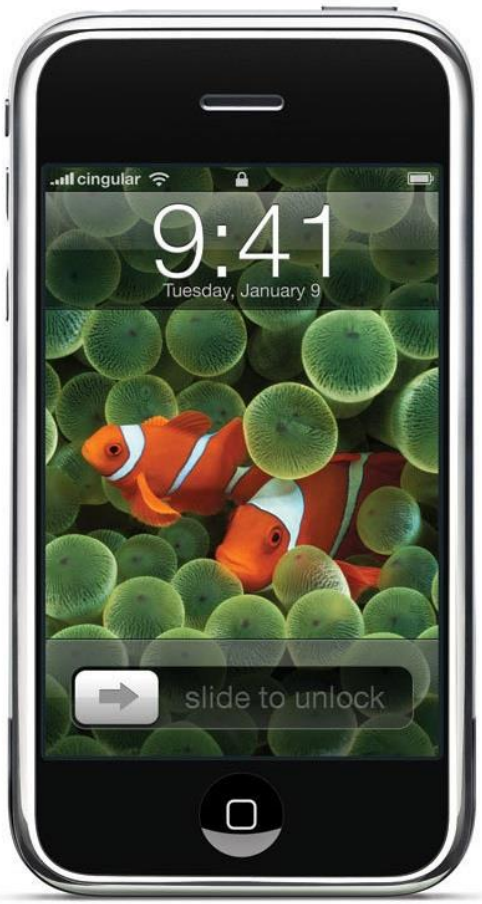
Brochure-ware

- Web mimicked hard copy design
- TBL tech, not designed for that
- Use set heights and widths to "nail" elements
- A desktop was a desktop was a desktop - the fact of life
  - 1024 x 768 display resolution



- Web evolution: users don't like to scroll
  - Horizontal and vertical
- "Above the fold"
  - page "chunking"
  - small fonts
  - boxes, densely packed

June 29, 2007



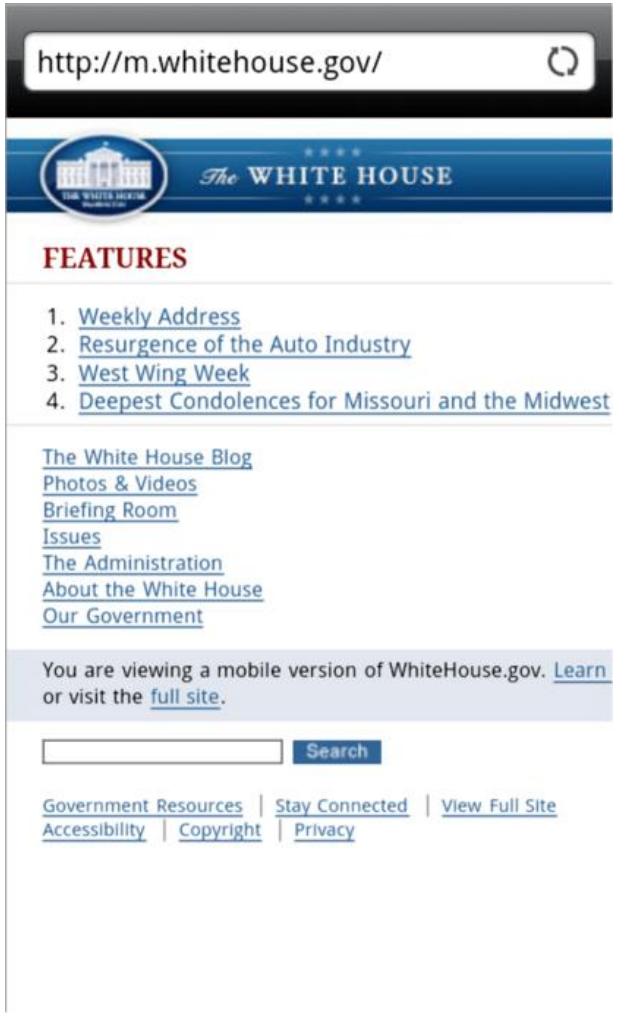
- No mobile-friendly websites
- Screen: 480 x 320px (portrait)
- New fact of life: pinch-and-zoom
  - Default: every website, zoomed out

cingular
11:38 AM
The New York Times - Breaking News...
http://nytimes.com/
The New York Times
Democrats Take Control of Congress
3G
9:42 AM
Back
The New York Times
It Zigs, It Zags: U.S. Market Rises 4% After a Down Day
BY FLOYD NORRIS AND CHRISTINE HAUSER
add comment
Close all 325 comments
Laurie Anderson
I agree with their vision on the matter.
Cat Stevens
I've already shared this article. People should know about this. Do the same folks.
Seth Godin
This is the time to act. People have been dormant for too long. The world must become aware.
3G
9:42 AM
Back
The New York Times
It Zigs, It Zags: U.S. Market Rises 4% After a Down Day
BY FLOYD NORRIS AND CHRISTINE HAUSER
In a display of wild volatility, the American stock market this week has produced alternating days of collapsing prices — accompanied by speculation of a renewed financial crisis that could be even worse than the one that began in 2008 — and sharply rising prices

Mobile Web Limitations

- Small Screen Size
- Low bandwidth
- Awkward controls
- Limited processor and memory

Mobile Web Design Best Practices



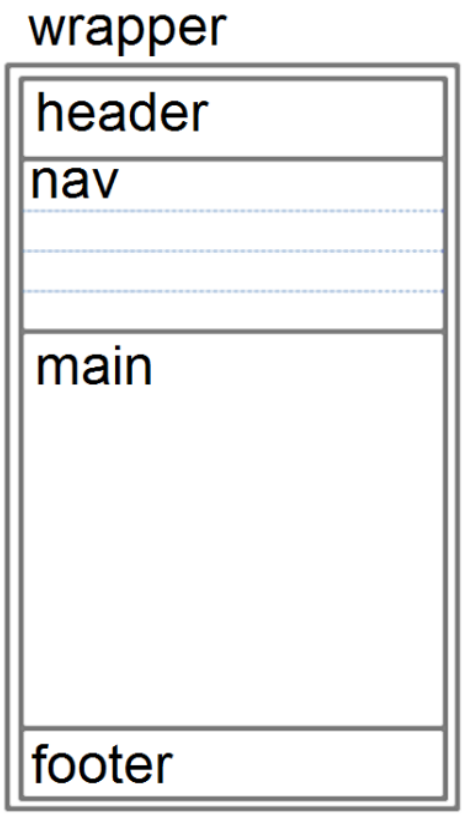
- Assuming: the same website makes sense on a mobile device, then…
- Need to re-factor:
  - Layout
  - Navigation
  - Graphics
  - Text

Best Practices

Layout, Navigation, Graphics, Text

Layout

- Single column design
- Limit scrolling to one direction
- Use clear, short heading elements
- Use simple lists with short phrases instead of heavy textual content
- Avoid using HTML tables
- Avoid using pixel units in style sheets
- Avoid absolute positioning
- Hide content that is not essential for mobile use.



Navigation

- Provide minimal navigation near the top or bottom of the page
- Toggle lesser navigation until needed
  - Use micro-interactions to show sub-menus as needed (sliding in and out when tapped)
  - hamburger menus?
- Avoid hyperlinks that open files in new windows or pop-up windows

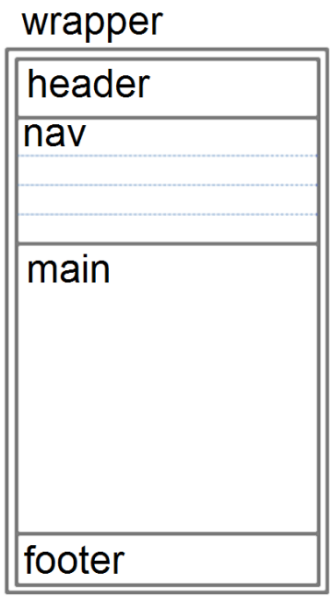
Images

- Avoid using floats
- Avoid displaying images that are wider than the screen width
- Configure alternate, small optimized background images or no background images at all
- Avoid using images that contain text
- Avoid the use of large graphic images (large file sizes)

Text

Remember: images can scale; text stays the same size

- Configure good contrast between text and background colors
- Use common font typefaces
- Increase text sizes (sometimes)
- Use a short, descriptive headings



Dealing with Mobile Devices

Goals

- **No horizontal scroll bars**
- **All elements fit their containers**
- Text is not too small to read comfortably, and there must be a lot of contrast between text color and its background
- Images must still be recognizable for what they are, i.e. not too small
- The navigation elements look like buttons and they are finger-sized (easily tap-able)

Techniques:

1. Add viewport meta tag
2. Scale images as necessary
3. Reconfigure wide elements like HTML Tables
4. Use media queries to UNDO desktop layouts
   - Return side-by-side content to the natural document flow
   - Remove floats

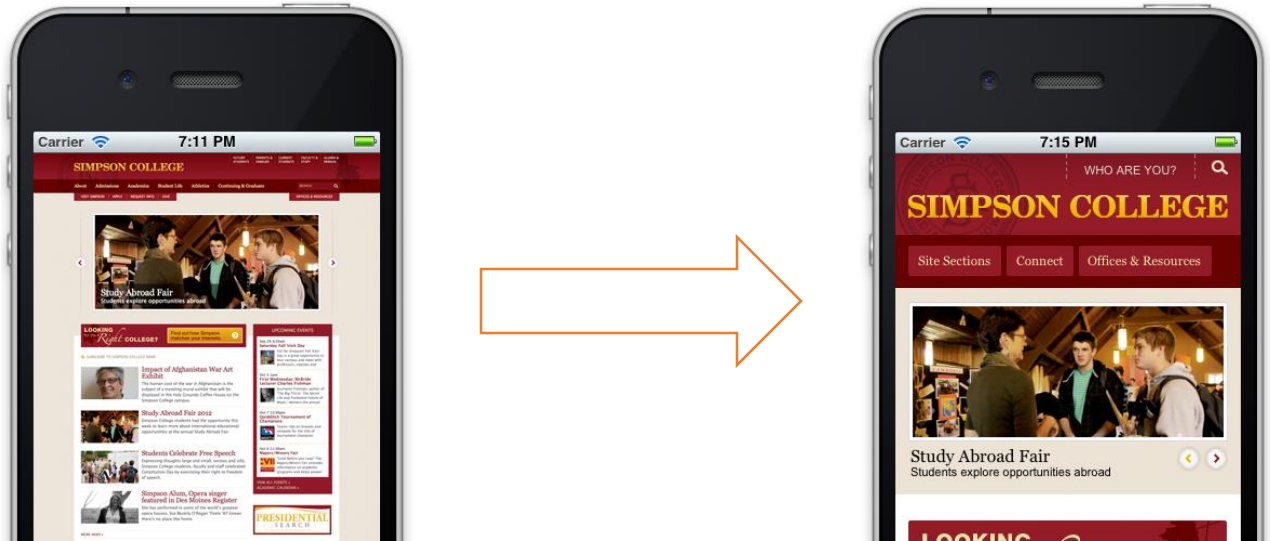
Viewport Meta Tag

The default action for most mobile devices is to zoom out and scale the web page

The fix…

- Viewport Meta Tag
- Created as an Apple extension to configure display on mobile devices
- Configures width and initial scale of browser viewport
- Insert, in the <head>…

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```



Flexible Images in HTML

- In the HTML:
  - remove height and width attributes
  - wrap the image in a container that has a controlled width
- In the CSS:
  - target the image that needs to scale
    example:

```
.scalable { width: 100%; }
```

Reconfigure HTML Tables, Floats ...anything that doesn't fit

- HTML Tables
  - Change the *font-size*
  - Move the table to a different area of the webpage
  - Use *overflow-x:auto* on a container element
  - Reconfigure the table into some other element (like an unordered list) using JavaScript
  - Google: **html tables mobile**
- Floats
  - Remove floats – use *text-align: center* instead

Media Queries

- Media Query
  - Determines the capability of the mobile device, such as screen resolution
  - Directs the browser to styles configured specifically for those capabilities

- In CSS

```
@media (max-width: 768px) {
     //CSS here
}
@media (max-width: 480px) {
     //CSS here
}
```

Reference:
https://developer.mozilla.org/en-US/docs/Web/Guide/CSS/Media_queries