



RESPONSIVE WEB DESIGN

HCI & WEB DESIGN

OVERVIEW

- What is responsive design?
- Why do it? Advantages/disadvantages
- Examples of responsive design
- How does it work?
- Approaches to layout
- Wireframing for responsive design

WHAT IS RESPONSIVE WEBSITE DESIGN?

- Responsive websites adapt to their environment; the content is resized or repositioned depending on the screen size
- Responsive websites use:
 - Fluid grid layouts
 - CSS media queries

WHY DO IT?

- Since Nov 2016, mobile web usage overtook desktop usage; and it's still growing
 - <http://www.telegraph.co.uk/technology/2016/11/01/mobile-web-usage-overtakes-desktop-for-first-time/>
- Mashable reported that in one month, its website was accessed on 2,500 different types of devices
 - <http://mashable.com/2012/12/11/responsive-web-design/>

BENEFITS

- A single website to build, maintain and promote.
- Support for a variety of screen sizes, not just the extreme cases of large desktop monitors and small handheld devices.
- Future-friendly, because the layout will reflow based on screen size and not just the size of today's popular devices.
- Source: Jeremy Girard, Envision (writing for Smashing Magazine, 2013)
 - <http://mobile.smashingmagazine.com/2013/03/05/building-a-better-responsive-website/>

DRAWBACKS

- Content meant only for large-screen devices is often delivered to small screens and simply “turned off” with CSS media queries, creating unnecessary downloads.
- Because the markup is a one-size-fits-all solution, we are unable to change the source order of that markup (or eliminate unnecessary elements from the markup completely) based on the device or screen size.
- Source: Jeremy Girard, Envision (writing for Smashing Magazine, 2013)
 - <http://mobile.smashingmagazine.com/2013/03/05/building-a-better-responsive-website/>

EXAMPLES OF RESPONSIVE DESIGN: GREY GOOSE



EXAMPLES OF RESPONSIVE DESIGN: THE BOSTON GLOBE



EXAMPLES OF RESPONSIVE DESIGN

- You can try these out in your browser:
 - <http://resizemybrowser.com/>
 - <http://greygoose.com/>
 - <http://www.bostonglobe.com>

HOW DOES IT WORK?

- Different 'breakpoints' are created in the layout that dictate when the layout will change
- These should be designed around your content rather than designing for 'common' screen sizes
- Then, in the website's CSS file, the @media element is used to define different styles for different media
- The min-width and max-width properties are used to set breakpoints at which the appearance of the site should change

GREY GOOSE EXAMPLES

```
/* Media Queries - Desktop with device with 760px or larger
===== */
@media (min-width: 1442px) {
  #cherry noir .wrapper,
  #hotel noir .wrapper,
  ..
```

```
/* Media Queries - Mobile with device with 760px or smaller
===== */

@media (max-width: 760px) {

  #home section#flybeyond h1.beyond {
    width: 100%;
    text-indent: -9999px;
    margin-top: -36px !important;
    height:160px;
  }
}
```

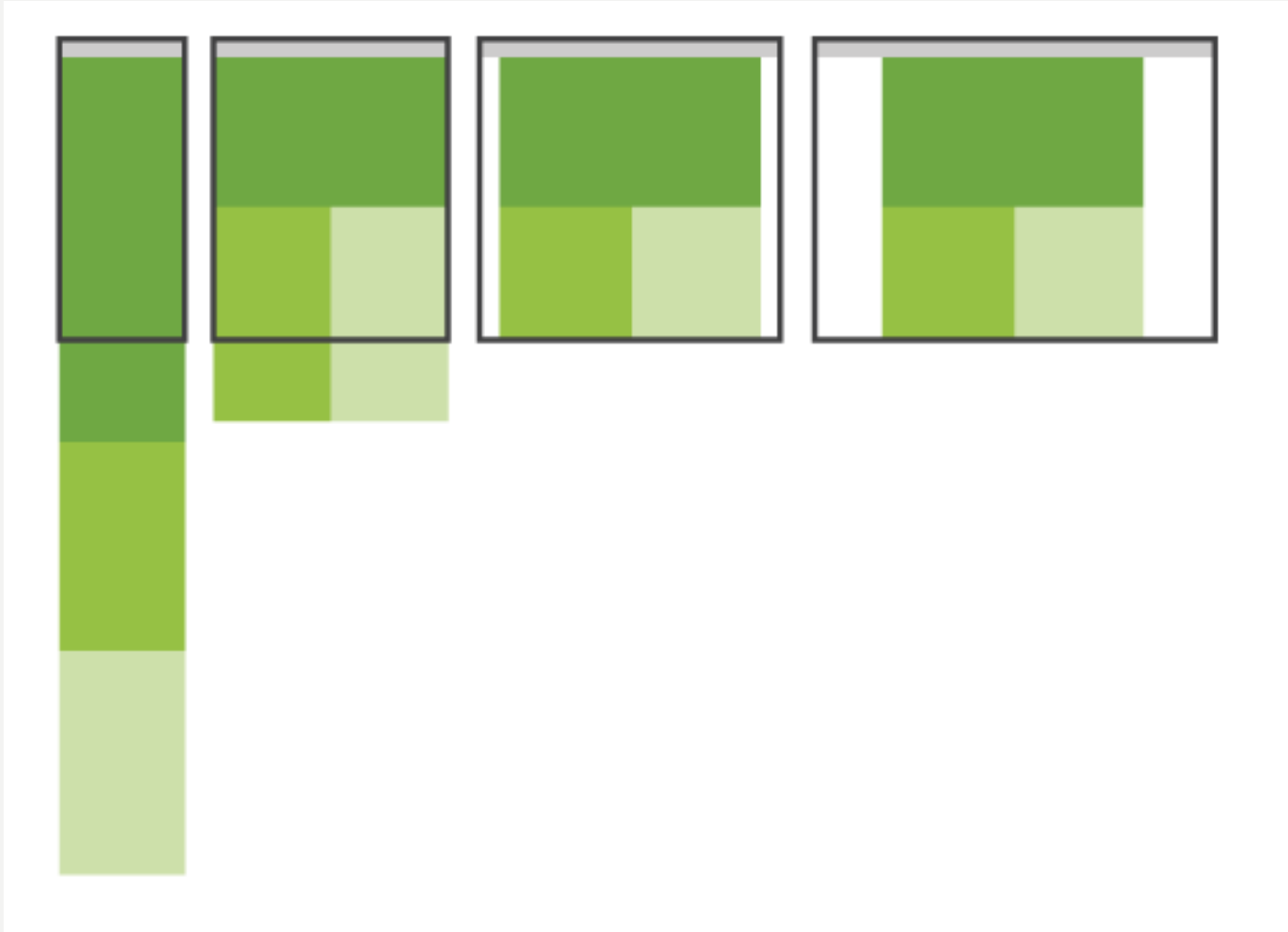
```
/* Media Queries - iPad only
===== */
@media (min-device-width: 768px) and (max-device-width: 1024px) {

  #agegate ::-webkit-input-placeholder {
    text-align: center;
  }
}
```

APPROACHES TO LAYOUT

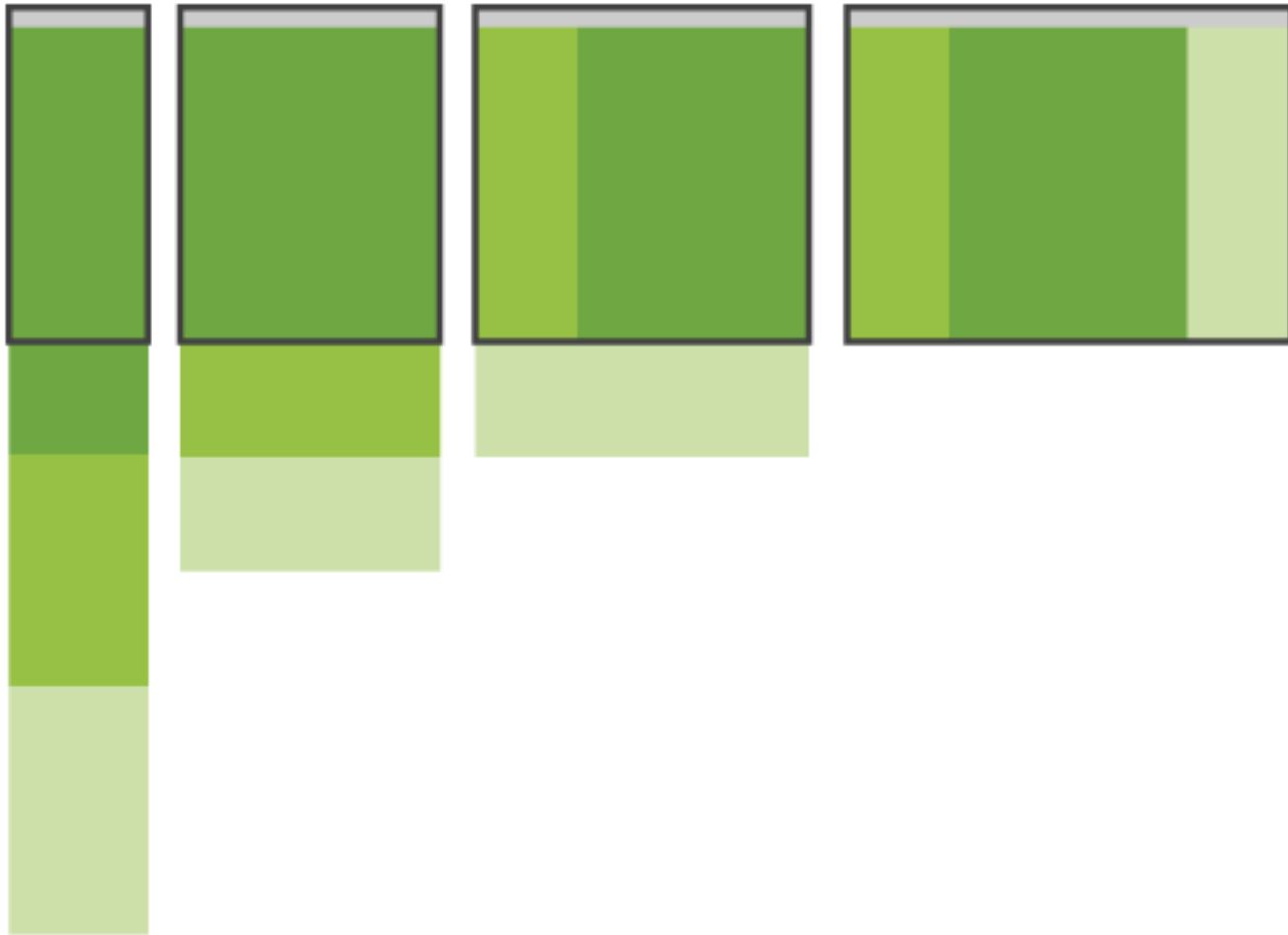
- Luke Wroblewski categorises responsive design layouts:
 - Mostly fluid
 - Column drop
 - Layout shifter
 - Tiny tweaks
 - Off canvas
- <http://www.lukew.com/ff/entry.asp?1514>

MOSTLY FLUID



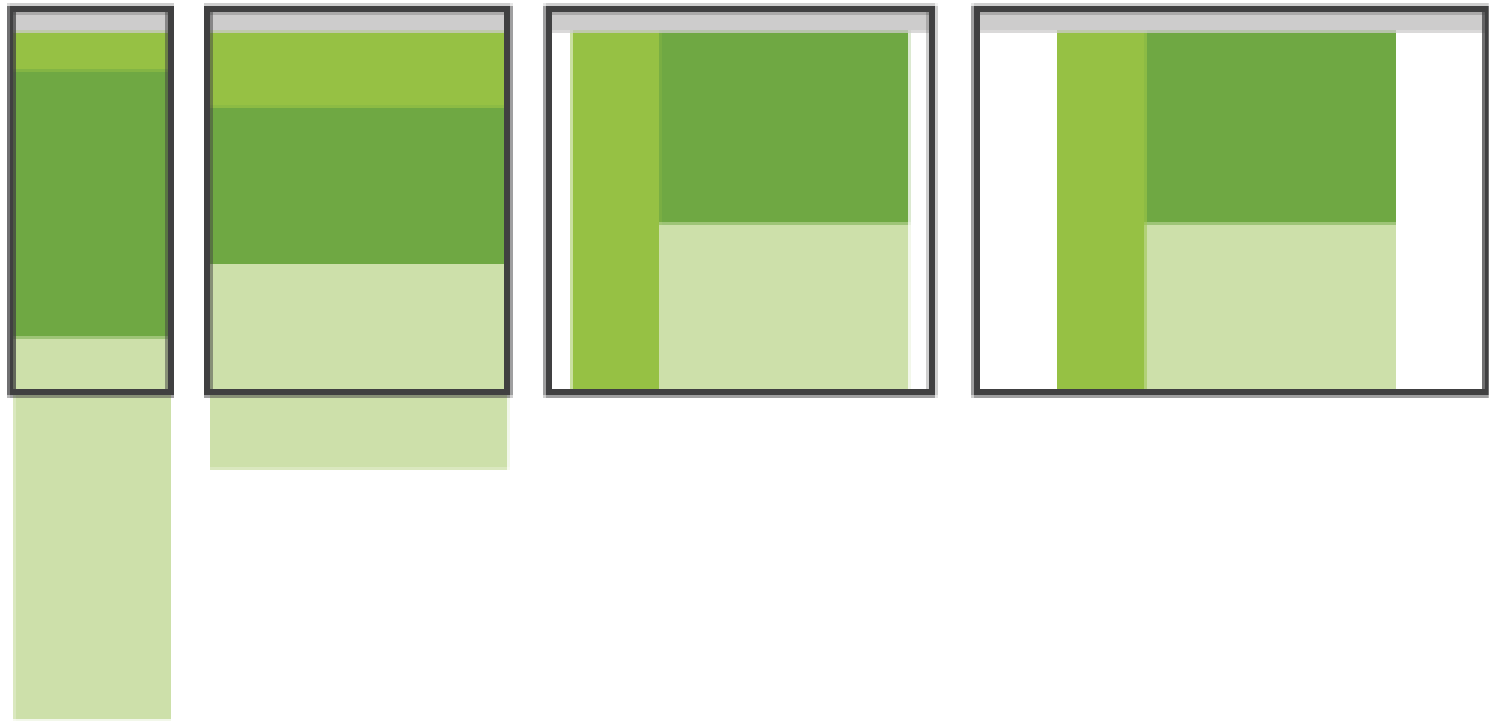
Example: <http://www.antarcticstation.org/>

COLUMN DROP



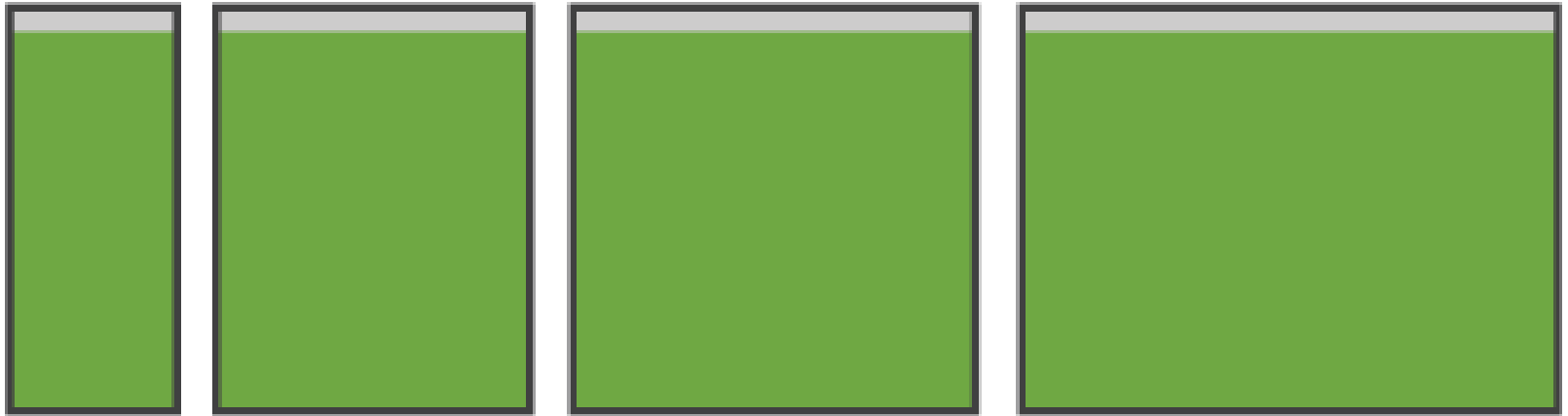
Example: <http://modernizr.com/>

LAYOUT SHIFTER



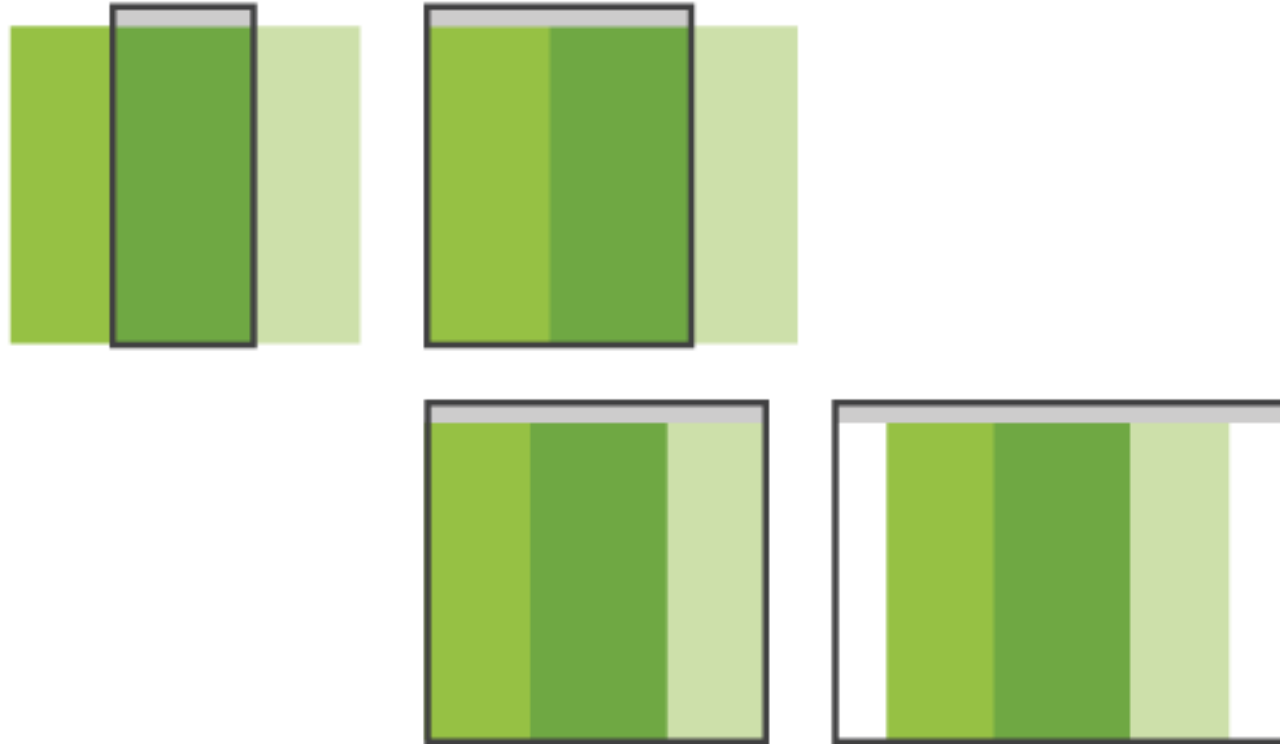
Example: <http://foodsense.is/>

TINY TWEAKS



Example: <http://www.lycos.com/>

OFF CANVAS

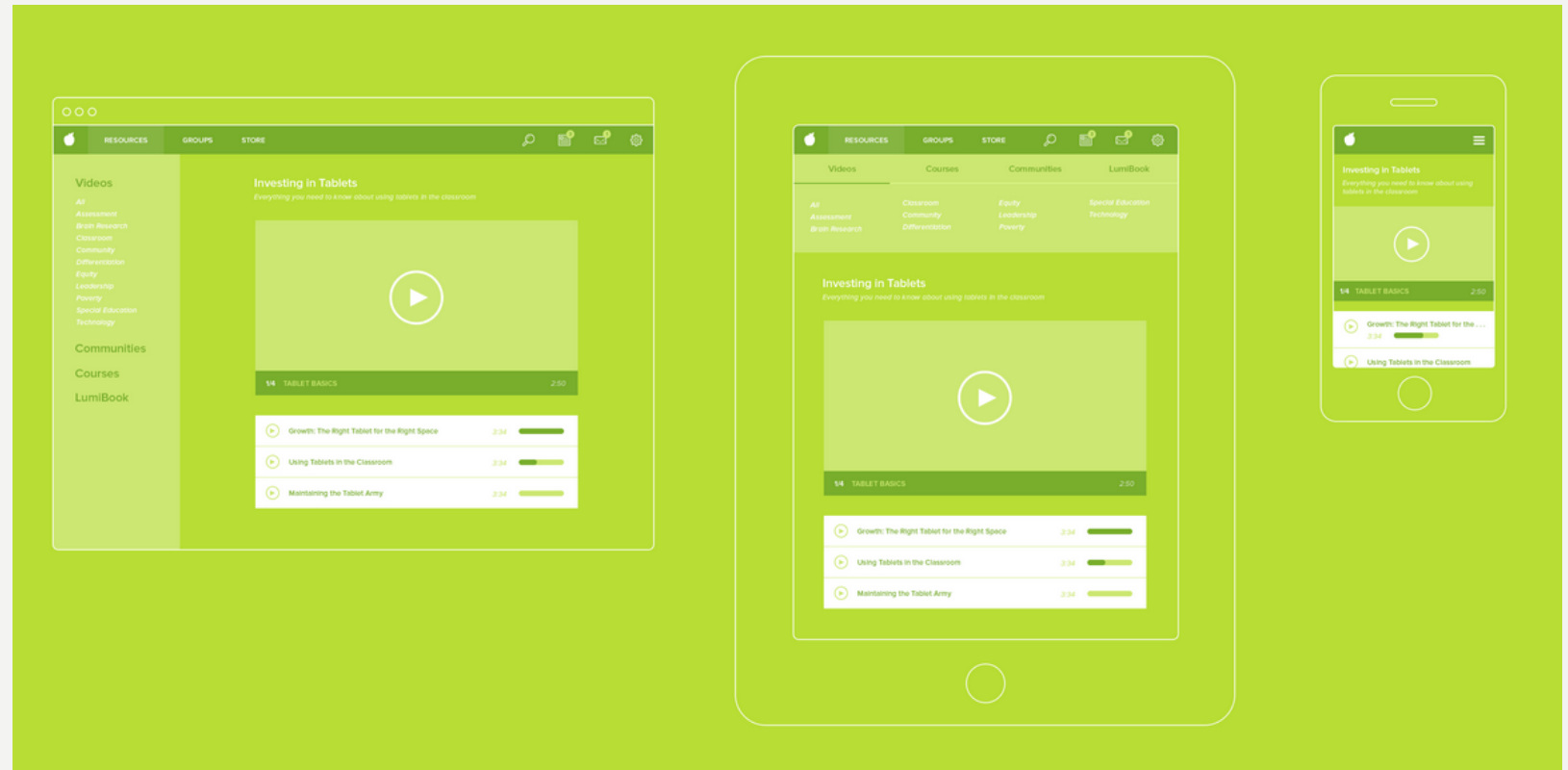


Example: <https://dbushell.com/Responsive-Off-Canvas-Menu/step2.html>

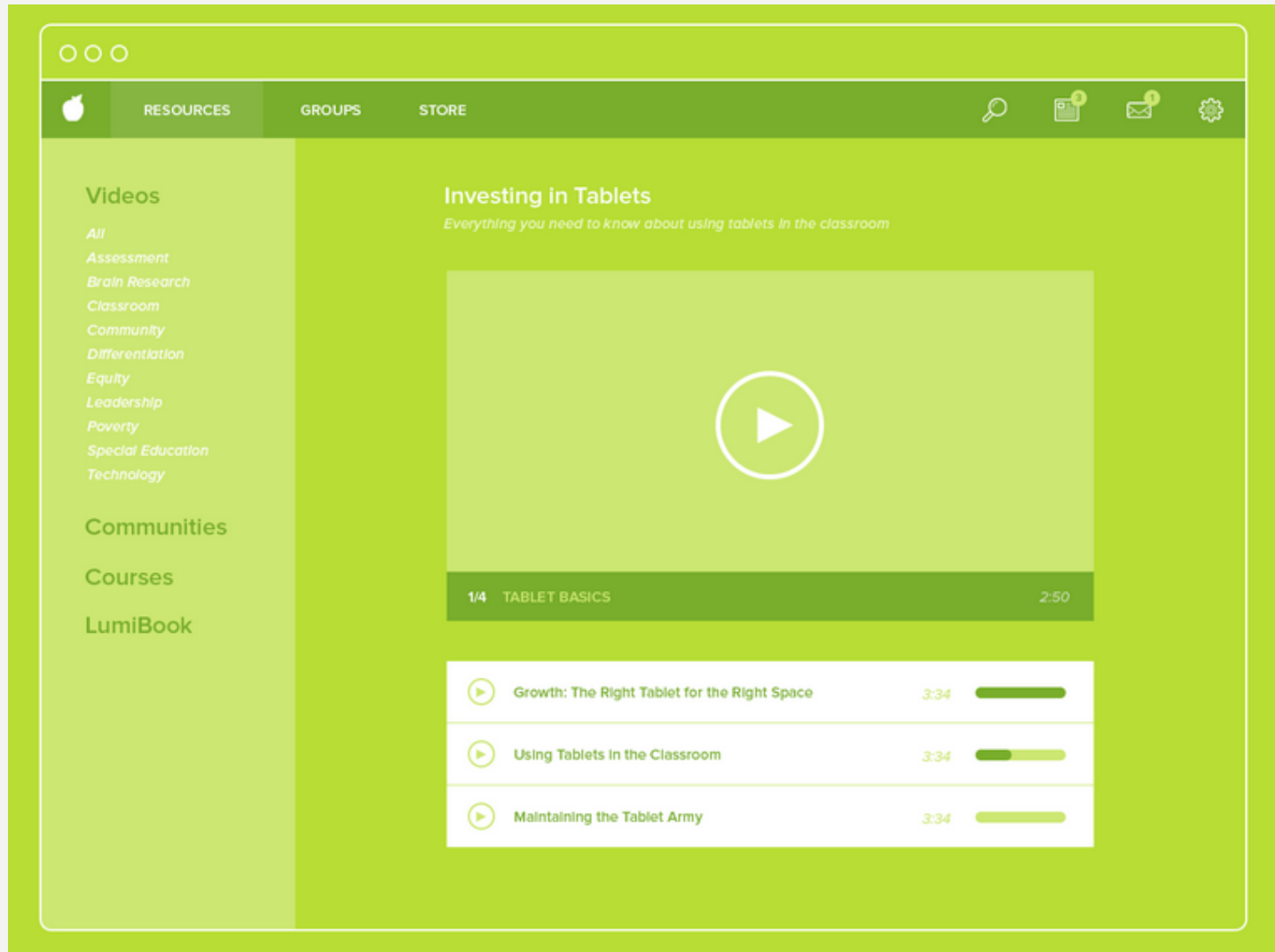
RESPONSIVE WIREFRAME

- Designers must design a website's layout for multiple different screen sizes
- This means creating multiple wireframes

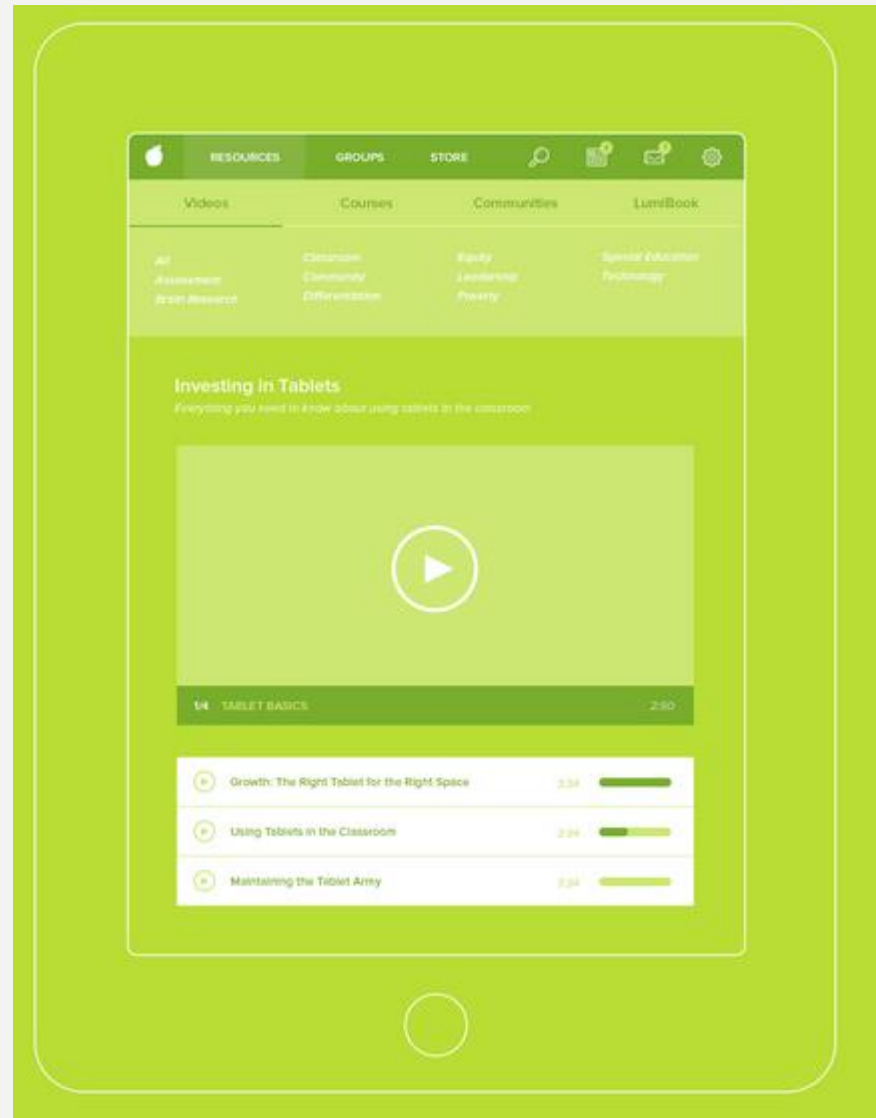
ONE WEBSITE, THREE DEVICE TYPES



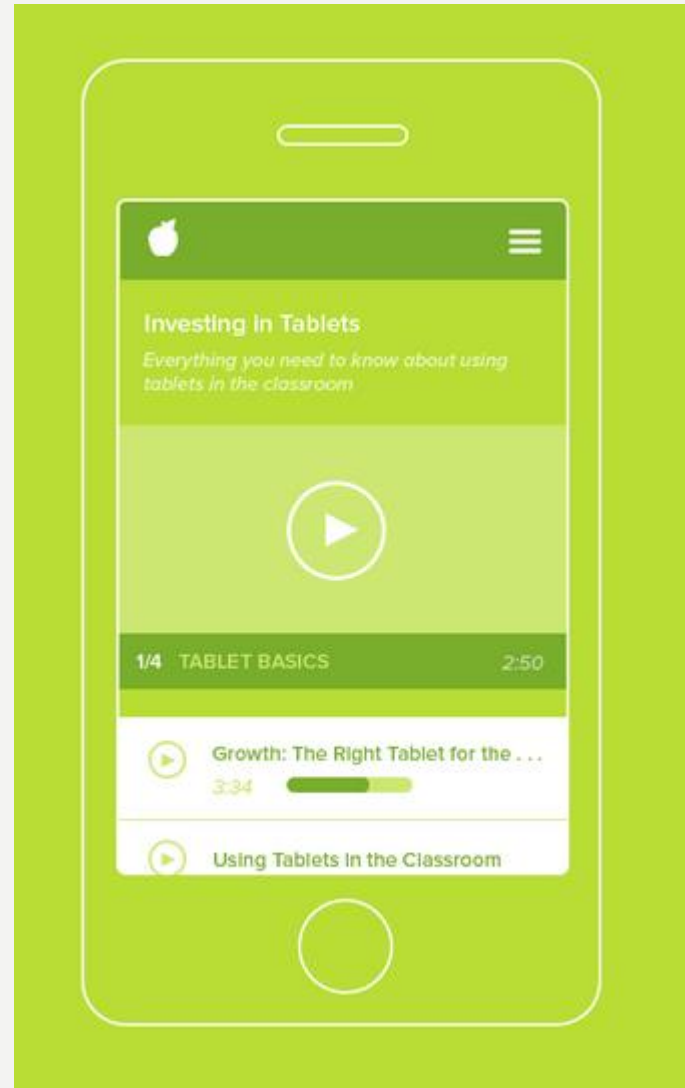
DESKTOP



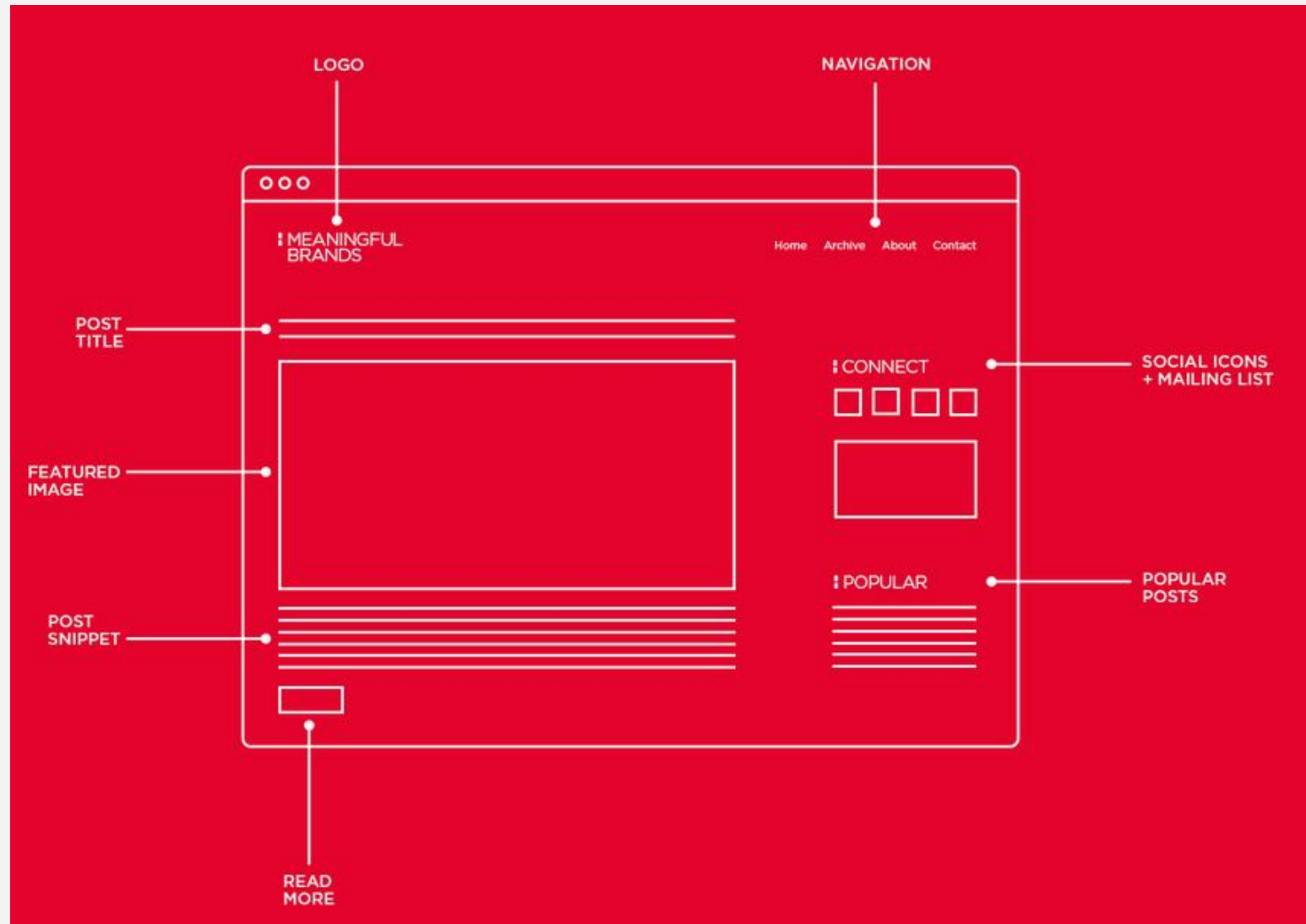
TABLET



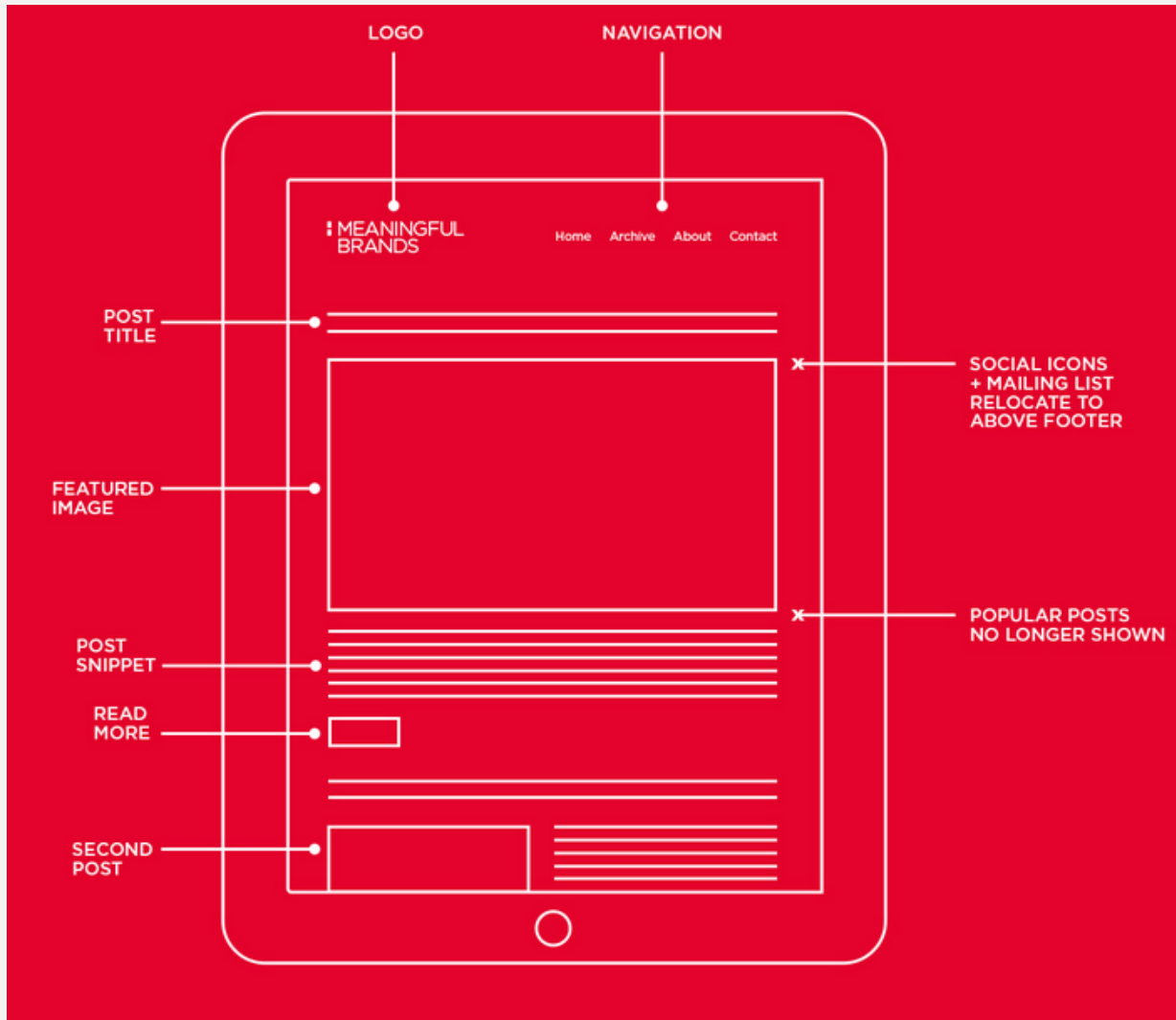
SMARTPHONE



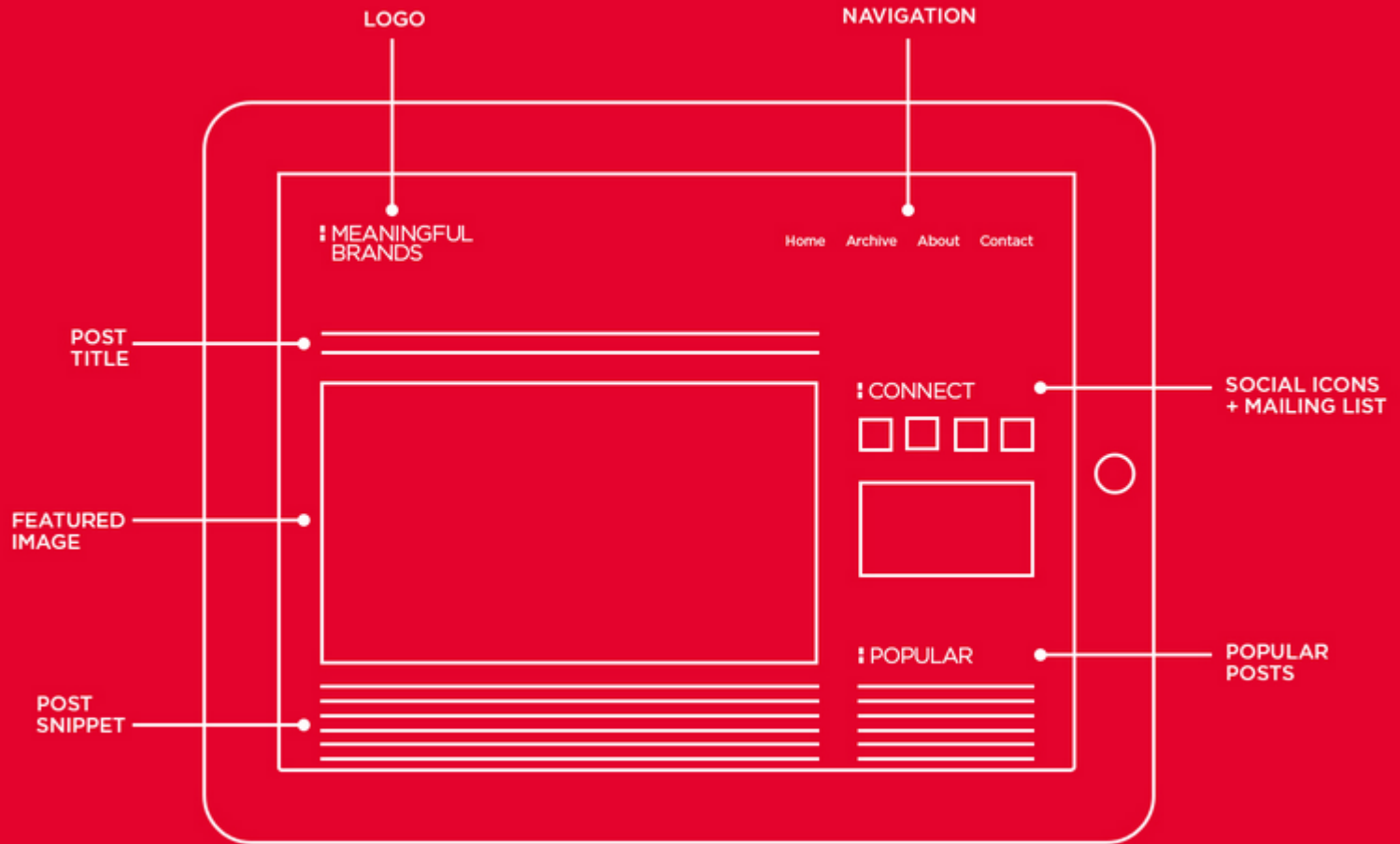
DESKTOP



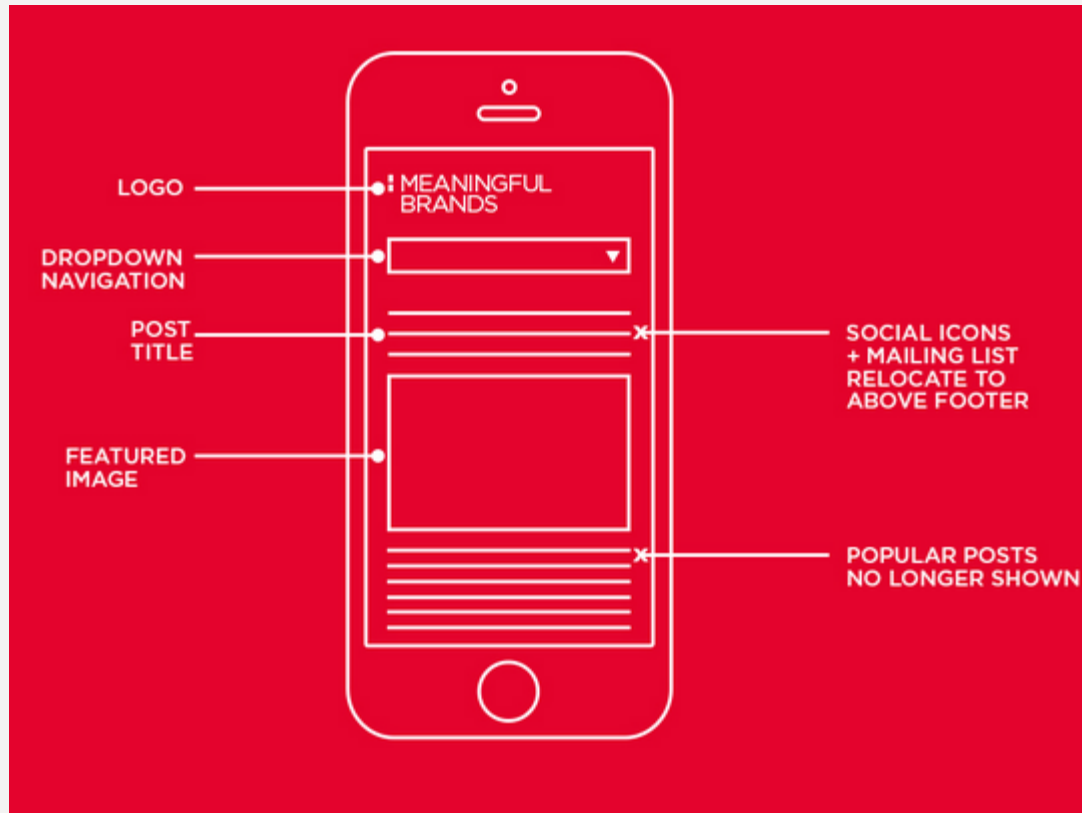
TABLET, PORTRAIT



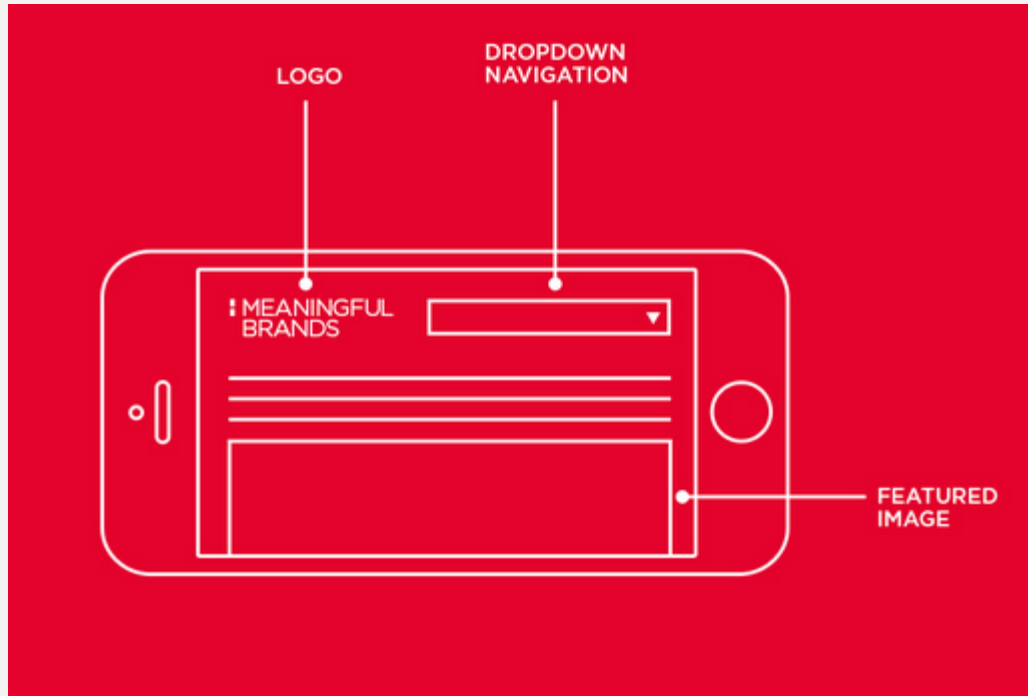
TABLET, LANDSCAPE



SMARTPHONE, PORTRAIT



SMARTPHONE, LANDSCAPE



RESPONSIVE WIREFRAME EXERCISE

- Design a responsive news website; it should include the following:
 - The site's logo/branding
 - Navigation menu
 - Articles
 - Featured articles
 - Sidebar feature
 - Social media links
 - Footer with company details
 - Advertisement
- Draw a wireframe of the homepage for this site on desktop, tablet and smartphone