

Responsive Design

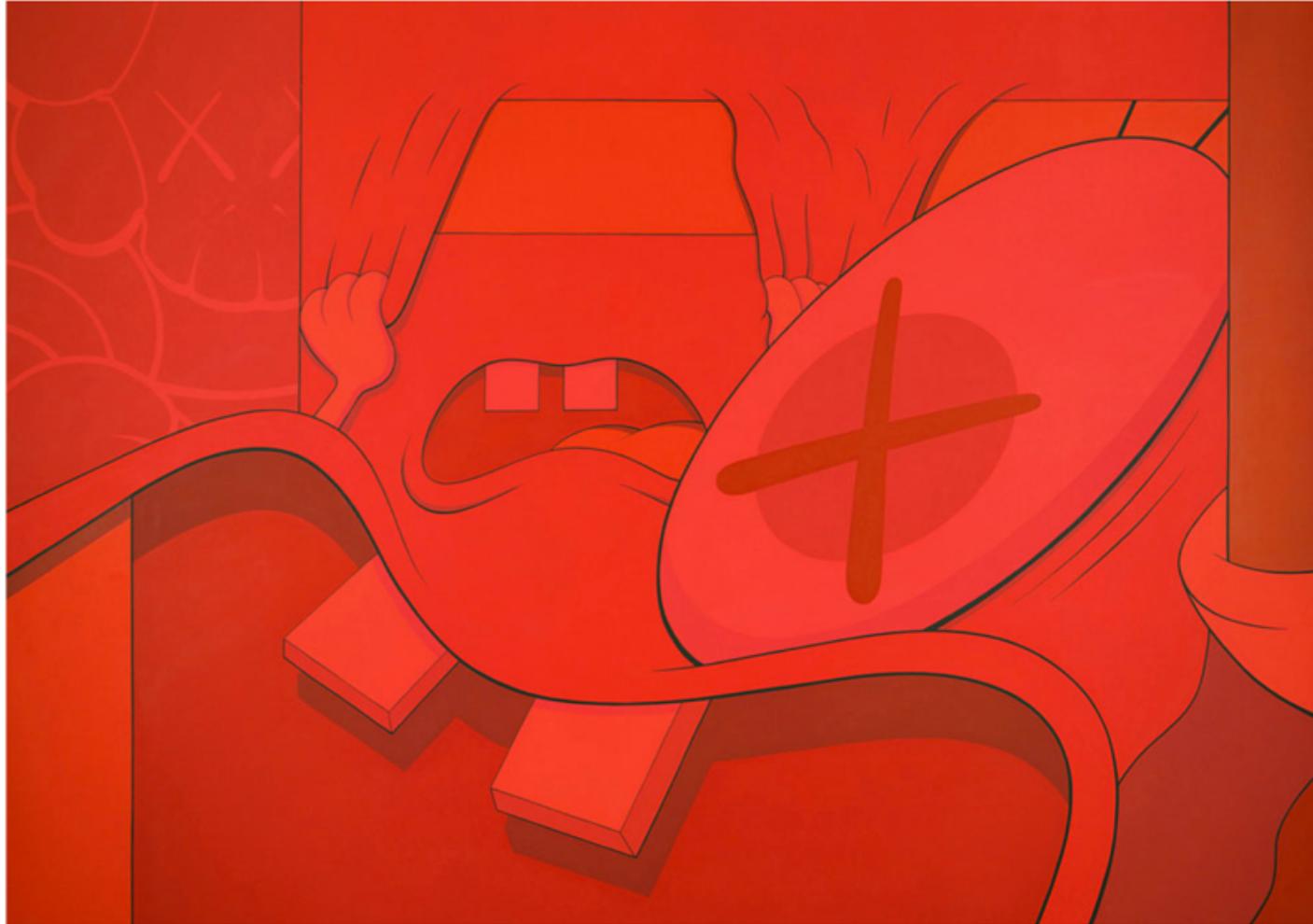
A better approach to mobile



Responsive

- Design that responds to the user's display, and adapts to provide an optimized viewing/browsing experience.





Main section

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At high resolution, it's a nice-looking page, with a screen-optimized layout.

It's not *designed* for a large screen, but it looks good on it.





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As the window size decreases, the content is flexible enough to resize with it.

But what happens when the screen size gets even smaller?

Like, say, 480px (a standard size for smartphones)?



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Main section

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Now the CSS changes, displaying things a bit differently...

Optimized for a very small screen (large buttons, vertical layout, single column...)



Mobile CSS

```
<link rel="stylesheet" type="text/css" href="mobile.css"  
      media="handheld" />
```

- As with print CSS, this stylesheet will apply to any “handheld” device.
- The problem is, most current smartphones and tablets don’t consider themselves “handhelds.”



Media Queries

- A better option for mobile devices
- One slight addition to our CSS:

```
@media screen and (max-width: 480px) {  
    /* Rules here for the specified screen size */  
}
```



Media Queries

- To be really thorough, consider applying different styles to different widths.
- Test it on as many devices as you can!
- Note that there is a difference between “width” and “device width”
 - iPhone has a width between 320 and 480, even though it’s actually got a device width much higher than that, due to its high pixel density
 - Tablets are also different from phones



One more thing...

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

- Some devices, like the iPhone, will try to scale elements in your page, regardless of media queries.
- This meta tag will alleviate this issue!
- <http://viewportsizes.com/>



Media Queries

- More information and the full specification:

<http://www.w3.org/TR/css3-mediaqueries/>



Templates...

- They're cool and gaining more acceptance in the Web design world, but working with them still means knowing HTML/CSS!
- Let's see what these template sites give us.



Templates...

Lots of existing templates can be found online that do a lot of the responsive work for you:

- Bootstrap
 - <http://getbootstrap.com/>
- TemplateMo
 - <http://www.templatemo.com/>
 - Just one of many that I picked at random



Flexbox (we are covering soon!)

- From [w3schools](#):
“Use of flexbox ensures that elements behave predictably when the page layout must accommodate different screen sizes and different display devices.
For many applications, the flexible box model provides an improvement over the block model in that it does not use floats, nor do the flex container's margins collapse with the margins of its contents.”
- <https://css-tricks.com/snippets/css/a-guide-to-flexbox/>

