

3.2.1 Identify Commonly Used Layout Techniques for Web Design

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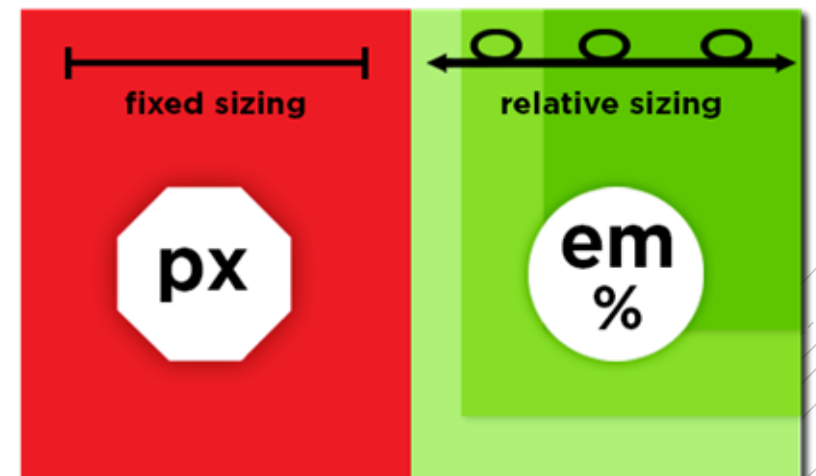
Responsive Web Design

- **Responsive design** and development should respond to the user's behavior and environment based on screen size, platform and orientation
- Also known as Fluid Layouts
- Intuitive for mobile devices, laptops, and desktops
- Use flexible units when coding



Basic Layout Techniques

- Commonly used units are pixels, ems, %
- HTML Tables
- CSS Float
- CSS Framework / 12 Column Layout
- Flexbox



Tables

Very old technique as of 2017

Used before the creation of Responsive Design

Supported by every web browser

Do not resize and respond to screen widths

AVOID THESE





It's Not All About The X-Wings



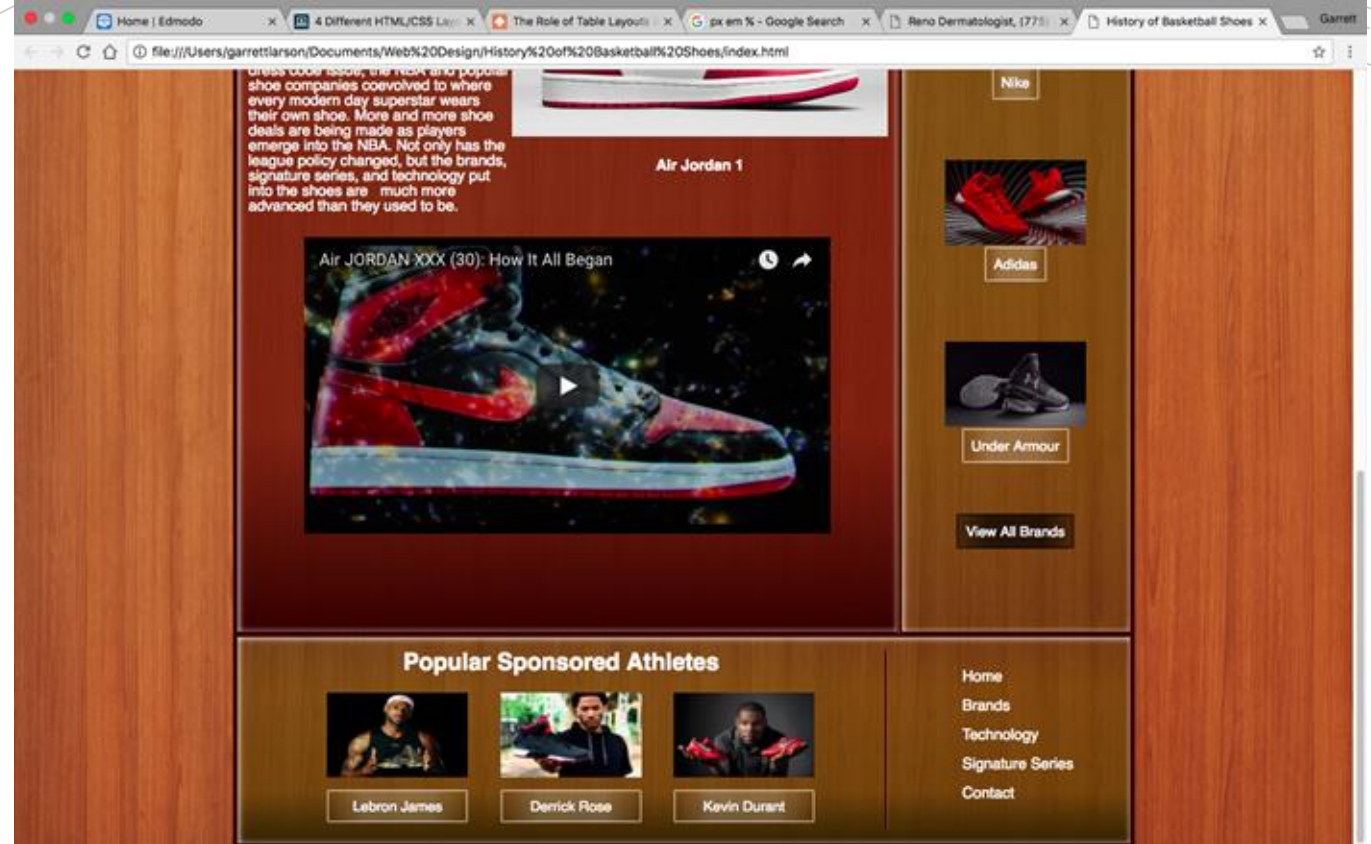
Wing pilots, and typically do operate those specific fighters, it's not always those specific fighters that wind up being flown during missions. As seen in the no-longer-canon

Given that one wound up being the primary vehicle of choice for Luke Skywalker in the original trilogy, X-Wings most definitely rank as some of the most popular ships in the Star Wars universe - but they're not necessarily the ideal equipment in every entanglement that Rogue Squadron finds itself in. So while the group may have been founded by X-

Tim Burton Will Direct A Dumbo Movie, Get The Details

It would seem that the Walt Disney Company is very keen on the idea of bringing back some of their key animated classics as live-action films. Cinderella is hitting theaters this weekend, The Jungle Book is in post-production, Beauty and the Beast is very much in active development, and now word has come down that

CSS Float



- CSS property used to align an element to the right or left of any other content
- Uses divs, clear divs
- Clear divs create a break in the content for a “new line”
- Can be used in responsive design
- Essential property in designing a CSS stylesheet

CSS Framework

- Framework - a package made up of a structure of files and folders of standardized code (HTML, CSS, JS documents etc.) which can be used to support the development of websites, as a basis to start building a site.
- Bootstrap, Materialize, Bulma
- Utilizes %'s to create a fluid layout that responds to screen size
- 12 Column Grid

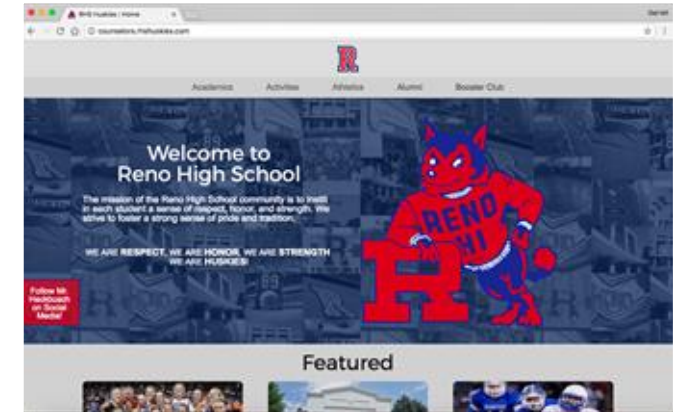


12 Column Grid

Sum of columns = 12

At certain width, each column = 100%

Different combinations of columns allow for more complex layouts



```
EXPLORER | performance.html | index.html | stylesheet.css | Release Notes: 1.16.0 | Untitled-1
├── OPEN EDITORS
│   ├── performance.html
│   ├── index.html
│   ├── stylesheet.css
│   └── Release Notes: 1.16.0
├── RHS HUSKIES DESIGN
│   ├── css
│   │   ├── animate.css
│   │   ├── mobile.css
│   │   ├── normalize.css
│   │   └── stylesheet.css
│   ├── docs
│   ├── favicons
│   ├── images
│   ├── js
│   │   ├── jquery-3.0.0.min.js
│   │   ├── jquery-ui.min.js
│   │   └── jquery.js
│   └── videos
│       ├── ap.html
│       ├── apexam.html
│       ├── aphonoreclasses.html
│       ├── artmusictheater.html
│       ├── athleticinfo.html
│       ├── bellschedule.html
│       ├── boosterclub.html
│       ├── boothstreetplayers.html
│       ├── bullying.html
│       ├── clubsorganizations.html
│       └── counselors.html
└── ...

64     text-align: center;
65     }
66     span {
67         color: #000000;
68     }
69     /* Fluid Grid Layout
70     */
71     .row {
72         width: 100%;
73         float: left;
74     }
75     .col {
76         margin-left: 2.4%;
77         margin-right: 2.4%;
78         display: inline-block;
79         float: left;
80     }
81     .col:first-child {
82         margin-left: 0px;
83     }
84     .col:last-child {
85         margin-right: 0px;
86     }
87     .col.one {width: 3.93%;}
88     .col.two {width: 12.60%;}
89     .col.three {width: 21.4%;}
90     .col.four {width: 30.13%;}
91     .col.five {width: 38.86%;}
92     .col.six {width: 47.6%;}
93     .col.seven {width: 56.33%;}
94     .col.eight {width: 65.07%;}
95     .col.nine {width: 73.8%;}
96     .col.ten {width: 82.53%;}
97     .col.eleven {width: 91.27%;}
98     .col.twelve {width: 100%;}
99
100     /* Desktop Site
```


12 Column Grid

940

60

860

140

780

220

700

300

620

380

540

460

460

Flexbox

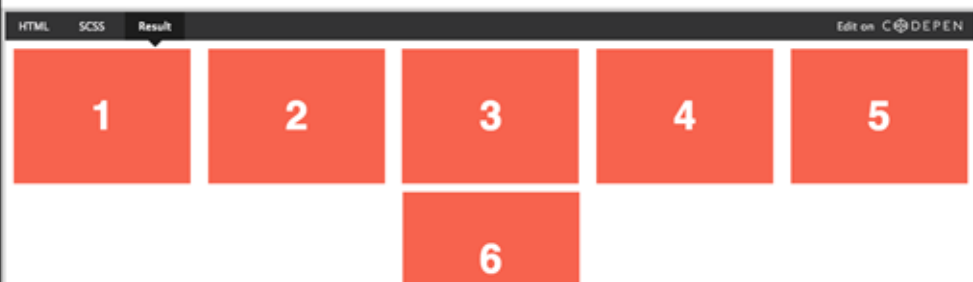
- aims at providing a more efficient way to lay out, align and distribute space among items in a container, even when their size is unknown and/or dynamic (thus the word "flex")
- Built in CSS properties used similarly to most frameworks
- The main idea behind the flexbox is to give a container the ability to alter its items' width, height and order
- You should use it if you want to fill the available space in the best possible way
- Not recognized by older browsers

```
css
.flex-container {
  /* We first create a flex layout context */
  display: flex;

  /* Then we define the flow direction
  and if we allow the items to wrap
  * Remember this is the same as:
  * flex-direction: row;
  * flex-wrap: wrap;
  */
  flex-flow: row wrap;

  /* Then we define how is distributed the remaining space */
  justify-content: space-around;
}
```

Done. Everything else is just some styling concern. Below is a pen featuring this example. Be sure to go to CodePen and try resizing your windows to see what happens.



```
Secure https://css-tricks.com/snippets/css/a-guide-to-flexbox/
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Media Queries

- **Media Queries** is a CSS3 module allowing content rendering to adapt to conditions such as screen resolution
- It became a W3C recommended standard in June 2012, and is a cornerstone technology of Responsive web design
- Used in all these frameworks

```
@media(min-width:900px){p{color:red;}}
```

↑
Media query
announcement

↑
What circumstance
should this query be
"turned on" or applied

↑
What it should do if the
circumstance happens

Mobile First Design

- Helps you prioritize the content and functionality that you want to make available on the mobile version of a site and then progressively enhance the site layout for larger devices
- Ensures that your users have a valuable experience on their mobile devices—not just an afterthought to their desktop experience





LAYOUT

Resources

- <https://www.htmlgoodies.com/html5/client/common-techniques-in-responsive-web-design.html>
- <https://www.codementor.io/codementorteam/4-different-html-css-layout-techniques-to-create-a-site-85i9t1x34>
- <https://css-tricks.com/snippets/css/a-guide-to-flexbox/>
- <https://www.awwwards.com/what-are-frameworks-22-best-responsive-css-frameworks-for-web-design.html>