

HTML5 and CSS3 for Mobile Web Applications

Objectives for this lecture

- Demonstrate browser support for responsive column layout

The Content

```
10 <body>
11   <article>
12     <header>
13       <h1>Some Basics of Responsive Design</h1>
14     </header>
15     <nav>
16       <ul>
17         <li><a href="#section1">In the beginning</a></li>
18         <li><a href="#section2">The middle bit</a></li>
19         <li><a href="#section3">At the end</a></li>
20       </ul>
21     </nav>
22
23     <section id="section1" class="mainContent">
24       <h1>In the beginning</h1>
25       <p>
26         Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut facilisis hendrerit
          sollicitudin. Nulla vulputate velit ante, vel egestas purus suscipit sit amet.
          Morbi ut tortor est. Aliquam pellentesque eleifend nunc, at vulputate tellus
          aliquet non. Nam et ligula purus. Pellentesque pharetra magna et elit
```

The `columns` property

- shorthand for:
 - `column-width` - the optimal width of a column
 - `column-count` - the maximum number of columns

Using the columns property

```
25
26 section.mainContent {
27     margin-top: 1em;
28     border-top: solid 0.5em;
29     padding-top: 1em;
30     columns: 240px 6;
31     -webkit-columns: 240px 6;
32     -moz-columns: 240px 6;
33 }
34
35 section.mainContent h1 {
36     margin-top: 0;
37     padding-top: 0;
38 }
39
```

Try me!

column-gap and column-rule

```
26 section.mainContent {
27   margin-top: 1em;
28   border-top: solid 0.5em;
29   padding-top: 1em;
30   columns: 240px 6;
31   -webkit-columns: 240px 6;
32   -moz-columns: 240px 6;
33   column-gap: 2em;
34   -webkit-column-gap: 2em;
35   -moz-column-gap: 2em;
36   column-rule: 1px dashed #23c;
37   -webkit-column-rule: 1px dashed #23c;
38   -moz-column-rule: 1px dashed #23c;
39 }
40
```

Try me!

Spanning columns

```
41 section.mainContent h1 {  
42   text-align: center;  
43   column-span: all;  
44   -webkit-column-span: all;  
45   -moz-column-span: all;  
46   margin-top: 0;  
47   padding-top: 0;  
48 }
```

Try me!

CSS3 Flexbox

- Specifies the length of an item relative to the rest of the flexible items inside a container
- Not supported by IE 9 or lower

Outline of content

```
21 <article>
22   <section id="aside">
23     <h1>Oh, and by the way</h1>
24   </section>
25   <section id="mainContent">
26     <h1>In the beginning</h1>
27   </section>
28   <section id="background">
29     <h1>Background</h1>
30   </section>
31 </article>
```

Step 1: Make the container flexible

```
24
25 article {
26     display: -webkit-box;
27     display: -moz-box;
28     display: -ms-flexbox;
29     display: -webkit-flex;
30     display: flex;
```

Step 2: Set relative sizes of items inside the container

```
33  section#aside {
34      -webkit-box-flex: 1;
35      -moz-box-flex: 1;
36      -webkit-flex: 1;
37      -ms-flex: 1;
38      flex: 1;
39  }
40
41  section#mainContent {
42      padding-left: 2em;
43      padding-right: 2em;
44      -webkit-box-flex: 3;
45      -moz-box-flex: 3;
46      -webkit-flex: 3;
47      -ms-flex: 3;
48      flex: 3;
49  }
50
51  section#background {
52      -webkit-box-flex: 1;
53      -moz-box-flex: 1;
54      -webkit-flex: 1;
55      -ms-flex: 1;
56      flex: 1;
57  }
```

Step 3: Add a media query

```
58
59 @media screen and (max-width: 840px) {
60     article {
61         -webkit-box-flex-direction: column;
62         -moz-box-flex-direction: column;
63         -webkit-flex-direction: column;
64         -ms-flex-direction: column;
65         flex-direction: column;
66     }
67
```

Step 4: Adjust order of content

```
59 @media screen and (max-width: 840px) {  
60   article {  
61     -webkit-box-flex-direction: column;  
62     -moz-box-flex-direction: column;  
63     -webkit-flex-direction: column;  
64     -ms-flex-direction: column;  
65     flex-direction: column;  
66   }  
67  
68   section#mainContent {  
69     padding-right: 0;  
70     padding-left: 0;  
71     -webkit-box-ordinal-group: -1;  
72     -moz-box-ordinal-group: -1;  
73     -ms-flex-order: -1;  
74     -webkit-order: -1;  
75     order: -1;  
76   }
```


Try me!

CSS3 Grid Property

- Helps to fix some of the problems with float, but still in a state of flux
 - Partial support in IE11 with prefix -ms-
 - Can be enabled in Firefox
 - Can be enabled in Chrome (but not on Android)
 - Not supported in: Safari; Android

index.html

```
16 <section id="localVideo">
17   <h1>Local Video</h1>
18   <video id="localVideoStream" autoplay></video>
19 </section>
20 <textarea id="dataChannelSend" disabled placeholder="Enabled when data channel is up...">
21 </textarea>
22 <button id="sendButton" disabled>Send</button>
23 <section id="remoteVideo">
24   <h1>Remote Video</h1>
25   <video id="remoteVideoStream" autoplay></video>
26 </section>
27 <textarea id="dataChannelReceive" disabled>
28 </textarea>
```

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CSS3 Grid property

```
1 #rtcApplication {
2   display: grid;
3   grid-template-columns: 1fr 1fr;
4   grid-template-rows: auto 1fr auto auto;
5 }
6
7 header {
8   text-align: center;
9   padding: .5em;
10  grid-column: 1 / span 2;
11  grid-row: 1;
12 }
13
14
15 #localVideo {
16   text-align: center;
17   padding: 0.1em;
18   border: 1px solid;
19   grid-column: 1;
20   grid-row: 2;
21 }
22
23 #remoteVideo {
24   text-align: center;
25   padding: 0.1em;
26   border: 1px solid;
27   grid-column: 2;
28   grid-row: 2;
29 }
```

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What we have done

- Introduced the `column` property as built-in support for responsive design