Bootstrap

Problems with CSS

- Different browsers show CSS in different ways

- Different devices and screen sizes show websites (and CSS) in different ways

- We need to write a lot of code to accommodate every browser and every device

- We need to write efficient code – don't repeat code / write as little as possible

Solution: A Framework

- Framework = a collection of code, written by someone else, that provides some generic functionality

- The code is a "skeleton"

- Add your own code on top to improve it or leave it as it is

Bootstrap

- A web framework made by Twitter

- A collection of CSS and JavaScript files with pre-written styles and functionalities

- It is responsive, i.e. CSS has been written so that it works on any browser or any device

Option 1: Download files

- Download the Bootstrap CSS and JavaScript files and save them in the project folder

- Then link to these files in the same way you would normally link to an external file

- This is the safest option

Option 2: Use CDN

- Content Delivery Network = a website that stores the CSS/JavaScript file

- This website is stored on many servers (computers) around the world

- Link to the CDN in the same way you would normally link to an external file

- Just replace the file location in "href" with the CDN URL

- Problems:
  - Web servers can go down – users won't see your CSS
  - Bootstrap can be updated w/o you knowing – CSS may look different

How to use Bootstrap

- Download the Bootstrap files
- Add the CSS/JS files to your CSS/JS folders
- Link to the CSS/JS files in your HTML
- **Read the Bootstrap documentation!**
- Find something you like, take the class name and add it to your HTML element (follow the examples in docs)
- Add your own CSS to a new CSS file in order to improve the default Bootstrap styles

Get Bootstrap

- Go to getbootstrap.com

- Click "Download"

- Under "Compiled CSS and JS", click "Download"

- Save zip file and extract it in the coding course folder

Required meta tags

- Bootstrap requires a couple of "meta" tags to work properly
- Add these lines inside the head tag before other tags:

```
<meta charset="utf-8">

<meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
```

- First tag makes sure the correct character set is used
- Second tag makes sure the website is responsive on different devices
- From now on, these two lines should be part of your basic html template

Exercise 1

- Download code for this lesson

- Open the Exercise 1 folder in Atom

- Open index.html in browser

- There is no CSS

- Copy the bootstrap.css file into the relevant place in Exercise 1 folder

- Link to the bootstrap.css file in index.html and refresh browser

- Read the website and understand the different components

Container

```html
<body>
    <div class="container">
        <!-- page content goes here -->
    </div>
</body>
```

Grid System

- Use containers to layout the content on your website

- Containers can contain rows

- Rows are made up of columns

- The rows and columns inside a container form a grid

- Each column has a set width from 1 unit to 12 units

- The total number of column-units in each row must equal 12

Grid System

```html
<div class="container">
  <div class="row">
    <div class="col">
      ...content...
    </div>
    <div class="col">
      ...content...
    </div>
  </div>
</div>
```

Rows

- Containers can have many rows
- Each row is defined as follows:

    <div class="row"></div>

- Rows can have 1-12 columns

Columns

- Each column has a class name which determines its width

- The total width of all the columns in each row MUST equal 12

- Columns are defined as follows:

  `<div class="col"></div>`

- The width of this column is undefined!

- If a column has no content, then it will appear blank on screen

Columns

- Column widths are defined like this:

  `<div class="col-4"></div>`

- This column is defined as 4 units wide

- You can use any number from 1 – 12

- Just make sure all the column widths in each row add up to 12

Example of Grid

```html
<div class="container">

  <div class="row">

    <div class="col-2">...</div>

    <div class="col-5">...</div>

    <div class="col-1">...</div>

    <div class="col-4">...</div>

  </div>

</div>
```

Example of Grid

```html
<div class="container">

   <div class="row">

      <div class="col">...</div>

      <div class="col">...</div>

      <div class="col">...</div>

   </div>

</div>
```

- Each column will be the same width
- There are a total of 12 column-widths in each row
- 12 units / 3 cols = 4 units in each col

Example of Grid

```html
<div class="container">

  <div class="row">

    <div class="col">...</div>

    <div class="col-3">...</div>

    <div class="col-4">...</div>

  </div>
</div>
```

- If some column widths are undefined, they will be automatically determined by the other column widths

- There are a total of 12 column-widths in each row

- How wide is the first column?

- 12 units - 3 units – 4 units = 5 units in the first col

Exercise 2

- Open the Exercise 2 folder in Atom

- Open index.html in browser

- Look at the grid, understand the column widths

- Go through each page, understand it and read the source code

- Complete the task at the end

Exercise 3

- Open the Exercise 3 folder in Atom – it is currently empty

- Add a html file called index.html and fill it with the standard html template including the required meta tags

- Add a title called "Exercise 3"

- Add a "css" folder – put the bootstrap.css file inside

- Link to the css file in the html file

- Add an "images" folder – leave it empty for now

Navbar

- https://getbootstrap.com/docs/4.3/components/navbar

- The docs provides examples of different navbars

- Go to this link, on the right-hand side click on "nav"

- Copy the code and paste it inside body, before any other code

- Edit the navbar so that it has three links: "Home, About, Contact"

- Change the logo text to your name

Jumbotron

- https://getbootstrap.com/docs/4.3/components/jumbotron

- Scroll to the bottom where it says "Fluid Jumbotron"

- Copy the code and paste it inside body, straight after the navbar

- Edit the jumbotron heading so that it says "Welcome to my website"

- Change the text below to a short description of your website

Container

- After the jumbotron, add a container

- Inside the container, add a row

- Inside the row, add two columns, each with a width of 6 units

Text Colour

- https://getbootstrap.com/docs/4.3/utilities/colors
- In the first column, add a h1 tag with the text "About me"
- In the second column, add a h1 tag with the text "Contact me"
- In the first h1 tag, add the Bootstrap class name "text-success"
- In the second h1 tag, add the Bootstrap class name "text-info"

Cards

- https://getbootstrap.com/docs/4.3/components/card

- On the right-hand side, click on "Using grid markup"

- Don't copy all the code!

- Just highlight the code for one of the cards

- This is everything from the line that starts with <div class="card"> and ends with its corresponding </div> tag

- Paste this code into each column, after the h1 tags

- Change the text (title, body and button) to something relevant

Buttons

- https://getbootstrap.com/docs/4.3/components/buttons

- To make a button, use the "btn" class name

- Then use an additional class name for the specific colour/style you want

- Find the class name in the docs to make "outline" buttons

- Replace the buttons in the cards with an outline button. Make the first one blue and the second one green

Colours

- https://getbootstrap.com/docs/4.3/utilities/colors
- Read through the colour options for text and backgrounds
- Go back to the navbar page and find out how you can make your navbar dark

Images

- https://getbootstrap.com/docs/4.3/content/images

- Add a new container after the last one

- Find and download an image from online, save it in the images folder

- Add an <img> tag and use the responsive class name found on the above link

- Add class name "text-center" to this container so that the image is aligned in the middle

Modal

- https://getbootstrap.com/docs/4.3/components/modal
- Add a new container after the last one
- Go to the link above, click on "Live demo" on the right-hand side
- Copy this code into the container
- This only works with JavaScript – so to get this to work:
  - Go to: https://getbootstrap.com/docs/4.3/getting-started/introduction
  - Copy the code where it says "JS"
  - Paste this code into body
  - This should always be the last code in the body tag
- Change the modal text to something more relevant

Social Media Icons

- https://fontawesome.com/start

- Go to the link above, copy the code and paste it in <head> after all other CSS links

- Search for the icon you want, click on it

- Copy the code and paste it where you want in your html

- Find some social media icons and put them in the "Contact me" card

Add your own CSS

- You can override the Bootstrap CSS (or improve it) by adding your own CSS

- To do this, make a brand new CSS file called "styles.css", save it in css folder and link to it in head

- The link to your own css file MUST come after the link to the bootstrap css file

Style the Jumbotron

- Find your jumbotron div and add a new custom class called "my-jumbotron"

- In your CSS file give "my-jumbotron" a height of "100vh" so that it fills the whole screen

- Now give it a background image using the same css properties we looked at last week

Ideas for websites

- Portfolio website / CV website
- Photography
- Cuisine
- Cookbook
- Most Influential person

- Sport
- Music
- Technology
- Pets
- Hobby