

Exercise (Instructions): Responsive Design and Bootstrap Grid System Part 1

Bootstrap Grid System and Responsive Design

Bootstrap is designed to be mobile first, meaning that the classes are designed such that we can begin by targeting mobile device screens first and then work upwards to larger screen sizes. The starting point for this is first through media queries. We have already added the support for media queries in the last lesson, where we added this line to the head:

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

The *viewport* meta tag ensures that the screen width is set to the device width and the content is rendered with this width in mind. This brings us to the second issue, designing the websites to be responsive to the size of the viewport. This is where the Bootstrap grid system comes to our aid. Bootstrap makes available four sizes, xs for extra small, sm for small, md for medium and lg for large screen sizes. We have already seen the basics of responsive design. In this exercise, we will employ the Bootstrap grid classes to design the websites. We would like our website to have the content stacked on extra small devices, but become horizontal within each row for smaller devices and beyond. Towards this goal, we will make use of the classes `.col-*`, `.col-sm-*`, `.col-md-*`, and `.col-lg-*` for defining the layouts for the various device sizes. We can specify how many columns each piece of content will occupy within a row, all adding up to 12 or a multiple thereof.

For this exercise, you can go ahead and use the provided template.

Using a Container class

- We use the container class to keep content within a fixed width on the screen, determined by the size of the screen. The alternative is to use the container-fluid class to make the content automatically to span the full width of the screen. We will discuss further about this when we discuss the Bootstrap grid system in the next lecture. Add the container class to the first div right after the `</header>` in the file as follows.

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

Dividing the content into rows

- Let us now add the class *row* to the first-level inner *div* elements inside the container. This organizes the page into rows of content. In the next exercise, we will see how we can add other classes to the rows.

```
<div class="row"> ...
```

Creating a Jumbotron

- Let us add the class **jumbotron** to the header class as shown below. This turns the header element into a Bootstrap component named Jumbotron. A jumbotron is used to showcase key content on a website. In this case we are using it to highlight the name of the restaurant.

```
<header class="jumbotron"> ...
```

- In the header add a **container** class to the first inner div and a row class to the second inner div.

Creating a footer

- Finally, in the footer add a **container** class to the first inner div and a row class to the second inner div.

Applying column classes within each row

- In the header row, we will display the restaurant name and the description to occupy 6 columns, while we will leave six columns for displaying the restaurant logo in the future. Let us go into the jumbotron and define the classes for the inner divs as follows:

```
<div class="col-12 col-sm-6"> ... </div>
```

```
<div class="col-12 col-sm"> ... </div>
```

- For the remaining three div rows that contain the content, let us define the classes for the inner divs as follows:

```
<div class="col-12 col-sm-4 col-md-3"> ... </div>
```

```
<div class="col col-sm col-md"> ... </div>
```

- For the footer, let us define the classes for the inner divs as follows:

```
<div class="col-4 col-sm-2"> ... </div>
```

```
<div class="col-7 col-sm-5"> ... </div>
```

```
<div class="col-12 col-sm-4"> ... </div>
```

```
<div class="col-auto"> ... </div>
```

Now you can see how the web page has been turned into a mobile-first responsive design layout.

Using Order and Offset with column layout classes

- In the content rows, we would like to have the title and description to alternate so that it gives an interesting look to the web page. For extra small screens, the default stacked layout works best. This can be accomplished by using the `.order-sm-last` and `.order-sm-first` for the first and the third rows as follows:

```
<div class="col-12 col-sm-4 order-sm-last col-md-3"> ... </div>
```

```
<div class="col col-sm order-sm-first col-md"> ... </div>
```

- For the div containing the `` with the site links, update the class as follows:

```
<div class="col-4 offset-1 col-sm-2">
```

- After saving all the changes, you can do a Git commit with the message "Bootstrap Grid Part 1" and push your changes to the online repository.

Conclusion

In this exercise, we reviewed responsive design and the Bootstrap grid system.

Exercise (Instructions): Responsive Design and Bootstrap Grid System Part 2

List styles

- You can use several list styles to display lists in different formats. In this exercise, we will use the unordered list style *list-unstyled* to display the links at the bottom of the page without the bullets. To do this, go to the links in the footer and update the `ul` as follows

```
<ul class="list-unstyled"> ... </ul>
```

Using Custom CSS classes

We can define our own custom CSS classes in a separate CSS file, and also customize some of the built-in CSS classes. We will now attempt to do this in this part of the exercise.

- Create a folder named *css*. Then create a file named *styles.css* in the *css* folder. Open this file to edit the contents. Add the following CSS code to the file:

```
.row-header{  
    margin:0px auto;  
    padding:0px;  
}  
  
.row-content {  
    margin:0px auto;  
    padding: 50px 0px 50px 0px;  
    border-bottom: 1px ridge;  
    min-height:400px;  
}  
  
.footer{  
    background-color: #D1C4E9;  
    margin:0px auto;  
    padding: 20px 0px 20px 0px;  
}
```

- Include the *styles.css* file into the head of the *index.html* file as follows:

```
<link href="css/styles.css" rel="stylesheet">
```

- Then add these classes to the corresponding rows in the *index.html* file as follows. See the difference in the *index.html* file in the browser. The first one is for the row in the <header>, the next three for the rows in the content, and the last one directly to the <footer> tag.

```
<div class="row row-header"> ... </div>
```

```
<div class="row row-content"> ... </div>
```

```
<div class="row row-content"> ... </div>
```

```
<div class="row row-content"> ... </div>
```

```
<footer class="footer"> ... </footer>
```

- Our next set of customization is to the jumbotron and the address. Add the following to *styles.css* file:

```
.jumbotron {  
    padding:70px 30px 70px 30px;  
    margin:0px auto;  
    background: #9575CD ;  
    color:floralwhite;  
}  
  
address{  
    font-size:80%;  
    margin:0px;  
    color:#0f0f0f;  
}
```

Vertically Centering the Content

- In the content section, update all the rows as follows:

```
<div class="row row-content align-items-center">
```

- In the footer, update the third column div that contains the social media links as follows:

```
<div class="col-12 col-sm-4 align-self-center">
```

Horizontally Centering the Content

- Update the copyright paragraph as follows:

```
<div class="row justify-content-center">  
    <div class="col-auto">
```

- Update the inner div containing the social media links as follows:

```
<div class="text-center">
```

Challenge: Bootstrap and Responsive Design

This challenge requires you to complete the following tasks. Detailed instructions for each task are given below. The picture of the completed web page included below indicates the location within the web page that will be updated by the three tasks.

Task 1

In this task you will be updating the *aboutus.html* page to make use of the Bootstrap classes and components:

- Update the page to make use of the Bootstrap CSS classes.
- Update the page to also use your custom styles defined in your *styles.css* file, and
- Update the page to make use of all the Bootstrap JS components.

Task 2

In this task you will be adding appropriate formatting to the web page contents using container, row and column classes using the Bootstrap grid so that the web page is formatted to look like the figure given below.

- The "About Us" title should stretch the entire width of the row.
- The "Our History" part should occupy only half the width of the row for small to extra large screens, leaving space on the right side for more content to be added later. The content should be stacked for extra small screens.
- The "Corporate Leadership" section should stretch the entire width of the row.

Ristorante con Fusion

We take inspiration from the World's best cuisines, and create a unique fusion experience.
Our lipsmacking creations will tickle your culinary senses!

Task 1

About Us

Our History

Started in 2010, Ristorante con Fusion quickly established itself as a culinary icon par excellence in Hong Kong. With its unique brand of world fusion cuisine that can be found nowhere else, it enjoys patronage from the A-list clientele in Hong Kong. Featuring four of the best three-star Michelin chefs in the world, you never know what will arrive on your plate the next time you visit us.

The restaurant traces its humble beginnings to *The Frying Pan*, a successful chain started by our CEO, Mr. Peter Pan, that featured for the first time the world's best cuisines in a pan.

Task 2

Corporate Leadership

Peter Pan Chief Epicurious Officer

Our CEO, Peter, credits his hardworking East Asian immigrant parents who undertook the arduous journey to the shores of America with the intention of giving their children the best future. His mother's wizardry in the kitchen whipping up the tastiest dishes with whatever is available inexpensively at the supermarket, was his first inspiration to create the fusion cuisines for which *The Frying Pan* became well known. He brings his zeal for fusion cuisines to this restaurant, pioneering cross-cultural culinary connections.

Dhanasekaran Witherspoon Chief Food Officer

Our CFO, Danny, as he is affectionately referred to by his colleagues, comes from a long established family tradition in farming and produce. His experiences growing up on a farm in the Australian outback gave him great appreciation for varieties of food sources. As he puts it in his own words, *Everything that runs, wins, and everything that stays, pays!*

Agumbe Tang Chief Taste Officer

Blessed with the most discerning gustatory sense, Agumbe, our CTO, personally ensures that every dish that we serve meets his exacting tastes. Our chefs dread the tongue lashing that ensues if their dish does not meet his exacting standards. He lives by his motto, *You click only if you survive my lick.*

Alberto Somayya Executive Chef

Award winning three-star Michelin chef with wide International experience having worked closely with whos-who in the culinary world, he specializes in creating mouthwatering Indo-Italian fusion experiences. He says, *Put together the cuisines from the two craziest cultures, and you get a winning hit! Amma Mia!*

Links

[Home](#)
[About](#)
[Menu](#)
[Contact](#)

Our Address

121, Clear Water Bay Road
Clear Water Bay, Kowloon
HONG KONG
Tel.: +852 1234 5678
Fax: +852 8765 4321
Email: confusion@food.net

[Google+](#) [Facebook](#) [LinkedIn](#) [Twitter](#) [YouTube](#)
[Mail](#)

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Task 3

In this task you will use some responsive utilities provided by Bootstrap to hide some of the content only for extra small screens. You will make use of the *d-none* and *d-sm-block* CSS classes provided by Bootstrap. To understand how to use these classes, please read the documentation [here](#) (in particular see how the combination of classes shown [here](#) enables you to hide the content for xs screen sizes) to learn how to apply the *d-none* and *d-sm-block* classes. This will get you into the habit of consulting the Bootstrap documentation whenever you need to learn more about the various

components and classes of Bootstrap. You should apply the classes so that the <p> elements containing the detailed descriptions of the corporate leadership is hidden only for extra small screens. Thus, your page should look like the figure below on extra small screens.

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About Us

Our History

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Corporate Leadership

Peter Pan Chief Epicurious Officer

Dhanasekaran Witherspoon Chief Food Officer

Agumbe Tang Chief Taste Officer

Alberto Somayya Executive Chef

Task 3

Links

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More details about the *d-none* and *d-sm-block* CSS classes can be found at <http://getbootstrap.com/docs/4.0/utilities/display/>.