Web Design and Programming (0107558)
Internet Programming (0107571)[1]

Responsive Design and Bootstrap

Dr. Naeem Odat

College of Engineering
Department of Computer and Communications Engineering

[1]Michael Mendez. *The Missing Link: An Introduction to Web Development and Programming*. Open SUNY Textbooks 2014.

What is Responsive Web Design?

Responsive Design

Using HTML and CSS to automatically resize, hide, shrink, or enlarge, a website, to make it look good on all devices (desktops, tablets, and phones).

Positioning elements by floating

float property

- ▶ Floats are taken out from normal document flow.
- ▶ Floats don't have vertical margin collapse.

clear property

- ▶ Have three values:
  - ▶ left: No element is allowed to be on the left.
  - ▶ right: No element is allowed to be on the right.
  - ▶ both: No element is allowed to be either on the left or on the right.

Demos
1-floating.html
2-twocolumn.html

Media queries

Media query syntax

```
@media not|only mediatype and (mediafeature and|or|not mediafeature) {
    CSS-Code;
}
```
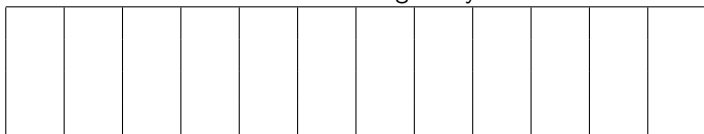
example

Demo
3-media.html

Media queries

Responsive design layout

- ▶ The most common is a 12-column grid layout.

- ▶ 12 has factors of 1, 2, 3, 4, 6 and 12.
- ▶ Each column represent a 8.33% of the page.
- ▶ Any number of the 12 columns can be grouped together.
- ▶ Any group can be subdivided further for 12 columns.

Media queries

Demo

- ▶ 4-responsive.html
- ▶ Viewport meta tag turns off mobile zooming.

Introduction to Twitter Bootstrap

What is a bootstrap?

- It is the most popular HTML, CSS and JS framework for developing responsive and mobile first projects on the web.
- Requires a certain HTML structure to be applied to.

Introduction to Twitter Bootstrap

Download and install bootstrap

- ▶ Download bootstrap v4.4.1 from https://getbootstrap.com/
- ▶ Download JQuery v3.4.1 from https://jquery.com/download/
- ▶ Create two folders at your project directory with names of css and js.
- ▶ Copy bootstrap.css into css folder.
- ▶ Copy bootstrap.bundle.js and jquery-3.4.1.js into js folder

Introduction to Twitter Bootstrap

The bootstrap grid system

```
<div class="container">
    <div class="row">
        <div class="col-md-4">Col 1</div>
        ....
    </div>
</div>
```

components of the html structure

- ▶ container: It has certain width. Any element that can serve as container, e.g., div and header.
- ▶ container-fluid: stretches the container to the full width of the browser.
- ▶ row: creates horizontal groups of columns. Any element can be used as div or nav.
- ▶ col-size-span (col-md-4):
    - ▶ size: screen width range identifier.
    - ▶ span: how many columns element should span (1 to 12).

Introduction to Twitter Bootstrap

The bootstrap grid system Demo

5-bootstrapgrid.html