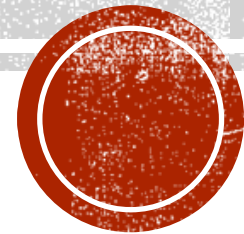# BOOTSTRAP FRAMEWORK OF CSS

Responsive Web Design

WHAT IS RESPONSIVE WEB DESIGN?

- Responsive web design is about creating web sites which automatically adjust themselves to look good on all devices, from small phones to large desktops.

- Bootstrap is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first web sites.

- Bootstrap is completely free to download and use!

WHAT IS BOOTSTRAP?

- Bootstrap is a free front-end framework for faster and easier web development

- Bootstrap includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many other, as well as optional JavaScript plugins

- Bootstrap also gives you the ability to easily create responsive designs

Bootstrap History

- Bootstrap was developed by Mark Otto and Jacob Thornton at Twitter, and released as an open source product in August 2011 on GitHub.

- Advantages of Bootstrap:
  - **Easy to use:** Anybody with just basic knowledge of HTML and CSS can start using Bootstrap
  - **Responsive features:** Bootstrap's responsive CSS adjusts to phones, tablets, and desktops
  - **Mobile-first approach:** In Bootstrap 3, mobile-first styles are part of the core framework
  - **Browser compatibility:** Bootstrap is compatible with all modern browsers (Chrome, Firefox, Internet Explorer, Safari, and Opera)

WHERE TO GET BOOTSTRAP?

- There are two ways to start using Bootstrap on your own web site.
  - Download Bootstrap from getbootstrap.com
    - If you want to download and host Bootstrap yourself, go to getbootstrap.com, and follow the instructions there.
  - Include Bootstrap from a CDN
    - If you don't want to download and host Bootstrap yourself, you can include it from a CDN (Content Delivery Network).
    - MaxCDN provides CDN support for Bootstrap's CSS and JavaScript. You must also include jQuery.

BOOTSTRAP CDN

- You must include the following Bootstrap's CSS, JavaScript, and jQuery from MaxCDN into your web page.

  `<!-- Latest compiled and minified Bootstrap CSS -->`
  `<link rel="stylesheet"href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">`

  `<!-- Latest compiled Bootstrap JavaScript -->`
  `<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"></script>`

  `<!-- latest jQuery library -->`
  `<script src="https://code.jquery.com/jquery-latest.js"></script>`

- Advantage of using the Bootstrap CDN:
  - Many users already have downloaded Bootstrap from MaxCDN when visiting another site. As a result, it will be loaded from cache when they visit your site, which leads to faster loading time. Also, most CDN's will make sure that once a user requests a file from it, it will be served from the server closest to them, which also leads to faster loading time.

CREATE WEB PAGE WITH BOOTSTRAP (1)

- Add the HTML5 doctype
  - Bootstrap uses HTML elements and CSS properties that require the HTML5 doctype.
  - Always include the HTML5 doctype at the beginning of the page, along with the lang attribute and the correct character set:

```
<!DOCTYPE html>
<html lang="en">
  <head>
   <meta charset="utf-8">
  </head>
</html>
```

CREATE WEB PAGE WITH BOOTSTRAP (2)

- Bootstrap is mobile-first
  - Bootstrap 3 is designed to be responsive to mobile devices. Mobile-first styles are part of the core framework.
  - To ensure proper rendering and touch zooming, add the following <meta> tag inside the <head> element:

  <meta name="viewport" content="width=device-width, initial-scale=1">

  - The width=device-width part sets the width of the page to follow the screen-width of the device (which will vary depending on the device).
  - The initial-scale=1 part sets the initial zoom level when the page is first loaded by the browser.

CREATE WEB PAGE WITH BOOTSTRAP (3)

- Containers
  - Bootstrap also requires a containing element to wrap site contents.
  - There are two container classes to choose from:
    - The .container class provides a responsive **fixed width container.** (See Sample)
    - The .container-fluid class provides a **full width container**, spanning the entire width of the viewport. (See Sample)

- **Note:** Containers are not nestable (you cannot put a container inside another container).

BOOTSTRAP GRIDS

- Bootstrap's grid system allows up to 12 columns across the page.

- If you do not want to use all 12 columns individually, you can group the columns together to create wider columns:

<div class="col-md-12">Span 12 columns</div>

<div class="col-md-6">Span 6</div><div class="col-md-6">Span 6</div>

<div class="col-md-4">Span 4</div><div class="col-md-8">Span 8</div>

<div class="col-md-4">Span 4</div><div class="col-md-4">Span 4</div>
<div class="col-md-4">Span 4</div>

- Bootstrap's grid system is responsive, and the columns will re-arrange automatically depending on the screen size.

GRID CLASSES

- The Bootstrap grid system has four classes:
  - xs (for phones)
  - sm (for tablets)
  - md (for desktops)
  - lg (for larger desktops)

- The classes above can be combined to create more dynamic and flexible layouts.

BASIC STRUCTURE OF A BOOTSTRAP GRID

```
<div class="row">
  <div class="col-*-*"></div>
</div>
<div class="row">
  <div class="col-*-*"></div>
  <div class="col-*-*"></div>
  <div class="col-*-*"></div>
</div>
<div class="row">
  ...
</div>
```

- First; create a row (<div class="row">). Then, add the desired number of columns (tags with appropriate .col-*-*classes). Note that numbers in .col-*-* should always add up to 12 for each row.

BOOTSTRAP TABLES

- A **basic** Bootstrap table has a light padding and only horizontal dividers.
  - The .table class adds basic styling to a table:

- **Striped Rows**
  - The .table-striped class adds zebra-stripes to a table:

- **Bordered Table**
  - The .table-bordered class adds borders on all sides of the table and cells:

- **Hover Rows**
  - The .table-hover class enables a hover state on table rows:

- **Responsive Tables**
  - The .table-responsive class creates a responsive table. The table will then scroll horizontally on small devices (under 768px). When viewing on anything larger than 768px wide, there is no difference:

BOOTSTRAP IMAGES

- ## Rounded Corners
  - The .img-rounded class adds rounded corners to an image (IE8 does not support rounded corners):

- ## Circle
  - The .img-circle class shapes the image to a circle (IE8 does not support rounded corners):

- ## Thumbnail
  - The .img-thumbnail class shapes the image to a thumbnail:

- ## Responsive Images
  - Images comes in all sizes. So do screens. Responsive images automatically adjust to fit the size of the screen.
  - Create responsive images by adding an .img-responsive class to the <img> tag. The image will then scale nicely to the parent element.
  - The .img-responsive class applies display: block; and max-width: 100%; and height: auto; to the image:

BOOTSTRAP BUTTONS

- Button Styles
  - Bootstrap provides seven styles of buttons with the following classes:

.btn-default

.btn-primary

.btn-success

.btn-info

.btn-warning

.btn-danger

.btn-link

BOOTSTRAP BUTTON ELEMENTS

- The button classes can be used on the following elements:
  - \<a>
  - \<button>
  - \<input>

BUTTON SIZES

- Bootstrap provides four button sizes with the following classes:

  .btn-lg

  .btn-md

  .btn-sm

  .btn-xs

BLOCK LEVEL BUTTONS

- A block level button spans the entire width of the parent element.
  - Add class .btn-block to create a block level button:

ACTIVE/DISABLED BUTTONS

- A button can be set to an active (appear pressed) or a disabled (unclickable) state:
  - The class .active makes a button appear pressed, and the class .disabled makes a button unclickable:

REFERENCES

- Discovering the Internet: Complete, Jennifer Campbell, Course Technology, Cengage Learning, 5th Edition-2015, ISBN 978-1-285-84540-1.

- Basics of Web Design HTML5 & CSS3, Second Edition, by Terry Felke-Morris, Peason, ISBN 978-0-13-312891-8.

- W3schools.com