

The background of the slide is a light beige color. In the top left corner, there is a corkboard with a few papers pinned to it. In the center, there is a large, dark blue banner with the text 'WEB TECHNOLOGIES' in white. To the right of the banner, there are several colorful circles containing text: 'www' (blue), 'HTML5' (red), 'js' (red), 'Cloud' (grey), 'XML' (orange), and 'PHP' (green). These circles are connected by dashed lines. In the bottom left corner, there is a dark blue banner with the text 'Dr. Pritpal Singh' in white. Below this banner, there is a white banner with the text 'Associate Professor' in dark blue. In the bottom right corner, there is a laptop displaying a website with a colorful bar chart. To the left of the laptop, there is a red control panel with two gauges and a red button. The overall theme is web technologies and engineering.

ECAP472

WEB TECHNOLOGIES

Dr. Pritpal Singh

Associate Professor

Learning Outcomes



After this lecture, you will be able to

- understand Bootstrap framework.
- use bootstrap in the project.

Responsive Web Design

- Responsive web design is about creating websites that 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 websites.
- Bootstrap is completely free to download and use!

What is Bootstrap?

- Bootstrap is a free front-end framework for faster and easier web development
- Also gives you the ability to easily create responsive designs



What is Bootstrap?

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.

Why to Learn Bootstrap?

Mobile first approach

Bootstrap 3, framework consists of Mobile first styles throughout the entire library instead of in separate files.

Browser Support

It is supported by all popular browsers.

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Easy to Get Started

With just the knowledge of HTML and CSS, anyone can get started with Bootstrap. Also, the Bootstrap official site has good documentation.

Responsive design

Bootstrap's responsive CSS adjusts to Desktops, Tablets and Mobiles. More about the responsive design is in the chapter Bootstrap Responsive Design

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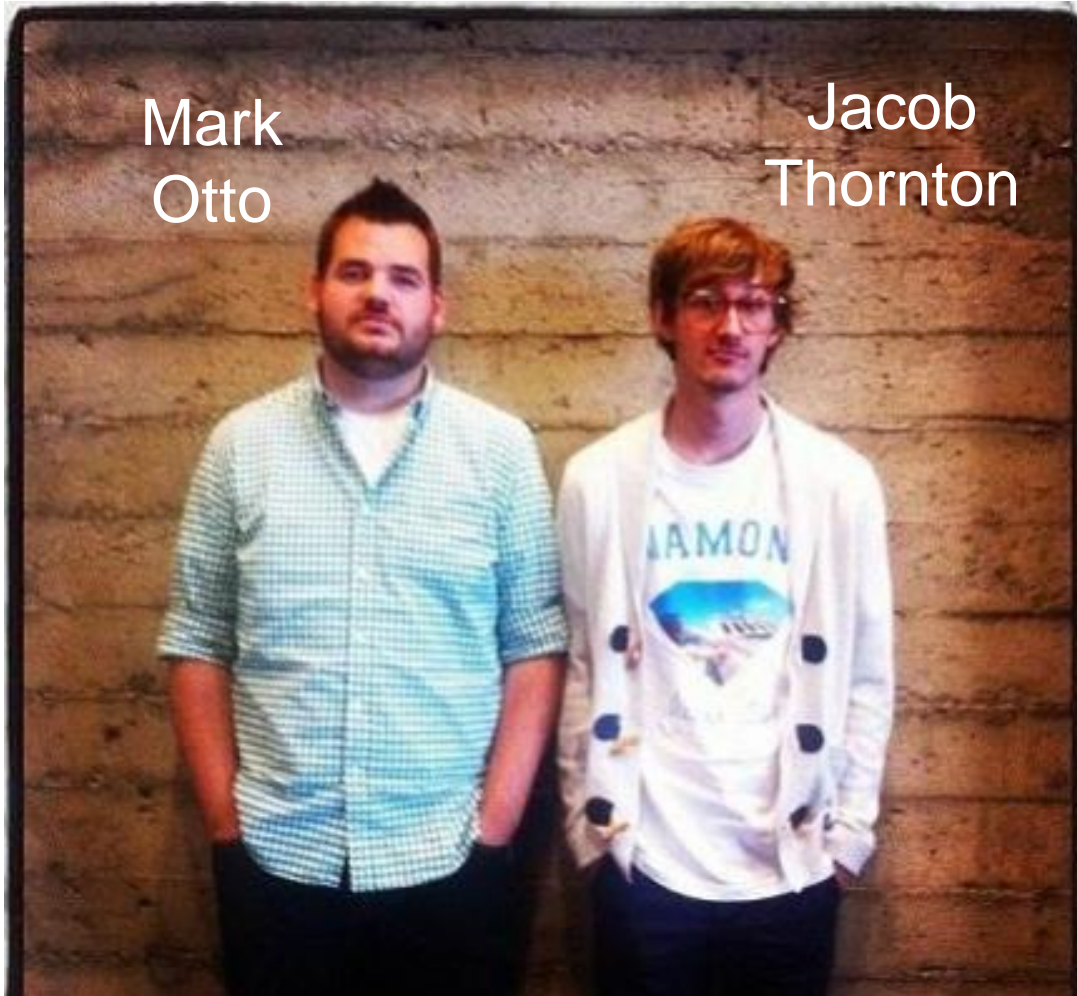
Why to Learn Bootstrap?

- Provides a clean and uniform solution for building an interface for developers.
- It contains beautiful and functional built-in components which are easy to customize.
- It also provides web-based customization.
- And best of all it is open-source.

The Developers...

Mark
Otto

Jacob
Thornton



Bootstrap History

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

Advantages of Bootstrap

1 **Easy to use**

Anybody with just basic knowledge of HTML and CSS can start using Bootstrap

2 **Responsive features**

Bootstrap's responsive CSS adjusts to phones, tablets, and desktops.

Advantages of Bootstrap

3 **Mobile-first approach**

In Bootstrap 3, mobile-first styles are part of the core framework

4 **Responsive features**

Bootstrap is compatible with all modern browsers (Chrome, Firefox, Internet Explorer, Safari, and Opera)

Applications of Bootstrap

- **Scaffolding:** Bootstrap provides a basic structure with Grid System, link styles, and background.
- CSS: Bootstrap comes with the feature of global CSS settings, fundamental HTML elements styled and enhanced with extensible classes, and an advanced grid system.
- Components: Bootstrap contains over a dozen reusable components built to provide iconography, dropdowns, navigation, alerts, pop-overs, and much more.

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Where to Get Bootstrap?

EITHER:

Download Bootstrap from getbootstrap.com

- If you want to download and host Bootstrap yourself, go to getbootstrap.com, and follow the instructions there.

Where to Get Bootstrap?

OR:

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 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:

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- 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.

Create Web Page with Bootstrap (2)

Bootstrap is mobile-first

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">
```


Create Web Page with Bootstrap (2)

Bootstrap is mobile-first

- 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**.
 - The `.container-fluid` class provides a **full width container**, spanning the entire width of the viewport.

Create Web Page with Bootstrap (3)

Containers

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- There are two container classes to choose from:
 - The `.container` class provides a responsive **fixed width container**.
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***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.

Bootstrap Grids

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.

First Bootstrap Example

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head><meta http-equiv="Content-Type"  
content="text/html; charset=windows-1252">
```

```
<title>Any title</title>
```

```
</head>
```

```
<body>
```

```
//write code
```

```
</body>
```

```
</html>
```


First Bootstrap Example

Add the HTML 5 doctype:

Bootstrap uses HTML elements and CSS properties, so you have to add the HTML 5 doctype at the beginning of the page with lang attribute and correct character set.

Bootstrap is mobile friendly

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

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

Bootstrap is mobile friendly

- **Note:** The "width=device-width" part is used to set the width of the page to follow the screen-width of the device (vary according to the devices).
- The initial-scale=1 part is used to set the initial zoom level when the page is first loaded by the browser.

That's all for
now...