

Lecture 4 – UI Frameworks

Web Application Development

January 22, 2015

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Lecture Schedule – 1st Half

(subject to change)

- | | |
|-----------------------|-----------------------|
| #1 Intro | #9 Django Templates |
| #2 HTML & CSS | #10 Images |
| #3 JavaScript & DOM | #11 AJAX |
| #4 UI Frameworks | #12 jQuery |
| #5 HTTP & Django | #13 Databases |
| #6 Django Models | #14 Cloud Deployment |
| #7 Cookies & Sessions | #15 SSL |
| #8 Transactions | #16 Project Proposals |

CSS Libraries

- Many people have created CSS libraries which you can use to create nice effects for your web pages
 - Just google it and check it out

UI Frameworks

- Provide a look and feel
 - Consistent style
- Other features
 - Looking good on different types of devices
- Popular Frameworks
 - Angular
 - Bootstrap

Bootstrap

- Very popular UI Framework
 - Uses JavaScript, CSS, & images
- An internal project at Twitter
 - Released as open source on GitHub
- Supports current versions of HTML & CSS
- Supports all major browsers
- First released in 2011
 - Currently on version 3.0 – focus is “mobile-first”

Bootstrap Code

- Open Source on GitHub
<https://github.com/twbs>
- You can download it and include it with your examples
<http://getbootstrap.com>
- Easiest is to reference the files from a CDN

```
<link rel="stylesheet" href="http://maxcdn.bootstrapcdn.com/bootstrap/3.2.0/css/bootstrap.min.css">  
<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.1/jquery.min.js"></script>  
<script src="http://maxcdn.bootstrapcdn.com/bootstrap/3.2.0/js/bootstrap.min.js"></script>
```

Bootstrap Responsive Design

- Adjusts to the device's screen size
 - Looks good on phones & tablets
 - On desktop, adjusts to window size
- Include tag to set this up:

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

Bootstrap Grid

- Divided screen into 12 units across
- Allows a good deal of flexibility

E.g., <http://getbootstrap.com/examples/grid/>

Bootstrap Typography

- Set the style for HTML5 Tags
- The tags already existed, but Bootstrap provides CSS to make it have a consistent style
- Examples: <http://getbootstrap.com/css/#type>

Bootstrap Components

- Input
 - Buttons
 - Dropdowns
- Tabs
- Pagination
- Progress Bars
- Alerts

See <http://getbootstrap.com/components/>

Customization

- You can customize many, many components of Bootstrap
- Generate new files to include in your site

See: <http://getbootstrap.com/customize/>

Next Week

- Start building server-side applications
- Python Programming Language
- Django Framework
- Homework #3 will go out