Introduction to Web Design & Computer Principles
CSCI-UA 4

Bootstrap
Front End Web Framework
Bootstrap

Bootstrap is a front end framework for developing responsive, mobile-first projects on the Web.

It contains HTML and CSS design templates as well as optional JavaScript extensions.

Originally developed as an internal toolkit for Twitter, the project was released as open-source code in 2010.

It has since become one of the most popular front end Web frameworks and is used by many different kinds of sites.
Front End

“Front end” Web development refers to the elements of a website that a person sees and interacts with.

The languages most often employed in front end web development are HTML, CSS, and JavaScript:

- HTML describes content
- CSS defines appearance
- JavaScript facilitates interaction

All of the above happen directly in the Web browser.
“Back end” Web development refers to the functionality of a website that is not visible to a person.

If you buy something online, you interact with the front end of the store; the transaction takes place on the back end of a database on a Web server.

The back end usually consists of a server, an application, and a database.

The languages most often employed in back end web development are PHP, Ruby, and Python.
Users

Front end

Get Processed Data
Registered new data

Back end

Large data storage
Long running analyses
Data processing

User Interface and API
Metadata
Caching

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Layout and Design

The Bootstrap framework is responsive with a mobile-first approach.

It starts with a baseline of shared styles and introduces more advanced layout rules when screen size permits.

Media queries are used to determine screen size and apply different styles accordingly.

Bootstrap also offers a grid layout system which organizes page content into a series of rows and columns.
Bootstrap

Interactivity

Additional interactive components, or “widgets,” can extend the behavioral aspect of Bootstrap Web pages.

Such interactivity would normally require an understanding of JavaScript to add to a website.

Bootstrap simplifies this process by providing several common widgets including tabs, carousels, and tooltips.
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