COMP1531

Full-Stack - (Bonus) Web Front-End

Lecture 10.2

Author(s): Hayden Smith, Dr. Yuchao Jiang

In This Lecture

- **Why?** 🤔
  - One of the most common things you'll end up doing is building web-based frontends

- **What?** 
  - HTML
  - CSS
  - Javascript

🐭 Front-End Design

Building front-ends are not covered in COMP1531.

- CSE offers a few courses relating to them though:
  - 🎨 UX & Design in **COMP3511, COMP4511**:
    - These skills will help prevent you building bad interfaces.
  - 🛠️ Technical in **COMP6080**:
    - Specific to **web-based** frontend.

Today we'll be discussing specifically web-based frontends.

 Web Applications

- Web-based frontends are built typically as part of a **full-stack web application**.
- These applications consist of two major components:
  - Client: Code running on YOUR computer via a web browser
  - Server: Code running on a central system server
- The client componenet (or front-end) for web applications is built in Javascript, HTML, CSS.
- Fundamentally different to the sorts of programs you may have written so far.

Today we're going to write a very basic web application - a number input and increment/decrement button.

Web Browser

- HTML, CSS, Javascript are the languages that build websites.
- These languages are all have internationally determined standards.
  - How are decisions made on these standards?
  - Who pays for all these software engineers to do the work?
- Web browsers implement these standards and allow us to run HTML/CSS/Javascript.
- Think of the web browser like a compiler.

🏢 HTML

- What does HTML stand for?
- HTML is the standard markup language for webpage **structure**.
- Let's make the following with HTML:
  - a basic page
  - headers, lists

🎨 CSS

- CSS focuses on styling the structure that HTML provides
- It provides styles in a format of:
  - `{ attribute1: value1, attribute2: value2 }`
- Styles can either be:
  - Part of the HTML in the style tag
  - Inline in the HTML file
  - External in a .css file
- Let's style our previous page

 Javascript

Javascript is the "programming language" of front-ends that give it it's dynamic element. The interpreters for the language are built directly into your web browser. Most modern web browsers build their Javascript interpreter on top of the popular V8 engine.

Javascript will feel more familiar to you than HTML/CSS.

Javascript is mainly used to essentially dynamically manipulate CSS properties on HTML elements as a result of various events that occur (user clicks, keyboard, timers).

👂🏼 Feedback

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