Coding Survey

https://shorturl.at/3UaNt

6/11.C35, 6/11.C85
Interactive Data Visualization & Society

Programming Labs

TAs

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Logistics

- Undergraduates (6/11.C35):
  - Mandatory
- Graduates (6/11.C85):
  - Optional for course 6 students (EECS)
  - Mandatory for course 11 students (DUSP)
  - Enroll in 11.S942 to get extra 3 credits for the lab work.

- Attendance to in-person lab sessions is optional but highly recommended.

Lab structure

- Lab structure:
  - Part 1: lecture + activities (15-30mins)
  - Part 2: hands on work (30-45mins)
  - Part 3: async work at home (~2hours)

- Lab checkoffs: show your work before the next lab
  - Come to any TA Office Hours: https://vis-society.github.io/logistics/staff.html#office-hours

Lab 1:
Introduction to the Web Platform

02/06/2025

HOW DOES THE WEB WORK? What is a URL?

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Protocol: defines the rules for communication

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Host: identifies the web server

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Path: specifies the location of the file on the server.

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For example:

- Relative URL: **hello.html**
- Base URL: **https://vis-society.github.io/labs/1/index.html**
- Absolute URL: **https://vis-society.github.io/labs/1/hello.html**

HOW DOES THE WEB WORK? Relative URLs

Shortcut symbols for navigation:

- `/` → Relative to the root (starts from the website's root directory)
- `..` → Navigate up (moves one level up)
- `.` → Current directory

[More info]

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For example:

- `/images/photo.jpg` → Loads `photo.jpg` from the root `/images/` folder.
- `../about.html` → Moves up one level and accesses `about.html`.
- `./style.css` → Loads `style.css` from the current directory.

[More info]

CLIENTS & SERVERS

The Web consists of clients (browsers, apps) and servers (web hosts).

- **Clients** make requests for resources
- **Servers** listen for such requests and respond with the resources (or an error)

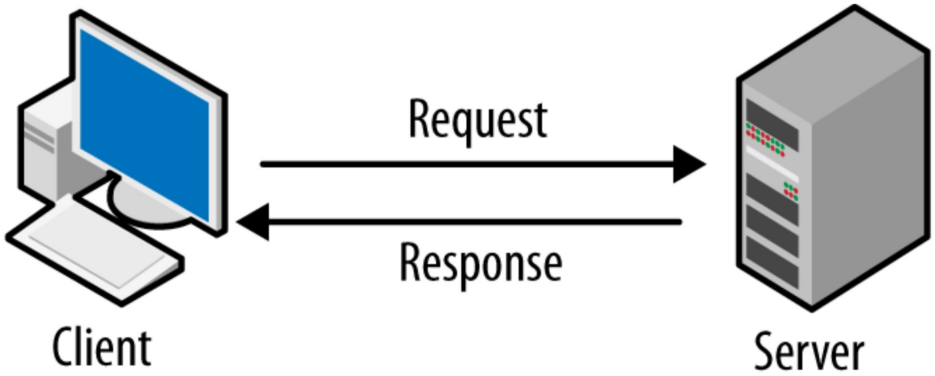
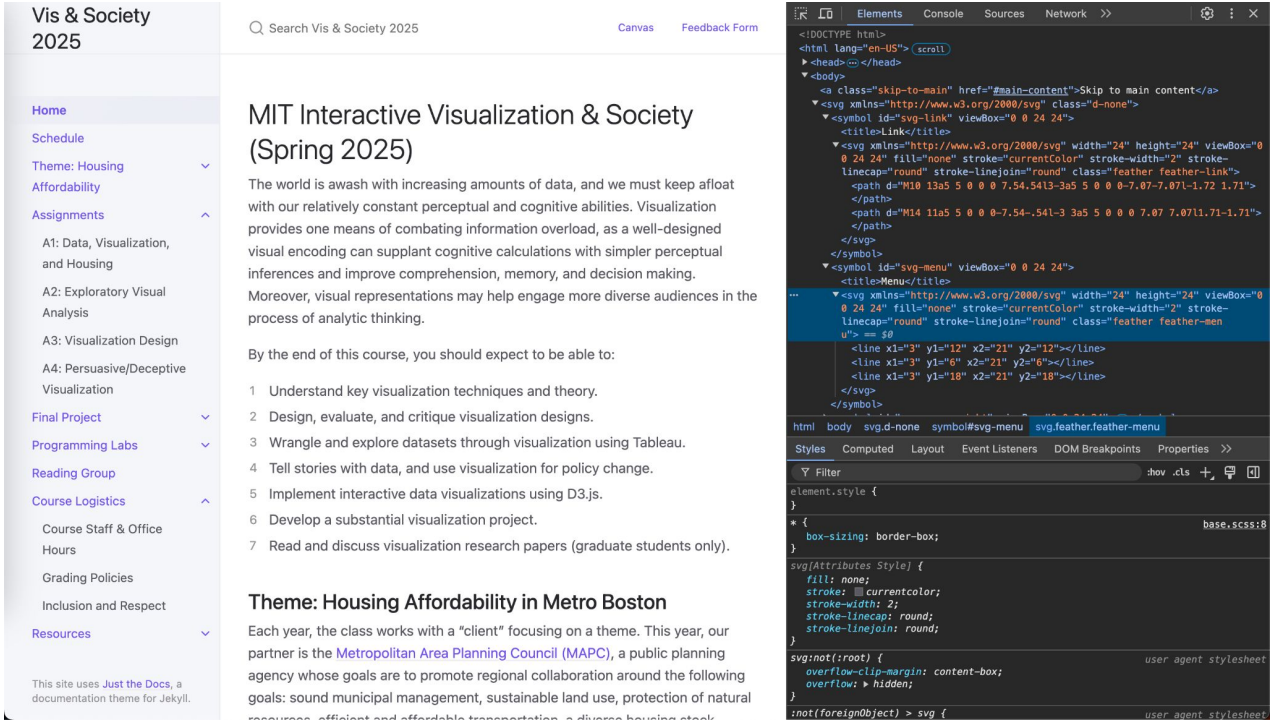


Image source: https://darvishdarab.github.io/cs421_f20/docs/readings/client_server/

THE WEB: OPEN BY DESIGN

The Web is designed to be **transparent**. You can view and modify the webpage code using **DevTools**.



THE WEB PLATFORM

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It consists of three main technologies: **HTML**, **CSS**, and **JavaScript**.

THE WEB PLATFORM

- **HTML:**
  - **Structure** of the webpage (e.g., headings, paragraphs, lists).

- **CSS:**
  - **Presentation**: defines styles like colors, fonts, and layouts.

- **JavaScript:**
  - **Behavior**: adds interactivity (clicks, animations, dynamic content).

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Image source: https://medium.com/@rashmipaboda2/basic-concepts-of-html-e9ce7c7e4e82

HTML ELEMENTS

Syntactically, HTML elements are made up of **tags**, which are sequences of characters enclosed in angle brackets.

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- Structural elements: `<h1>`, `<p>`, `<section>`, `<article>`, `<header>`, `<footer>`.
- Lists and tables: `<ul>`, `<ol>`, `<table>`, `<tr>`, `<td>`.
- Forms and user input: `<form>`, `<input>`, `<button>`, `<textarea>`.
- Multimedia: `<img>`, `<video>`, `<audio>`.
- Interactive elements: `<details>`, `<summary>`, `<dialog>`.

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Starting/opening tag **Element content** **Ending/closing tag**

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NOTE: Many HTML elements do come with some default styling, for example a heading element will be rendered in bold and a larger font size. However, it is an antipattern to use HTML elements to style content, that's what CSS is for!

Emmet’s HTML skeleton

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```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>


</body>
</html>
```

Emmet’s HTML skeleton


```
<!DOCTYPE html>                    Document type declaration
<html lang="en">
<head>                             Contains metadata about the page
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>        Title of the page, which is shown in the browser tab
<head>
<body>                             Contains the visible content of the page


</body>
</html>
```

Part 2: hands-on work!

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