



Lesson 1:

Front-end web development

INTRODUCTION

- Traditionally, when web developers started building websites in the 90s, they would wear all the hats.
 - they would set up the server,
 - write all the server-side code that would eventually output HTML and
 - finally sprinkle on some CSS to make things look pretty.

INTRODUCTION

- Due to the advancement of modern web technologies and computer hardware, we're able to create more sophisticated experiences than ever.
- Because of this complexity, the role of a web developer has naturally evolved and split into separate disciplines.
- Specifically, a line was drawn between the back-end and front-end.
 - Back-end being server-side programming and front-end being client-side.

INTRODUCTION

- A front-end dev't deals with technologies used to design and develop the user interface of the web application and its interaction with the users.
- It is the practice of producing HTML, CSS and JavaScript for a website or Web Application so that a user can see and interact with them directly.
- Also known as “client-side development”

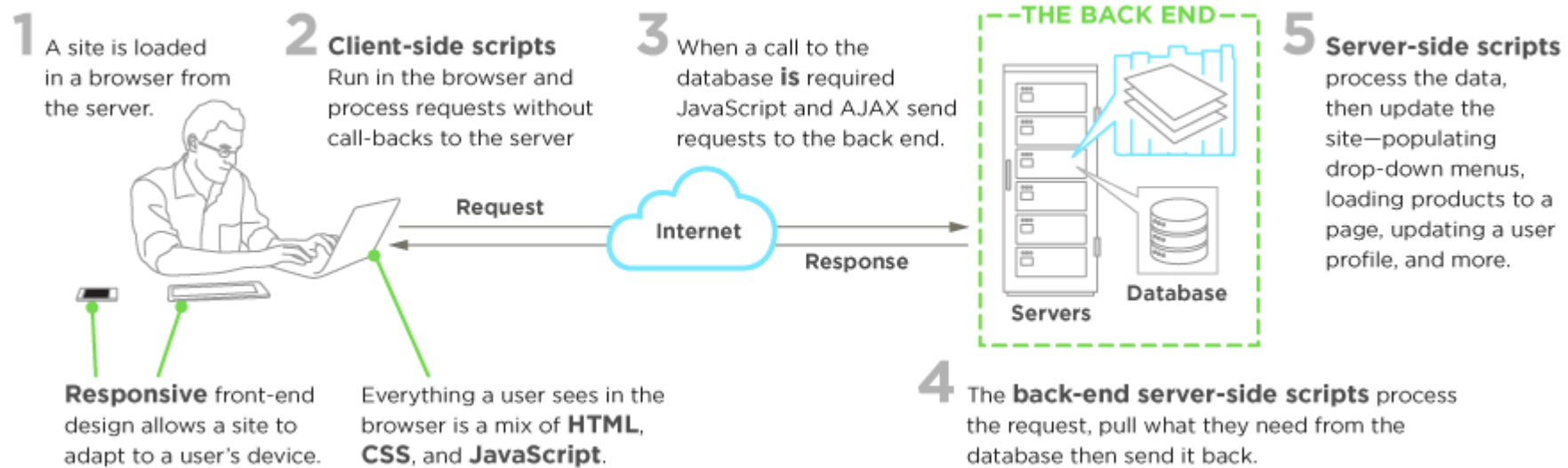
INTRODUCTION

- Objective of designing a site is to ensure that when the users open up the site they see the information in a format that is easy to read and relevant.
- This is further complicated by the fact that users now use a large variety of devices with varying screen sizes and resolutions
 - thus forcing the designer to take into consideration these aspects when designing the site.

INTRODUCTION

- They need to ensure that their site comes up correctly in different browsers (cross-browser), different operating systems (cross-platform) and different devices (cross-device)

INTRODUCTION



Front end web development

FRONT-END LANGUAGES

- **HTML — Hypertext Markup Language**
 - Website pages and documents are written in HTML, which consists of **base content** combined with inter-linear tags that provide **semantic information** about the content they enclose.
- **CSS — Cascading Style Sheet**
 - Provides a set of detailed instructions to the browser (or a printer) about how the content of an HTML document should be **displayed**. It includes details like font declarations, sizing, color, on-page placements, and layering precedence.

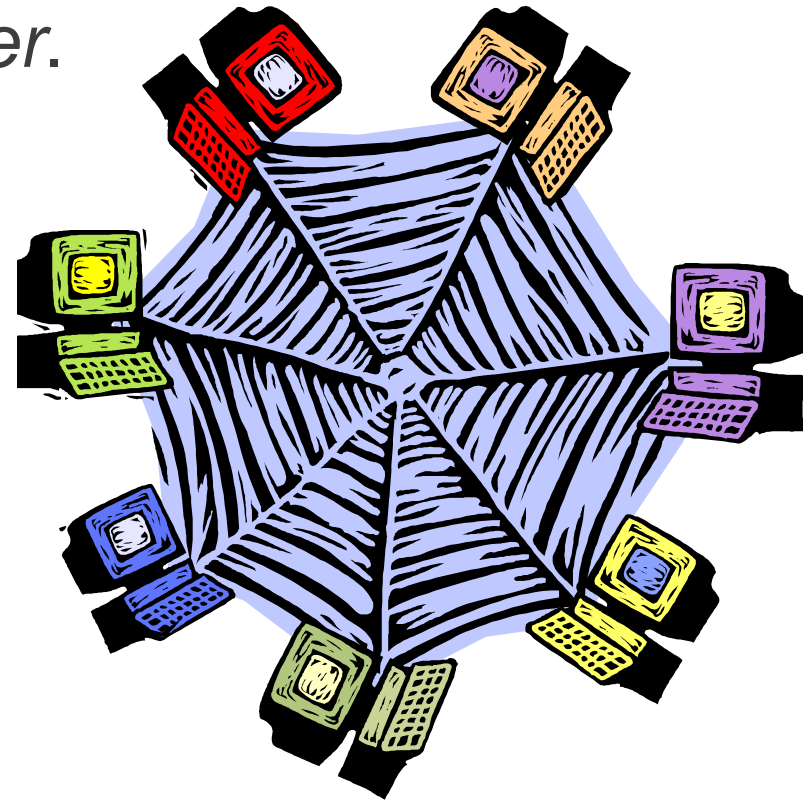
FRONT-END LANGUAGES

- JS — JavaScript

- A scripting language that can be used to provide rich web interaction inside a browser. It is event-driven, **responding to actions taken by the user** (such as clicking, moussing, hovering, and typing).

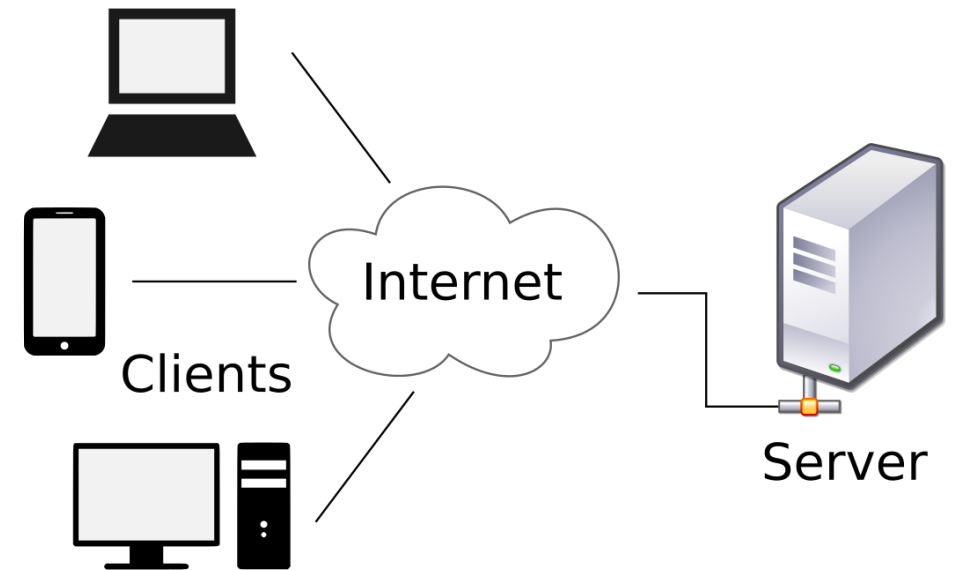
CLIENT-SERVER ARCHITECTURE

- A network architecture in which each computer or process on the network is either a *client* or a *server*.



CLIENT-SERVER ARCHITECTURE

- Components
 - Clients
 - Servers
 - Communication networks and protocols



CLIENT-SERVER ARCHITECTURE

Clients

- Applications that run on user's computer
- Rely on servers for
 - Files, devices and processing power
- Example: E-mail client, Web client (browser)
 - An application that enables you to send and receive e-mail

Clients are Applications

CLIENT-SERVER ARCHITECTURE

Servers

- Computers or processes that manage network resources
 - Disk drives (file servers), Printers (print servers), Network traffic (network servers), Web Servers
- Example: Database Server
 - A computer system that processes database queries

**Servers Manage
Resources**

CLIENT-SERVER ARCHITECTURE

Communication Networks

- Connect clients and servers

CLIENT-SERVER COMPUTING

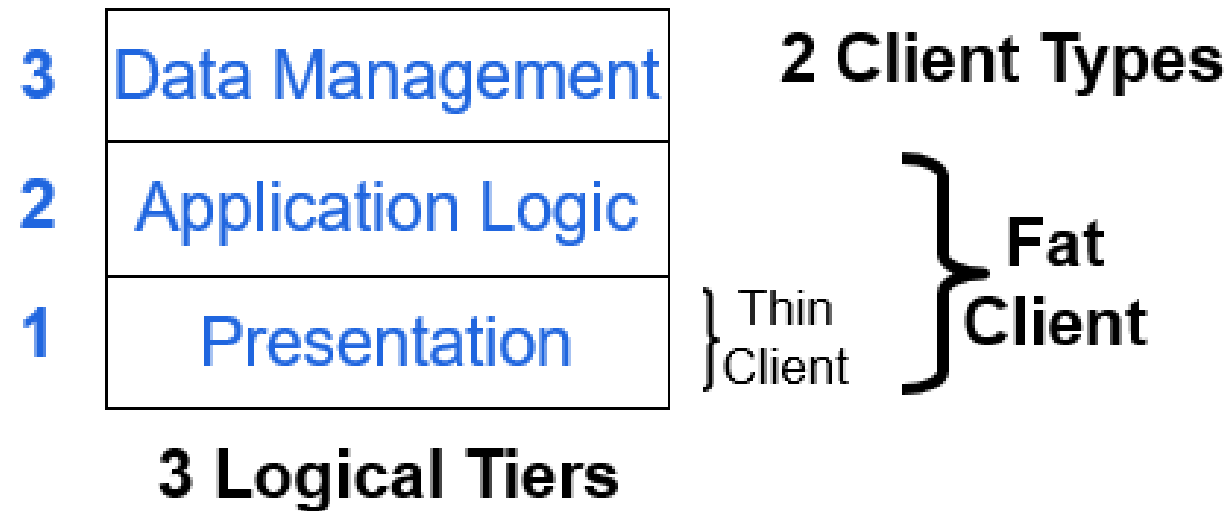
- Process takes place on the server and on the client
- Servers
 - Store and protect data
 - Process requests from clients
- Clients
 - Make requests
 - Format data on the desktop

CLIENT-SERVER COMPUTING

Application Components

- Software application functions are separated into three distinct parts
 - Presentation, application logic and data management

CLIENT-SERVER COMPUTING



Database Applications:

Most common use of client-server architectures

REVISION OF CLIENT SIDE SCRIPTS

- HTML
 - Structure, elements and forms
- CSS
 - How to, using CSS as internal, external and inline
- JavaScript
 - Structure, using js with HTML (internal and external js)

REVISION OF CLIENT SIDE SCRIPTS

Exercises

FRONT-END WEB FRAMEWORKS

- What is a web framework and why we use it?
- Examples of front-end frameworks
 - CSS?

Bootstrap



Semantic-
UI



Foundatio
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Materializ
e



Material
UI

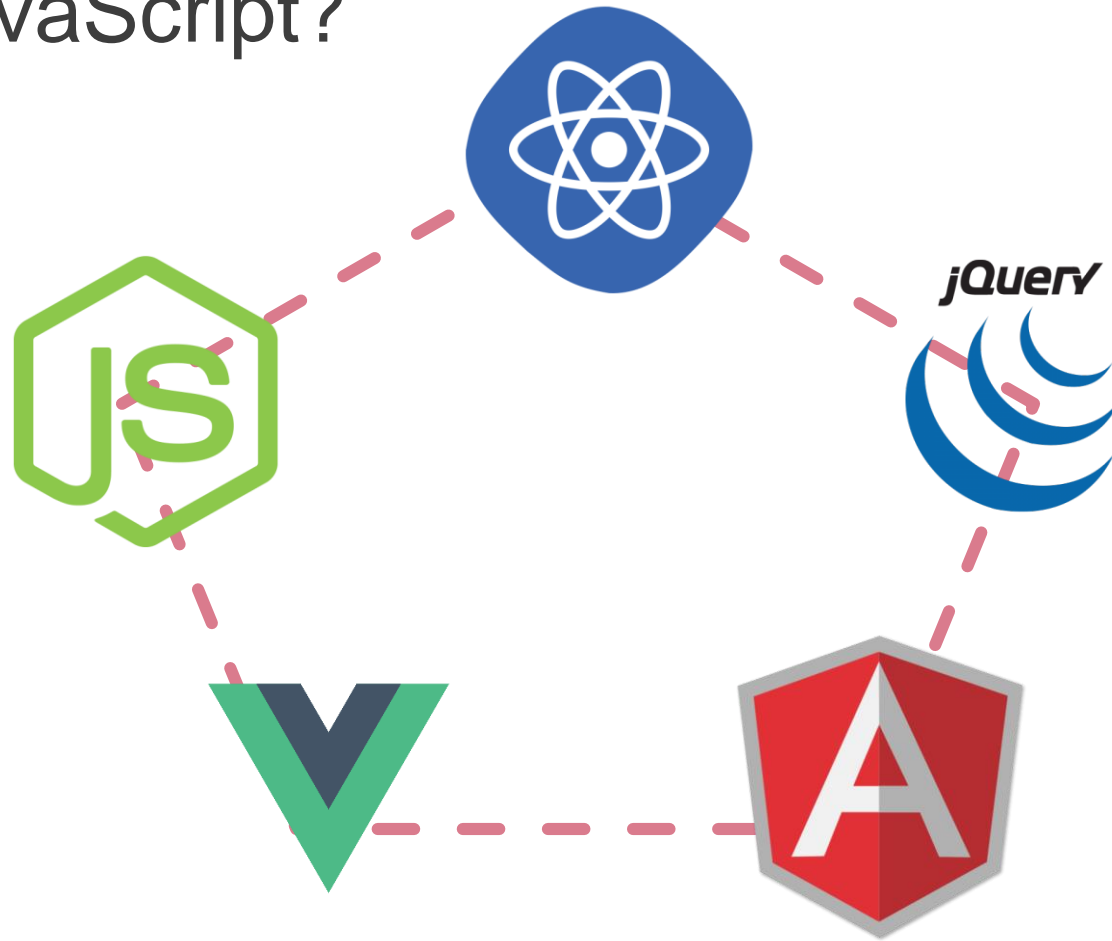


UIKit



FRONT-END WEB FRAMEWORKS

■ JavaScript?



- React JS
- Vue.js
- Angular.js
- Node.js
- jQuery



Thank You!