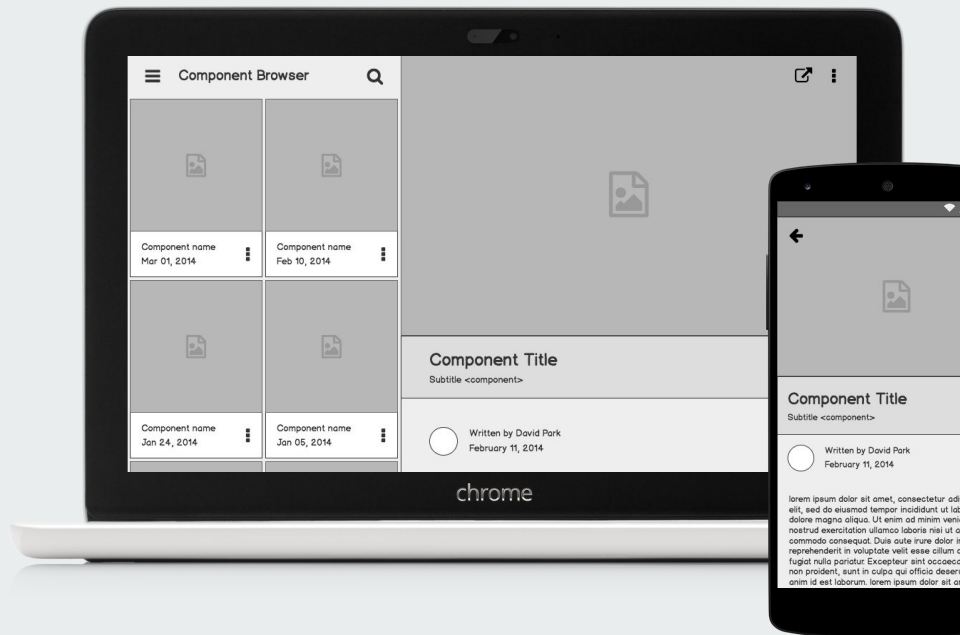




Web Programming

BCS-6A, BCS-8A



About Me?

Muhammad Asad Shah Jahan

Principal Software Engineer @Arbisoft

AWS Cloud Developer Nanodegree - Udacity (In-progress)

Intermediate Python Nanodegree - Udacity

React Nanodegree - Udacity

MS(Software Project Management) - FAST Lahore

BS(Computer Sciences) - FAST Lahore

Tech Stack: Python, Django, Ruby On Rails, Nodejs, Airflow, React

Outline

- HTML/CSS
- Bootstrap
- Javascript/Ecmascript
- Material UI (Extras)
- Git/Github
- React
- NodeJS
 - APIs
- MongoDB
- Some essential software

We will also discuss

- Web Standards
- SaaS
- Responsive Web Design
- Browser/Server Communication
- Storage Tier
- Cookies and Sessions
- Input Validation
- Web App Security
- Browser Isolation
- Network Attacks
- Session Attacks
- REST/SOAP



Marks Distribution (Tentative)

Assignments @ 15%

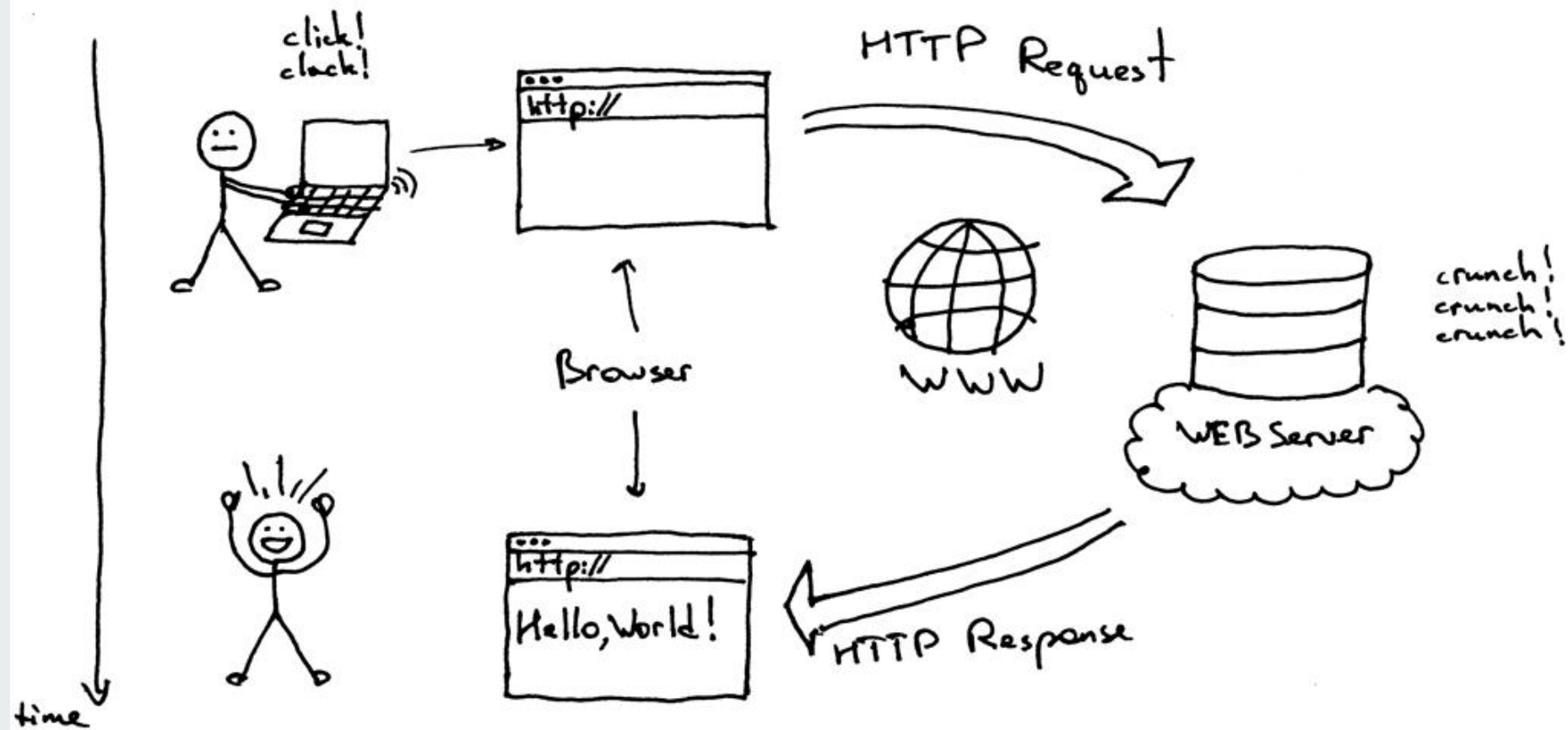
Project @ 10

MIDS & FINAL @ 65% = 40 + 15 + 10

TBD @ 10%

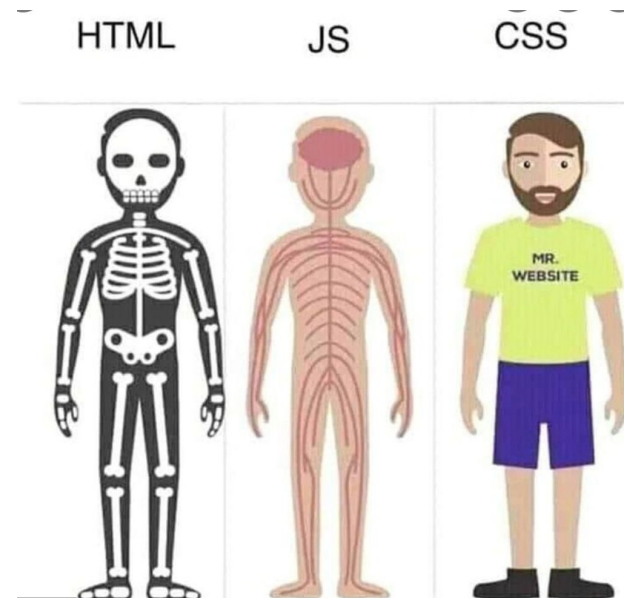


Client-Server Communication



As a web developer, what you have to do?

Code the web pages, stored at the web servers, and displayed on the browsers





Frontend

- React - JS
- Angular - JS
- Vue - JS
- Meteor - JS
- Bootstrap - CSS
- Material UI - CSS - React Components
- HTML/CSS



Backend

- Rails - Ruby
- Django - Python
- NodeJS - JavaScript ~ES
- Flask - Python
- Sinatra - ruby
- Laravel - PHP
- Spring - JAVA



Browser

- Fetch web content
- Present web content
- Efficient rendering
- Secure communication
- Support extensibility



Web Server

- host web content (static / dynamic)
- deployment and distribution of content
- Support multiple concurrent user requests
- Support secure communication
- Support multiple websites / applications simultaneously



What's an IP address

An IP address is a unique address that identifies a device on the internet or a local network.



What's a port?

A port is a virtual point where network connections start and end. Ports are software-based and managed by a computer's operating system. Each port is associated with a specific process or service.



What's DNS server?

DNS servers translate domain names into IP addresses, making it possible for DNS clients to reach the origin server.



What's HTTP

HTTP is the backbone of World Wide Web (WWW). It defines the format of messages through which Web Browsers (like Firefox, Chrome) and Web Servers communicate, whilst also defining how a web browser should respond to a particular web browser request.



What's FTP

FTP is the underlying protocol that is used to, as the name suggests, transfer files over a communication network. It establishes two TCP connections: Control Connection to authenticate the user, and Data Connection to transfer the files.



What's SMTP

SMTP is what is used by Email servers all over the globe to communicate with each other



HTML tags

```
<html>
```

```
<head>
```

```
<title>Page title</title>
```

```
</head>
```

```
<body>
```

```
<h1>This is a heading</h1>
```

```
<p>This is a paragraph.</p>
```

```
<p>This is another paragraph.</p>
```

```
</body>
```

```
</html>
```