

Intro To Advanced Programming Language Sessional

CSE 224

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Your Journey So Far!



C/C++



What're Advanced Programming Languages Then?



The “not-advanced” prog languages



Advanced prog languages - “Stronger”?



or “Cooler”?

Well.... Not Exactly



It's “What” we use programming languages for and
“How” we use them!

Course Outcomes (Hopefully)

- ❑ **CO 1:** To use programming languages to “Design” Real Time Projects
- ❑ **CO 2:** To use programming languages to “Build” and “Develop” Real Time Projects.
- ❑ **CO 3:** To use programming languages to store and retrieve data efficiently.

OBE Course Curriculum: [Click Here](#)

So We'll be using programming to design and develop
real time, user centric projects.

And we'll do it for Web platform.

The WebDev Process

FrontEnd

1. How You “draw” (render) the Website.
2. It’s what the user sees
3. Executed at user end as well! Using web browsers.



BackEnd

1. Store and retrieve user's data.
2. Communicate with the server for processing.



Further “Processing”

1. Edit an image! (DIP)
2. Suggest best products to buy for a particular customer (ML, AI)
3. Talk to a user with a chatbot! (AI - NLP)

Web Development Process

The sites you develop may range from a tiny personal blog site to a full-scaled social media application with image processing, chatbots, targeted ads and whatnot!

The WebDev Process - Frontend

www.facebook.com

<http://amazon.com/>

The WebDev Process - Frontend

- ❑ Need to use specific programming languages to “draw” a website.
- ❑ It’s what we present to the user, visually.
- ❑ It’s the combination of all the colors, links, buttons, forms, textboxes, images, animations in a website, the specific style & combination of which can make the site look either terrible or amazing!
- ❑ It’s what drives the user’s experience (at least the first impression).
- ❑ We design how the user interacts with various pages and elements of the website.
- ❑ And all of the commands are executed at each user’s own device, in their web browser or application.

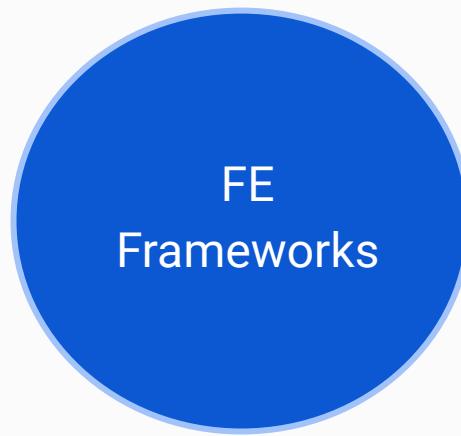
The WebDev Process - Frontend



Draws the structure
of the website



Helps you give
further style and
color to the website



Ensures device
dynamicity and
makes your job
easier



Packages codes into
a time-saving form

What Language?

- A combination of languages
- HTML and CSS – to design the front end or UI of the website
- Javascript – To make the page designed with HTML and CSS dynamic



HTML

- Hyper Text Markup Language
- Follows a specific format that your browser can read very easily.
- Has specific sections or elements that categorize a web page into sections.
- Can insert specific “tags” into each section to design the page as you want.
- These tags and elements together tell the browser how to render (draw!) the website.
- Current Standard is HTML5

CSS

- CSS stands for Cascading Style Sheets
- Gives more detail on each element of HTML document
- Describes the “style” of an HTML document.
- You can use
 - 1) Color, text styles, fonts
 - 2) Background and images
 - 3) Text alignment
 - 4) Padding and Margin
 - 5) Floating position

To render the web page to the exact design you have in mind.

It Gets Easier!

- Might get harder to manage and time consuming to build from scratch as websites get larger.
- Use frameworks!
- Or Content Management Systems (CMS) like Wordpress
- Bootstrap- A front end web framework. Makes building the web UI much faster.



The WebDev Process - Backend

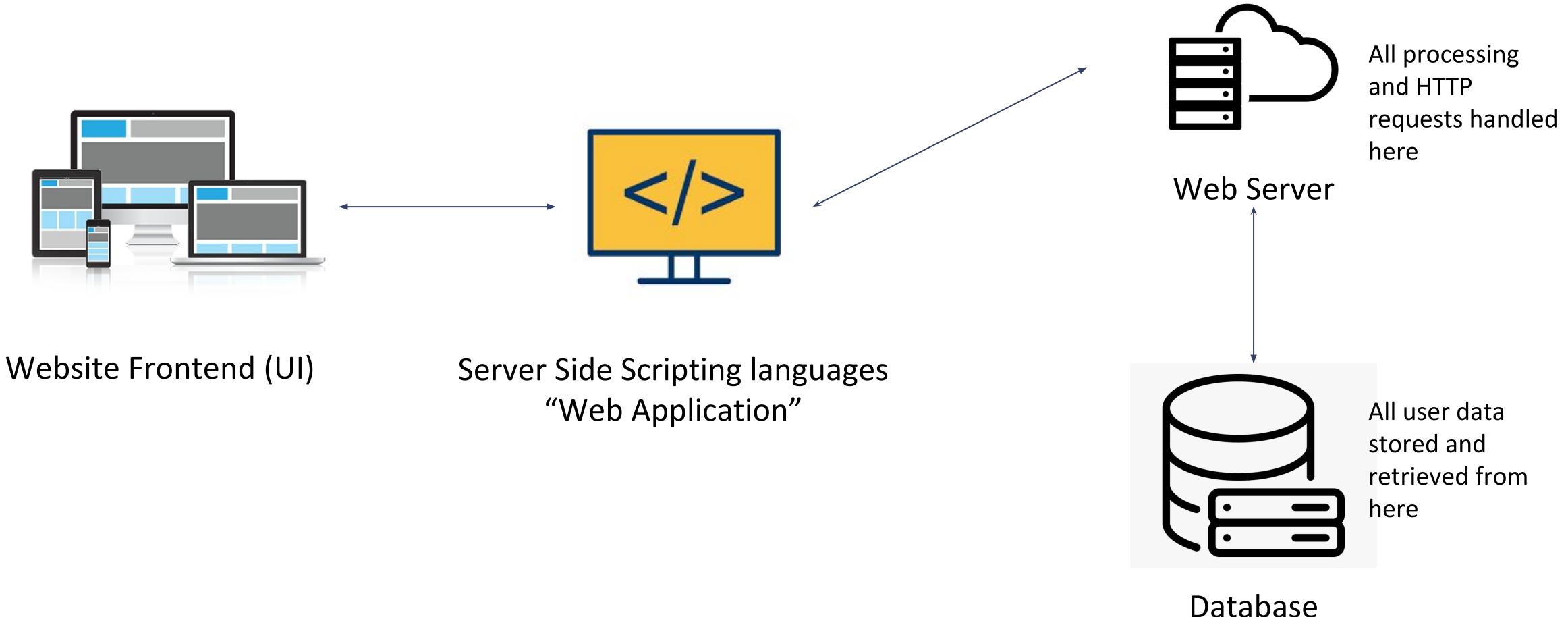
- ❑ A website would be quite shallow and not useful without a backend.
- ❑ Whenever there's any “functionality” involved, it's very likely that backend processing is taking place.
- ❑ For example, It's when
 - ❑ you create and log into your account in a website
 - ❑ Post a new picture, write a post, order an item etc.
 - ❑ Browse other peoples' profiles, posts, videos, content etc.
- ❑ In other words, it's when you store, process and/or retrieve data from the user.

The WebDev Process - Backend

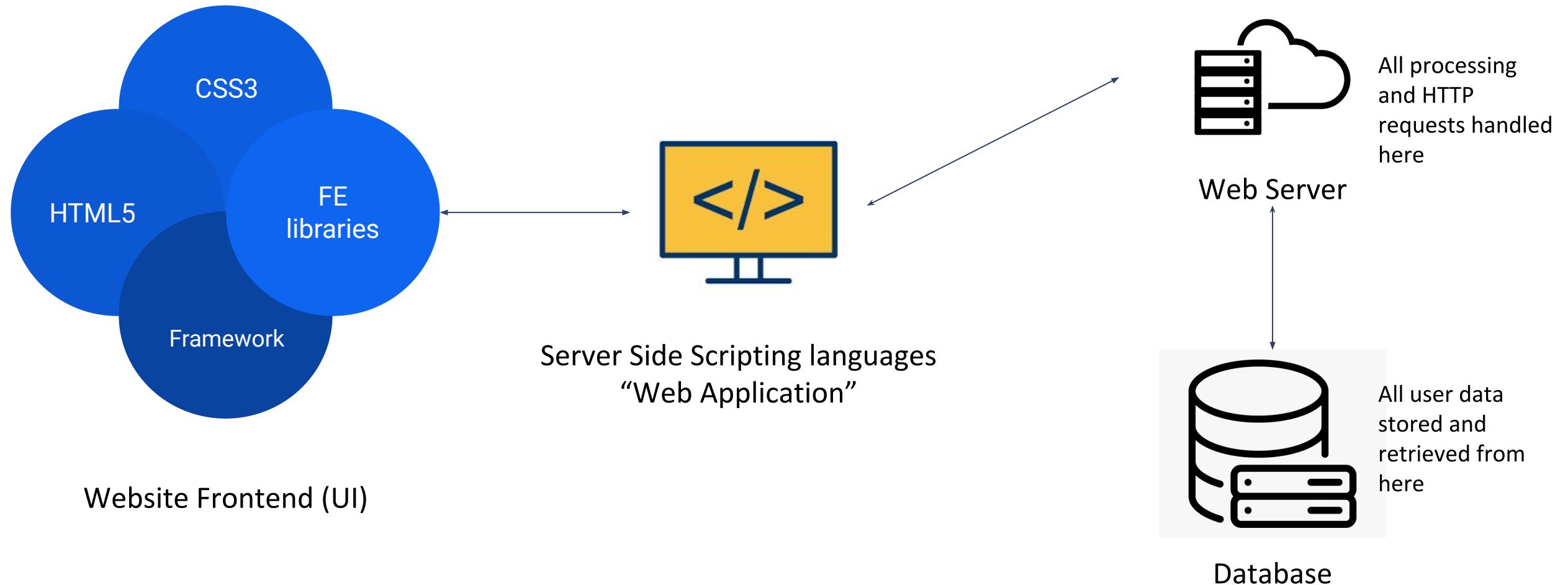
www.facebook.com

<http://amazon.com/>

The WebDev Process - Backend

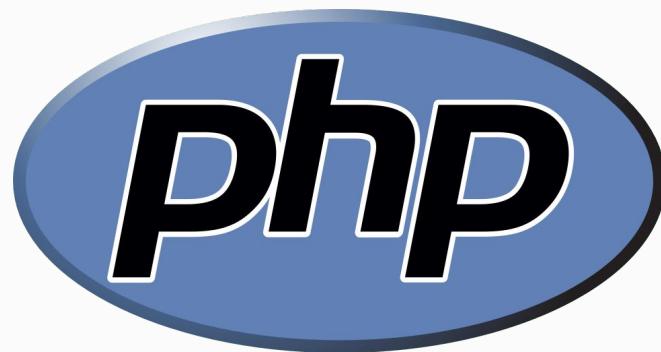


The WebDev Process - Full stack



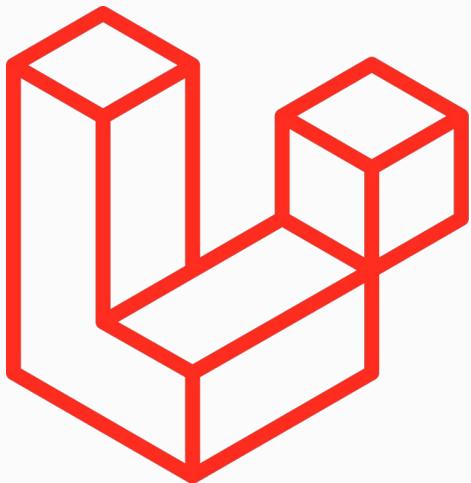
What Languages?

- PHP, Javascript, JS, Python – Server-side scripting language. Perform some processing or action remotely and return results to your webpage.
- SQL – Standard Query Language. Used to store, manipulate and retrieve data to/from a webpage.



It Gets Easier!

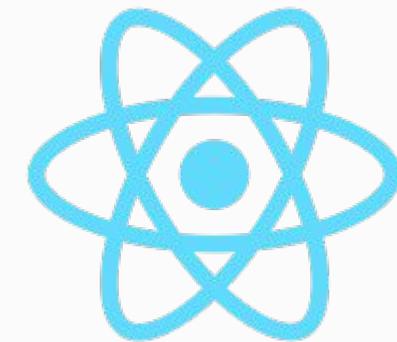
- Use web frameworks to build sites faster and more efficiently.



Laravel



Codeigniter



React

Now, How to write Codes?

- Use simple text editors to write the code and just name the file extension as .html
- Then use your browser to open the file.
- Better to use specialized text editors like Notepad++, Atom or Microsoft visual studio code.

Download Atom: <https://atom.io/>

And How to Publish your Projects?

- There are quite a few free cloud servers.
- Upload there and point to it by your own domain. For free services, use their free subdomains.
- Or if you have your own unique domain, use that.
- Github is one such free server. It also helps you to store and do version control of your software projects!

Course Outline - What We'll Cover

[Course Curriculum](#)

Sample Projects - What You'll do

Get a few ideas - Last Year's Sessional!

Tasks

- Go through the sample projects and start thinking of project ideas
- Download Atom or MS visual studio code.

<p> Thank You!</p>