SEO Tech Developer

Week 1: Intro to Project Problems

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Learning Objectives

1. Explain what a "backend", "frontend", and “fullstack” developer is
2. Create a project plan that addresses both usefulness to a user and technical considerations
3. Take a deep breath

Take a Deep Breath

You have just completed a very intense week

And you've done amazing!

What did you learn?

What went well?

What didn't?

What is your biggest concern?

Take a Deep Breath

Fall Forward

"You will Fail at some point in your life. You will lose. You will suck at something.

Accept it."

.... But don't fall back, fall forward.

https://youtu.be/vpW2sGlCtaE

Computer Science is about failing, and trying again and again - until we create something that never existed

1 What is Backend, Frontend, & Fullstack Developer?

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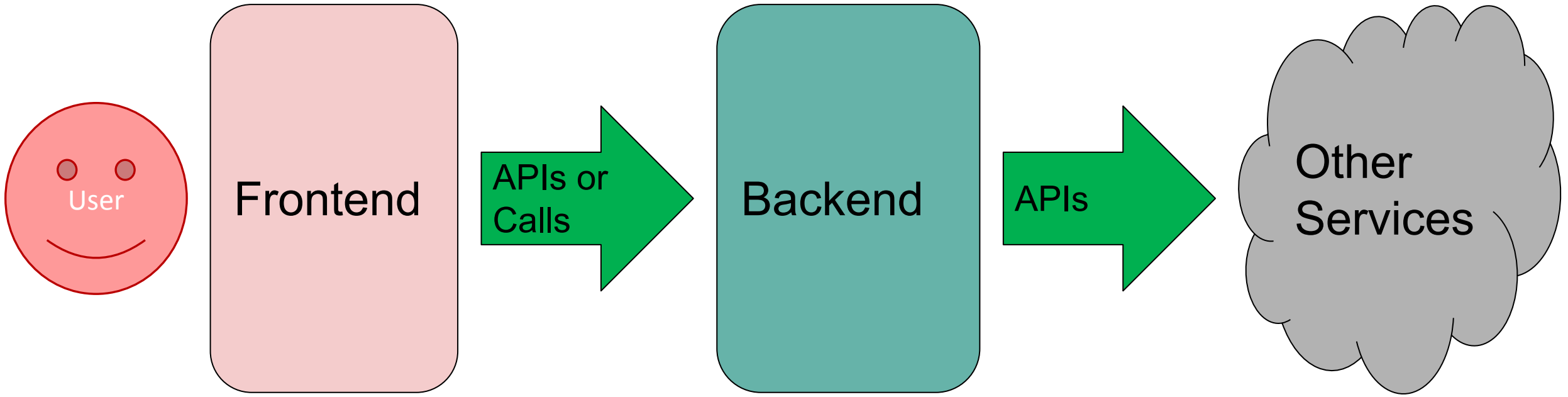
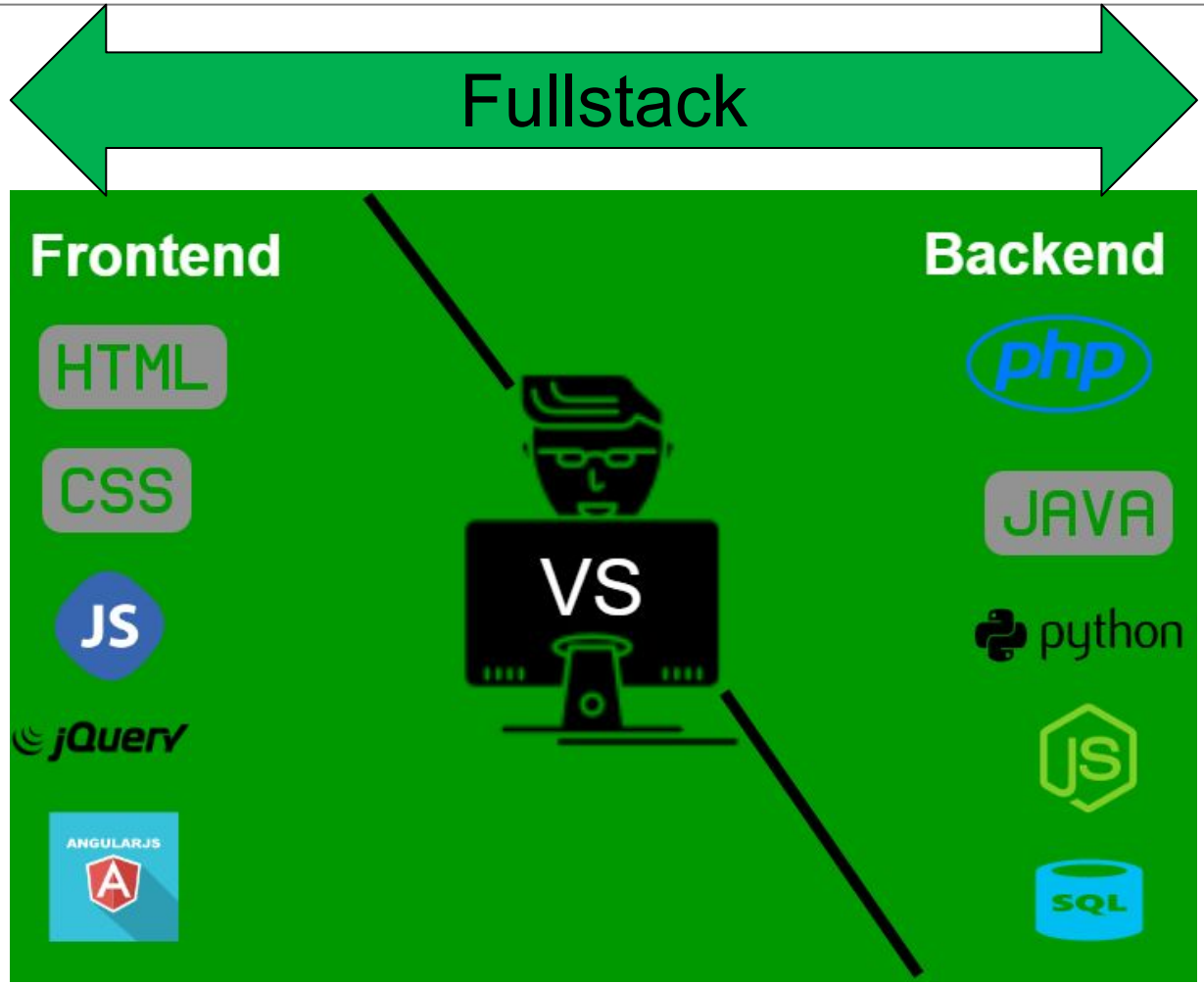


Where have we focused this week?

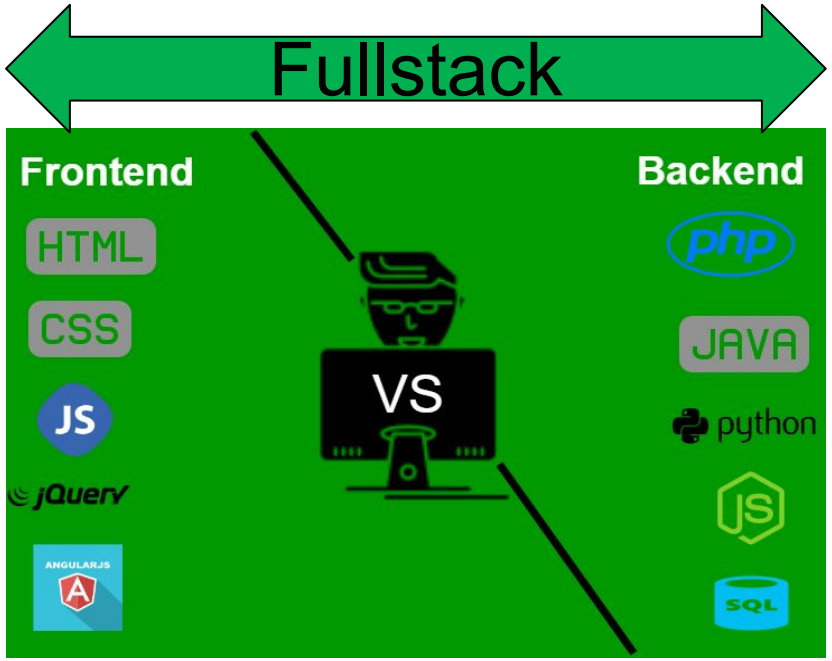
1 What is Backend, Frontend, & Fullstack Developer?



https://www.geeksforgeeks.org/frontend-vs-backend/

1 What is Backend, Frontend, & Fullstack Developer?

- Where do you see yourself?
  - What do you enjoy?
  - What type of problems do you like to solve?
- Answers will influence:
  - Looking for internships
  - Building your portfolio



2 What are you building?

Practice makes Permanent

- Author unknown

In order to really learn something, you need to practice it. Over, and over…

You'll be creating 3 projects of your choice

- Week 2: API / DBs / Data Analysis & Visualization; Pair programming
- Week 4: Data processing; Groups of 3
- Week 6: Portfolio Showcase; Groups of 3

2 What are you building?

Usefulness	Technology
* What problem is your project solving?	* What data or inputs do you need?
* Who would use your finished product?	* What will be outputted for the user?
* What is the smallest piece you can build that would be useful?	* How do the inputs become outputs?
* What are other aspects you can build that add value?	* What pieces of technology will your project use (API, database, etc)?

3 Project Requirements

Your Week 2 project should use all the skills you learned in Week 1.

Specifically…

- Data Analysis and Visualization
- API integration
- Creation, Querying, and Updating of Databases
- Adherence to PIP8 style
- A clear testing plan and appropriate unit tests
- Github Continuous Integration Automation for Style Checkers and Unit Tests

4 Pairing & Logistics

- Choose a partner in your breakout room
- (NOTE: if odd number of people, one team can have 3 people. There can be NO 1 person teams)
- Make sure you know how you are going to communicate (slack recommended)
- Brainstorm project ideas based on:
  - Requirements
  - What do you like to do
  - What do you want to learn
- By 6PMEST on Monday, post your project idea in slack

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- Create a project plan that addresses both usefulness to a user and technical considerations

NOTE: Monday’s exercise is a great way to start your portfolio on github! And catchup on and complete assignments

Choose your project by Monday 6PM EST

Learning Actvity

- Find a partner for your first group project
- Brainstorm project ideas
- Join breakout room with “your” TA’s name
  - Camera’s may be off
  - Recommend staying in room (mute)
- I’ll stay in main room as additional resource
- Slides and recording will be posted on Codio “shortly”

Project Problem Pitch

1. Name of Project
2. What problem are you solving?
    a. 2 sentences
3. Who / What does the project interface with?
    a. people?
    b. other systems? (APIs)
    c. Hardware?
4. What are the inputs?
5. What are the outputs?
6. List 5 steps to go from input -> output
7. What's the biggest risk?
8. How will you know you're successful?

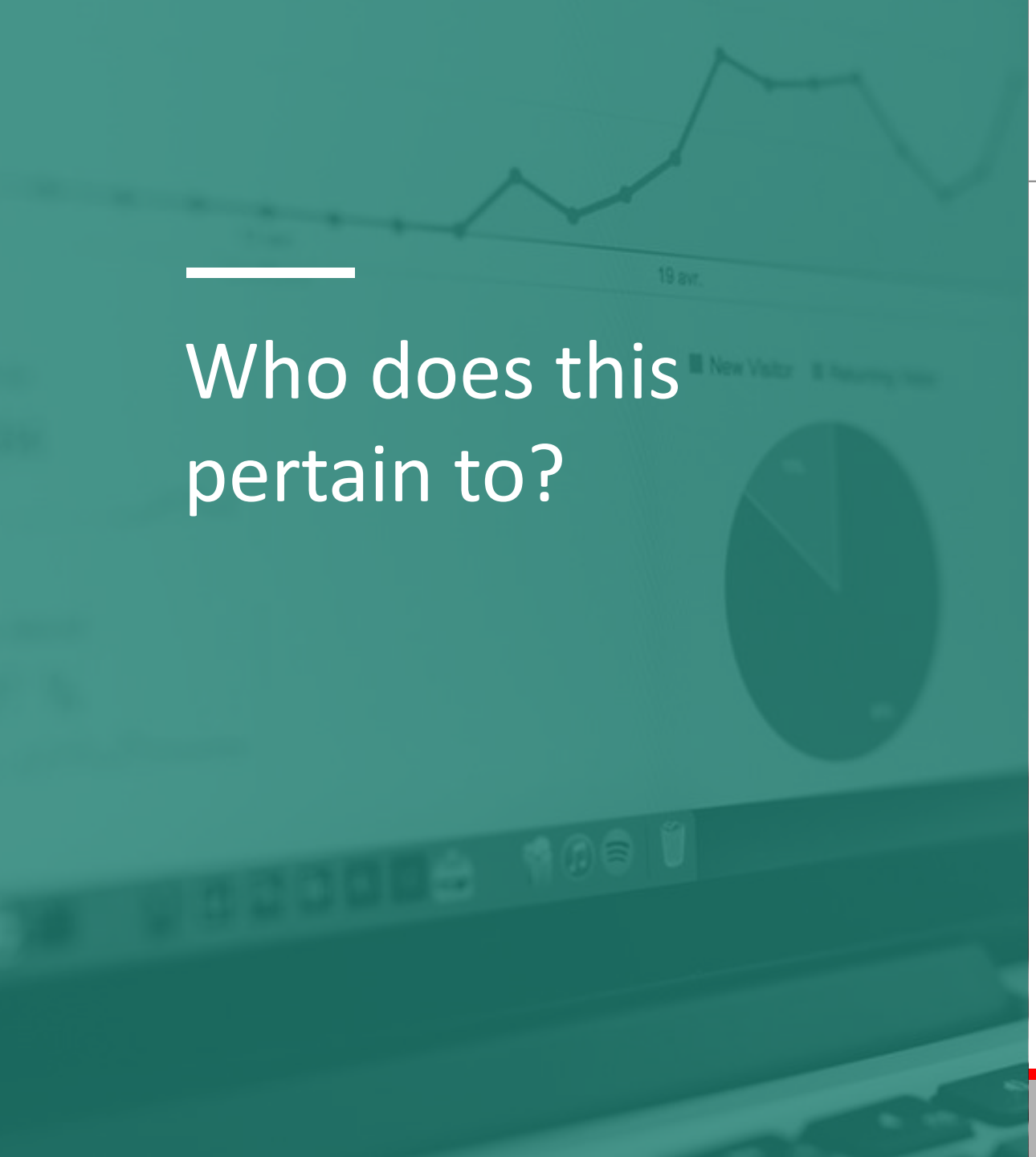
Example Project:
Student Used Bookstore

The Problem

Too much money spent on books.

I don’t like spending more money on school than I have to.

Student’s on campus likely have the book we need for a class, why not buy their book and cut out the middleman?



Who does this pertain to?

Students

Broke college students

Penny pinchers

Students with common sense

What would this project possibly interface with?

Amazon (and possibly other sites)

Campus Bookstore

The online used bookstore users

Project Inputs

Names of textbooks

ISBN

User’s information

Project Outputs

Average Prices of books

Comparison of book prices with other sites and students using the site

Inputs to Outputs

- User inputs a username, ISBN, or name of book they would like to browse for
- Site searches for either book or user account with given input
- If input is user account, all the books that a user is selling will be displayed
- If input is book name or ISBN, site will search for all users on the site who are selling the book, make API calls to (or possibly web-scrape) Amazon to get an average price of the book being sold on their site, and get the price of the book from the Campus Bookstore
- Finally, the site will display the average price of the book on amazon, users on the site selling the book, and the price the Campus Bookstore is selling it for

Risks

Pulling the book price information from other sites to use with our site

Project Success

Users can search for books they are interested in buying using our site

Site provides average price of book new and used from amazon

Site provides price of book from Campus Bookstore

Users can get in contact with other users to set up purchase of a book

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