Introduction

INFO 253A: Front End Web Architecture

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Teacher and TA Introductions

Course Goals

- Demystify "the front end" (whatever that means)
- Understand how to build interactive user interfaces
- Respect and understand the challenges of building these user interfaces

Course Layout

- M 12:00 pm - 2:00 pm PDT **(in-person)**
- F 1 pm - 2 pm PDT **(remote)**
- We will still respect Berkeley Time, so class will start 10 min later even for our remote classes)
- All lecturers will be recorded
- Lectures: two 50 min lectures with 10 min Q&A
- Demo/Lab: Demo and/or self graded Lab
- Course website: https://sites.ischool.berkeley.edu/i253af21/
- Course communications: Piazza and Bcourses

Setup Checklist

- Please go to the Bcourses site: https://bcourses.berkeley.edu/courses/1508039

- Click on the Piazza link on the left hand side

- Please continue to be added to our Piazza instance

- Piazza will be the central place for communications.

- **NOTE: PLEASE SEND ALL COMMUNICATIONS VIA PIAZZA.** If you need to send a note privately please send through Piazza and send it to the instructors of the class.

Course Work

- 2 major homework assignments building a web application

- (almost) Weekly self graded labs

- Group project

More on Assignments

- Assignments must be done individually, but you can ask others for help
- Assignments are due at 11:59 pm on the day they are assigned to be due
- Every day it is late after that **we will deduct 5 points** from the final score
- If you have any problems, please let us know
- You will be given a github classroom to generate your own github repository where you will save your work
- You will submit your work submitting the link to your repo in BCourses

More on Labs

- (Almost) weekly labs that will give you an opportunity to try out what you learned
- You will be able to verify that you did it right
- Once you completed it, you can submit "Completed" to the assignment in BCourses
- This is done via the honor system

More on the Project

- The group project is an opportunity to build something cool with other students
- Must be in groups of 4-5. There are **no exceptions** to this rule
- You will first form teams and draft up a proposal of what you would like to build, and we will give you feedback

More on the Project

- This will be assigned around the second half of the semester
- There will be presentations and a report
- All of this is due at 11:59 pm on the due date assigned
- Stay tuned on the date of presentations as due to the number of people in this course, we may need multiple days to go through all of the presentations

Grades

- Assignments: 50%
- Labs: 10%
- Group Project: 40%
- **Note: There is no midterm nor final**

Technologies you will use

Languages/Libraries

- HTML/CSS
- JavaScript
- React
- NextJS

Tools

- Git
- Unix/Terminal
- Coding editor
- Chrome with Development Tools

But Don't Worry

- This is not primarily a programming class
- Grades are based on the demonstration of understanding the base concepts
- Grades are not based on extra bells and whistles
- We are here to help

This is a Graduate Class

- Perform well without supervision
- Understand readings from a variety of different areas on the web
- Ask for help proactively
- Get frameworks working on your own

Responsibilities

Me

- Explain core concepts
- Understand design trade-offs
- Introduce new technologies
- Tie everything together

You

- Understand lectures and do class prep if assigned
- Explore new technologies
- Work independently and in groups

Wait List

- At the time of this writing all undergraduates are still on the waitlist

- This is not my intention, as I have given instructions to enroll everyone and there is more than enough space since the cap to this class is now 100 students (from 50)

- iSchool administration is a bit backed up so I believe all should be resolved sometime next week, but I'll keep you posted

- If you haven't been enrolled by Friday of next week, please let me know

Wait List

- Please check Cal Central to see if you have been enrolled in the class

- Also, if you would like to audit this class, you are more than welcome to do so, just let me know

- Course materials will be publicly available if you ultimately are not able to enroll into the class

Questions?

So what is this class really about?

- Good Question
- With the exception of mobile native applications, we now primarily interact with the internet using user interfaces powered by web technologies
- Even some mobile applications themselves are powered by web technologies

Focus on the browser

- We will be focusing on how to make your web browser an interactive internet powered canvas
- In the process, we will go through the philosophies of the internet, of web development, and the why things are the way they are
- By understanding not just the how, but the why, you'll be able to better be prepared for future trends, and better build and understand current systems

Focus on personal development

- Even though we will be focusing a lot on building software, this is not a bootcamp course
- You will all come away with different skills and takeaways from this material
- Let's go through some scenarios

Backend/Data Engineer

- This class will enable you to see how the services that you build are consumed for user delight
- You can appreciate some of the tradeoffs front end engineers have to make to use your services
- You'll see how your skills translate (or not) to user interface engineering

UI Designer

- This class will enable you to see how the designs that you build are translated into code that brings it to life
- You may also start to notice how designs are broken down into individual reusable components, and perhaps how you can use that understanding in your future designs

UX Designer

- This class will enable you to see how the user interactions you build your widgets on are actualized
- The technical tradeoffs that exist when building UI widgets can inform your future designs in what may (or may not) be possible from an engineering perspective

Computer Scientist

- This class will enable you to use your programming skills to build actual UI's that can be used by real users
- You will see how some of the the data structures and coding constructs (e.g. functional programming) that you learn from classes are inherent in building user interfaces

Product Manager / Business Leader

- This class will enable you to experience first hand what it takes to build a user interface from scratch
- This class also can give you a sense on how long new features take to build
- This class can provide understanding on what programmers on your team go through on a daily basis, giving insight on how to better direct the future of your product

Data Scientist

- This class will take you away from writing code to analyze data to writing code to build products based on the data that you have analyzed
- This course could also give insights on how to build better visualizations of the data that you may have not have considered before

Questions?