ICS 32

Course Introduction

What You Will Learn

- Assemble code into fully functional programs for the command line and the graphical desktop
- Use a code editor to write code
- Organize your code into reusable modules
- Integrate code written by other people into your programs
- Use your code to communicate with programs written by other people
- Write tests to ensure your code functions properly
- Document your code so other people (and you!) know what it does and how to use it

A Little Bit About Me

- I really need to update my website
- I too studied computer science for my undergrad!
- I then used what I learned to write software for many many many different companies over many many many years
- Then I studied how humans interact with computers and how to make systems easier for humans to use (“Informatics”)
- Now I make technology better for people with disabilities and teach all of you what I have learned

A Little Bit About your TAs

Sophie Marjan Van Genderen

Chao Yi Hsu

Brian Amir Ebrahimi

What the Heck is Zulip!?

- I know, I know. Why not Slack? Why not Discord?
- I prefer to support organizations that produce open source software.
- Zulip gives me full control of the tool AND the data. I don’t currently, but I could host Zulip myself.
- I like that….the full control thing.
- Oh, and if you want the data export from Zulip at the end of the quarter, just ask!

Let’s Play with Zulip for a Minute

Assignments

- Remember all that talk about internships the other day?
- I want to give you something to show off
- So rather than then build four or five small programs unrelated to each other, we are going to build one large program over the course of five assignments.

Assignment 0

- A simple program to get you started.
- Designed to help you familiarize yourself with IDLE, your code editor, and refresh your memory from what you learned in ICS 31 (or equiv)
- Short turn around on this assignment, so get started soon!

Assignment 1

- Your first step towards the ‘program’
- You will learn how to work with the computer file system, write a basic user interface, and handle code exceptions
- You will also learn how to follow program requirements and use the validity checker

Assignment 2

- Now that you understand basic file manipulation, you will turn that knowledge into a real program!
- You will integrate your own file format into your code from assignment 1 and create an interface that lets a user add, edit, and delete information stored in that file.

Assignment 3

- Now it’s time to reach beyond the confines of your computer
- You will build upon a2 by enabling your user to share what the information they add your files with the world
- https://ics32distributedsocial.com/

Assignment 4

- With a fully functional program in place, it’s time to extend the feature set!
- You will connect to Web APIs to gather interesting data from various sources to enhance the type of information your user can share

Assignment 5

- And finally…
- You will build integrate all the features you created into a graphical user interface AND encrypt your data to protect it from prying eyes!

Final Project

- We will discuss more at the midpoint of the quarter
- In short, you will (in groups of 2-3 if you choose) bring everything you have learned together to create a private messaging program

Questions so far?

How the Class will Work

- Monday - Wednesday all remote:
  - Recorded Zoom labs (optional, but encouraged)
  - Watch lectures (links on website)
- Thursday fun days
  - We will meet here and do stuff:
    - Socrative quiz
    - Impromptu discussion/lectures/QA
    - Collaborative code writing
    - We will build assignment code tests together
- Friday - In-person labs

Socrative Quizzes

- You receive credit for taking the quiz, not for answering correctly
- You can take remotely, but must receive permission from your TA or already have remote approval from the instructor
- The goal is to check yourself. If you get a lot of wrong answers, then you will have a good sense of which topics you are not understanding
- So don’t look up the answers (even if you take it remote), just answer honestly
- When appropriate, we will pause the quiz and discuss the question. If you are taking remote, just follow along with the recording

Socrative...let’s test it out!!!

Any Additional Questions?