

3-2 Milestone Two: Enhancement One: Software Engineering and Design

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CS 499 Computer Science Capstone

Prof Brooke

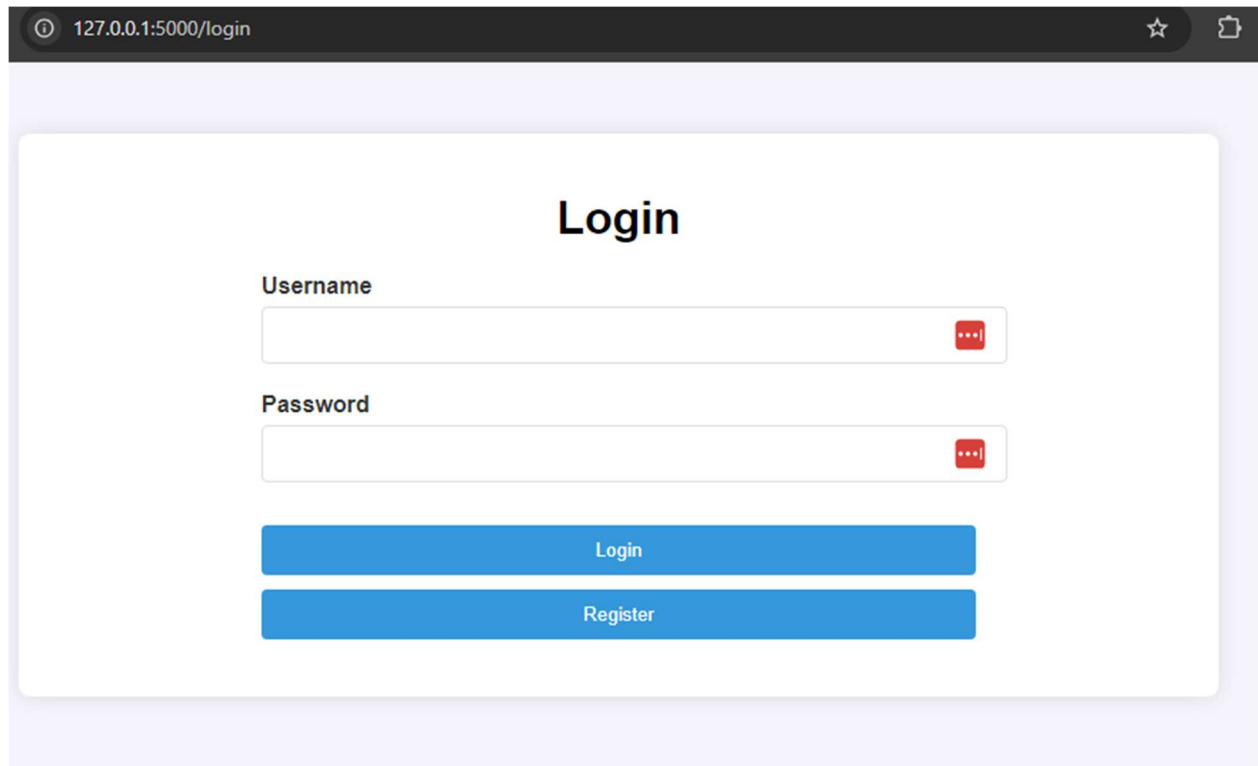
10/18/2024

## Introduction:

The artifact I chose for this milestone is from my CS 410 Software Reverse Engineering final project. I designed a text-based financial client script that requires a user to sign in using a username and password. From there, the user can see a list of current clients and their account type, either “Retirement” or “Brokerage”. This was originally written in C++, and I knew there was a lot that I could do to improve this project.

I had just previously come across a part of the Python library that I had never seen called “Flask,” which, after doing some research, found out that it is a Web application development library that confirmed exactly what I was going to do. I wanted to implement not only a database which I will talk about later, but also implement much more functionality into this project. My main goal was to not only convert it to another language to show my ability to go from language to language but also to completely transform this little text-based script into a full web application.

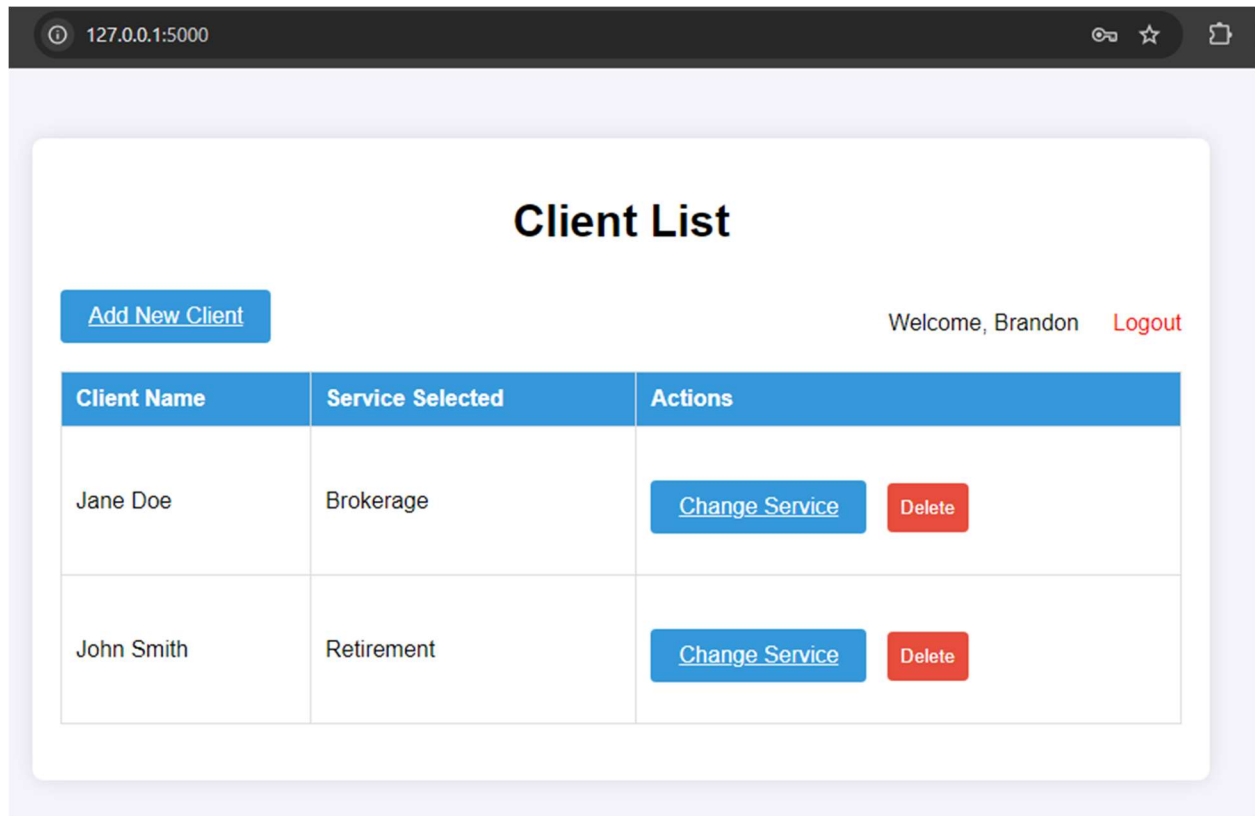
Image 1:



The image shows a web browser window with the address bar displaying "127.0.0.1:5000/login". The page content is centered on a white background with a light purple border. At the top, the word "Login" is written in a large, bold, black font. Below it, there are two input fields. The first is labeled "Username" and the second is labeled "Password". Both input fields have a red eye icon on the right side, indicating a toggle for password visibility. Below the input fields, there are two blue buttons. The top button is labeled "Login" and the bottom button is labeled "Register".

Requiring a user to sign in just like in the initial script, but in this form not only much more appealing but also adds the ability to register so that more than 1 person could use this application.

Image 2:



After signing in, the user can add new clients, update their Selected Service, and also delete clients as needed. All of this is connected to a database so that each user can only view the clients that are associated with them.

Completing this project shows my skills in multiple course outcomes I was looking to achieve.

- Design, develop, and deliver professional-quality oral, written, and visual communications that are coherent, technically sound, and appropriately adapted to specific audiences and contexts

I took the part of 'Visual' literally and wanted to make something where the user was able to see exactly what they were doing with a click of a mouse. It is a very simple and visually appealing

concept. Someone working in a financial space would love to be able to use something as simple as this, especially if more programming, like being able to categorize the clients based on things like “age” or service chosen, would be even better to adapt to a more specific audience.

- Demonstrate an ability to use well-founded and innovative techniques, skills, and tools in computing practices to implement computer solutions that deliver value and accomplish industry-specific goals

As I said before, my goal was to show my ability to go from language to language without any problems, as well as adding new ideas that came up as I was building, like adding in clients and being able to delete other ones as they are no longer needed. This project shows my knowledge and ability to use languages like Python, HTML, and CSS to connect all of these together.

In the end, my goal was to transform this simple C++ text-based application into a full web application that is clean, simple, and visually appealing.