

A Novel Edge-based Computer Vision Application for Workforce Performance Optimization

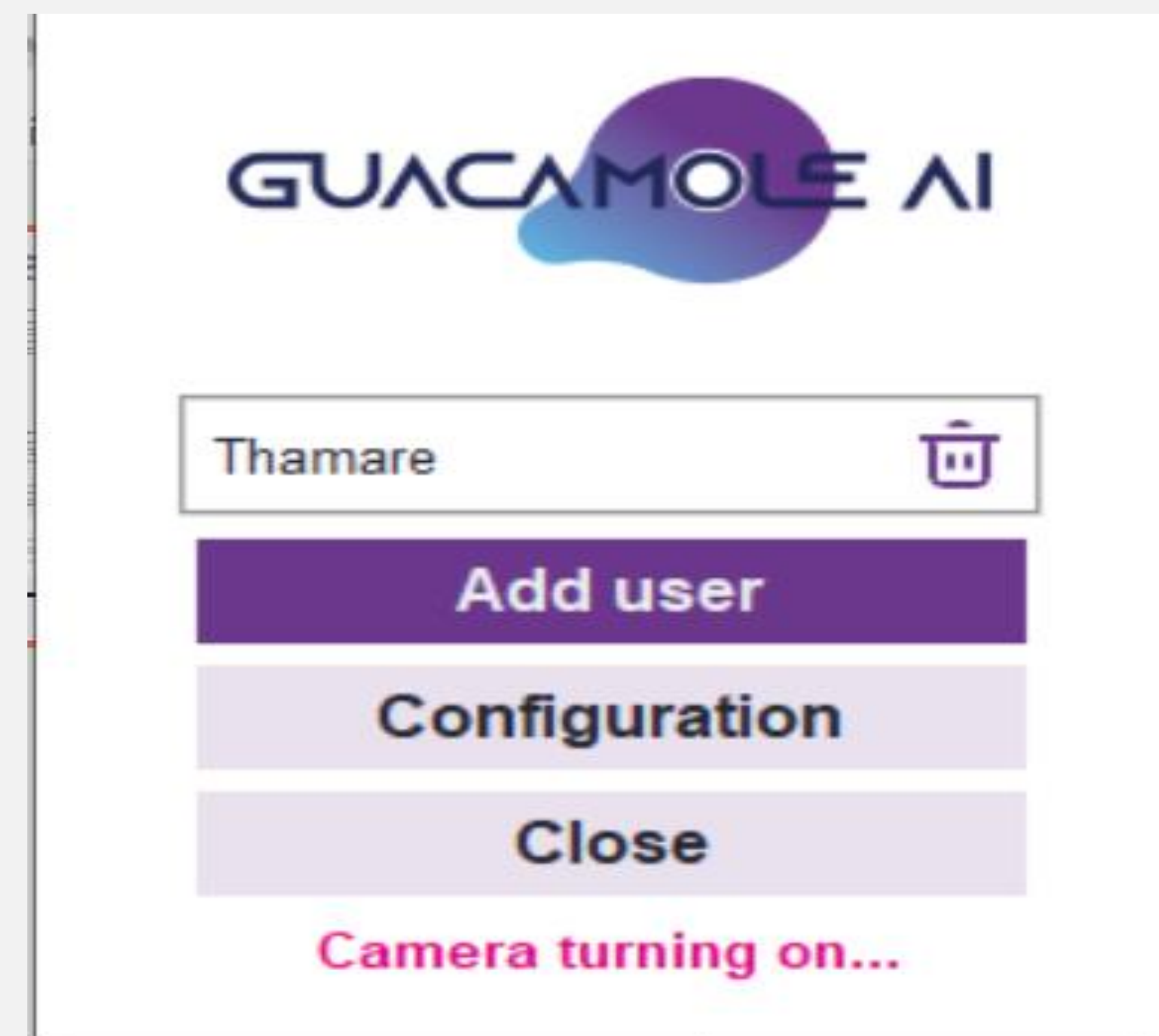
Student: **Thamare Saint Louis**

Product Owner: **Nima Schei**

Instructor/Faculty: *Dr. Masoud Sadjadi, Florida International University*

PROBLEM

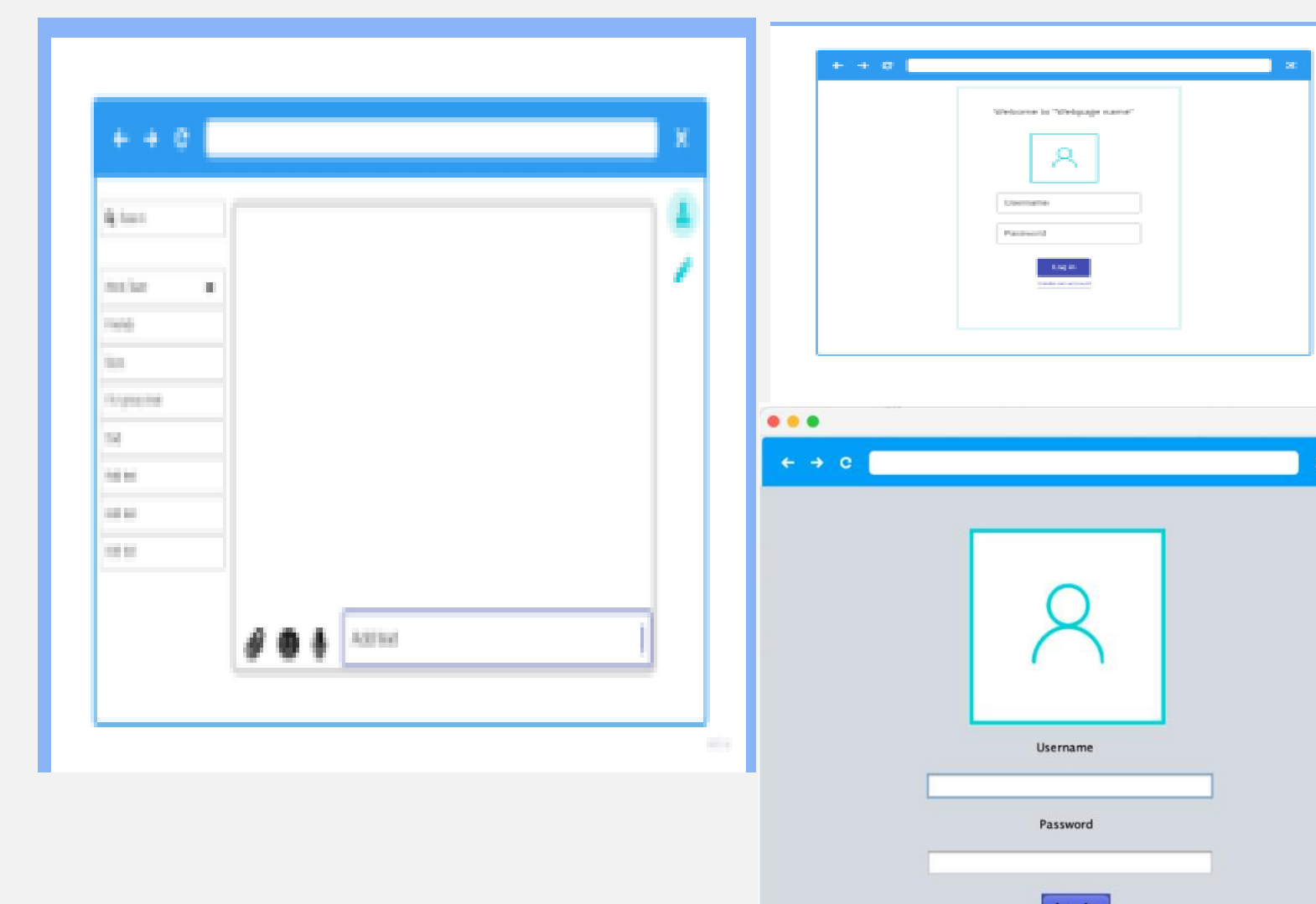
We were given Guacamole ID, an AI based program that uses AI to detect the faces of employees using it to make sure that there were no distractions and no one else around them. When logging in, the user is asked to take a picture of their face, forward, and side to side. The camera stays on throughout the time that they are logged in to track the time that they spend working.



CURRENT SYSTEM

In the current system, Guacamole ID requires face detection whether the user is new or not, if new, if new, the face matching feature is used to authenticate the user. The AI side of Guacamole ID takes care of the face matching by storing the faces of the users as an array of embeddings. So far, the team has a complete front end and a backend design with a AI code to implement face matching.

OBJECT DESIGN



SUMMARY

In summary, as we were introduced to Guacamole ID by HummingBirds AI, we were divided into different groups front End, backend, and AI. AI successfully worked on a prototype, a flowchart and a starting code that will be used in the future. The front End created matches pre-existing designs of what the developers had and our GUI wireframe, and back-end successfully implemented a functional chat-room and friend request system, and a prototype facial recognition system that was altered to fit the login/register page of the chatroom.

REQUIREMENTS

Software Used:

Anaconda3

Languages used:

Jupyter Notebook

Python3

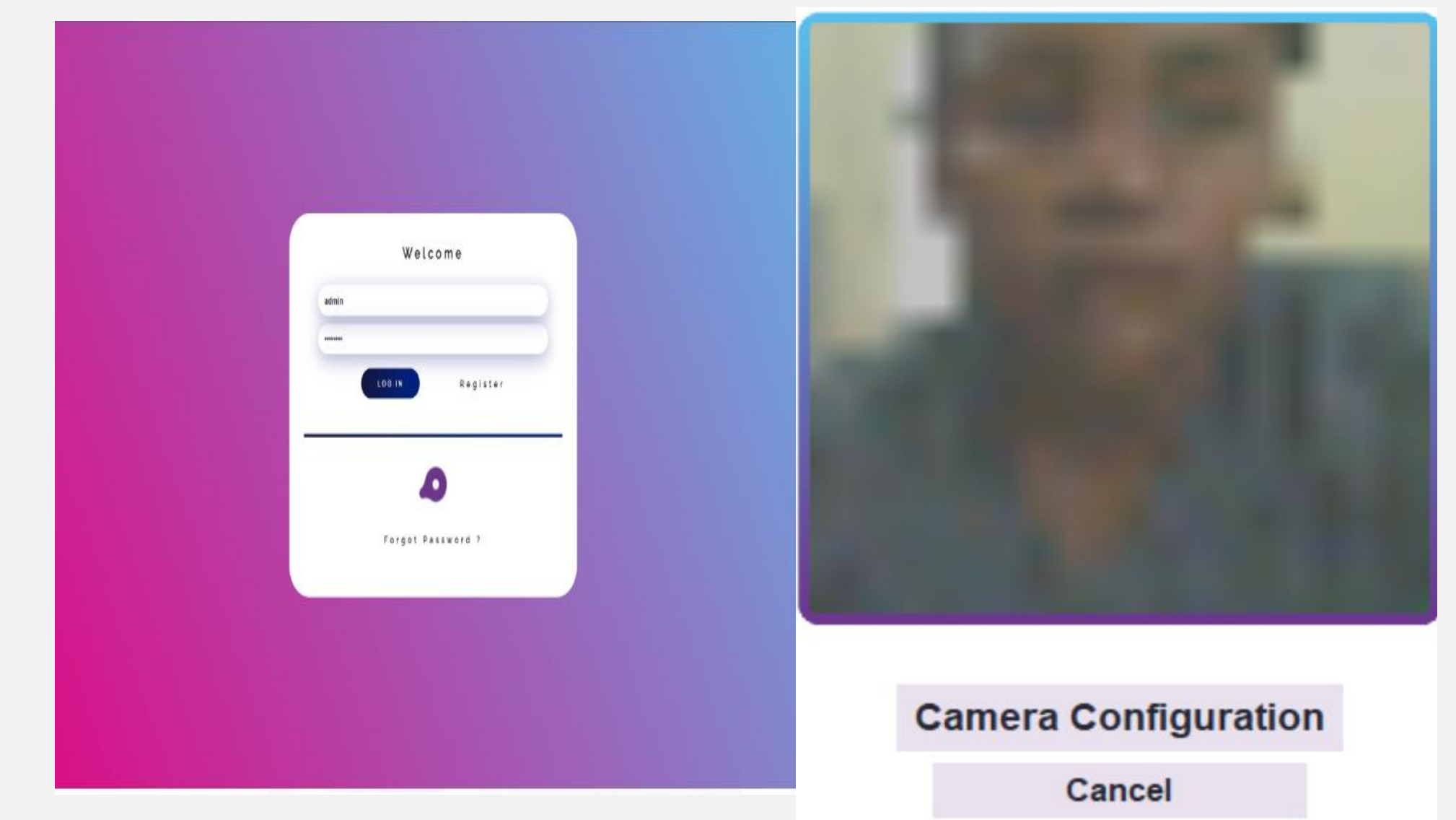
Visual Studio Code

Django

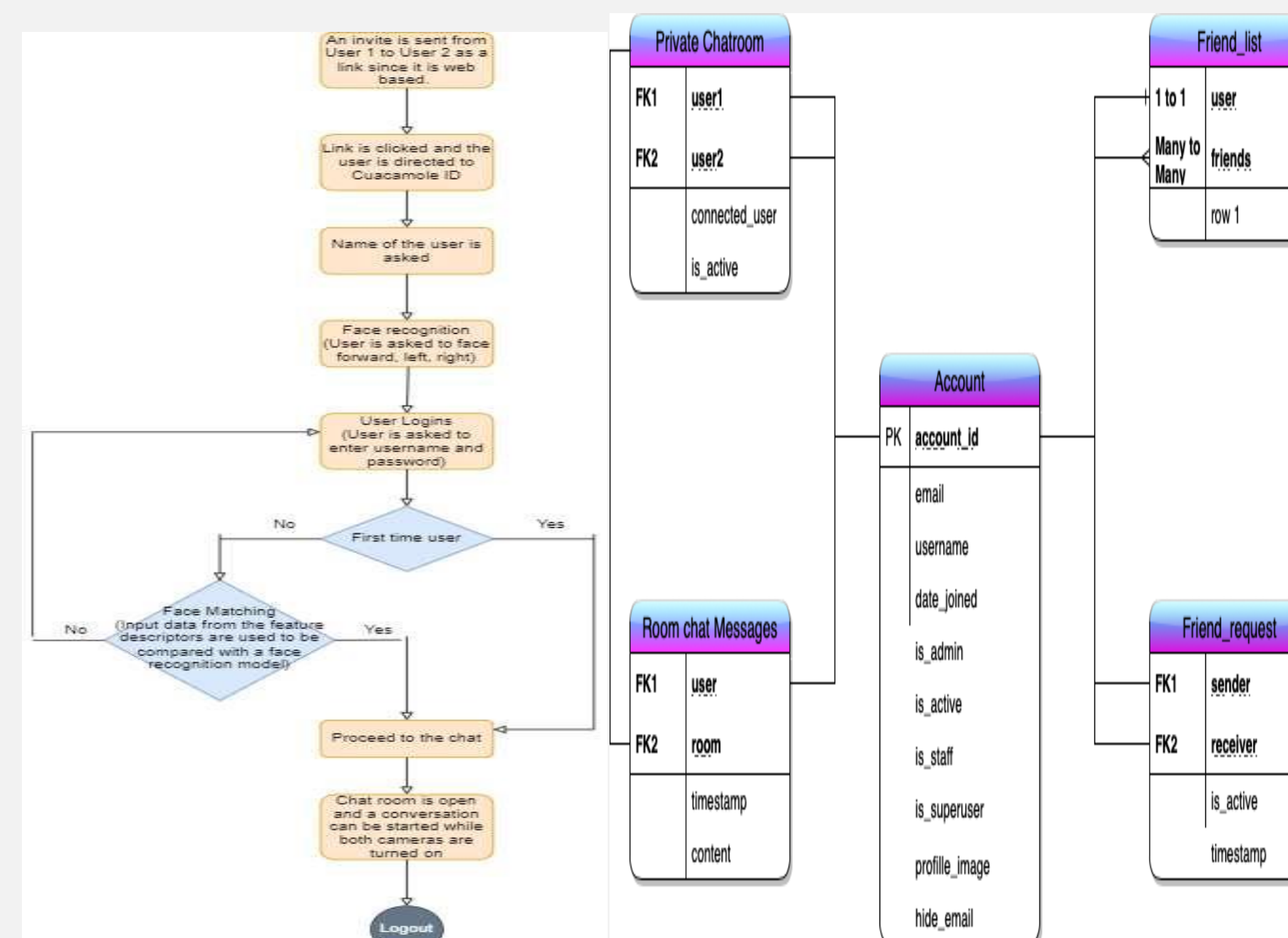
Mac OS

Guacamole ID

Screenshots



SYSTEM DESIGN



IMPLEMENTATION

To implement this project we used:

Front End: REACT, JavaScript, Visual Studio Code, HTML

BackEnd: Django, Python, Visual Studio Code, PgAdmin

AI : Python, Jupyter Notebook

VERIFICATION

As verification, we used different test cases which included face registration, logins, log outs, 1 to 1 chat capabilities.

ACKNOWLEDGEMENT

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