**Real-time Chat application med Python, Socket IO and Tkinter GUI or Flask Web Framework**

# Background:

I want to develop a real-time chat application that allows users to send and receive messages through a central server. The application should be implemented using the Python programming language and leverage Socket IO for communication between clients and the server. Tkinter should be used to create the user interface (UI) for the chat application.

# Functionality Requirements:

### User Registration and Identification:

* Implement a method for users to register or input using a username. Ensure each user is assigned a unique identifier.

### Server-Client Communication:

* Create a server that listens for connections from clients. When a client connects, the server should receive and maintain the user identification. Implement a way for clients to send text messages to the server.

### Real-time Message Transfer:

* When a client sends a message to the server, the server should forward the message to the specific recipient using their identification. The client should be able to receive messages from other users in real-time.

### User Interface with Tkinter:

* Design a user-friendly interface using Tkinter to allow users to send and receive messages. Display messages in real-time on the user interface.

# Implementation Details:

* Use the Socket IO library for both server and client implementations.
* Apply Tkinter to design a user-friendly GUI.