MULTIPLE USER GROUP CHAT

A COURSE PROJECT REPORT

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BONAFIDE CERTIFICATE

Certified that this mini project report "**Multiple User Group Chat** " is the bonafide work of **Reeba Mercy Sebastian (RA2011027010072), Althaf Kader (RA2011027010073), Karan Sharma (RA2011027010077), Dikcha Singh (RA2011027010096)** who carried out the project work under my supervision.

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ABSTRACT

Network system is the system that provides communication among multiple people; it is now a necessity of life in order to build a good society. Internet chat communications have seen enormous growth over the last several years.

The group chat GUI will allow multiple users to connect to the server and chat with all other online users. This GUI works in a broadcast fashion. This means that messages from a user are broadcasted to other users.

Group Chat Messenger using TCP/IP offers reliability, security and zero cost communication among staff members of a company. As well, this study offers file transfer. It helps to solve the communication problems that are related to time and cost.

The proposed protocol facilitates information exchange among individuals by providing many communication options. It is a GUI using python as the programming language.

1. INTRODUCTION

1.1 Scenario Description

Group Chat Application nowadays are so relevant. People are using different kinds of Group chat applications almost every day, which can send messages or even have a call internationally as long as there is internet available, whose impact on everyone is so large that Group Chat can replace the technology of Text messages. It made a big difference on the society. The core value of chat for every user is: it can send message to someone instantly, especially when it comes to emergencies. In the past, it would take an hour or even days to send message, however, the mass of the population of chat apps, are dependent on the internet, data or cellular signal. Since many people text at same time it saves time of people where they can message at same place to tell one single news to every other necessary person at the same time.

The process of conversing, engaging, and/or exchanging messages through the Internet is referred to as chatting. It involves two or more people communicating via a chat-enabled service or program. Chat can be given via the Internet using text, voice, or video communication. A chat program is made up of two fundamental components: a **server** and a **client**.

A **server** is a computer program or hardware device that offers functionality to other programs or hardware. A **client** or clients are simply persons who wish to communicate with one another. Also, clients first need to connect to the server and then the server will work as a medium between clients. The chat program we'll create will be more like a chat room than a peer-to-peer chat. As a result, numerous users can connect to the chat server and submit messages. Any message is sent to every chat user that is connected.

2. LITERATURE SURVEY

PAPERS	CONTENT	METHODOLOGY	LIMITATIONS
CHAT OVER IP ADDRESS SYSTEM (IJAER 2017)	Internet chat communications have seen enormous growth over the last several years. The suggested system is the private network communication between two users, whereas a chat session is the network communication between two or more users. The suggested system is modern technique that provides communication via voice chat or written text as well as both. This communication is taken place via IP address, forming a local area network for communication via IP address as voice chat or messages. The suggested System providing low-cost communication via IP address that could be available for most computers or end devices of an organization or a special building for people in there.	find out the IP address for the devices that connected to the router set out the jitter buffer to an appropriate amount (the same for all of the participants). for the server part do the following sub steps: a. set IP address in the appropriate filed b. set port number for the client part do the following sub steps: a. set IP address in the appropriate filed b. set port number, a dedicated one choose from the following: a. starts a conversation according the users that their IP addresses were set in. b. Start sending written messages according the users that their IP addresses. add new participants if any for the chat conversation	As the system using message chat, the language is used is the English language only. Developing this limitation by adding facilities for translating for other languages such as Arabic.

3. REQUIREMENTS

3.1 Requirement Analysis

From the given scenario, we draw the following requirements:

1. Identifying the appropriate hardware.
2. The user interacts with the tool using a GUI.
3. The GUI operates in two forms, the List form & the chat form.
4. The List form contains the names of all the systems connected to a network.
5. The chat form makes the actual communication possible in the form of text.
6. The users in the organization should have full access to the server.
7. TCP/IP Network design with IP addressing

3.2 Hardware Requirement

In hardware requirement we require all those components which will provide us the platform for the development of the project. The minimum hardware required for the development of this project is as follows:

Ram- minimum 128 MB

Hard disk—minimum 5 GB

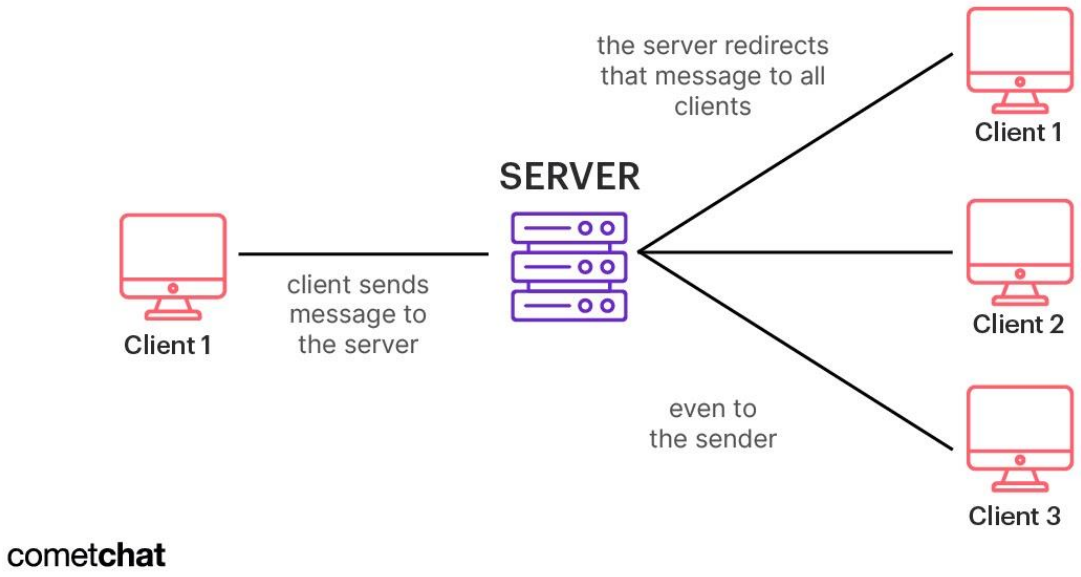
Processor- intel i5

These all are the minimum hardware requirement required for our project. We want to make our project to be used in any. Type of computer therefore we have taken minimum configuration to a large extent.128 MB ram is used so that we can execute our project in a least possible RAM.5 GB hard disk is used because project takes less space to be executed or stored. Therefore, minimum hard disk is used. Others enhancements are according to the needs.

4. ARCHITECTURE AND DESIGN

4.1 System Architecture

The system architecture is as follows:



System Architecture of the chat application works in two forms.

• List form: In this form, all the names of the systems connected to a network are enlisted. These names can later be used for communication with the help of mouse event, or in simple language: a click or a double click.

• Chat form: This form is called only when an element is selected from the List form. In this form, a connection is created between the host system and the selected system with the help of a socket.

5. IMPLEMENTATION

Implementation is a vital step in ensuring the success of new system even a well-designed system can fail if it is not a properly implemented. Implementation activities are needed to transform a newly developed information system into an operational system for end users.

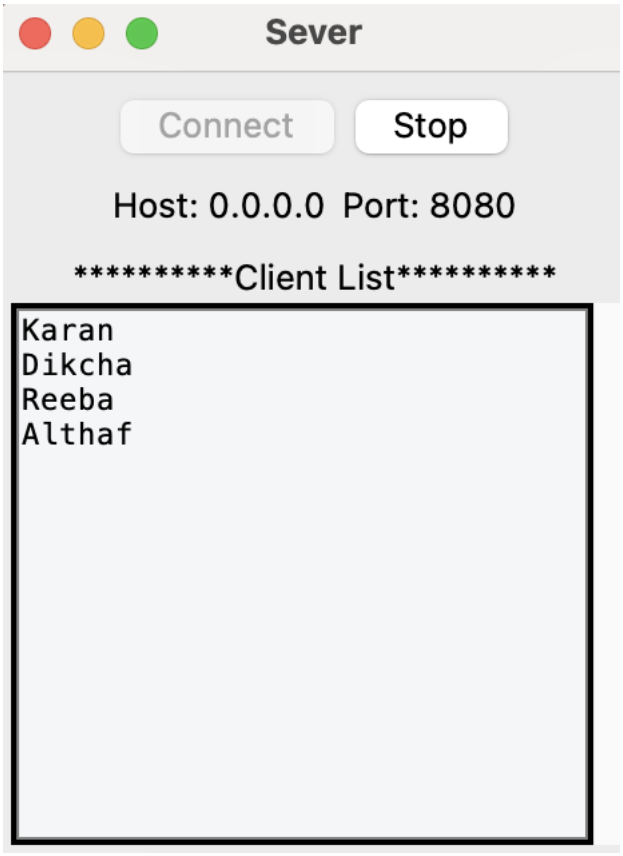
Acquiring Hardware Software and Services: These resources acquired from many sources in the computer industry. Some sources are as follows a-hardware- IBM, HP, Apple computer etc. b- software- Microsoft, Oracle etc.

Testing: Testing of a developed system is an important implementation activity. System testing and debugging computer programs and testing information processing procedures.

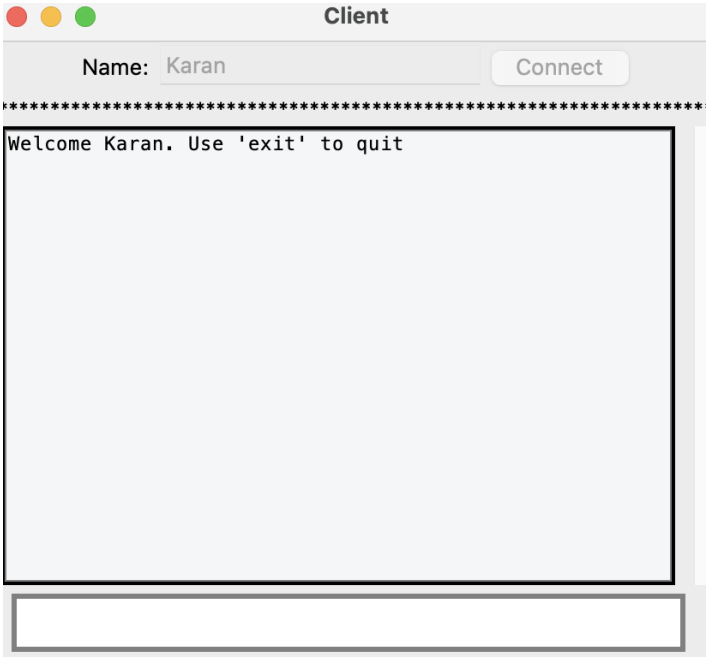
Training methods: A-Vendor and in service training-Vendor offers extensive educational programs as part of their services. the courses by experiences trainers and sales personnel, cover all aspects of using the equipment. participant actually use the system in the presence of trainer. It questions arise, they can quickly be answered. B-In house training- It is offered by special purchased instructional materials training manuals on site.

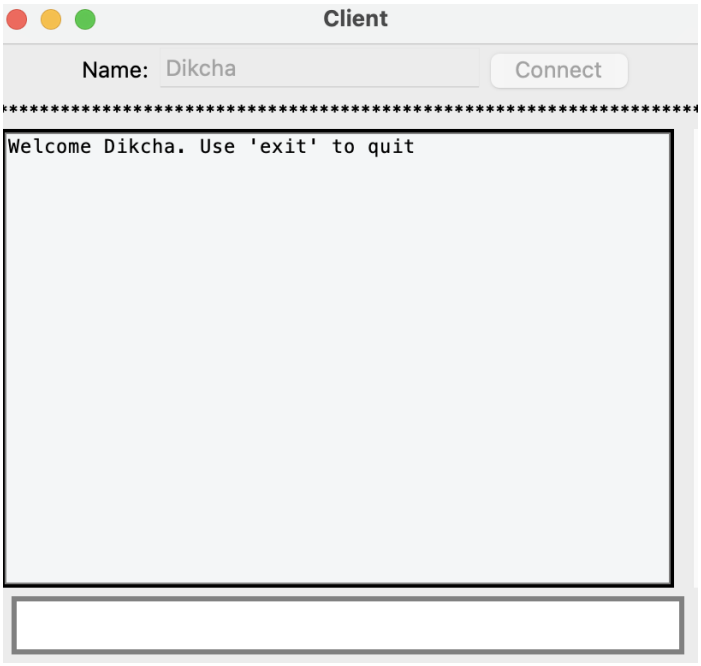
6. RESULTS AND DISCUSSION

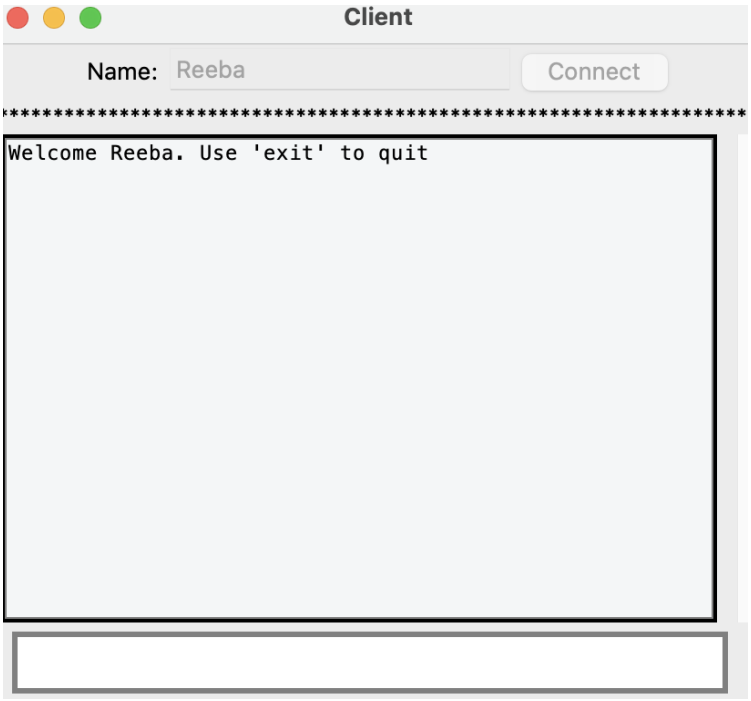
6.1 SERVER

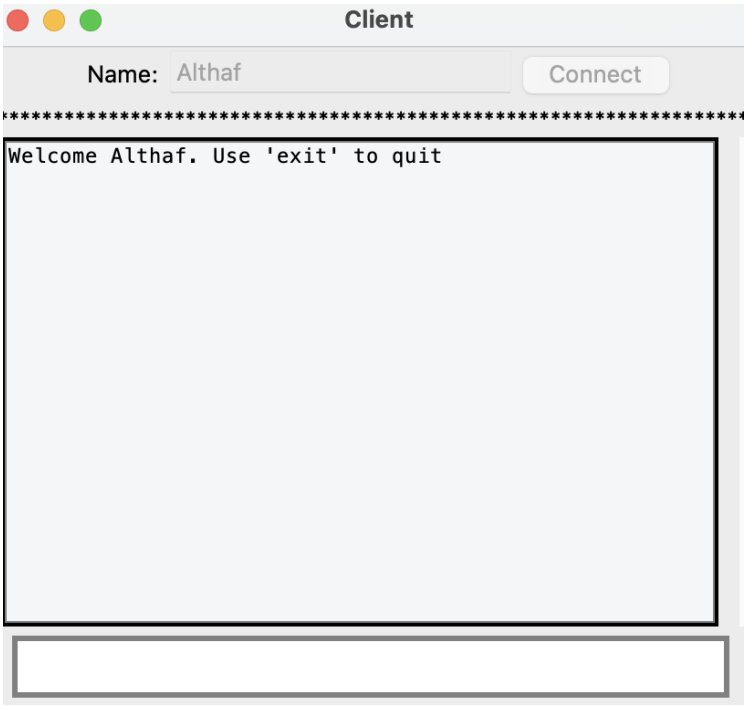


6.2 CLIENTS


Client
Name:
Karan
Connect
Welcome Karan. Use 'exit' to quit


Client
Name:
Dikcha
Connect
Welcome Dikcha. Use 'exit' to quit


Client
Name:
Reeba
Connect
Welcome Reeba. Use 'exit' to quit


Client
Name:
Althaf
Connect
Welcome Althaf. Use 'exit' to quit

7. CONCLUSION AND FUTURE ENHANCEMENT

We have created GUI Group Chat Application in Python Tkinter from scratch. We created two important Python files client.py and server.py. Client file has been created for the chat interface and the server file will handle the backend. That's it. We sincerely hope you liked reading it as much as we did writing it. This was only the tip of the iceberg in the fascinating field of computer networking.

Future Enhancement:
There is always a room for improvements in any software package, however good and efficient it may be done. But the most important thing should be flexible to accept further modification. Right now, we are just dealing with text communication. In future this software may be extended to include features such as:

- File transfer: this will enable the user to send files of different formats to others via the chat application.
- Voice chat: this will enhance the application to a higher level where communication will be possible via voice calling as in telephone.
- Video chat: this will further enhance the feature of calling into video communication.

REFERENCES

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[3] Google