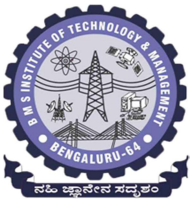
BMS INSTITUTE OF TECHNOLOGY & MANAGEMENT

YELAHANKA, BENGALURU - 560064



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PROJECT BASED LEARNING

2020-21 Even Semester

Project Report of Design and Analysis of Algorithms (DAA) - 18CS42 and Object Oriented Concepts (OOC) – 18CS45 project work

PBL Title - Chatting Application

Submitted By

Student Name: Satyendra Pratap Singh **USN: 1BY19CS210**

Student Name: Sripriya R **USN: 1BY19CS158**

Student Name: Gajeelee Rohan Pranav **USN: 1BY19CS194**

Student Name: Yash Harish Gupta **USN: 1BY19CS186**

Under the guidance of

Dr Satish Kumar T
Assistant Professor

Srivani P
Assistant Professor

2020-2021

INSTITUTE VISION

To emerge as one of the finest technical institutions of higher learning, to develop engineering professionals who are technically competent, ethical and environment friendly for betterment of the society.

INSTITUTE MISSION

Accomplish stimulating learning environment through high quality academic instruction, innovation and industry-institute interface.

DEPARTMENT VISION

To develop technical professionals acquainted with recent trends and technologies of computer science to serve as valuable resource for the nation/society.

DEPARTMENT MISSION

Facilitating and exposing the students to various learning opportunities through dedicated academic teaching, guidance and monitoring.

PROGRAM EDUCATIONAL OBJECTIVES

1. Lead a successful career by designing, analyzing and solving various problems in the field of Computer Science & Engineering.
2. Pursue higher studies for enduring edification.
3. Exhibit professional and team building attitude along with effective communication.
4. Identify and provide solutions for sustainable environmental development

Abstract:

Introduction: Communication is a mean for people to exchange messages. It has started since the beginning of human creation. Chatting is a method of using technology to bring people and ideas together despite of the geographical barriers. The technology has been available for years but the acceptance was quite recent. Our project is an example of a chat server. Our objective is to create a chat application with a server and users to enable to chat with each other. To develop an instant messaging solution to enable users to seamlessly communicate with each other. The project is very easy to use enabling even a novice person to use it.

Motivation: Instant messengers have become a way of life. They seem to be a more reliable form of communication than a phone call. Today's advanced chat apps also have the facility to check whether the recipient has received and actually read your message. You can know instantly whether the recipient has received or read your message. Follow up becomes easy too. Well, chatting apps are pure fun too! You can catch-up with old friends and new, family and relatives – the whole world comes together on one virtual platform.

Existing System:

- Earlier there was no mode of online communication between users. In big or small organizations communication between users posed a challenge.
- There was a requirement to record these communications and store the data for further evaluation. The idea is to automate the existing Simple Chat Room system and make the users to utilize the software so that their valuable information is stored digitally and can be retrieving for further management purposes.

- There was no online method of communicating to different users. There were many different interfaces available in the market but this method of using windows sockets to communicate between nodes would be fast and reliable.

Limitations of existing system:

- There was no private chatting option before. But in the application that we are going to develop there is a private chatting option.
- The performance is low.
- Not userfriendly

Proposed System:

1. **Faster support:** Obviously chat is easy to reach for your customers, but what's more is that the average resolution time is significantly lower than with traditional service channels.
2. **Real-time text preview:** One of the handy advantages of live chat is the option to see a real-time preview of what the customer is typing before she hits enter.
3. **No waiting queues:** Customers reach you quicker. According to Zopim research, in less than 30 seconds.
4. **Quick resolution of site errors:** One of the less obvious benefits of live chat is its effectiveness in driving down user fails and site errors.

System Requirement Specifications:

Functional Requirements: This section will cover the functional requirements of the chat application.

1. **Login Menu function**: This functional requirement is for prompting the user with the option to register for the chat application, logging in, or exit the program. It will take the form of a GUI Register function (Login Menu aspect) This aspect of the login menu will ask the user for the name, username, and password of the client. It will check if the username has been taken and will close if the use
2. **Send a message (Online Menu Aspect):** This aspect will give the user the ability to send a message to whoever they want who is online and selected by the user.
3. **Logout (Online Menu aspect):** This aspect will give the option to logout of the chat application and will go back to the login menu.

Non Functional Requirements: These are the nonfunctional requirements of the chat application. This is basically the section that deals with the quality of the chat application rather than the functionalities of the application.

1. **User Friendly**: The chat application needs to be user friendly, when using its user interface.
2. **GUI**: By using GUI's, it should make the application more user friendly and better to use instead of a command line. Buttons will be used.
3. **Robustness**: In case user's device crashes, a backup of their chat history must be stored on remote database servers to enable recoverability.
4. **Performance**: Application must be lightweight and must send messages instantly.

Proposed Methodology: We have used Java Programming Language to develop and implement our chatting application.

Reference: Github, Google

Abstract 2:

Design and Analysis of Algorithms (DAA): In DAA we have used

- Depth first search (DFS) Algorithm
- Breadth first search (BFS) Algorithm
- Dijkstra's Algorithm

Object Oriented Concepts (OOC): In OOC (JAVA) we have used

- Inheritance
- Abstraction
- Method Overriding
- Sockets
- J Frame
- Swings
- Interface
- Exception Handling