Software Requirements specifications(SRS)

Project Name : Instant Chat Application

Document Title : SRS-IC

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CONTENTS

Overview :

Instant Chat is a way communication with people around the world Before the internet era we had letters through which we used to send our messages to the people, but it used to take long time to reach and it is not secure but now internet made our work easy by send our views to people by using internet and this application provides security by using login credentials of the user so that only the owner can access the information.

1.Introduction

1.1. Purpose

The purpose of this project is to implement a socket Programming-based chat application that will allow to create a multiple client to chat in private conversation.

1.2 Intended Audience

This project is to create a chat application with the server and clients to enable the client to chat with many other clients. This project can play an important role in organization field where employees can be connected through internet.

1.3. Project Scope

The purpose of this project is to create a chat application which Enable the clients to chat with many other clients. Above all, we hope to provide a comfortable user experience along with ease of using the application.

1.4. Reference

The Instant Chatter has been made by referring all the below links and the websites.

1. https://datatracker.ietf.org/doc/html/rfc793 RFC 793 - Transmission Control Protocol (TCP) – IETF

2. https://stackoverflow.com/

3. https://www.tutorialspoint.com/ 4. https://dev.to/ (Dev community

2. Overall Description

2.1. Product Perspective

The chat application has two entities server and client.

A: Server

It is a program/device which provides services to other users, Usually called as clients. In this program, the server will make connection between client and server by accepting his requests.

B: Client

It is a piece of software the access the services made available By server as a part of a client-server model of computer network the functions of client are receiving the chat from the server and uploading the chat to the server.

2.2. Assumptions Dependencies

Let us assume that this is an chat application, and it is used In the following application.

- A request by the client program for receiving the chat from the server to client.
- A request by the client program to upload the chat from Storage to server.

2.3. Operating Environment

Operating Environment for the chat application is listed below.

- Client/system
- Operating System:Any UNIX based OS

2.4. Product Features

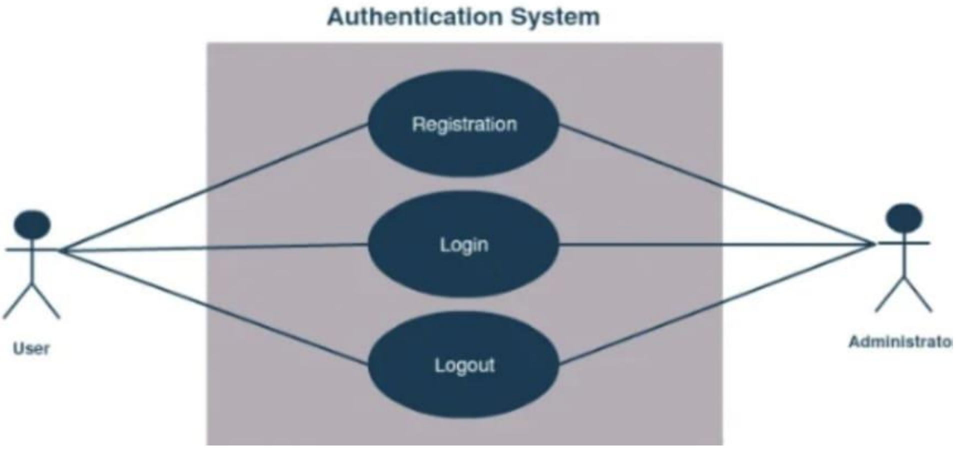
The major features of chat application is shown below.

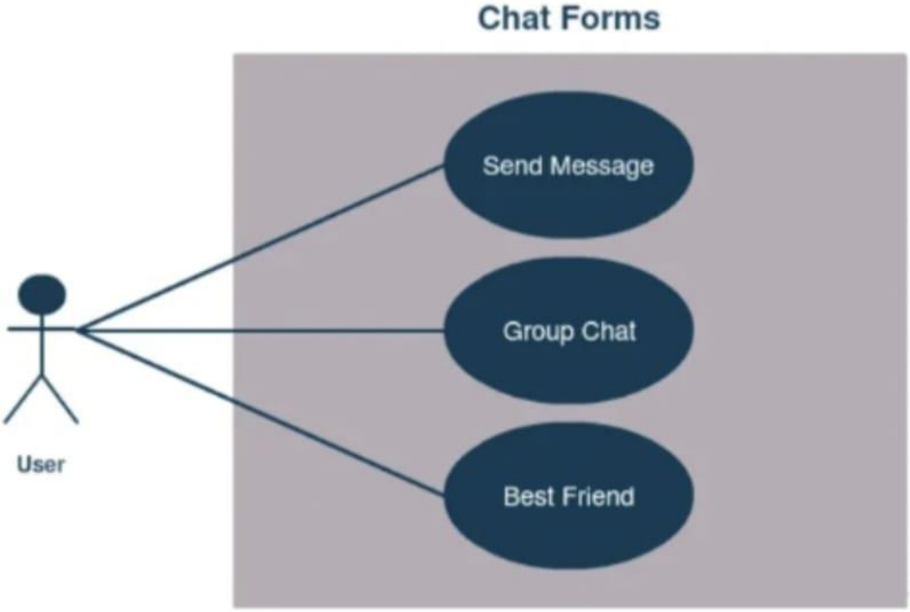
- User can Register using his credentials in the server.
- In chat server we have user validation and message Exchange functions.
- We can know the active users using Active user list
- We can send and receive messages from different User from registered list.
- We can logout when we are done using sign-out Function.

3. Working of Instant Chat

The instant chat application is developed using C programming language. This application is used for communication between two or more users In the application we create registration for user using their credentials for Sign in and sign out purpose, and the information is stored in server storage location for security purpose when user try sign in and it shows login failed when user try sign with wrong password and he can send and receive messages with different users who have registered their names in the server and we can know the active users using active user list function and we can sign out when we are done using sign out function.

3.1 Use case Diagram:





4.System Features

- The chat application provides the service and enables the client to exchange information with other clients.

4.1. Functional Requirements

1. User Registration

   The user needs to register using his credentials for using the chat application.
2. User Validation

   This function verifies the user credentials when he tries to log in.
3. Active User List

   We can know the active users in the chat application.
4. Registered Users

   We can know who have registered the names.
5. Search Chat History

   User can view his chat history.
6. Failure Login

   Login failed when user try to sign in with wrong credentials.
7. Message Exchanges

   The information will move from one location to another in server.
8. Sending and Receiving messages

   The user will send and receive information using this function.
9. Sign-out

   When user wants to leave he will use sign-out function.

5. External Interface Requirements

5.1. User Interface

- GUI : The application does not use Graphical User Interface.
- CLI : The application is based on CLI and the commands are given through it.

5.2. Hardware Interface:

- UNIX based operating system.
- Terminals to run both programs (server,client).
- Space to store login credentials.

6. Non-Functional Requirement

6.1. Performance Requirements

The application is designed to be operated through CLI on UNIX based system, thus no additional system requirements Required.

6.2. Software Quality Attributes

- Serviceability:
  The maintenance of the system should be able to be sufficiently performed by any person who know basic Understanding in C and client-server programming.

- Reusability:
  The application should be designed in a way that allows It to be reused easy when running on any system with UNIX as OS.

- Binary Compatibility:
  This application should be compatible with any computer that has UNIX based operating system.

- Portability:
  The source code needs to be implemented in such a way that it is portable to any machine that can compile and run C programming.

7.Operational Scenarios

- Scenario A:
  User Registration: The user needs to register his name for using chat application.

- Scenario B:
  User Validation : The user needs to verify his credentials by sign-in.

- Scenario C:
  Active User List: The user can know who are active.

- Scenario D:
  Sending and Receiving messages: The user is communicating with the other users.

- Scenario E:
  Search Chat History: The user can view his previous chat.

- Scenario F:
  Sign-out: The user can sign-out when he is done.