INSTANT CHATTERS

Software Requirement Specification (SRS) Document

Sprint 2 Implementation

Project Timeline: 12.10.2022 to 17.10.2022

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1. Introduction: -

The introduction of the software requirement specification provides an overview of the entire software. The entire SRS with overview description purpose, scope, tools used and basic description. The aim of this document is to gather, analyze and give an in-depth insight into the complete Instant Chatters application by defining the problem statement in detail. The detailed requirements of the Instant Chatters application is provided in this document.

1.1. Purpose: - The purpose of this document is to show the requirements for the "Instant Chatters", in which we register a user and validate the user so that they can communicate with one or more active users.

1.2. Intended Audience: -This document is intended to be read by, Client.

1.3. Intended Use: -

- Development Team
- Maintenance Team
- Clients

Since this a general-Purpose Software any one can access it.

1.4. Scope: -

Instant chatter is an online communication application that takes advantage of technological advancements to enable its clients to interact and socialize. A chat application makes it easy to communicate with people anywhere in the world by sending and receiving messages in real time with no delays. It is necessary to create the instant chatter application, which will be helpful to register a user as a result they can communicate with multiple other users. A user can also search the chat history.

2. Overall Description: -

The goal of this project is to construct an instant chatter application. The primary use of this application is messaging. Messaging is a method of using technology to bring people and ideas together despite the geographical barriers. This project is an example of a real time chat application. It accepts the username and password of a user. If a user has already registered in the application, they can simply login or else a new registration needs to be done. After the

above process is completed, each user will then be able to send and receive messages in the application. A user can also search the chat history by entering a keyword and view the number of active users.

2.1. Assumptions and Dependency: -

- System should have Ubuntu Linux installed.
- System should have either 4GB or more RAM.
- The service is used preferably on a desktop or laptop.

3. System Features and Requirements: -

3.1. Functionality: -

3.1.1. ICS_01 : User Registration : Users can enter their name and password (on the client side) to register themselves.

3.1.2. ICS_02 : User Validation : This function is used to validate an existing user. Validation is done by the server.

3.1.3. ICS_03 : Active Users List : This function is used to determine the number of active users present in the application. We can view the list when a new user gets added or an existing user leaves the chat room.

3.1.4. ICS_04 : Message Exchange : (send_individual_client_message()) This function is used to exchange messages among all clients except the one who sent it.

3.1.5. ICS_05 : New User : (queue_add()) This function is used to add a new user to the existing database. This is done on the client side.

3.1.6. ICS_06 : Registered User : This function contains the existing users' of the application. The information of the registered users are available in a file.

3.1.7. ICS_07 : Login Fail : This function along with the validation function authenticates the user, if not present in the database, the user cannot login and ask him/her to try again.

3.1.8. ICS_08 : Sending and Receiving messages : This function is used to send and receive messages through the application and the messages sent or received are stored in a file.

3.1.9. ICS_09 : Chat History : (search_main()) This function enables users' to search a keyword as per their wish.

3.1.10. ICS_10 : Logout : This function allows users' to exit the application.

3.2. System Requirements: -

3.2.1. Tools to be used:

- Pthread Library
- C File Handling
- C Language
- System Programming
- Gprof
- Gcov
- Cunit
- GDB
- Makefile

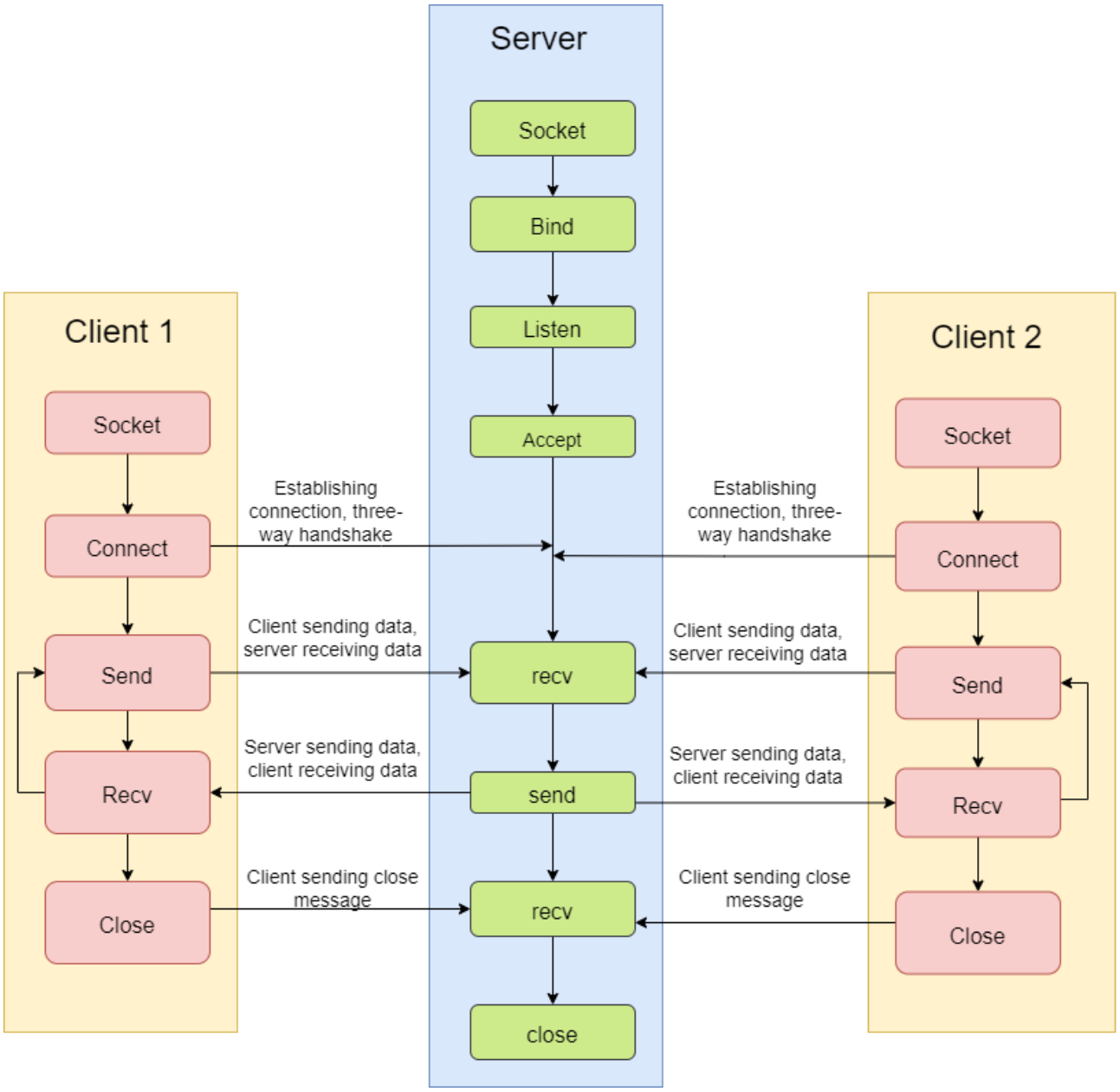
3.3. System Features: -

- **Supportability:** The system is easy to use.
- **Design Constraints:** The system is built using only C language.
- **Usability:** The instant chatter application can be used to replace the old means. Allowing users to register safely and communicate in a safe environment that allows various advantages like recording chat history and displaying to the users for later usage like keeping a track of content or searching for a keyword. It also displays the active users at any point of conversation throughout the chat allowing people to determine whether the person they need to interact is available or not.
- **Reliability & Availability:** The system is available 24/7 that is whenever the user would like to use the system, they can use it up to its functionalities.

- **Performance:** The system will work on the user's terminal but before that the user should get connected to a common server.

4. DataFlow Diagram:

4.1. DFD Level 0 –



4.2. DFD Level 1 –