REMOTE PHONEBOOK

Software Requirement Specification(SRS) Document

SPRINT IMPLEMENTATION

Project timeline: 12.10.2022 - 17.10.2022

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INTRODUCTION:

The software Specification document provides an overview of the entire software. It gives an insight about the description, purpose, scope, tools used, etc. The aim of this document is to gather, analyze and give an in-depth understanding of the remote phonebook system by defining the problem statement in detail. The detailed requirements of the remote phonebook system are provided in this document.

PURPOSE:

The purpose of this document is to describe the requirements to track and store the information and activities of the client by the server and keep all the data organized. The main purpose of the remote phonebook system is to establish a smooth connection between all the clients connected to the server.

INTENDED AUDIENCE:

This document is to be read by the client in order to get the basic idea of what they are going to get as the product.

INTENDED USE:

This document is to be used by the development team, testing and maintenance team and the client. Since this is a general purpose software document, anyone can access it.

SCOPE:

This project aims to develop a remote phonebook application where the server sets up a smooth connection between its client(s) for communication with proper protection and security. The server maintains a database of all the clients. The clients have to ask the server for authentication. The server allows three types of users to connect to it:anonymous users, authenticated users and authenticated admin users, each with their specific functions and access rights. All the data stored in the system should be accessible at all times.

OVERALL DESCRIPTION:

The server would start during boot automatically. It should listen to the port at 8028 for client connection and make the client access the server port. The server maintains a concurrency control for all its clients with proper security and protection. The client would ask authentication from the server and after authentication they would remain in the public group by default. There would be three types of access categories for the user: anonymous, authenticated and admin authenticated. For an anonymous client, the server should support a virtual user with the name anonymous to add contact to a public group only without any password. All the authenticated users should be allowed to add, view and delete contact from the phone directory for the group they belong to. They should view the content of public groups. Users with authenticated admin access can access any contact in addition to add, remove group to phone directory.

ASSUMPTIONS AND DEPENDENCY:

Following are the basic features that the user is supposed to have in order to execute the system:

- Users should have the latest version of Ubuntu Linux installed.

- Users should have minimum 4GB RAM.

- The service is available on a desktop or laptop.

SYSTEM FEATURES AND REQUIREMENTS:

TOOLS TO BE USED:

- C language
- C file handling
- Putty/SSH
- GDB(GNU Debugger)
- Valgrind
- Cunit
- Cloud service

- **Supportability**: The system is easy to maintain.

- **Design Constraints:** The system is built using only C language. So the constraints of C language are applied to it.

- **Usability:** The system should be easy to set up without any hassles and the user should have a smooth sailing while operating the system and accessing its functionalities.

- **Reliability & Availability:** The system is available when the user is requested for service. The system is available 24/7.

- **Performance:** The system will work on the user's terminal.

FUNCTIONALITY:

RPBC_01: Client Server Connection: Used to establish a connection between client and server.

RPBC_02: User Authentication: Server uses this to authenticate users based on pre registered data kept using appropriate data structure.

RPBC_03: Server side firewall protection: Server listens to port 8028 and makes the client access the server port.

RPBC_04: Service starting at boot: Server must configure automatically at boot.

RPBC_05: Anonymous user access: Virtual user supported by server without any password.

RPBC_06: Authenticated user access: allowed to access functions of the group they belong to.

RPBC_07: Authenticated admin access: user can access any contact and its functions.

RPBC_08: Server side concurrency: server should maintain concurrency with client connections.

RPBC_09: Client side program starting: user starts the client program whenever he wishes to connect with the server.

RPBC_10: Client side connection request: clients requests a connection to server on port 8028.

RPBC_11: Client side authentication: client authenticated to anonymous by default.

RPBC_12: client side user environment: client placed in a public group for phonebook access.

RPBC_13: client side environment customization: user can change working group on phonebook.

RPBC_14: client side browsing contact: user can browse the contact list in the working group.

RPBC_15: client side contact add: user can add a contact to the working group.

RPBC_16: client side contact delete: user removes a contact from the working group.

RPBC_17: client side group add and remove: admin uses this to add or remove a group.

RPBC_18: client side quit: user uses this to terminate its connection with the server.