FILE MANAGEMENT SOFTWARE

Software Requirement Specification (SRS) Document

Sprint 2 Implementation

Project Timeline:02-01-2023 to 14-01-2023

SOFTWARE REQUIREMENT SPECIFICATIONS

Project Name: File Management Software

Document Title: SRS

Project Type: Client-Server Mechanism

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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 File Management Software by defining the problem statement in detail. The detailed requirements of the File Management Software are provided in this document.

1.1 Purpose:

The purpose of this document is to show the requirements for the File Management Software which maintains the files in the hard disk and the client provides menu-based interface for user to interact and upload/ download /display /delete files to the file management app.

1.2 Intended Audience:

This document is intended to be read by Client.

1.3 Intended Use:

- Development Team
- Maintenance Team
- Clients

Since this is a general-purpose software, anyone can access it.

1.4 Scope:

The server allows to download, display, upload, delete the files based on the user requirements.

2.OVERALL DESCRIPTION

A file management software is an application that enables users to create, store and access files on a device like desktops or laptops. Initially file management systems were also designed to manage the files. E.g., WinSCP, FileZilla, Microsoft OneDrive. The user registration allows the user to register themselves to upload the files, files that are already uploaded can be downloaded after login. The upload file allows the user to add title, description and upload the file in any of the supported formats. The delete file functionality allows the user to delete the files that are present.

2.1 User Needs:

1. User Characteristics:

User should be familiar with terms like login, password, logout.

2. General Constraints:

A complete network is required for Linux and Windows operating system.

2.2 Assumptions and Dependencies:

1. Working of Client and Server Application through following requirements:

- IP address – internet address
- Port number – port number - 4444
- Inet address –IPV4 host address

2. We require socket system call to establish connection between client and server.

3. We are using man, time commands from Linux systems to establish file management.

3. SYSTEM FEATURES AND REQUIREMENTS

3.1 TYPES OF FUNCTIONAL REQUIREMENTS:

3.1.1: Authenticate with username and password:

The user rapidly authenticates the username and password by the server to sign in and manage and access the files.

3.1.2 : Download files from server to local machine:

The client should download all the files from one server to local machine to access and share the files if needed.

3.1.3 : List all the files:

List all the files present on the server

3.1.4 : Sends request to download a file:

Here the client sends the request to download the specific file.

3.1.5 : Sends request to accept the file:

The server should be ready to accept the sending request to accept the file from the client.

3.1.6 : Sends request to delete a file:

The server should be ready to accept the request to delete a particular file opted by the client.

3.1.7 : Sends request to end the connection:

The server should be ready to accept the request to end the connection and exit the program as per client’s selection.

3.1.8 : Connection establishment:

A connection is to be established between the client and server to access the file by Uploading, deleting, and downloading the files.

3.1.9 : Storing and displaying downloaded files:

As per the users request the file is to be downloaded and it is to be stored in the specific location/ folder and it is to be displayed.

3.1.10 : File Display and Storage:

All the files present in server are displayed and stored.

3.1.11 : Uploaded a file:

A request is sent from client to server to upload a file.

3.1.12 : Sends request to download a file:

A request is sent to the server to delete a particular file.

3.1.13 : Disconnect the connection:

To stop further communication between client and server, connection is closed.

3.2 Technical Requirements:

3.2.1 : Process Synchronization:

It is the way by which processes that share the same memory space are managed in an operating system. Here, it ensures of accessing the common data in files i.e., file data is synchronized, there by avoiding conflicts.

3.2.2 : Shared Memory in Linux:

All data related to the files such as upload, download, display and delete are done in shared memory by using the technique called inter process communication.

3.2.3 : Socket Programming in C - TCP:

Socket programming is a way connecting two nodes, here the client and server, on a network to communicate with each other and coordinate the user functional activities.

3.2.4 : Support for statistics:

Server is responsible for the display of statistics related storing, arranging, or accessing files in local host.

3.2.5 : I/O Multiplexing:

I/O multiplexing is the ability to perform I/O operations on multiple file descriptors.

3.2.6 : Logging and Debugging Framework:

Linux logs provide a timeline of events for a valuable troubleshooting tool when encountering issues. When issues arise, analyzing log files facilitates debugging.

3.3 System Requirements:

3.3.1 : Software Requirements:

- Linux OS which supports networking
- Connect protocol -TCP
- IDE - Putty

3.3.2 : Hardware Requirements:

- Processor - i5/Intel Processor
- RAM - 4GB (minimum)
- Hard Disk - 128 GB

3.3.3 : Tools to be used:

- Valgrind

4. NON-FUNCTIONAL REQUIREMENTS

Supportability:

The system is easy to use.

Design Constraint:

The system is built using System Programming in C.

Usability:

The File Management Software is used to upload, download, display or delete the files.

Reliability & Availability:

The application is available 24/7 that is whenever the client would like to use the application to access the files. The client should simply login.

Performance:

The file management works on both the server and client's terminal.

5. APPENDIX

- https://www.filecenter.com/blog/what-is-file-management-software-2/
- https://globodox.com/blog/file-management-software/