

FTP APPLICATION

SYSTEM REQUIREMENTS SPECIFICATION DOCUMENT

SPRINT-2 IMPLEMENTATION

CASE STUDY-5



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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 FTP application by defining the problem statement in detail. The detailed requirements of the FTP application is provided in this document.

1.1 Purpose: -The purpose of this document is to show the requirements for the FTP application, which can be useful in finding research papers with specific keywords.

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

1.3 Intended Use: -

- Development Team
- Maintenance Team
- Clients

1.4 Scope: - This application can be very helpful to people FTP is an acronym for File Transfer Protocol. As the name suggests, FTP is used to transfer files between computers on a network/locally as well. You can use FTP to exchange files between computer accounts, transfer files between an account and a desktop computer, or access online software archives.

This application allows user authentication and download and upload privileges for authenticated users. It also features an anonymous mode which any user can access to upload files to a specific directory in the server while other functionalities are restricted.

2. Overall Description: -

It is a FTP application that refers to a process that involves the transfer of files between devices over a network. The process works when one party allows another to send or receive files over the Internet. Originally used as a way for users to communicate and exchange information between two physical devices.

In this application the user will be authenticated with the help of password to receive privileged access and permissions to view, upload and download files from the server. It also features an anonymous mode which any user can access to upload files to a specific file to the server while other functionalities are restricted.

2.1 Assumptions and Dependency: -

- System should have Ubuntu Linux installed.
- System should have either 2GB or more RAM.
- The service is used preferably on a desktop or laptop.

3. System Features and Requirements: -

3.1 Functionality: -

3.1.1 CFTP_01->Client_server_Connection: This is the first requirement of the FTP application , here a connection between client and server is established using the port number and IP address.

3.1.2 CFTP_02->User_Authentication: In this function the server will authenticate the user from a pool of registered user data kept in the “auth” file where all the usernames along with their passwords are kept. The user is placed into the appropriate directory after authentication.

3.1.3 CFTP_04->Start_At_Boot: The FTP server is always set to enable & start from the time of boot , this makes the program run without needing to start the server every run.

3.1.4 CFTP_05->Anonymous_User: This allows guest/unknown users to access the public directory where they can use commands such as pwd and put. The upload is done to the upload directory in the public domain.

3.1.5 CFTP_06->Authenticated_Users: This is the core of the application that allows the authenticated users to browse, upload and download files from their respective directories in the server side using commands such as ls, pwd, get, put.

3.1.6 CFTP_07->Server_Concurrency: This application supports multiple clients to connect to the server and perform their operations smoothly.

3.1.7 CFTP_08->PWD_Command: This command lets both the anonymous user and the authenticated user to see their present working directory.

3.1.8 CFTP_09->LS_Command: This command works only with authenticated users and allows them to see all the files in their working directory.

3.1.9 CFTP_10->GET_Command: This command works only with authenticated and allows them to download files from server to client side.

3.2.0 CFTP_11->PUT_Command: This command works with both the anonymous and authenticated users allowing them to upload files from client side to server side in their respective directories.

3.2.1 CFTP_12->BYE_Command: This command works with both the anonymous and authenticated users and exits from the application with “GoodBye” message.

3.2 Technical Requirements: -

3.2.1. Tools to be used:

- Socket Library
- C File Handling
- C Language
- System Programming

3.3 Non-Functional Requirements:

- C Unit to automate unit testing
- Valgrind to detect memory leak
- Gprof to measure performance of application.
- Make file
- Multi file multi directory solution with two step compilation process.