File Management Project
Software Requirements Specification

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1. Introduction

1.1 Purpose

The purpose of the document is to collect and analyze all assorted ideas that have come up to define the system, its requirements with respect to consumers. Also, we shall predict and sort out how we hope this product will be used in order to gain a better understanding of the project, outline concepts that may be developed later, and document ideas that are being considered, but may be discarded as the product develops.

In short, the purpose of this SRS document is to provide a detailed overview of our software product, its parameters and goals. This document describes the project's target audience and its user interface, hardware and software requirements. It defines how our client, team and audience see the product and its functionality.

1.2 Scope

We will build the backend service for the FileManagement application which is a document manager that helps you organize your files by keeping them all in one place. This system allows you to conveniently manage and recover your files

2. Overall Description

2.1 Product Perspective

Our system is supposed to be open source,It is implementing a client-server model. help the user to organize files by keeping them all in one place and allow them to conveniently manage and recover files.

2.2 Product Feature

The system must provide the following functions:

- File repository (that contains Import files,Export files ,Delete files).
- File classification based on file category (type, size and custom).
- Version control for the files.
- database.

2.3 User Class And Characteristics

in this system the user can make multi functions based on their permissions and we have 3 user they are use the system:

1.Admin can import,export,delete.

2.Staff can import,export.

3.Reader:can read only.

2.4 Design and Implementation Constraints

- All coding for this system will be mainly done in the Java programming language.
- we can change the user information in the database.

2.5 Assumptions and Dependencies

Assumptions:

- The code must be correct and have no errors.
- The system should be easy to use.
- The system must provide high storage capacity and provide access to the database.
- The system can be accessed through any device that has the features that the system works on.
- The system operates 24 hours a day.

Dependencies:

- The specific hardware and software due to which the system will be run.
- Users and employees of the system must have sufficient awareness and understanding to use the system.
- User information must be stored in a database that can be accessed when making the processes.

3. System Feature

3.1 Functional Requirement

1.file repository:

The user shall be able to import, export or delete files from the system. The user shall be able to export/delete files based on their file name and its category. This feature also includes that the user shall be able to see all files available in the system.

2. File classification :

The user shall be able to classify the files based on their type, size or custom category created by the user. This feature allows users later to export/delete based on their classification

3. Version control for the files:

The user shall be able to import multiple versions for each file; each version containing information about the data file that was imported to the system. The file is represented by the last file added by the user, another version is available upon user request. This feature is enabled by default; For instance, if the imported file properties (name and type) are the same as an existing file in

the system, then the system stores the file as the latest version of this file and the current latest version is kept. However, the user shall be able to disable it while he/she is adding a new file, in this case the system shall overwrite the existing file with a new file. This feature also supports rollback feature, which is a feature that allows users to replace current version with a previous version.

4. Non-functional requirements

1. All users should authenticate themself.
2. The user should be able to access the system based on their permissions:
    a. Admin: Full permission
    b. Staff: Import/Export but can't delete or overwrite files.
    c. Reader: Read only.
3. The system should be secure, so all files shall be encrypted in the system.
4. The system should be available and accepts all requests coming to it within less than 1 second for each request for any file regardless of its size.
5. The system should be scalable; for instance, in future, the system should serve millions of users.
6. The application should solve the conflict in case two users try to modify the same file in parallel.
7. For debugging/accountability, the application should generate detailed logs for every action done in the system.
8. 90% of the users are reader users.

4.1 Performance

The application should solve the conflict in case two users try to modify the same file in parallel, and The system should be available and accepts all requests coming to it within less than 1 second for each request for any file regardless of its size.

A File repository is a crucial part of the overall File management system that you should be thoroughly familiar with. The main purpose of the File repository is storing files .

These repositories secure access to all of the documents that the company is trying to internally restrict. They do that by providing several tiered permission levels to the database in charge to appropriately assign different permission to different Actors .

These file repositories also ensure that your files database is automatically cleaned and updated while also ensuring there are no redundancies and duplicate entries in the database.

4.2 Security

The user should be able to access the system based on their permissions:

a. Admin: Full permission

b. Staff: Import/Export but can't delete or overwrite files.

c. Reader: Read only.

The traditional way of storing files can't match the level of security that the file management system offers. In fact, security is one of the reasons why many organizations like to use file management systems. Authentication methods, such as a username and password, are used to protect the documents that are stored in the file management system.

4.2.1 Data Storage

Customer's web browser must never display Customer's password. It must always be rendered using special characters representing typed characters. The system's back-end servers must never reveal the client's password. The customer's password can be reset but never displayed. The system's backend servers must only be accessible by authenticated administrators. The system backend database must be encrypted.

4.3 Supportability

4.3.1 Configuration Management Tool

The source code developed for the system must be maintained in a configuration management tool.

4.4 Usability

For debugging/accountability, the application should generate detailed logs for every action done in the system.

4.5 Scalability

The system should be scalable; for instance, in future, the system should serve millions of users

5. External Interfaces Requirement

There are many types of interfaces as such supported by the file management software system namely; User Interface, Software Interface and Hardware Interface.

The protocol used shall be HTTP.

5.1 User Interfaces

The user interface for the software shall be compatible with any browser such as Internet Explorer, Mozilla or Chrome by which the user can access the system.

The user interface shall be implemented using java language programming.

5.2 Hardware Interfaces

Since the application must run over the internet, all the hardware required to connect to the internet will be a hardware interface for the system. As for e.g. Modem, WAN – LAN, Ethernet Cross-Cable.

5.3 Software Interfaces

The file management must be able to connect to the database to store the file versions and user information and should be able to connect with the email system to validate the email.

5.4 Communications Interfaces

The file management system shall use the HTTP protocol for communication over the internet and for the intranet communication will be through TCP/IP protocol suite.