EAST WEST UNIVERSITY

Proposal Report

Expanding File Management System

Course: CSE 412

Section : 2

Group No : 4

Group Members

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Submitted To

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1. Introduction

In the realm of software development, file management is a crucial aspect that often determines how well users can interact with and organize their data. A well-structured file management system not only streamlines data storage but also improves the user experience by offering features like search, sort, and quick access to recent files.

Our team has previously developed a basic file management system that allows users to upload files and organize them in folders. However, this initial implementation lacked many advanced features that users would expect, such as sorting, searching, trash management, and the ability to quickly view recent uploads.

This project aims to enhance the existing system by adding a set of advanced features that will improve user interaction with the platform. These new features will include:

1. **File Size Display/ File Type Icons**
2. **Search Functionality**
3. **Sort Options**
4. **Trash Management**
5. **Recent Uploads Section**

This expansion will significantly enhance the system's functionality and ensure it meets the needs of users by providing better organization and accessibility for their files.

2. Objectives

The main objectives of this project are as follows:

To Implement Advanced File Management Features: These features will allow users to better manage and organize their files and folders.

To Improve User Experience: The added features will streamline the file interaction process, making it more intuitive and user-friendly.

To Utilize Industry-Standard Technologies: The project will employ technologies and tools that are widely used in the industry, helping us to learn and apply practical skills in

web development, backend development, and database management.

The features to be implemented are:

1. **File Size Display/File Type Icons**
   his feature will display the size of each file next to its name in an easily readable format (e.g., MB, GB). This will allow users to quickly assess how much space their files are taking up, which is especially useful when managing large datasets.
   To make it easier for users to identify file types, icons will be displayed next to each file based on its extension (e.g., Word documents, images, videos). This will visually differentiate between different file formats and provide a more intuitive navigation experience.

2. **Search Functionality**
   The search functionality will allow users to filter files and folders by name or type. This feature will improve navigation efficiency, especially in systems with large numbers of files.

3. **Sort Options**
   Sorting options will enable users to organize their files by name, size, or date of upload. This functionality will make it easier for users to find and manage their files based on various criteria.

4. **Trash Management**
   The trash feature will temporarily hold deleted files, providing users with a grace period to restore them if deleted by mistake. After a set period, files in the trash will be permanently deleted, ensuring the system stays uncluttered.

5. **Recent Uploads Section**
   This section will display the most recently uploaded files, helping users quickly access their latest content. This will eliminate the need for users to search or navigate through folders to find newly uploaded files.

3. Proposed Methodology

The methodology we plan to use to achieve these goals is based on a **modular development approach**, breaking the project into manageable phases with clear tasks for each group member. The system will be developed in stages, starting with the basic setup and progressing toward the final implementation of all features.

The following steps outline our development process:

3.1. Analysis and Requirements Gathering

This initial phase will involve identifying the core features that are required to enhance the system. We will conduct discussions to prioritize features and define their functionality clearly. This will be done by reviewing the existing system, analyzing user feedback (if available), and discussing the requirements with the instructor.

3.2. System Design

The system design phase will involve defining the architecture and data flow for the enhanced file management system. We will sketch wireframes for the user interface (UI) and design the backend structure for handling the new features, including the file metadata storage mechanism and sorting logic.

3.3. Implementation

The implementation phase will involve the actual coding of the system features. The development will be carried out iteratively, with each feature being developed and tested as it is completed. This ensures that any issues can be identified and resolved quickly.

3.4. Testing

We will perform functional and non-functional testing to ensure that the new features work as expected. This will include unit testing for individual features and integration testing to ensure that all components work together smoothly.

4. Tentative Timeline and Group Responsibility (3 Weeks)

Week 1: Initial Setup and Core Features Development

***Goal**: Set up the development environment and implement file size display and file type icons.*

File Size Display:

Research file size retrieval methods.

Implement functionality to retrieve and display file sizes.

File Type Icons:

Create a list of supported file types.

Implement icons for each file type.

Group Responsibilities:

Member 1: Focus on implementing file size retrieval and display.

Member 2: Develop and implement the display of file type icons.

Week 2: Search and Sort Options Implementation

***Goal**: Develop search functionality and sorting options.*

Search Option:

Implement a search bar that allows users to search files by name or file type.

Ensure the search function works dynamically as users type.

Sort Option:

Implement sorting options (by name, size, or date).

Ensure that sorting works in ascending and descending orders.

Group Responsibilities:

Member 3: Implement the backend and UI logic for the search functionality.

Member 4: Work on the sorting functionality and integrate with the front-end UI.

Week 3: Trash and Recent Uploads Section

***Goal**: Implement trash management and recent uploads functionality.*

Trash:

Implement a trash feature that temporarily stores deleted files.

Allow users to restore or permanently delete files from the trash.

Recent Upload Section:

Create a section that shows recently uploaded files with clear timestamps.

Display these files in reverse chronological order.

5. Technologies to Be Used

Frontend:

HTML/CSS: For structuring and styling the web pages.

JavaScript: For dynamic features such as search, sorting, and file size display.

React or Vue.js (optional): To create a more dynamic and responsive user interface.

Backend:

Node.js: For handling file uploads, retrieving metadata, and managing user requests.

Express.js: A web framework for building APIs and handling routing.

MySQL: A relational database for storing metadata about uploaded files, including names, sizes, types, and timestamps.

6. Deliverables

1. **Functional Web Application**:

   A fully functional system with the added features: file size display, file type icons, search, sort, trash, and recent uploads.

2. **Codebase**:

   The complete, version-controlled codebase will be hosted on GitHub.

   The code will be well-documented, with comments explaining key parts of the implementation.

3. **Documentation**:

   User Manual: Instructions on how to use the file management system.

   Technical Documentation: Detailed explanations of the system's architecture.

7. Conclusion

By the end of this project, we aim to have a fully functional and efficient file management system that enhances the user experience through features like file size display, search, sorting, trash management, and a recent uploads section. This expanded system will make it easier for users to interact with their files and improve their workflow. Through this project, we will apply our knowledge of backend development, database management, UI/UX design, and software testing, while learning industry-standard tools and technologies.