Project Title: LockedMe.com - Command Line File Management Application

Introduction

LockedMe.com is a command line file management application developed to assist users in managing files within a directory. The application allows users to retrieve file names in ascending order, add files to the directory, delete files from the directory, search for specific files, and close the application. This document provides an overview of the application's capabilities, appearance, user interactions, sprints planned for development, and the Java concepts and data structures used.

User Interface and Interaction

Upon launching the application, the following information will be displayed:

- Application Name: LockedMe.com
- Developer: Santhosh
- Options:

a. Retrieve file names in ascending order
b. Manage files:
   - Add a file to the directory
   - Delete a file from the directory
   - Search for a file in the directory
   - Navigate back to the main context
c. Close the application

Sprints Planning

To deliver the application incrementally, the development process will be divided into multiple sprints. The number and duration of the sprints will depend on the complexity of the application. For the purpose of this project, we will plan three sprints as follows:

Sprint 1:

- Setup project structure and initialize Git repository
- Display welcome screen and user interface
- Implement file retrieval functionality
- Write unit tests for implemented features

Sprint 2:

- Add file addition functionality
- Add file deletion functionality
- Implement file search functionality
- Implement navigation option
- Write unit tests for implemented features

Sprint 3:

- Finalize user interface and error handling
- Optimize code using appropriate concepts (exceptions, collections, sorting)
- Conduct comprehensive testing
- Prepare documentation and finalize project

Java Concepts Used

The following Java concepts will be utilized in the development of LockedMe.com:

- Object-oriented programming principles
- Exception handling
- File handling and I/O operations
- Collections framework for data management
- String manipulation and comparison
- Sorting algorithms for file name retrieval
- User input validation and error handling

Data Structures and Algorithms

To achieve efficient searching and sorting operations, the application will utilize the following data structures and algorithms:

- ArrayList: Used to store and manage file names
- Sorting algorithm (e.g., QuickSort, MergeSort): Applied to sort file names in ascending order
- String comparison: Utilized to search for specific files based on user input

Core Features and Operations

The application will provide the following core features and operations:

a. Retrieve File Names:
   - Option: Retrieve file names in ascending order
   - Functionality: Fetches the file names from the directory and displays them in ascending order.

b. Manage Files:
    - Sub-Options:
        - Add a file to the directory
        - Delete a file from the directory
        - Search for a file in the directory
        - Navigate back to the main context

c. Close the Application:
    - Option: Close the application
    - Functionality: Terminates the execution of the application.

Conclusion and Unique Selling Points (USPs)

In conclusion, LockedMe.com is a command line file management application that provides essential file operations such as file retrieval, addition, deletion, and search. The application's USPs include:

- Simple and intuitive user interface
- Efficient file retrieval using sorting techniques
- Robust error handling and exception management
- Seamless navigation between different contexts
- Code optimization and performance improvement using Java concepts and data structures

Enhancements

There are several enhancements that can be implemented to improve the functionality and user experience of the LockedMe.com application. Here are some potential enhancements:

User Authentication: Implement a user authentication system to ensure that only authorized users can access and manage the files. This can involve username/password authentication or integration with existing authentication systems.

File Metadata: Extend the application to store additional metadata for each file, such as file size, creation date, or file type. This information can be displayed along with the file names to provide more context to the users.

Directory Management: Allow users to create and manage directories within the application. This feature enables organizing files into different folders, improving file management capabilities.

File Operations History: Implement a feature to track and display a history of file operations (e.g., file additions, deletions) performed within the application. This can provide users with a log of their actions and facilitate troubleshooting.

File Preview: Integrate functionality to preview files directly within the application. This can be particularly useful for text files, images, or documents, allowing users to quickly view the content without needing to open external applications.

Batch Operations: Enable users to perform batch operations on multiple files, such as deleting or moving multiple files at once. This feature can save time and improve efficiency when managing a large number of files.

File Versioning: Implement a versioning system for files, allowing users to track and revert to previous versions of a file. This can be crucial for maintaining a history of file changes and ensuring data integrity.

File Sharing and Collaboration: Introduce file sharing and collaboration capabilities, allowing users to share files with other users and collaborate on shared files. This can involve implementing access control mechanisms and real-time collaboration features.

Search Filters and Advanced Searching: Enhance the search functionality by incorporating filters (e.g., file type, size, date) to narrow down search results. Implement advanced searching techniques such as fuzzy search or regular expressions for more flexible and powerful file searches.

User-Friendly Error Messages: Improve the error handling mechanism by providing clear and user-friendly error messages. Instead of generic error messages, provide specific details about the error encountered and suggest possible solutions or next steps.

User Interface Enhancements: Refine the user interface design to make it more visually appealing and intuitive. Consider implementing features like progress indicators, tooltips, or keyboard shortcuts to enhance usability.

These enhancements can contribute to making LockedMe.com a more robust, user-friendly, and feature-rich file management application. The selection of enhancements depends on the requirements, priorities, and target audience of the application.

GitHub Repository: https://github.com/santhoshsai4517/Simplilearn_Final_Project

By following the outlined plan and completing the specified tasks, the prototype of LockedMe.com is ready for presentation to the stakeholders at Company Lockers Pvt. Ltd.