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02/26/22
Caltech CTME PGP: Full Stack Web Dev
Assessment #1: Virtual Key for Repositories
LockedMe.com Specification Document

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Included: Project description, project/developer details, sprint plans, flow chart, concepts/screenshots, GitHub link, conclusion/USPs

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GitHub: https://github.com/bgaskins/locked_me

DESCRIPTION

As a Full Stack Developer, complete the features of the application by planning the development in terms of sprints and then push the source code to the GitHub repository. As this is a prototyped application, the user interaction will be via a command line.

<u>Background of the problem statement:</u>

Company Lockers Pvt. Ltd. hired you as a Full Stack Developer. They aim to digitize their products and chose LockedMe.com as their first project to start with. You're asked to develop a prototype of the application. The prototype of the application will be then presented to the relevant stakeholders for the budget approval. Your manager has set up a meeting where you're asked to present the following in the next 15 working days (3 weeks):

- Specification document - Product's capabilities, appearance, and user interactions

- Number and duration of sprints required

- Setting up Git and GitHub account to store and track your enhancements of the prototype

- Java concepts being used in the project

- Data Structures where sorting and searching techniques are used.

- Generic features and three operations:

- Retrieving the file names in an ascending order

- Business-level operations:

  - Option to add a user specified file to the application

  - Option to add a user specified file to the application

  - Option to delete a user specified file from the application

  - Option to search a user specified file from the application

- Navigation option to close the current execution context and return to the main context

- Option to close the application

The goal of the company is to deliver a high-end quality product as early as possible.

The flow and features of the application:

- Plan more than two sprints to complete the application

- Document the flow of the application and prepare a flow chart

- List the core concepts and algorithms being used to complete this application

- Code to display the welcome screen. It should display:

  • Application name and the developer details

  • The details of the user interface such as options displaying the user interaction information

  • Features to accept the user input to select one of the options listed

- The first option should return the current file names in ascending order. The root directory can be either empty or contain few files or folders in it

- The second option should return the details of the user interface such as options displaying the following:

  • <u>Add a file to the existing directory list</u>

    • You can ignore the case sensitivity of the file names

  • <u>Delete a user specified file from the existing directory list</u>

    • You can add the case sensitivity on the file name in order to ensure that the right file is deleted from the directory list

    • Return a message if FNF (File not found)

  • <u>Search a user specified file from the main directory</u>

    • You can add the case sensitivity on the file name to retrieve the correct file

    • Display the result upon successful operation

    • Display the result upon unsuccessful operation

  • <u>Option to navigate back to the main context</u>

- There should be a third option to close the application

- Implement the appropriate concepts such as exceptions, collections, and sorting techniques for source code optimization and increased performance

SPRINT PLANS

The LockedMe.com application was completed in three sprints—each one week long.

Sprints were completed as follows:

Sprint One:
- Plan flow of application with flow chart
- Build Welcome Screen with developer/program information
- Build Application Menus (Main Menu and File Operations Menu)
- Test code to ensure Menus print correctly
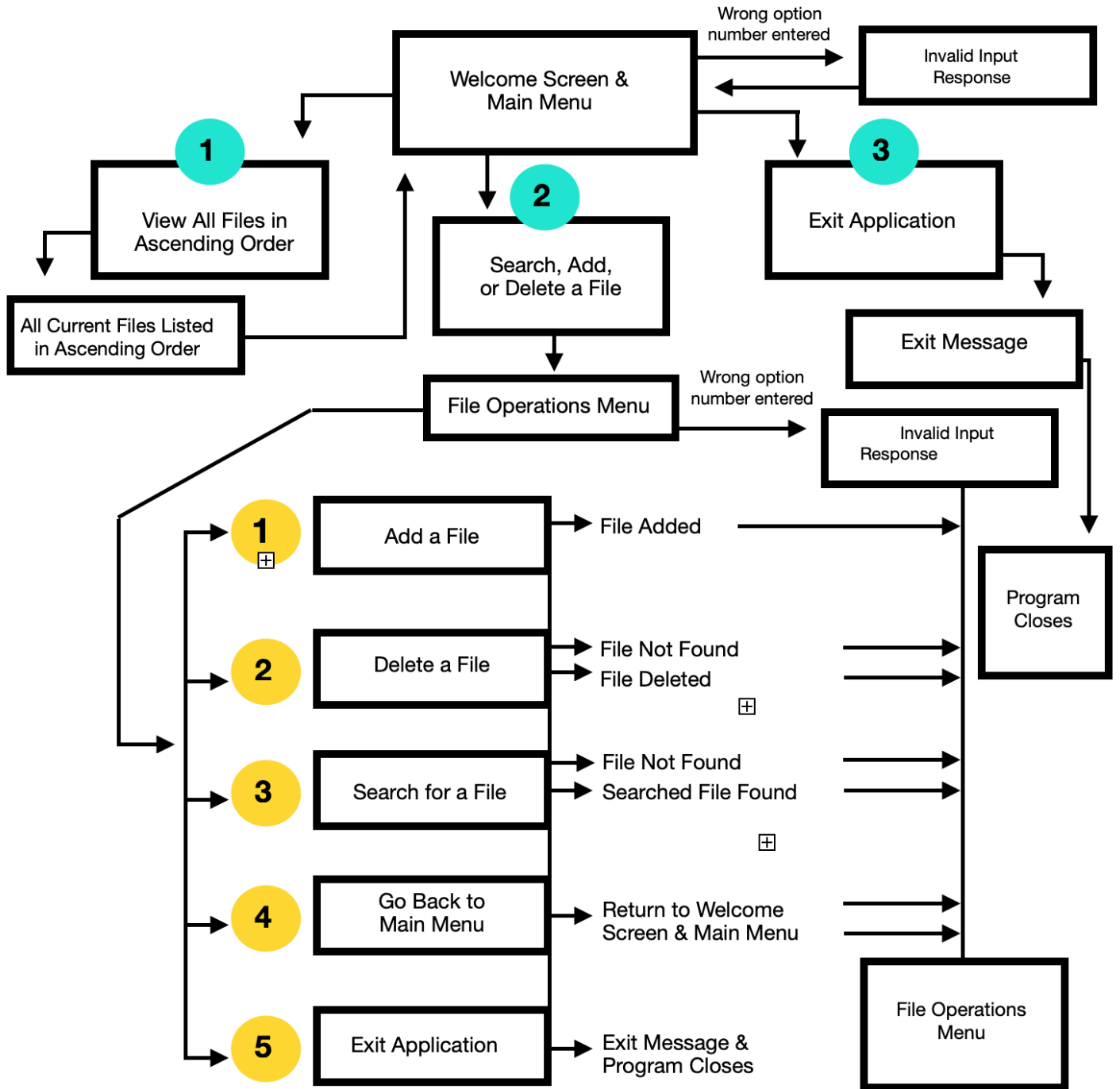- Fix any current bugs

Sprint Two:
- Build the Add, Delete, and Search Files functions
- Build Menu Exits and Invalid User Inputs
- Add functionality to the Main Menu and File Operations Menu
- Test code to ensure Menus function with all features and their behaviors
- Fix any current bugs

Sprint Three:
- Run through code to fix remaining spelling errors, bugs, and design flaws
- Test code and added file paths to ensure program works completely
- Write final specification doc
- Product release

Concepts used in assessment: File handing, sorting, flow control, exception handling, collections framework, algorithms, data structures, scrum

FLOW CHART

Welcome Screen & Main Menu

Wrong option number entered → **Invalid Input Response**

1 View All Files in Ascending Order

All Current Files Listed in Ascending Order

2 Search, Add, or Delete a File

3 Exit Application

Exit Message

File Operations Menu

Wrong option number entered → Invalid Input Response

1 Add a File → File Added

2 Delete a File → File Not Found / File Deleted

3 Search for a File → File Not Found / Searched File Found

4 Go Back to Main Menu → Return to Welcome Screen & Main Menu

5 Exit Application → Exit Message & Program Closes

Program Closes

File Operations Menu

SCREEN SHOTS / FEATURES

```
++++++++++++++++++++++++++++++++++++++++++++++++++
+      Hi there! Welcome to LockedMe.com          +
+         Let us help you with your files!        +
+    This app was developed by Bryan Gaskins      +
+               Version 1.0 / 2.26.22             +
++++++++++++++++++++++++++++++++++++++++++++++++++

You can use the LockedMe.com app to:
~ Access all file names stored in a designated folder
~ Search, add, and delete your stored files

+++++++++++++++++++ Main Menu +++++++++++++++++++++
1. VIEW all current files in ascending order
2. SEARCH, ADD, or DELETE a file
3. EXIT the LockedMe.com App
++++++++++++++++++++++++++++++++++++++++++++++++++

Please SELECT and ENTER a number from the menu options:
```

WELCOME / MAIN MENU:

- Welcome greeting appears once the program is run, displaying developer and program version information

- Info on what the LockedMe.com app can do

- User inputs a numbered menu choice to proceed

- Invalid input brings User back to input another option, until User Exit.

```
Please SELECT and ENTER a number from the menu options:

1
As you asked--Here are your files (in ascending order):

ABC_Test
DEF_Test
GHI_Test
```

VIEW ALL FILES (in ascending order):

- When User inputs '1' from the Main Menu, current User files appear in ascending order

```
Please SELECT and ENTER a number from the menu options:

2
+++ ENTER an option number below to continue: +++
1. ADD a file to your directory
2. DELETE a file from the directory
3. SEARCH the directory for a file
4. GO BACK to the Main Menu
5. EXIT LockedMe.com
++++++++++++++++++++++++++++++++++++++++++++++++++

Please SELECT and ENTER a number from the menu options:
```

FILE OPERATIONS MENU:

- When User inputs option '2' from the Main Menu, the File Operations Menu appears, allowing User to Add, Delete, and Search, for their files
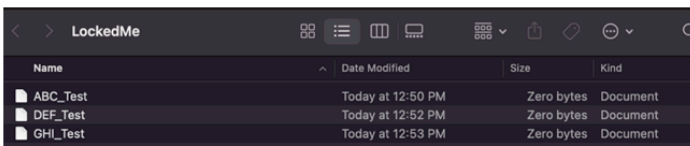
```
+++++++++++++++++++ Main Menu +++++++++++++++++++++
1. VIEW all current files in ascending order
2. SEARCH, ADD, or DELETE a file
3. EXIT the LockedMe.com App
++++++++++++++++++++++++++++++++++++++++++++++++++

Please SELECT and ENTER a number from the menu options:

3
You are now leaving LockedMe.com. Have a great day! :)
```

EXIT LOCKEDME.COM APP:

- When user inputs option '3' from the Main Menu, the User is exited from the app and the program ends

```
Please SELECT and ENTER a number from the menu options:

4
Selected option is invalid. :( Try again.
```

MAIN MENU INVALID INPUT:

- When user inputs an invalid number from the Menus, the entry displays as invalid and the current menu reappears until User chooses new option or Exits the app

```
Please SELECT and ENTER a number from the menu options:

2
+++ ENTER an option number below to continue: +++
1. ADD a file to your directory
2. DELETE a file from the directory
3. SEARCH the directory for a file
4. GO BACK to the Main Menu
5. EXIT LockedMe.com
+++++++++++++++++++++++++++++++++++++++++++++++++

Please SELECT and ENTER a number from the menu options:
```

FILE OPERATIONS MENU (Cont'd):

- When user selects option '2' from the Main Menu, the File Operations Menu appears

- User has options to Add, Delete, and Search for their files

```
Please SELECT and ENTER a number from the menu options:

1
ENTER the file name you would like to add:

ABC_Test
Your file has been added successfuly. :)
```

Name	Date Modified	Size	Kind
LockedMe			
ABC_Test	Today at 12:50 PM	Zero bytes	Document
DEF_Test	Today at 12:52 PM	Zero bytes	Document
GHI_Test	Today at 12:53 PM	Zero bytes	Document

ADD A FILE:

-User can add a file by selecting option '1' from the FO Menu

- Program asks User to enter a file name of their choosing

- Once file name is entered, the file is created and can be found in the User's designated folder
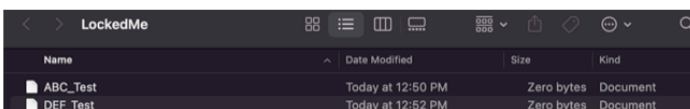
```
Please SELECT and ENTER a number from the menu options:

2
ENTER the name of the file you want deleted:

GHI_Test
Your file has been deleted. :)
```

Name	Date Modified	Size	Kind
LockedMe			
ABC_Test	Today at 12:50 PM	Zero bytes	Document
DEF_Test	Today at 12:52 PM	Zero bytes	Document

```
Please SELECT and ENTER a number from the menu options:

2
ENTER the name of the file you want deleted:

BadFileName
Your file could not be found. :( Try again.
```

DELETE A FILE:

- User can delete a file by selecting option '2' from the FO Menu

- Program asks User to enter the name of a file they would like to delete

- Once chosen file name is entered, the file is deleted and will no longer found in the User's designated folder

- If User inputs an incorrect file name, or if file does not exist, user will receive invalid response and current menu will reappear until user changes option or exits

SEARCH FOR A FILE:

- User can delete a file by selecting option '2' from the FO Menu

- Program asks User to enter the name of a file they would like to delete

- Once chosen file name is entered, the file is deleted and will no longer found in the User's designated folder

- If User inputs an incorrect file name or if file does not exist, User will receive an invalid input response and current menu will reappear

GOING BACK TO MAIN MENU AND EXITING LOCKEDME.COM APP:

- User can go back to Main Menu from File Operations Menu by selecting option '4'

- User can exit the app from the File Operations menu by selecting option '5', following after is an exit message
⊞

F.O. MENU INVALID INPUT:

- If User inputs an incorrect file name, or if file does not exist, use will receive invalid response and current menu will reappear until user chooses new option or exits the app

USPs

- The LockedMe.com application has an easy to use interface for every day users and their file handling needs

- Users can enter any file into the application and designated directory/folder to add, delete and search for a file in ascending order

- The application was built to handle user errors after exceptions by directing users to the current menu until the user decides to switch menus, perform another operation, or exit the application

- Users can switch between options and menus while performing operations like adding, deleting and searching files until the user chooses to exit the application

- Users can change their designated directory within the code to enhance their organizational experience with the LockedMe.com application

Conclusions

What's next?

The LockedMe.com application is currently ready for use in its basic form. There are some improvements that can be made for the LockedMe.com Application 2.0.

- Confirmations before and after a user adds or deletes a file to ensure accuracy

- Verifying user tasks to delete files before the file is deleted

- Allowing users to append to a file

- Giving users the ability to rename files

- Allowing users to organize files by Date Added, File Type, Size, etc.

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