JAVA-FSD (PHASE-1)

LockedMe – Virtual Key for Repositories

Developer details:-

Ritik

Technical Trainee

TEK System Global Services

Link to this project: https://github.com/Rkcr7/LockedMe.com

PROJECT DESCRIPTION

Project objective:

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.

Background of the problem statement:

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 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:
    - Add a file to the existing directory list
        - You can ignore the case sensitivity of the file names
    - Delete a user specified file from the existing directory list
        - 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)
    - Search a user specified file from the main directory
        - 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
    - Option to navigate back to the main context
- 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

You must use the following:

- Eclipse/IntelliJ: An IDE to code for the application
- Java: A programming language to develop the prototype
- Git: To connect and push files from the local system to GitHub
- GitHub: To store the application code and track its versions
- Scrum: An efficient agile framework to deliver the product incrementally
- Search and Sort techniques: Data structures used for the project
- Specification document: Any open-source document or Google Docs

Following requirements should be met:

- The source code should be pushed to your GitHub repository. You need to document the steps and write the algorithms in it.
- The submission of your GitHub repository link is mandatory. In order to track your task, you need to share the link of the repository. You can add a section in your document.
- Document the step-by-step process starting from sprint planning to the product release.
- Application should not close, exit, or throw an exception if the user specifies an invalid input.
- You need to submit the final specification document which includes:
    - Project and developer details
    - Sprints planned and the tasks achieved in them
    - Algorithms and flowcharts of the application
    - Core concepts used in the project
    - Links to the GitHub repository to verify the project completion
    - Your conclusion on enhancing the application and defining the USPs (Unique Selling Points)

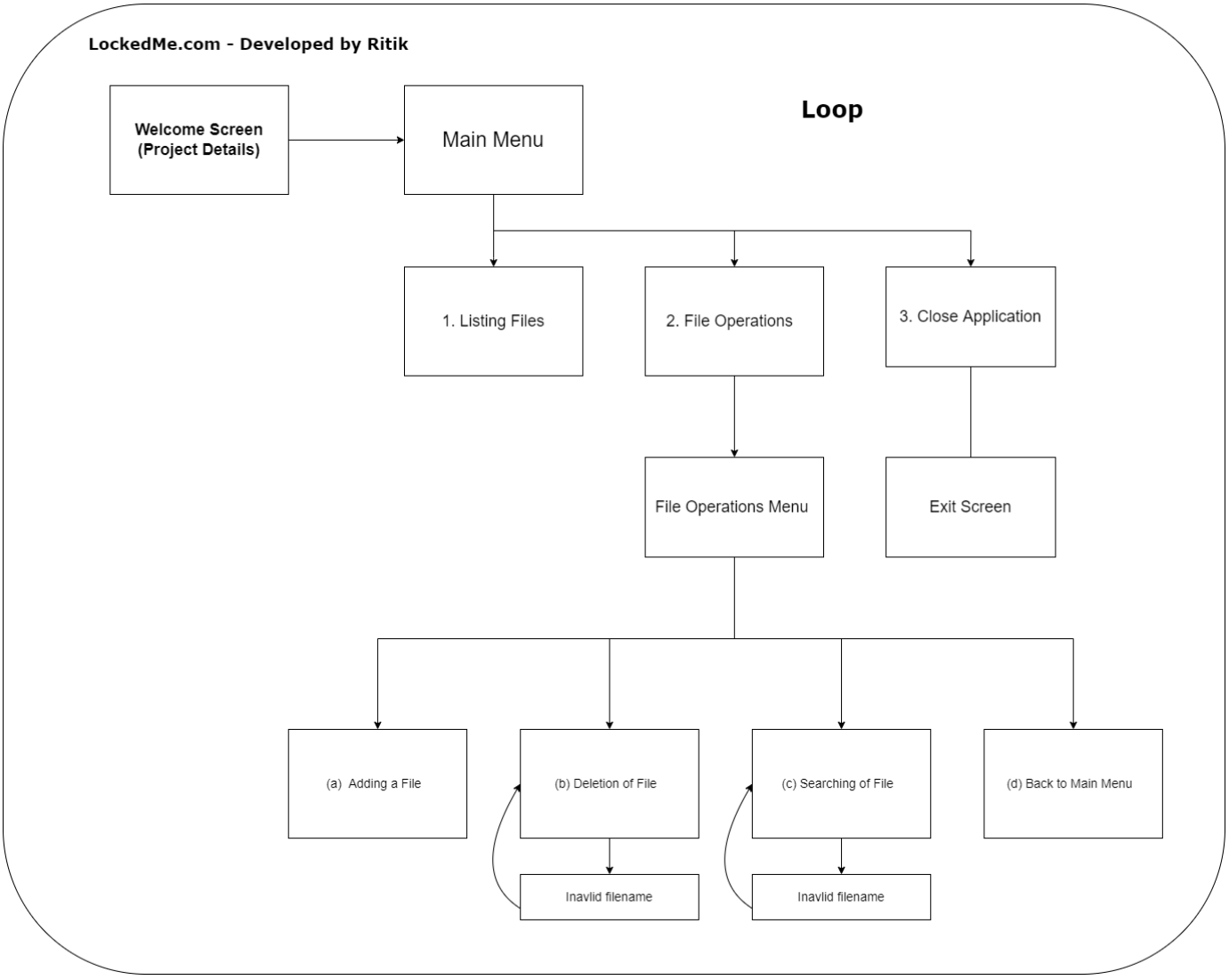
Sprints planning

The project is planned and completed in a single sprint.

Tasks completed in Sprint:-

- Creating the flowchart to determine the flow of the program
- Initializing git environment for project establishment
- Writing java code to fulfill the requirements
- Testing and debugging programs with different inputs
- Pushing code to GitHub.
- Creating this specification document highlighting application capabilities, appearance, and user interactions.

The flow of the Application



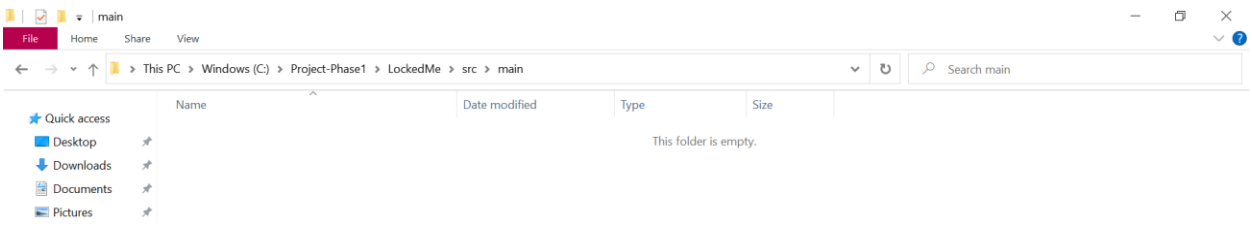
Demonstrating working of LockedMe.com

1. Running the application

- **Welcome screen**
- **Application features**
- **Main menu**

```
Microsoft Windows [Version 10.0.19044.1620]
(c) Microsoft Corporation. All rights reserved.

C:\Project-Phase1\LockedMe\src>java LockedMe

************************************************************
************* WELCOME TO LockedMe.com
************* DEVELOPED BY RITIK
************************************************************

         APPLICATION FEATURES :-

 * Listing of files present in saved folder (main)
 * Adding files
 * Deletion of files
 * Searching of files


DIRECTORY : C:\Project-Phase1\LockedMe\src\main

(All operation will be performed in above directory)


MAIN MENU - Select your preffered operation:

1 -> List Files in Directory
2 -> Add, Delete or Search files
3 -> Terminate Program
```

2.Directory used for file operations



3. listing file operation with no files present in the directory

```
MAIN MENU - Select your preffered operation:

1 -> List Files in Directory
2 -> Add, Delete or Search files
3 -> Terminate Program

Enter your option:-
1
The folder is empty
```

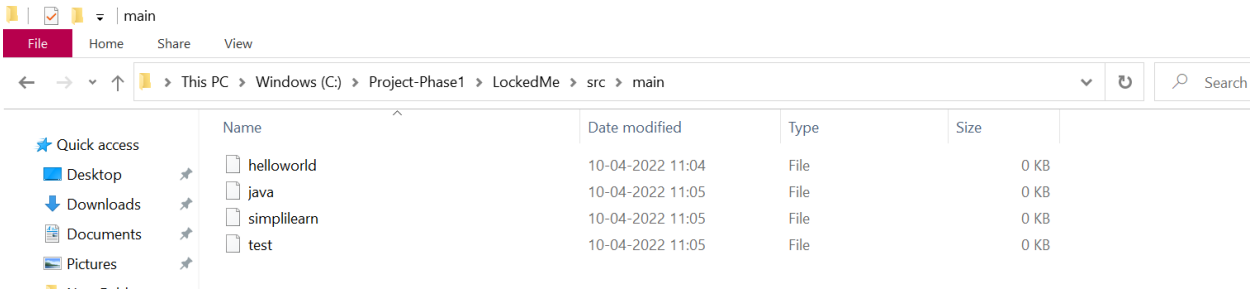
4. File operation menu

```
MAIN MENU - Select your preffered operation:

1 -> List Files in Directory
2 -> Add, Delete or Search files
3 -> Terminate Program

Enter your option:-
2

Select any of the following:

   a -) Add a file
   b -) Delete a file
   c -) Search a file
   d -) Go-Back

Enter your option:-
```

5. Adding a file

```
Select any of the following:

   a -) Add a file
   b -) Delete a file
   c -) Search a file
   d -) Go-Back

Enter your option:-
a
Adding a file...Please Enter a File Name : Helloworld
File helloworld added to C:\Project-Phase1\LockedMe\src\main
```

6. Directory after adding multiple files



7. Searching file operation

```
Select any of the following:

   a -) Add a file
   b -) Delete a file
   c -) Search a file
   d -) Go-Back

Enter your option:-
c
Searching a file...Please Enter a File Name : java

***FOUND : File java Located at C:\Project-Phase1\LockedMe\src\main
```

8. Invalid search name

```
Select any of the following:

   a -) Add a file
   b -) Delete a file
   c -) Search a file
   d -) Go-Back

Enter your option:-
c
Searching a file...Please Enter a File Name : japa12

***File NOT found - Create One
```

9. Deletion operation

```
Select any of the following:

   a -) Add a file
   b -) Delete a file
   c -) Search a file
   d -) Go-Back

Enter your option:-
b
Deleting a file...Please Enter a File Name : java

***File java removed from C:\Project-Phase1\LockedMe\src\main
```

10. Deleting invalid filename

```
Select any of the following:

   a -) Add a file
   b -) Delete a file
   c -) Search a file
   d -) Go-Back

Enter your option:-
b
Deleting a file...Please Enter a File Name : japan

***Delete Operation failed. FILE NOT FOUND
```

11. Return to main menu option

```
Select any of the following:

   a -) Add a file
   b -) Delete a file
   c -) Search a file
   d -) Go-Back

Enter your option:-
d
Going Back to MAIN menu
```

12. Listing files in directory

```
MAIN MENU - Select your preffered operation:

1 -> List Files in Directory
2 -> Add, Delete or Search files
3 -> Terminate Program

Enter your option:-
1

files in C:\Project-Phase1\LockedMe\src\main are :-

helloworld
simplilearn
test
```

13. Terminating the program

```
MAIN MENU - Select your preffered operation:

1 -> List Files in Directory
2 -> Add, Delete or Search files
3 -> Terminate Program

Enter your option:-
3
             (Program is now closed)

**************Thanks for using it***************
```

Pushing the code to the GitHub repository

- Initialize repository in project folder using the following command:

  git init

- Add all the files to your git repository using the following command:

  git add .

- Commit the changes using the following command:

  git commit . -m “<commit message>”

- Push the files to the folder you initially created using the following command:

  git push -u origin master

Unique Selling Points of the Application:-

- User friendly interface – instructions given at every step.
- Working directory is automatically created at the program location
- Users can easily switch between options and revert to previous menus even after performing all necessary operations such as adding, searching, deleting, and retrieving files.
- The java code itself is written in a user-friendly way so it can be modified according to client needs.

Conclusions:-

What more can be done:

- Adding regex feature so that users can easily search for a file without even typing its full name and searching with just a few keywords.
- User confirmation before executing the operations.
- Retrieving files/folders by different criteria like Last Modified, Type, etc.