

LockedMe.com

Developer Details:

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Application Overview

LockedMe.com is a simple Command line based application from which the User can Add, Delete and Search for Files from a Directory(We call it as Root Directory).

Sprint Planning

The LockedMe.com project is planned to be completed in 1 sprint and the asks assumed to be completed in the sprint are:

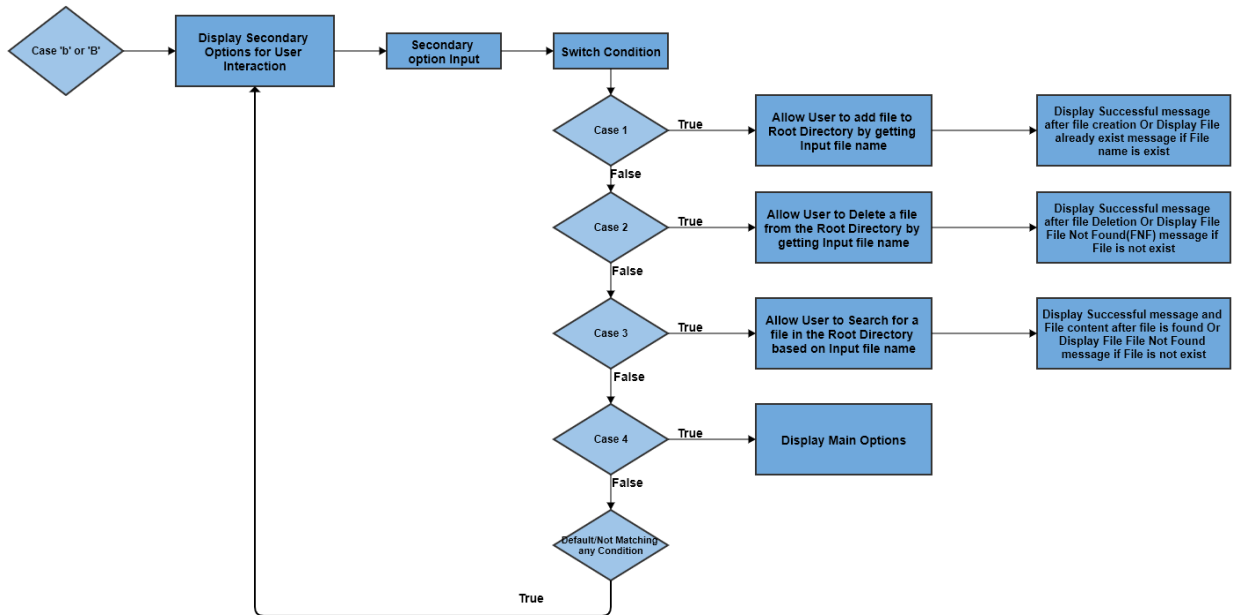
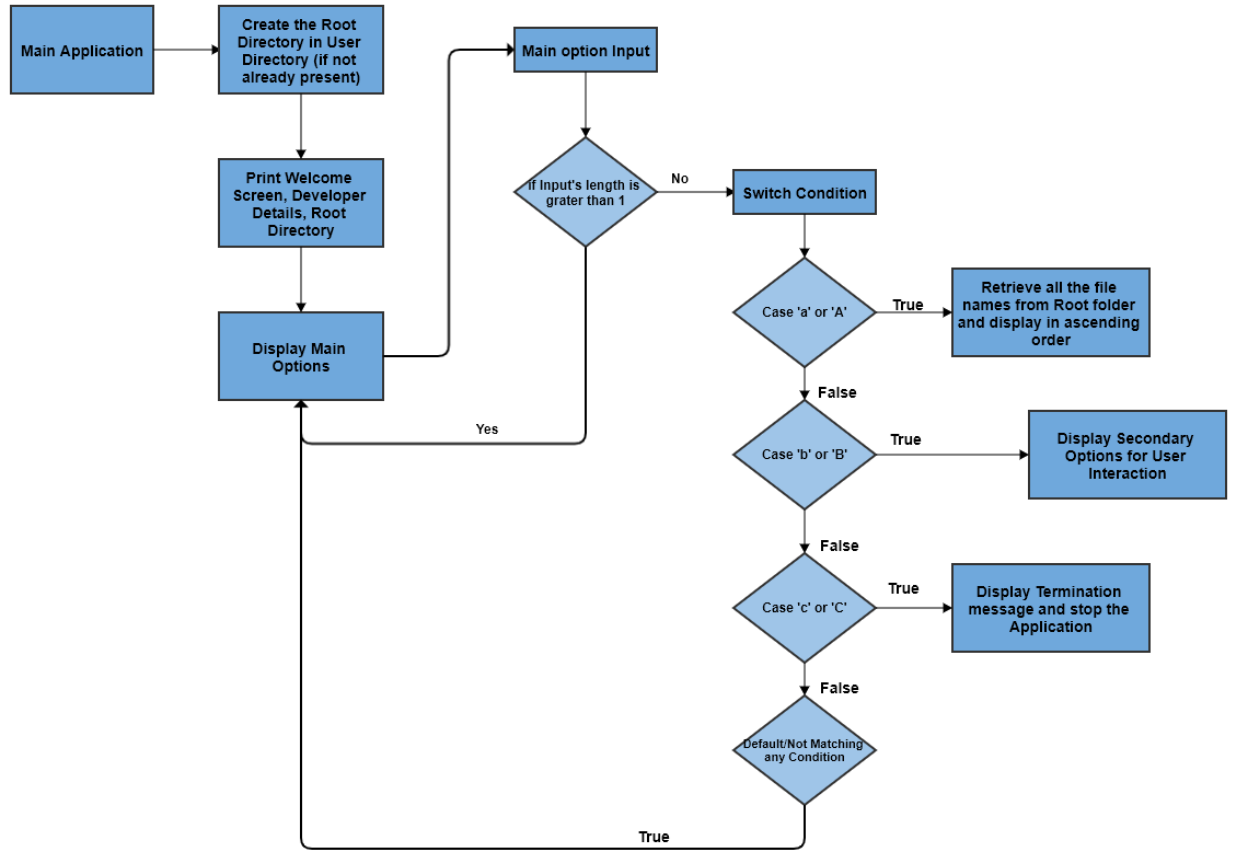
1. Set the Development environment i.e., Eclipse, Git and GitHub
 - a. Setting up the Eclipse
 - b. Creating a Repository in Git
 - c. Setting up the GitHub Repo
2. Creating the High level Flow diagram of the application
3. Develop a Java program to fulfill the requirements of the project
4. Testing the Java program with different kinds of User input through CMD line
5. Pushing code to GitHub
6. Creating this specification document highlighting application functionalities, appearance, and user interaction

Core and Technical Concepts used in the application

1. Java
2. Collection Framework
3. File Handling
4. Loops and Conditional operators
5. Exception Handling
6. Reader Classes to get input from the User
7. Git and GitHub

Flow of the Application

Below is the High level flow diagram which shows the flow of the LockedMe.com application



Demonstrating the Product capabilities, Appearance, and User interactions

1. Main Class :

Below is the Main class of LockedMe.com App which Generates the Root directory in User directory if it does not already exist. And also calls methods from DisplayUtil Class to display Application, Developer, Root path details. Then, Triggers showMainOptions of MainOptions class

```
import java.io.File;

import java.io.IOException;

public class LockedMeApp{

    public static void main(String[] args) throws IOException {

        //String rootPath = "D:/SimpliLearn/Phase1_Project";

        String rootPath =
System.getProperty("user.dir").concat("/Phase1Project/RootDirectory");

        DisplayUtil displayUtil = new DisplayUtil();

        File rootDirectory = new File(rootPath);

        if (!rootDirectory.exists()) {

            rootDirectory.mkdirs();

        }

        displayUtil.displayApplicationAndDeveloperDetails();

        displayUtil.directoryDetails(rootPath);

        MainOptions.showMainOptions(displayUtil, rootPath);

    }

}
```

```
C:\Windows\System32\cmd.exe - java LockedMeApp
Microsoft Windows [Version 10.0.18363.1379]
(c) 2019 Microsoft Corporation. All rights reserved.

D:\SimpliLearn\Phase1_Java_Project\ScreenShots>cd..

D:\SimpliLearn\Phase1_Java_Project>cd src

D:\SimpliLearn\Phase1_Java_Project\src>javac LockedMeApp.java

D:\SimpliLearn\Phase1_Java_Project\src>java LockedMeApp
***** Application Name : LockedMe.com *****
***** Functionalities of the LockedMe.com *****
-> List the Files(File Names) available in a root directory
-> Add a File to the root directory
-> Delete a File from the root directory
-> Search for a File in the root directory
***** Developer Details *****
<> Developer Name : B Sangappa
<> Developer Email : sangamesh.b.007@gmail.com
***** Directory for LockedMe App *****
--> D:\SimpliLearn\Phase1_Java_Project\src\Phase1Project\RootDirectory
***** Main Option *****
-> Enter a or A to get all the file names from the root directory
-> Enter b or B to do the following operations
--> Enter 1 to Add a File to the root directory
--> Enter 2 to Delete a File from the root directory
--> Enter 3 to Search for a File in the root directory
--> Enter 4 to Go back to the Main options
-> Enter c or C to Close the application
```

2. **MainOptions Class :** Below is the MainOptions class of LockedMe.com App which Displays the Main options of the LockedMe.com app. Also, User can enter respective option to Get the List of files in Root directory, to Add or Search or Delete file from Root directory and finally to close the application

```
import java.io.BufferedReader;

import java.io.IOException;

import java.io.InputStreamReader;

public class MainOptions {

    static Services services = new Services();

    public static void showMainOptions(DisplayUtil displayUtil, String rootPath)
throws IOException {

        BufferedReader bufferedReader = new BufferedReader(new
InputStreamReader(System.in));

        displayUtil.displayMainOptions();

        String temp = bufferedReader.readLine();

        if (temp.length() > 1) {
```

```
System.out.println("Enter Valid Options like a/A, b/B or c/C");
showMainOptions(displayUtil, rootPath);
} else {
    char mainOptions = temp.charAt(0);
    switch (mainOptions) {
        case 'a':
        case 'A':
            services.listFilesNamesOfTheRootDirectory(rootPath);
            showMainOptions(displayUtil, rootPath);
        case 'b':
        case 'B':
            services.userInteractionsToAddOrDeleteOrSearchForFile(dis
                playUtil, rootPath);
            showMainOptions(displayUtil, rootPath);
        case 'c':
        case 'C':
            System.out.println("Thank you for using LockedMe.com. Bye!");
            System.exit(0);
        default:
            System.out.println("Enter Valid Options like a/A, b/B or
c/C");
            showMainOptions(displayUtil, rootPath);
        }
    }
}
```

```
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```

3. Displaying Secondary User Interaction options : Below is the method from the Service which displays the user interaction options to Add, Search and Delete files from Root Directory. Method also display option to go back to Main Options

```
public void userInteractionsToAddOrDeleteOrSearchForFile(DisplayUtil
displayUtil, String rootPath) throws IOException {

    displayUtil.operationsOfOptionB();

    String temp = bufferedReader.readLine();

    if (temp.length() > 1) {

        System.out.println("Enter Valid Options like 1 or 2 or 3 or 4 or 5");

        userInteractionsToAddOrDeleteOrSearchForFile(displayUtil,
rootPath);

    } else {

        char operation = temp.charAt(0);

        if (operation == '1') {

            addAFileToRootDirectory(rootPath);
```

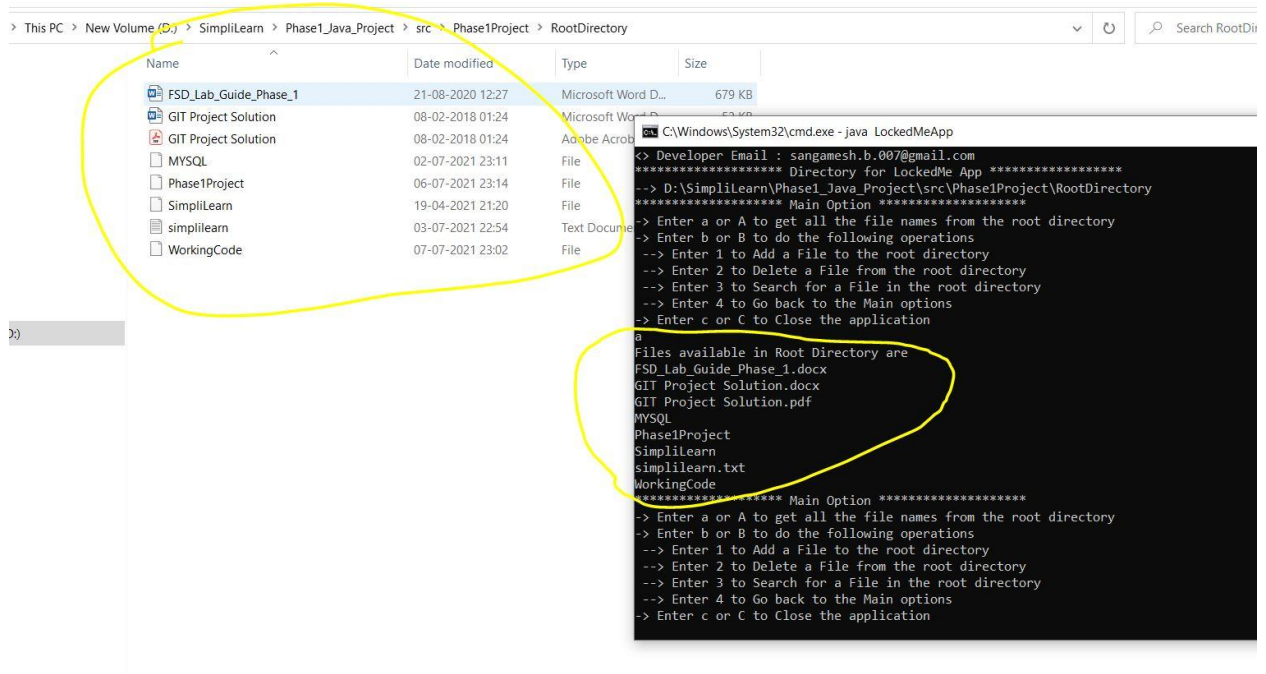
```
        userInteractionsToAddOrDeleteOrSearchForFile(displayUtil,
rootPath);
    } else if (operation == '2') {
        deleteAFileFromRootDirectory(rootPath);
        userInteractionsToAddOrDeleteOrSearchForFile(displayUtil,
rootPath);
    } else if (operation == '3') {
        searchForAFileInTheRootDirectory(rootPath);
        userInteractionsToAddOrDeleteOrSearchForFile(displayUtil,
rootPath);
    } else if (operation == '4') {
        MainOptions.showMainOptions(displayUtil, rootPath);
    } else {
        System.out.println("Enter Valid Options like 1 or 2 or 3 or 4
or 5");
        userInteractionsToAddOrDeleteOrSearchForFile(displayUtil,
rootPath);
    }
}
}
```



```
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D:\SimpliLearn\Phase1_Java_Project\src>javac LockedMeApp.java
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b
--> Enter 1 to Add a File to the root directory
--> Enter 2 to Delete a File from the root directory
--> Enter 3 to Search for a File in the root directory
--> Enter 4 to Go back to the Main options
```

4. Displaying all the File from Root Directory : Below is the method from the Service which displays the List of files in the Root Directory in Ascending order. If the directory is empty, method displays directory is Empty message

```
public void listFileNamesOfTheRootDirectory(String rootPath) {
    File rootFile = new File(rootPath);
    File[] filesInRootDirectory = rootFile.listFiles();
    if (filesInRootDirectory.length == 0) {
        System.out.println("Root Directory is Empty");
    } else {
        Arrays.sort(filesInRootDirectory);
        System.out.println("Files available in Root Directory are ");
        for (File file : filesInRootDirectory) {
            System.out.println(file.getName());
        }
    }
}
```



5. **Adding a file to the Root Directory :** Below is the method from the Service which gets the File name from the User and creates the same in Root Directory. If, a file with the same name is already present in the root directory, it displays "file already exist" message

```
public void addAFileToRootDirectory(String rootPath) throws IOException {

    System.out.println("Enter the file name of your choice");

    String fileName = bufferedReader.readLine();

    File fileNameDirectory = new File(rootPath + "/" + fileName);

    if (fileNameDirectory.createNewFile()) {

        System.out.println("File " + fileNameDirectory.getName() + " is
created in the Root Directory");

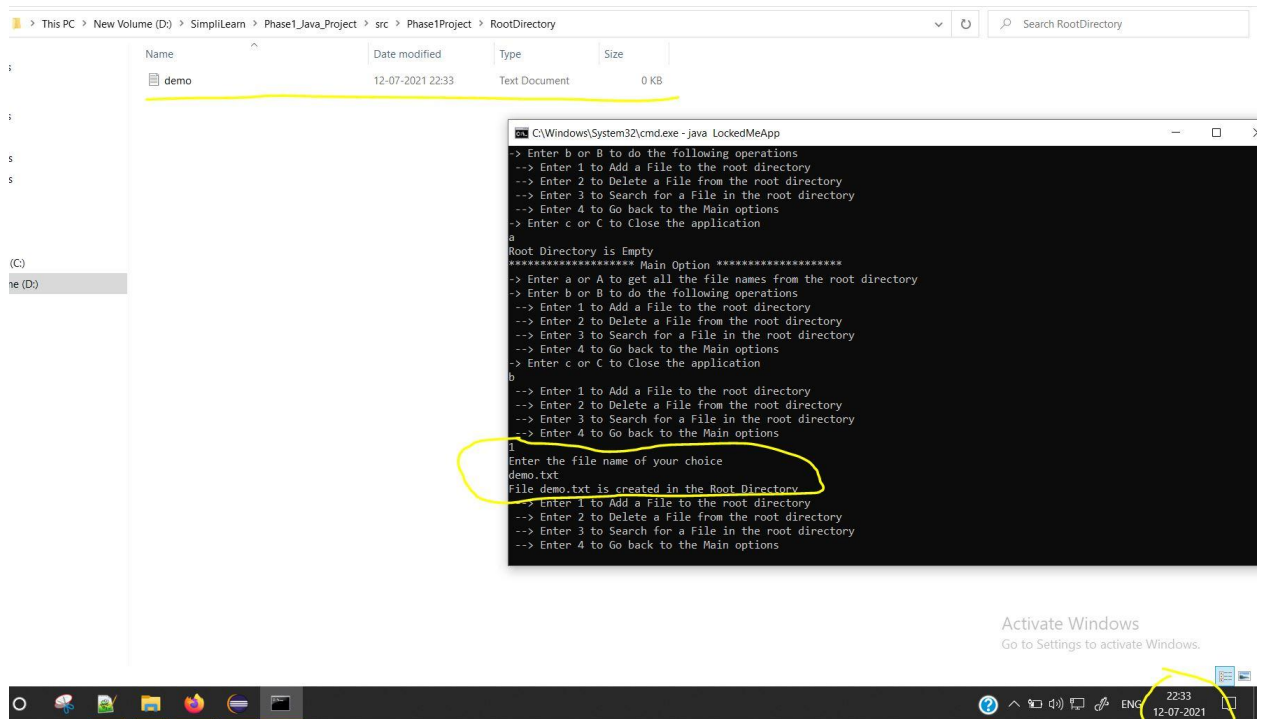
    } else {

        System.out.println("File already exists.");

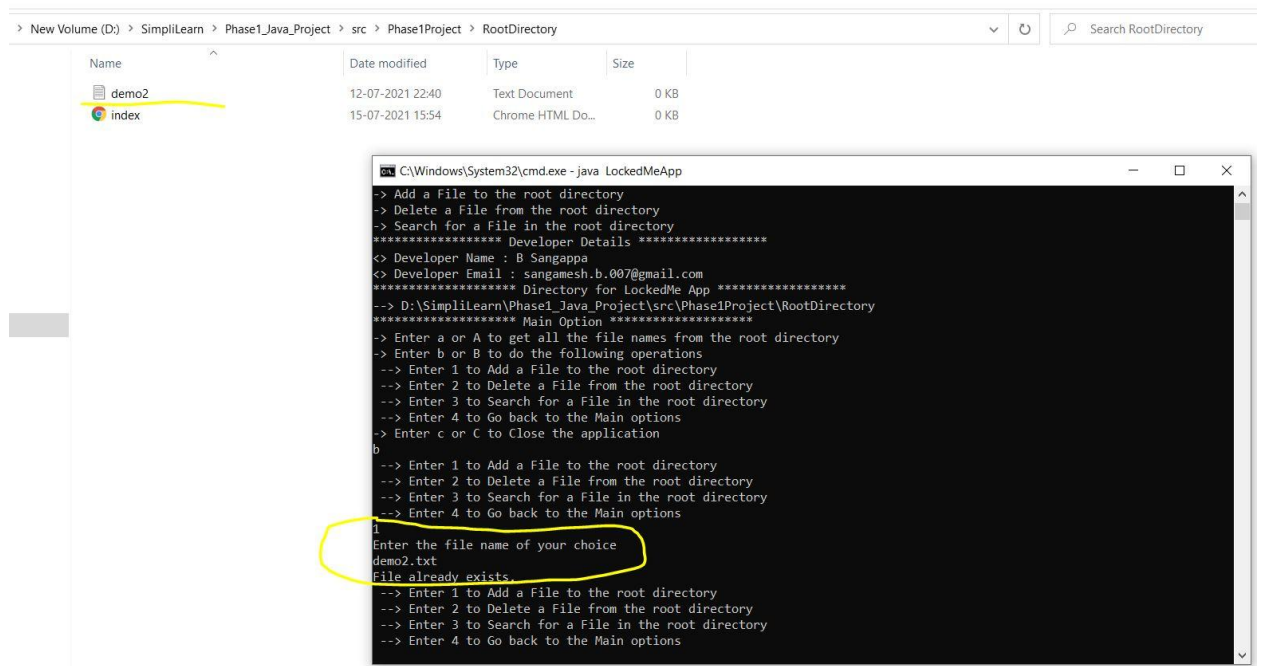
    }

}
```

Successfully File Creation:



Unsuccessfully File Creation:



- 6. Searching for a file from the Root Directory :** Below is the method from the Service which gets the File name from the User and does a search in the

Root Directory. If a file with the same name is found, it returns a success message and also displays the content of the file(is any). If the file is not found, return FNF message

```
public static void searchForAFileInTheRootDirectory(String rootPath) throws  
IOException {
```

```
    System.out.println("Enter the Name of the File which you wish to search  
and see from the Root Directory");
```

```
    String fileName = bufferedReader.readLine();
```

```
    File fileNameDirectory = new File(rootPath + "/" + fileName);
```

```
    if (fileNameDirectory.exists()) {
```

```
        System.out.println(fileName + " File is found in the Root Directory  
and the Content of the file is");
```

```
        FileInputStream input = new FileInputStream(fileNameDirectory);
```

```
        FileChannel channel = input.getChannel();
```

```
        byte[] buffer = new byte[256 * 1024];
```

```
        ByteBuffer byteBuffer = ByteBuffer.wrap(buffer);
```

```
        try {
```

```
            for (int length = 0; (length = channel.read(byteBuffer)) != -1;
```

```
{
```

```
                System.out.write(buffer, 0, length);
```

```
                byteBuffer.clear();
```

```
            }
```

```
        } finally {
```

```
            input.close();
```

```
        }
```

```
        System.out.println();
```

```
    } else {
```

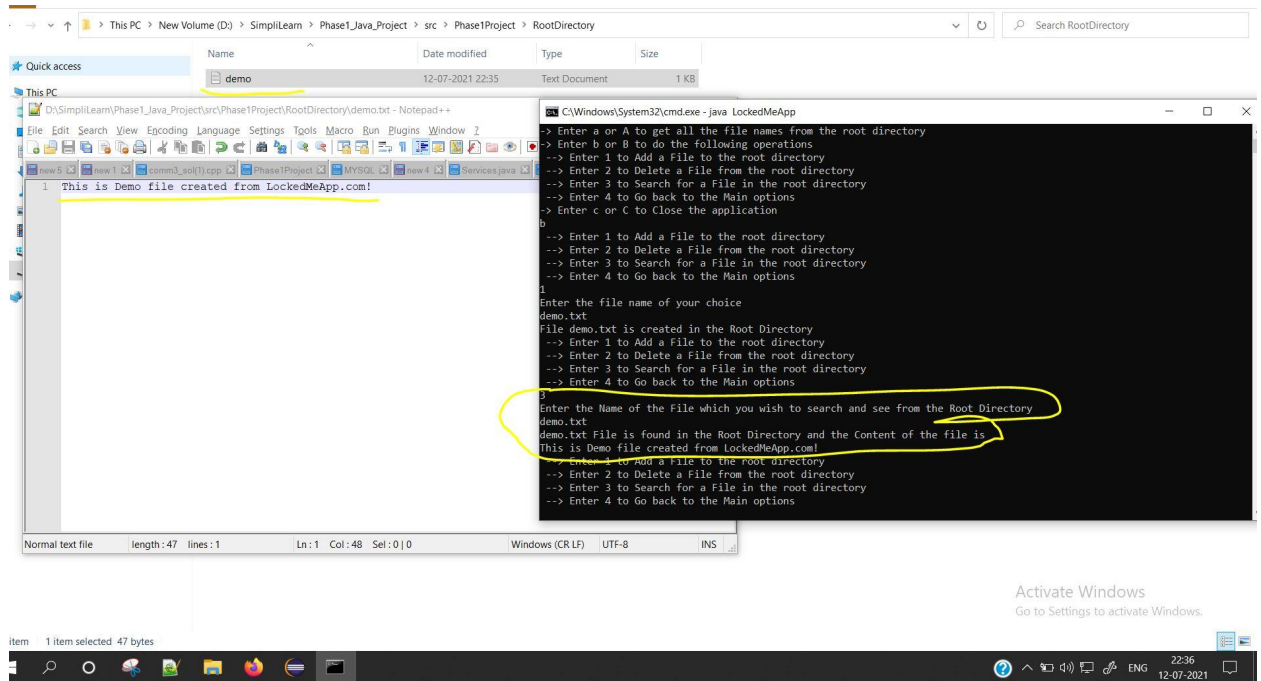
```

        System.out.println(fileName + " File is not found in the Root
Directory");
    }

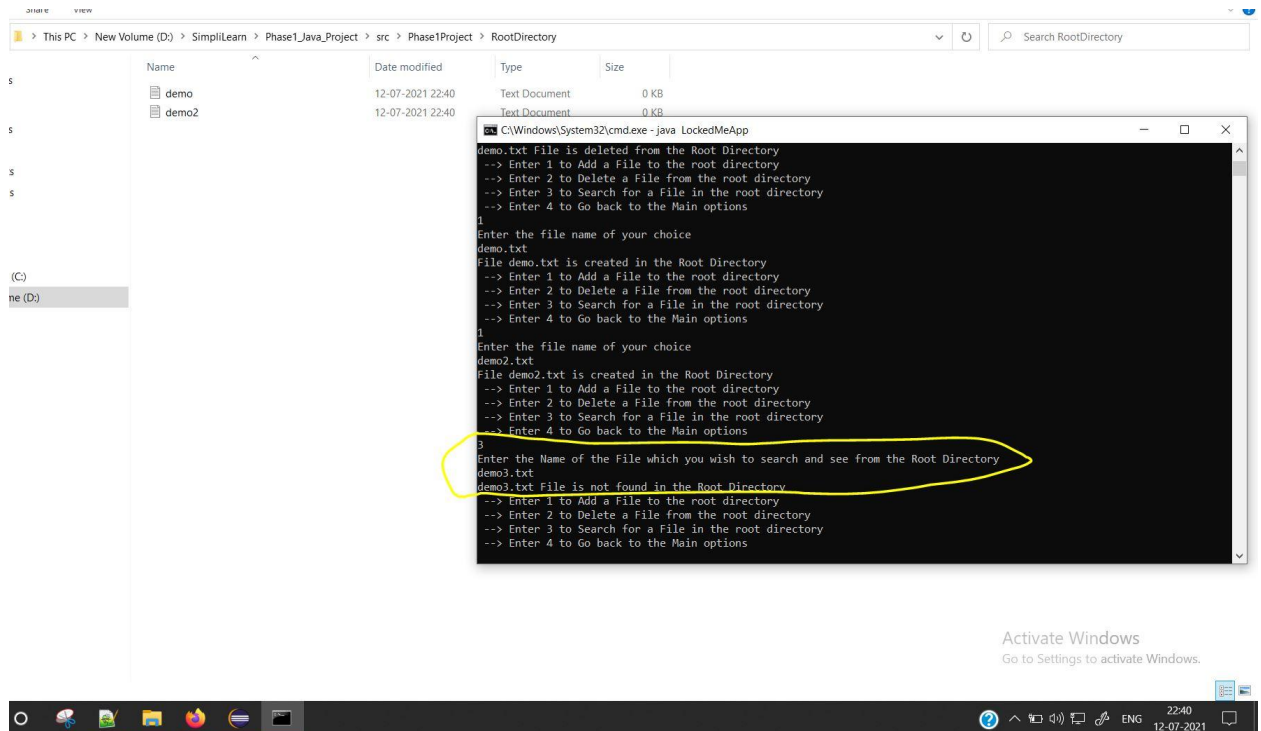
}

```

Successfully Search:



Unsuccessfully Search:



7. **Deleting a file from the Root Directory :** Below is the method from the Service which gets the File name from the User and if a file exists in the Root directory, it deletes it and returns a success message. If file to be deleted in the directory is not found, it displays FNF message

```
public static void deleteAFileFromRootDirectory(String rootPath) throws  
IOException {
```

```
    System.out.println("Enter the Name of the File which you wish to delete  
from the Root Directory");
```

```
    String fileName = bufferedReader.readLine();
```

```
    File fileNameDirectory = new File(rootPath + "/" + fileName);
```

```
    if (fileNameDirectory.exists()) {
```

```
        boolean fileDeleted = fileNameDirectory.delete();
```

```
        if (fileDeleted) {
```

```

        System.out.println(fileName + " File is deleted from the Root
Directory");

    } else {

        System.out.println("Some issue while deleting the file " +
fileName + " from the Root Directory");

    }

} else {

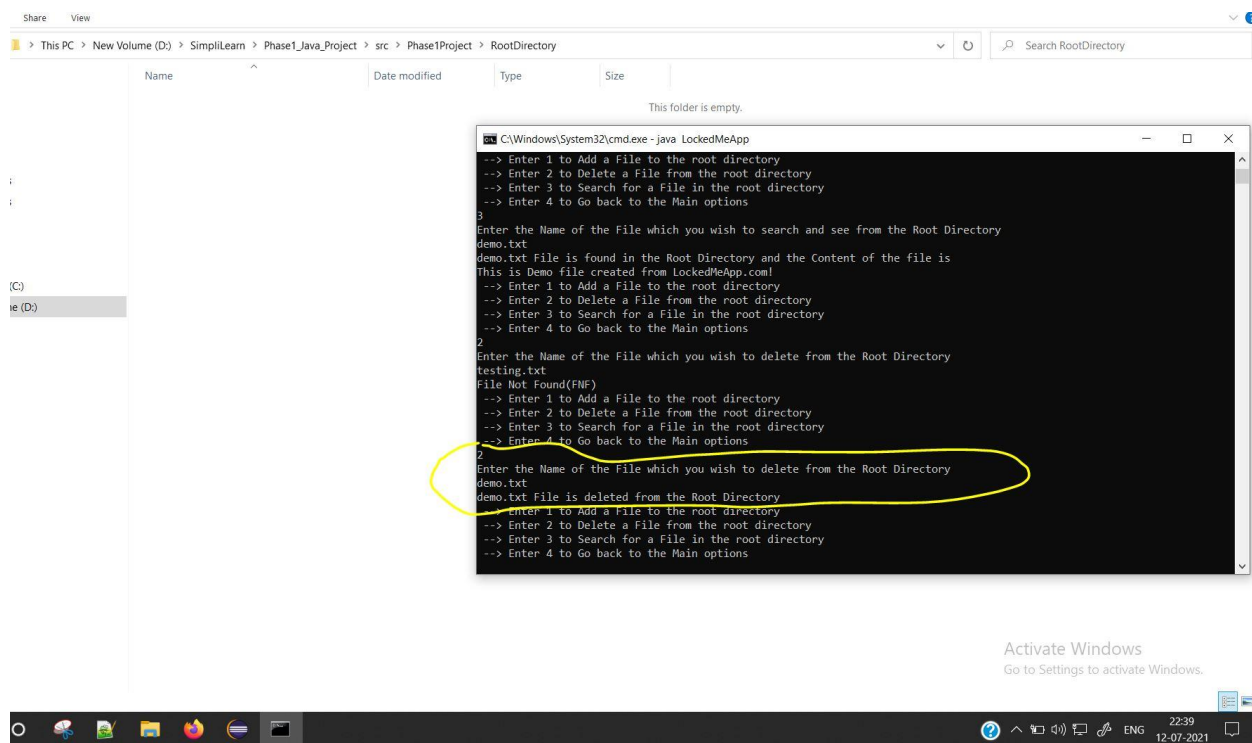
    System.out.println("File Not Found(FNF)");

}

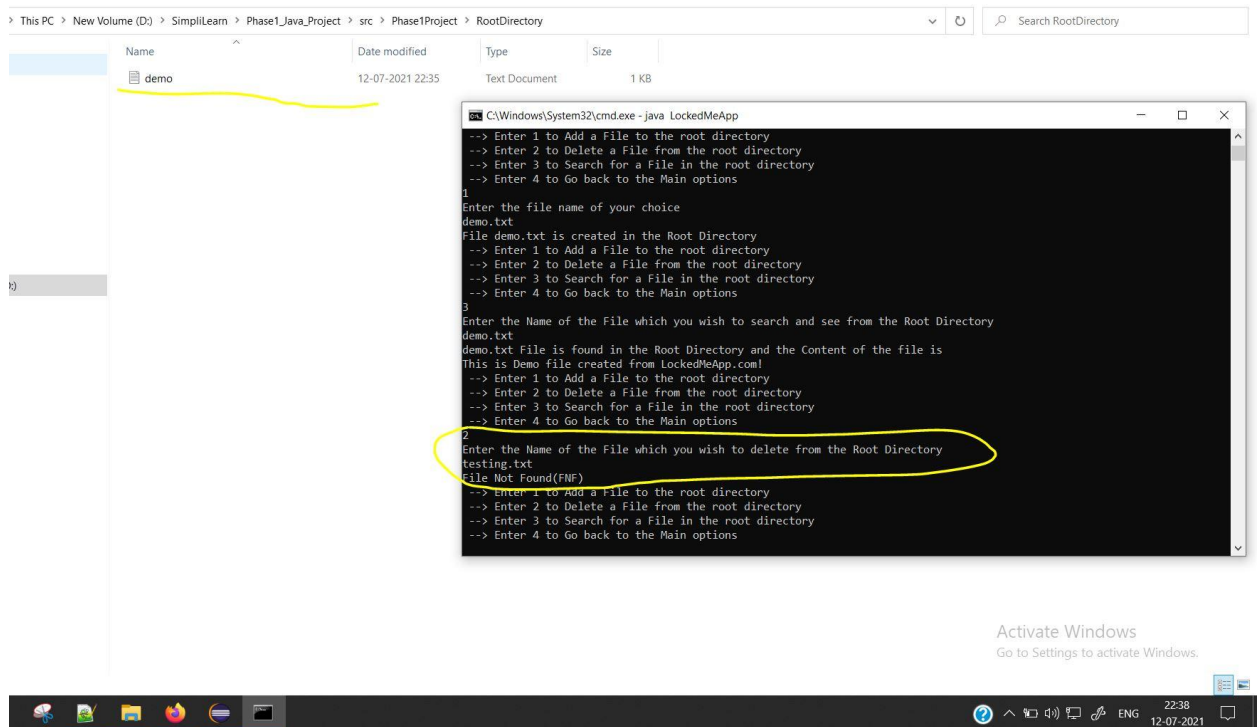
}

```

Successfully Delete :



Unsuccessfully Delete :



Unique Selling Points

1. The Application displays the file names in the Ascending order. And if there are no files, it displays valid message
2. Application allows the user to Search for files and see its content in the console. And if the file is not available it shows valid message and application not terminates
3. Application allows the user to Delete files. And if the file to be deleted is not available it shows valid message and not terminated application not terminates
4. Even, when the User enters ivalid input for any options, the application will not be terminated

Source Code

Source code of the LockedMe.com app is hosted or maintained in GitHub. Below is the link to the GitHub repository

LockedMe.com app GitHub Repo link :

https://github.com/bsangamesh/FileOperation_LockedMeApp

