**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.

**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.

**Source Code**

package com.org.virtualkeyforrepositories;

import java.io.File;

import java.io.FileWriter;

import java.io.IOException;

import java.nio.file.Files;

import java.nio.file.Paths;

import java.util.ArrayList;

import java.util.Arrays;

import java.util.Scanner;

public class Application {

public static void getFileList()

{

Scanner s1=new Scanner(System.in);

try

{

System.out.println("Enter Directory path:");

String s=s1.nextLine();

File f1=new File(s);

//checking whether user provided valid directory or not

if(f1.isDirectory()==true)

{

String l[]=f1.list();

ArrayList<String> list=new ArrayList<String>(Arrays.asList(l));

//using selection sort to sort the filenames in ascending order

if(list.size()>0)

{

for(int i=0;i<list.size()-1;i++)

{

String temp1=list.get(i);

int index=i;

for(int j=i+1;j<list.size();j++)

{

String temp2=list.get(j);

if(temp2.compareTo(temp1)<0)

{

temp1=temp2;

index=j;

}

}

if(index!=i)

{

String temp3=list.get(i);

list.set(index, temp3);

list.set(i, temp1);

}

}

for(String i:list)

System.out.println(i);

}

else

System.out.println("Directory empty");

}

else

System.out.println("Please enter valid Directory name");

}

catch(Exception e)

{

e.printStackTrace();

}

}

public static void bleveloperations() throws IOException

{

Scanner s2=new Scanner(System.in);

try

{

int ch;

//do-while loop used to loop switch cases over and over unless user inputs 4

do

{

System.out.println("\nBusiness Level Operations\n");

System.out.println("1.Add a file\n2.Delete a file\n3.Search for a file\n4.Go back to Main Menu\n");

System.out.println("Enter your choice:");

ch=s2.nextInt();

switch(ch)

{

case 1:

//adding a new file and writing user-input data into it

Scanner s3=new Scanner(System.in);

String fname;

System.out.println("Enter path and file name that is to be created:");

fname=s3.nextLine();

File f2=new File(fname);

if(f2.createNewFile())

{

System.out.println("File is created");

System.out.println("Enter data to write into the file:");

String d=s3.nextLine();

FileWriter writer=new FileWriter(f2);

writer.write(d);

System.out.println("Data written to file, please check");

writer.close();

}

else

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

break;

case 2:

//deleting user-input file from the directory provided by user

Scanner s4=new Scanner(System.in);

String fname1;

System.out.println("Enter path and file name that is to be deleted(case-sensitive):");

fname1=s4.nextLine();

File f3=new File(fname1);

if(f3.exists())

{

Files.delete(Paths.get(fname1));

System.out.println("Deletion Successful");

}

else

System.out.println("File not found");

break;

case 3:

//searching for a filename from a directory provided by user using linear search

Scanner s5=new Scanner(System.in);

int flag=0;

String fname2, fpath;

System.out.println("Enter Directory name in which the file needs to be searched:");

fpath=s5.nextLine();

File f4=new File(fpath);

if(f4.isDirectory()==true)

{

System.out.println("Enter filename that is to be searched for(case-sensitive):");

fname2=s5.nextLine();

String flist[]=f4.list();

for(int i=0;i<flist.length;i++)

{

if(fname2.equals(flist[i]))

{

flag=1;

break;

}

else

flag=0;

}

if(flag==1)

System.out.println("File found");

else

System.out.println("File not found");

}

else

System.out.println("Please enter valid directory name");

break;

case 4:

//returning to previous switch case

System.out.println("Returning to previous menu\n");

break;

default:

System.out.println("Please enter a valid choice");

break;

}

} while(ch!=4);

}

catch(Exception e)

{

e.printStackTrace();

}

}

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

Scanner sc=new Scanner(System.in);

try

{

int c;

//do-while loop used to loop switch cases over and over unless user inputs 3

do

{

System.out.println("\nProject name: LockedMe.com");

System.out.println("Developer details: Anurag Pal, 216 Java SL(Evening Batch), Java FSD Phase-1 Assessment, \nContact no: 1111111111");

System.out.println("\n-----Menu-----\n");

System.out.println("1.Get File List\n2.Business-level Operations\n3.Close\n");

System.out.println("Enter your choice:");

c=sc.nextInt();

switch(c)

{

case 1:

//calling method getFileList()

try {

getFileList();

}

catch (Exception e)

{

e.printStackTrace();

}

break;

case 2:

//calling method bleveloperations()

try {

bleveloperations();

}

catch (Exception e)

{

e.printStackTrace();

}

break;

case 3:

//Closing switch case

System.out.println("Application Closed");

break;

default:

System.out.println("Please enter a valid choice");

break;

}

} while(c!=3);

}

catch(Exception e)

{

e.printStackTrace();

}

}

}