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A

Mini project report on

"CYBER CAFE MANAGEMENT SYSTEM"

Submitted in partial fulfillment of the requirements for the award of degree of

BACHELOR OF ENGINEERING

in

INFORMATION SCIENCE & ENGINEERING

Submitted by

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CERTIFICATE

Certified that the project work entitled "**Cyber Cafe Management System**" carried out by **Mohd Taha Alias Zeeshan Ali (1AT17IS050)** a bonafide student of Department of Information Science and Engineering, Atria I. T., in partial fulfillment for the award of **Bachelor of Engineering** in Information Science & Engineering of the Visvesvaraya Technological University, Belgavi, during the year 2020-2021. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The mini project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Guide	**HOD**	**Principal**
Mrs. Manjula H N (Asst. Prof., ISE) **Ms. Vaishali Thakare** (Asst. Prof., ISE)	**Dr. Shanthi Mahesh** (Dept. of ISE)	**Dr. K.V. Narayanaswamy** (Atria I T)

External Viva

Name of Examiners	**Signature with date**
1.	
2.	

DECLARATION

I, **Mohd Taha Alias Zeeshan Ali (1AT17IS050)** Student of sixth semester, Bachelor of Engineering, Atria Institute of Technology hereby declare that the mini project entitled **"Cyber Cafe Management System"** has been carried out by us at Atria Institute of Technology, Bengaluru, and submitted in partial fulfillment of the course requirements for the award of the degree of

Bachelor of Technology in **Information Science & Engineering** of **Visvesvaraya Technological University, Belagavi**, during the academic year 2020-2021.

I also declare that, to our best knowledge and belief, the work reported here doesn't form part of any other dissertation on the basis of which a degree or award was conferred on an earlier occasion on this by any other student.

Place: Bengaluru
Date:

Mohd Taha Alias Zeeshan Ali (1AT17IS050)

ABSTRACT

Computers have become a way of life for today's high society. Many aspects of modern life that we have come to accept as common place would not be possible if there were no computers. Today computers are used extensively in many areas of business, industry, science, education etc.

The major advantage of computer is its speed that makes it able to give some useful information very quickly. This speed also opens new approaches to problem solving and data processing. Another feature is its accuracy. Though the computers do only what is instructed at every instant, these instructions are taken into account and accurate information's are produced. Computer can hold data and instruction in an electronic representation in internal memory and this data can be retrieved at any time

The project entitled "Cyber Café Management System" is a software package, which can be used in cyber cafés for managing the clients' computer efficiently. Now a day's cyber terrorism, which is mainly undergone through internet cafés, need to be tackled properly. Thereby, it is indeed necessary to store the valid information of the user who comes for internet access. The system being used, the time at which the user logs in and logs out should be recorded systematically.

In this modern era, a number of people access the internet frequently by means of cyber cafes. For such frequent users, a prepaid account shall be maintained.

This system is developed in JAVA language with J2EE as backend. The system is a menu driven one. User-friendly menus will help both the administrator and the clients to work on it without any operational difficulty.

ACKNOWLEDGEMENT

I am grateful to my institution, **Atria Institute of Technology**, for having provided me with the facilities to successfully complete this mini project on **CYBER CAFE MANAGEMENT SYSTEM**.

I thank **Dr. K. V. NarayanaSwamy, principal** and **Dr. Shanthi Mahesh, HOD, ISE** for providing us all the necessary facilities for successful completion of our mini-project.

Deadlines play a very important role in successful completion of the academic project on time, efficiently and effectively. I take this opportunity to express our deep sense of gratitude to our guide and coordinators **Mrs. Manjula H Nebagiri, Assistant Professor, and Mrs. Vaishali Thakare, Assistant Professor, Department of ISE** for their valuable guidance and help throughout the course of the academic mini-project. They have always been patient with me and helped immensely in completing the task on hand. I also thank them for their immense support, guidance, specifications & ideas without which seminar would have been completed without full merit.

Last but not least from the Department of Information Science and Engineering, teaching and non-teaching staffs for their constant encouragement, support, patience and endurance shown during the preparation of this report were remarkable. I also thank the management.

Finally, I thank my parents and friends for their motivation, moral and material support.

MOHD TAHA ALIAS ZEESHAN ALI

(1AT17IS050)

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CHAPTER 1

INTRODUCTION

1.1 Introduction to File Structures

1.1.1 File

A file is a named collection of related information that is recorded on secondary storage such as magnetic disks, magnetic tapes and optical disks. In general, a file is a sequence of bits, bytes, lines or records whose meaning is defined by the files creator and user.

1.1.2 File Structure

A file structure is a combination of representations for data in files and of operations for accessing data in files and of operations for accessing the data. A file structure allows applications to read, write and modify data. It might also support finding the data that matches some search criteria or reading through the data in some particular order. The details of the representation of the data and the implementation of the operations determine the efficiency of the file structures for particular applications.

A File Structure should be according to a required format that the operating system can understand.

- A file has a certain defined structure according to its type.
- A text file is a sequence of characters organized into lines.
- A source file is a sequence of procedures and functions.
- An object file is a sequence of bytes organized into blocks that are understandable by the machine.
- When operating system defines different file structures, it also contains the code to support these file structure. Unix, MS-DOS support minimum number of file structure.

1.1.3 File Type

File type refers to the ability of the operating system to distinguish different types of file such as text files source files and binary files etc. Many operating systems support many types of files. Operating system like MS-DOS and UNIX have the following types of files −

1. Ordinary files
   - These are the files that contain user information.
   - These may have text, databases or executable program.

- The user can apply various operations on such files like add, modify, delete or even remove the entire file.

2. Directory files
   - These files contain list of file names and other information related to these files.
3. Special files
   - These files are also known as device files.
   - These files represent physical device like disks, terminals, printers, networks, tape

drive etc. These files are of two types −

- Character special files − data is handled character by character as in case of terminals or printers.
- Block special files − data is handled in blocks as in the case of disks and tapes.

1.1.4 File Access Mechanisms

File access mechanism refers to the manner in which the records of a file may be accessed. There are several ways to access files -

Sequential access

A sequential access is that in which the records are accessed in some sequence, i.e., the information in the file is processed in order, one record after the other. This access method is the most primitive one. Example: Compilers usually access files in this fashion.

Direct/Random access

- Random access file organization provides, accessing the records directly.
- Each record has its own address on the file with by the help of which it can be directly accessed for reading or writing.
- The records need not be in any sequence within the file and they need not be in adjacent locations on the storage medium.

Indexed sequential access

- This mechanism is built up on base of sequential access.
- An index is created for each file which contains pointers to various blocks.
- Index is searched sequentially and its pointer is used to access the file directly.

1.1.5 Field and Record Organization

- Record is a collection of related fields.
- Field is the smallest logically meaningful unit of information in a file.
- Key is a subset of the fields in a record used to identify (uniquely) the record.

When we build file structures, we are making it possible to make data persistent. That is, one program can create data in memory and store it in a file and other program can read the file and recreate the data in its memory.

CHAPTER 2

LITERATURE SURVEY

2.1 Introduction to Cyber Café System

The software is the solution for an Internet cafe. The software provides you with a means to control the workstations, manage customer database, sell products and generate detailed reports and statistics. This is a powerful Cyber Cafe management software that helps with managing customers and employees It simplifies and automates running your Internet Cafe business. Unlike many other competitive programs, Cyber cafe management system is robust, quick, secure and very intuitive and easy to use. It doesn't matter how big your Internet cafe is - Cyber cafe management system is capable of controlling any number of workstations. Cyber cafe management system is designed to be a complete solution for Internet cafes and to make life easier for Internet cafe owners, operators and customers.

2.2 Functionalities of the project

The functionalities provided by the project are mentioned as follows:

2.2.1 Insertions/Writing into the file

There is a GUI provided by the webpage that lets new users to create an account. the account details submitted by the users is stored in a text file (.txt) which is organized using file structure concepts as it is easier to process and consumes lesser space.

2.2.2 Searching from a file

After the users have entered the details, the data is stored in file that admin can see modify or delete, the admin uses search function to search a particular user and can delete the record or modify the details.

2.2.3 Deleting

When the user add the details the user might make mistake during registration, admin can delete the account which have wrong details and can save storage space and reduce redundancy

2.2.4 Sorting

All the record of all the individual users are stored in a file and sorted in alphabetical manner, and the record can be seen by admin, sorting algorithm is used to sort the record of the users.

2.2.4 Displaying

All the record of the user are stored in the file and can be displayed by using display function by admin of cyber cafe and the one who have the admin credential. Display function in the café management system is important as admin should know which customer used which system.

CHAPTER 3

SYSTEM REQUIREMENT AND SPECIFICATIONS

3.1 Introduction

In this part of documentation, the purpose, scope of the project and system requirements for running the projects is specified**.**

3.1.1 Purpose

The purpose of the project is to automate cyber cafes. The software must include provisions to keep user details and login history. It should help the café owners to retrieve user details when needed and internet usage in the system. It should be capable of allocating cabins automatically. It should help the café owner in calculating daily usage of the systems and income.

3.1.2 Scope of the project

The current system is an application program that provides a better way of management of internet cafes. Users those who have an account with the system are entertained. Creation of account is however very easy, thereby enhances the reliability of the system. The new system provides the following features

- Eliminate the limitations of existing system
- Efficient storing of user details
- To prevent cyber-crime through cyber cafe
- The system will store the details of every users up to 5 years since the last login date

3.1.3 Definitions, Acronyms, and Abbreviations

1. Field: Field is a basic unit of data organization. It is the smallest logically meaningful unit of information in a file.
2. Record: Aggregates of a list of different fields are called records.
2. Delimiter: A delimiter is a sequence of one or more characters used to specify the boundary between separate, independent regions in plain text or other data streams.
3. CSS: Cascading Style Sheets.
4. HTML: Hyper Text Markup Language.

3.2 Specific Requirements

The software and hardware requirements needed to run this project is specified here.

3.2.1 Hardware Requirements

Following are the minimum hardware requirements to execute this project.

Table 3.1 - Hardware requirement.

CPU	Any Dual core processor
RAM	2Gb
Disk Space	512Mb

- Along with this basic Input Output devices are also required such as monitor, keyboard, mouse.

3.2.2 Software Requirements

Following are the minimum software requirements to execute this project.

Table 3.2 - Software requirements

Software component	Minimum Requirement
Operating System	Any OS that is supported by Java
Web Browser	Any Text editor like VS code, Sublime etc.
Text Editor	Any latest Web Browser. Preferably Google Chrome or Mozilla Firefox.
Java	JDK, Eclipse, any IDE that support Java
GUI Designer Plugin	Java Window Builder

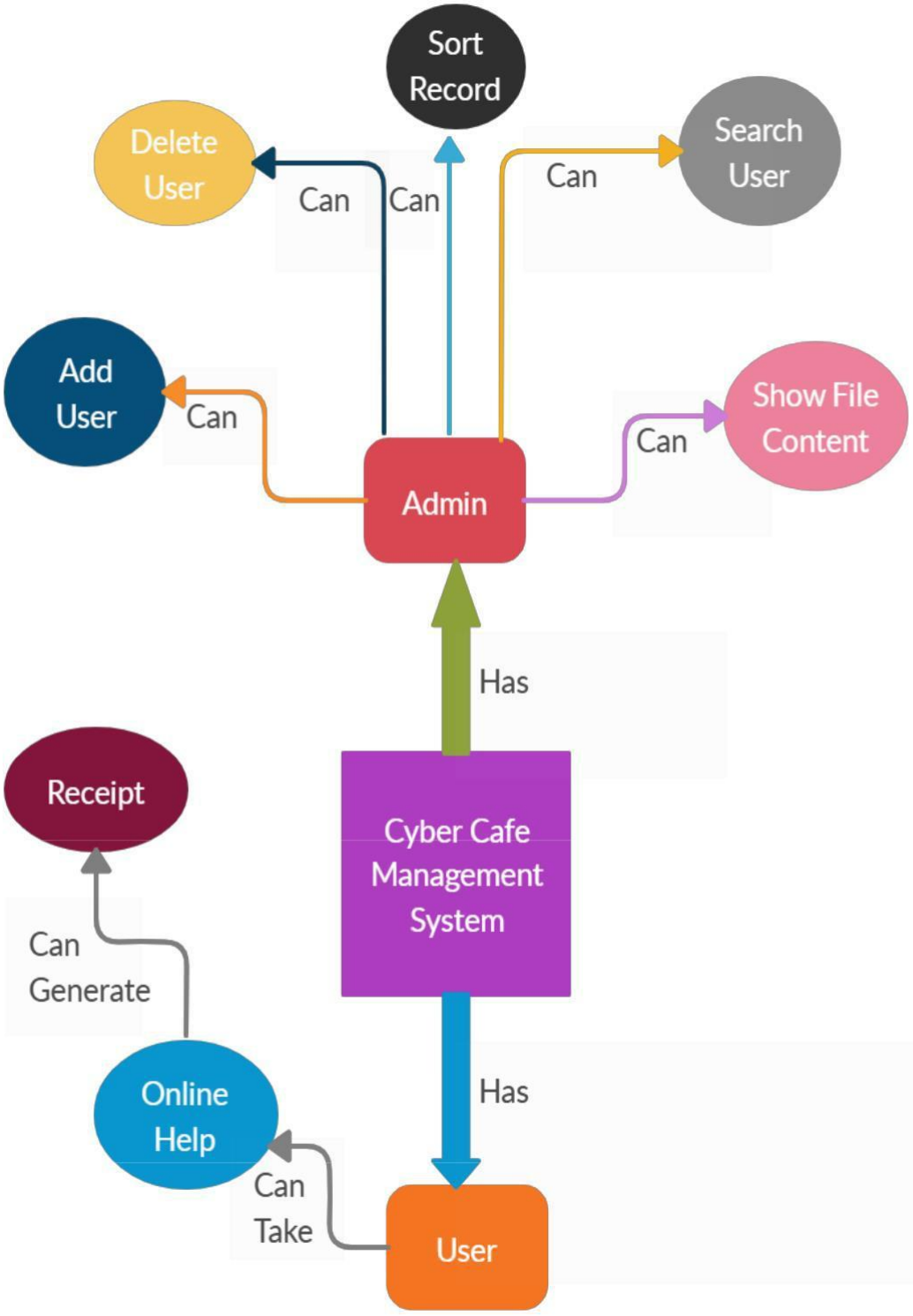
- Along with this all the necessary drivers that support the hardware is required.

3.3 Memory Constraints

There are no memory constraints for this project to run.

Screen 14. ARCHITECTURE DIAGRAM.

This diagram tells the flow of the each Module.



CHAPTER 4

DESIGN

4.1 Structure of the text document

In this section of the document we describe the file structure concepts used to structure the text document which is later used in processing into a webpage.

4.1.1 Field Structures

There are many ways of adding structure to file to maintain the identity of fields. Four most common method are as follows:

1. Force the fields into predictable length.
2. Begin each field with a
length indicator.
3. Place a delimiter at end of each field to separate it from the
next field.
4. Use a "keyword=value" expression to identify each
field and its contents

4.1.2 Field Structures Used in Project

1. There are 3 main records in this text file. They are: users, scores, answers
2. The delimiter used to separate fields are | (pipeline symbol)
3. The delimiter used to separate records are also |

4.2 File access mechanism

In this project we use sequential access of records for reading the file during file processing. That is, we access records in the same order as it is been stored in the file. We fetch the records one after the other and use compare it with the list of keywords and execute the necessary code accordingly. Read, Write and file processing actions are performed by sequential access of records.

CHAPTER 5

IMPLEMENTATION

5.1 Technologies and languages used for implementation

1.HTML5 (Hyper Text Markup Language)

Hypertext Markup Language is the standard markup language for creating web pages and web applications. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document

2. J2EE (Java Enterprise Edition)

J2EE can be expanded as Java to the Enterprise Edition, Which is a standalone Java environment used by software and system developers and deploying a web based application or a website. It's a renowned platform that uses java programming language due to its benefits in term of its reliability, security features, portability on a cross platform bases, easy implementation, continuously upgrading to match the latest and trending technologies needs, etc

3.JAVA

Java is a general-purpose computer programming language that is concurrent, class-based, object-oriented, and specifically designed to have as few implementation dependencies as possible. It is intended to let application developers "write once, run anywhere" (WORA), meaning that compiled Java code can run on all platforms that support Java without the need for recompilation.

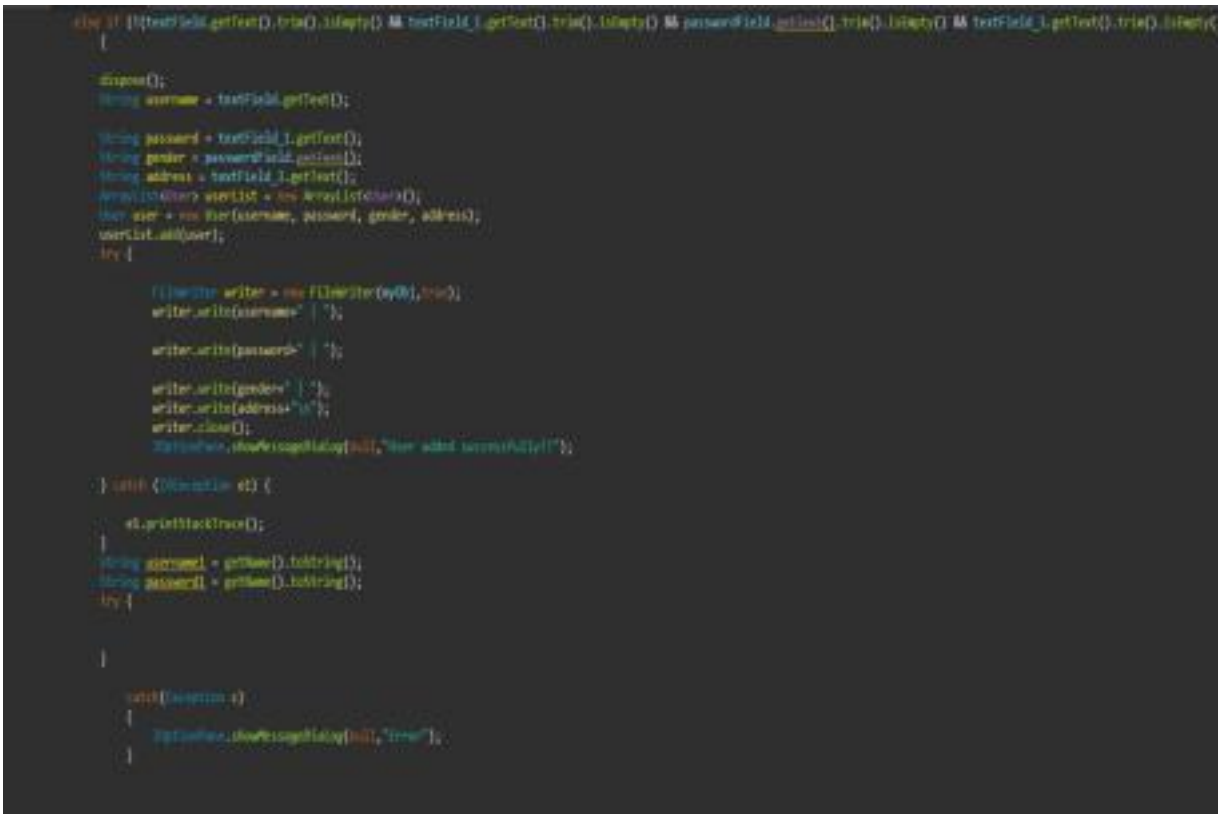
5.2 Code snippets

5.2.1 LOGIN PAGE

```
    if(textField.getText().trim().isEmpty() && passwordField.getText().trim().isEmpty() && textField_2.getText().trim().isEmpty() && textField_3.getText().trim().isEmpty())
    {
        JOptionPane.showMessageDialog(null,"All Fields are Empty");
    }
else if (!(textField.getText().trim().isEmpty() && passwordField.getText().trim().isEmpty() && textField_2.getText().trim().isEmpty() && textField_3.getText().trim().isEmpty()))
    {

    dispose();
    JOptionPane.showMessageDialog(null,"Successfully Signed up");
    dispose();
    String username = textField.getText();
    //System.out.println(username);
    String password = passwordField.getText();
    String gender = textField_2.getText();
    String address = textField_3.getText();
    ArrayList<User> userList = new ArrayList<User>();
    User user = new User(username, password, gender, address);
    userList.add(user);
    try {
            //System.out.println("File Created: " +myObj.getName());
            FileWriter writer = new FileWriter(myObj,true);
            writer.write(username+" | ");
            //writer.write(System.getProperty("line.separator"));
            writer.write(password+" | ");

            writer.write(gender+" | ");
            writer.write(address+"\n");
            writer.close();

    } catch (IOException e1) {
        // TODO Auto-generated catch block
        e1.printStackTrace();
    }

    try {
        //JOptionPane.showMessageDialog(null,"Successfully Looged In");
    }

        catch(Exception c)
        {
            JOptionPane.showMessageDialog(null,"Error");
        }
    page11 ps = new page11();
```

This Page is used to validate the user login. And take user to other page

5.2.2 METHOD TO ADD USER



This method is use to add the user by admin, by entering in the respective fields

5.2.3 METHOD TO DISPLAY USER'S RECORDS

```
    JButton btnClear = new JButton("Clear");
    btnClear.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            textArea.setText(null);
        }
    });
    btnClear.setForeground(new Color(255, 0, 0));
    btnClear.setFont(new Font("Tahoma", Font.PLAIN, 18));
    btnClear.setBounds(299, 325, 106, 39);
    contentPane.add(btnClear);


    btnShowData.addActionListener(new ActionListener() {
        @SuppressWarnings("deprecation")
        public void actionPerformed(ActionEvent e) {



            try {
                File file = new File("C:\\Users\\ASHISH\\Desktop\\ashish.txt");

                BufferedReader br = new BufferedReader(new FileReader(file));

                String st;
                String st2 = "";
                while ((st = br.readLine()) != null)
                  st2 += st + "\n";

                textArea.setText(st2);

            }

             catch (Exception e1) {
                dispose();
                JOptionPane.showMessageDialog(null,e1);
            }

        }
    });

}
```

5.2.2 METHOD TO DELETE A USER RECORD

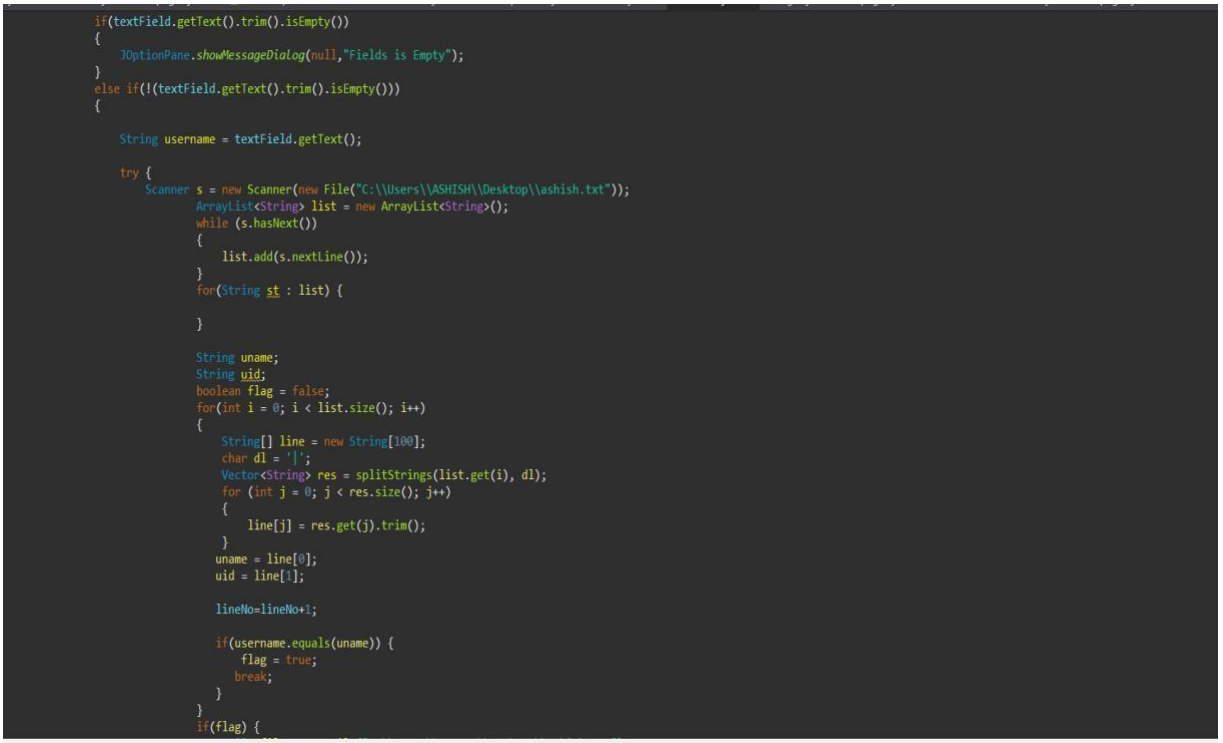
```java
import java.io.BufferedWriter;

public class delete
{
    public static void main(String []args)
    {
        ArrayList<String> list = new ArrayList<String>();
    }
    public static void writeToFile(ArrayList<String>list)
    {
        try
        {
            BufferedWriter writer = new BufferedWriter(new FileWriter("taha.text"));
            for(String x:list)
            {
                writer.write(x);
                writer.newLine();
            }
            writer.close();
        }
        catch(IOException e)
        {
            e.getStackTrace();
        }
    }
    public static void deleteFromFile(ArrayList<String>list,String search)
    {

    }
}
```

This method is use to delete the user already existing in the record.

5.2.3 HTML PAGE

```html
<!DOCTYPE html>
<html>
<head>
    <style>
        img {
        }
        h1 {
            color: purple;
        }
        h2
        {
            color: brown;
            font-size: 30px;
        }
        h3
        {
            color: red;
            font-size: 30px;
        }
        h4
        {
            color: red;
            font-size: 30px;
        }
        h5{
            color: brown;
            font-size: 25px;
        }
        h6{
            color: green;
            font-size: 20px;
        }
    </style>
    <title>Techy's cyber cafe</title>
</head>
<body style = "background: cyan" >
  <h1 style="text-align:center"> <marquee>WELCOME TO TECHY'S CYBER CAFE</marquee></h1>
  <h2 style="text-align:center">This project has been done under the Guidance of Prof. Manjula HN, Prof. Vaishali Ravindra Thakrey, and Prof. Abhilash. </h2>
  <h3 style="text-align:center">For browse click <a href= "http://google.com">here</a>
  </h3>
  <h4 style="text-align:center"> Developed By</h4>
  <h5 style="text-align: center"> <br>Mohd Taha - 1AT17IS50</br> Aman Kumar - 1AT17IS008</br> Ashish Sukralia - 1AT17IS014 </br> </h5>
  <h6 style="text-align: center">Atria Institute of Technology: Bangalore
```

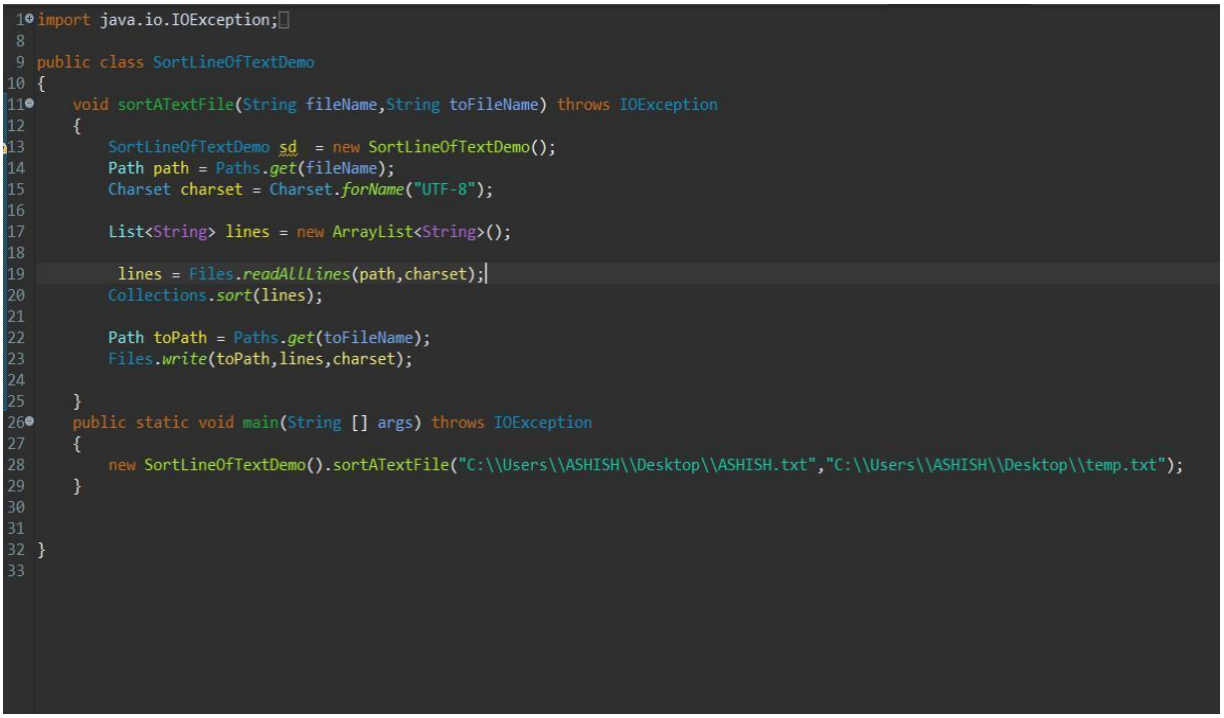
5.2.3 STRING MATCH METHOD TO SEARCH USER



```
if(textField.getText().trim().isEmpty())
{
    JOptionPane.showMessageDialog(null,"Fields is Empty");
}
else if(!(textField.getText().trim().isEmpty()))
{

    String username = textField.getText();

    try {
        Scanner s = new Scanner(new File("C:\\Users\\ASHISH\\Desktop\\ashish.txt"));
                ArrayList<String> list = new ArrayList<String>();
                while (s.hasNext())
                {
                    list.add(s.nextLine());
                }
                for(String st : list) {

                }

                String uname;
                String uid;
                boolean flag = false;
                for(int i = 0; i < list.size(); i++)
                {
                    String[] line = new String[100];
                    char dl = '|';
                    Vector<String> res = splitStrings(list.get(i), dl);
                    for (int j = 0; j < res.size(); j++)
                    {
                        line[j] = res.get(j).trim();
                    }
                   uname = line[0];
                   uid = line[1];

                   lineNo=lineNo+1;

                   if(username.equals(uname)) {
                      flag = true;
                      break;
                   }
                }
                if(flag) {
```

This method is used to search the user by entering the username in the search field

5.2.4 METHOD TO SORT THE USER'S RECORDS



```
import java.io.IOException;

public class SortLineOfTextDemo
{
    void sortATextFile(String fileName,String toFileName) throws IOException
    {
        SortLineOfTextDemo sd  = new SortLineOfTextDemo();
        Path path = Paths.get(fileName);
        Charset charset = Charset.forName("UTF-8");

        List<String> lines = new ArrayList<String>();

         lines = Files.readAllLines(path,charset);
        Collections.sort(lines);

        Path toPath = Paths.get(toFileName);
        Files.write(toPath,lines,charset);

    }
    public static void main(String [] args) throws IOException
    {
        new SortLineOfTextDemo().sortATextFile("C:\\Users\\ASHISH\\Desktop\\ASHISH.txt","C:\\Users\\ASHISH\\Desktop\\temp.txt");
    }


}
```

This method is used to sort the user record that is done by admin to see the record in specific order

CONCLUSION, FUTURE ENHANCEMENTS AND ADVANTAGES

CONCLUSION:

It provide a simple flawless alternative manage the cyber cafe and lessens the burden of cybercafé owner.it is the solution for an Internet cafe. This is a powerful Cyber Cafe management system software that helps with managing customers and employees, controlling computers. It simplifies and automates running your Internet Cafe business. Unlike many other competitive programs, Cyber cafe management system is robust, quick, secure and very intuitive and easy to use

FUTURE ENHANCEMENTS:

The computerized "Cyber Café Management "is made with intention to make easy to maintain the records and minimize the drawbacks of the system. The automates billing process and displaying of availability of system function can be added in the software.

ADVANTAGES:

- Computerized system is completely automated thus user can operate easily.
- Time required is very less to makes and search the records.
- Computerized system generates online reports.
- It reduces the data consistency and redundancy.

REFERENCES

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[2]https://www.w3schools.com/bootstrap4/

[3]https://docs.oracle.com/java/docs

[4]https://materializecss.co/

[5]http://eclipse.org/

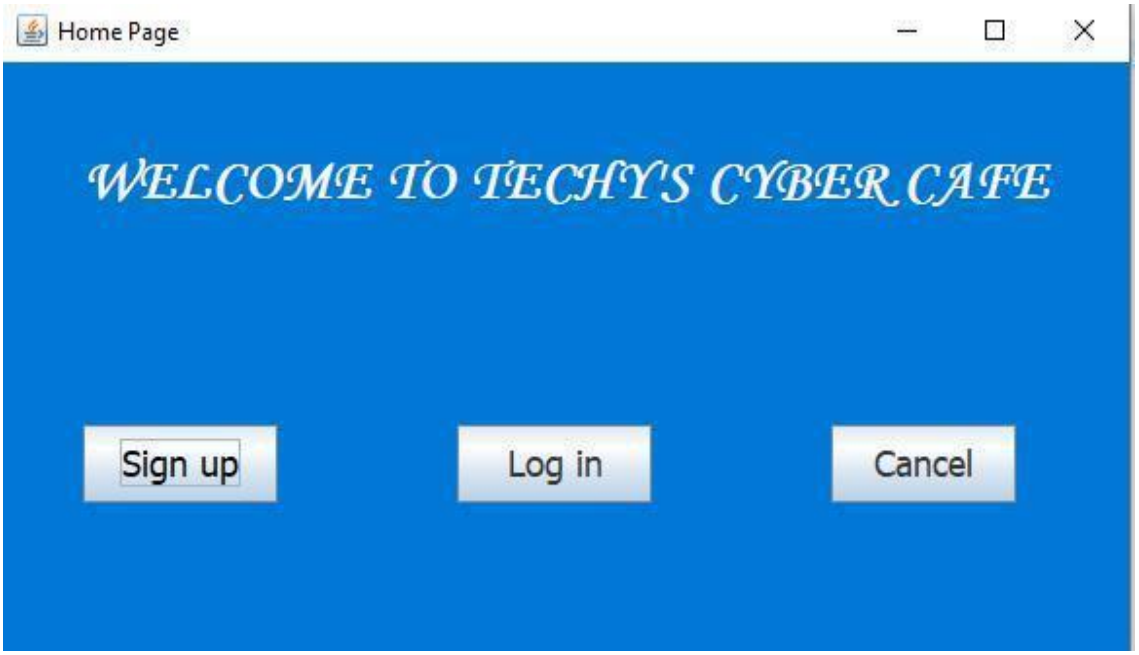
[6] Introduction to Java

APPENDIX -A

SCREENSHOTS

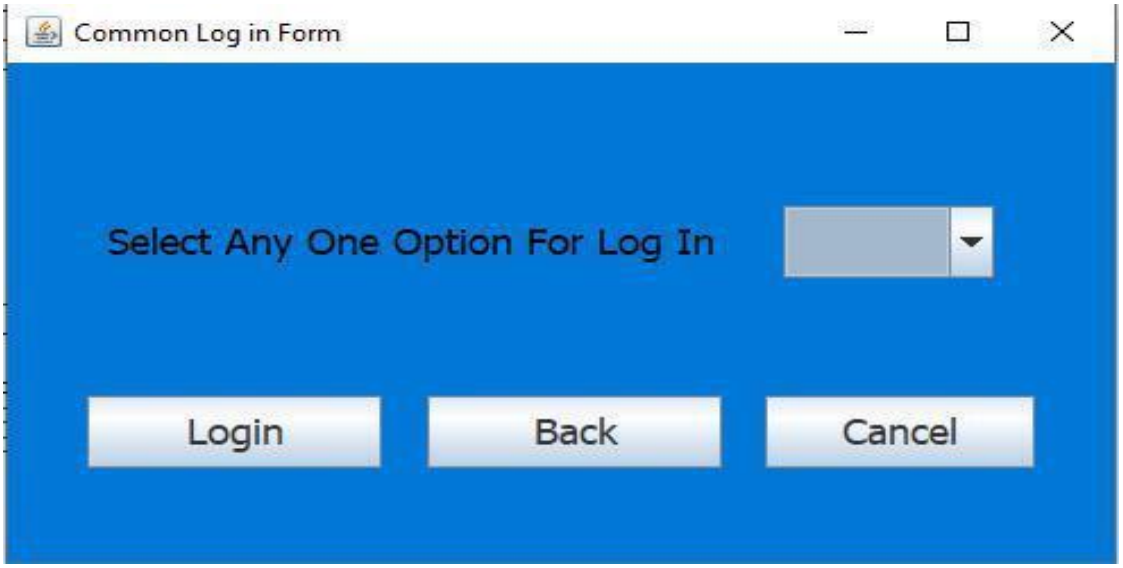
Screen 1. Home Page

The home page allow the new user to sign up and log in to an existing user.



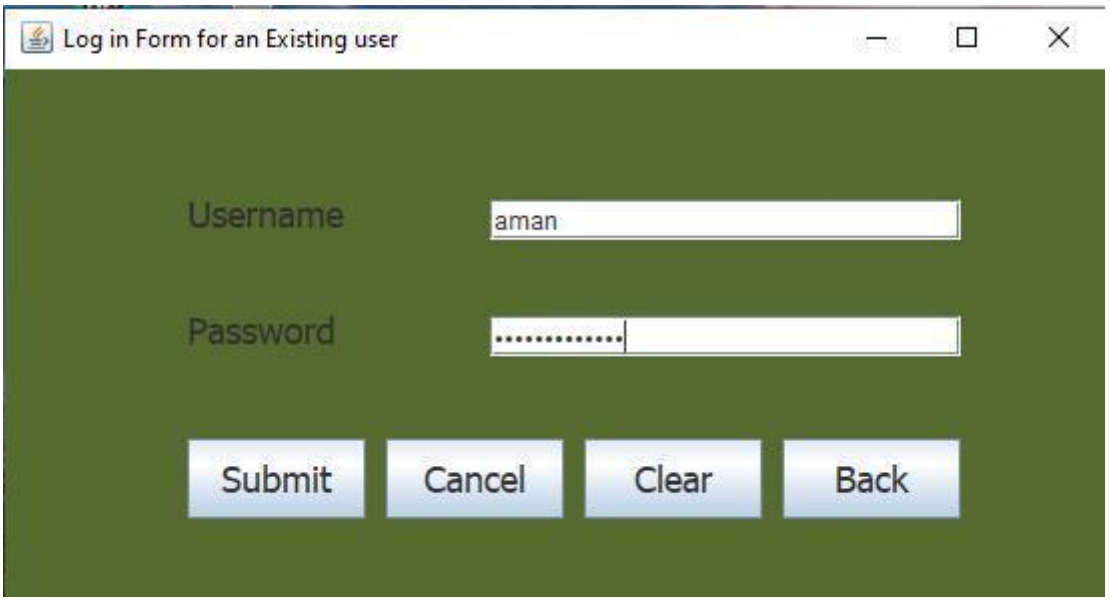
Screen 2. Common Login Page

The users can choose any one option for login such as Admin or User.



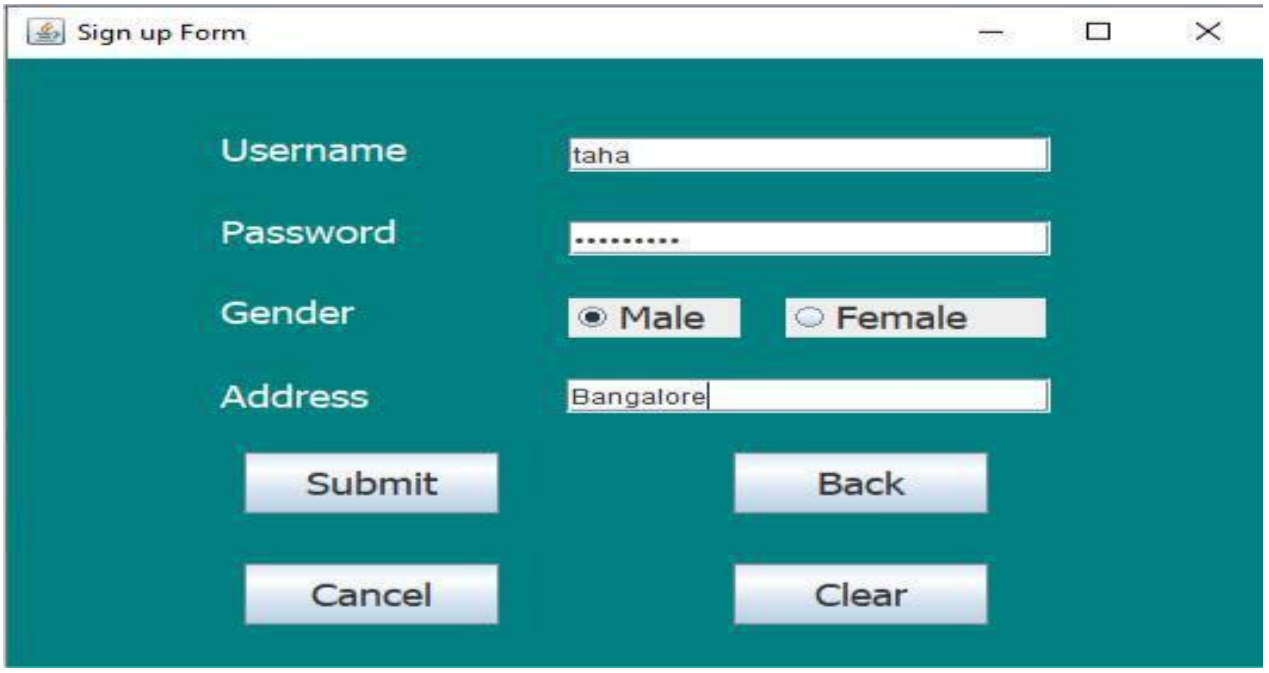
Screen 3. Login Page for an existing user

The users can log in with their credentials, If user have already existing account.



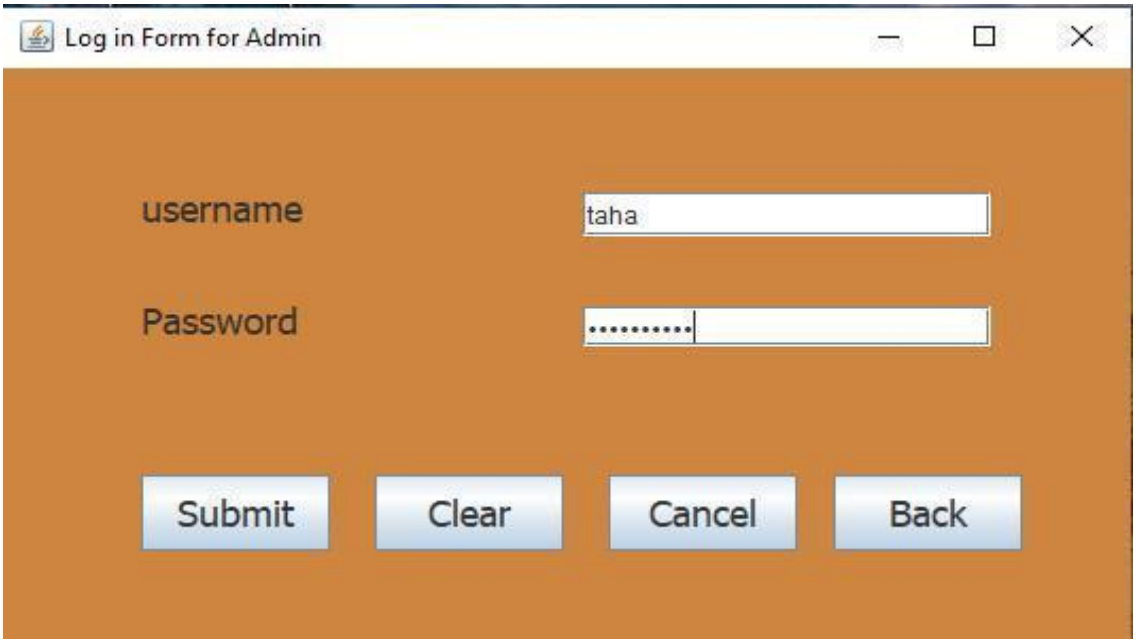
Screen 4. Sign up page

If the user does not have login credential, he can create a new account by using the sign up form.



SCREEN 5. LOGIN PAGE FOR ADMIN

The user can login as admin with correct credentials.



SCREEN 6. HTML PAGE

After logging the user will be redirected to this page then from this page user can click the option “For browse click here” and from there user will be redirected to the Google website. Once the user reaches to the Google site, he can start with his needed work.

SCREEN 7. HOME PAGE FOR ADMIN

The admin home page, here the admin can add the user, search the user's record, sort the records, delete the records and can display the whole file content.

SCREEN 8. ADMIN CAN ADD THE NEW USER.

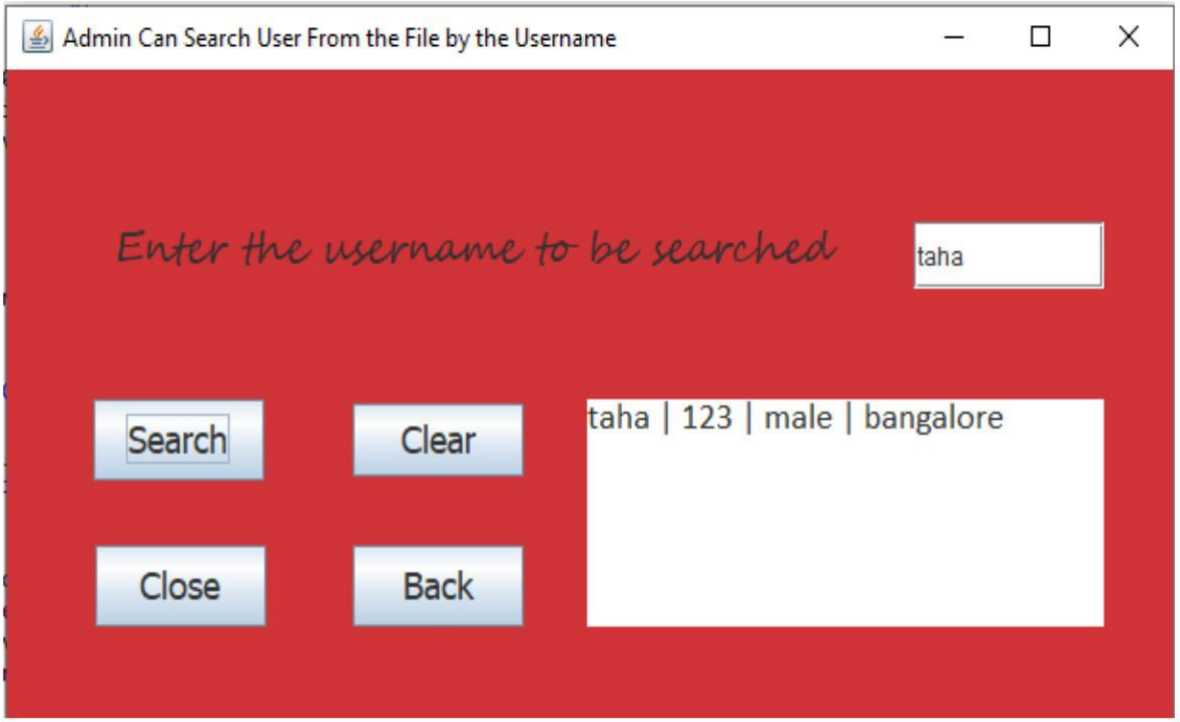
This page allows admin to add new user if the user is not able to create his account.

SCREEN 9. DISPLAYING THE USERS INFORMATION

Admin can see the users information they have entered during the registration.

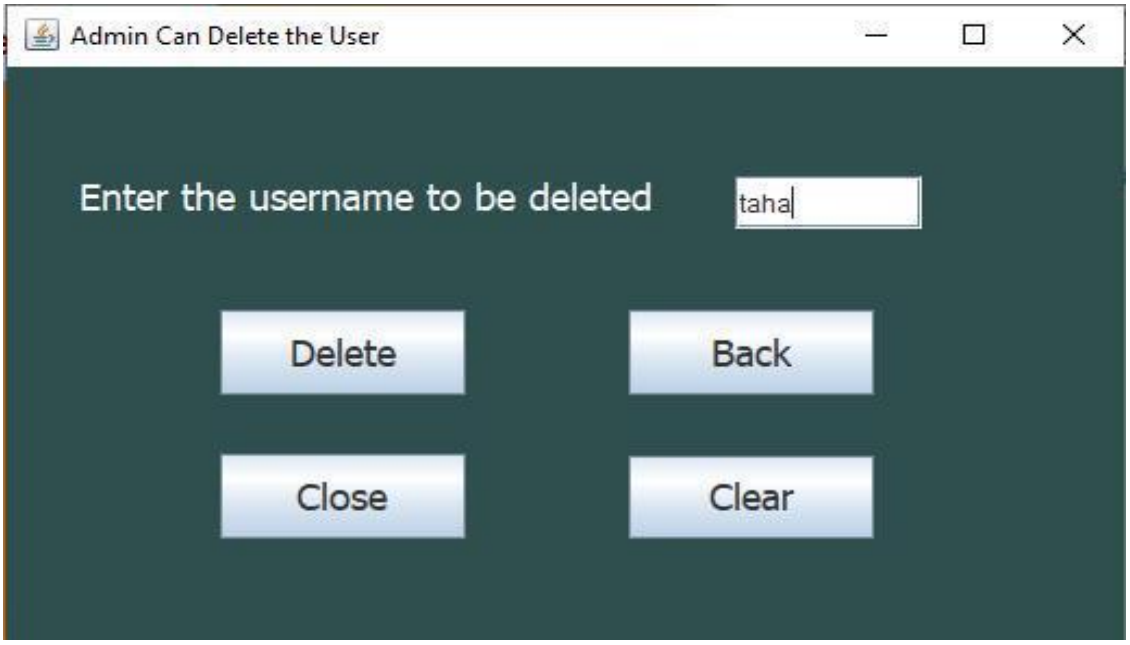
SCREEN 10. USERS SEARCH PAGE

Admin can search the user's information by entering their name.



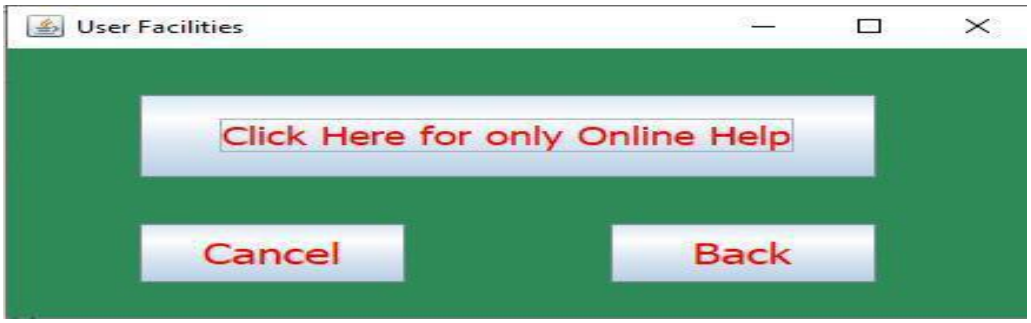
Screen 11. DELETING USER

Admin can delete the users by entering their names.



Screen 12. USER'S FACALITIES PAGE

By using this page user will be redirected to the html page then from the html page he needs to click on the option called "For browse click Here" and from there user will be redirected to the Google website. Once the user reaches to the Google site, he can start with his needed work.



Screen 13. TIMER

Timer page will be opened with the html page. User has to start the Timer at the same time when he has started with his work and has to stop the Timer when he has done with his work. Based on the time taken by the user, system will generate the receipt.