Academic Year 2021-22

Department: Computer Science & Engineering

MINI PROJECT

Name: Akshit Singh

Section: F

Roll no.: 42

University Roll no: 2016609

Name of Project: Student Data Management in C++

ABSTRACT

This project on Student Data Management System in C++ is designed for colleges and schools that need to manage record of the students. It enables the admin to perform Number of operations to manage student's data like adding a new student detail as well as modifying and deleting it. Also, admin can view one individual student data or data of all students.

The system automates the basic student management functions to aid the day-to-day operations of a school teacher or a staff. Also, it achieves goal of the system which is to allow storing details of student and to add, retrieve and update details of any student

This system helps in maintaining the information of pupils of the organization. It can be easily accessed by the manager and kept safe for a long period of time without any changes.

Name of the Project: Student Management System in C++

INTRODUCTION

Student Data Management System is a program that is designed for colleges and schools that need to manage record of the students. It provides Extensive information regarding viewing student data, adding student data, searching data, deleting data, modifying data at our fingertips. The system is easy to navigate because there are custom search capabilities in finding students information and records. Student Data management system allows keeping personal data in a form which can be easily accessed and analyzed in logical way. At a time, we can see all the Data in a single Window or we can see the individual Student Data Separately.

Student Data Management system is a helping hand for institutes, colleges, schools to manage student data. Student Management System deals with all kind of student details, academic related reports, course details, batch details and other resource related details too and all these information will be available for future references too.

Motivation:

- To overcome Existing Problem Occurring in Maintenance of Student's information

- As the manual system as the information is scattered, can be redundant, and collecting relevant information may be very time-consuming. All these problems are solved by this project.

Functional Requirement of The Student Management System

- **Add New Student Record**: This operation is used when Admin wants to add record of a new student. This option takes inputs of

student details like name, Roll. No., Course, E-Mail Id, Contact no., Address, CGPA.

- **Display all Records:** This Show all the available student data from the record.
- **Update Student Records**: This function updates details of Previously Entered Student.
- **Display Particular Record:** This Show data of a Particular available student from the record.
- **Deleting a Record:** This operation clears the existing record of a student from the records. So, be careful while performing this operation because the system could lose any important data.
- **Exit:** This operation is used to Exit the Program.

Non-Functional Requirement of The Student Management System

- **Security**: The security of the system is maintained by providing a login interface to the user/Admin. Only those who have the login is and password can enter the system.
- **User-Friendly:** User-Friendly as the system is very interactive and can be easily operated.
- **Maintainability and reliability:** The system is kept very thoroughly as all the records kept in the Files.

Objectives:

- Searching student records
- Adding New Student Record
- Maintenance of student records

User:

- Administrator

Platform Operating Systems:

- Microsoft Windows

Technologies Used:

- C++

Software Requirements:

- Microsoft Windows or Linux
- Visual C++ Compiler

Hardware Requirements:

- Intel Pentium IV processor or equivalent or higher
- 512 MB Ram or Higher
- 20 GB HDD or Higher

Applications:

In today world where technology have made our life easier and we do not waste our time in managing files. Schools and University is the place where we taught the students, it need more Focus with time, by using the Information Technology we can provide the best Teaching experience to students without Worrying on managing records.

Followings are the steps that will give the detailed information of the proposed Student Management System are:

Performance and Efficiency: Currently in many schools and collages we manage all the records or information manually; it is time consuming and has more chances of human error.

Control: The administrator or the manager of the Student Management system can control the system, no need to worry about the privacy of Personal Information.

Security: Security is always our top concern, The Admin can provide the username and password to only Specific Person, so only Specific person user can access the system

Methodology

This study was conducted in three phases as follows:

Phase 1: To Find Important Components and Functional Requirement of Student Management System by Consulting Experts, Documentation and with some Research.
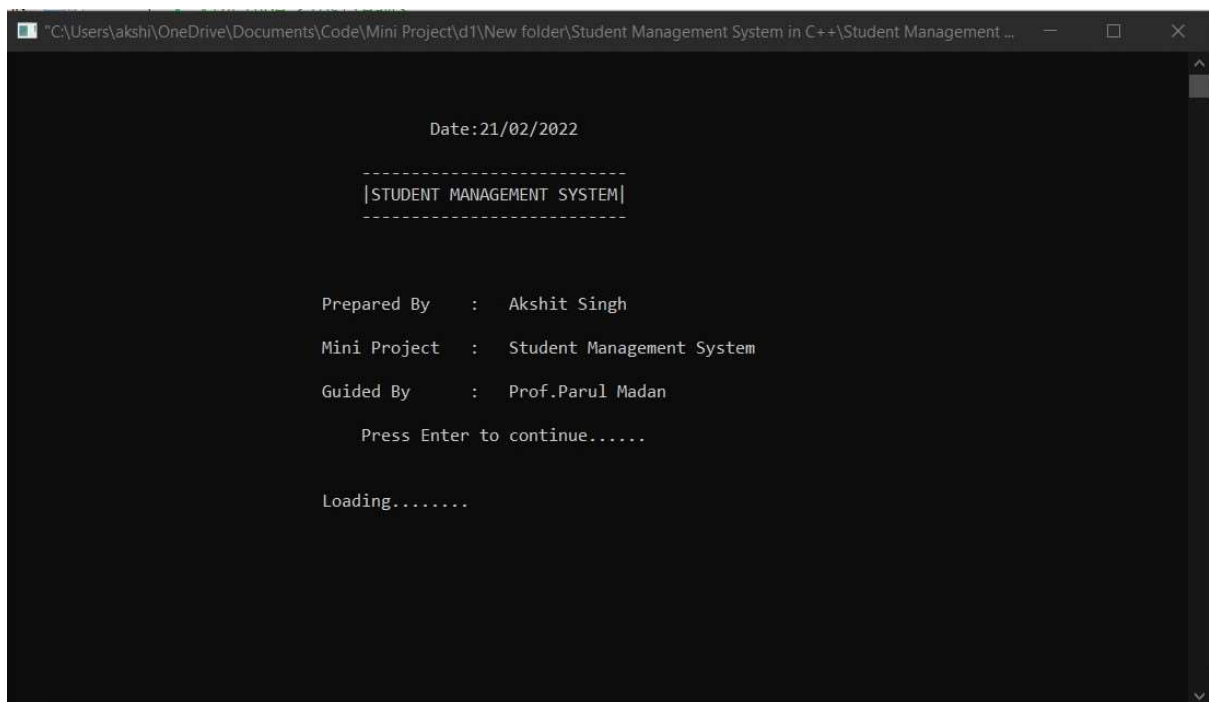
Some of the Components are:

➢ To create records and store the details of the students like roll no, name and marks of different subjects.
➢ to search details of students
➢ to delete student records
➢ to display present records.
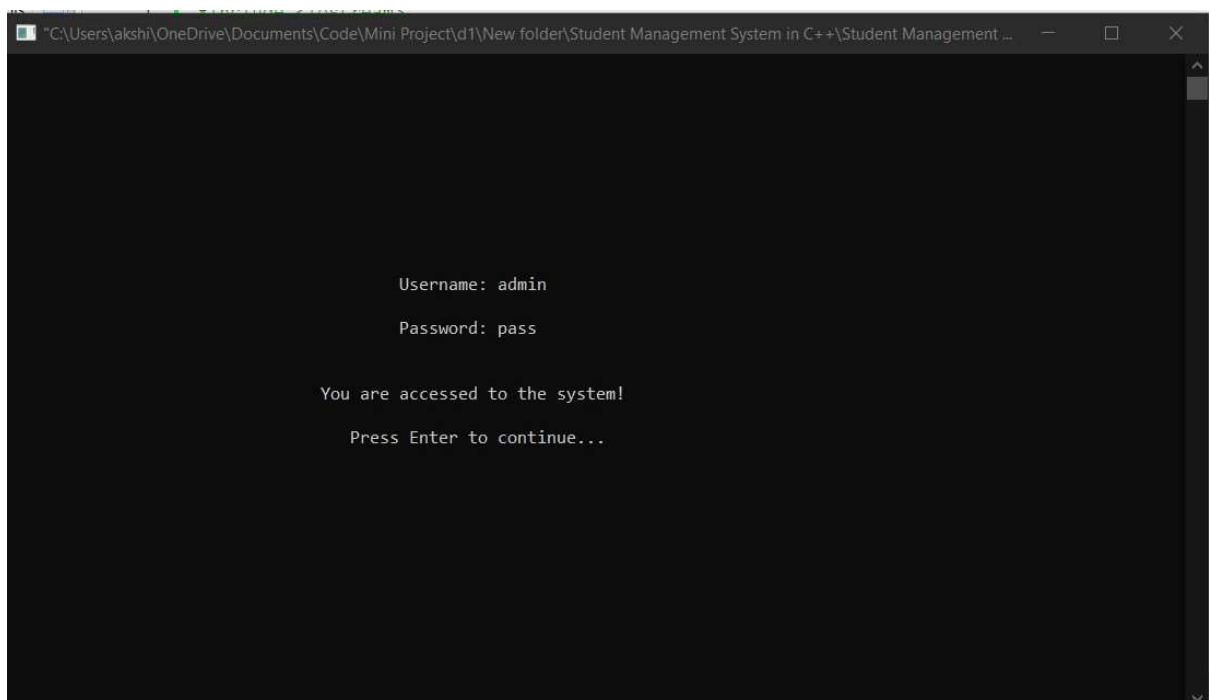➢ to modify the record details
➢ and exit from the program.

Phase 2: To Analise specific requirements which the software is expected to deliver. Non-Functional Requirements like Security of the Software that is only those who have the ID and Password are Allowed to Login, User Friendly that is easy to interact and easy to Operate, Maintainability and Reliability as file handing is used, some performance requirements and constraints were also taken in Consideration

Phase 3: To Build a Student Management System using OOPs that is Object Oriented Programming Concept. Here I had used Simple Application of File Handing which is being used to Store, Update, view or to delete Students Records. This is a Simple Console App.

Screenshots:


```
                        Date:21/02/2022

                 ---------------------------
                 |STUDENT MANAGEMENT SYSTEM|
                 ---------------------------



        Prepared By    :   Akshit Singh

        Mini Project   :   Student Management System

        Guided By      :   Prof.Parul Madan

            Press Enter to continue......


Loading........
```



```
                Username: admin

                Password: pass


        You are accessed to the system!

            Press Enter to continue...
```

```
------------------------------
| STUDENT MANAGEMENT SYSTEM |
------------------------------
   1. Enter New Record
   2. Display Record
   3. Modify Record
   4. Search Record
   5. Delete Record
   6. Exit


   ...........................
   Choose Options:[1/2/3/4/5/6]
   ...........................
Enter Your Choose: 1
```

```
--------------------------------------------------------------------------------
---------------------------------- Add Student Details -------------------------
             Enter Name: Akshit
             Enter Roll No.: 1
             Enter Course: B.Tech
             Enter Email Id(name@gmail.com): akshit
              Your Email-Id is InValid
             Enter Email Id(name@gmail.com): akshit@gmail.com
              Your Email-Id is Valid
             Enter Contact No(9639xxxxxx): 7006
              Please Enter Only 10 Digits...
             Enter Contact No(9639xxxxxx): 7006221896
              Valid Phone No....
             Enter Address: Jammu
             CGPA: 9


             Add Another Student Record (Y, N) : N
```

```
--------------------------------------------------------------------------------
----------------------------------- Student Record Table -----------------------------------


                    Student No.: 1
                    Name: Akshit
                    Roll No.: 1
                    Course: B.Tech
                    Email Id: akshit@gmail.com
                    Contact No.: 7006221896
                    Address: Jammu
                    CGPA: 9


                    Student No.: 2
                    Name: Aman
                    Roll No.: 2
                    Course: B.Tech
                    Email Id: aman@gmail.com
                    Contact No.: 9419162193
                    Address: Dehradun
                    CGPA: 8
```

```
--------------------------------------------------------------------------------
----------------------------------- Delete Student Details -----------------------------------

Enter Roll No. of Student which you want Delete Data: 2

                    Successfully Delete Data
```

```
--------------------------------------------------------------------------------------
----------------------------------- Student Search Table -----------------------------------

Enter Roll No. of Student which you want to search: 1

                        Name: Akshit
                        Roll No.: 1
                        Course: B.Tech
                        Email Id: akshit@gmail.com
                        Contact No.: 7006221896
                        Address: Jammu
                        CGPA: 9
```

```
--------------------------------------------------------------------------------------
----------------------------------- Student Modify Details -----------------------------------

Enter Roll No. of Student which you want to Modify: 1

                        Enter Name: Akshit
                        Enter Roll No.: 10
                        Enter Course: B.Tech
                        Enter Email Id(name@gmail.com): akshitsingh@gmail.com
                         Your Email-Id is Valid
                        Enter Contact No(9639xxxxxx): 9419162193
                         Phone no is Valid ...
                        Enter Address: J&K
                        CGPA: 10
Record of Roll no. 10 has been successfully modified
```