

VISVESVARAYA INSTITUTE OF TECHNOLOGY
Jnana Sangama, Belagavi-590010



MINI PROJECT REPORT
ON
“STUDENT AND FACULTY MANAGEMENT SYSTEM”

Submitted in partial fulfillment for the requirements for the fifth semester curriculum

BACHELOR OF ENGINEERING
IN
COMPUTER SCIENCE AND ENGINEERING

For the Academic year 2018-2019

Submitted by:

KALASAMUDRAM SAI PREMIKA 1MV16CS038

M R DRITHIKA

1MV16CS048

Project carried out at:
Sir M. Visvesvaraya Institute of Technology
Bengaluru-562157

Under the guidance of:
Mrs. Sapna R
Asst. Professor, Department of CSE
Sir M. Visvesvaraya Institute of Technology, Bengaluru



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
SIR. M VISVESVARAYA INSTITUTE OF TECHNOLOGY
HUNASAMARANAHALLI, BENGALURU-562157

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY
BENGALURU -562157

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



CERTIFICATE

It is certified that the project work entitled “**STUDENT AND FACULTY MANAGEMENT SYSTEM**” is a bona fide work carried out by **Kalasamudram Sai Premika (1MV16CS038)** , **M R Drithika (1MV16CS048)** in partial fulfilment for the requirements of mini project for the V semester curriculum Bachelor of Engineering in Computer Science and Engineering of the Visvesvaraya Technological University, Belagavi during the year 2018-2019. It is certified that all corrections and suggestions indicated for Internal Assessment have been incorporated in the report. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the course of Bachelor of Engineering.

Name & Signature of Guide

Mrs. Sapna R

Asst. Prof & Internal Guide

Dept. Of CSE, Sir MVIT

Bengaluru - 562157

Name & Signature of HOD

Prof.G C Bhanuprakash

HOD, Dept of CSE

Sir MVIT

Bengaluru -562157

External Examination:

Name of the Examiners

Signature with date

1)

2)

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- Kalasamudram Sai Premika (1MV16CS038)

-M R Drithika (1MV16CS048)

DECLARATION

We hereby declare that the entire mini project work embodied in this dissertation has been carried out by us and no part has been submitted for any degree or diploma of any institution previously.

Place: Bengaluru

Date:

Signature of Students:

KALASAMUDRAM SAI PREMIKA (1MV16CS038)

M R DRITHIKA (1MV16CS048)

ABSTRACT

This project describes the management of Student and Faculty information. An organised and systematic office solution is essential for all universities and institutions. Administrator only they can add data into the database. This system objectives is to easily maintain information. These records maintain information about Students and Faculties in a college. Administration in college maintain records manually. So they need to be automated and centralized. The main purpose of this project is to maintain records of all students and faculty in a college. The details of student like USN, Name, Age, DOB, Branch ,Semester ,Address ,Marks in each semester, fee details, Parent's details, Guardian's details, etc are maintained. The details of Faculty like Faculty name, qualifications, salary ,address, etc are maintained.

Student and faculty management system project is developed or implemented in (ava platform. Main objective of this system or project is to design or develop a software portal for schools or colleges for maintaining lectures details, student's information, and student's CGPA and SGPA. Admin will use this system to know about details of faculty and student's marks . A test data on marks and school or college data are modified or updated by administrator.

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Chapter.1: Introduction:

1.1 Project Profile

- **Name of the project:** Student and Faculty Management System.
- **Object Description:** The project generally refers to a system which involves populating Student and Faculty details and retrieving and updating them on a purpose.
- **Front End:** NetBeans IDE 8.2
- **Back End:** MySQL Database

1.2 Purpose

Every college must maintain records of all students and faculty in each every department. In case of manual system, they need a lot of time and manpower. Here almost everything is computerized. So accuracy is maintained. Our system has seven modules, they are admin ,student, course ,branch, faculty, fees and exams. Admin can login into the system and can add or delete or update student and faculty details, which provide flexibility of update. Only administration people can login into the system who has access and can manipulate the details.

1.3 Project Scope

Without an student and faculty database system, managing and maintaining the details of the students is a tedious job for any organization.

This system will store all the details of the students like their branch, semester, name ,usn ,etc and also includes faculty details along with the contact details.

Signup module: Signup module will helps the admins who are signing up for the first time. If they have already signed in with valid information, they can directly login.

Login Module: Login module will help in authentication of admin accounts. Users who have valid login id and password can only login and can manipulate details.

Manipulation Module: Manipulation module will help in adding or deleting or updating students and faculty of a particular branch.

What contribution would the project make?

This in an era of information technology where everything is based on computerized details, this project helps in maintaining computerized details of all students and faculty.

Computerized vs. Manual registration System:

- Time saving
- Avoidance of paper
- Allows neat handling of data rather than error prone records
- Accuracy

1.4 Definitions, Acronyms and Abbreviations:

Student Personal details: Details of the students such as user id, phone number, email address,etc.

Faculty Personal details: Details of faculty such as id, name, address, qualifications,etc.

WWW: World Wide Web

SFMS: Student and Faculty Management System

MySQL: A RDBMS based on SQL which is used for adding, removing and modifying information in the database.

RDBMS: Relational Database Management System.

1.5 Overview

The purpose of this document is to present a detailed description of the SFMS. It will explain the purpose and features of the software, the interfaces of the software, what actually the software does, the constraints under which the software works and how it reacts to external stimuli. This document is intended for the end users.

This is based on the fact that there is a need to upgrade the system with a computer based information system which is **Student and Faculty Management System**.

Chapter.2: About the System:

2.1 Software Requirement Specification

❖ Introduction

This Software Requirements Specification (SRS) document is intended to give a complete overview of Student and faculty management system Project (working title), including the user interface. The SRS document details all features upon which the system has currently decided with reference to the manner and importance of their implementation.

❖ Product Perspective

This product and application is newer which provides the user a new utility in their role as a admin. The admin will get the details of all students and faculty by just logging to the application and streaming on the desired details.

2.2 Performance Requirements

Better performance will lead to better operating environment. For better environment the user needs a high speed internet so that the uploading of details and registration will be done better.

2.3 Security Requirements

The login details must be kept confidential so that other user may not login using other's id and password.

2.4 Feasibility Study

Feasibility Analysis:

- A feasibility study is a short focused, which aims to answer a number of questions

- Does the system contribute to the overall objective of the organization?
- Can the system be implemented using the current technology and within given constant schedule constraints?
- Can the system be integrated with system which is already in place?

Economic Feasibility:

The project is economically feasible as it only requires a desktop with it's operating system. The users must be able to connect to internet and this would be the only cost incurred on the project.

Technical Feasibility:

To develop this desktop application, an internet connection, a database server, a web server and software are required. The current project is technically feasible as this desktop application was successfully deployed on our desktop.

Behavioral Feasibility:

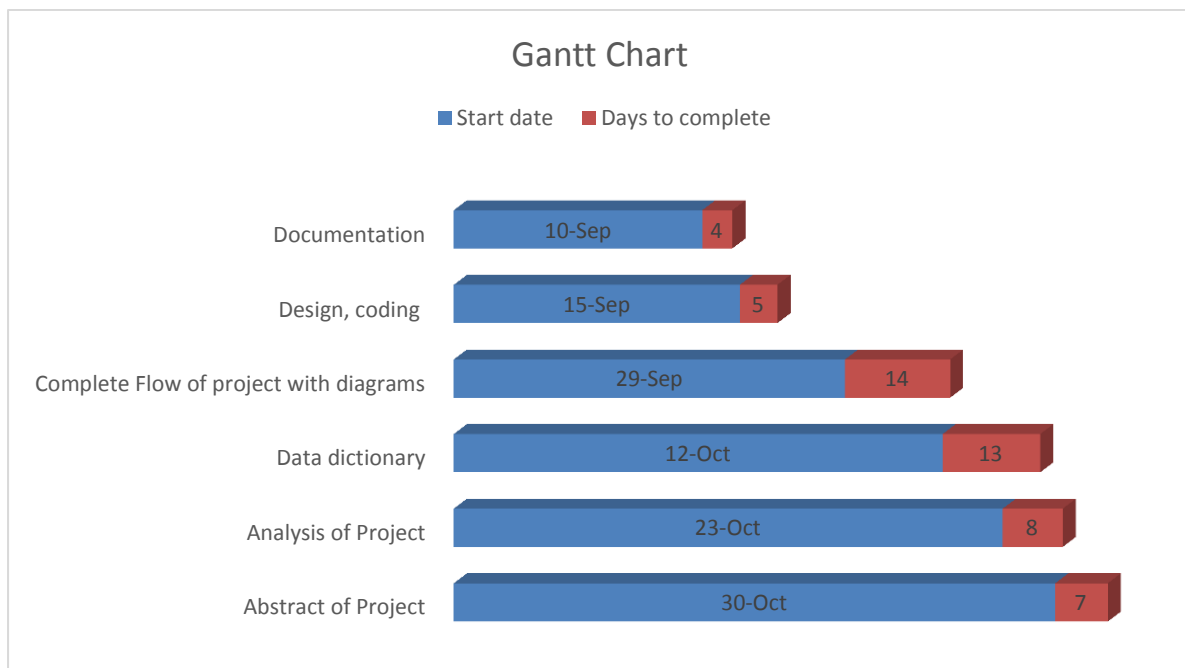
The desktop application is behaviorally feasible since it requires no technical guidance, all the modules are user friendly and execute in a manner they were designed to.

2.5 Project Plan

At the beginning of the project, we scheduled meeting time for the group to discuss on the design and implementation of the software and what language to use in writing the software. We had several meetings to this effect. We then developed a time-line for the project and the estimated time. We also pondered on a suitable name to give to the project.

The workload was then divided among us and we worked on the parts of the code. We kept in touch with each other and whenever we had difficulties, we asked each other questions. On some occasions, we had to pretend we were the customer so as to try to figure out some of the things that user would desire, such as the friendliness of the user interface and ease of navigation through the software.

The following Gantt Chart below shows the amount of work done or production completed in certain periods of time in relation to the amount planned for those periods.



Chapter.3: DESIGN

3.1 E-R Diagram

Entity-Relationship diagram is a detail & logical representation of entities and data elements for an organization. This technique is used in database that helps in an enterprise are related to each other. There are 3 types of E-R diagram:

1. **one to one :**

It is a one to one relationship is an association between 2 entities.

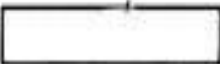
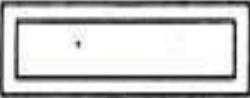
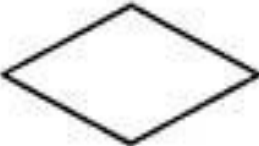


2. **one to many:**

One-to-many relationship exists when one entity related to one or more entity.

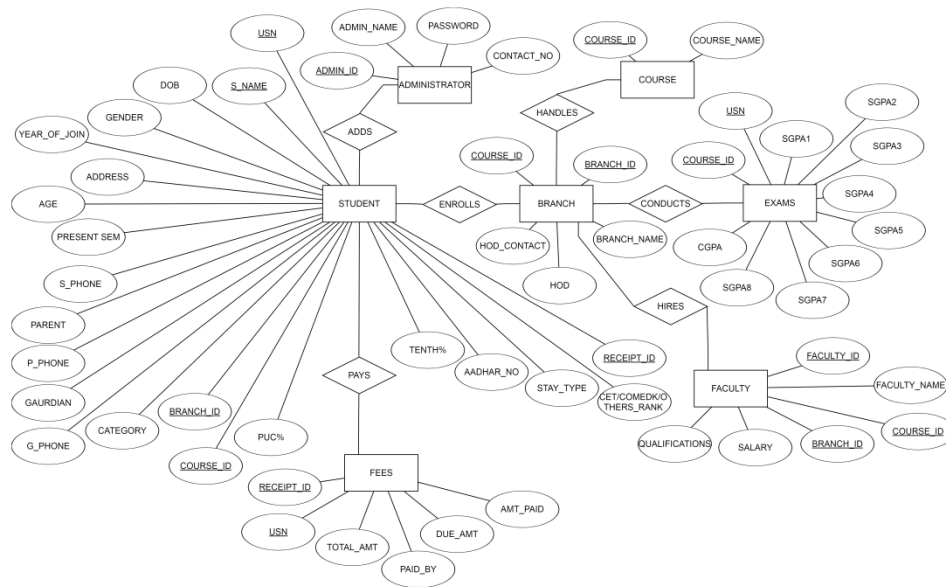
3. **Many to many:**

It describes entities that may have many relationships among each other.

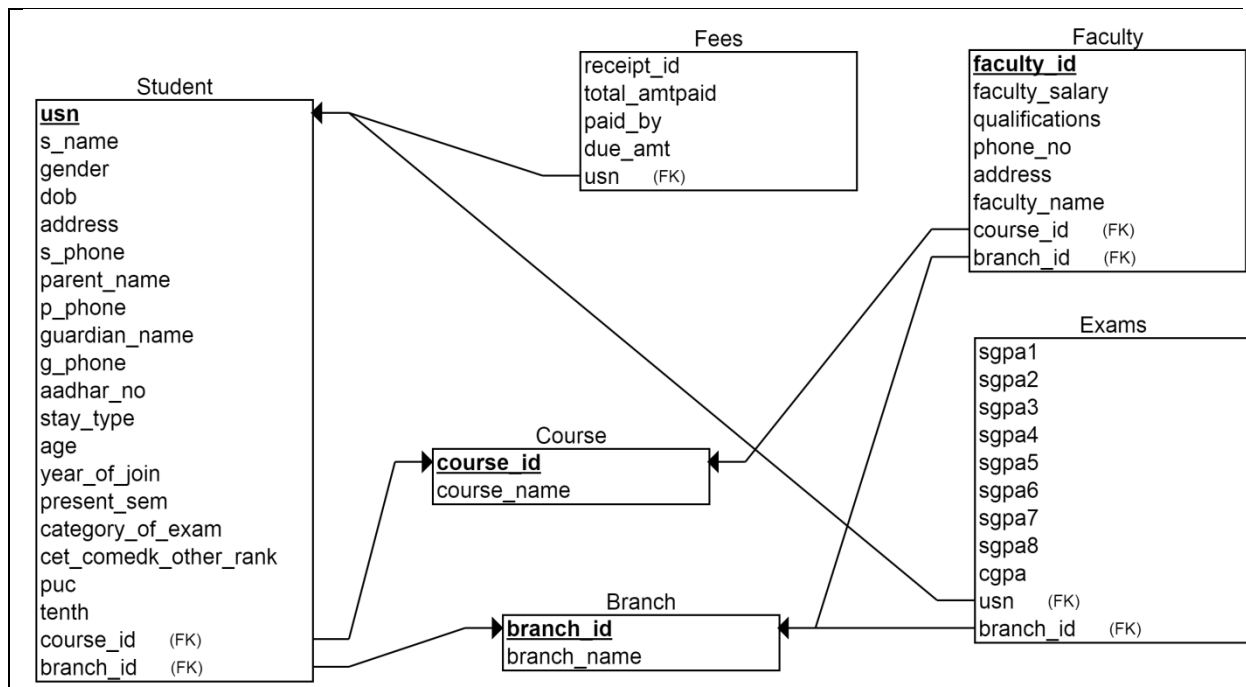
The basic symbols for E-R diagram are as described below:

SYMBOLS	MEANING
	ENTITY TYPE
	WEAK ENTITY TYPE
	RELATIONSHIP TYPE
	IDENTIFYING RELATIONSHIP TYPE
	ATTRIBUTE

The E-R diagram for Student and faculty management system is:



3.2 CLASS DIAGRAM:



3.3 DATA DICTIONARY:

1. Admin:

Table 1 Admin

Name	Varchar	20	Not Null
Username	Varchar	20	Not Null
Password	Varchar	20	Not Null
Phone	Number	10	Not Null

2. Student:

Table 2 Student

Field Name	Data Type	Size	Null
Usn	char	10	Primary Key
S_name	Varchar	20	Not Null
Course_id	Number	1	Foreign Key
Branch_id	Number	2	Foreign Key
phone	Number	10	Not Null
Address	Varchar	20	Not Null
P_phone	Number	10	Not Null
Parent_name	Varchar	20	Not Null
gender	char	1	Not Null
Age	number	1	Not Null
Dob	Date		Not Null
Guardian_name	varchar	20	Not Null
G_phone	number	10	Not Null
Stay_type	varchar	20	Not Null
Year_of_join	number	4	Not Null
Present_sem	number	1	Not Null
Category_of_exam	varchar	20	Not Null
Cet_comedk_other_rank	number	10	Not Null
Puc	float	6	Not Null
Tenth	float	6	Not Null
Aadhar_no	number	12	Not Null

3.Branch

Table 3 Branch

Field Name	Data Type	Size	Null
course_id	Number	1	Foreign Key
branch_name	Number	2	Primary Key
branch_name	Varchar	20	Not Null

4.Course:

Table 4 Course

Field Name	Data Type	Size	Null
Course_id	Number	1	Primary Key
Course_name	Varchar	20	Not Null

5.Fees:

Table 5 Fees

Field Name	Data Type	Size	Null
Receipt_id	Number	10	Not Null
USN	Varchar	10	Foreign Key
Total_amtpaid	Number	20	Not Null
Paid_by	Varchar	20	Not Null
Due_amt	Number	20	Not Null

6.Faculty:

Table 6 Fees

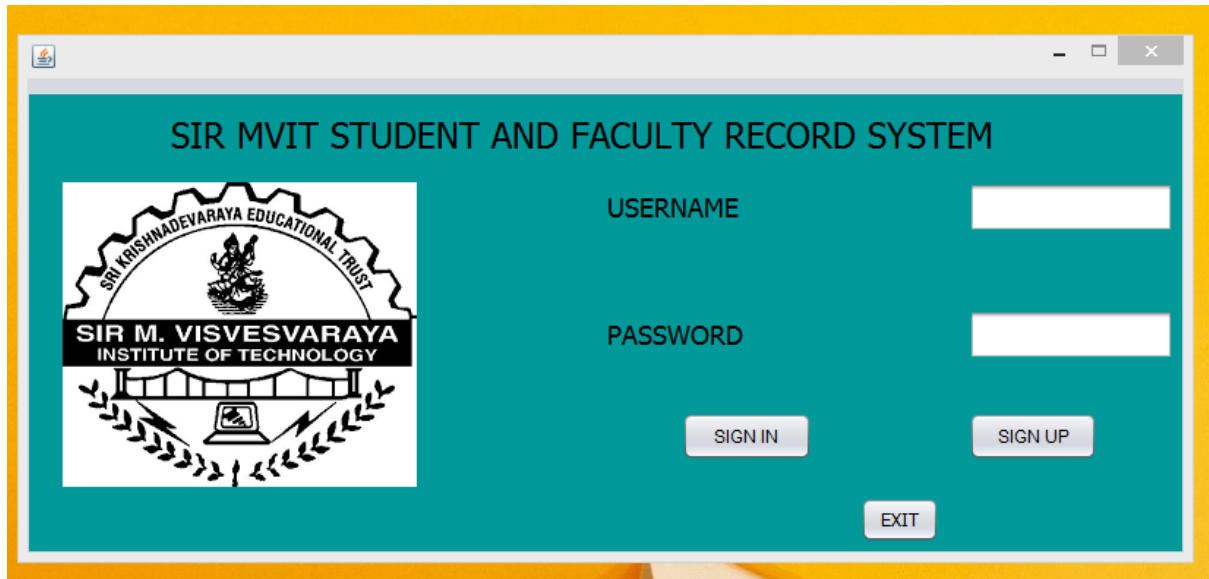
Field Name	Data Type	Size	Null
Faculty_id	Number	2	Primary Key
Faculty_name	Varchar	20	Not Null
Course_id	Number	1	Foreign Key
Branch_id	Number	2	Foreign Key
Faculty_salary	Number	20	Not Null
Qualification	Varchar	20	Not Null
Phone_no	Number	10	Not Null
Address	Varchar	50	Not Null

7.Exams:

Table 7 Exams

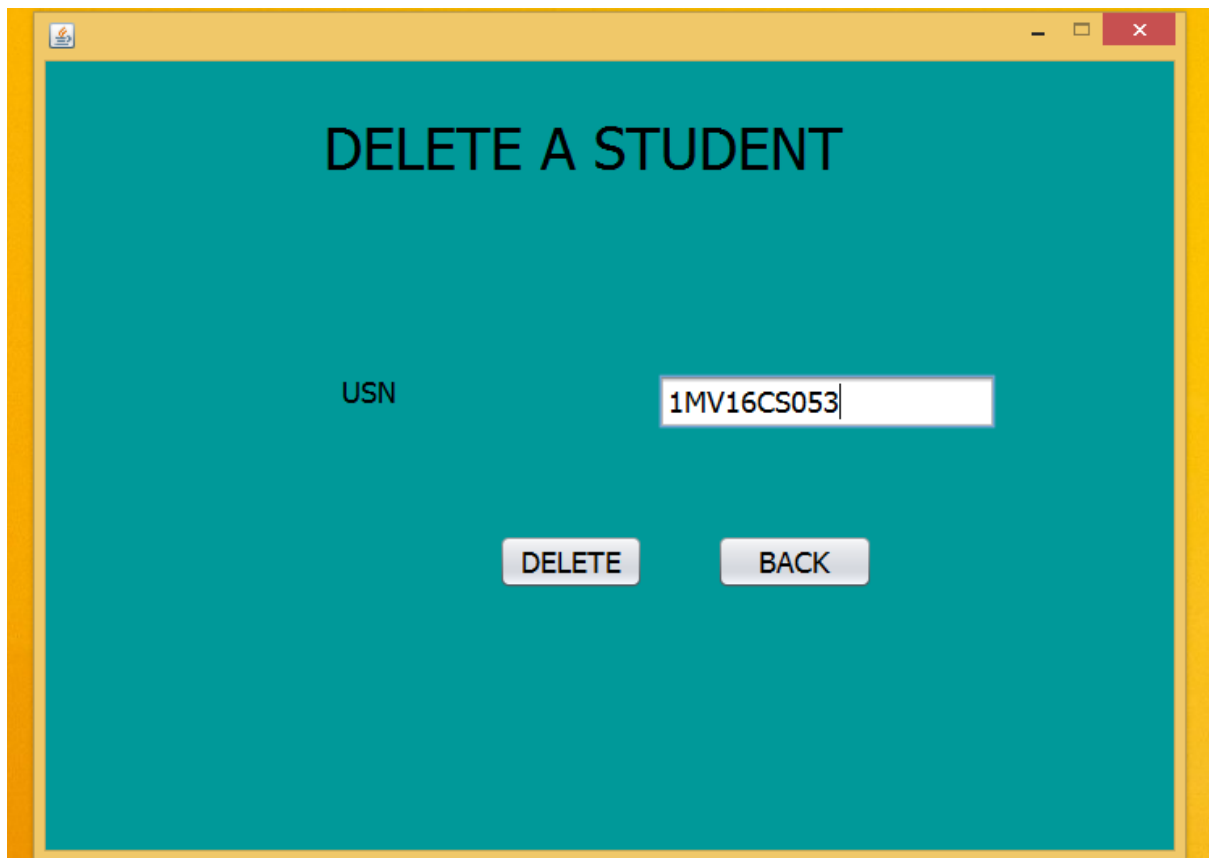
Field Name	Data Type	Size	Null
Branch_id	Number	2	Foreign Key
USN	Varchar	10	Foreign Key
Sgpa1	Float	2	Not Null
Sgpa2	Float	2	Not Null
Sgpa3	Float	2	Not Null
Sgpa4	Float	2	Not Null
Sgpa5	Float	2	Not Null
Sgpa6	Float	2	Not Null
Sgpa7	Float	2	Not Null
Sgpa8	Float	2	Not Null
Cgpa	Float	2	Not Null

Chapter.4:RESULTS/SNAPSHOTS:



The screenshot shows a web browser window with a teal background. At the top, the text "SIR MVIT STUDENT AND FACULTY RECORD SYSTEM" is displayed. On the left, there is a logo for "SRI KRISHNADEVARAYA EDUCATIONAL TRUST" and "SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY". To the right of the logo, there are two input fields: "USERNAME" and "PASSWORD". Below these fields are three buttons: "SIGN IN", "SIGN UP", and "EXIT".

Fig 1: LOGIN PAGE: In this page, admin can login with his Username and password given to him/her. We also have exit option to exit from this page and also sign up for new admins.



The screenshot shows a web browser window with a teal background. At the top, the text "DELETE A STUDENT" is displayed. Below this, there is a label "USN" followed by an input field containing the text "1MV16CS053". At the bottom, there are two buttons: "DELETE" and "BACK".

Fig 2: DELETE PAGE: In this page, admin can delete a student under any circumstances.

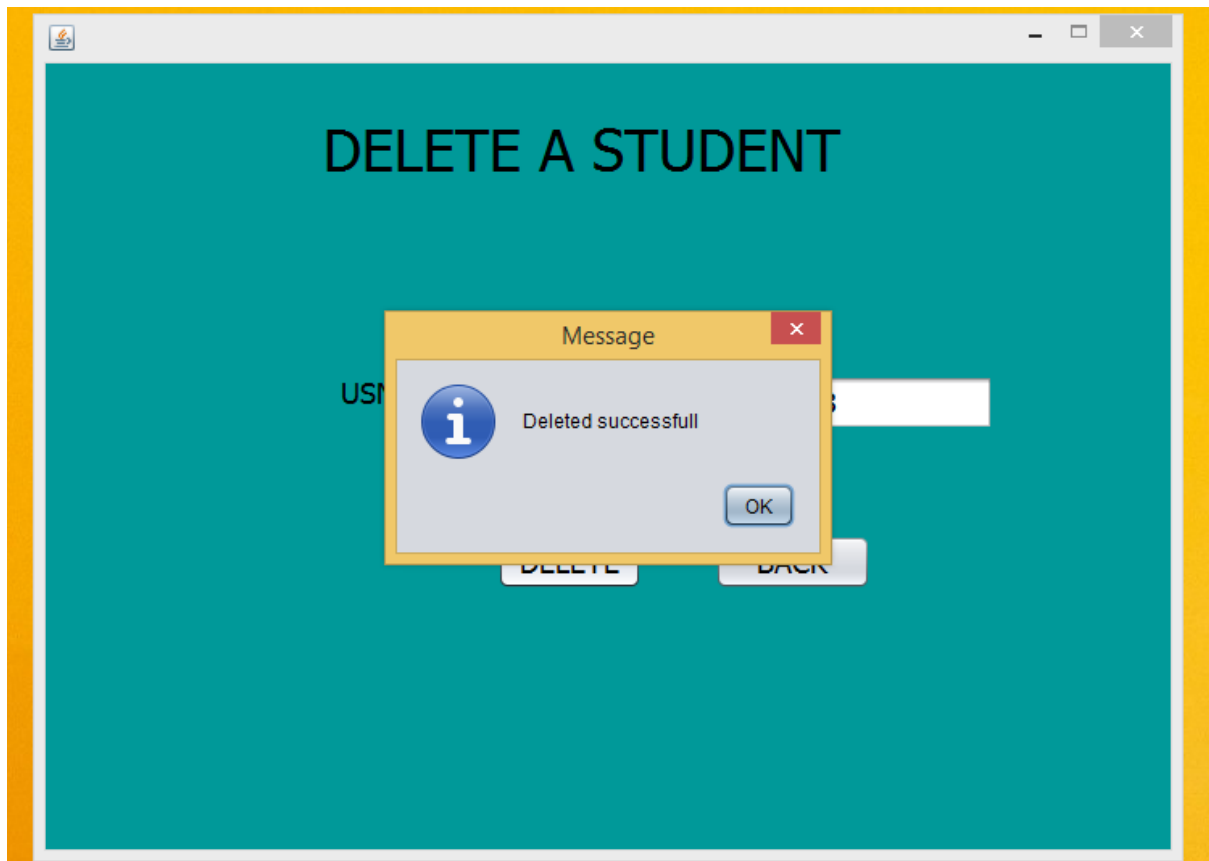


Fig 3: OUTPUT: In this page , we can see the output for deleting a student from the database.

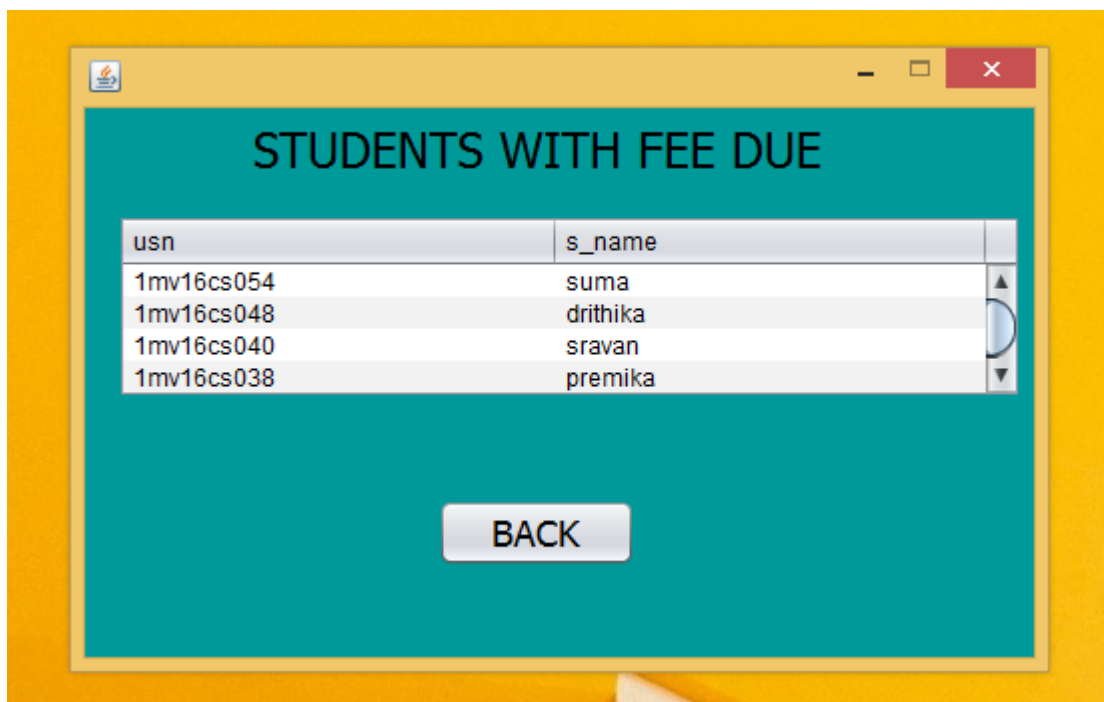


Fig 4: FEE DUE: In this page, we can see the list of students who did not pay their fees along with their USNs.

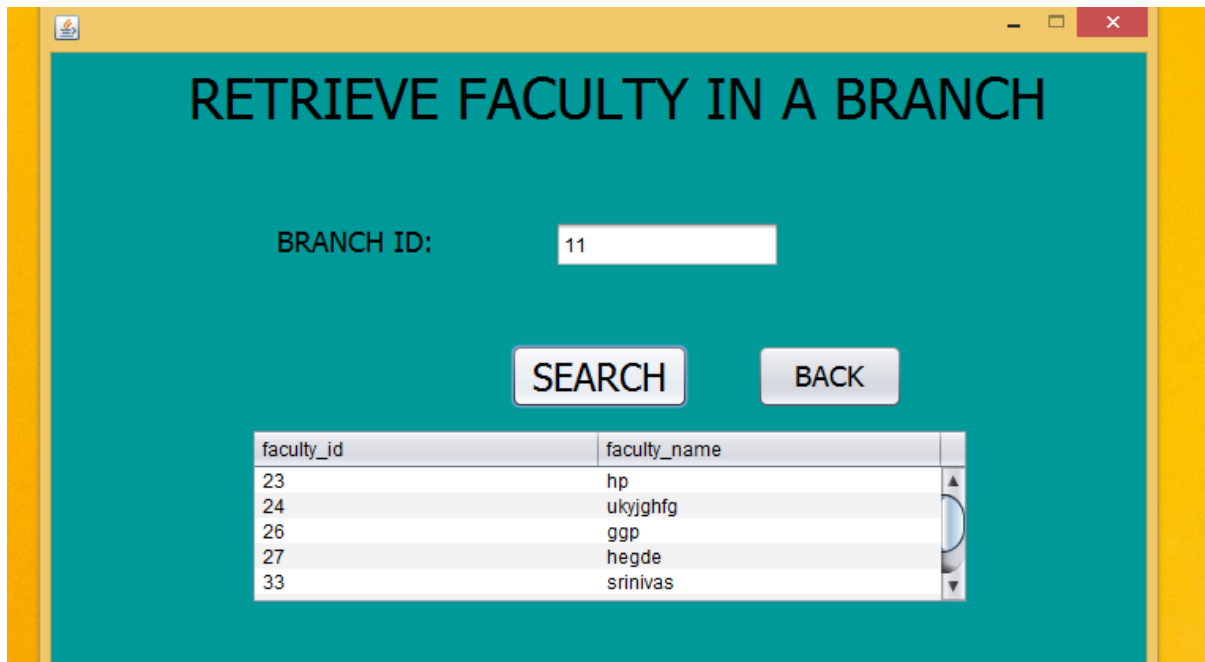


Fig 5:FACULTY: In this page, we can retrieve a particular faculty details by giving their ID in the given textfield.

Chapter.5: TESTING:

5.1 Testing Plan

5.1.1 The Testing Process:

We have tested the software process activities such as design, implementation and requirement engineering because design errors are very costly to repair once system has been designed and once it has been started to operate. Therefore, it is quite obvious to repair at an early stage of the system. So analysis is the most important process of any project.

5.1.2 Requirement Traceability:

As the most interested portion is whether the system is meeting its requirements or not, for that testing should be planned so that all requirements are individually tested. We

have to check out that output of certain combinations of inputs gives the desirable results or not. Your requirement specification gives us the path to get the desirable result.

5.1.3 Testing Schedule:

We have tested each procedure back to back so that errors and omissions can be found as early as possible.

5.2 Testing Strategy

A strategy for the software testing integrates software test case design methods into a well-planned series of steps that result in the successful construction of software. The strategy provides a road map that describes the steps to be conducted as part of testing. When these steps are planned and then undertaken, very much efforts, time and resources are required. A software testing strategy should be flexible enough to promote a customized testing approach. At that same time it must be rigid enough to promote reasonable planning and management tracking as the project progresses.

- ✓ A software testing strategy has following characteristics:
- Testing begins at the component level and works outward towards the integration of the entire computer based system.
- Different testing techniques are appropriate at different points in time.
- Testing & Debugging are different activities but debugging must be accommodated in any testing strategy. We checked entire project thoroughly so not even a single mistake would be there.

• 5.3 TEST CASES

Table: Testing New Student/Faculty Entries

Sr. No	Test Case	Validation or Requirement	Test Data	Expected Result	Actual Result	Modification
1	New Student/Faculty Entry	All details are required	Adding a new User	New entry should be done successfully	Successful	No Modification
2	New Student/Faculty Entry	All data are required	All details	Successful entry	Successful	No Modification
3	New Student /Faculty Entry with an existing USN	Data already inserted	All details	Shows Error	Showing Error	No Modification

Table: Testing Login for Admin

Sr. No	Test Case	Validation or Requirement	Test Data	Expected Result	Actual Result	Modification
1	Right Login	Authentication	Username and Password entered	Login done successfully	Successful	No Modification
2	Wrong Login	Authentication	Username and Password entered	Login won't be successful	Unsuccessful	No Modification

Chapter.6: FUTURE ENHANCEMENT

6.1 Conclusion:

This desktop application leads to the new product for students and college which provide effective intercommunication of Administration with Student and Faculty. The wastage of time in maintaining manual records, manpower is reduced here. The administrator will get a better platform for getting details of student and faculty.

Simplicity is never simple. As we have seen in this project, the process of creating a user friendly and straightforward platform that facilitates the administrator's job is one filled with complexity. From understanding user requirements to system design and finally system prototype and finalization, every step requires in-depth understanding and commitment towards achieving the objectives of the project. Although the student and faculty database management module is not fully integrated to the system and used on real time, the system prototype demonstrates easy navigation and data are stored in a systematic way. Overall, efficiency has improved and work processes simplified. Although all the objectives have been met, the system still has room for improvement. The system is robust and flexible enough for future upgrade using advanced technology and devices.

6.2 Future Enhancement:

❖ Website services:

The future needs of developing a website and providing this facility to various colleges will be provided.

❖ Email services:

When the users register, a service will be provided such that they get an email confirming their registration to the particular event with particular event id.

Chapter.7: APPENDIX

A: MYSQL (Structured Query Language):

MySQL is an open source Relation DataBase Management System (RDBMS). MySQL is written in c and c++. MySQL is a central component of the LAMP open-source web application software stack (and other "AMP" stacks). LAMP is an acronym for "linux apache MySQL python".

Its based on SQL which is used for adding, removing and modifying information in the database. MySQL can be used for a variety of applications but is most commonly found on Web Servers.

B:NETBEANS:

NetBeans is an (IDE) for java. NetBeans allows applications to be developed from a set of modular software components called modules. NetBeans runs on Microsoft windows, macOS, linux and solaris. In addition to Java development, it has extensions for other languages like php ,c , c++ ,html5 , and javascript.

The NetBeans Platform is a Framework for simplifying the development of java swing desktop applications. The NetBeans IDE bundle for Java SE contains what is needed to start developing NetBeans plugins and NetBeans Platform based applications; no additional SDK is required. Applications can install modules dynamically. Reinstalling an upgrade or a new release does not force users to download the entire application again.

Swing is a GUI widget toolkit for JAVA. It is part of Oracle's Java Foundation Classesan API for providing a graphical user interface for Java programs.

Swings provide a look and feel that emulates the look and feel of several platforms and also supports a pluggable look and feel that allows applications to have a look and feel unrelated to the underlying platform. In addition to familiar components such as buttons, check boxes and labels Swings provide several advanced components such as tabbed panel, scroll panes, tress, tables, lists etc.

Chapter.8: REFERENCES

Books:

❑ Database system models, Languages, Design and Application Programming by RamezElmasri and Shamkant B Navathe,7th Edition.

❑ Java-The Complete Reference by Herbert Schildt,7th Edition.

Links:

❑ <https://www.wikipedia.org/>

❑ <https://www.slideshare.net>

❑ <https://www.youtube.com>

❑ <https://www.scribd.com/doc/30635395/Synopsis-of-administration-information-system>

❑ <https://stackoverflow.com>