

STUDENT DATABASE MANAGEMENT SYSTEM IN C++

Submitted in partial fulfillment of the requirements for the award of
Bachelor of Engineering Degree in Computer Science and Engineering

By

DIVYA.T (Reg. No. 39290021)

LALITHA LAKSHMI.D (Reg. No. 39290056)



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

SCHOOL OF COMPUTING

SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

JEPPIAAR NAGAR, RAJIV GANDHI SALAI,

CHENNAI – 600119, TAMILNADU

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BONAFIDE CERTIFICATE

This is to certify that this Project Report is the bonafide work of **DIVYA.T**

(Reg.No. 39290021) and LALITHA LAKSHMI.D (Reg. No. 39290056)

Who carried out the project entitled “**STUDENT DATABASE MANAGEMENT SYSTEM IN C++**” under my supervision from November 2021 to April 2022.

Internal Guide
Dr. M.KALAIARASI,

Head of the Department
Dr. L.LAKSHMANAN, M.E., Ph.D.,

Submitted for Viva voce Examination held on_____

Internal Examiner

External Examiner

DECLARATION

I, DIVYA.T (Reg.No. 39290021) and LALITHA LAKSHMI.D (Reg. No. 39290056) hereby declare that the Project Report entitled “**STUDENT DATABASE MANAGEMENT SYSTEM IN C++**” done by me under the Guidance of **DR. M.KALAIARASI**, is submitted in partial fulfillment of the Requirements for the award of Bachelor of Science degree in computer Science.

DATE:

PLACE: CHENNAI

SIGNATURE OF THE CANDIDATE

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ABSTRACT

An organized and systematic once solution is essential for all universities and organizations. There are many departments of administration for the maintenance of college information and student databases in any institution. All these departments provide various records regarding students. Most of these track records needs to maintain information about the students. This information could be the general details like student name, address, performance etc. or specific information related to departments like collection of data. All the modules in college administration are interdependent. They are maintained manually. So they need to be automated and centralized as, Information from one module will be needed by other modules.

For example, when a student needs his course completion certificate it needs to check many details about the student like his name, reg. number, year of study, exams he attended and many other details. So it needs to contact all the modules that are once, department and examination and result of students.

With that in mind, we overhauled the existing student Database Management System and made necessary improvement to streamline the processes. Our work is useful for easy user interface. We are planning to utilize the powerful database management, data retrieval and data manipulation. We will provide more ease for managing the data than manually maintaining in the documents. Our work is useful for saving valuable time and reduces the huge paper work.

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CHAPTER – 1

INTRODUCTION

The college administration is prepared or operates as registration form. Firstly and for admission with the important information about student and retrieve that information to correct it.

Student Database Management System deals with all the activities done by computer such as registration and admission process, staff and class management etc all these process are handled by computer management system.

The admission form designs and feed the information that is required for admission and to maintain the college records.

At the time of registration the administration should feel the information correctly if any wrong information field in records. It will be edited by record list carefully.

Student Management System is an automated version of manual student Management system. It can handle all details about a student. The details include college details, subject details, student personnel details, academic details, exam details etc.

Student Management system is managed by an administrator. It is the job of the administrator to insert update and monitor the whole process.

CHAPTER-2

LITERATURE SURVEY

A project on Student Information Management System which was carried out by Kapil Kaushik Ankur Agarwal Tushar Somani, an IT student of institute of Engineering and Technology, Maharishi provides a simple interface for maintenance of student information. It can be used by any educational institute or colleges to maintain records of students easily. Achieving this objective is difficult using a manual system as the information is scattered, can be redundant and Collecting relevant information can be very time consuming. All these problems are solved using this project. Throughout the project the focus has been on presenting information in an easy and intelligible manner.

The goal of this chapter is to explain the theory of database management system development which will be applied in the development of student database management system for school of public health, university of Ghana.

CHAPER – 3

AIM AND SCOPE OF PRESENT INVESTIGATION

3.1 AIM OF THE PROJECT

The proposed system is intended to make life easy. The main aim of the project is to build an integrated student database system to facilitate easy access of records of students across departments. The Student Database System will allow the registrar of school of public health, legon to edit update and list personal and academic details of students. It will also enhance efficient management of students information.

3.2 SCOPE AND OBJECTIVE

SCOPE:

The proposed system is intended to manage specific information of students such as personal details, course details and exam details etc. It is not Student Information Management System which has a broader application. It is only a part of student *Information Management System*

OBJECTIVES:

The main objective is to develop a robust Student Database Management System for school of public Health.

Student Management System project as the name indicates will be used for managing students records will be used for various purposes. Accepting correct data will results in generating the desired output in correct format without any delay.

So this system has been enabled with validation data checkup while entering the data and before saving it to the particular file.

Students will also able to check their data and modify their basic information as per their requirements.

3.3 SYSTEM REQUIREMENT

3.3.1 HARDWARE REQUIREMENTS

1. 532 MHz and above processor
2. Minimum 256 MB of RAM
3. 100 MB data space for installation
4. Other necessary input & output devices

3.3.2 SOFTWARE REQUIREMENTS

1. Windows Xp and above
2. Vb.net
3. MS Access connectivity

3.4 SOFTWARE USED

3.4.1 C++ LANGUAGE

C++ is a cross-platform language that can be used to create high-performance applications.

C++ was developed by BJARNE STROUSTRUP, as an extension to the c language.

C++ gives programmers a high level of control over system resources and memory.

The language was updated 3 major times in 2011, 2014, and 2017 to C++11, C++14, and C++17.

3.4.2 C++ CHARACTERSTICS

Fast and Efficient

Portable

Function libraries

Modularity

Easy to extend

Variety of data types and powerful operation.

3.4.3 APPLICATION IN C++

C++ is a widely used programming language that is used for writing large-scale commercial applications for end-users. Some of the major applications built using C++ by major software vendor and giants are:

- GOOGLE—Google file system, Google chromium browser, and Map Reduce large cluster data processing are all written in C++.
- MOZILLA—Mozilla Firefox and Thunderbird email chat client are both written using C++.
- MYSQL—MySQL, an open source DBMS is written using C++.
- MICROSOFT—Many windows apps that you regularly use are written in C++.

CHAPTER – 4

EXPERIMENTAL OR MATERIAL METHODS

4.1 DESIGN METHODOLOGY

The main methodology involves feasibility study, data collection, system analysis and design, developing and implementing Student Database Management System.

4.1.1 EXISTING SYSTEM

Existing Student Management System Project system work on the concept of manual system while file sharing is to be done between working department to carry out their tasks. As file system has been used to maintain records for each students, so each department also have to separate file for each tasks such as information of payment of fees by each students, library records, book records, physical records of each students accessories and teaching tools used within the institution. Making final audit report is not an easy task and this task has to be achieved by the outside financial institution to prepare their financial report for particular business session.

4.1.2 PROPOSED SYSTEM

Apart from maintaining and processing student's records this new system has also been facilitated with financial solutions to make business task easier. As each student will have a particular id and password by which they can access their basic information along with fee structure and payment details. If any students do not able to pay their fees on time, such students will be fined and added to their next month fee account. It will also display a remainder on each student's dashboard for depositing fees on particular date and the amount which is to be paid. Admin will have the full authority to add features and disable it as per their requirements.

4.2 MODULE DESCRIPTION

A user can ADD student records, DISPLAY student records, SEARCH student record, and DELETE student records and also has an option to show the student all done using a menu-driven program.

Program consist following Module

Login

Manage Student

Manage Subject

Report

Back up

Key features of our project are:

1. Add student Records: this feature allows user to add new data to student database management system application
2. show student records: this list the details about all the student
3. Search student details: To display the details of the searched student
4. Modify student Records: A new student`s data can be added, or existing student data can be edited.
5. Delete Student Records: the student name is given to delete a student`s detail in particular.
6. Display student Records: to display the result of all the student on this grade.
7. Exit program: To close the student management database system application.

LOGIN:

It's a multiple login interface where you can login as ADMIN or as a CLERK.

Admin: The admin will have the privileges to access all the function in the application

Clerk: The clerk is restricted to some privileges of the application.

MANAGE STUDENT:

The manage student module will contain two modules, that is manage existing student and add new student. In manage existing student module we can manipulate the existing student information's And update.in add new student module we can add the new student to the database.

MANAGE SUBJECT:

In manage subject module we have two modules. In manage existing subject module we can manipulate and update the existing subject. In add new subject module we can add the new subject which contains the subject name, subject code and the department in which the subject related to.

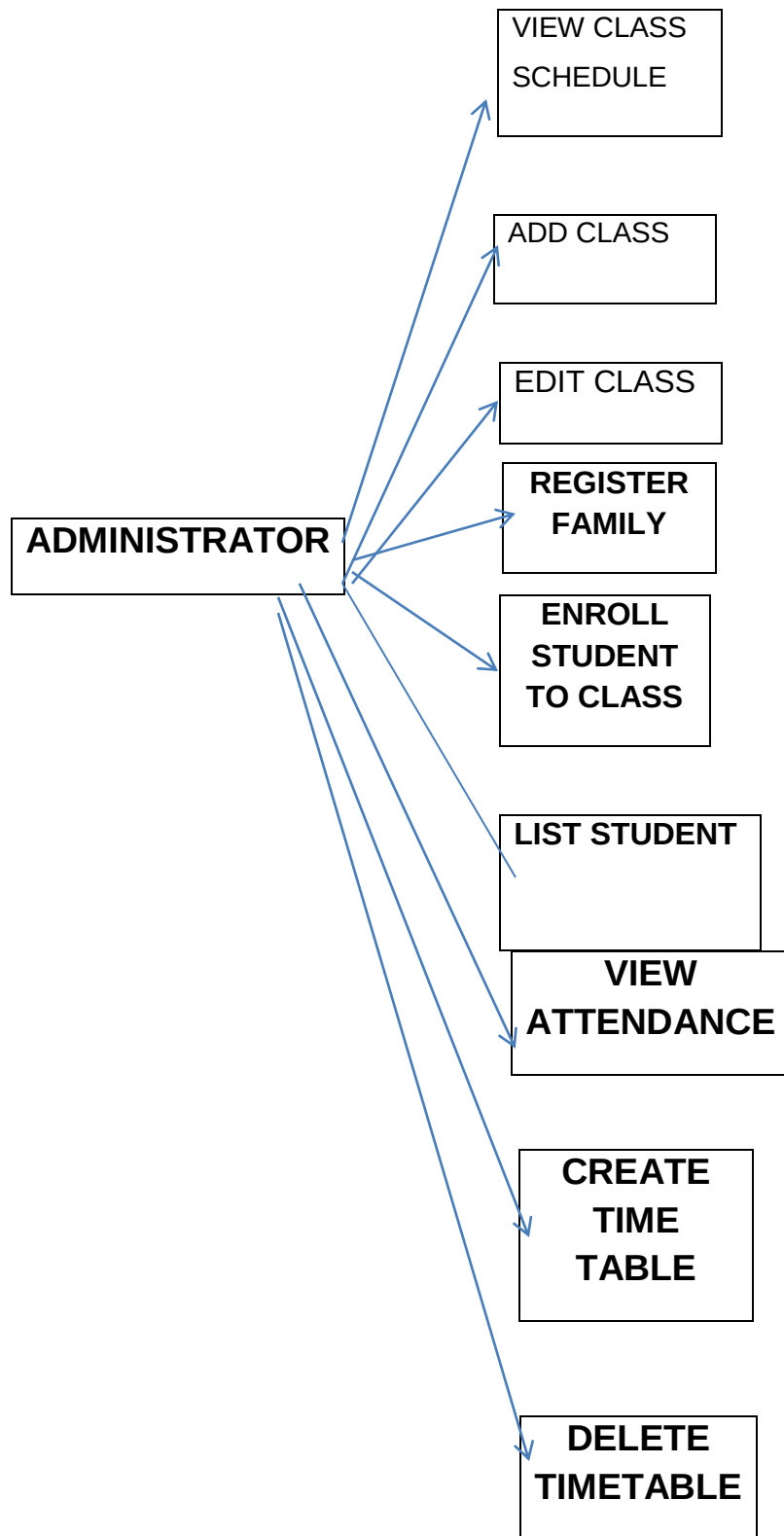
REPORT:

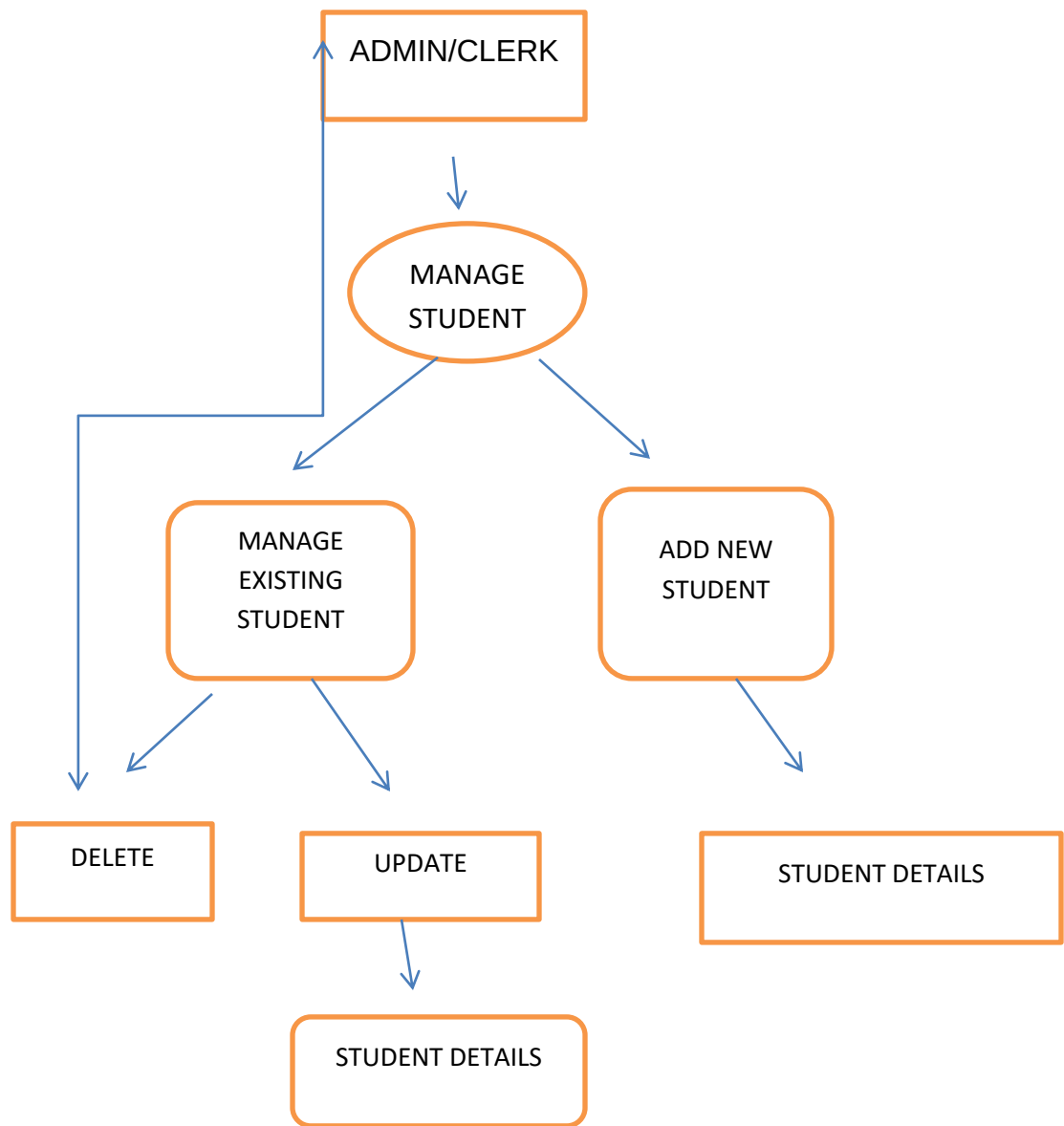
This module contains the all reports related to the student such as student details, marks of student, fees information etc.,. The admin or the clerk can print the reports.

BACK UP:

This module feels with backing up of data for future references or to recover the database tables.

4.3 ARCHITECTURE DIAGRAM





CHAPTER – 5

RESULTS AND PERFORMANCE ANALYSIS

PERFORMANCE ANALYSIS:

The primary goal of the system analyst is to improve the efficiency of the existing system. For that the study of specification of the requirements is very essential. For the development of the new system, a preliminary survey of the existing system will be conducted. Investigation

6. CONCLUSION:

The college can handle full-scale computer and computer related resource. College Administration System deals with all the activities done by computer such as registration and admission process, staff and class management, time etc, all these process are handled by computer management system.

FUTURE ENHANCEMENT:

This project can be implemented in more than two languages.

- **Other possible modules**
 - ❖ **Academic**
 - ❖ **Attendance Management**
 - ❖ **Lab Management**
 - ❖ **Library**
 - ❖ **Hostel**

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