

**“Student Management System”**

***A***

***Project Report***

*submitted in partial fulfillment of the*

*requirements for the award of the degree of*

**BACHELOR OF TECHNOLOGY**

**in**

**COMPUTER SCIENCE & ENGINEERING**

**by**

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***under the guidance of***

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**Assistant Professor, Department of Systemics**

**CANDIDATE’S DECLARATION**

I/We hereby certify that the project work entitled **“Student Database Management”** in partial fulfillment of the requirements for the award of the Degree of BACHELOR OF TECHNOLOGY in COMPUTER SCIENCE AND ENGINEERING with specialization in CYBER SECURITY & FORENSICS/INTERNET OF THINGS & SMART CITIES and submitted to the Department of Systemics at School of Computer Science, University of Petroleum & Energy Studies, Dehradun, is an authentic record of my/ our work carried out during a period from **January**, **2020** to **May**, **2020** under the supervision of **Ms. Bhavana Kaushik, Assistant Professor, Department Of Systemics.**

The matter presented in this project has not been submitted by me/ us for the award of any other degree of this or any other University.

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This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

Date: 15/05/2020

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**ACKNOWLEDGEMENT**

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**ABSTRACT**

Student Management System is software which is helpful for students as well as the school authorities. In the current system all the activities are done manually. It is very time consuming and costly. Our Student Management System deals with the various activities related to the students.

There are mainly 7 modules in this software

* Admin
* Teacher
* Class
* Subject
* Exam

In the Software we can firstly Login as admin or Teacher, Admin have access of User Creation user has of two types, Teacher and admin. Admin has the power to add new user and can edit and delete a user. A Teacher can register as user and can add edit and delete his profile.

The frontend website for the management system will be developed using NetBeans IDE and a backend using JAVA which will be controlled by the admin.

MySQL will be used to connect the front end to a database and different operation of MySQL is used to fetch and retrieve the data.

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**INTRODUCTION**

As colleges got expanded the number of students also gets increased and also the student related contents increase. Student Management System is application software which is deliberated to begin with exchange of information in a secure manner to affiliate with students, faculties, and the college/school administration. A student management system (also known as a student information system or SIS) helps a school manage data, communications, and scheduling. A school system generates and uses a large amount of data. This data must be communicated appropriately to students, faculty, and parents. A student management system helps schools to store, manage, and distribute this information.

Student Management System is a java project in NetBeans IDE. This system allows you to keep the student records and manage them when needed. This is a simple java project with good and interactive looking GUI. Some Features of this project are –

1. Teacher
2. Class
3. Subject
4. Exam
5. Student Registration
6. User Creation

**SYSTEM ANALYSIS**

**EXISTING SYSTEM:**

In the current system we need to keep a number of playlist according to our taste and different genres. After listening to a song we have to search the next song which matches our taste of listening and which didn’t spoil our mood because of not getting the correct song or listening to a song which doesn’t matches our taste.

**PROPOSED SYSTEM:**

Existing system has encountered with many limitations. The suggested system hits the restrictions found in the existing system. In our proposed system we have the provision which automatically suggests you songs which are of same taste and genre which you are currently listening. This improves the pleasure of listening and makes your work easy to find the next song and automatically creates a temporary playlist for you.

All the manual difficulties in managing the student details in a school or college have been rectified by implementing computerization.

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# LITERATURE REVIEW

The [1] system has come up with many functionalities for educational institutions to track the student progress and managing attendance. It helps both student and guardian to keep track of student progress without visiting to the college. It also notifies student and guardian during the time of important events which are happening in institution. One more feature is guardian get alerted whenever student get failed in the exam or student not able to meet the expected attendance average. Student Information Report System (SIRS) is application software and which has intention to begin a conductive and direct interchanging the statistics in a secure platform to coalesce with students, faculties, parents and the college/school administration. The student information has the particulars (like register number sem, date-of-birth, sex, parent phone number, address, parent name, etc.) invade to the system by the faculties. All these particulars is stored in the database. SIRS application is trouble free to use in schools, colleges, universities, and any other educational institutions. It can be customized as per the need. It can be used in private and government educational institutions also. SIRS application is an internet-based application we can login to the system from anywhere irrespective of geographical area it will give seamless navigation. The paper [2] provides the particulars to carry out the performance, management and decision-making functions of enterprises or organizations. Enormous grow of students is caused to expand the functionality in the respective educational institutions. As student added to the educational system it is difficult to manage and track student details. To overcome difficulties, we come up with this new approach student information management system with additional features. This new approach will provide fast processing, efficient student tracking, and produces desired result. This approach will allow students to save their personal details. It is more secure, reliable and easy to use. Attendance [3] is part of any system to keep track of the particular person. It is mandatory process in educational system which directly reflects the student progress. In educational institutes attendance management is normally a manual process. There is enormous grow in the software industry which has privileged colleges to maintain the attendance system by using gadgets which is the best way. As we are using the smart phones, we not require maintaining attendance register. It can be easily done in mobile application. Faculty will be going to take the attendance when class gets started. They will initially login to the system through mobile application. Once attendance has been taken successfully for the class it will sent to sever through GPRS. The faculties can also do the necessary functions like registering new students, deleting the information about a particular student, modifying the information regarding the student etc. The main intention of this process is to reduce the risk of manual efforts. It also reduces the time consumption. Also we want to give importance to reduce the paper wastage that daily happens. The model [4] utilizes computer aided system. The model plays main role in an institution or in the college management. Initially, the system has developed with four layers based on the hierarchy such as Web display layer where application is deployed and displayed for end users. Business logic layer responsible for handling the functionality of the product. Data access layer is responsible for viewing the data. Database layer responsible for storing the student data. In Database layer ER diagram has been designed to provide data normalization. The process provides complete information about student, faculties and educational institution. Third thing in this project is to allowing user based on their categories. The paper [5] provides end user to seamless navigation to the application and ease of access. The model provides information management storing of student academic reports. This model consists of various functionalities like information about the courses available in the college starting from first grade to graduation. It also enables students to enroll to particular course through online, online fees payment, examination results, and also get notified when important events occur. All data stored and retrieved through the application is secure. So, to achieve this we have developed a powerful web based secured interface application which supports all type of request which are coming from the students also which gathers and corrects all student information. To achieve this, we have used similarity (Euclidean distance) algorithm. The results showed that the new information gathered by the SDS has the ability to fill the requirement and done the error correction in the traditional model. The papers [6] will explains how it is playing an important role in the education domain. This system is providing seamless access through the web-based application to access and manage different department or all over the organization. This system is used to mainly monitor the attendance for the university. Students are provided access to login to application and view the progress report and attendance report. This system is developed for an engineering college it will provide end users to maintain their data with minimum effort. Initially faculties/students get registered with the system once they finish registration process, they can access the system as well as they are able to do the changes in the data. As per the requirement users has been granted with certain level permission to manage and track the student information. Either student or faculty can upload and copy the statistics from the database. Since it is a web-based application which is accessible from any part of the world it has certain features like accessibility, easy to use. IOT, easy to manage etc. It is developed to suite the current environment which is rapidly growing in the student domain.

# OBJECTIVES

This project helps in maintaining the database of the students in any educational organization. We can easily access any students’ information anytime and can be kept safely for long period of time without any damage.

In this project we create a student database management system which interacts with students and teachers and they will be able to perform various operations in it.

We create this project by using NetBeans IDE for formatting and styling and Java for creating backend. MySQL is also used to connect with database.

# METHODOLOGY

The student web portal is nothing but a application. The development of this application is done by following the steps in a software development life cycle. Thus, a right SDLC should be selected, and generally for web applications we us agile methodology. The steps involve are requirement analysis, our methodology will be including all the phases of that model.

**System Feasibility: -** We will be analyzing the feasibility of our product that whether it will be implementable or not. This phase has already been completed during the title analysis.

**Software Plans & Requirements: -** During this phase we analyzed all the requirement sand planned the development cycle.

**Product Design: -** We will be developing use case in this phase to know what modules are needed for this product.

\*This will mark the end of requirement verification

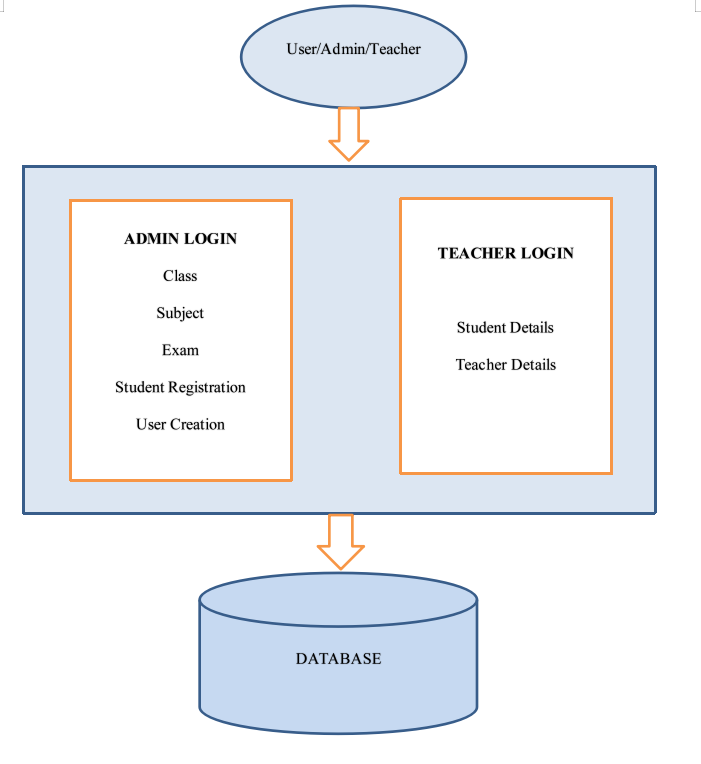
**Detailed Design: -** Here we will work on Level1 DFD to show sub modules and implementable functions. We will be also working on developing the required class diagram.

**Code: -** This will be our main phase which will be our implementation phase where we will code all the modules. Here we will also do the unit testing.

**Integration: -** This phase will aim at making the product out of the modules i.e. we will be merging the modules.

**Implementation: -** This will be our system testing phase. We will test all the merged modules. This will act as level one testing for our product.

**Operations & Maintenance: -** This is our last phase where will work towards achieving feedback and further improvements will be done accordingly.

****Fig.1: Structural Diagram of Student Management System

**ALGORITHM**

Step 1: Start

Step 2: Create a frontend page for login of the Students and Teachers.

Step 3: Create a database for student records using MySQL.

Step 4: Create tables login table with user details.

Step 5: Use primary and foreign key for connecting these tables.

Step 6: Enter id to view the details and performance of student.

Step 7: Display the result according to their performance.

Step 8: Stop

**Use Case Diagram**

The use case diagram for the proposed system describes the system in terms of system Actors, Use cases, and their associations.

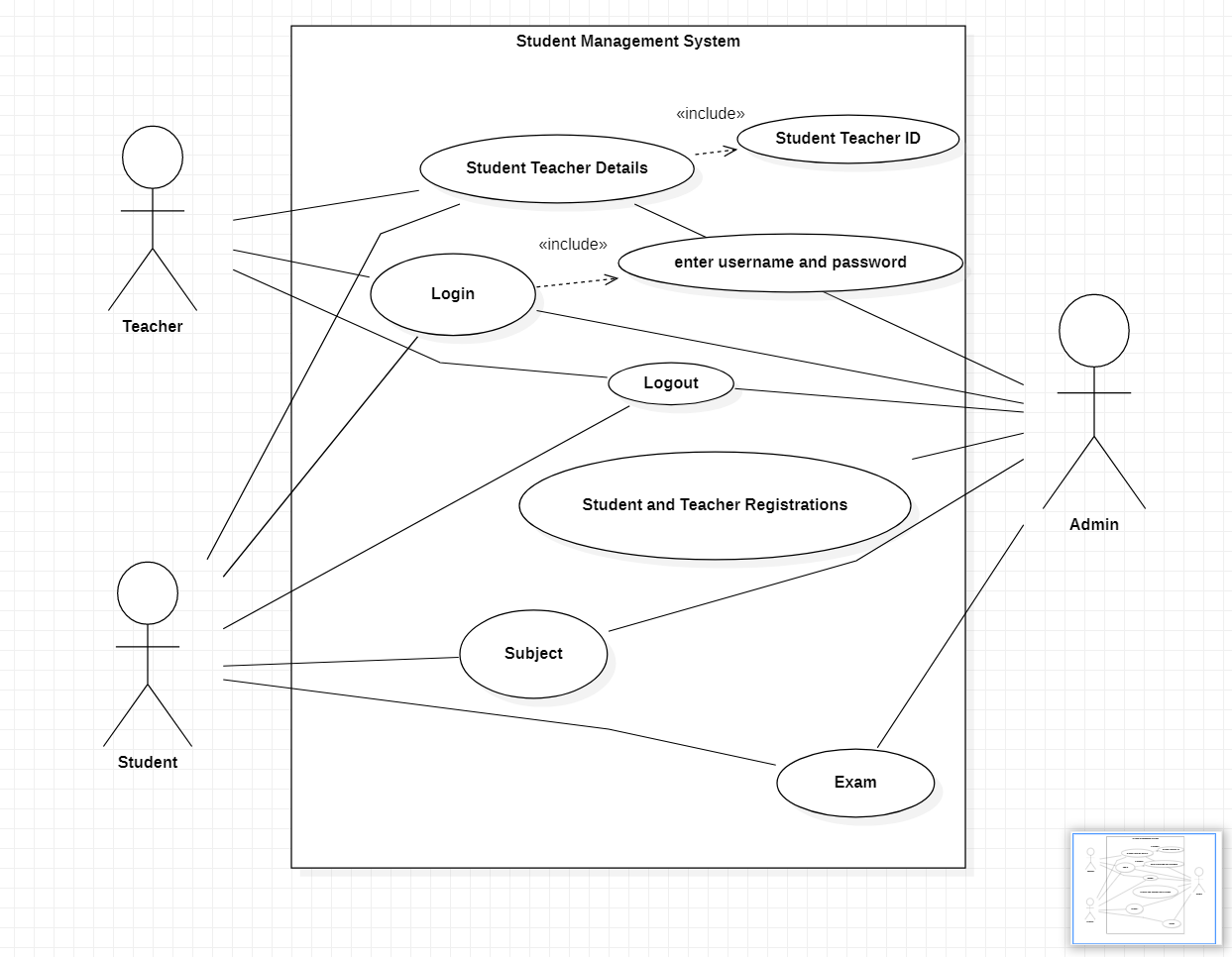
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Fig 2 : Use Case UML diagram for Student Management System

**Class UML Diagram**

The class diagram for the proposed system describes the system in terms of classes, attributes, operations, and their associations. In UML, classes and objects are depicted by boxes composed of three compartments. Top compartment displays the name of the class or object. The Centre compartment displays its attributes; the bottom compartment displays its operations.

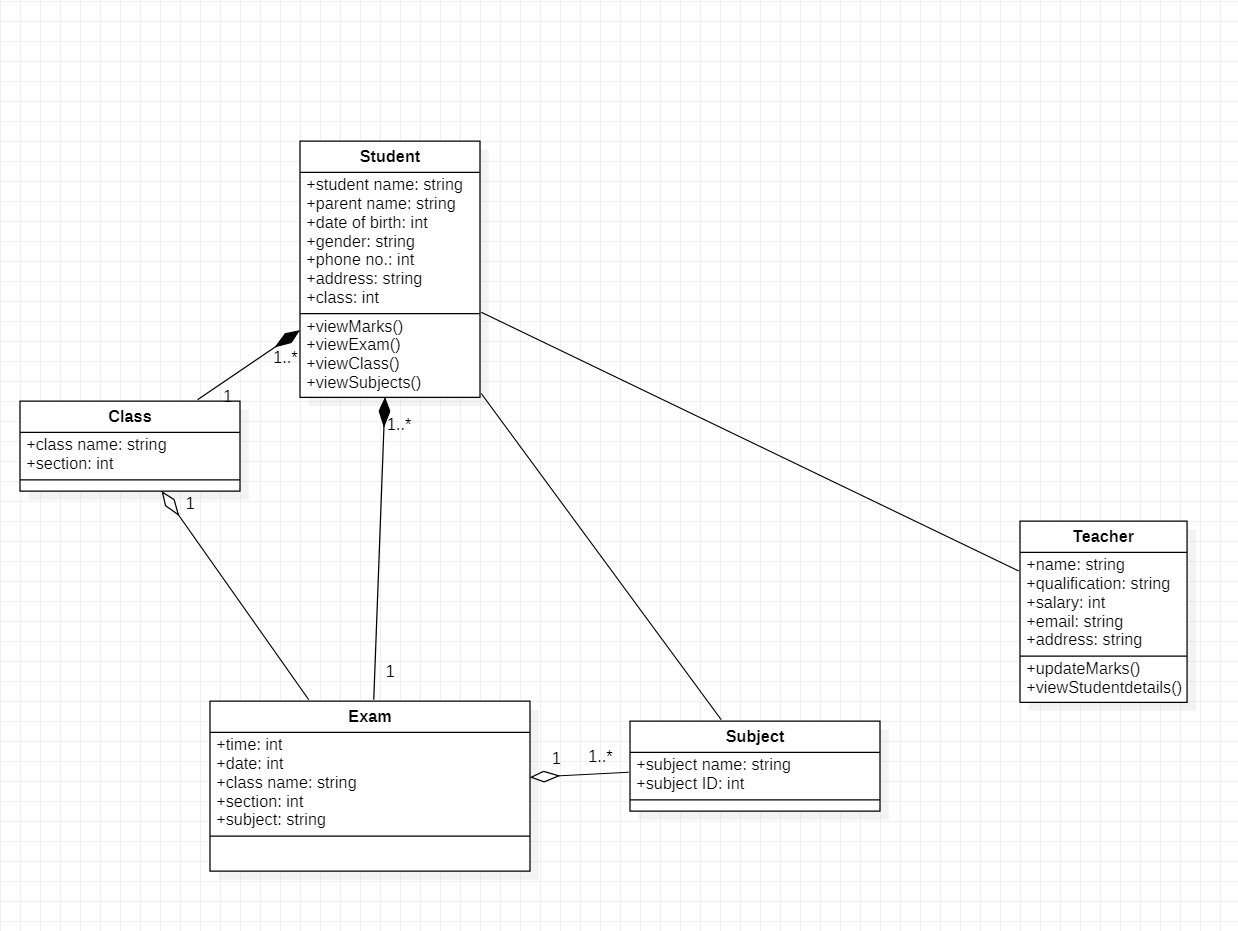


Fig.3 Class UML Diagram for Student management system

**Data Flow Diagram**

Figure 3 shows the data flow diagram. Based on end user necessities as well as the thorough investigation on current system we have suggested a system that satisfies user requirements. Initially admin will be going to login to the system. Once he successfully logged in, he will be able to upload student details and faculty details. Admin may be head of the department. And he will give access to faculties and students. Admin have the privileges to view/edit the details of both students and faculties. Also, he can send the circular or the notice to all faculties and students. Also, he can see the reports of the students’ and faculties. Faculty will be going to log in to the system. He can store the student attendance and internal assessment marks also he can view the same. And average of internal assessments calculated automatically. The faculty can

generate report based on the student records like attendance and internal assessments.

# Screenshot (195)

# Fig.4 Data flow diagram for student management

# Conclusion

# Student Management System is very useful in an institution or in college or in universities. There is no paper work in this proposed system. Supervision can be done from anywhere. This project especially minimizes human effort necessary. This application is handled by the college so there is no information leak and data will be secured. Since it is a application anyone can use the system anywhere at any time and it is very easy to get the necessary information without the latency. It is very useful to the students to get their details and marks. Since this application will be handled by the college whenever they need any changes in an application, they can make it without the upfront investment, and the system will be more secure when it is handled by the own college.

# APPENDIX

# WhatsApp Image 2020-03-30 at 12.31.33 AM.jpeg

# WhatsApp Image 2020-03-30 at 12.31.57 AM.jpeg

# WhatsApp Image 2020-03-30 at 12.32.10 AM.jpeg

# WhatsApp Image 2020-03-30 at 12.33.13 AM.jpeg

# WhatsApp Image 2020-03-30 at 12.34.02 AM.jpeg

# WhatsApp Image 2020-03-30 at 12.34.19 AM.jpegWhatsApp Image 2020-03-30 at 12.34.47 AM.jpeg

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