ABSTRACT

The purpose of the project entitled as “Student Result Management System” is a software which is helpful for student as well as the authorities. The main objective of the project is to provide the examination result to the student in a simple way. This project is useful for students and institutions for getting the results in simple manner. The system is intended for the student. The privileges that are provided to student are to read and verify his/her result by providing register number and semester and in case of new student the registration is available. The whole result will be under the control of the administrator and the admin as the full privileges to read, write and execute the result. Designed primarily for students, the system offers a user-friendly interface allowing them to easily access and verify their examination results using their unique register number and semester information. Additionally, the system provides a seamless registration process for new students, ensuring inclusivity and accessibility for all. Central to the project is the role of the administrator, who holds full control over the entire result management process. With comprehensive privileges encompassing reading, writing, and executing results, the administrator acts as the guardian of data integrity and security. This hierarchical structure ensures that sensitive information remains protected while facilitating efficient administration of academic records

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CHAPTER 1

INTRODUCTION

Student result management system is software which is helpful for student 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 database management system deals with the various activities related to the students.

The two main users in this system are

1. User(students).
2. Admin.

The "student Result management System" has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and in some cases reduce the hardships faced by this existing system.

The application is reduced as much as possible to avoid errors while entering the data.

It also provides error message while entering invalid data. No formal knowledge is needed For the user to use this system, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. It will help organization in better utilization of resources.

Every organization, whether big or small, has challenges to overcome and managing the Information of Result, Student, Class, subject, Semester. Every Student Result Management

System has different Student needs, therefore we design exclusive Result management System.

The project is useful for students and institutions for getting the results in simple manner. This project is useful for students and institutions for getting the results and students can easily to verify his/her pass or fail. The whole result will be under the control of the administrator and the admin as the full privileges to read, write and execute the result. Its like a tool that makes managing grades easier, especially for BTech and MTech programs. The system was developed using basic technologies such as MySQL database and JAVA.

Provision is made for future development in the system.

1.1 Purpose

The main objective of the Project on Student Result Management System is to manage the details of Student, Result, Subject, Course, Semester. It manages all the information about Student, Subject, Semester, Student, Course. The project is totally built at administrative end and thus only the administrator is guaranteed the access. The purpose of the project is to build an application program to reduce the manual work for managing the Student, Result, Subject, Course. It also tracks all the records of students, such as their Name, Result, Fathers name, Subject, Semester. Overall it will make student information management an easier job for the administrator and the student of any organization.

1.2 Advantages

- It helps the educational administrator to handle and manage student’s results.
- It helps the students can easily to verify his/her pass or fail
- It brings transparency and efficiency in the working of education system.
- It ensures the accuracy of student marks and academics

1.3 Disadvantages

- The system can only handle single educational organization.
- The system does not include online payments.
- Data analysis not included

1.4 Applications

The web application Student Result Management System is aimed towards recording a considerable number of student result and needs online assistance for managing result of students. Web application should be user friendly. A student result management system is a web-based tool that helps universities and colleges manage student grades, attendance, and other academic data. It can also be used to deliver results to students and instructors. The system will also have an administrator who has full-fledged rights with regards to performing all actions related to control and management of the web application.

CHAPTER 2

LITERATURE SURVEY

Managing student results efficiently and effectively is crucial for educational institutions to ensure academic success and institutional growth. With advancements in technology, various software solutions have been developed to streamline result management processes. This literature review aims to provide an overview of the current state of research in student result management systems, exploring methodologies, technologies, challenges, and future directions. [1] through path analysis observed and explained gender to have a direct effect on the academic performance of third year students. There are many academic institutions in India. But only a few institutions are modernized and use software to manage their daily work. A city like Bengaluru has around 1000 schools, more than 300 pre-university colleges and colleges. Most of these academic institutions still use the traditional way of administration, which mainly involves paper work and a lot of human effort. Students admitted to educational institutions dependent on the traditional way of management have to work hard to obtain a certificate or other documents. Administrations also struggle to keep all the records, records and retrieve records of interest to them in a timely manner. The managements of these institutions also have to hire several employees just to keep the accounting documents necessary to manage and support their daily work the Student Result management System is a computer platform that simplifies the process of recording, storing and retrieving academic information and student records. This system helps educational institutions manage student data efficiently and minimize errors and redundancy. The system facilitates the automation of tasks such as scoring, reporting and transcript generation, which improves the accuracy and speed of processing results.[2] quantitative indicator used to summarize a student’s academic performance across various courses during a semester or throughout their academic program. GPA is calculated by assigning a numerical value (grade points) to each letter grade a student receives in a course. These grade points are then averaged, resulting in a single number that represents the student’s overall academic achievements.[3] the importance of academic performance as a key indicator of student success and its influence on enrolment decisions beyond the first year. Additionally, it emphasizes the role of motivation and social connectedness in shaping student outcomes. These findings suggest that interventions aimed at improving academic performance, fostering motivation, and strengthening social connections can positively impact student retention and overall academic success.[4] Traditional paper-based student record management is cumbersome and inefficient. A student information System (SIS) offers a compelling solution by providing a secure online platform for managing student data. This system streamlines workflows, enhances data security, and improves accessibility for both staff and students. By transitioning to an SIS, educational institutions can significantly improve efficiency, reduce paperwork, and create a more user-friendly experience for everyone involved.

CHAPTER 3

SOFTWARE REQUIREMENT ANALYSIS

3.1 Feasibility Study

Whenever we design a new system, normally the management will ask for a feasibility report of the new system. The management wants to know the technicalities and cost involved in creation of new system. Feasibility study includes consideration of all the possible way to provide a solution to the given problem. The proposed solution should satisfy all the user requirements and should be flexible enough so that future changes can be easily done based on the future upcoming requirements.

- Technical feasibility
- Economic feasibility
- Physical feasibility
- Social feasibility

3.1.1 Technical Feasibility

Technical feasibility involves study to establish the technical capability of the system being created to accomplish all requirements to the user. For this feasibility study, we studied complete functionality to be provided in the system, as described in the System Requirement Specification (SRS), and checked if everything was possible using different type of frontend and backend platform.

3.1.2 Economic Feasibility

This is a very important aspect to be considered while developing a project. We decided the technology based on minimum possible cost factor.

- All hardware and software cost has to be borne by the organization.
- Overall we have estimated that the benefits the organization is going to receive from the proposed system will surely overcome the initial costs and the later on running cost for system.

3.1.3 Physical Feasibility

Its practical or possible to manage student academic results using physical resources such as paper documents, filing cabinets, and manual record-keeping systems, rather than digital or online systems. It involves considering factors like space, resources, and the effectiveness of manual processes in handling student data accurately and efficiently.

3.1.4 Social Feasibility

Social feasibility refers to the likelihood of a project or idea being accepted and supported by a particular community or social group. Implementing a student result management system can significantly benefit an educational institution. Increased transparency, improved communication, and enhanced efficiency are just some of the positive impacts. Through proper planning and clear communication, this new system can become a valuable tool for both students and faculty.

CHAPTER 4

SCOPE OF THE PROJECT

4.1 Existing System with Limitations

- It is time consuming process as the user has to type the dbase commands. He / She has to remember all the commands which are difficult.
- It is limited to a single system.
- A user who wants only to have some information has to contact the administrator every time.

4.2 Proposed System Features

- User friendliness is provided in the application with various controls.
- The system makes the overall project management much easier and flexible.
- It can be accessed over the internet.
- Huge amount of data can be stored.
- There is no risk of data mismanagement at any level while the project development is under process.
- It provides high level of securities.
- interface with the user(student) and administrator.
- It will provide reduced response time against the queries made by different users.

The different types of modules present in this project are

1. Admin
2. User

4.3 Admin

1. The Administrator should Login into the system with unique his/her username and password.
2. If the username and password is valid the he can gain the access to the system.
3. Admin views student details.
4. Admin can add student details
5. Admin can delete student details.
6. Admin can add student results.
7. Admin can view full students result and details.

4.4 User

1. The student should can find result by register number and semester.
2. Student views his/her own result.
3. Student can views any semester results

CHAPTER 5

SOFTWARE AND HARDWARE REQUIREMENTS

5.1 Hardware requirements

The hardware requirements for a student result management system (SRMS) will vary depending on the size and complexity of the system, minimum key hardware components are:

1. Any processor after Pentium 4.
2. Any version of windows 7 or later
3. Processor speed: 2GHz
4. RAM: 4GB
5. Hard disk: 40GB to 800 GB

5.2 Software requirements

Software requirements are the specifications of what a software system should do, how it should behave, and what constraints it should satisfy. A student result management system is a software application or web-based platform that helps educational institutions manage student data and streamline administrative tasks and record-keeping processes. Some software requirements are:

1. Database: MySQL
2. Frontend: Java
3. IDE: NetBeans
4. Backend: MySQL

5.2.1 MySQL

Student result management systems (SRMS) often rely on MySQL for its database management capabilities. This is because MySQL excels at storing and organizing structured data, perfectly suited for student information like names, grades, and course enrolment. Furthermore, MySQL facilitates efficient retrieval of this data, enabling features like generating reports and transcripts, its scalability to handle increasing amounts of student data. Security is also a major perk, as MySQL offers features to protect sensitive student information. It is open-source and free, making it a cost-effective choice for development.

5.2.2 Java

Java's versatility, object-oriented approach, platform independence, and vast developer community make it a compelling choice for building student result management systems. It streamlines development by handling both user interface and core logic, while its platform independence ensures the SRMS runs smoothly across different operating systems. It is a general-purpose programming language. Robustness and security, Simplicity and readability.

5.2.3 NetBeans

NetBeans provides a powerful and user-friendly platform to develop your Student Result Management System. Its visual tools and database integration streamline the development process, making it an excellent choice for student to learn and build real-world java applications. NetBeans is a free and open-source IDE that lets you code in various languages, primarily java. It's known for its modular design, meaning you can add features and functionalities as needed.

CHAPTER 6

SYSTEM DESIGN

System design is the process of defining the architecture, components, modules, interfaces, and data for a system to satisfy specified requirements. It involves translating user requirements into a detailed blueprint that guides the implementation phase. The goal is to create a well-organized and efficient structure that meets the intended purpose while considering factors like scalability, maintainability, and performance.

Design is the first step in the development phase for any techniques and principles for the purpose of defining a device, a process or system in sufficient detail to permit its physical realization.

Once the software requirements have been analysed and specified the software design involves three technical activities – design, coding, implementation and testing that are required to build and verify the software. Software design is a process through which requirements are translated into a representation of software. Software design is conducted in two steps. Preliminary design is concerned with the transformation of requirements into data.

6.1 Unified modelling language diagram (UML)

- The unified modelling language (UML) is a general-purpose visual modeling language that is intended to provide a standard way to visualize the design of a system.
- UML provides a set of symbols and rules that everyone in the software world understands. These symbols represent things like classes, objects, relationships, and actions. By using these standardized symbols, developers can communicate ideas and plans more clearly with each other, reducing misunderstandings.
- A UML system is represented using five different views that describe the system from distinctly different perspective. Each view is defined by a set of diagrams, which is as follows.

6.1.1 User Model View

- This view represents the system from the user's perspective.
- The analysis representation describes a usage scenario from the end user's perspective.

6.1.2 Structural Model View

- A structural model is a view of a system that focuses on the structure of its objects. This includes their attributes, classifiers, relationships, and operations.
- This model view models the static structures.

6.1.3 Behavioural Model View

- It represents the dynamic of behavioural as parts of the system, depicting the interactions of collection between various structural elements described in the user model and structural model view.

6.1.4 Implementation Model View

- In represents the dynamic of behavioural as parts of the system, depicting the interactions of collection between various structural elements described in the user model and structural model view
- In this structural and behavioural as parts of the system are represented as they are to be built.

6.1.5 Environmental Model View

- In these the structural and behavioural aspects of the environment in which the system is to be implemented are represented.
- UML is specifically constructed through two different domains they are

- UML Analysis modelling, which focuses on the user model and structural model views of the system
- UML design modelling, which focuses on the behavioural modelling, implementation modelling and environmental model views.

6.2 UML Diagram

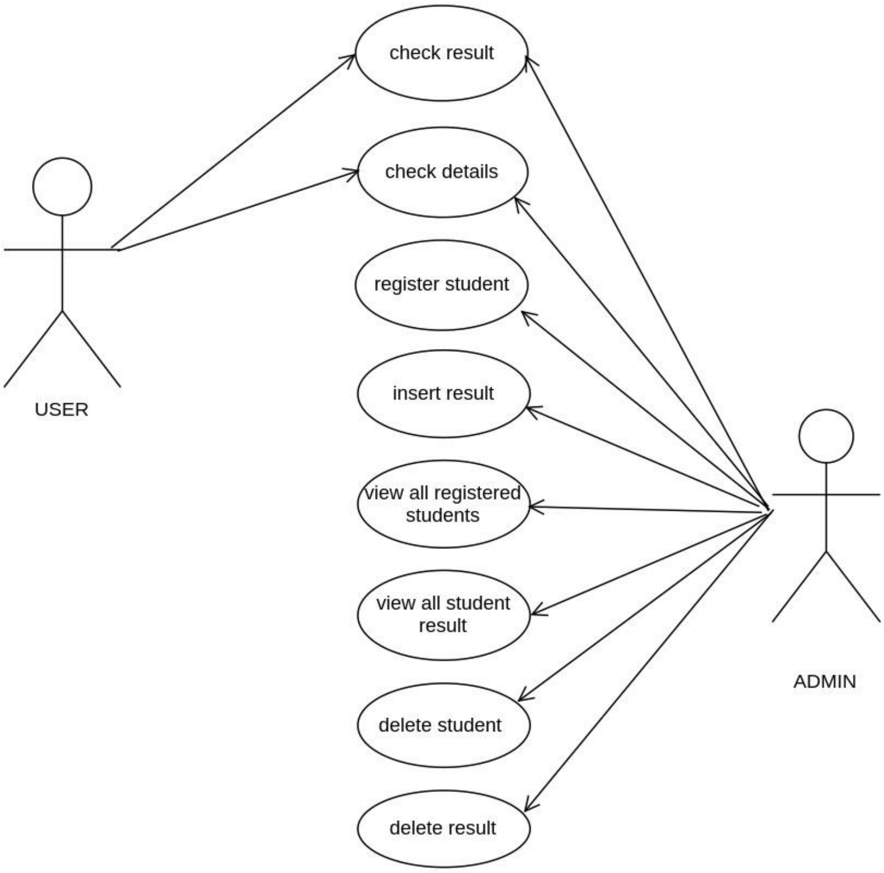


Figure 6.1 UML Diagram

6.3 Use Case Diagram

6.3.1 Admin

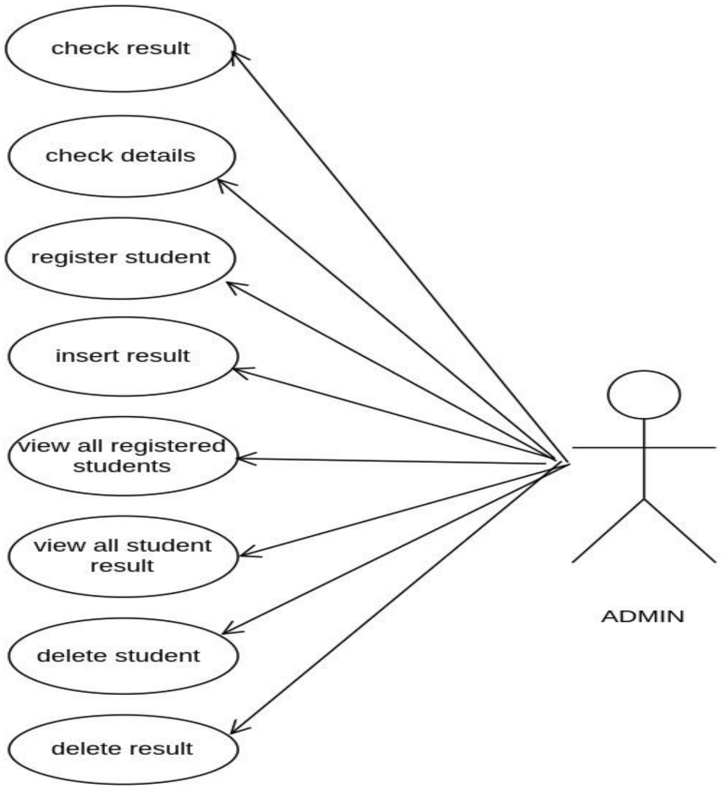


Figure 6.2 Admin Use Case Diagram

6.3.2 User

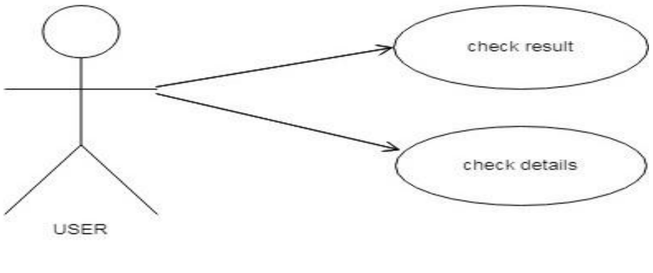


Figure 6.3 User Use Case Diagram

6.4 Entity – Relationship Diagrams

E-R (Entity-Relationship) Diagram is used to represents the relationship between entities in the tables.

The symbols used in E-R diagrams are:

SYMBOLS	PURPOSE
▭	Represents Entity sets
⬭	Represents attributes
◇	Represents Relationship sets
—	Line Represents flow

Figure 6.4 E-R Diagram Symbols

The E-R model is a model for identifying entities to be represented in the database and representation of how those entities are related. The E-R data model specifies enterprise schema that represents the overall logical structure of a database graphically.

6.4.1 E-R Diagram

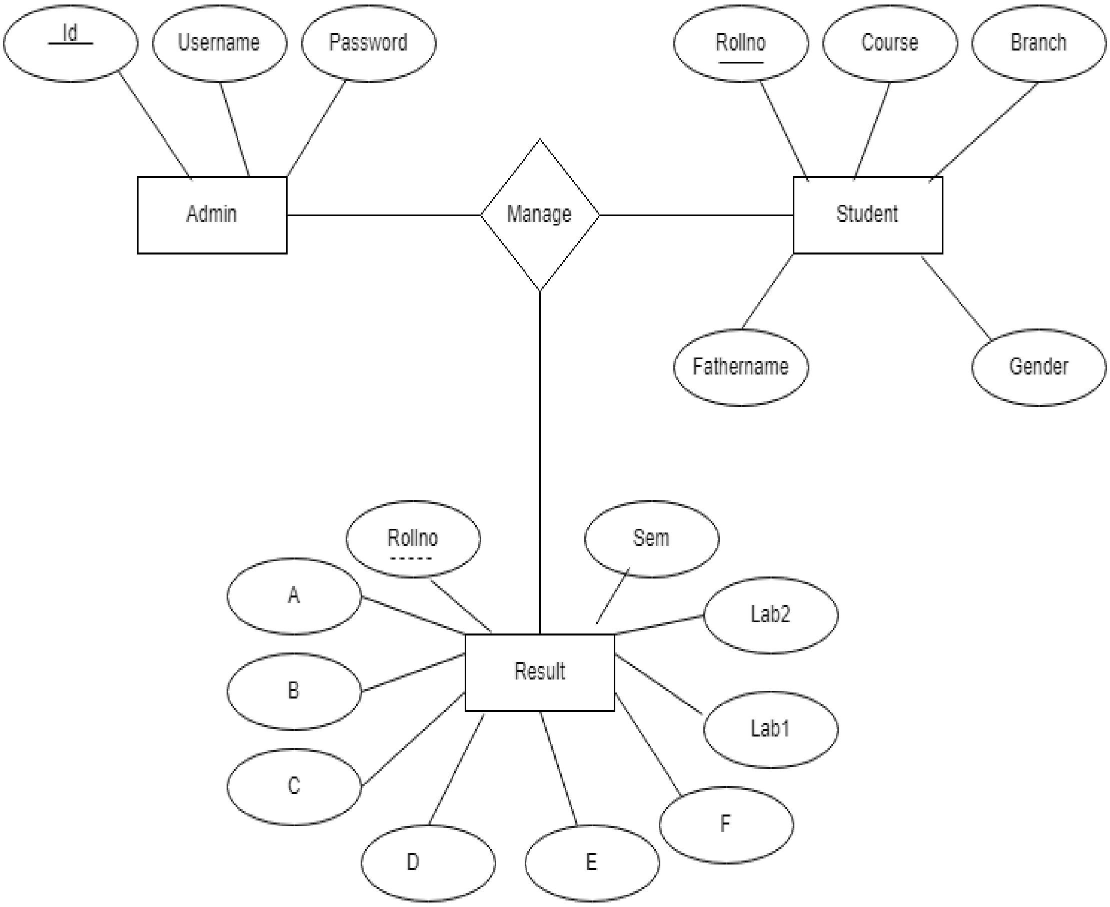


Figure 6.5 E-R Diagram

6.5 Database Design

When creating a system, part of the process involves designing how data will be stored and retrieved. This is where database design comes in. At the analysis stage, we identify the data elements and structures needed. Then, we organize them to create a system for storing and retrieving data.

Database design is the process of creating a blueprint for organizing and managing data efficiently within a Database Management System (DBMS).

6.5.1 Involves several key steps:

- Requirement Analysis
- Conceptual Design
- Logical Design
- Physical Design
- Implementation
- Testing and Optimization
- Maintenance and Evolution

The main aim is to make it easy, fast, and flexible for users to get the information they need. We establish relationships between different pieces of data and remove any unnecessary ones. This helps keep the database clean and organized. Normalization will keep database minimize repetition and maximize stability.

For our project, we've decided to use MySQL as the database system. It's a popular choice for building databases and provides the tools we need to create efficient and reliable systems. By following these principles and using tools like MySQL, we can design databases that are easy to use, fast to access, and efficient to maintain.

Student Result Management System (SRMS) Contains 3 MYSQL Tables:

- **Admin table Structure:** This table stores the admin login and password
- **Student table Structure:** This table stores the student details
- **Result table Structure:** This table stores the student result details

6.5.2 Class Diagram

The class diagram shows a set of classes, interfaces, collaborations and their relationships.

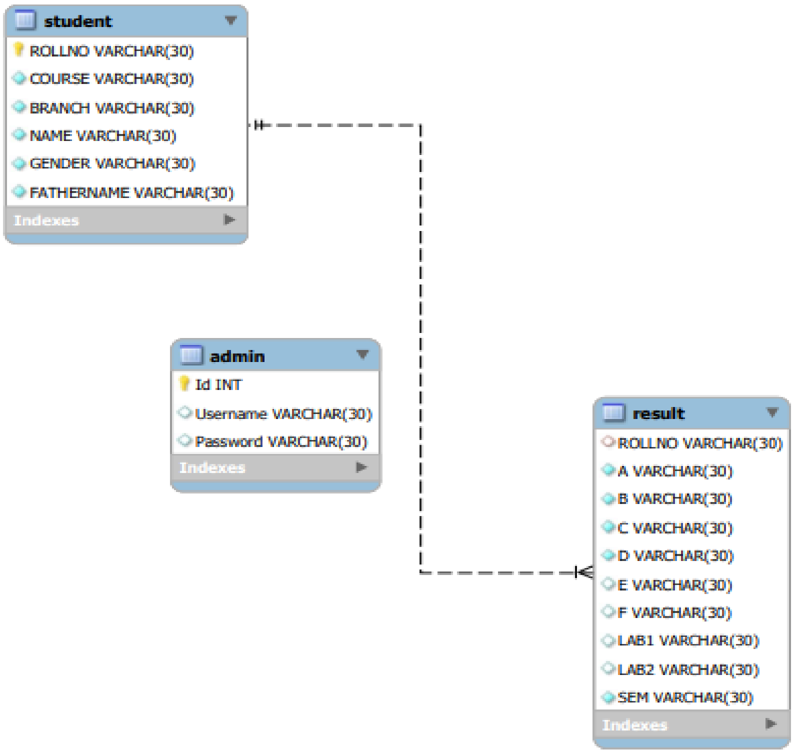


Figure 6.6 Class Diagram

6.6 Dataflow Diagram

Dataflow diagram is a way of representing a flow of data of a process or system. The DFD also provide information about the outputs and inputs of each entity and the process itself. Dataflow diagram are like a map for information flow in a system. DFDs are great for understanding complex systems and can be used to design new ones or improve existing ones.

Context level (Level 0):-

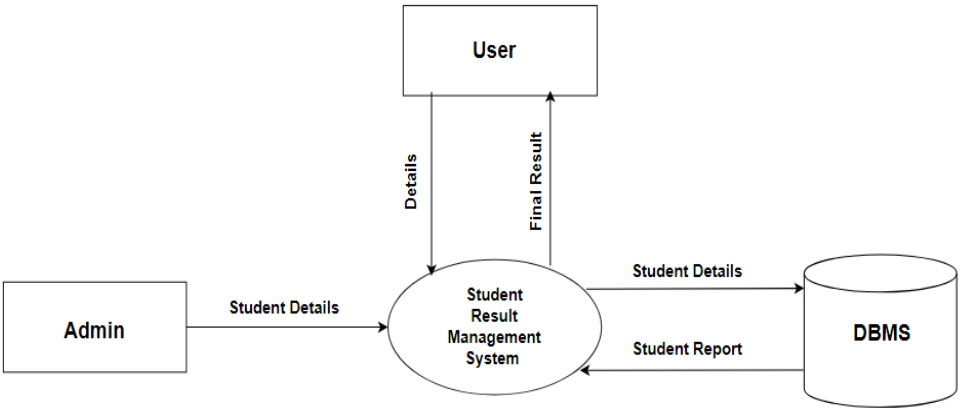


Figure 6.7 Dataflow Diagram-Level 0

Context level (Level 1):-

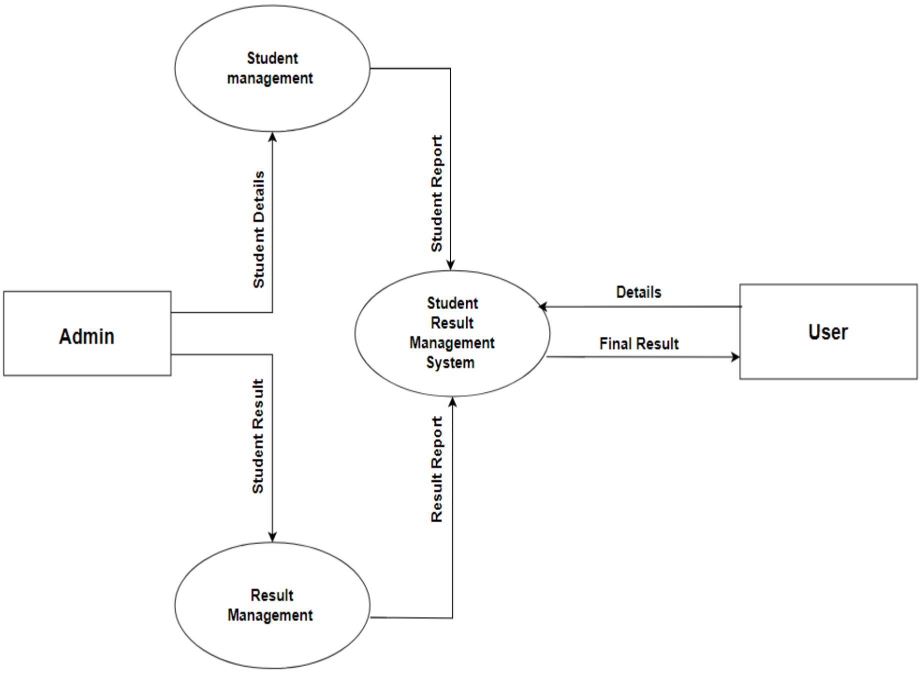


Figure 6.8 Dataflow Diagram-Level 1

CHAPTER 7

SYSTEM IMPLEMENTATION

System implementation refers to the process of putting into action the designed system within an organization. Implementation is the process that yields the lowest-level system elements in the system hierarchy. It is a critical phase in the system development life cycle, aiming to achieve the desired functionality and performance. Implementing a well-designed Student Result Management System (SRMS) can significantly improve efficiency and transparency in managing student results.

7.1 Flow Diagram

A flow diagram, also called a flowchart, is like a visual recipe for a process. It uses shapes to represent steps(boxes), decisions(diamonds), and arrows to show the flow of information or actions. These diagrams are great for simplifying complex processes and improving communication.

7.1.1 Entities involved

1. Student
2. Admin
3. System

Flow Diagram

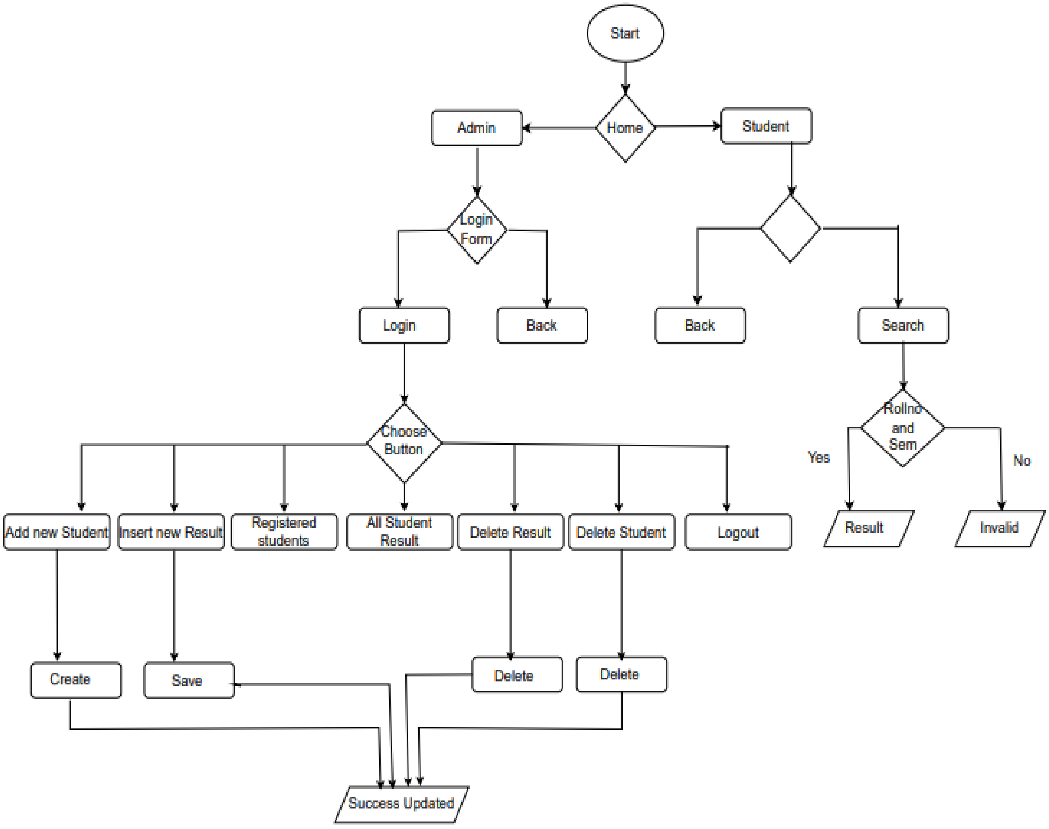


Figure 7.1 Flow Diagram

CHAPTER 8

SYSTEM TESTING

8.1 Software testing techniques:

Software testing techniques are methods and strategies employed by software testers to verify and validate the correctness, completeness, and quality of software applications. Software testing is a critical element of software quality assurance and represents the ultimate review of specification, designing and coding.

8.2 Testing Objectives

1. Testing is process of executing a program with the intent of finding an error.
2. A good test case design is one that has a probability of finding an as yet undiscovered error.
3. A successful test is one that uncovers an as yet undiscovered error

These above objectives imply a dramatic change in view port. Testing cannot show the absence of defects, it can only show that software errors are present.

There are three types of testing strategies

1. Unit test
2. Integration test
3. Performance test

8.2.1 Unit Test

Unit testing focuses verification efforts on the smallest unit of software design module. The unit test is always white box oriented. Unit testing is like checking individual parts of a machine to make sure they work correctly. Developers write small tests for each piece of code they create to make sure it does what it’s supposed to do. This helps catch bugs early and ensures that the software works smoothly when it’s put together.

8.2.2 Integration Test

Integration testing is like checking if different parts of a machine work well together. Instead of testing individual pieces like in unit testing, integration testing checks how different parts of the software interact and connect with each other. This helps ensure that all the parts work smoothly as a whole system.

8.2.3 Performance Test

Performance testing is like checking how fast and how well a system works under different conditions. It tests things like how quickly the system responds to user actions, how many users it can handle at once, and how stable it is under heavy use. This helps make sure that the system can perform well and stay reliable even when lots of people are using it at the same time.

CHAPTER 9

SCREENSHOTS

9.1 Home Page

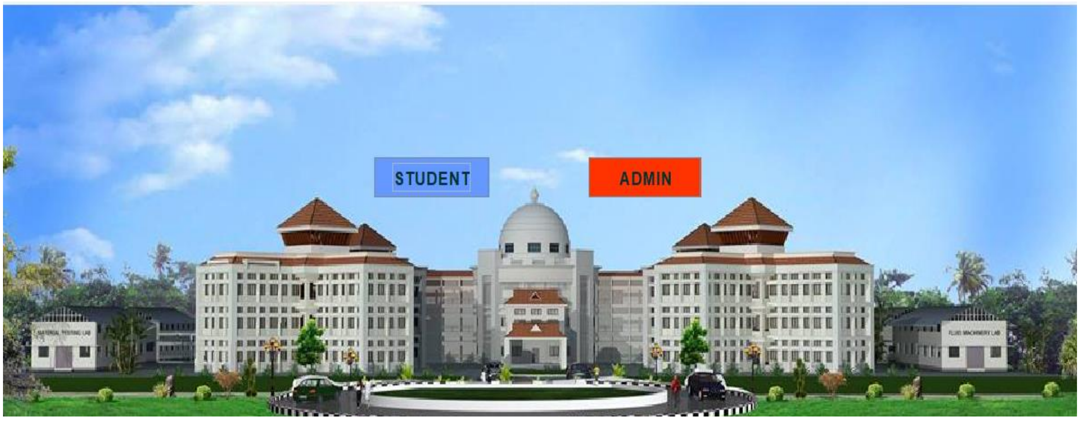


Figure 9.1 Home Page

9.2 Admin Panel

9.2.1 Login Page

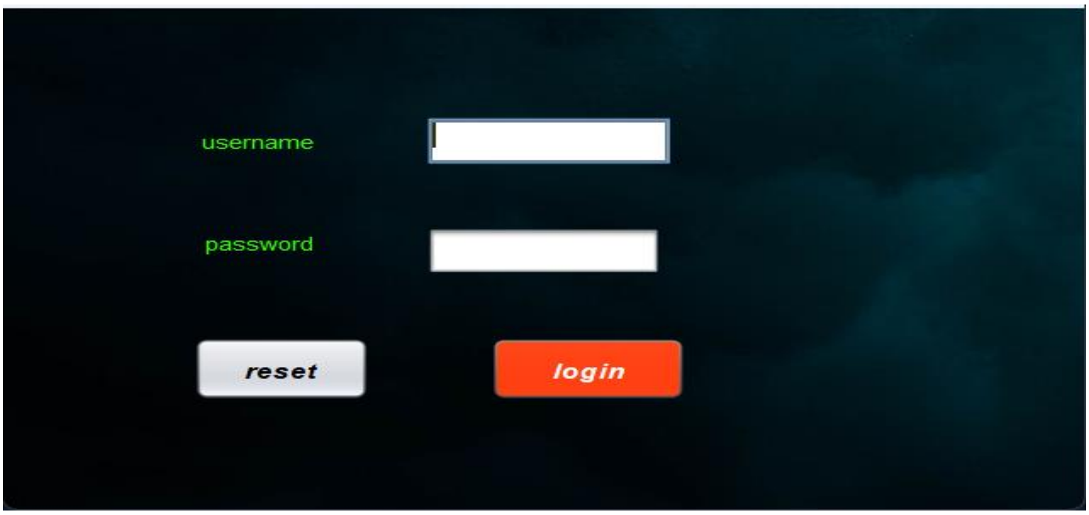
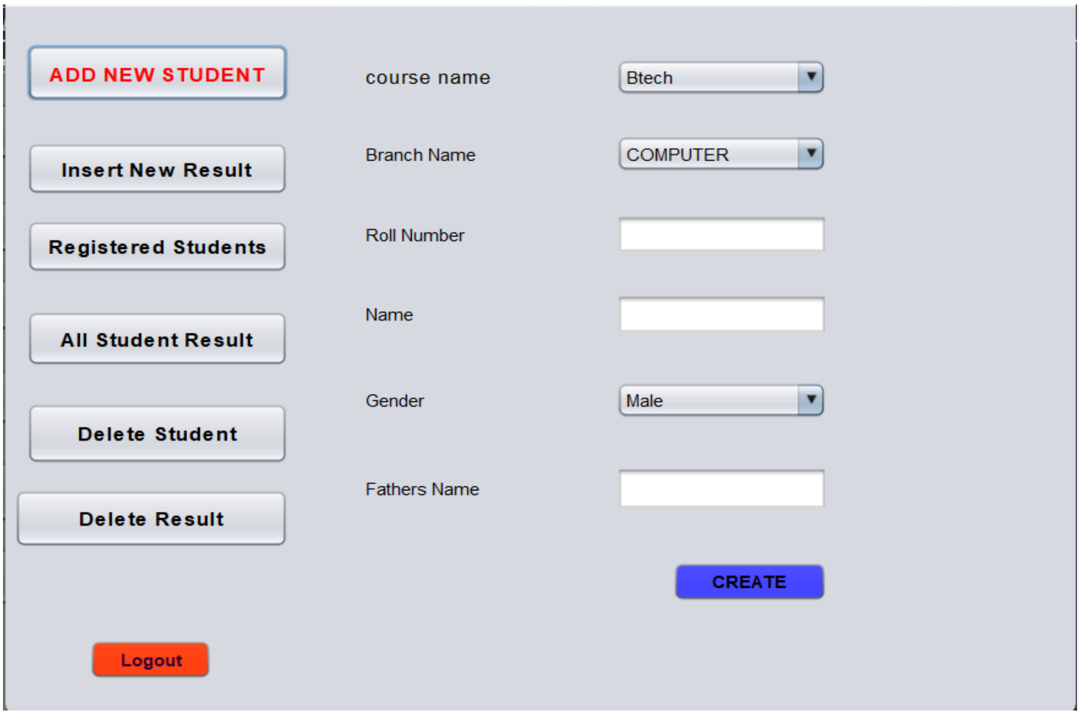


Figure 9.2 Login Page

9.2.2 Add Student



course name: Btech

Branch Name: COMPUTER

Roll Number

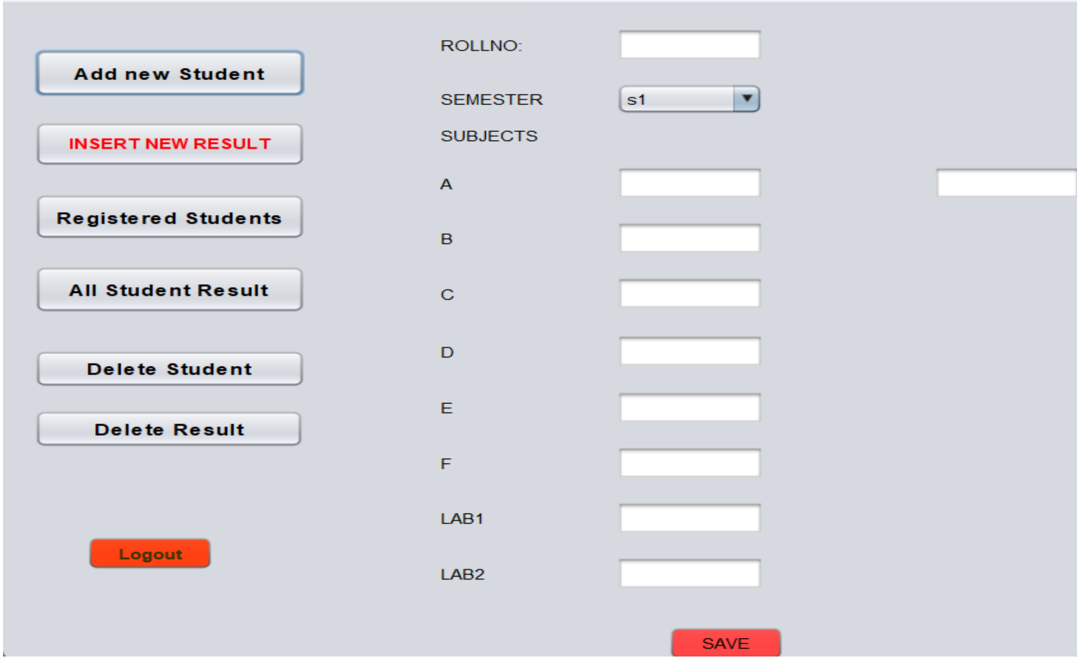
Name

Gender: Male

Fathers Name

Figure 9.3 Add Student

9.2.3 Insert Result



ROLLNO:

SEMESTER: s1

SUBJECTS

A

B

C

D

E

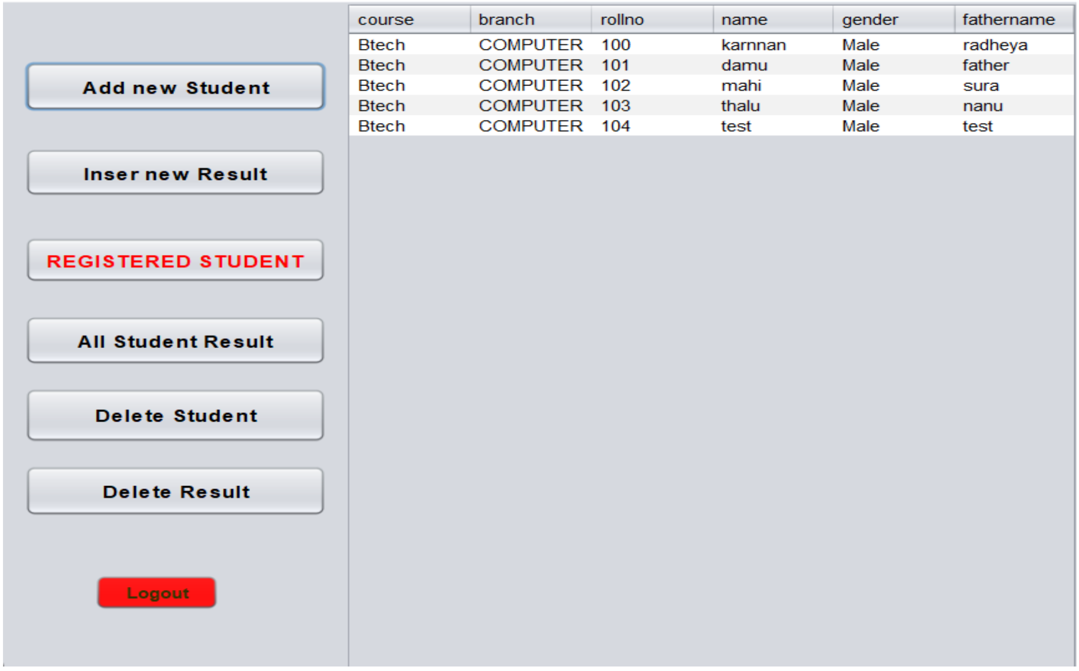
F

LAB1

LAB2

Figure 9.4 Insert Result

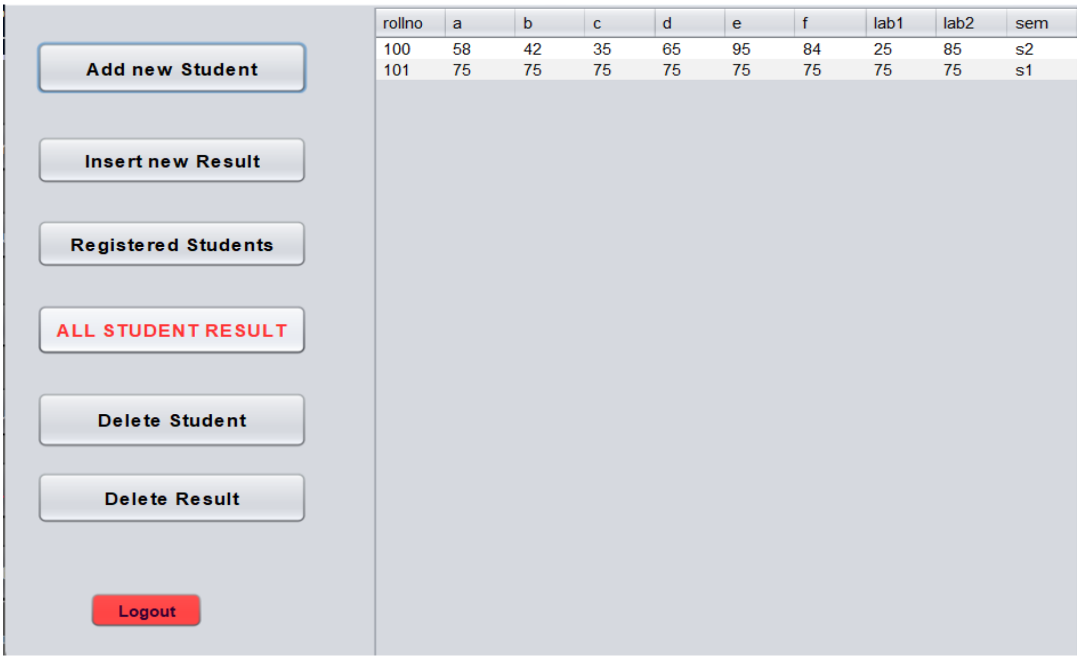
9.2.4 Registered Students



course	branch	rollno	name	gender	fathername
Btech	COMPUTER	100	karnnan	Male	radheya
Btech	COMPUTER	101	damu	Male	father
Btech	COMPUTER	102	mahi	Male	sura
Btech	COMPUTER	103	thalu	Male	nanu
Btech	COMPUTER	104	test	Male	test

Figure 9.5 Registered Students

9.2.5 All Student Results



rollno	a	b	c	d	e	f	lab1	lab2	sem
100	58	42	35	65	95	84	25	85	s2
101	75	75	75	75	75	75	75	75	s1

Figure 9.6 All Student Results

9.2.6 Delete Student

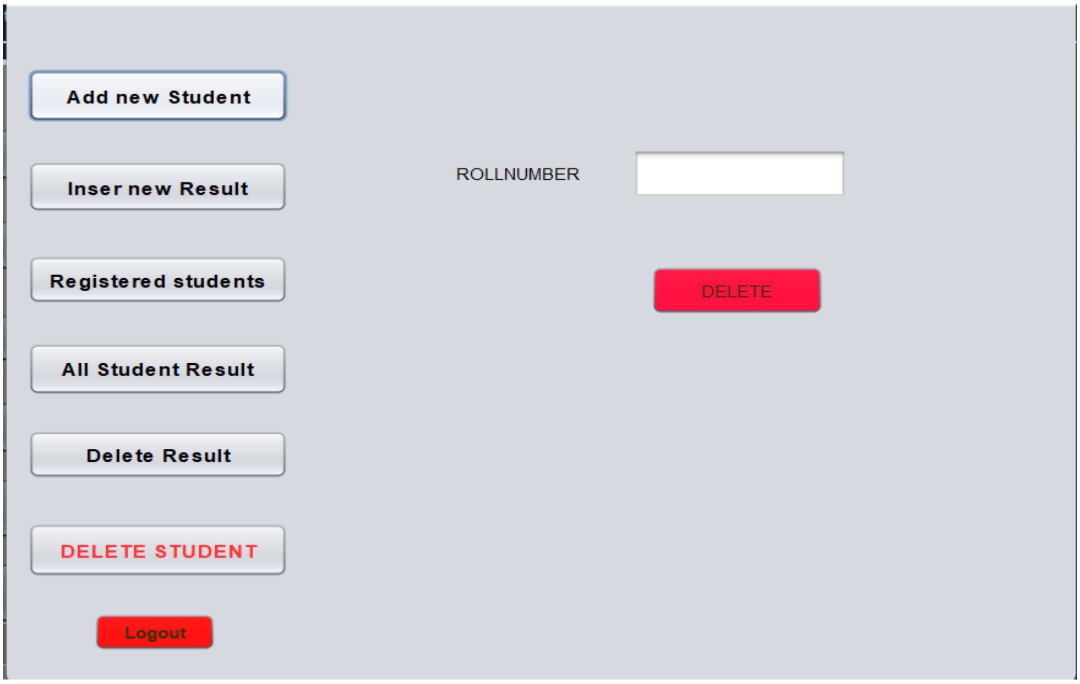


Figure 9.7 Delete Student

9.2.7 Delete Result

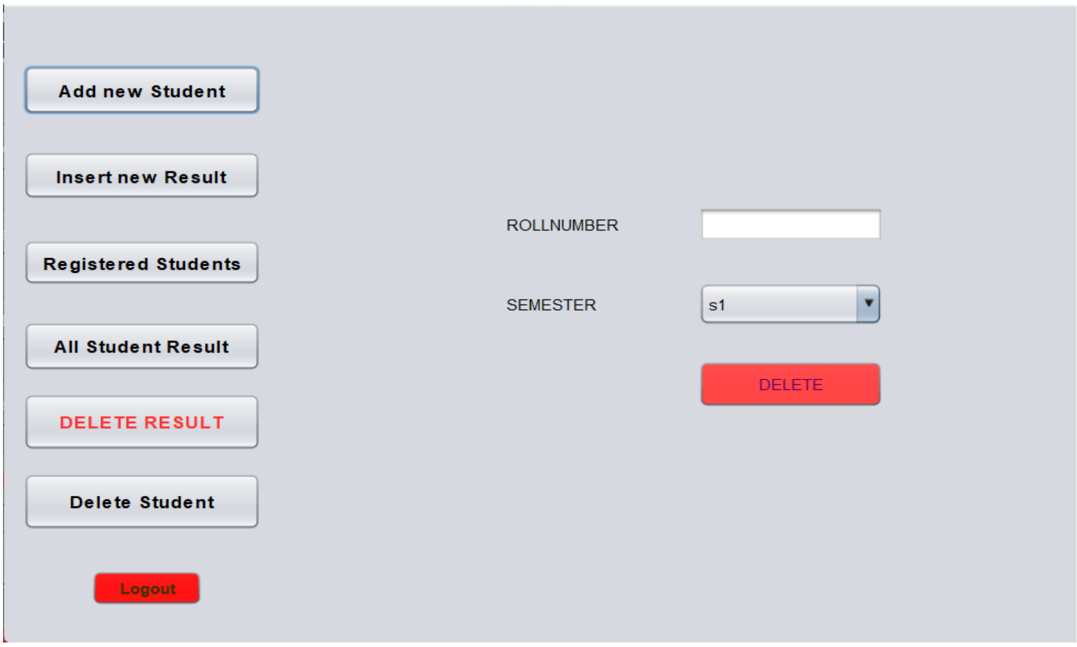


Figure 9.8 Delete Result

9.3 Student Panel

9.3.1 Search Result

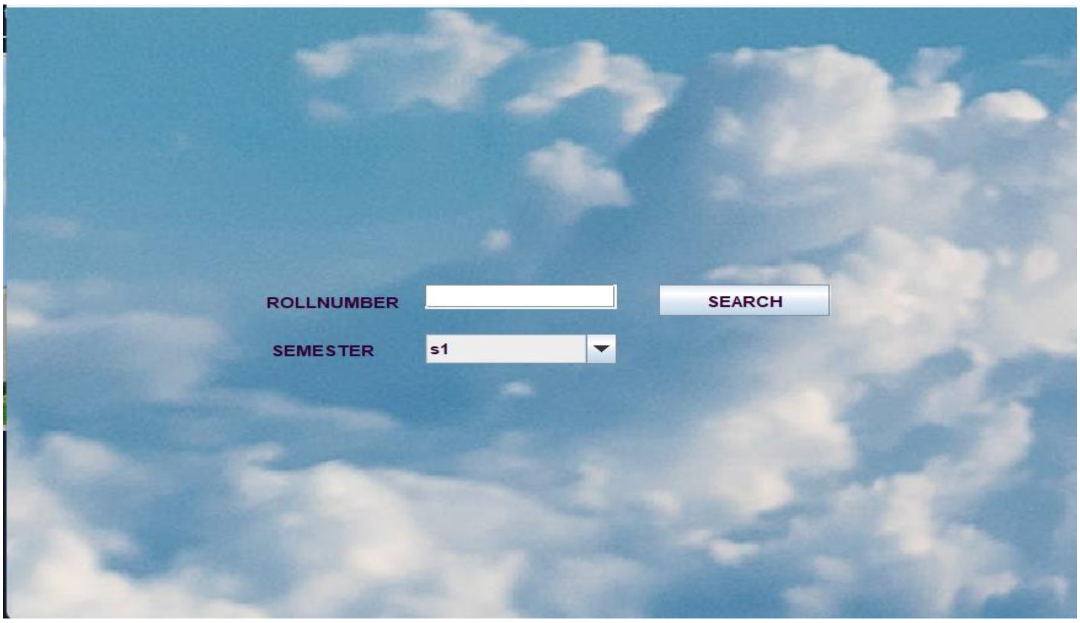
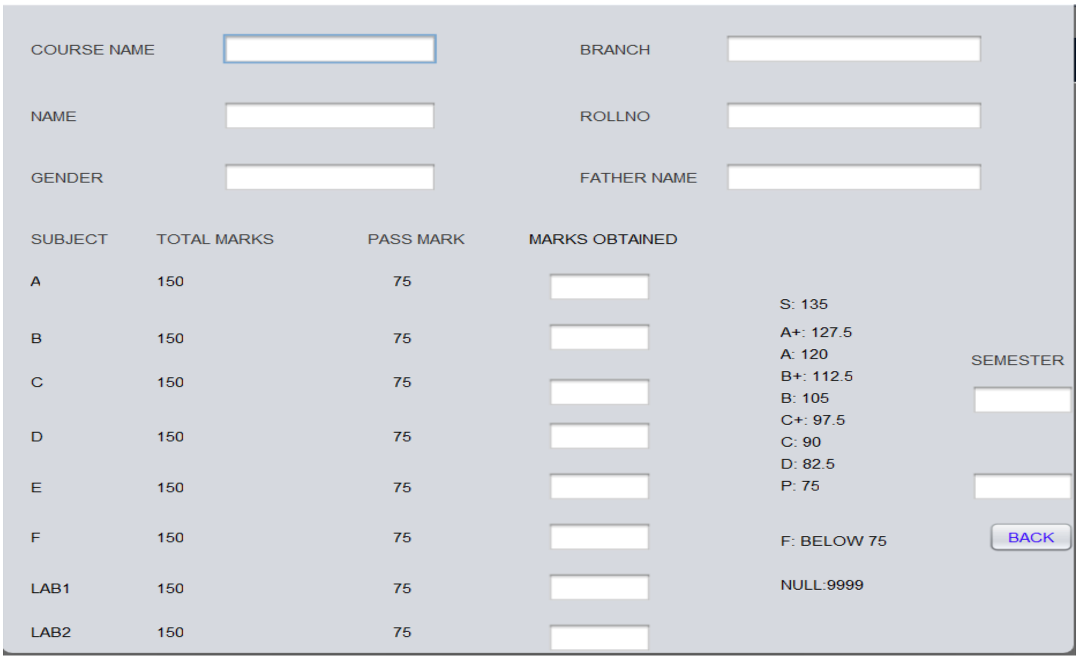


Figure 9.9 Search Result

9.3.2 Student Result



COURSE NAME		BRANCH	
NAME		ROLLNO	
GENDER		FATHER NAME	

SUBJECT	TOTAL MARKS	PASS MARK	MARKS OBTAINED
A	150	75	
B	150	75	
C	150	75	
D	150	75	
E	150	75	
F	150	75	
LAB1	150	75	
LAB2	150	75	

S: 135
A+: 127.5
A: 120
B+: 112.5
B: 105
C+: 97.5
C: 90
D: 82.5
P: 75

F: BELOW 75

NULL:9999

Figure 9.10 Student Result

CHAPTER 10

FUTURE SCOPE AND CONCLUSION

10.1 Future Scope

10.1.1 Integration with emerging technologies:

The future of student result management systems involves seamless integration with emerging technologies such as artificial intelligence (AI), machine learning(ML). Al and ML algorithms can analysis student data to provide insights for personalized leaning pathways and predictive analytics for student success.

10.1.2 Mobile accessibility:

Result management systems will prioritize mobile accessibility, allowing students and administrators to access the system from anywhere, anytime.

10.1.3 Personalized learning pathways:

Future result management systems will offer personalized learning pathways tailored to individual student needs and learning styles. Personalized tutorials sessions, and targeted interventions to address areas of weakness and optimize learning outcomes.

10.1.4 Updates and notifications:

Future result management systems will feature proactive updates and notifications. Automated notifications via email, SMS, or in-app alerts will notify students of new results, upcoming assessments, or changes to academic policies.

CHAPTER 11

CONCLUSION

The project titled as Student Result Management System was deeply studied and analysed to design the code and implement. It was done under the guidance of the experienced project guide.

Throughout the project lifecycle, we successfully achieved several milestones. We designed and developed a user-friendly interface that enables administrators, students to access and manage result easily. Improved transparency and accountability in result management, reducing errors and ensuring data accuracy. Reporting capabilities providing valuable insights into student performance trends for informed decision-making.

A Student Result management System helps educational institutes organize student records efficiently. Unlike manual systems, which scatter information and are prone to redundancy, this project streamlines data collection, saving time and ensuring accuracy.

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