Date:.....

SUPERVISOR'S RECOMMENDATION

It is my pleasure to recommend that a report on "**Result Management System**" has been prepared under my supervision by **Manoj Shrestha, Nisha Rana and Salma Khatun** in partial fulfillment of the requirement of degree of Bachelor of Information and Communication Technology(BICT). This report is satisfactory and is an original work done by them to process for the future evaluation.

…….
Er. Ghan Bahadur Thapa

Project Supervisor
Adikavi Bhanubhakta Campus

Date:.....

CERTIFICATE OF APPROVAL

The undersigned certify that he has read and recommend to the Department of Information of Communication and Technology for acceptance, a project report entitled “Result Management System” submitted by Manoj Shrestha, Nisha Rana and Salma Khatun of the fulfillment of the 5th semester for Software Engineering and Project Management of BICT, Institute of Information and Communication Technology. TU.

……

Er. Ghan Bahadur Thapa
Project Supervisor
Aadikavi Bhanubhakta Campus

……..

Maha Prasad Hadhkale
Campus Chief
Aadikavi Bhanubhakta Campus

Acknowledgement

We would like to acknowledge and special thanks to our project supervisor **Er. Ghan Bahadur Thapa** sir, who took interest in our project and guided us throughout the project by providing all the necessary ideas, information and knowledge for the project. His proper guidance and advice carried us through all the stages of writing this project documentation. We would like to thank our project members for letting this project have more enjoyable moments and for proper comments and suggestions.

We would like to thank to Aadikavi Bhanubhakta Campus for constant guidance and supervision, as well as for providing all the necessary study materials for the successful completion of this project.

Finally, we would like to thank our classmate for letting us through all the difficulties and for providing many valuable suggestions to complete this project successfully.

Manoj Shrestha (76288013)
Nisha Rana (76288016)
Salma Khatun (76288020)

Abstracts

We proposed a web-based desktop application ***Result Management System*** which will be used as a platform for the interaction between the facilitators, students and admins in order to prepare the result fast and efficiently. The main objective of this project is to computerize the paperwork of the result management process. The work will be automated due to this software. This will reduce the time and effort of the colleges and data can be easily accessed by the students with their handy devices. Similarly, it helps to detect the mistakes while entering the marks data and attendances.

This system uses **JAVA** as a programming language with its framework **Swing and JDBC** and **MySQL** as a database for the system. Thus, the main purpose of this system is to reduce time and cost. This system also reduces the amount of paper and time to get the results.

Keywords used: JAVA, Swing, JDBC, MySQL, computerize

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LIST OF ABBREVIATIONS

ABBREVIATION	DESCRIPTION
RMS	School Management System
MYSQL	Structured Query Language (MySQL in database engine)
DFD	Data Flow Diagram
ERD	Entity Relationship Diagram
SDLC	Software Development Life Cycle
RDBMS	Relational Database Management System
JDBC	JAVA Database Connectivity

CHAPTER 1 : INTRODUCTION

1.1 Problem Statement

Recently different colleges of Nepal are facing a lot of problems due to COVID. Students are not able to get the results in proper time as the facilitators cannot meet regularly with the college result section employee/staff. Marks cannot be given in time which delays the result. Similarly, extra staff are required for the result making process and result declaring process which creates a financial hit on the college economy. Also, the students who are far away on vacation have to come to colleges in the middle of vacation in order to get the results. This has a bad reflection on the educational system about not being able to apply the technology in this sector.

1.2 Motivation

The importance of the result is great in today's world. The growth of an individual highly depends upon the quality of result and present college education system. And in a good college the chief objective is to stimulate the interest and curiosity in the students and provide facilities to the students, facilitators and parents to achieve the desired goal in a better and easier way. So the motivation of our project is to make tasks related to result management easy for the students, facilitators and parents.

1.3 Objectives

- ➢ To manage all the information about the facilitators and students.
- ➢ To update the information easily.
- ➢ To provide the results to the students easily.
- ➢ To reduce the time for the result making process.
- ➢ To build a software for result management.
- ➢ To facilitate the attendance entry process of students by facilitators.
- ➢ To computerize the paperwork in the system and automate the work.

1.4 Project Scope

In this era of technology colleges are based on paperwork. This system is the model for the user-friendly and effective management of result processing tasks. The ***Result Management***

System manages the result management process of the administration and provides a popper communication between the students, facilitators, admins and parents.

1.5 Limitations

- ➢ Result info doesn't contain the remarks of the students.
- ➢ Students and facilitators cannot create their own user id.
- ➢ Requires skill and knowledge of computers.
- ➢ It can only mark one at a time.
- ➢ Cost of this system will be expensive.
- ➢ Cannot enter the data without the internet.

1.4 Report Organization

Chapter 1: This chapter explains about the overview, introduction,problem statement, motivations, project scopes and limitations of the system.
Chapter 2: This chapter covers all the history, methods, requirement specification and feasibility analysis and structured system requirements.
Chapter 3: Design of the result management system is explained in detail with all the necessary diagrams and brief functionality.
Chapter 4: Process of implementation and testing is described along with all the tools used for the development.
Chapter 5: Conclusion and future scope of the application are explained.

CHAPTER 2 : REQUIREMENT ANALYSIS

2.1 Literature Review

In ancient result management system were done by paper based, which are very time consuming and often leads to human error. Right now, there are numbers of schools and colleges that have implemented computer base result management system, which are very essential for human life. In general, ***Result Management System*** has managed to ease the task of admins, facilitators, students and others through a multi-function platform.
It is a paperless task that aids in automating current manual procedures and may be remotely monitored and managed on a server-based network. As there is no computerized system to add each record paper will be needed which will increase the cost the management of library.
In past few years, there has been significant change in the government result publishing system. Government and several huge organization have started to publish result using web application website like www.see.ntc.net.np, result.see.gov.np, and many more. Inspired from these platforms, this project has been decided. Like they publish result through the websites all over Nepal, this desktop application also published result for a certain college community. This will be very helpful for a pandemic situation like now. Online Result has been a trend in this present tech-world. So, along with that trend here is the new Result Management System which works online for providing benefit for the school community.
In those government and private platforms, they had to get the database from the government and they needed a manpower for the data entry. But this is a powerful platform for colleges as they do not need to hire an extra manpower to enter marks of the student. Facilitators can enter marks using this desktop application staying anywhere of the world. Time and money of the colleges is saved using this software.

2.2 Problem Definition

The problem occurred before having computerized system includes:

- **File lost**: when computerized system is not implemented file is always lost because of human environment due to some human error there may be a lost of records.
- **File damaged**: when computerized system is not there file is always lost due to some accident like of water by some member on file accidentally. Besides some natural disaster like floods or fire may also damage the files.
- **Difficult to search result**: when there is no computerized system there is always difficulty in searching of records if the records are large in number.

- **Space consuming**: After the number of records become large the space for physical storage of file and records also if no computerized system is not implemented.

2.3 Requirement Analysis

In our project, we have collected list of documents with sufficient and necessary requirements for the project development.

To derive the requirements, we have done better understanding of the products under development which we achieved through detailed and continuous communications with the project team throughout the software development process.

2.3.1 Functional Requirement (Use Case)

1. Add Facilitator Info: - Admins and facilitators can update facilitator info in the system.

2. View Facilitator Info:- Admins, facilitators and students can view facilitator info provided by the admin the instructor section.

3. Add Student Info: - Admins and facilitators can update student info in the system.

4. View Student Info: - Admin, facilitators and students can view student info in the system.

5. Add Marks Info: - Admin and facilitator can add marks to the system.

6. View Marks Info :- Users can view aggregate marks of the student.

7. Auto management:- System verifies login-id and provides all information automatically.

8. Show management system: - If the system is validated it then the system displays homepage.

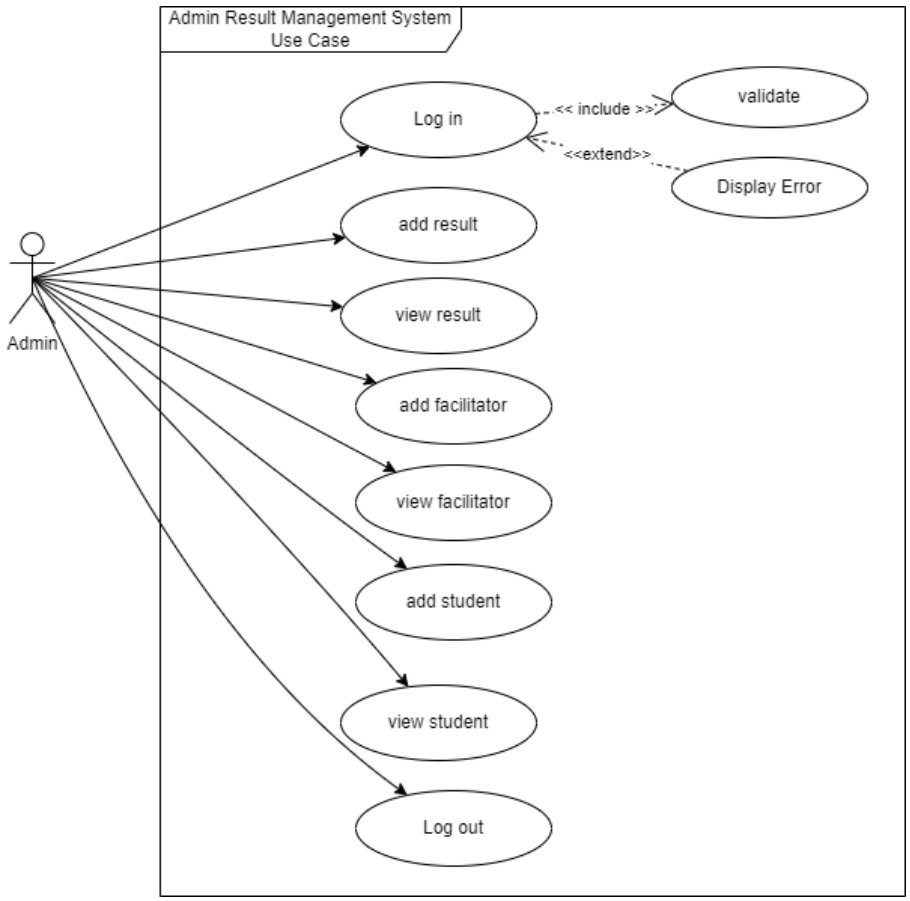


Fig 1: Use Case - Admin

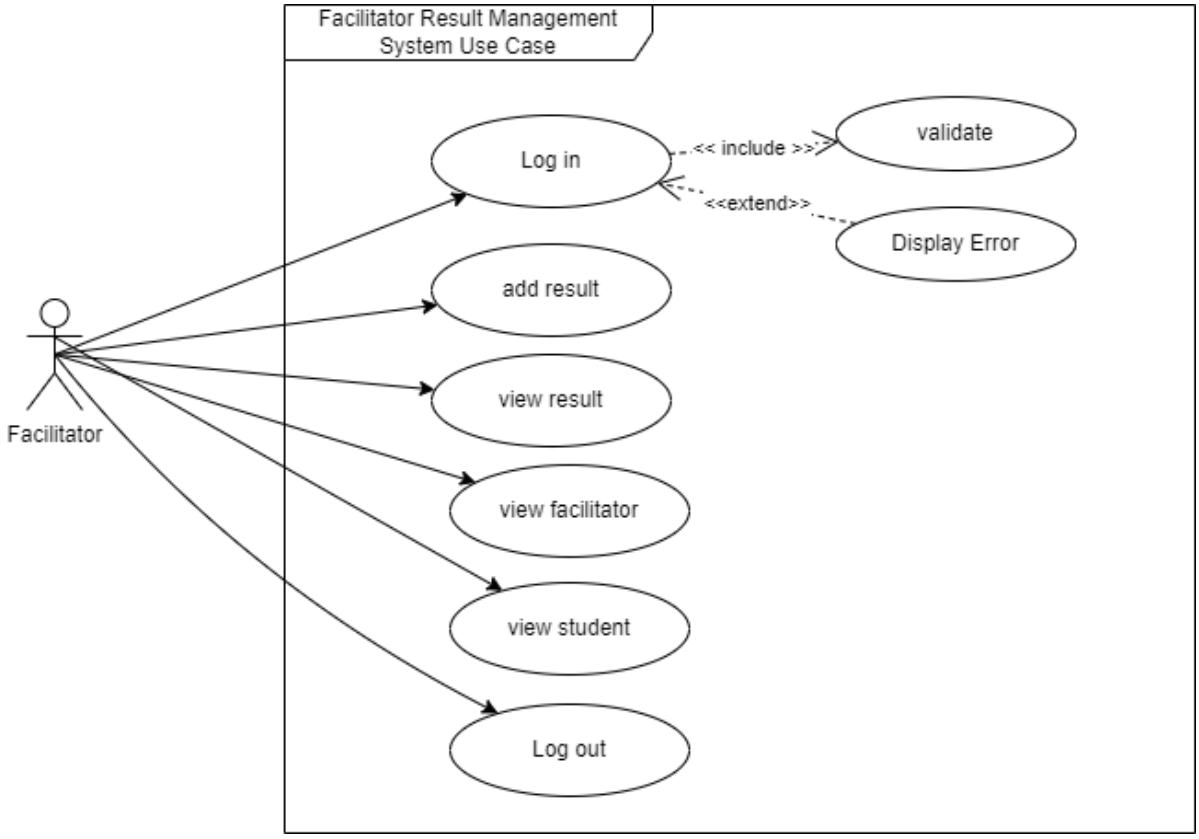


Fig 2: Use Case - Facilitator

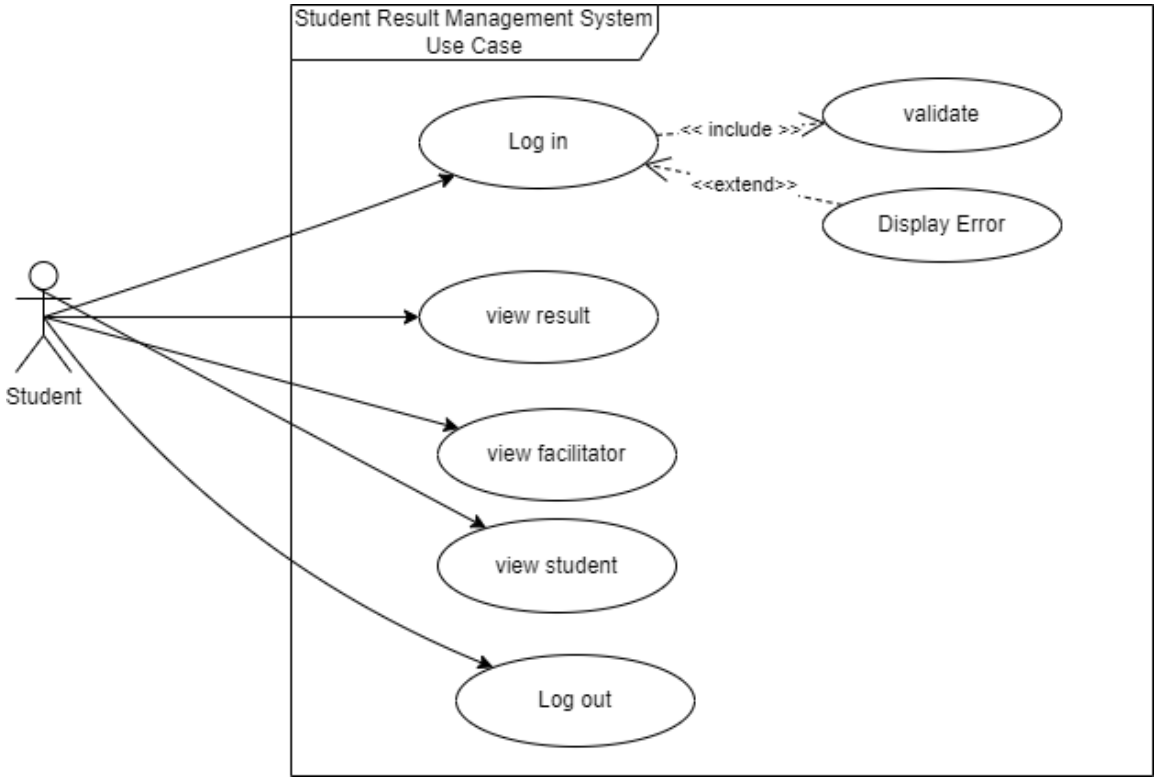


Fig 3: Use Case - Student

2.3.1.1 Use Case Template

Use Case Id:	1.0
Use Case Name:	Log In
Created By:	Manoj,Nisha,Salma Last updated by:
Date Created:	December 25, 2022 Date last updated:
Actor(s):	Student, Facilitator, Admin
Description:	This use case allows users to login into the system and perform different functions according to the user roles. All the users have to enter their unique username and password.
Precondition:	Users have to validate their account.
Post-condition:	System displays the relevant homepage.
Normal Courses:	Users enter the username and password.. System validates the username and password. System verifies the username and password. System detects the user type. System displays the relevant homepage. The use case ends.
Alternative Courses:	1a. Upon missing username and password: System prompts for empty username and password. The use case resumes at step 1.
Exceptions:	Nil
Includes:	
Priority:	High
Frequency of use:	24 hours a day
Business Rule:	User must login through a registered and verified account.
Special Requirement:	
Assumptions:	Nil

Use Case Id:	2.0
Use Case Name:	Add Facilitator
Created By:	Manoj, Nisha, Salma Last updated by:
Date Created:	December 25, 2022 Date last updated:
Actor(s):	Admin
Description:	Admin can add facilitator info in the add facilitator section.
Precondition:	Admin login into the system. Admin opens the add facilitator section.
Post-condition:	Admin can add the facilitator info.
Normal Courses:	Admin enter the username, password, class, subject, id, phone number, email of the facilitator. System validates the details. System stores the details in database. The use case ends.
Alternative Courses:	1a. Upon not entering facilitator info: Prompts an message with empty field.
Exceptions:	User's don't add the facilitator info.
Includes:	
Priority:	Low
Frequency of use:	24 hours a day
Business Rule:	
Special Requirement:	
Assumptions:	Nil
Notes and Issues:	
Use Case graphics:	

Use Case Id:	2.1
Use Case Name:	View Facilitator
Created By:	Manoj, Nisha, Salma Last updated by:
Date Created:	December 25, 2022 Date last updated:
Actor(s):	Admin,Student,Facilitator
Description:	Users can view facilitator info provided by the admin in the view facilitator section.
Precondition:	1.Users login into the system. 2.Users opens the view facilitator section.
Post-condition:	1.Users can view the facilitator info.
Normal Courses:	1.Users get the facilitator details. 2.The use case ends.
Alternative Courses:	1a. Upon not getting facilitator info: 1. Shows an empty page with no info message.
Exceptions:	1.User's don't view the facilitator info.
Includes:	
Priority:	Low
Frequency of use:	24 hours a day
Business Rule:	
Special Requirement:	
Assumptions:	Nil
Notes and Issues:	
Use Case graphics:	

Use Case Id:	3.0
Use Case Name:	Add Student
Created By:	Manoj, Nisha, Salma Last updated by:
Date Created:	December 25, 2022 Date last updated:
Actor(s):	Admin
Description:	Admin can add student info in the add student section.
Precondition:	1.Admin login into the system. 2.Admin opens the add student section.
Post-condition:	1.Admin can add the student info.
Normal Courses:	1.Admin enter the username, password, class, id, phone number, email of the student. 2.System validates the details. 3.System stores the details in database. 4.The use case ends.
Alternative Courses:	2a.Upon not entering student info: 1. Prompts an message with empty field.
Exceptions:	1.User's don't add the facilitator info.
Includes:	
Priority:	Low
Frequency of use:	24 hours a day
Business Rule:	
Special Requirement:	
Assumptions:	Nil
Notes and Issues:	
Use Case graphics:	

Use Case Id:	3.1
Use Case Name:	View Student
Created By:	Manoj, Nisha, Salma Last updated by:
Date Created:	December 25, 2022 Date last updated:
Actor(s):	Admin,Student,Facilitator
Description:	Users can view student info provided by the admin in the view student section.
Precondition:	Users login into the system. Users opens the view student section.
Post-condition:	Users can view the student info.
Normal Courses:	Users get the student details. The use case ends.
Alternative Courses:	1a. Upon not getting student info: Shows an empty page with no info message.
Exceptions:	Users don't view the student info.
Includes:	
Priority:	Low
Frequency of use:	24 hours a day
Business Rule:	
Special Requirement:	
Assumptions:	Nil
Notes and Issues:	
Use Case graphics:	

Use Case Id:	4.0
Use Case Name:	Add Result
Created By:	Manoj, Nisha, Salma Last updated by:
Date Created:	December 25, 2022 Date last updated:
Actor(s):	Admin, Facilitator
Description:	Admin and facilitator can add marks info in the add marks section but facilitator can add marks according to the subject he has been granted.
Precondition:	1.Admin and facilitator login into the system. 2.Admin and facilitator opens the add marks section.
Post-condition:	1.Admin and facilitator can add the marks info.
Normal Courses:	1.Admin enter the respective subject marks. 2.System calculates the total and percentage of the marks. 3.System stores the details in database. 4.The use case ends.
Alternative Courses:	1a.Upon not entering marks info: 1. Prompts an message with empty field.
Exceptions:	1.Admin or facilitator's don't add the marks info.
Includes:	
Priority:	High
Frequency of use:	24 hours a day
Business Rule:	
Special Requirement:	Students must have their username and password.
Assumptions:	Nil
Notes and Issues:	
Use Case graphics:	

Use Case Id:	4.1
Use Case Name:	View Result
Created By:	Manoj, Nisha, Salma Last updated by:
Date Created:	December 25, 2022 Date last updated:
Actor(s):	Admin,Student,Facilitator
Description:	Users can view student info provided by the admin in the view marks section.
Precondition:	1.Users login into the system. 2.Users opens the view marks section.
Post-condition:	1.Users can view the marks info.
Normal Courses:	1.Users get the marks details. 2.The use case ends.
Alternative Courses:	1a. Upon not getting marks info: 1. Shows an empty page with no info message.
Exceptions:	1.Users don't view the marks info.
Includes:	
Priority:	High
Frequency of use:	24 hours a day
Business Rule:	
Special Requirement:	Students must have their username and password.
Assumptions:	Nil
Notes and Issues:	
Use Case graphics:	

Use Case Id:	1.0
Use Case Name:	Log out
Created By:	Manoj,Nisha,Salma Last updated by:
Date Created:	December 25, 2022 Date last updated:
Actor(s):	Student, Facilitator, Admin
Description:	This use case allows users to log out from the system to return back to the login page.
Precondition:	1.Users have to login into their account.
Post-condition:	1.System displays the login page erasing all the previous sessions..
Normal Courses:	1.Users click on the log out button. 2.System erases the session of the users. 3.System redirect the user to login page. 4.The use case ends.
Alternative Courses:	1a. When user doesn't click on the log out button: ❖ User remain logged in.
Exceptions:	Nil
Includes:	
Priority:	Medium
Frequency of use:	24 hours a day
Business Rule:	User must login through a registered and verified account.
Special Requirement:	
Assumptions:	Nil

2.3.2 Non-functional Requirement

1. **Security**: - Only authorize users can access the system with username and password
2. **Performance**: - Easy tracking of records and update can be done.
3. **User Friendly**: - The system is very interactive.
4. **Availability**: The system is available all the time, no time constraint

2.4 Feasibility Study

Feasibility study is an analysis of how successfully a project can be completed, accounting for factors that effect it such as economic, technical, legal and other factors, Similarly, we use feasibility studies to determine potential positive and negative outcomes of a project before investing a considerable amount of time and money into it..

2.4.1 Economic feasibility

Economic feasibility is done in order to know whether the project is benefit-able or not. In economic feasibility we compare the cost and benefit involved in the system before, during and after the system has been completed. Here, the time is also considered to be as capital. Economic feasibility is done through several methods.

2.4.1.1 Payback Analysis

2.4.1.2 Return on Investment

ROI is the percentage rate that measures the relationship between the amounts business get back from the investment and the amount invested.
Lifetime ROI = (Estimated lifetime benefits - Estimated lifetime costs)/Estimated lifetime costs
So,
Estimated lifetime costs = Rs. 15000
Estimated lifetime benefits = Rs. 60000

Lifetime ROI = (60000-15000)/15000
=45000/15000
=3%

RMS is likely to give us 3% benefit from the project in our lifetime duration until its use for a particular organization.

2.4.1.3 Net Present Value

2.4.2 Technical feasibility

Our system is built for any type of operating system. It can upgrade to the upgrades of software engineering principles.It uses JAVA as main programming language for production in which we can add new classes and modules as per the requirement.

Hardware Specification

- Laptop/Desktop

Software Specification

- SQL Server
- Intellij IDEA
- Windows/Linux

- Diagram Tool - draw.io

Each of the above resources are freely available and technical skills required are manageable.

Initially this desktop application will be provided locally through emails but later after it gets finished it will be available on different stores.Bandwidth application in this application is very low as it doesn't contain any multimedia aspect.

2.4.3 Legal feasibility

RMS uses the freely available tools and will be easily available to the users. Only the maintenance cost will be charged from the main potential members.

This system is available for people for every background people. So it doesn't cause any legal problems in the society.

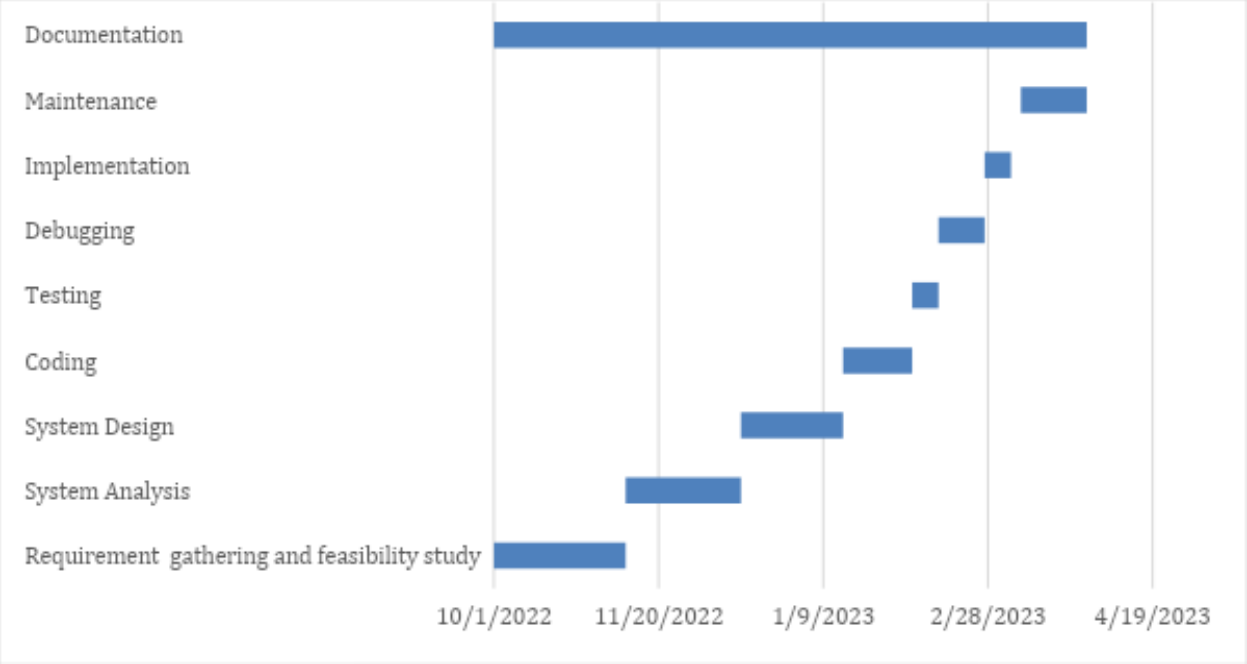
2.4.5 Operational feasibility

In operational feasibility,we look at the available resources whether they are available or not.

- RMS makes easy and fast for the access of the result and making it. Students can access 24 hrs after the result has been published. After the publish of the result students can access their reports 24 by 7. Next time the result will be updated. So it is feasible.
- This saves a lot of time for the admin and teachers along with students which gives a plus benefit for the user.
- After this system is developed, it will be surely used by the schools as they need this.
- There are sufficient developers so this project can be developed in time.
- The database will be well protected under certain security. Hence, information of the user will be secure.
- RMS has been started from the users needs of Result Making Software. So it will be feasible.

The above factors determines that RMS is operationally feasible.

2.4.6 Schedule feasibility



	Starting	Ending	Duration
Requirement gathering and feasibility study	10/1/2022	11/10/2022	40
System Analysis	11/10/2022	12/15/2022	35
System Design	12/15/2022	1/15/2023	31
Coding	1/15/2023	2/5/2023	21
Testing	2/5/2023	2/13/2023	8
Debugging	2/13/2023	2/27/2023	14
Implementation	2/27/2023	3/7/2023	8
Maintenance	3/10/2023	3/30/2023	20
Documentation	10/1/2022	3/30/2023	180

2.4.7 Risk feasibility

While doing the project there are certain risk involved in that process . So here are what could be the risk in our project.

1. Will the project run on Linux OS too?
   Yes, this project is platform independent that means it can run on Linux OS too.
2. Will it get hanged or not ?
   It doesn't use multimedia aspects so it takes less bandwidth. It is less likely to get hanged as it takes less memory and less internet package..
3. Does this need any technical skills?
   As it will be based on GUI system. A user with little knowledge of English language will be able to use this application easily.

4. Will this create a market or not ?

As nowadays there is time to time lockdown and all that problem is good to make our project successful. Schools are forced to take exams and publish result online. So, our project will take up the market.

5. Can the change in project be tracked throughout the software life cycle process?

GIT will be used to track the change that happen in the application.

6. Will the old algorithm be applicable for the result making process?

In order to solve this, a new algorithm will be generated for the result making process.

2.5 Structuring System Requirements

2.5.1 ER Diagram

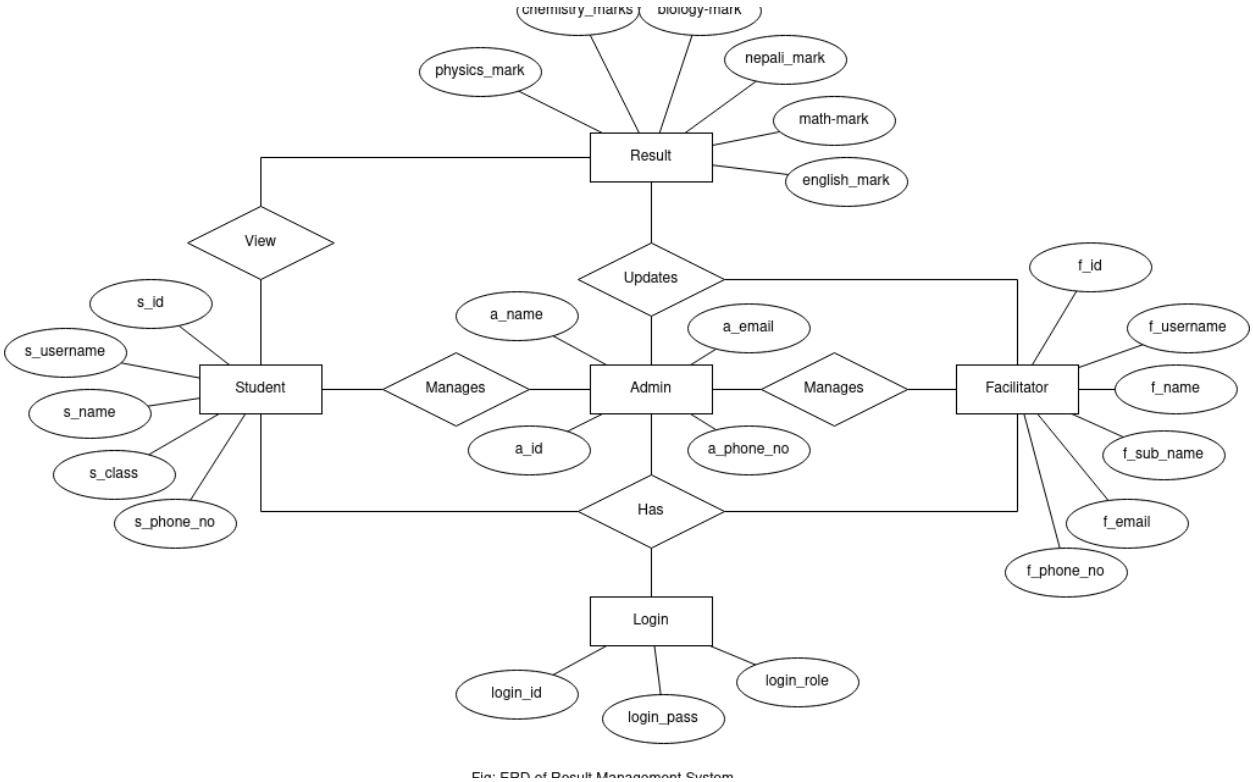


Fig 4: ER Diagram

The above diagram explains the relationship between the database where rectangle represents entity, oval represents attributes and Diamond represents relation. There are three entities with their respective attributes. Admin acts as one of the entities and has attributes like admin_ id, admin_ name, admin_ phone_no, admin_email. And another entity Facilitator acts as another entity and it has attributes like facilitator_ id, facilitator_ name, facilitator_class, facilitator_sub_name,facilitator_email, facilitator_phone_no. The student is another entity and it

has attributes like student_ id, students_ name,student_class, and student_phone_no. The login includes login_id,login_pass and login_role.

2.5.2 Process Modeling(DFD Level-0)

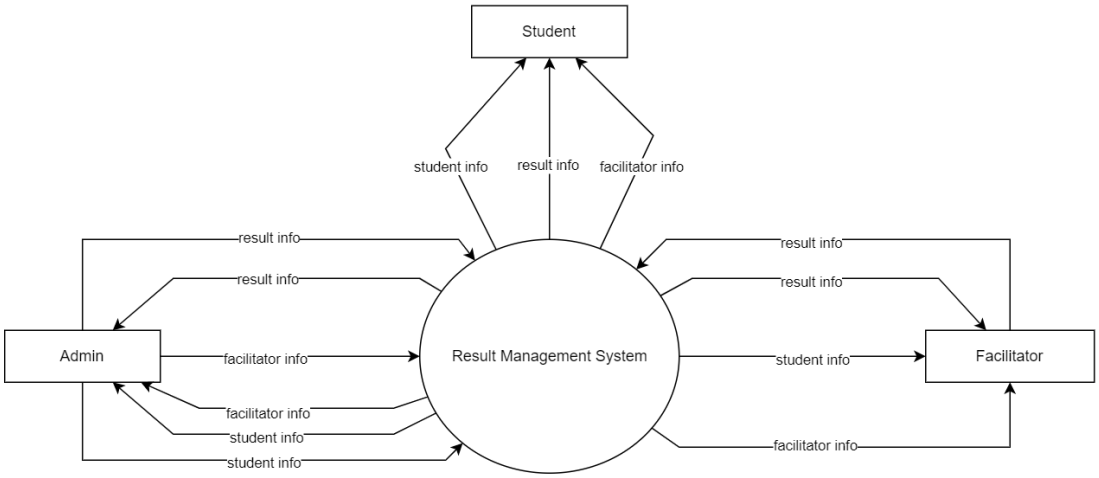


Fig: Level 0 DFD of Result Management System

Fig 5: Level - 0 DFD

The above diagram shows the DFD zero level where system manages the students Information. It's a basic overview of the whole Result Management system where student's login to the system. System takes the students information and sends data to students ID. Admin performs updating data and adding new students records in addition admin manages student's data, facilitators data and courses information and update report.

2.5.3 Process Modeling(DFD Level-1)

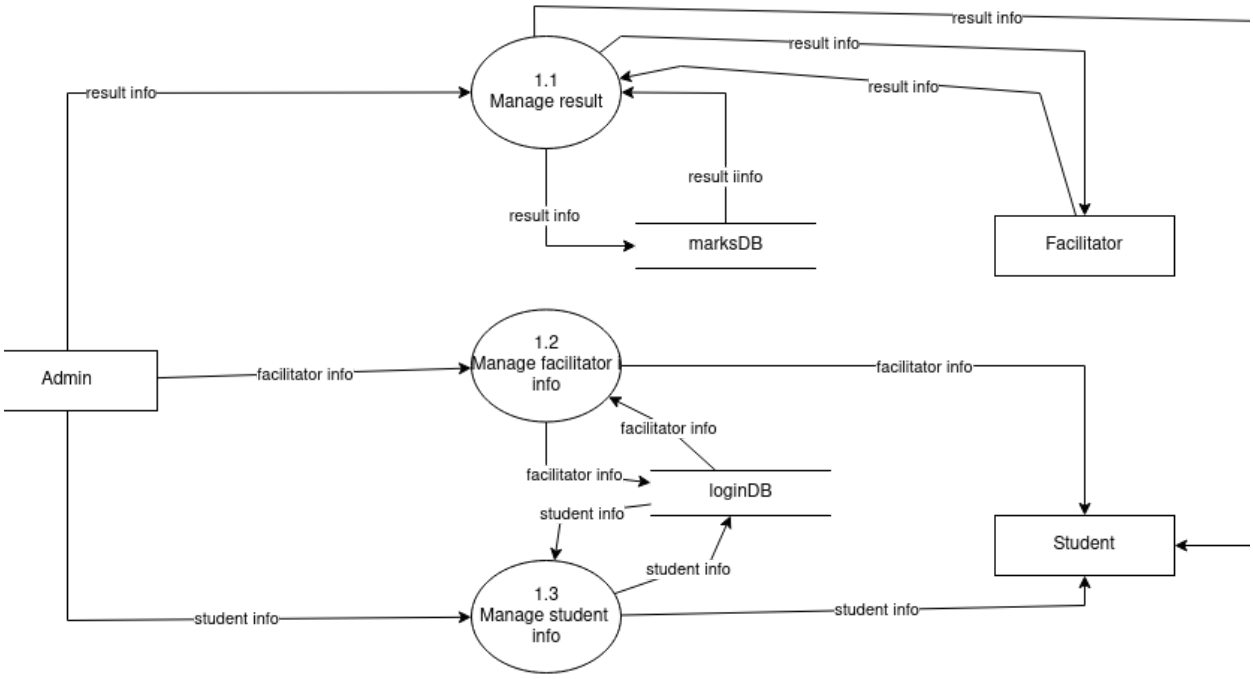


Fig: Level 1 DFD of Result Management System

Fig 6: Level 1 DFD

The above diagram is the DFD level-1, where it explains the working process of system. These procedures require information such as record of students, enrolls, transactions and instructors from which served as the bases for the Result Management System. There is login process in the system which is authenticated and authorized by admin. Students' login to the system via email_ id then system verify it. If student_ id is validated then the system opens the home page, if the id is invalidated then the system notifies unauthorized.

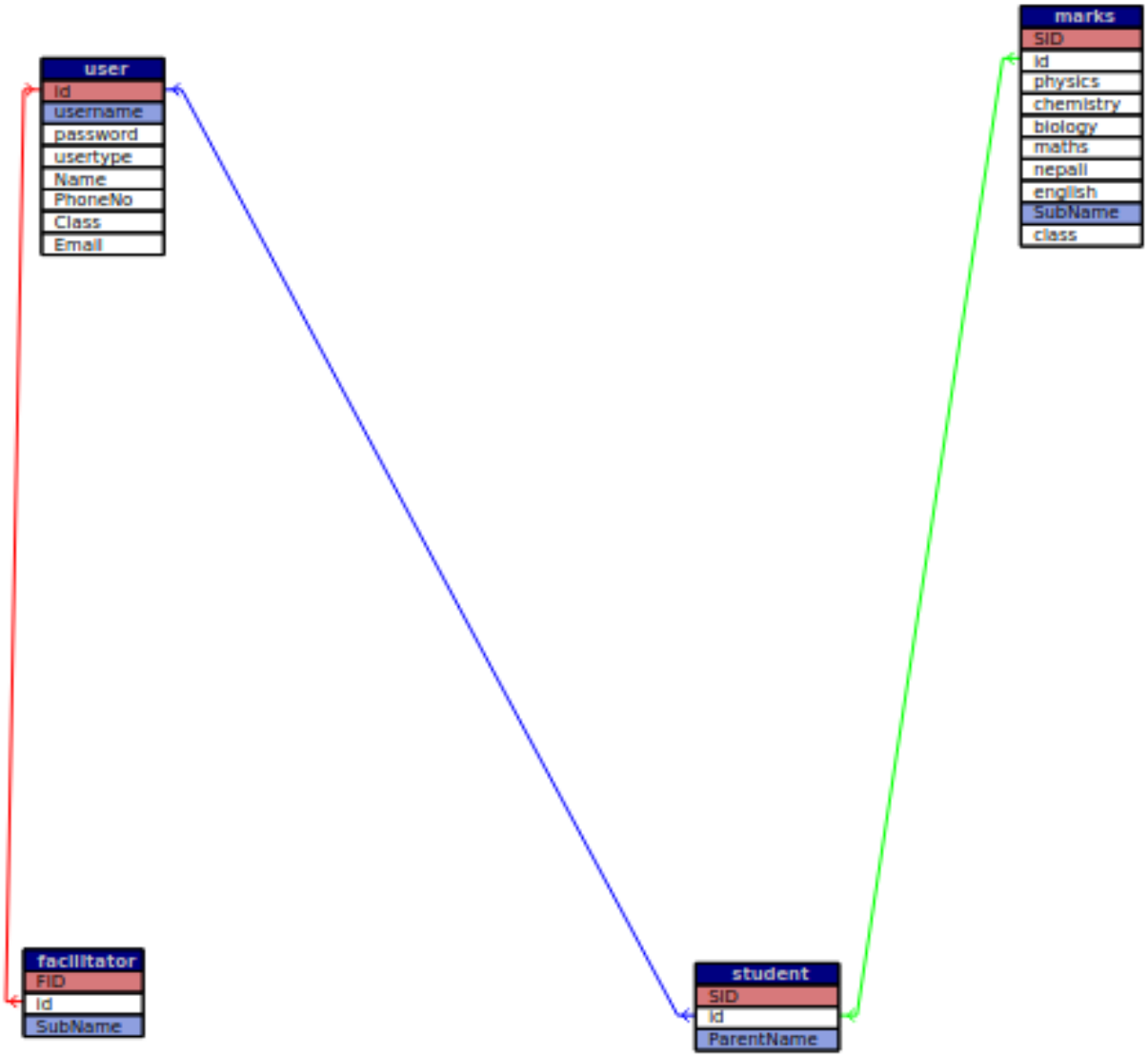
CHAPTER 3 : SYSTEM DESIGN

3.1 System Architecture and Overview

System Design is the process of designing the architecture, components, and interfaces for a system so that it meets the end-user requirements. The designs can be defined in graphical or textual modelling languages. Also, it is the process of creating or altering systems, along with the processes, practices, models. And methodologies used to develop them.
We have developed “Result Management System” which require Web-server for its functioning. To use this system we need a JAVA, laptop / desktop and the users.

3.2 System Design

3.2.1 Database Schema



3.2.1 Data Dictionary

\

marks

Column	Type	Null	Default	Links to	Comments	Media type
SID *(Primary)*	int(11)	No				
id	int(11)	No		student -> id		
physics	int(11)	No				
chemistry	int(11)	No				
biology	int(11)	No				
maths	int(11)	No				
nepali	int(11)	No				
english	int(11)	No				
SubName	varchar(100)	No				
class	int(11)	No				

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	SID	0	A	No	
id	BTREE	No	No	id	0	A	No	

student

Column	Type	Null	Default	Links to	Comments	Media type
SID *(Primary)*	int(11)	No				
id	int(11)	No		user -> id		
ParentName	varchar(100)	No				

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	SID	0	A	No	
id	BTREE	No	No	id	0	A	No	

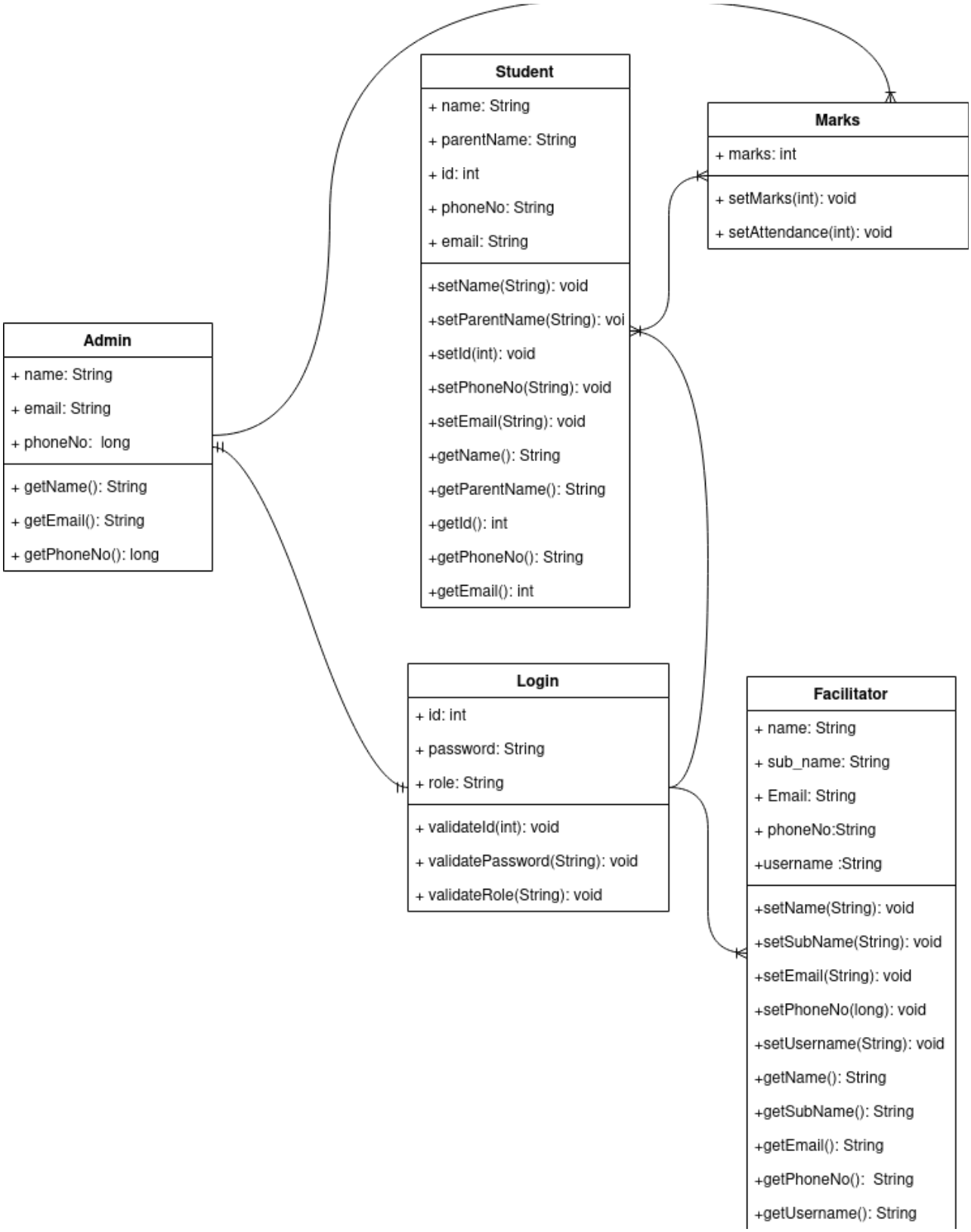
user

Column	Type	Null	Default	Links to	Comments	Media type
id *(Primary)*	int(11)	No				
username	varchar(20)	No				
password	varchar(20)	No				
usertype	varchar(15)	No				
Name	varchar(100)	Yes	*NULL*			
PhoneNo	varchar(100)	Yes	*NULL*			
Class	varchar(100)	Yes	*NULL*			
Email	varchar(100)	Yes	*NULL*			

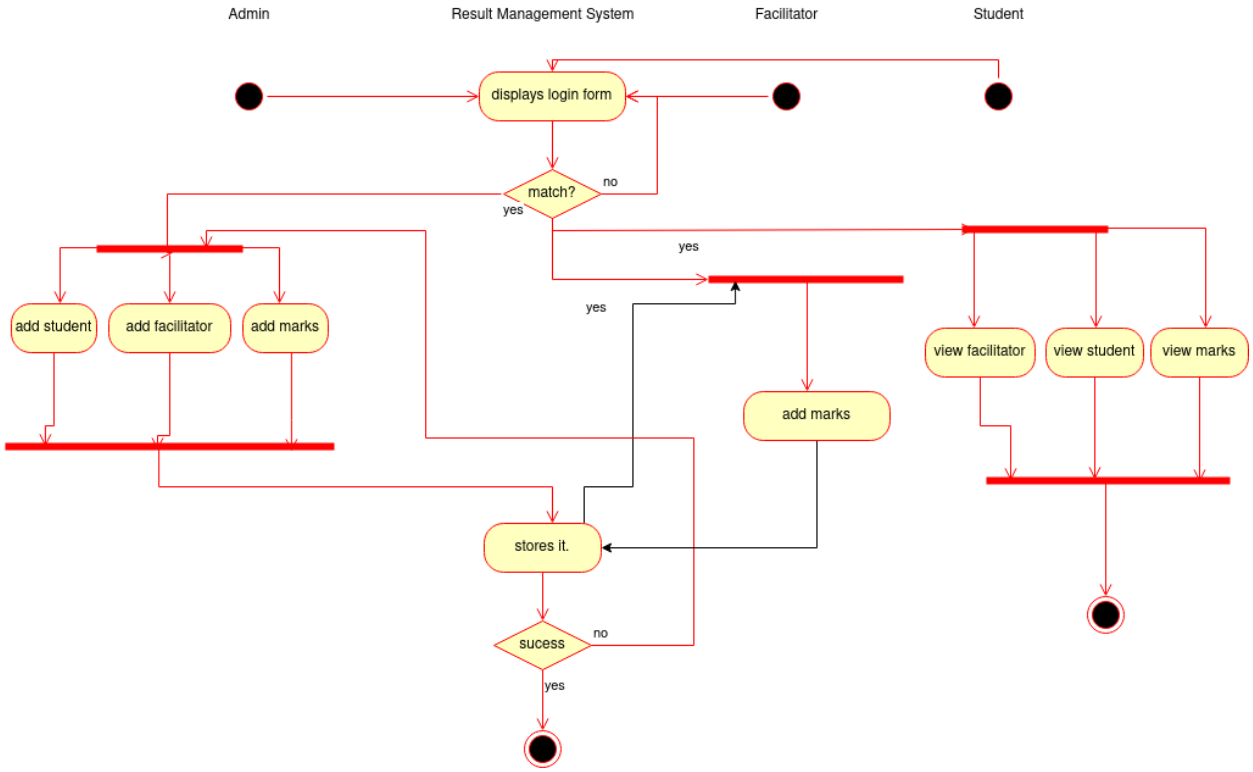
Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	0	A	No	

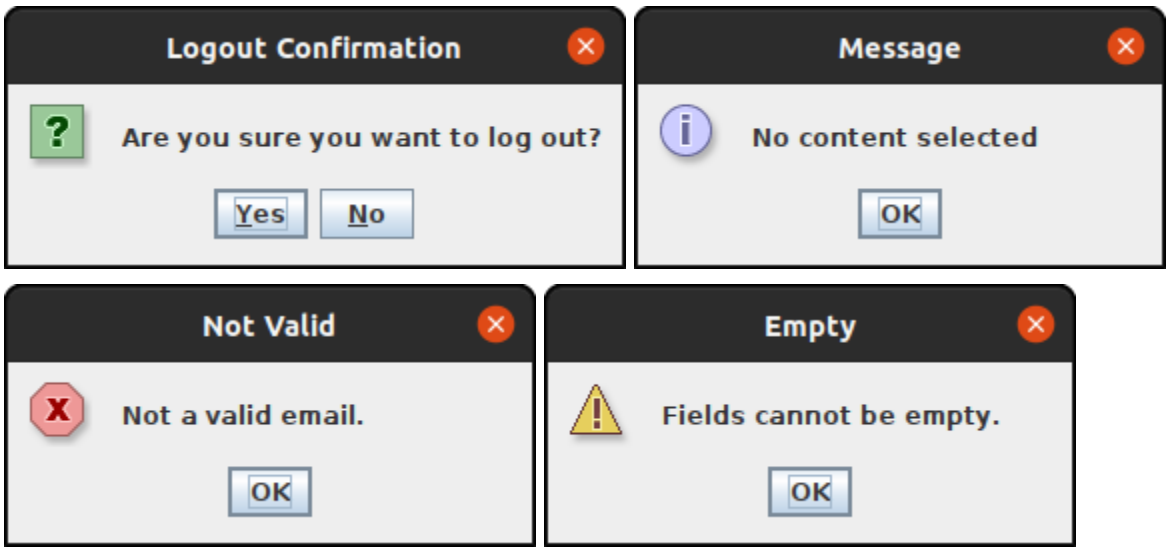
3.2.2 UML Class Diagram

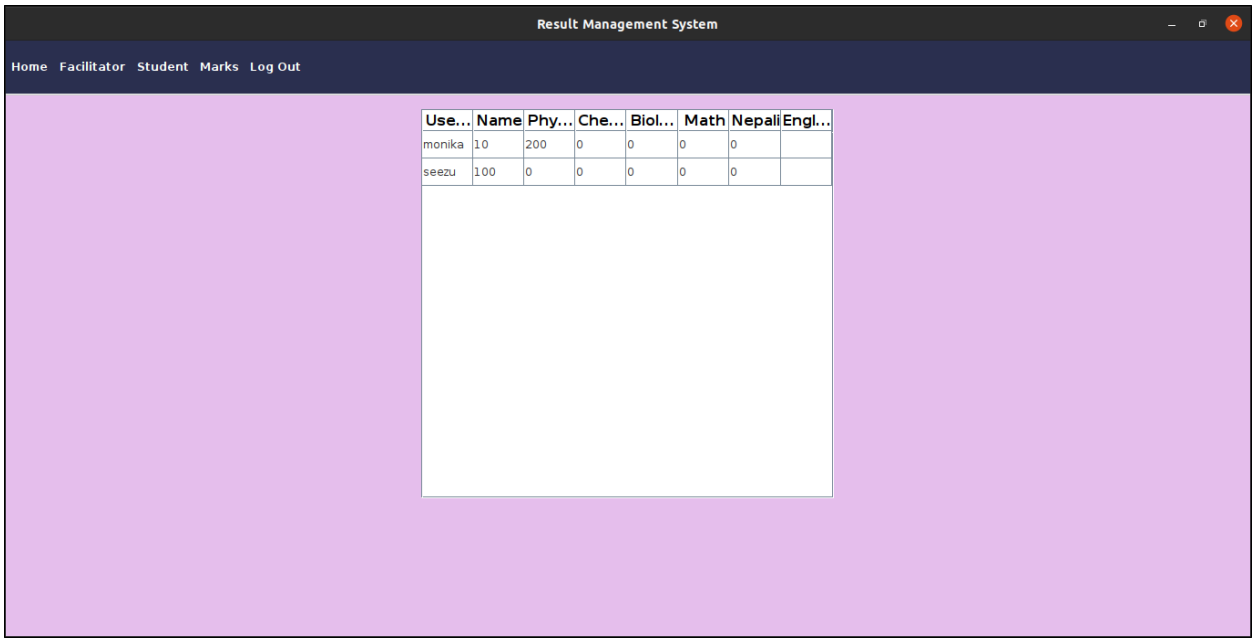


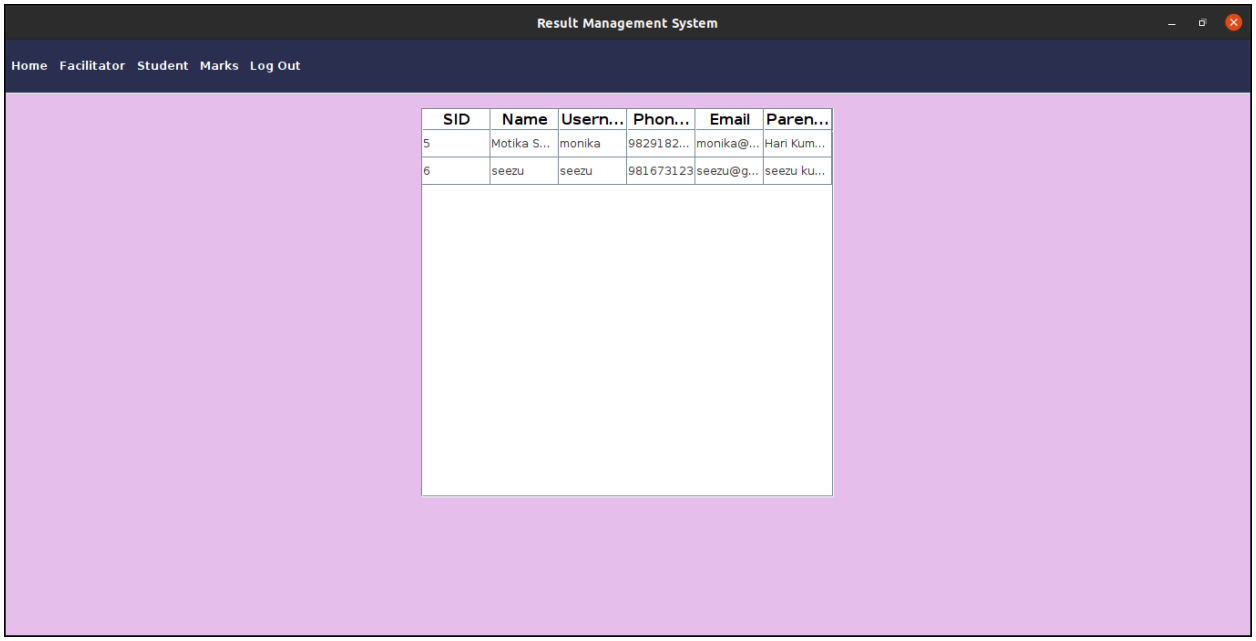
3.2.3 UML Activity Diagram

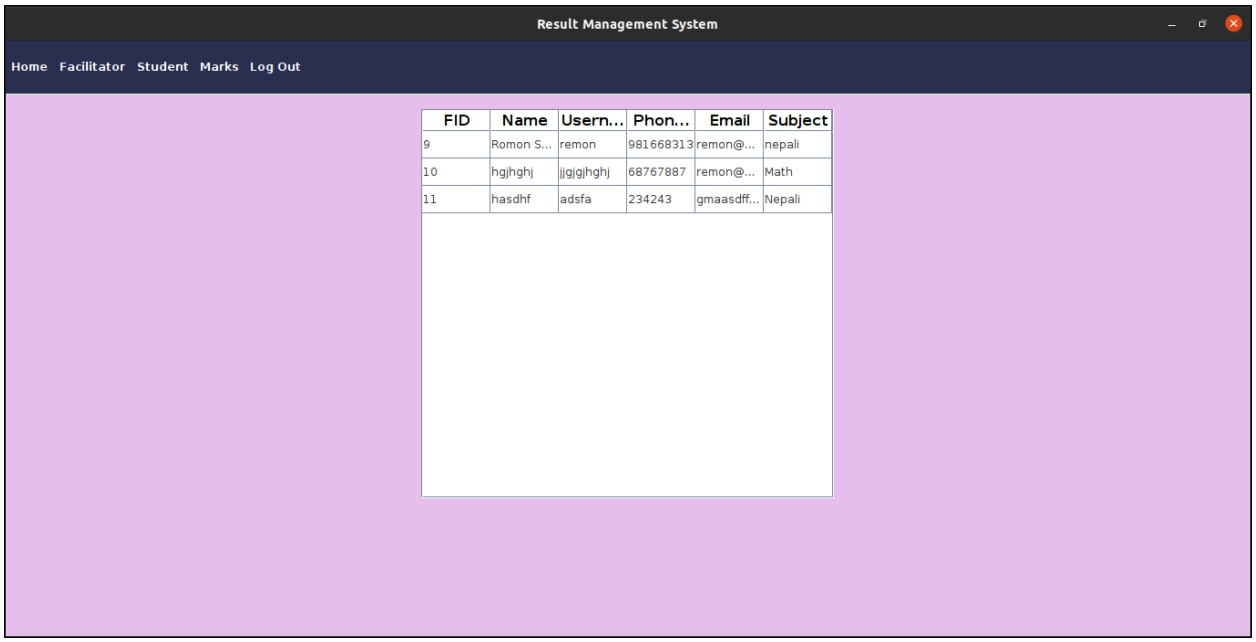


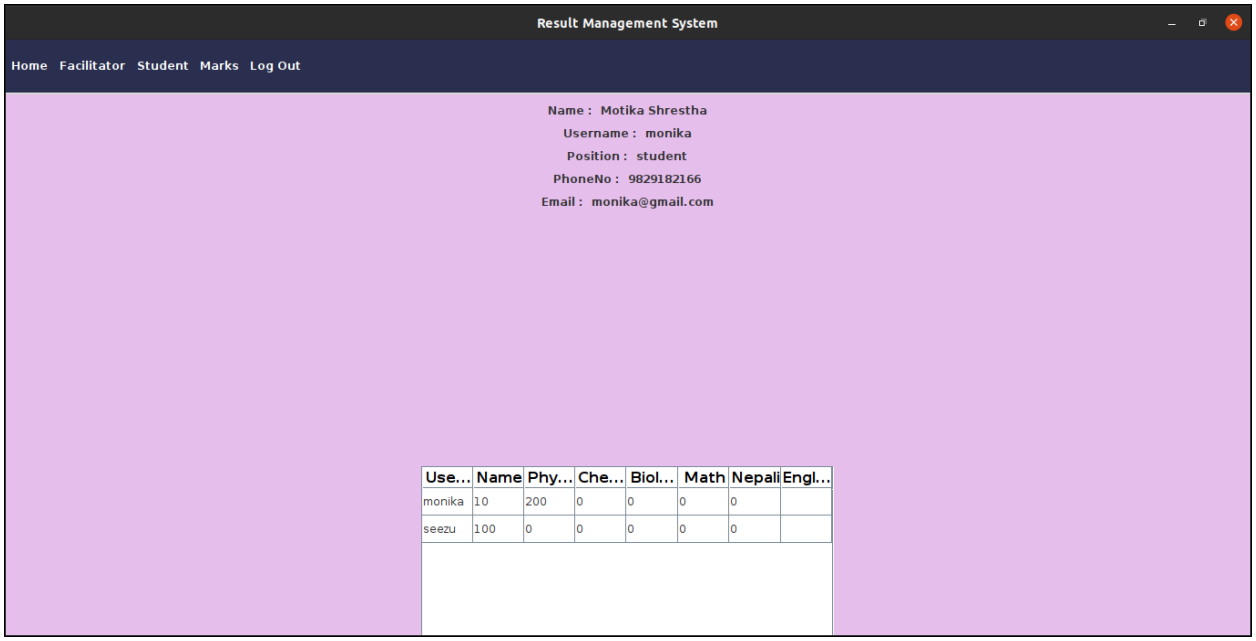
3.3 Interface Design

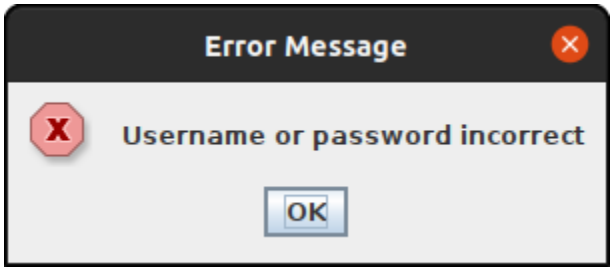


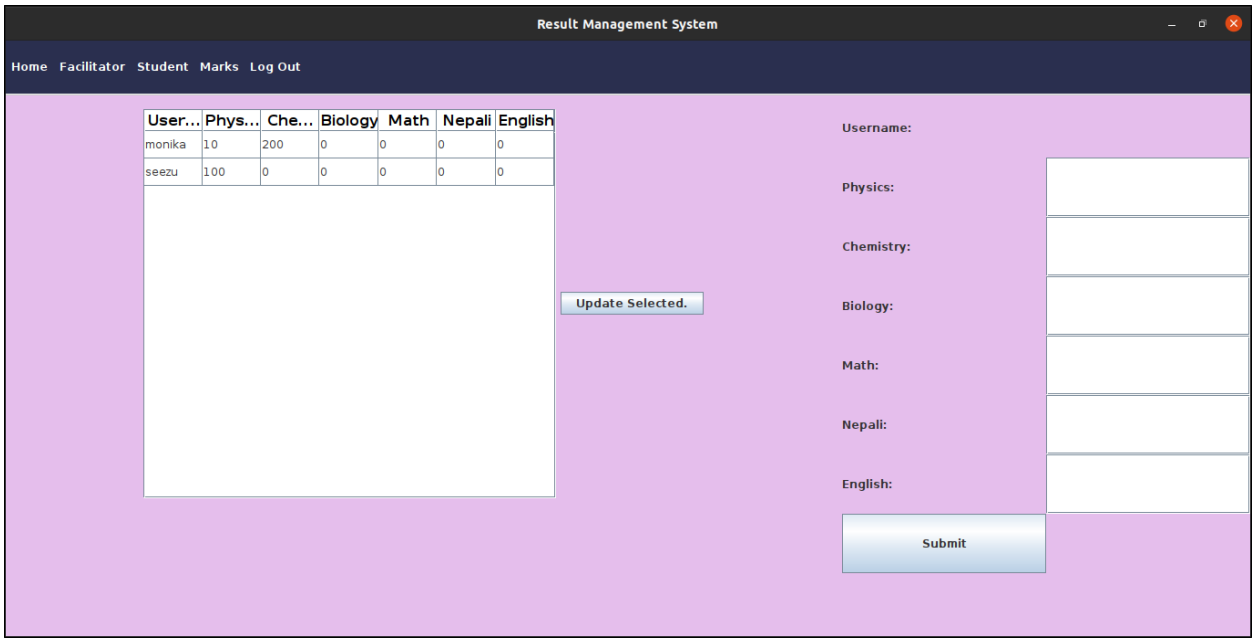

Result Management System
Home Facilitator Student Marks Log Out
Use... Name Phy... Che... Biol... Math Nepali Engl...
monika 10 200 0 0 0 0
seezu 100 0 0 0 0 0

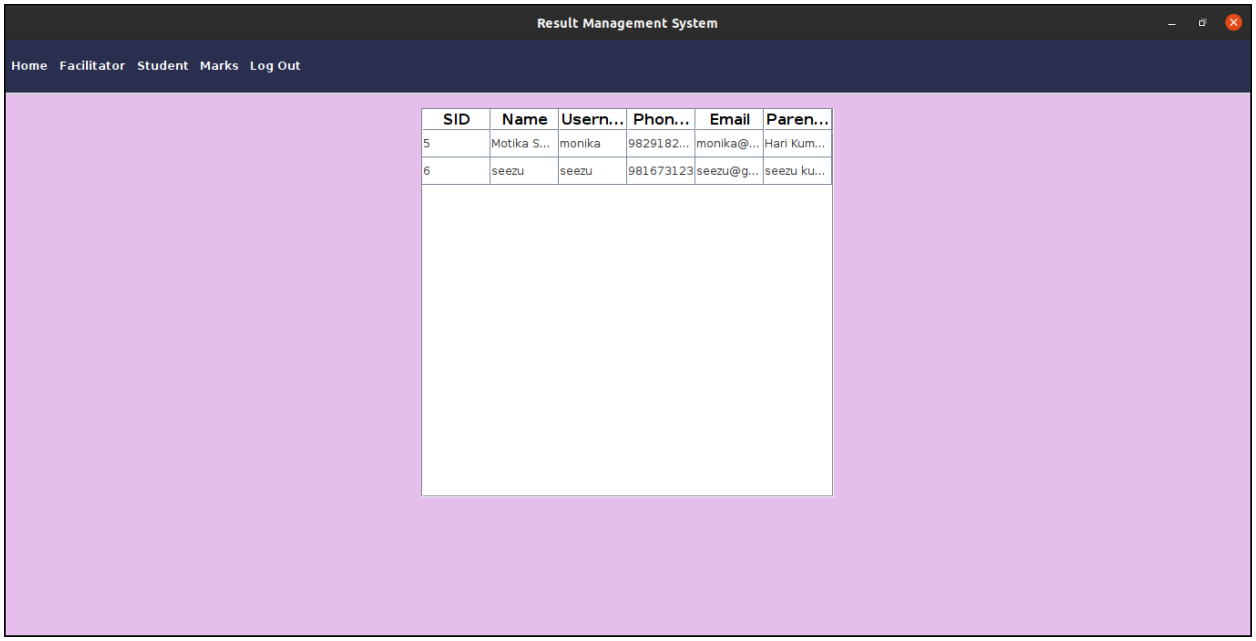

Result Management System
Home Facilitator Student Marks Log Out
SID Name Usern... Phon... Email Paren...
5 Motika S... monika 9829182... monika@... Hari Kum...
6 seezu seezu 981673123 seezu@g... seezu ku...

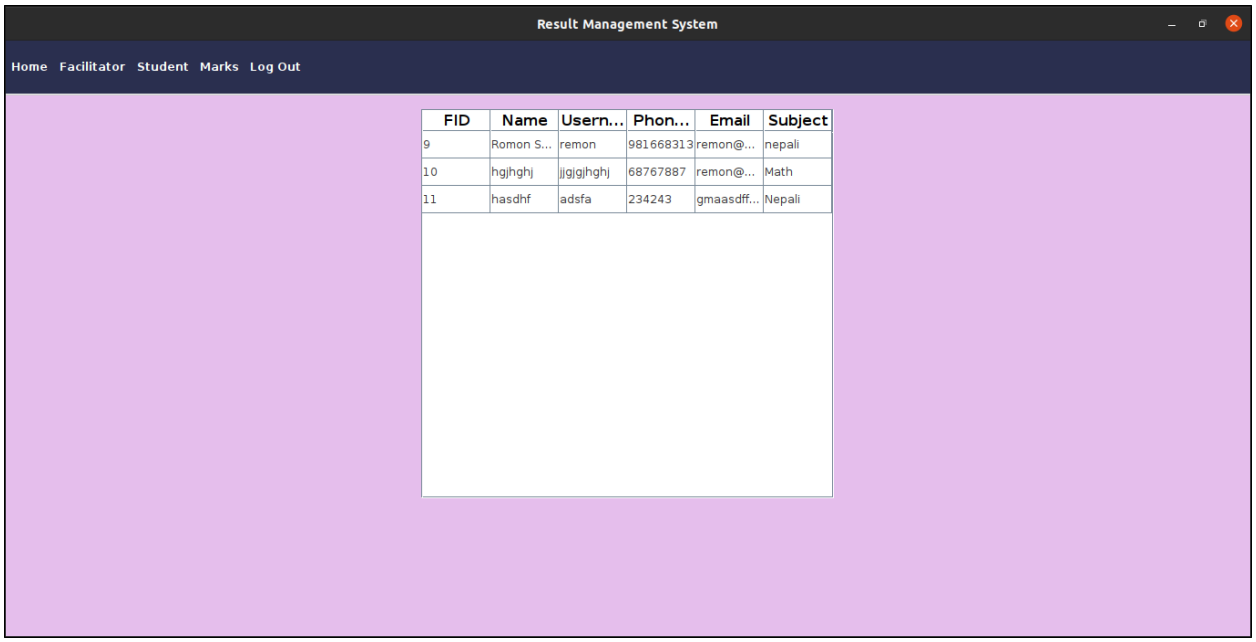

Result Management System
Home Facilitator Student Marks Log Out
FID Name Usern... Phon... Email Subject
9 Romon S... remon 981668313 remon@... nepali
10 hgjhghj jjgjgjhghj 68767887 remon@... Math
11 hasdhf adsfa 234243 gmaasdff... Nepali


Result Management System
Home Facilitator Student Marks Log Out
Name : Motika Shrestha
Username : monika
Position : student
PhoneNo : 9829182166
Email : monika@gmail.com
Use... Name Phy... Che... Biol... Math Nepali Engl...
monika 10 200 0 0 0 0
seezu 100 0 0 0 0 0

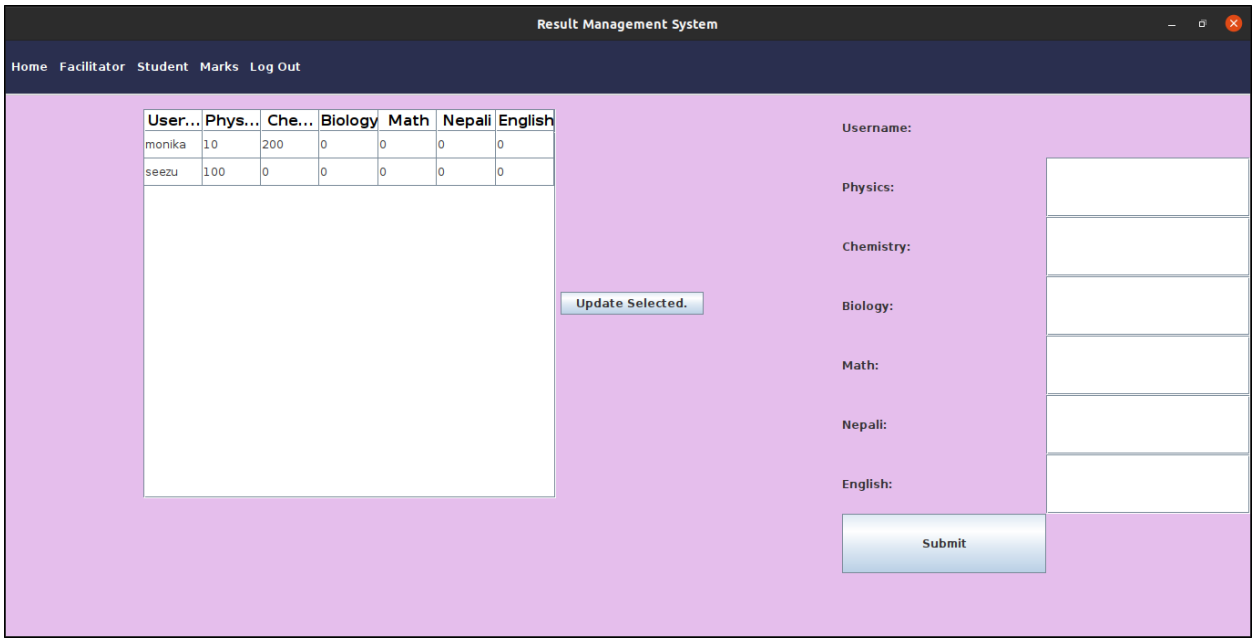

Error Message
Username or password incorrect
OK

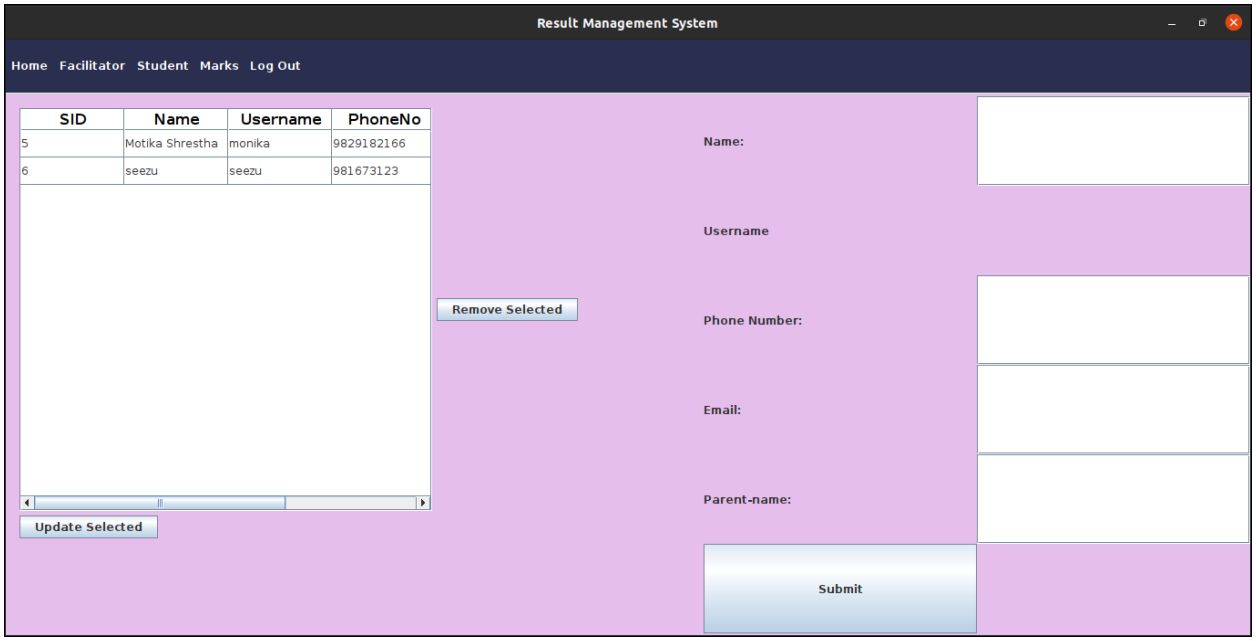

Result Management System
Home Facilitator Student Marks Log Out
User... Phys... Che... Biology Math Nepali English
monika 10 200 0 0 0 0
seezu 100 0 0 0 0 0
Update Selected.
Username:
Physics:
Chemistry:
Biology:
Math:
Nepali:
English:
Submit

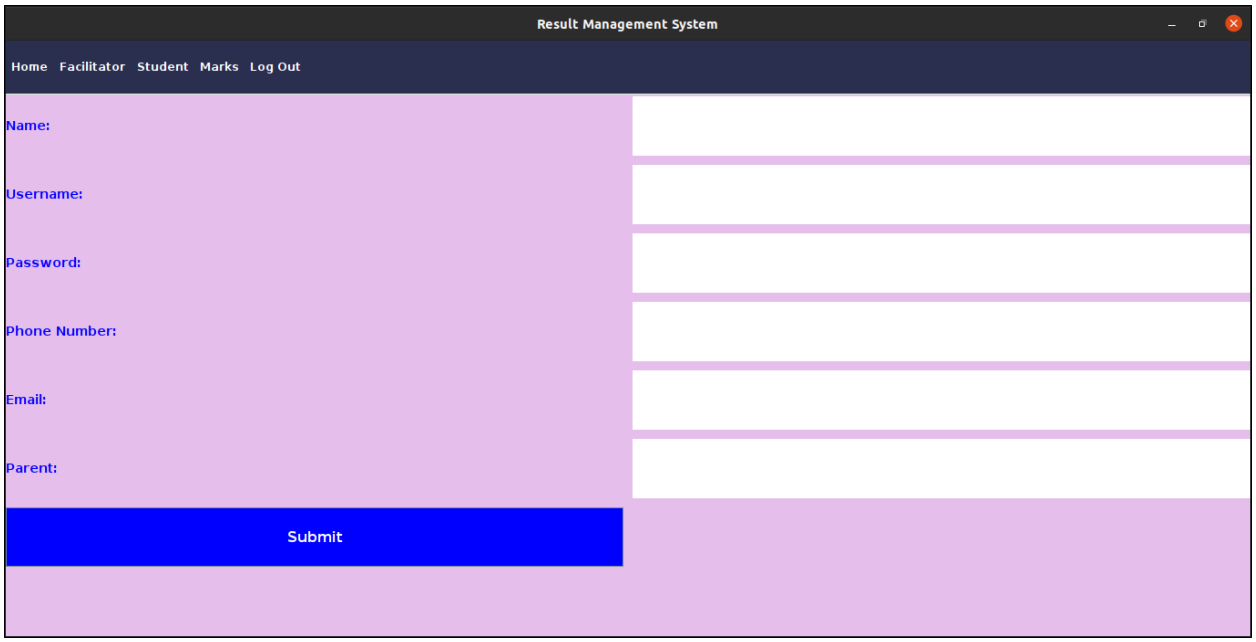

Result Management System
Home Facilitator Student Marks Log Out
SID Name Usern... Phon... Email Paren...
5 Motika S... monika 9829182... monika@... Hari Kum...
6 seezu seezu 981673123 seezu@g... seezu ku...

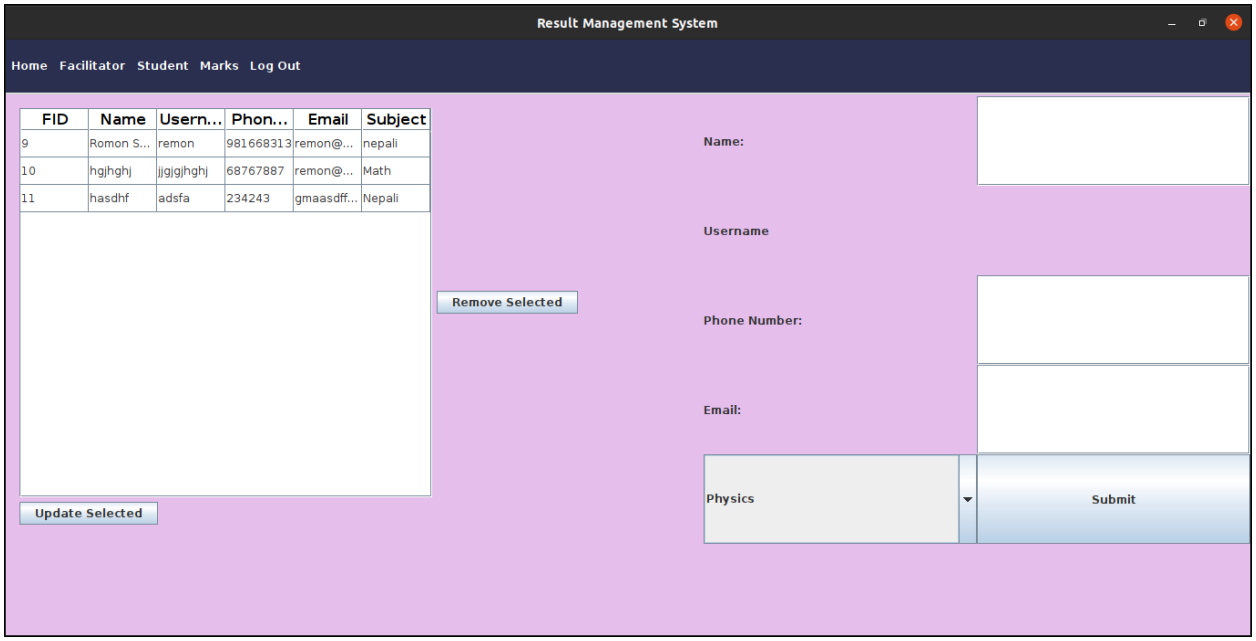

Result Management System
Home Facilitator Student Marks Log Out
FID Name Usern... Phon... Email Subject
9 Romon S... remon 981668313 remon@... nepali
10 hgjhghj jjgjgjhghj 68767887 remon@... Math
11 hasdhf adsfa 234243 gmaasdff... Nepali

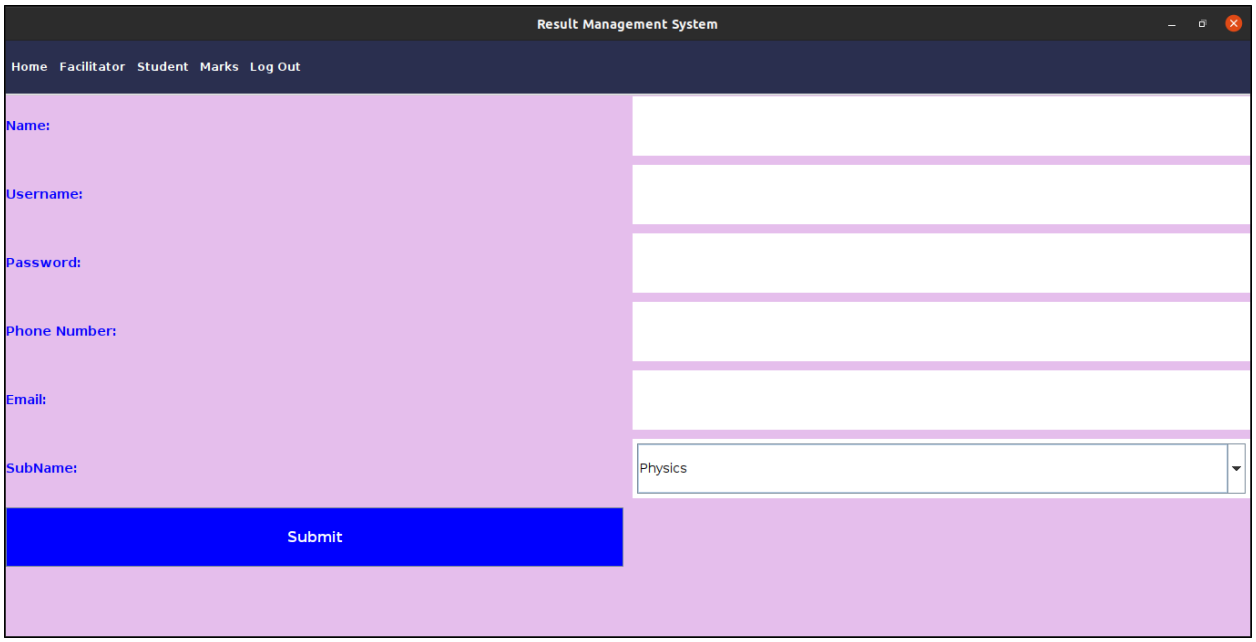

Result Management System
Home Facilitator Student Marks Log Out
Name : Manoj Shrsetha
Username : manoj
Position : facilitator
PhoneNo : 1223123
Email : shresr@gmail.com

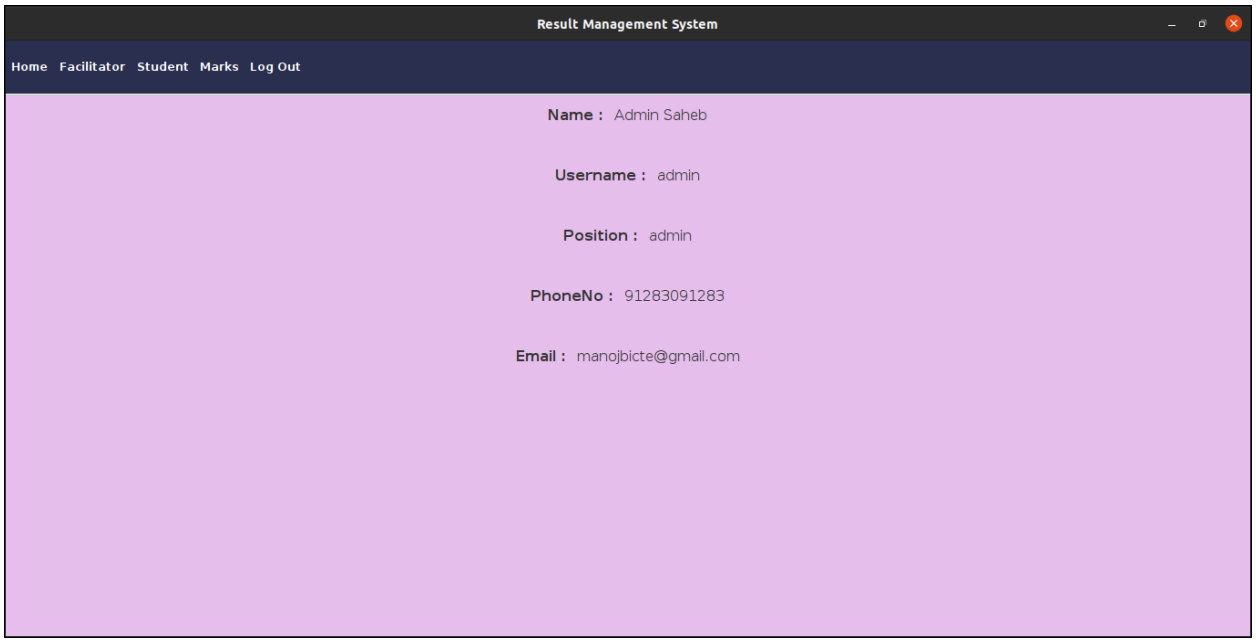

Result Management System
Home Facilitator Student Marks Log Out
User... Phys... Che... Biology Math Nepali English
monika 10 200 0 0 0 0
seezu 100 0 0 0 0 0
Update Selected.
Username:
Physics:
Chemistry:
Biology:
Math:
Nepali:
English:
Submit

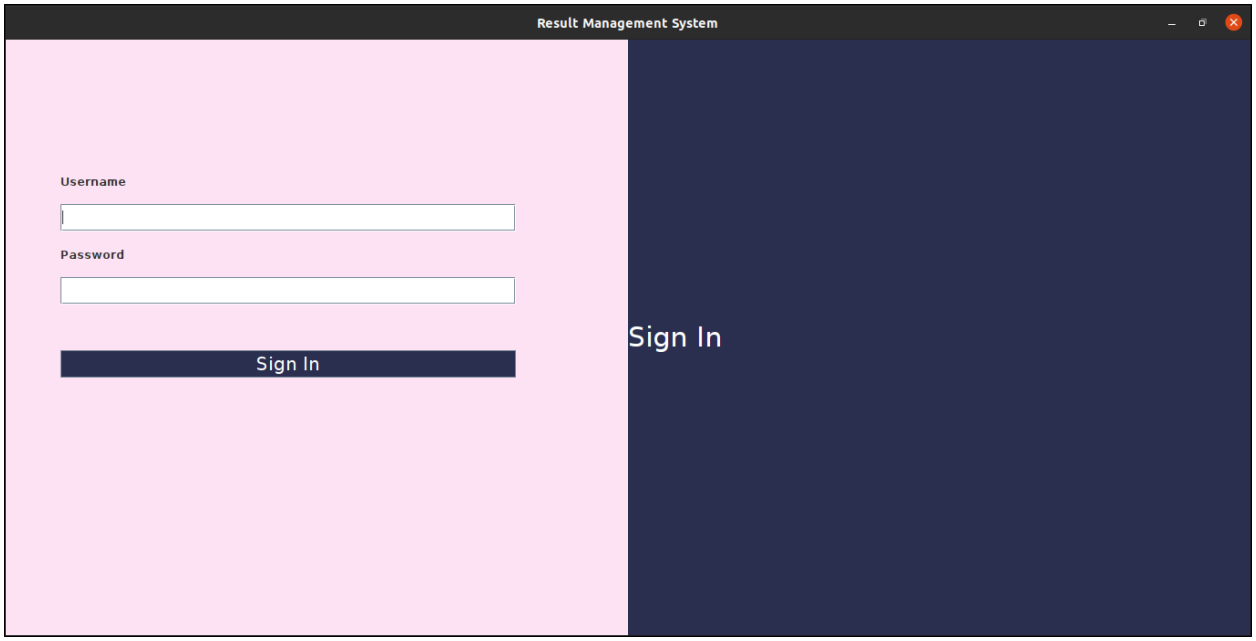

Result Management System
Home Facilitator Student Marks Log Out
SID Name Username PhoneNo
5 Motika Shrestha monika 9829182166
6 seezu seezu 981673123
Remove Selected
Update Selected
Name:
Username
Phone Number:
Email:
Parent-name:
Submit


Result Management System
Home Facilitator Student Marks Log Out
Name:
Username:
Password:
Phone Number:
Email:
Parent:
Submit


Result Management System
Home Facilitator Student Marks Log Out
FID Name Usern... Phon... Email Subject
9 Romon S... remon 981668313 remon@... nepali
10 hgjhghj jjgjgjhghj 68767887 remon@... Math
11 hasdhf adsfa 234243 gmaasdff... Nepali
Remove Selected
Update Selected
Name:
Username
Phone Number:
Email:
Physics
Submit


Result Management System
Home
Facilitator
Student
Marks
Log Out
Name:
Username:
Password:
Phone Number:
Email:
SubName:
Physics
Submit


Result Management System
Home
Facilitator
Student
Marks
Log Out
Name : Admin Saheb
Username : admin
Position : admin
PhoneNo : 91283091283
Email : manojbicte@gmail.com


Result Management System
Username
Password
Sign In
Sign In

CHAPTER 4 : IMPLEMENTATION AND TESTING

4.1 Implementation and Overview

A Prototyping Model has been used to develop this application. The prototyping model is a technique for quickly building a function but incomplete model of the information system. There are several kinds of prototyping but they all intend to reduce risk by building a quick and dirty replica or mock up of the intended system. It can be used to demonstrate technical feasibility when the technical risk is high. It can also be used to better understand and elicit user requirements. In either case, the goal is to reduce risk and limit costs by increasing understanding of proposed solutions before committing more resources.

4.2 Technology used in my system

4.2.1 JAVA

Java is a high-level, class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible. Java is used to develop mobile apps, web apps, games and much more. Java works on different platforms like Windows, Mac, Linux, Raspberry Pi, etc. It is a general purpose programming language intended to let programmers write once, run anywhere, meaning that compiled java code can run on all platforms that support Java without the need to recompile.

4.2.2 Swing

Swing is a graphical user interface (GUI) and a part of Oracle's java Foundation Classes that are used to design different applications. Swing was developed to provide a more sophisticated and advanced set of GUI components than the earlier Abstract Window Toolkit. It includes New and improved Components that have been enhancing the looks and functionality of GUI's. Swing is more portable and more flexible than AWT, the Swing is built on top of the AWT. Swing supports a pluggable look and feel and Swing provides more powerful components such as tables, list, color chooser, etc.

4.2.3 JDBC

JDBC stands for Java Database Connectivity. JDBC is a Java API to connect and execute the query with the database.JDBC APL uses JDBC drivers to connect with the database. It is based on the X/ Open SQL Call Level interface.we can use JDBC API to handle databases using Java

program and can perform the activities like connection to the database, execute queries abd update statements to the database.

4.2.4 MySQL

MySQL is the world's open source database. With its proven performance, reliability and ease of use, MYSQL has become the leading database choice for web-based applications, used by high profile web properties including Facebook, Twitter, YouTube,Yahoo! And many more.

4.3 Testing

4.3.1 Integration Testing

Test suite plan	Test Case Id	Test Case Description
Admin	T-01	Log In
	T-02	Add Facilitator
	T-03	Add Student
	T-04	Update Facilitator
	T-05	Update Student
	T-06	Update Marks
	T-07	Log out
Facilitator	T-08	Log In
	T-09	Update Marks
	T-10	Log Out
Student	T-11	Log In
	T-12	Log Out

4.3.2 Unit Testing

S. N	Test Case Id	Test Case Description	Input Test Data	Expected Result	Actual Result	Remarks
1.	T-01	Enter username and password	admin admin	Display homepage	Successful	Pass
		Enter username and password	Admin 1 admin	Display error and the login page again	Successful	Failed
		Enter username and password	admin admin 1	Displays error and the login page again	Successful	Failed
2.	T-02	Enter Name,Email, Phone Number,username, password,SubName , For adding facilitator	Hompal Prasad Rao shresthanewar678@gmail.com 9816683613 hompal hompal123 Maths	Add the data into the user and facilitator database	Successful	Pass
		Enter the email	shresthanewar678@gmai.com	Validate the email	Successful	Pass
		Enter the email	Ashrestha	Validate the email	Successful	Failed
3.	T-03	Enter Name, Parent Name, Phone Number, Email,username,password for student	Manoj Shrestha Hari Kumar Shrestha 9816683613 student@gmail.com manoj manoj123	Add the data into the user and student database	Successful	Pass

4.	T-04	Update the Facilitator	Change any data and press submit	Update the facilitator details from the user and facilitator database	Successful	Pass
5.	T-05	Update the Student	Change any data and press submit	Update the student details from the user and student database	Successful	Pass
6.	T-06	Enter the marks for the physics,chemistry, biology,math, english,nepali selecting the student	10 20 40 50 12 0	Update the marks of the selected student in the marks database	Successful	Failed
7.	T-07	Clicks the logout button	-	Display the login page again	Successful	Failed
8	T-08	Enter username and password	facilitator facilitator	Display homepage	Successful	Pass
		Enter username and password	facilitator 1 admin	Display error and the login page again	Successful	Failed
		Enter username and password	admin facilitator1	Displays error and the login page again	Successful	Failed
9	T-09	Enter the marks for physics,chemistry, biology,math,nepali ,english	10 20 40 50 12 0	Update the marks of the selected student in the marks database	Successful	Pass
10.	T-10	Click the logout button	-	Shows the login panel again	Successful	Failed

11.	T-11	Enter the username and password	student student	Shows the student home screen	Successful	Failed
		Enter the username and password	student1 student	Shows the login panel again	Successful	Failed
		Enter the username and password	student student1	Redirect to the login panel	Successful	Pass
12.	T-12	Clicks the logout button	-l	Display the login page again	Successful	Failed

4.3.3 System Testing

S. N	Test case id	Test Description	Input Test Data	Expected result	Actual result	Remarks
1	T-08	System test	Shows the result to the students	Result Updated successfully and distributed successfully	Successful	Pass

CHAPTER 5: CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The Result Management System is considered to be an appropriate method for distributing the result in schools and the whole country. The purpose is for computerizing the paperwork in the system and automating the work. This has been achieved by implementing this result management system.

It was a wonderful and learning experience for us while working on this project. This software is very easy to use so all educational institutes can use this frequently who would handle only one class or any programmes. So, we hope our software will be helpful for the organizations to automate their work.

5.2 Recommendation

The Result Management System is based on desktop application and is highly referable to the educational institution in modern days. This system is further enhanced with the beneficial features to be upgraded in the future. The methodology of enhancement in the result management are increasing due to more number of remote students in different institutions.