GUJARAT TECHNOLOGICAL UNIVERSITY

Chandkheda, Ahmadabad

Affiliated

R. N. G. PATEL INSTITUTE OF TECHNOLOGY

Report On

ONLINE EDUCATION MANAGEMENT SYSTEM

Under subject of

DESIGN ENGINEERING – II – B
B. E. III, Semester – VI
(Computer Science & Engineering Branch)

Submitted by:

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ABSTRACT

we are facing many problem with online education. "using internet and learning resources(mobiles,laptops,etc..) which helps us to learn online and with proper management system thats generally known as online education managemnt system". it is undefinable that online learning provides so many benifitsot learners. we are making the online learning management system through the application. in this application we have many features that are easy for learner to learning without any comlpexity to join the class at a time. in this application we give fecilites the learner to they are joining through that time table(with subject link) on there online learning application like google meet,zoom,etc.. there are many more features like work submission,attendence,pop-up screen(for asking question during lectures) and many more.. This appication helps students and teacher and whos connected with this organization that easy to handle the online classes, attendence, exam schedual and many task that is easy with this application.

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CHAPTER 1: INTRODUCTION

1.1 Introduction to Domain

- The domain is Education Management system.The definition only shows how the system is helpful for student. The system would be such that the person who wants to know about the study process Thus, the definition of the project only shows that it is a Online mode to learn or attend classes.

1.2 Importance to domain

- The importance of project is sets its goal for developing a compatible website to automate the existing manual system by the help of computerized equipments to store their valuable data for a longer period of time.
- These helps the students for Attend classes in regular way without delay.It helps the management to automate the existing manual system by the help of computerized. It provides the improved and optimized services to the user.

1.3 Team Selection

- Also, importance of building a proper team is necessary as the whole and soul of the work lies in unity. Thus, having a supporting team is very much necessary for getting a best and efficient result. Thus, each member in the team should have different qualities which are helpful in caring out the task.
- Team building also benefits the team as a whole. Those who previously may not have been getting along will have to forget their differences in order to overcome an obstacle & their dislike is be diminished as the work together for a common goal. Team Building encourages the improvement of Interpersonal Skills such as: communication, negotiation, leadership, & motivation

1.4 Observation

Observation shows the type of the questions that are asked for knowing the system thoroughly. The question can be related to the system or about the domain area of the system. Knowing the perfect answer of those question can be greatly beneficial for the system even the

known and unknown facts to be implemented on the system which can make the system perfect on its basis.

There are sometimes problem faced by students for manual registration document submission & premium services. In manual registration if the student is not available at the time of registration then he/she will not will able to take part in that lecture.

After performing the questionnaires round we can get the strong point that should the system be? What types of modules should be added? Which people should be kept active according to the session? What types of modules need changes? How can the authentication be provided to the student & company? How the student would feel secure and made assure that their data are protected?

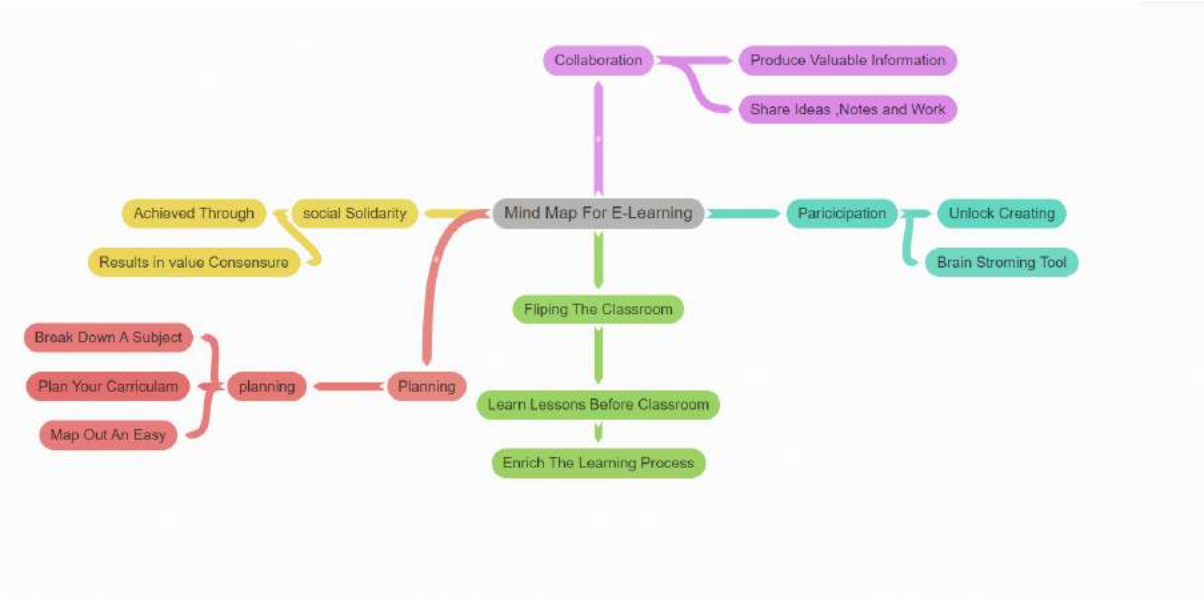
After performing this analysis, we got the only solutions that are to be made active and to be executed.

Chapter 2 Canvas and Framework

2.1 Mind Mapping (Data Analysis)

A Mind Map is a diagram used to visually organize information. A mind map is hierarchical and shows relationship among pieces of the whole. It is often created around a single concept, drawn as an image in the center of a blank page, to which associated representations of ideas such as images, words and parts of words are added. Major ideas are connected directly to the central concept, and other ideas branch out from there.

A mind map is a graphical way to represent ideas and concepts. It is a visual thinking tool that helps structuring information, helping you to analyze, comprehend, synthesize, recall and generate new ideas in a constructive way.



[Fig-2.1.1-Mind Map]

2.2 AEIOU Summary Framework

AEIOU is an investigative tool to help interpret observations gathered by ethnographic practices in the field. It is an Observation tool. Its two primary functions are to code data, and to develop building blocks of models that will ultimately address the objectives and issues of a client.

2.2.1 A-Activities:

Activities are goal directed sets of actions – paths towards people want to accomplish. These following activities are goal directed and these are the modes people work in and which processes they go through daily.

- Online class is conducted.
- Teacher teach to students
- Attendence is taking by teachers
- Doubts are sloving by teachers.
- Online exam are conduacting.
- Proper management

2.2.2 E-Environment:

Environments include the entire arena where activities take place. In this section, we have added the environment in which the situations are taking place and the atmosphere which is creating a problem inside or outside of your domain.

- All works are going online
- Students are attending online class
- Teachers speaking students listening
- All students are seting properly
- Discipline maintaining
- Teacher solve students doubts

2.2.3 I-Interactions:

Interactions are between person and someone or something else. In this section, we have added the interaction happening in the current system.

- Student – Teacher
- Student –laptops /mobiles
- Teacher – laptop

2.2.4 O- Objects:

What are the objects and devices people have in their environments and how do they relate to their activities.

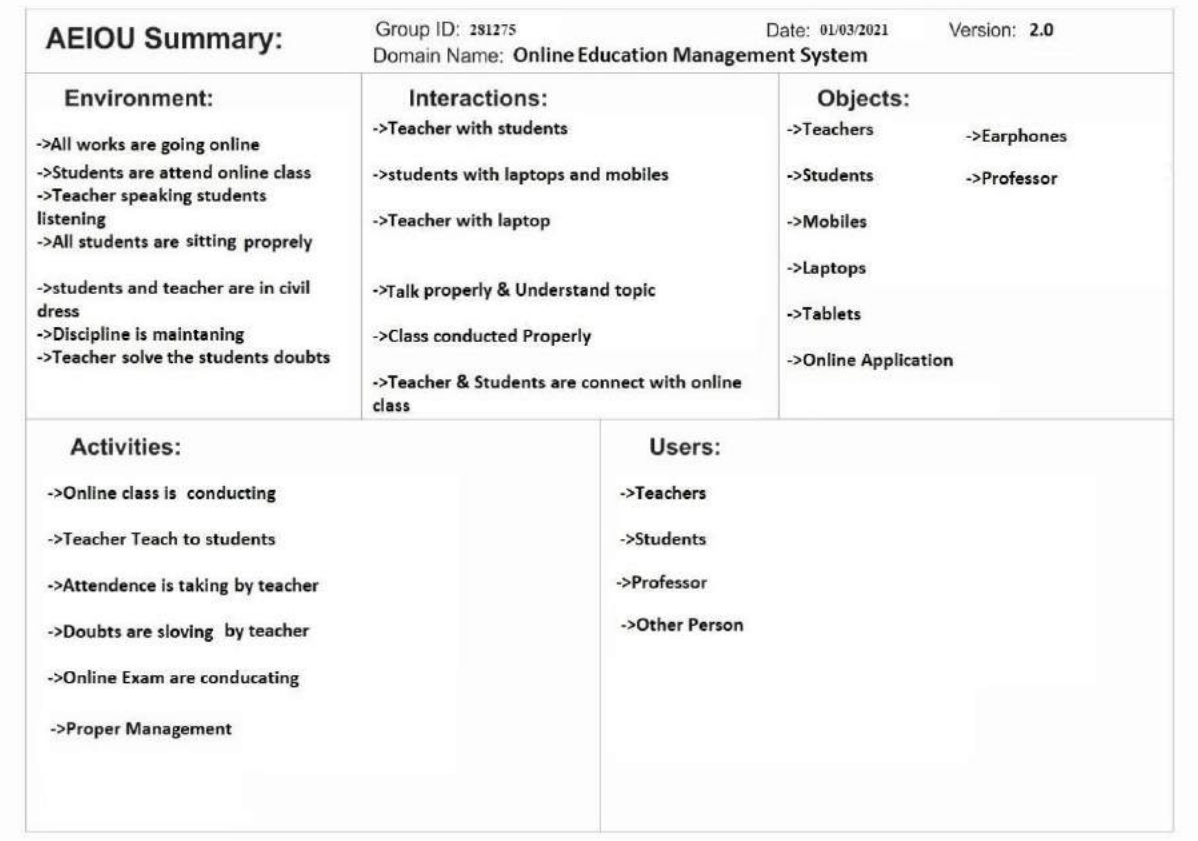
- Teacher
- Students
- Professor
- Ear phones
- Tablets
- Online Application

2.2.5 U –Users:

Users are the people whose behaviours, preferences, and needs are being observed.

- Teacher
- Students
- Professor
- Other person

2.2.6 AEIOU Summarycanvas:-



[Fig-2.2.6.1-AEIOU Summery Canvas]

2.3 Empathy mapping canvas

Meaning of empathy is understanding and entering to another's feelings. The empathy mapping is a great powerful tool that helps putting yourself inside the head of a person you might be looking at a product user. It allows you to quickly grasp their experience and where they are coming from.

2.3.1 Users:

- Student
- Professor
- Faculty

2.3.2 Stakeholders:

- Student
- Professor
- Teacher

2.3.3 Activities:

- Online class is conducted.
- Teacher teach to students
- Attendence is taking by teachers
- Doubts are sloving by teachers.
- Online exam are conduacting.
- Proper management

2.3.4 Story Boarding:

Happy Story:

1) One my friend Rajesh is a student as well as he is doing the job because of financial situation. Someday due to work load and high pressure from the boss he had to do work overtime till late night. Because of the late night work and stress he has not able to attend the lecture in morning. But because of the online education he can learn and attend the lecture when he hot the time. He also solve his doubt through this.

2) My friend nishant is the student. He is hardworking and clever as well. On the exam day he was ready as his schedule but somehow the people gathered and doing protest. The protest was so furious that it was risky to go outside. But because of online exam conditions system college was arrange the exam online and all students were attend it well.

Sad Story:

1) One of my friend Ajay is an engineering student. His college is far away from his home. He always travel 2 hour through the bus. He was regularly travel on the Exam day also but somehow the bus tyre was flat in between the road. He tried to take a lift but no one gave him a lift. Somehow he reached to the exam spot but he was late about the 40 minutes of the original time. Due to this incident he was not complete his whole exam.

2) My friend Rakesh always went to his college though his Bike. He is always drive it safely But one of on the rainy day he had met with an accident. He travel on his daily routine but because of heavy rain he couldn't see vehicle coming from his front. Somehow he meet with an accident with a truck and admitted into the hospital. Doctor said that he was now handicapped and no able to went to out side of house. Because of these accident he had to stop his study further.

Design For DESIGN ENGINEERING	Design By 281275
Date 01/03/2021	Version 2.0

USER	STAKEHOLDERS
->Professor	->Professor ->Students
->Teachers	->Teachers ->Developer
->Students	

ACTIVITIES

->Online class is conduct

->Teacher Teach to students

->Attendence is taking by Teacher

->Doubts are sloving by Teacher

->Online Exam are conducating

->Proper Management

STORY BOARDING

HAPPY — One my friend Rajesh is a student as well as he is doing the job because of financial situation. Someday due to work load and high pressure from the boss he had to do work overtime till late night. Because of the late night work and stress he has not able to attend the lecture in morning. But because of the online education he can learn and attend the lecture when he hot the time. He also solve his doubt through this.

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[Fig-2.3.4.1-Empathy Canvas]

2.4 Ideation Canvas

An ideation canvas is a rough whiteboard where ideas can be stretched into any limits or dimensions. Ideation phase is not aimed at finding solutions to the define problem but to define the best possible problem and stretch out its possible scope. The field is set and the overall agenda is to build the clones of the ideas and pivot them throughout the canvas to discover new possibilities.

2.4.1 People:

- Professor
- Teachers
- Students

2.4.2 Activities:

- Online class is conducted.
- Teacher teach to students
- Attendence is taking by teachers
- Doubts are sloving by teachers.
- Online exam are conduacting.
- Proper management

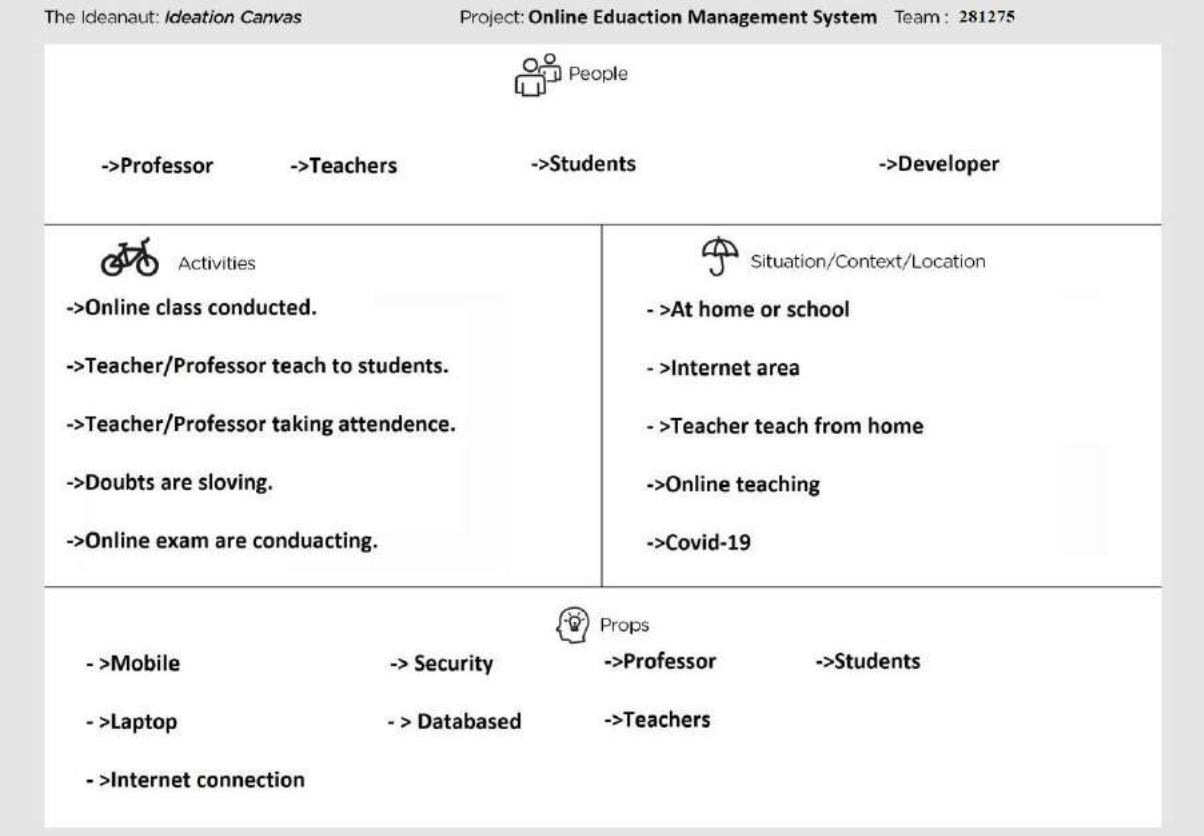
2.4.3 Situation/Context/Location:

- At home or school
- Internet area
- Teacher teach from home
- Covid-19
- Online teaching

2.4.4 Props/Possible Solution:

- Mobile application
- Web portal
- Central database

- Mobile
- Laptop
- Server
- Internet



[Fig-2.4.4.1-Ideation Canvas]

2.5 Product Development Canvas

The product development of canvas is totally based on specific product. That is, how product is useful to users which facilities and functions provided by that product and how it differs from recent market products. We should make attempt what is the new idea behind the product and in this section, we can introduce. The new idea and its evolution will reduce the human effort and help them to go easy with life and work.

2.5.1 Purpose:

- To provide better management in Education

2.5.2 People:

- Professor
- Teachers
- Students

2.5.3 Components:

- Internet
- Router
- Mobile
- Laptop
- Server
- SQL

2.5.4 Functions:

- Online exam scheduling
- Self registration
- Live feedback

2.5.5 Features:

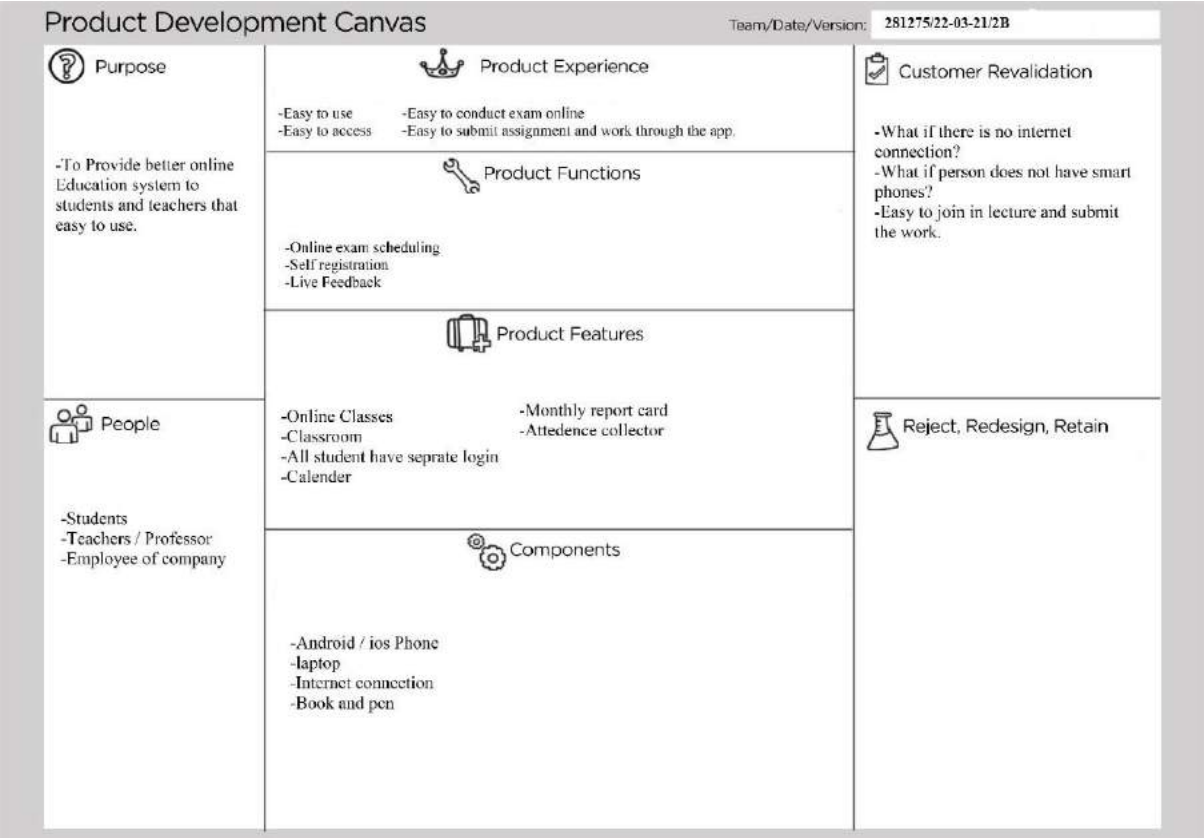
- Helpful to students and teachers
- Easy to manage all data
- Every person has separate login

2.5.6 Experience:

- Less chances of human errors
- System is comfortable for user

2.5.7 Customer Revalidation:

- Not use by other person



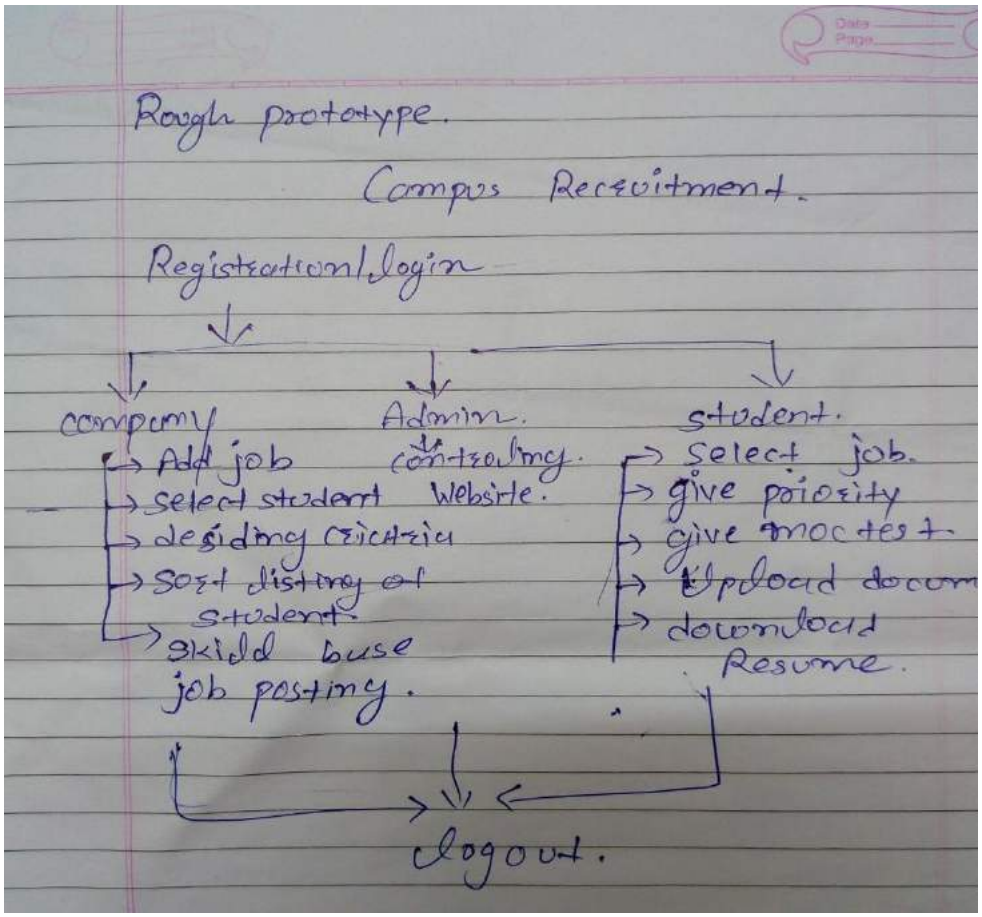
[Fig-2.5.8.1-Product Develpment Canvas]

Chapter 3 Feedback Analysis and Rough Prototype

3.1 Feedback Analysis with user

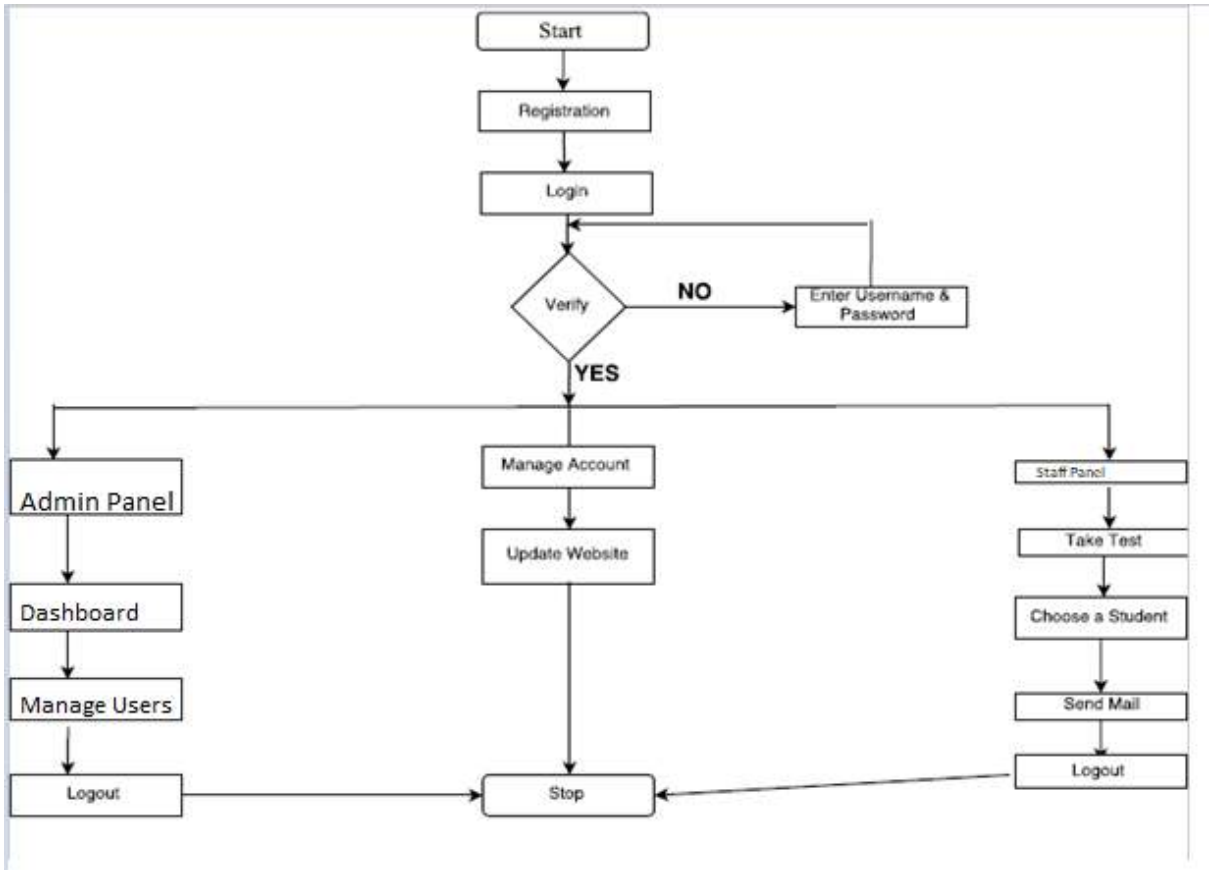
- Feedback is needed much as it gives the idea of those things that are to be updated and needed to change.
- After the analysis, we tried to provide almost all need function a community helping system should have.
- In the system, we tried to put many new things like log in with 3 different profile Admin Company & student.
- We provide automatic resume generation by the information given by the student.
- Sort listing of student according to their criteria & skills.
- Result updation into students profile.

3.2 Rough Prototype Design



Chapter 4 System Design

4.1 System Flow Chart



[Fig no-4.1.1-Flowchart]

A flowchart is a pictorial representation depicting the flow of steps in a program, people in an organization, or pages in a presentation. In instructional design. A flowchart indicates sequences and decision points as well as starting and stopping points. Flowcharts can prevent the omission of steps in a process. In our system process start with registration of student next step is login verify through id and password. After this step we provide the facility of our campus recruitment system.

4.2 UML Diagrams

4.2.1 Use Case diagram

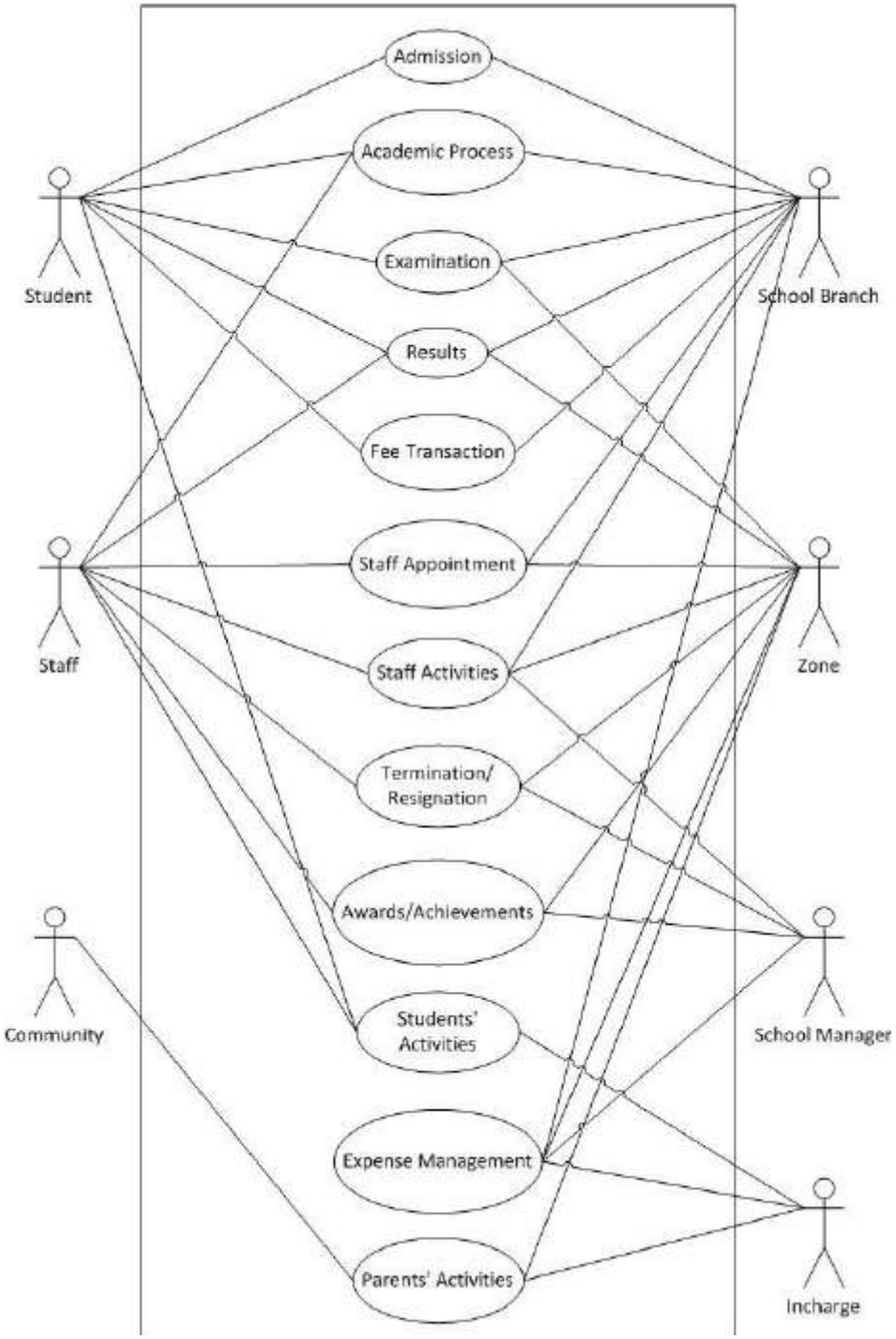


Fig: 4.2.1Use Case

4.2.2 Class diagram

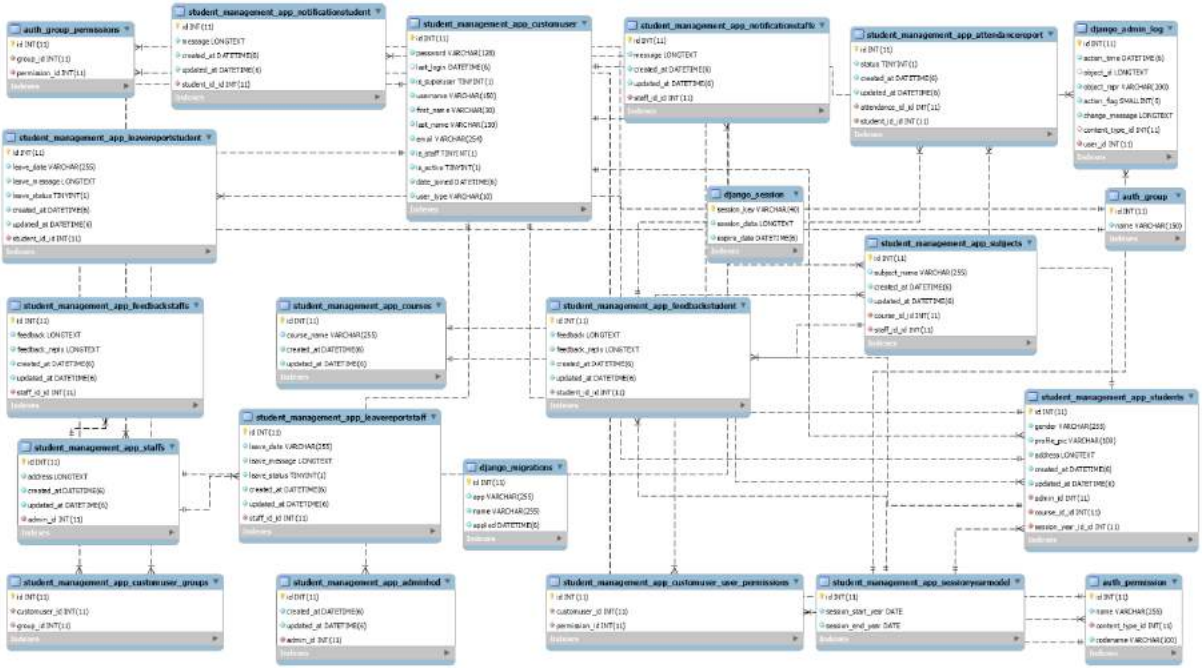


Fig: 4.2.2.2Class diagram

4.2.3 Sequence Diagram

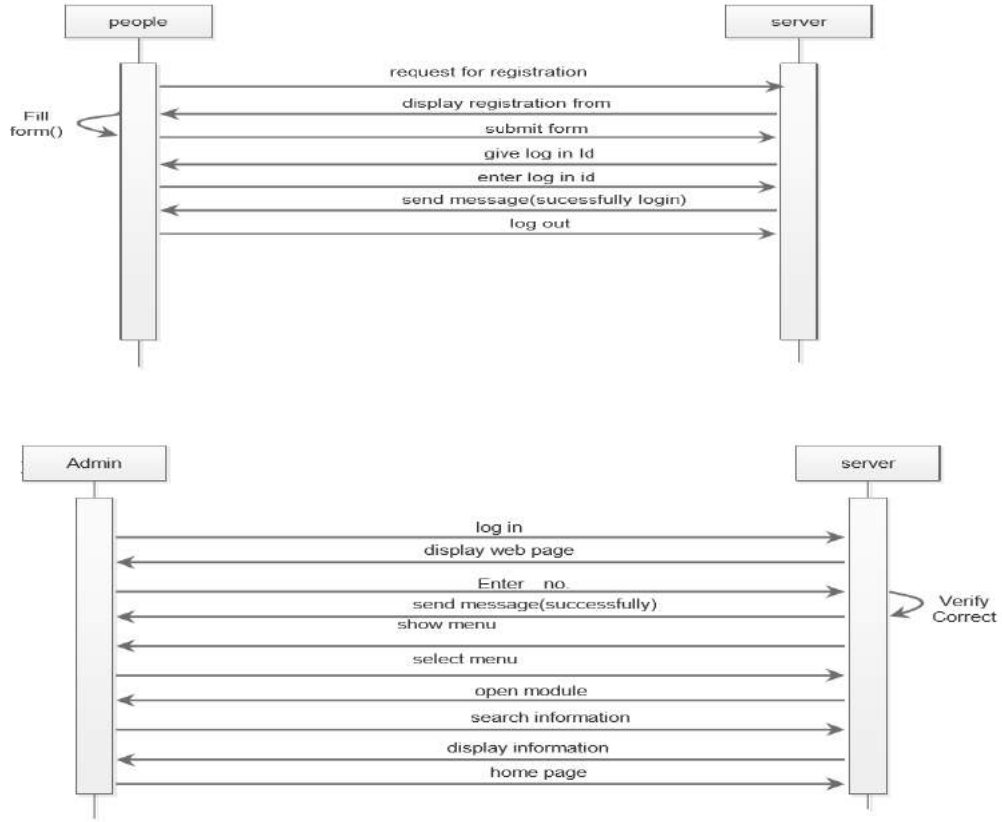


Fig: 4.2.3Sequence diagram

4.2.4 Activity Diagram

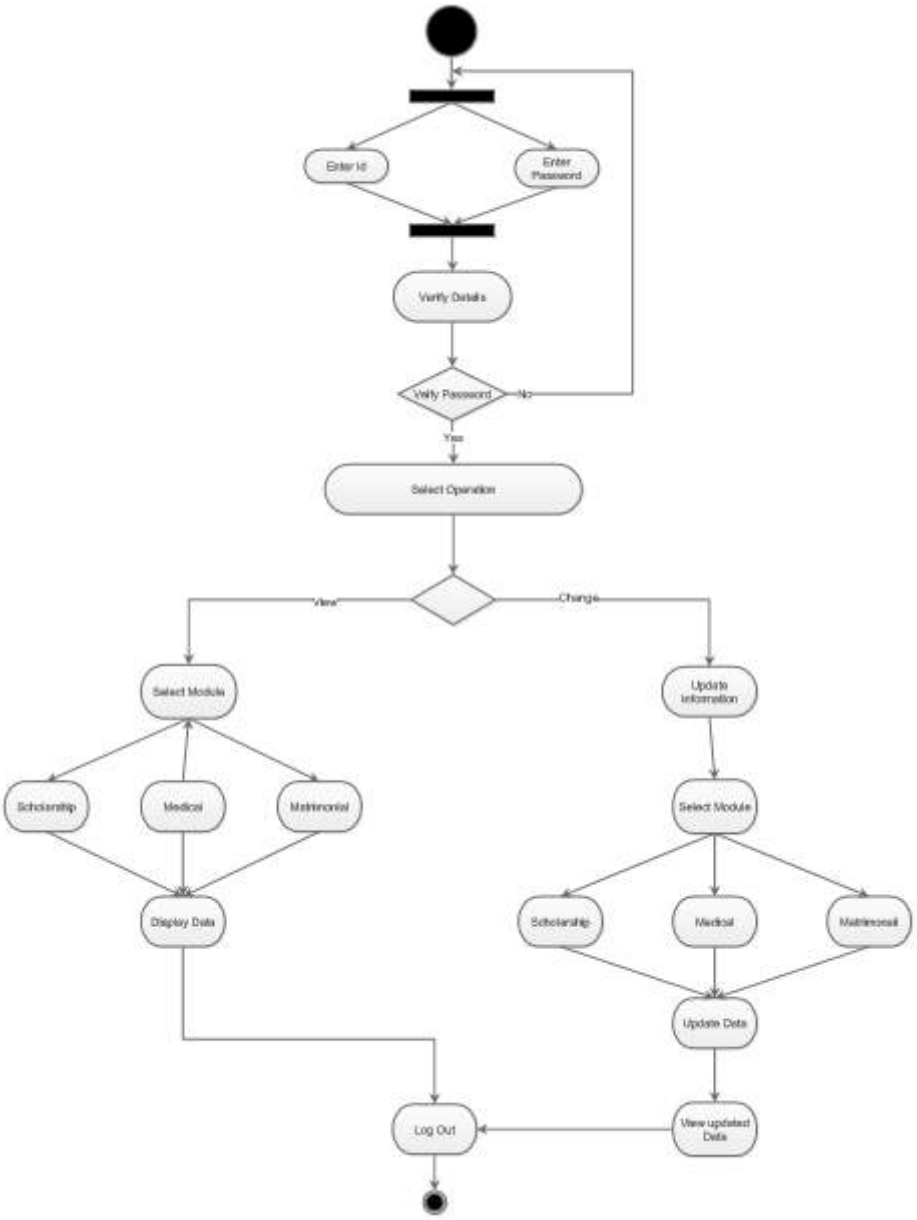


Fig: 4.2.4 Activity diagram

4.2.6 Collaboration Diagram

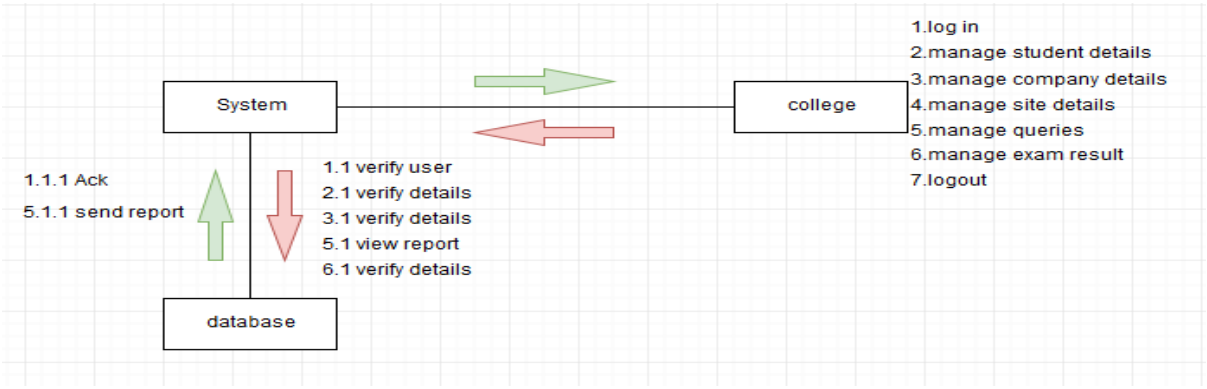


Fig 4.2.6.1Admin Collaboration diagram

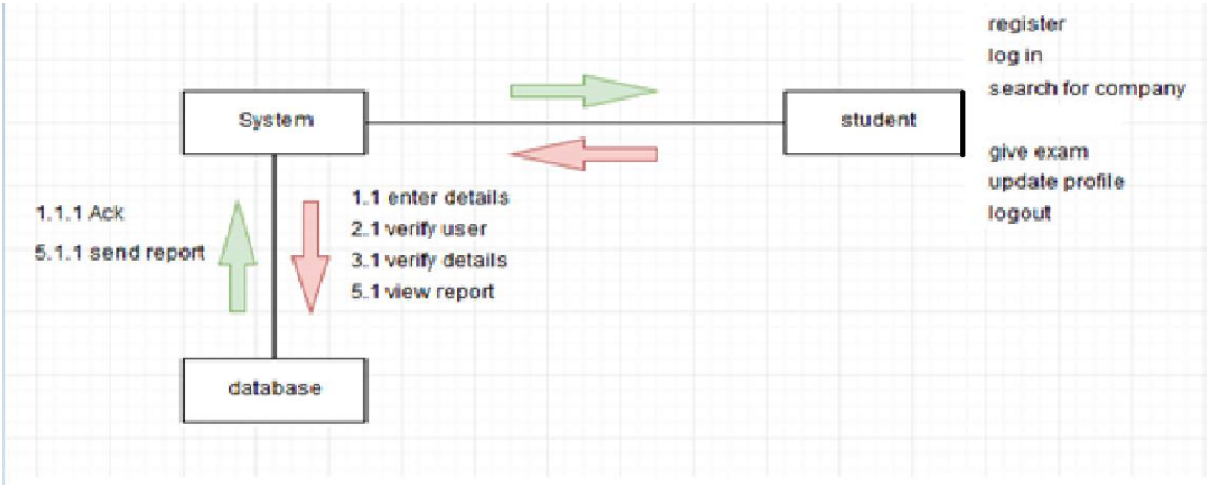


Fig 4.2.6.2 student Collaboration diagram

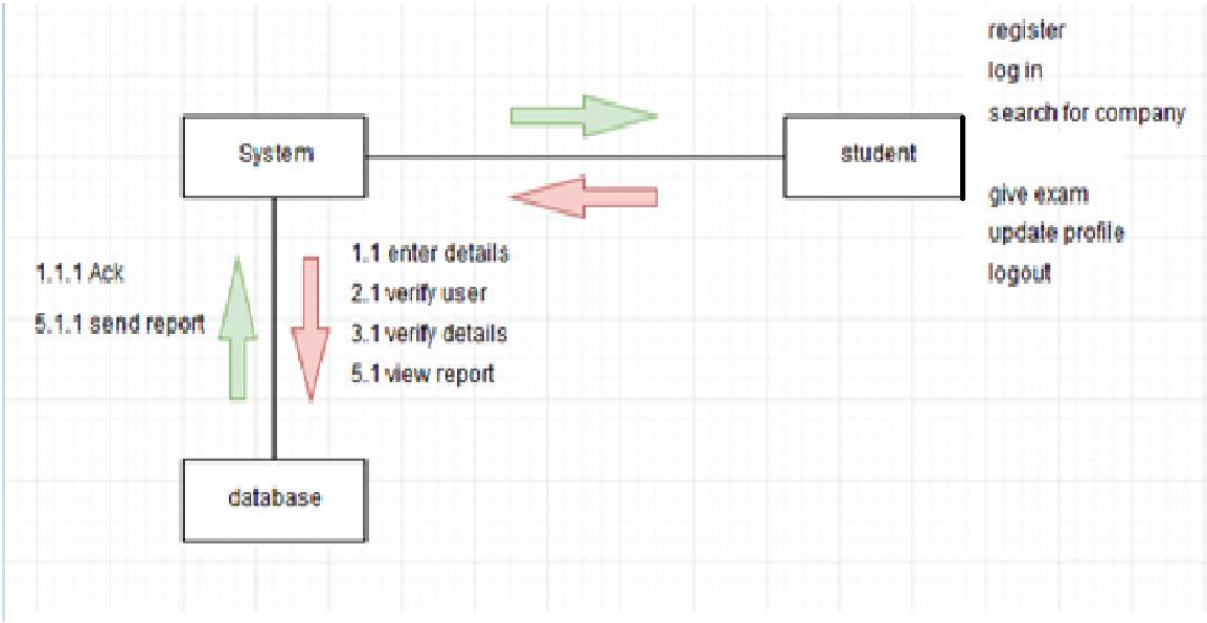


Fig 4.2.6.3 collage Collaboration diagram

4.2.7 Component Diagram

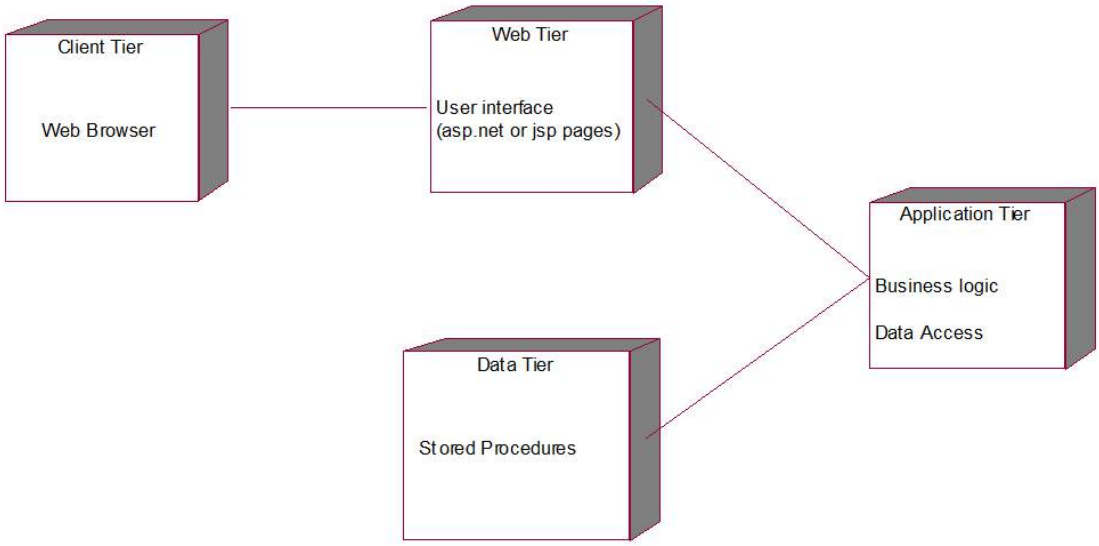
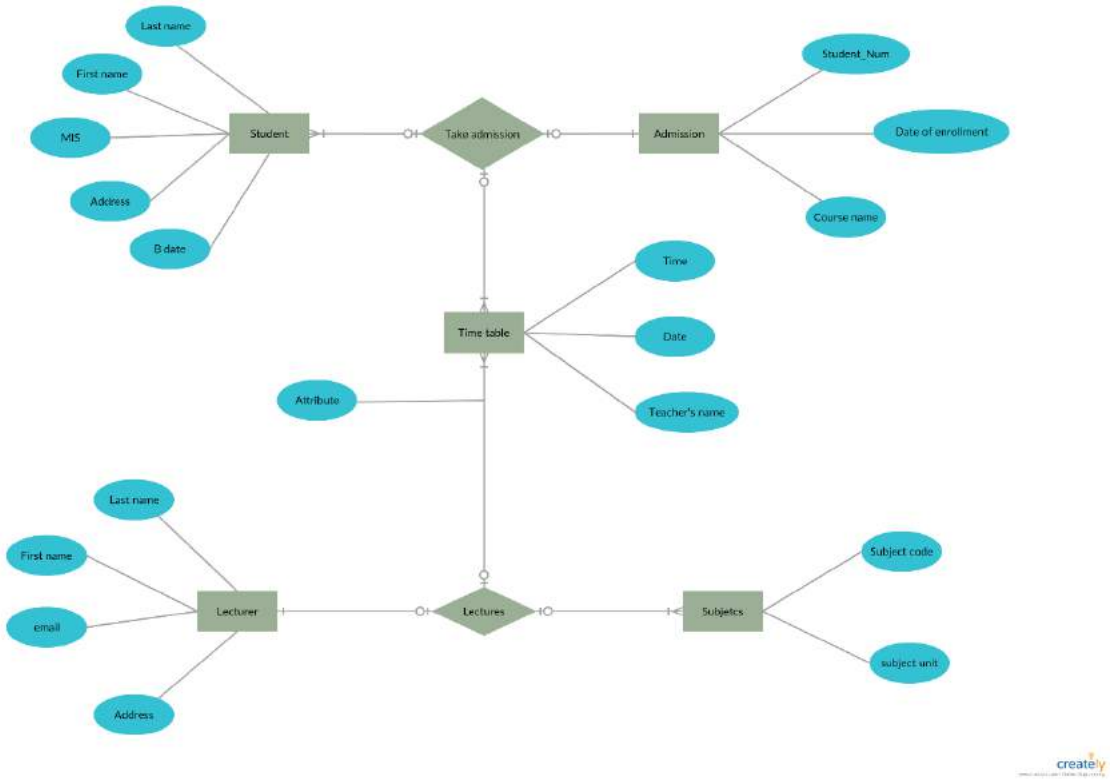


Fig: 4.2.7 Component Diagram

4.3 Database Design

4.3.1 ER Diagram



4.3.2 Data Dictionary

1) Registration

	id	gender	profile_pic	address	created_at	updated_at	admin_id	course_id_id	session_year_id_id
	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	1	Male			2020-06-26 16:07:55.683155	2021-03-30 12:50:37.812277	5	2	1
2	2	Male		surat	2020-06-26 16:08:04.811906	2021-03-30 13:27:05.302535	6	2	2

2) Staff Database

	id	address	created_at	updated_at	admin_id
	Filter	Filter	Filter	Filter	Filter
1	1		2020-06-26 16:02:09.150514	2021-03-30 13:31:36.773502	4
2	3	surat	2021-03-25 12:46:31.063620	2021-03-25 12:46:31.152627	19
3	4	surat	2021-03-27 12:00:52.701873	2021-03-27 12:00:52.759876	20
4	5	surat	2021-03-27 12:01:36.934812	2021-03-27 12:01:37.024817	21
5	10	surat	2021-03-30 13:26:42.069756	2021-03-30 13:27:21.842183	22

3) Subject Database

	id	subject_name	created_at	updated_at	course_id_id	staff_id_id
	Filter	Filter	Filter	Filter	Filter	Filter
1	1	Python	2020-06-26 16:03:11.580536	2021-03-27 11:59:33.258031	3	19
2	2	PHP	2020-06-26 16:03:18.923926	2021-03-27 11:59:49.201097	3	16
3	3	html	2020-07-05 13:25:08.878218	2021-03-30 12:53:19.878856	2	20
4	4	Java	2020-07-05 13:25:18.353760	2021-03-30 13:30:50.620576	2	19
5	8		2021-04-07 13:50:14.820417	2021-04-07 13:50:14.820417	2	2

Chapter 5 Detail Design Calculations

5.1 Designs for Performance, Safety and Reliability

System will perform every task properly. All the data will be logged into database which will improve the performance of the system in comparison to the manual and traditional method of existing system. So, the performance of system is very user friendly and easy to understand.

Sr. No.	Parameters	Concern with project definition
1.	Performance	• Wi-Fi connectivity. • Easy to operate. • User friendly and easy to understand. • Performs every task properly. • Operate from anywhere. • Save Human Energy.
2.	Safety	• Safe by username & password. • Admin view between student and company to protect student information.
3.	Reliability	• Perform required function. • Working in every stated condition and stated time.

Table 5.1.1 Design for performance, safety, reliable

5.2 Design for Ergonomics and Aesthetics

Ergonomics:-

In this case the system will be providing less efficiency like manually work, consuming time and also related to security purpose. So, this system will providing a very secure and efficient services like no need felling data manually, automatic resume generation.

Aesthetics:-

Design for aesthetics can be defined as an analysis of the system in way in looks more attractive than before. The system will looks attractive and useful than before because system gives a special features and function for make it easy to understand compare to before complex system.

Sr. No.	Parameters	Concern with project definition
1.	Ergonomics	● Human comfort ● Easily user interact with system
2.	Esthatics	● Make system easy to understand ● Design is not being complex

5.3 Design for Manufacturability & Assembly (DFMA)

Design for Manufacture: -

- Design for manufacture or design for manufacturability (DFM) is a design methodology.DFM is designing the products proactively. It is the process of designing the products to optimize all the manufacturing functions.

Design for Assembly: -

- Design for Assembly is a method of analysing components and sub-assemblies in order to: Optimize the assembly process steps Identify part relevance Estimate the cost of assembly

Sr. No.	Parameters	Concern with project definition
1.	DFM	● LAN cable, Database
2.	DFA	● Connectivity of Wi-fi

Table 5.3.1 Design for Manufacturing and Assembly

5.4 Design for Cost, Environment

5.4.1 Design for Cost

- **Design-to-Cost** (DTC), as part of cost management techniques, describes a systematic approach to Controlling the costs of product development and manufacturing.
- The maximum cost of a "Campus recruitment" system is an important user requirement which can be assessed in several ways. Time costs include factors such as the time required for installation. Maintenance costs include expenses required to keep the system functional. The quantification of the costs should be handled with care due to time-, location-, manufacturer-related dependencies.

Sr no.	Name	Expense	Selling price
1	SQlite3	Free of cost	-
2	Django	Free of cost	-
3	Internet	1000	-
4	Developing cost	Free of cost	
	Total:	1000	10,000/-

Table 5.4.1 Balance sheet

5.4.2 Design for Environment

- **Environment** is the surrounding things. It includes living things and natural forces.

Sr. No.	Parameters	Concern with project definition
1.	Design for Environment	For use in Collage, training & placement institute.

Table 5.4.2 Design for Environment

5.5 Designs for Use, Reuse and Sustainability

5.5.1: Design for Use:

System is reliable only between systems. It will be available for all time. For worst case, if internetworking not properly.

5.5.2: Designs for Reuse

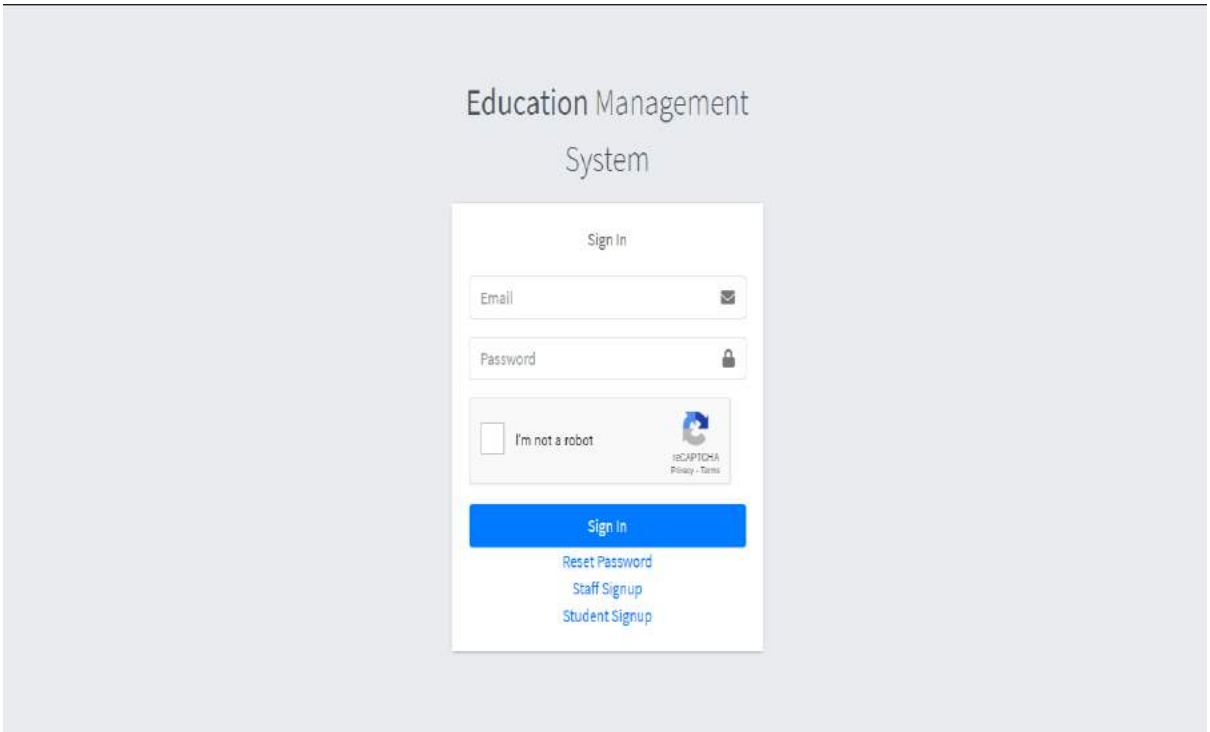
The code of the application can be reuse to make web application for education,training classes institute etc.

5.5.3: Designs for sustainability

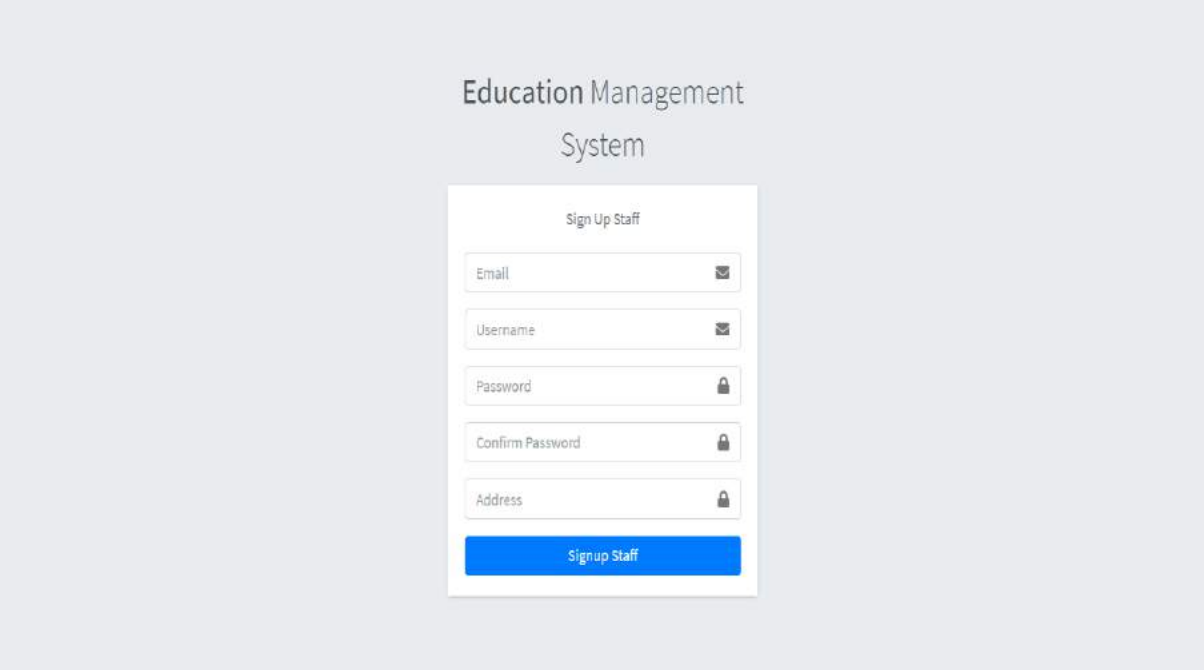
We maintain the system regularly by updating in web application.

Chapter 6 Implementation and Final Prototype

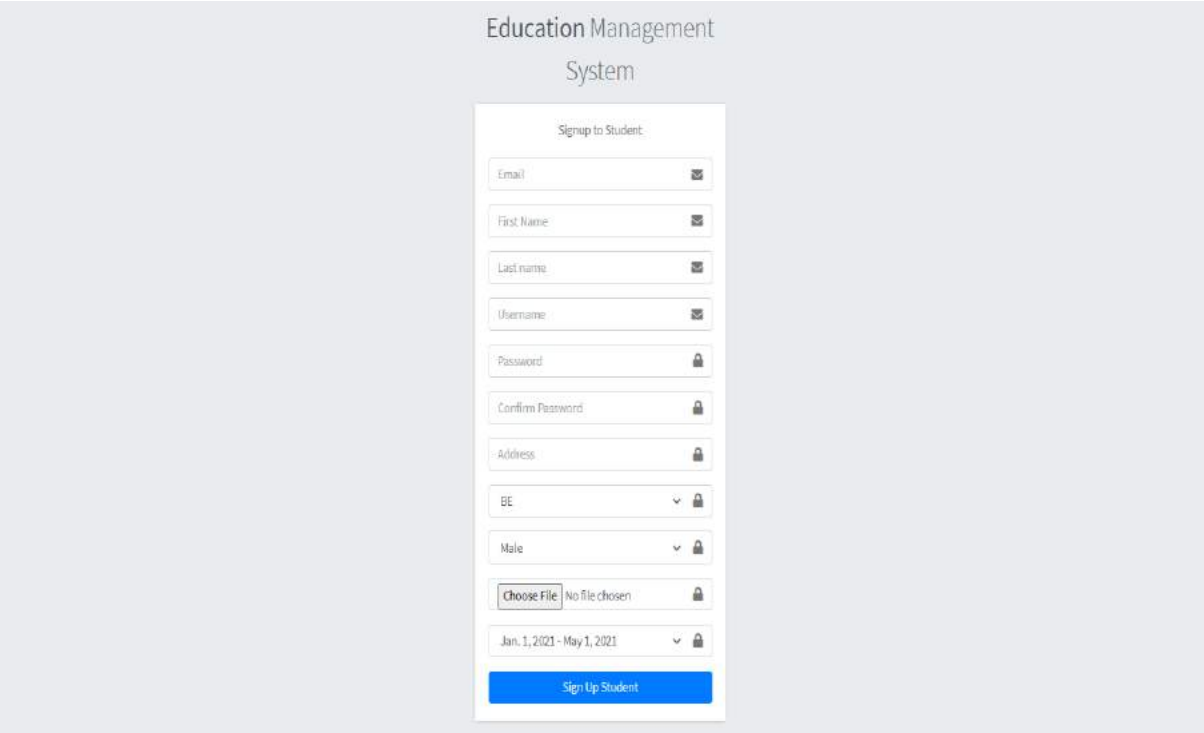
- **Login Page**



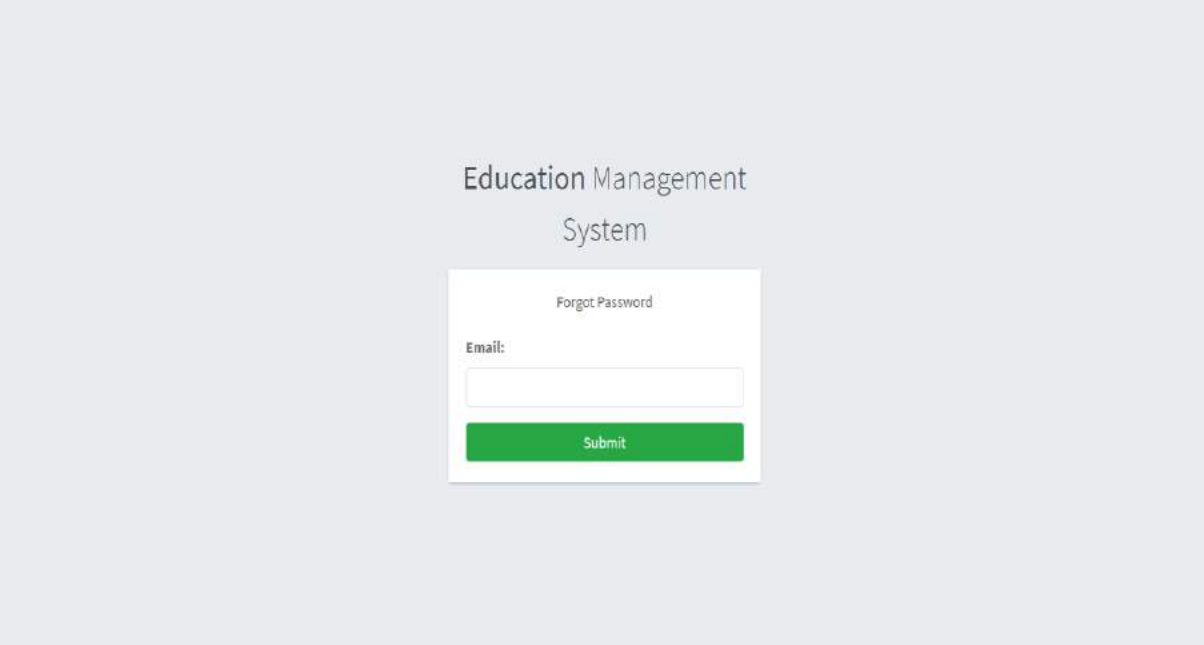
- **Staff Registration Page**



Student Registration Page

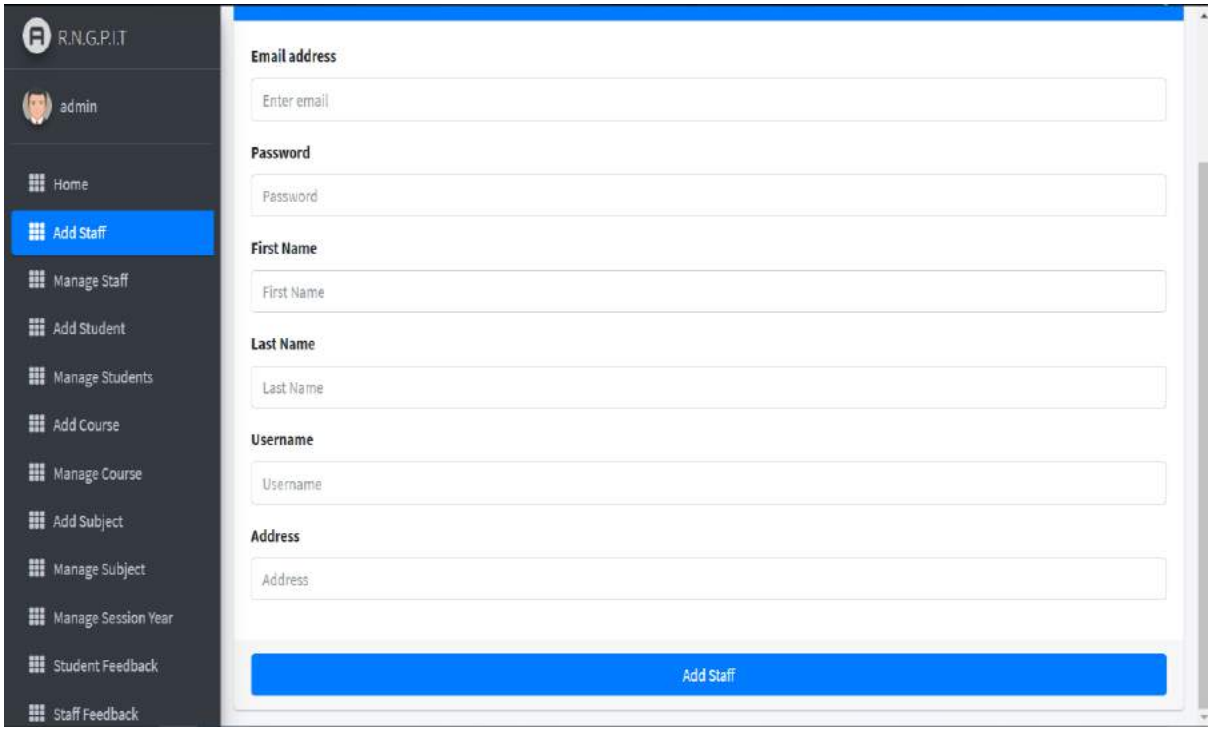


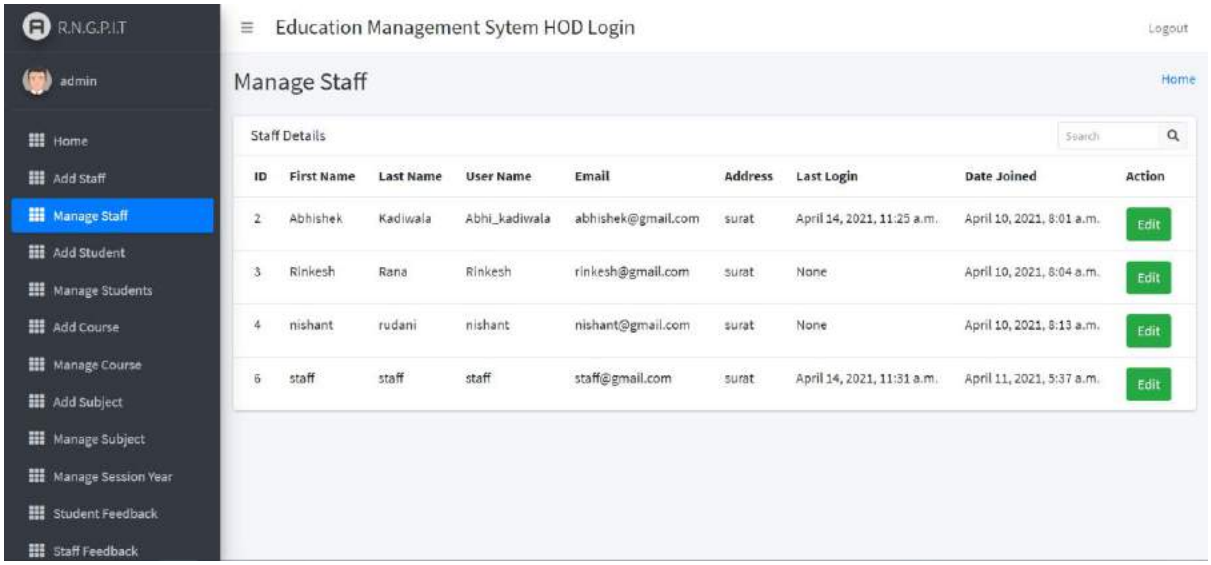
- **Reset Password**



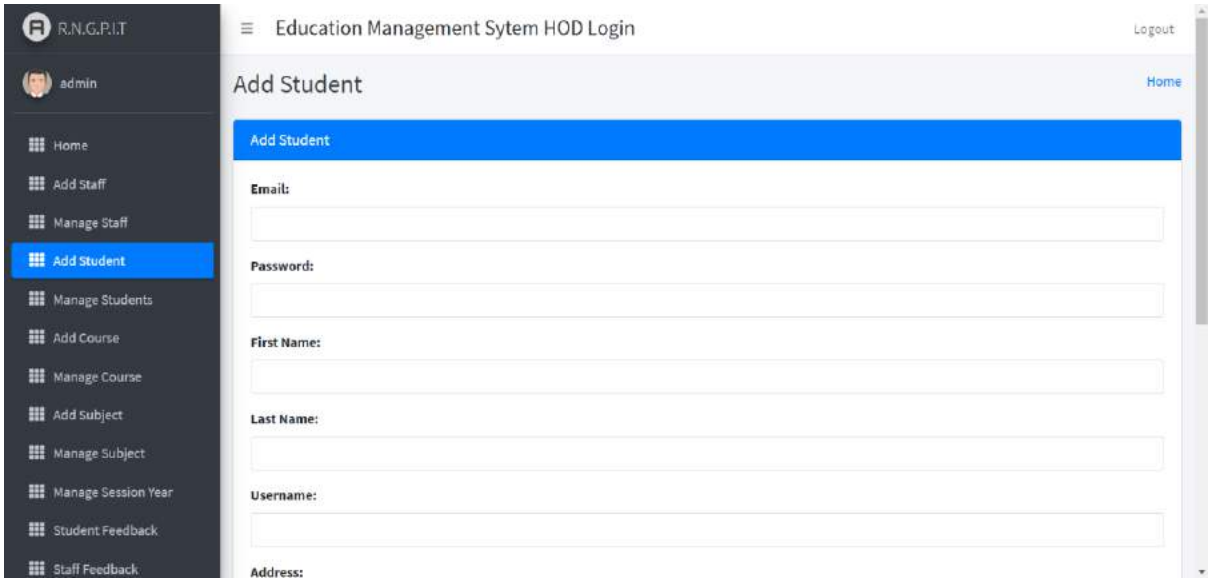
Admin Dashboard

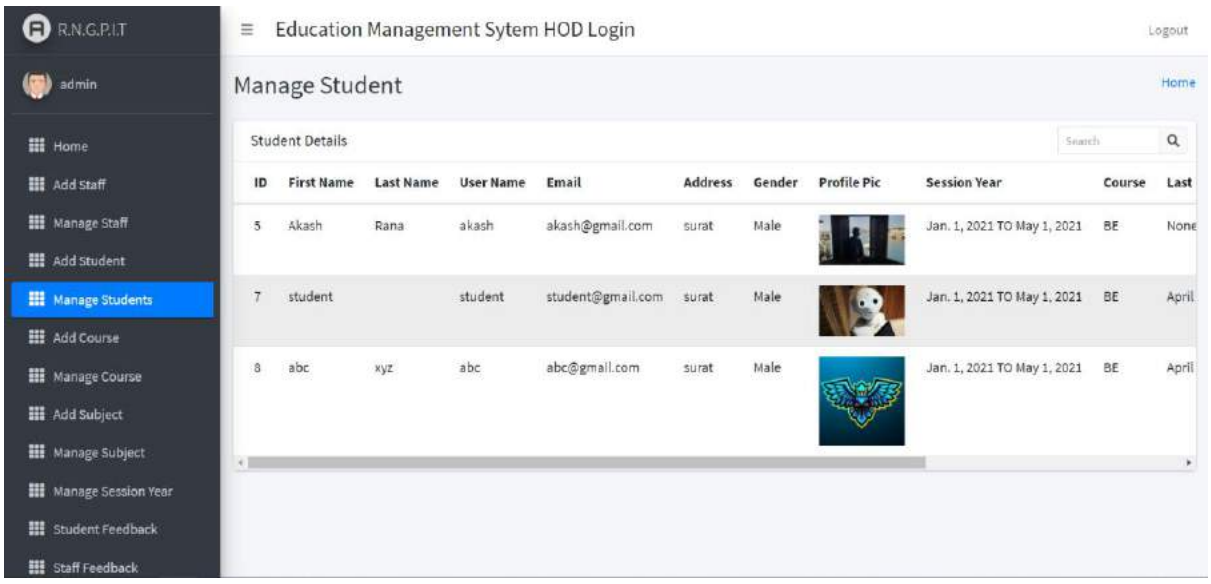
- **Add and Manage Staff Using Admin Panel**



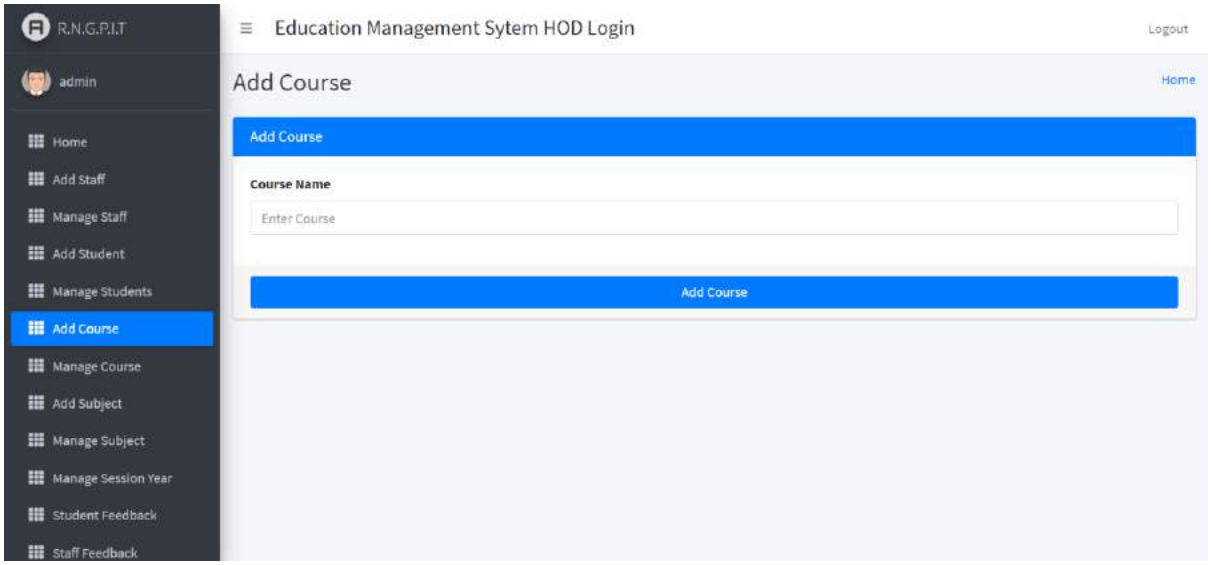


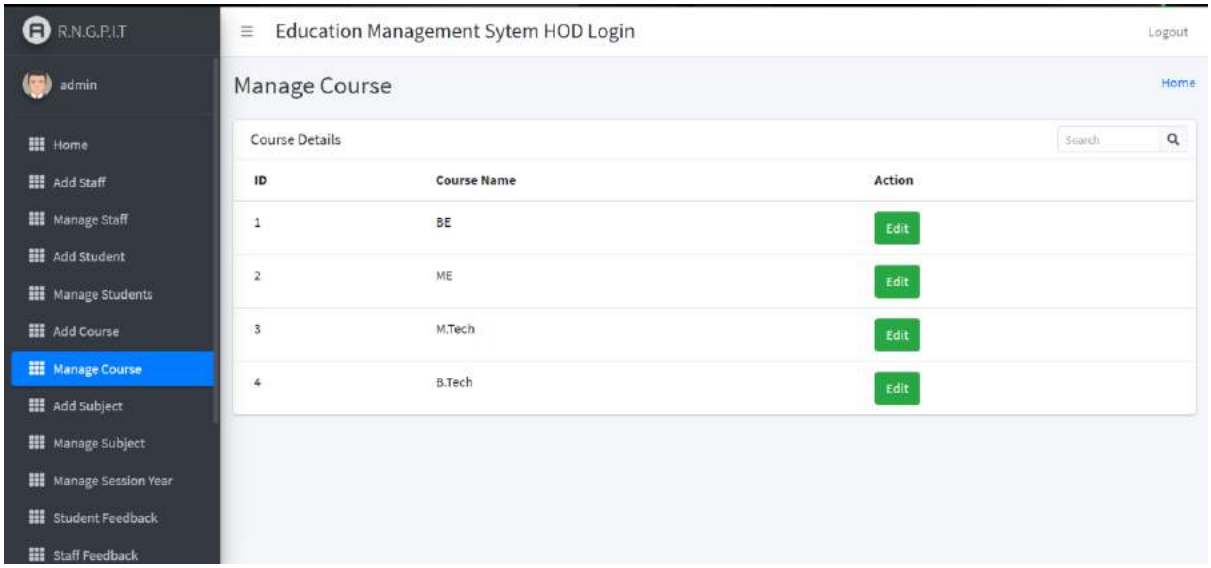
- **Add and Manage Student Using Admin Panel**



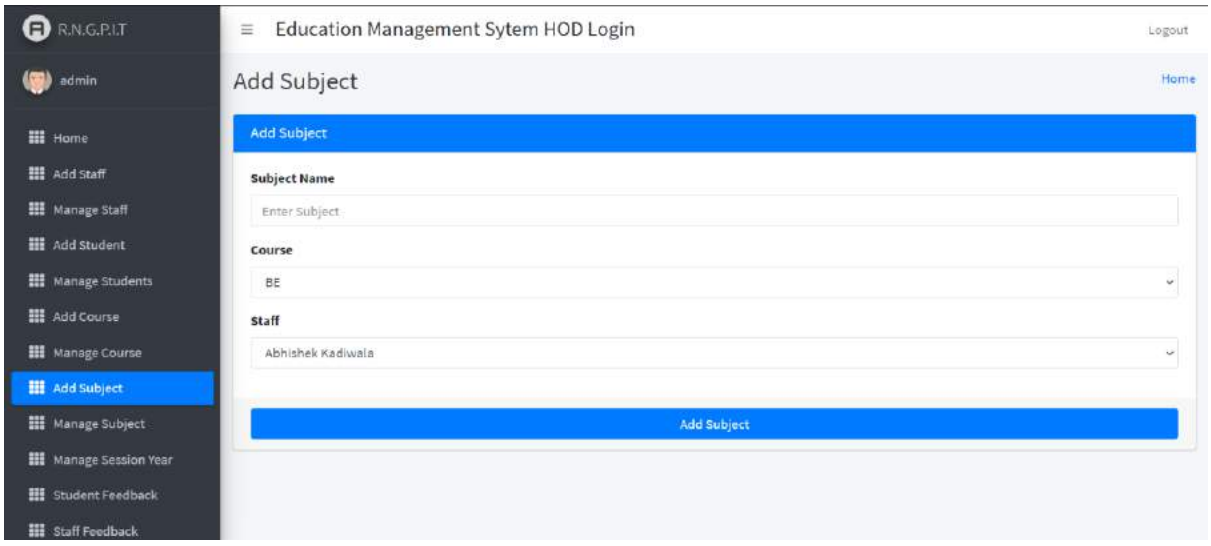


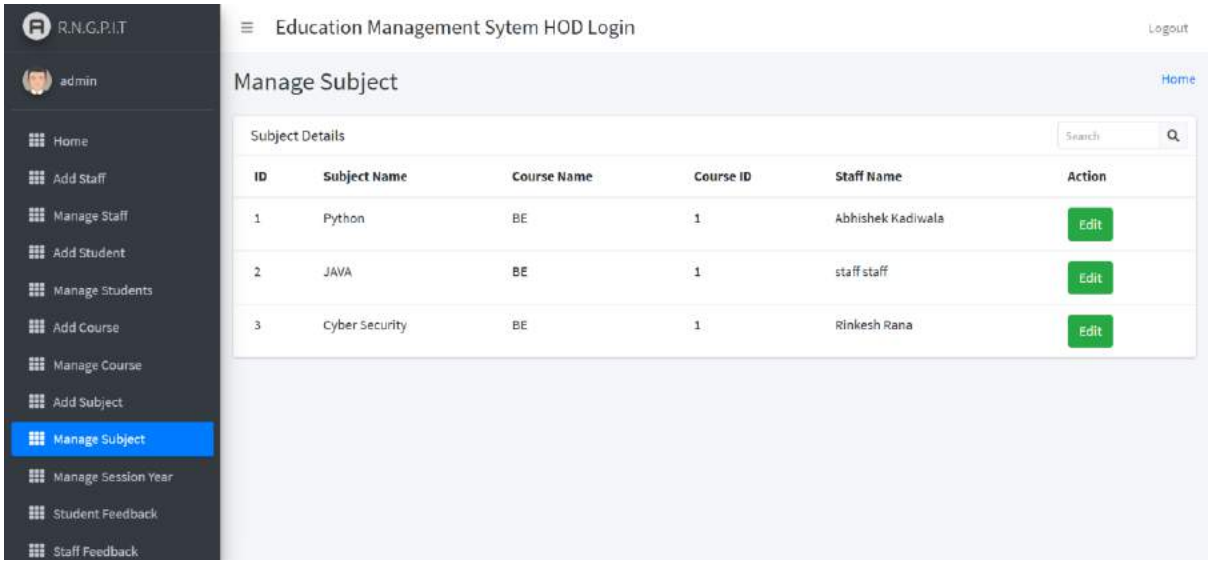
- **Add and Manage Course Using Admin Panel**



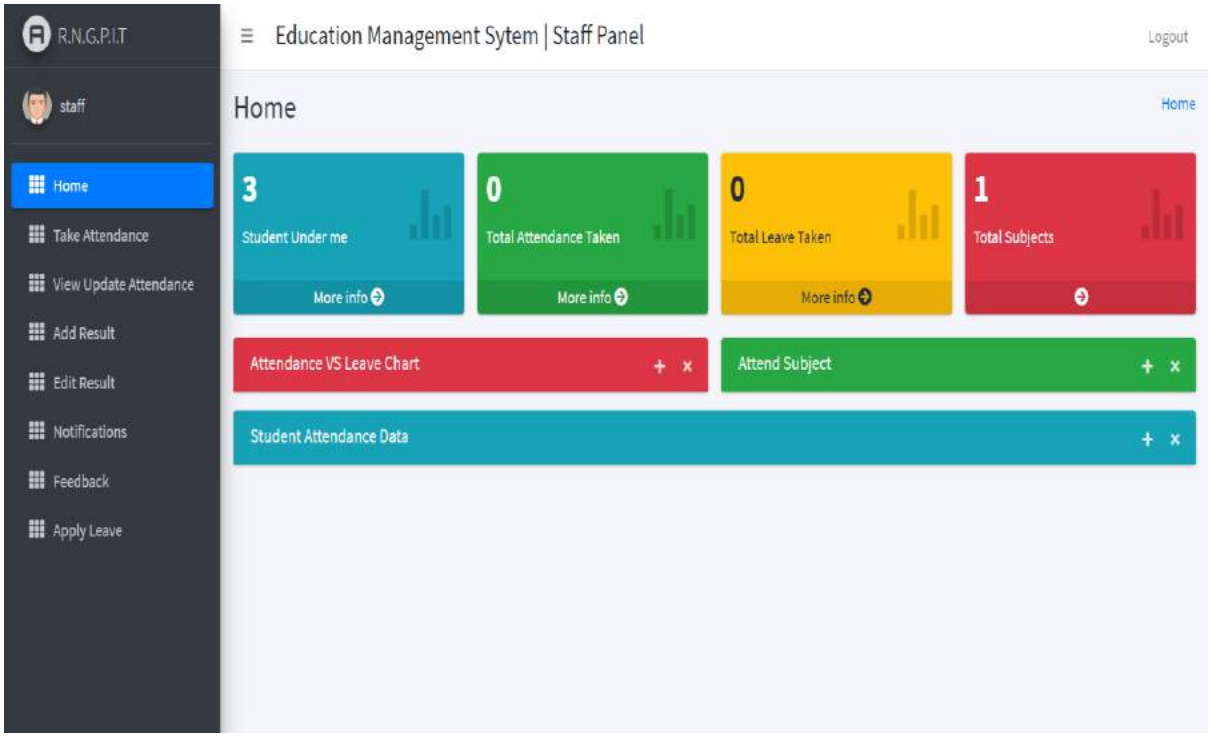


- **Add and Manage Subject Using Admin Panel**

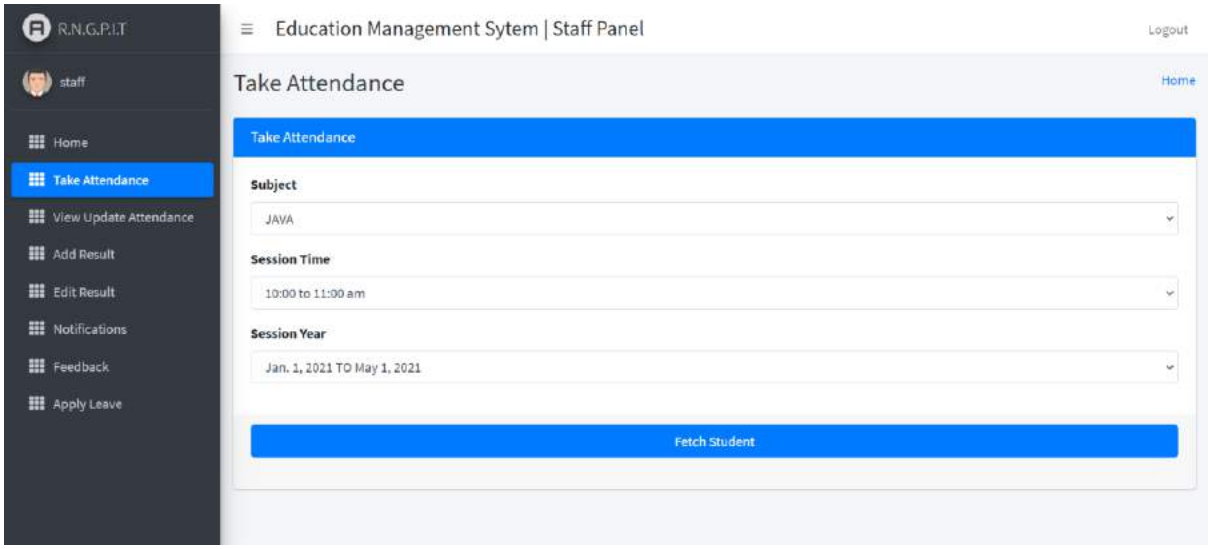


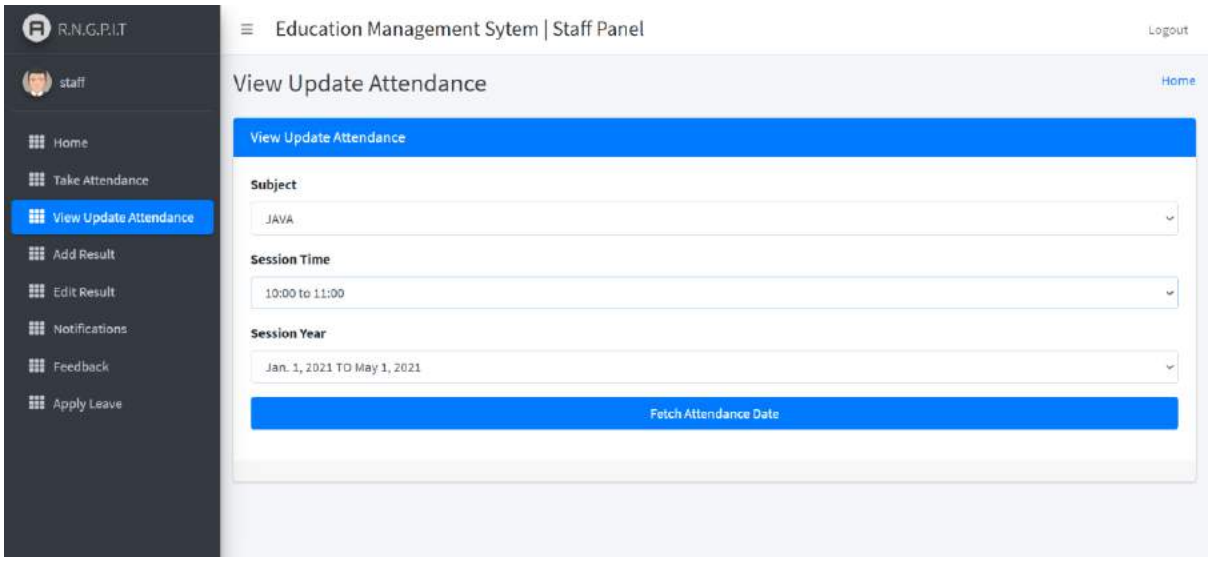


- **Staff Dashboard**

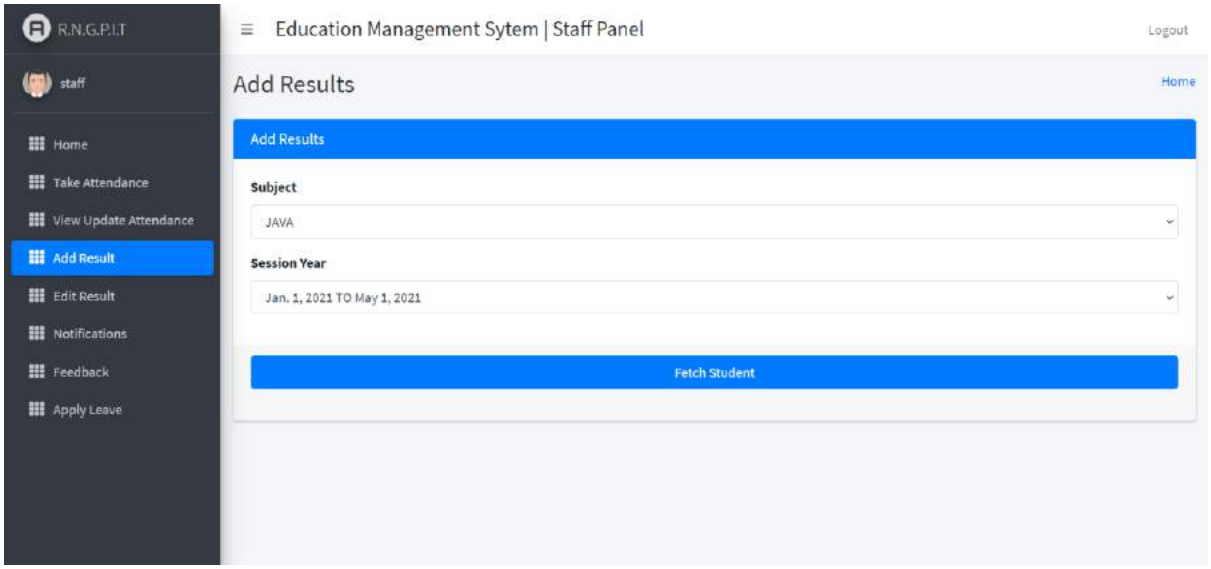


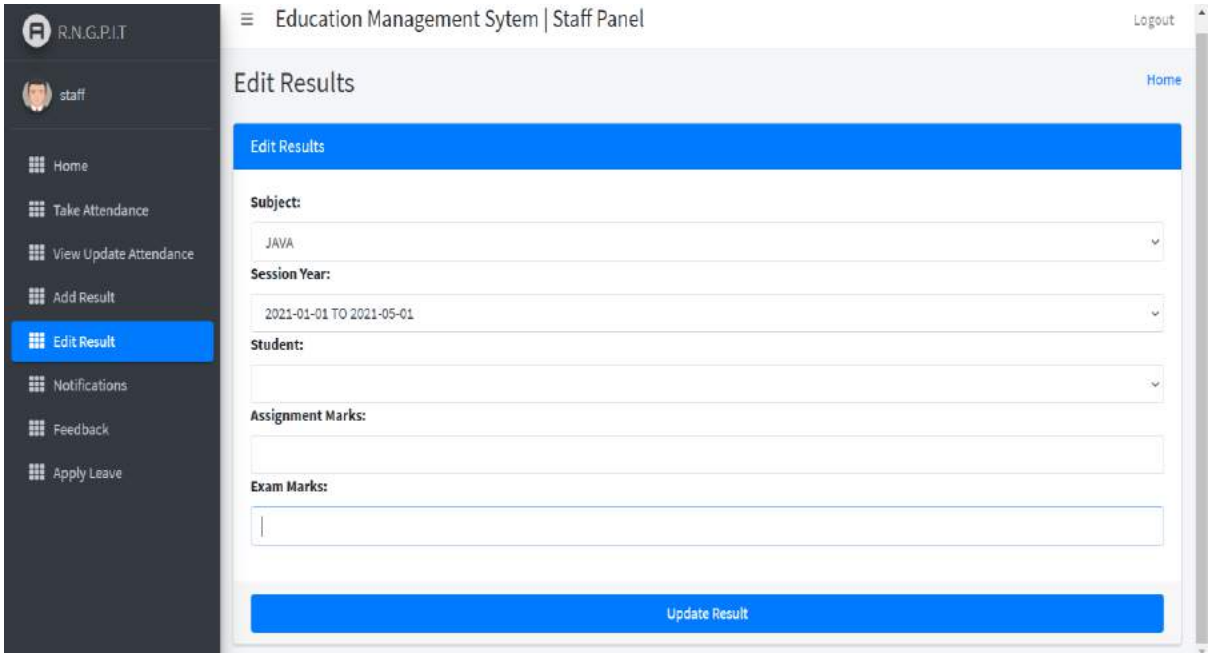
- **Manage Attendance using Staff Panel**



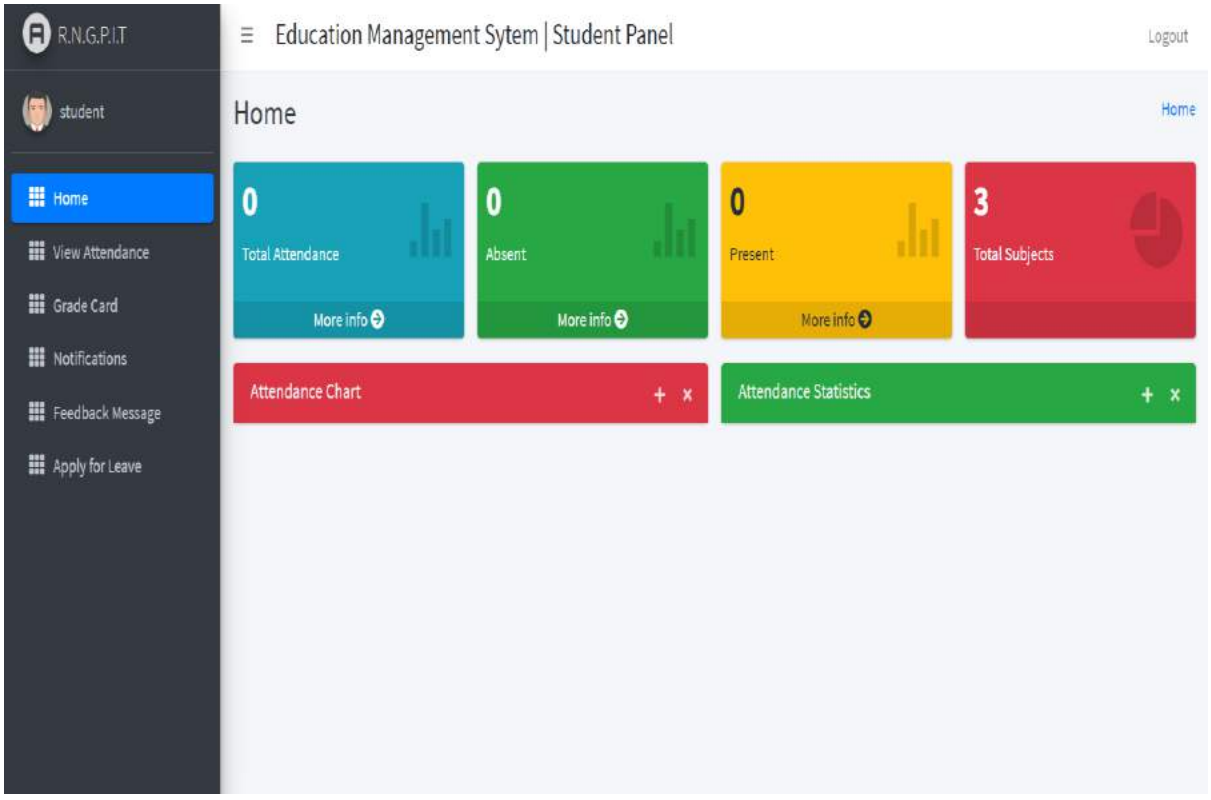


- **Manage Result using Staff Panel**

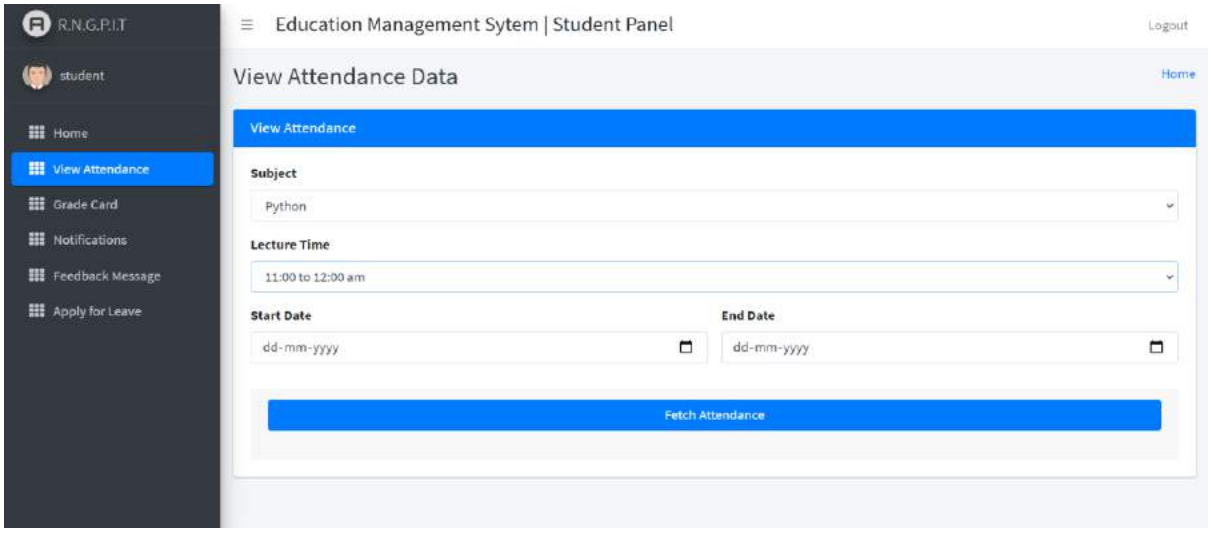




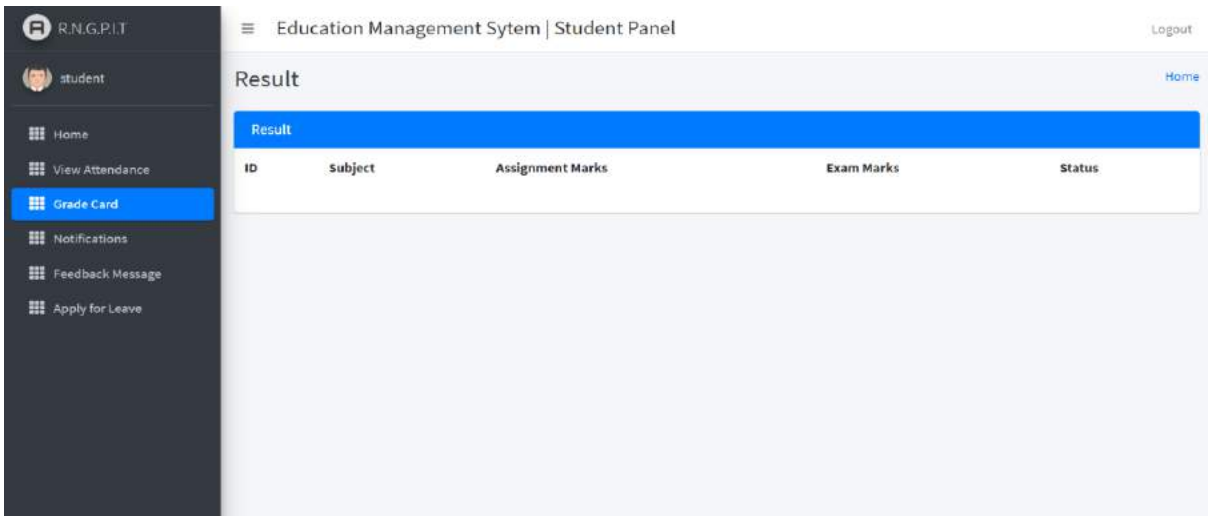
- **Student Dashboard**



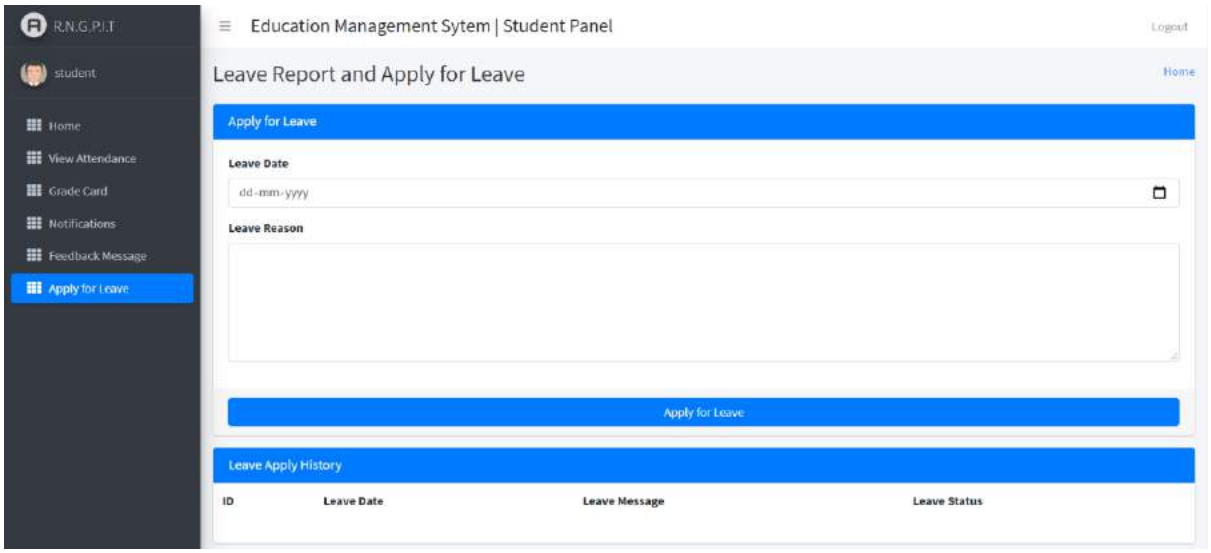
- **View Attendance**



- **View Grade Card**



- **Apply Leave**



Chapter 7
Testing of Final Model

7.1 Test case 01:-

7.1.1 Test for Login

Test ID	**Test Case 01**
Test case Name	Authentication of login.
Test case Description	Check username and password.
Test Procedure	If new user then click on sign up If existing on login.
Criteria	The website must properly Authentication.
Input	Enter username and password.
Expected Result	Username and password should matched with Database.
Test Result	Successfully done.

Table: 7.1.1.1 Test for Login

7.1.2 Test for Registration

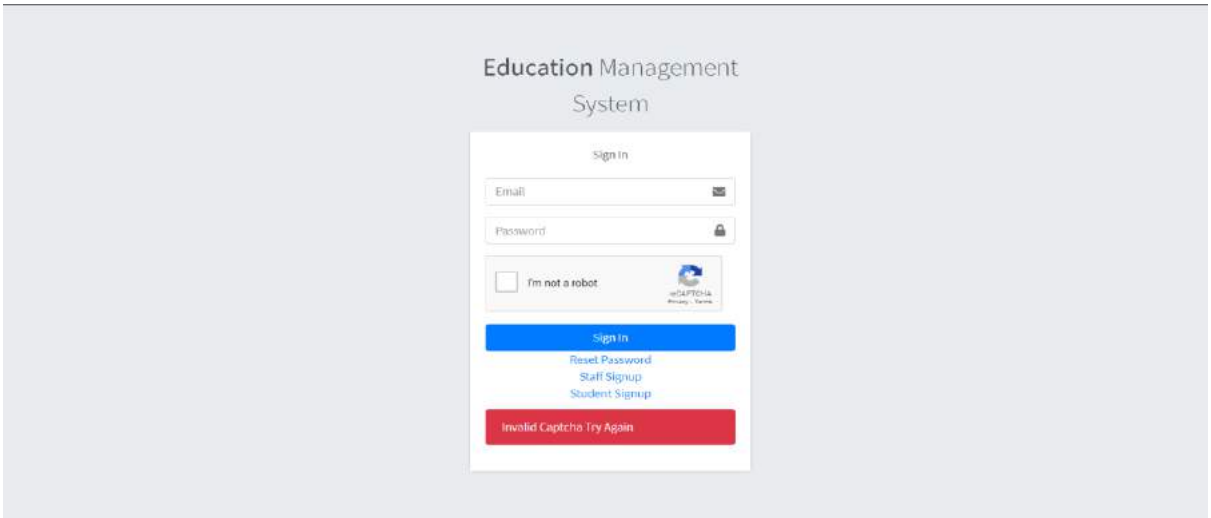
Test ID	**Test Case 01**
Test case Name	Authentication of Registration.
Test case Description	Check all Inputs.
Test Procedure	If new user then click on sign up.

Criteria	The website must properly Authentication.
Input	Enter provided field inputs.
Expected Result	All data are entered in Database.
Test Result	Successfully done.

Table: 7.1.2.1Test for Registration

7.2 Test case 02:-

7.2.1 Validation of login:



7.2.1 Validation of Registration:

Chapter 8 Future Enhancement

The System has many plans for future. If the present modules are being appreciated the system would certainly go for its better options that would make the system more better in all the terms of the helping system.

The system has plans like give facility of notification for results of different rounds taken in placement process.& also plan for give control panel for different user according their privileges.

CONCLUSION

After the exercise of Reverse Engineering, we came to the conclusion that the system is to be providing more functionality as well as user friendly site and to automate all the functionality of the Recruitment system, search job by skill, by role, by qualification. Thus for the satisfaction of the users adding the features of mailing and texting to the user through admin and recruiter.

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