Advanced Project Management System

A PROJECT REPORT

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LDRP INSTITUTE OF TECHNOLOGY AND RESEARCH GANDHINAGAR

CE-IT Department

CERTIFICATE

This is to certify that the Project Work entitled **"Advanced Project Management System"** has been carried out by **Patel Meet R.[19BECE30112**] under my guidance in fulfillment of the degree of Bachelor of Engineering in Computer Engineering Semester-8 of Kadi Sarva Vishwavidyalaya University during the academic year 2022-23.

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<u>ACKNOWLEDGEMENT</u>

<u>ABSTRACT</u>

The Project Management System (PMS) is an online platform that helps universities plan, execute, and monitor projects efficiently. It provides a single platform for project system and approval, allowing students to request their mentors and enabling faculty to accept or deny these requests. PMS streamlines project activities, from assigning tasks and tracking progress to facilitating team communication and collaboration. Faculty can monitor project timelines, resources, and performance metrics in real-time, reducing the risk of delays. Students can upload their project reports or GitHub repositories to PMS. With PMS, teams can communicate and share updates, files, and project documentation in one central location, enhancing collaboration and accountability. Overall, PMS is a comprehensive solution that helps students achieve their project goals while improving efficiency and collaboration.

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1.1 Introduction:

- The project is an online project management system designed for universities and colleges. It has four main sections: dashboard, kanban, upload files, and comment. The dashboard displays project details such as project name, mentor, description, and group members. The Kanban board tracks the progress of uploaded files and tasks assigned to each student. The upload files section allows students to submit their projects. The comment section enables students and faculty members to discuss project-related issues. The faculty side portal has view access to the Kanban board, the ability to accept or deny project upload requests, and a chat feature. On the other hand, the student side portal automatically designates the project creator as the group leader, and team members can join the group using a generated invite code. Overall, the system provides a comprehensive and efficient platform for managing university and college projects.

1.2 Project Scope:

The scopes are mentioned below:

- Create different users with varied roles and scopes.
- Confirm each member by providing activation codes.
- Manage all project details like tasks, deadlines, team members, and resources.
- Assign different tasks to different students.
- Provide a comment section where faculty and student can communicate.
- Update all members about new proceedings in the project.
- Maintain the start date and end date of each task
- Maintain the overall timeline of the project.
- Admin can upload the Student and Faculty data via CSV and could assign credential.
- Student Could upload their project reports and presentation files in the upload section.
- Customizable Kanban board.
- Faculty can accept or deny the request for guidance on the project.
- Display the details of the individuals on the home page.

1.3 Project summary and Purpose:

- The purpose of this project is to provide universities and colleges with an efficient and streamlined online project management system.

- This system aims to help both students and faculty members manage their projects more effectively by providing them with tools such as a dashboard to view project details, a Kanban board to track project progress, a file upload section for project submission, and a comment section for project-related discussions.

- The system also aims to facilitate communication between students and faculty members, providing them with a chat feature to discuss any issues related to the project.

- The main objective of this project is to simplify the project management process, reduce errors, and save time for both students and faculty members, thereby enhancing the overall project management experience for universities and colleges.

1.4 Overview of the project:

- This system aims to help both students and faculty members manage their projects more effectively by providing them with tools such as a dashboard to view project details, a Kanban board to track project progress, a file upload section for project submission, and a comment section for project-related discussions. The system also aims to facilitate communication between students and faculty members, providing them with a chat feature to discuss any issues related to the project. The main objective of this project is to simplify the project management process, reduce errors, and save time for both students and faculty members, thereby enhancing the overall project management experience for universities and colleges.

1.5 Problem definition:

The problem statement of this project is that universities and colleges face difficulties in managing projects due to the lack of an efficient and streamlined system.

- Project management is a complex task that involves various activities such as project planning, task allocation, progress tracking, and communication.
- Traditionally, universities and colleges have relied on manual methods to manage projects, which can be time-consuming, error-prone, and inefficient.

- In addition, the lack of a proper system for project management often results in miscommunication, missed deadlines, and poor project outcomes. Therefore, there is a need for an online project management system that can help universities and colleges manage their projects more efficiently and effectively.
- This project aims to address this problem by providing an automated and user-friendly project management system that meets the needs of both students and faculty members.

1.6 Objective:

The main objective of this project is to:

- To provide a user-friendly platform for universities and colleges to manage projects efficiently and effectively.
- To simplify the project management process and reduce errors.
- To enhance communication and collaboration between students and faculty members.
- To provide tools such as a dashboard, kanban board, file upload section, and comment section to aid in project management.
- To improve project outcomes by providing a structured and organized approach to project management.
- To save time for both students and faculty members by automating project management tasks.
- To provide a centralized location for project-related information, making it easily accessible to all team members.
- To enable faculty members to monitor project progress and provide feedback to students in a timely manner.

2. SYSTEM REQUIREMENT STUDY

2.1 About Tools and Technology:

2.2 User Characteristics:

2.3 Hardware and Software Requirements:

2.4 Assumptions and Dependencies:

2.1 About Tools and Technology:

- Cascading Style Sheet (CSS 3 + SCSS) : styling the HTML pages
- JavaScript : providing dynamic content for the HTML pages
- Jquery : provide dynamic data to the request pages
- Bootstrap4 : styling the HTML pages using predefined classes of bootstrap
- ReactJS : for frontend
- Express.js : for routing
- Node.js & mongoose : for backend
- MongoDB : database manager to add, update and fetch data from the database using Node.js mongoose module
- UI modules :

  ○ TailwindCSS

  ○ Ng-zorro UI component : tooltip, modal, select, icon and more.

  ○ ngx-quill

2.2 User Characteristics:

- The online project management system is designed to be used by three main categories of users: students, faculties and admin. The characteristics of these three user groups are:
- **Students**: Students are the primary users of the project management system. They are typically working on academic projects in groups and need a platform to manage their projects efficiently. They have varying levels of technical expertise and may require support to use the system. Some of the key characteristics of students as users are:
1. They need a platform to upload project files and collaborate with their group members.
2. They need to track the progress of their projects and have a clear understanding of the project timeline.
3. They may require assistance from the mentor with technical issues related to their project.
4. They need a system that is easy to use and navigate.
5. They need a unique code to invite other students(members).

- **Faculty members**: Faculty members are the secondary users of the project management system. They are responsible for accepting and denying the request for guidance, supervising student projects and providing feedback. They need a platform to monitor the progress of projects and communicate with students. Some of the key characteristics of faculty members as users are:
1. They need access to project files and progress tracking information.
2. They need a system to communicate with students about project-related issues.
3. They need to be able to provide feedback to students in a timely manner.
4. They may require access to analytics and reports related to project performance.
5. They may move the task in the kanban board and mark it as completed.

- **Admin**: The admin is the primary user of the project management system. They are responsible for managing the system, adding users, and providing access to the necessary tools and resources. Some of the key characteristics of admins as users are:
1. They have full access to the system and can manage user accounts and permissions.
2. They can add new users to the system using CSV files and provide credentials for login.
3. They can manage the system settings and configure the project management tools
4. They can monitor the system usage and generate reports on user activity and performance.
5. They can oversee the project management process and provide guidance to faculty and students.

2.3 Hardware and Software Requirements:

Hardware Requirements:

The most common set of requirements defined by any operating system or software application is the physical computer resources, also known as hardware. A hardware requirements list is often accompanied by a hardware compatibility list (HCL), especially in case of operating systems. An HCL lists tested, compatibility and sometimes incompatible hardware devices for a particular operating system or application. The following subsections discuss the various aspects of hardware requirements.

Microsoft Windows XP Professional SP3/Vista SP1/Windows 7 Professional:

Processor: 800MHz Intel Pentium III or equivalent, i3

Memory: 512 MB Disk

space: 750 MB of free disk space

Ubuntu 9.10:

Processor: 800MHz Intel Pentium III or equivalent

Memory: 512 MB

space: 650 MB of free disk space

Software Requirements:

Software Requirements are an essential aspect of software development as they define the resources and prerequisites that are needed to run an application optimally. These requirements help to ensure that the computer system has the necessary hardware and software specifications to run the application smoothly. Some of the key software requirements include hardware specifications such as processor speed, RAM, and storage capacity, software prerequisites such as libraries or frameworks, and network requirements for internet connectivity and bandwidth. These requirements are crucial for the correct installation and configuration of the application. If the requirements are not met, the application may not function correctly or may experience performance issues. Keeping the software requirements up to date is important as they may change over time.

OPERATING SYSTEM: Windows 7/ XP/8 And above

2.4 Assumptions and Dependencies:

Assumptions:

- Availability of stable internet connection: The online project management system is a web-based application that requires an internet connection to function. The system assumes that the users have access to a stable internet connection for smooth operation.
- Availability of web browsers: The online project management system assumes that the users have access to web browsers such as Google Chrome, Firefox, or Safari to access the system.
- User adoption: The success of the project depends on the users' adoption of the system. The system assumes that the users will use the system as intended and provide feedback to improve the system's functionality.

- User training: The system assumes that the users will require training to use the system effectively. It assumes that the users will be willing to undergo training and support to use the system.

Dependencies:

- Security: The system assumes that the data stored in the system is secure and protected from unauthorized access.
- Integration with existing systems: The system assumes that it will integrate seamlessly with existing university systems such as email, authentication, and student information systems.
- System maintenance: The system assumes that regular maintenance and updates will be carried out to ensure the system's functionality and security.
- System scalability: The system assumes that it can handle a large number of users and projects and can scale to meet the changing needs of universities and colleges.

3. PROJECT PLANNING

3.1 Brief History of Work Done:

3.2 Project Development Approach:

3.3 Model Selection:

3.1 Brief History of Work Done:

- The research that had been conducted prior to the development of the Project Management System (PMS) was focused on identifying the best technology solutions to meet the needs of the project. This involved a deep dive into different programming languages, SQL databases, and web servers. The research aimed to identify which of these technologies would be the most suitable for the PMS system, taking into account factors such as security, scalability, performance, and ease of integration with other tools.

- Once the technology decisions were made, the next step was to design and develop the PMS system. During this phase, the team discussed the system architecture, identifying how the client-side and server-side would interact and communicate with each other. This helped the team to determine the best way to structure the system, making sure that it would meet the needs of the end-users and be scalable for future growth. The result of this careful planning was a robust, user-friendly PMS that provides an effective solution for project management.

3.2 Project Development Approach:

- The project development approach for the online project management system could follow the Agile methodology, which emphasizes iterative development, continuous feedback, and collaboration between the development team.

- The Agile methodology involves breaking the project into smaller components called sprints, each with a specific set of objectives to be achieved. At the end of each sprint, the development team will present the deliverables for review and feedback. This approach ensures that the project stays on track, and feedback is incorporated into the project in a timely manner.

- The project development team can use the following process for the development of the online project management system:

1. **Project Planning**: In this stage, the project team will define the project scope, objectives, requirements, and timelines. They will also identify the development team and their roles in the project.

2. **Sprint Planning**: The project team will break the project into smaller sprints, each with specific deliverables and timelines. The team will also determine the resources required for each sprint.

3. **Sprint Development**: The development team will work on developing the deliverables identified in each sprint.

4. **Sprint Review**: Development team will review the deliverables presented by the development team and provide feedback. The feedback will be incorporated into the next sprint.

5. **Sprint Retrospective**: The development team will review the sprint and identify areas for improvement. They will also plan for the next sprint based on the feedback received.

6. **System Testing and Deployment**: Once all sprints are completed, the system will be tested thoroughly for bugs and errors. After successful testing, the system will be deployed to production.

7. **Maintenance and Support**: After deployment, the project team will provide ongoing maintenance and support for the system, including bug fixes and updates.

Overall, the Agile methodology will allow for the development of the online project management system in an efficient and collaborative manner, with development team's feedback incorporated at every stage.

3.3 Model Selection:
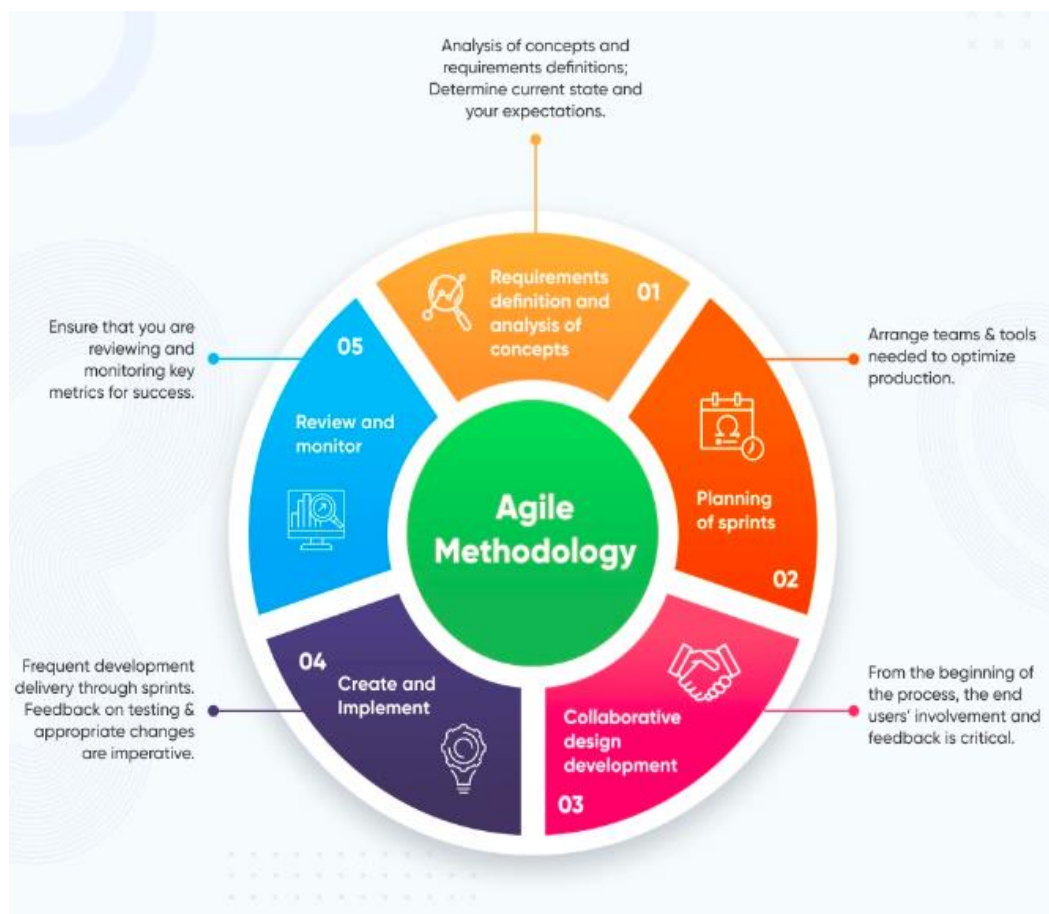
4. SYSTEM WEAKNESS AND REQUIREMENTS

4.1 Problem And Weaknesses of Previous System:

4.2 Functional Requirements:

    4.2.1 User Modules:

    4.2.2 Manage Authentication:

    4.2.3 Functional Requirements for Administrator

    4.2.4 Functional Requirements for Faculties

    4.2.5 Functional Requirements for Students

4.3 Non-Functional Requirements:

4.4 Feasibility Study:

4.1 Problem and Weaknesses of Previous System:

A project management system has been in a more traditional way for all these years. It is done manually where all the registration, allocation and markings are in hardcopies and forms and then managed by coordinators. While the coordinators are doing a great job, this management system has several disadvantages.

- It is time-consuming and requires more manpower in running the manual system, hence it is denoted as less efficient.
- In communicating with all the participants, the committee also having problems and difficulties because there is no specific medium of interaction and this will cause delays.
- There are also problems aroused in archiving and storage. The previous data are hard to search and tend to be eliminated after some period of time. The manual system also uses much more storage for all the hardcopies.

4.2 Functional Requirements:

4.2.1 User Modules:
- Faculty members
- Students
- Admin

❖ General Functional Requirements:

- **User Registration and Login**: The system must have a user registration operated by admin and login system for all – admin, faculties and students to access the system.
- **Dashboard**: The system must provide a dashboard for the users to view the project details such as project name, project mentor, project description, and group members.
- **Project Management**: The system must allow the students to create projects, and the faculty must have the ability to accept or deny project upload requests. The system must also generate a unique code for each project, which the group leader can share with other group members to join the project.

- **Kanban Board**: The system must provide a Kanban board for the users to track the progress of their projects.
- **Comment Section**: The system must provide a comment section for the users to discuss the project-related issues and share feedback.
- **Add User Section**: The system must provide the add user section for admin to add/edit/remove user and its details with the CSV.
- **Upload Section:** The system must provide upload section to upload the project files and links.

These functional requirements are essential to ensure the successful management of projects and collaboration between faculty and students. The development team can further refine these requirements based on the specific needs of the universities and colleges.

4.2.2 Manage Authentication:

Login:

Input: Email and Password

Output: Success or failure

Description: The user can use this page to login into the system by entering personal credentials (email and password) and will be redirected to a home page to use the features of the website.

Constraints: Email must have the domain of ldrp (@ldrp.ac.in). Password must be at least 8 characters in length.

Process: Check the email and matching password in the database. If found in the database, then redirect the user to the change password page, where the user has to change the password and then log in again so that they can be redirected to the home page.

Exceptional Scenario: Show an error message and ask the user for credentials again. If the user attempts three consecutive failed logins, then deactivate the user account and show a notification to the user. Users can contact the admin to activate his/her account.

Precondition: user must be registered on the website. Postcondition: the user is logged in to the website, and a new session is associated with the client connection.

Signup:

Input: User details

Output: Success or failure

Description: Admin can use this page to add students/faculties to the system by entering personal credentials (first name, last name, phone no., email, password, and department) and will be redirected to a home page to use the features of the website.

Constraints: Email must have a LDRP domain. Password must be at least 8 characters in length.

Process: Check that the email is not already used in the database. If found in the database, then redirect the user to sign up again with a proper error message.

Exceptional Scenario: The user is already registered to the system. In this case, an appropriate message should be displayed, and the user should be redirected to the Login page.

Precondition: user must not be registered on the website. Postcondition: the user is logged in to the website, and a new session is associated with the client connection.

Change the password

Input: User details [User email]

Output: Success or failure message

Description: The user can use this page to change the password by entering personal credentials (email) and will be redirected to a home page to use the features of the website.

Constraints: Email must have the domain of ldrp (@ldrp.ac.in). Password must be at least 8 characters in length.

Process: Check that the email is already registered in the database. If found in the database, then redirect the user to update the password page again with a proper success message.

Exceptional Scenario: The user is not already registered to the system. In this case, an appropriate message should be displayed and user should be redirected to the Register page.

Precondition: user must be registered on the website.

4.2.3 Functional Requirements for Administrator:

- The administrator should be able to add new students to the system by providing their personal information such as name, email address, phone number, student ID, and department.

- The administrator should be able to add new faculties to the system by providing their personal information such as name, email address, phone number, and faculty ID, department, and designation.
- The administrator should be able to import a CSV file containing a list of students and faculties to the system.
- The CSV file should be validated to ensure that all the required fields are present and in the correct format.
- The administrator should be able to view a list of all the students and faculties in the system.
- The administrator should be able to edit the profile information (Only a few editable fields e.g. designation of the faculty) of any student or faculty member in the system.
- The administrator should be able to delete a student or faculty member from the system.
- The system should maintain a log of all the changes made by the administrator.
- The administrator should be required to authenticate themselves before performing any administrative task to ensure the security of the system.
- The system should restrict access to administrative functions to authorized personnel only.

4.2.4 Functional Requirements for Faculties:

- The faculties should be able to accept or deny the request to become a mentor for a project.
- The faculties should be able to view the Kanban app to monitor the progress of the project.
- The faculties should be able to view the project reports and presentation files submitted by the students.
- The faculties should be able to give comments and feedback to the students regarding their projects.
- The faculties should be able to move tasks (from the review section) to completed within the Kanban app to reflect the progress of the project.
- The faculties should be required to authenticate themselves before accessing the system to ensure the security of the system and thus restrict access to project-related functions to authorized faculties only.

4.2.5 Functional Requirements for students:

- The students should be able to add projects and project details to the system, including project title, description, and deadlines.
- The students should be able to generate an invite code to invite other students to collaborate on the project.
- The system should allow the students to assign tasks to themselves and other students, and monitor their progress through a Kanban app.
- The system should allow the students to upload presentation files and project report files.
- The students should be able to view the list of projects assigned to them and their respective deadlines.
- The students should be required to authenticate themselves before accessing the system to ensure the security of the system.
- The system should restrict access to project-related functions to authorized students only.
- The students should be able to view the progress of the project and the tasks assigned to them through the Kanban app.

4.3 Non-Functional Requirements:

Following is a list of non-functional requirements:

- The system is resistant to faults within the system.

- The system can be accessed from anywhere all the time.

- The system is secured with attack protection, attack prevention by code side(Cross site scripting), encrypted communication channels(https) .

- The system can be accessed from mobile and computer devices.

- Supports the number of users at the same time more than 100 people.

- The system can be used easily.

- The system can support the growth of the user base.

4.4 Feasibility Study:

- A feasibility study is an important step in assessing whether a project is viable and should be pursued. The feasibility study of the online project management system (PMS) involves analyzing various factors such as technical, economic, legal, and operational feasibility.

- Technical Feasibility: The technical feasibility of the PMS involves analyzing whether the technology and infrastructure required for the system are available and can be implemented effectively. The development team should consider factors such as system compatibility, network connectivity, and data security.

- Economic Feasibility: The economic feasibility of the PMS involves analyzing whether the system can be developed and maintained within a budget. The development team should consider factors such as the cost of hardware and software, labor costs, and ongoing maintenance costs.

- Legal Feasibility: The legal feasibility of the PMS involves analyzing whether the system complies with legal and regulatory requirements. The development team should consider factors such as data privacy, intellectual property rights, and accessibility standards.

- Operational Feasibility: The operational feasibility of the PMS involves analyzing whether the system can be implemented and operated within the organization. The development team should consider factors such as user acceptance, training requirements, and scalability.

- Based on the feasibility study, the online project management system appears to be feasible. The technical requirements of the system can be met with the available technology and infrastructure. The economic feasibility of the system can be managed within the budget. The legal requirements can be met by complying with relevant laws and regulations, and the operational feasibility of the system can be achieved through user acceptance and training.

Overall, the feasibility study indicates that the online project management system is a viable project that can be pursued further. The development team can proceed with the development of the system, ensuring that they address any potential risks and challenges identified in the feasibility study.

5. FUNCTION OF SYSTEM

5.1 Current feature:

5.2 Entity Relationship Diagram:

5.3 Use Case Diagram:

5.4 Sequence Diagram:

5.5 Class Diagram:

5.6 Data Flow Diagram:

    5.6.1 DFD(Level 0)

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    5.6.3 DFD(Level 2)

5.7 Activity Diagram:

    5.7.1 Activity Diagram for Admin

    5.7.2 Activity Diagram for Faculty

    5.7.3 Activity Diagram for Student

5.1 Current feature:

- The current features of the online project management system (PMS) are:

1. Dashboard: Users can view project details such as project name, project mentor, project description, and group members.
2. Kanban Board: Users can track the progress of their projects using a Kanban board.
3. File Management: Users can upload and download project-related files, including project reports, presentations, and other supporting documents.
4. Comment Section: Users can discuss project-related issues and share feedback in the comment section.
5. Project Management: Students can create projects, and faculty can accept or deny project upload requests. The system generates a unique code for each project, which the group leader can share with other group members to join the project.
6. Add user section: Admin can add students and faculties separately and with the help of the CSV file.

- These features are essential for effective project management and collaboration between faculty and students. However, it is possible that additional features may be added to the system as per the specific requirements of the universities and colleges. The development team can continue to refine the system and add new features as necessary to improve its functionality and usability.
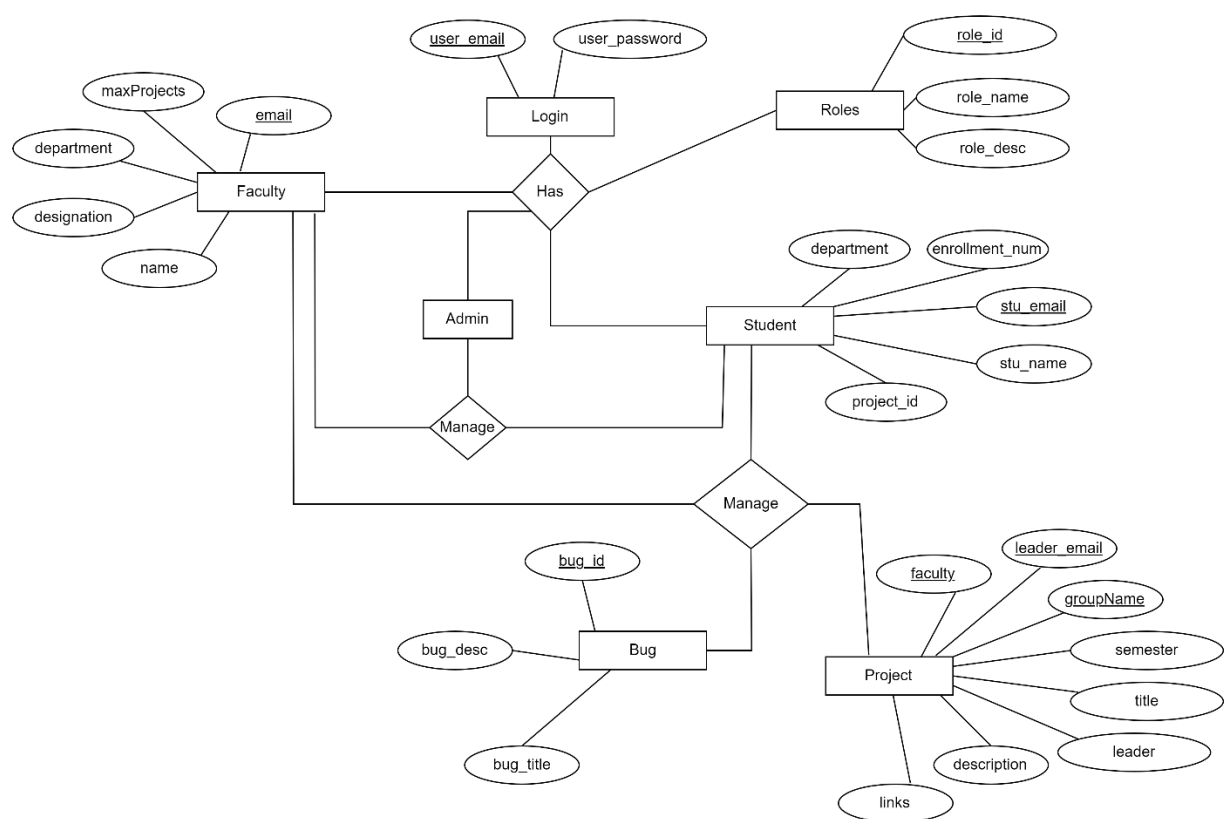
5.2 Entity Relationship Diagram:

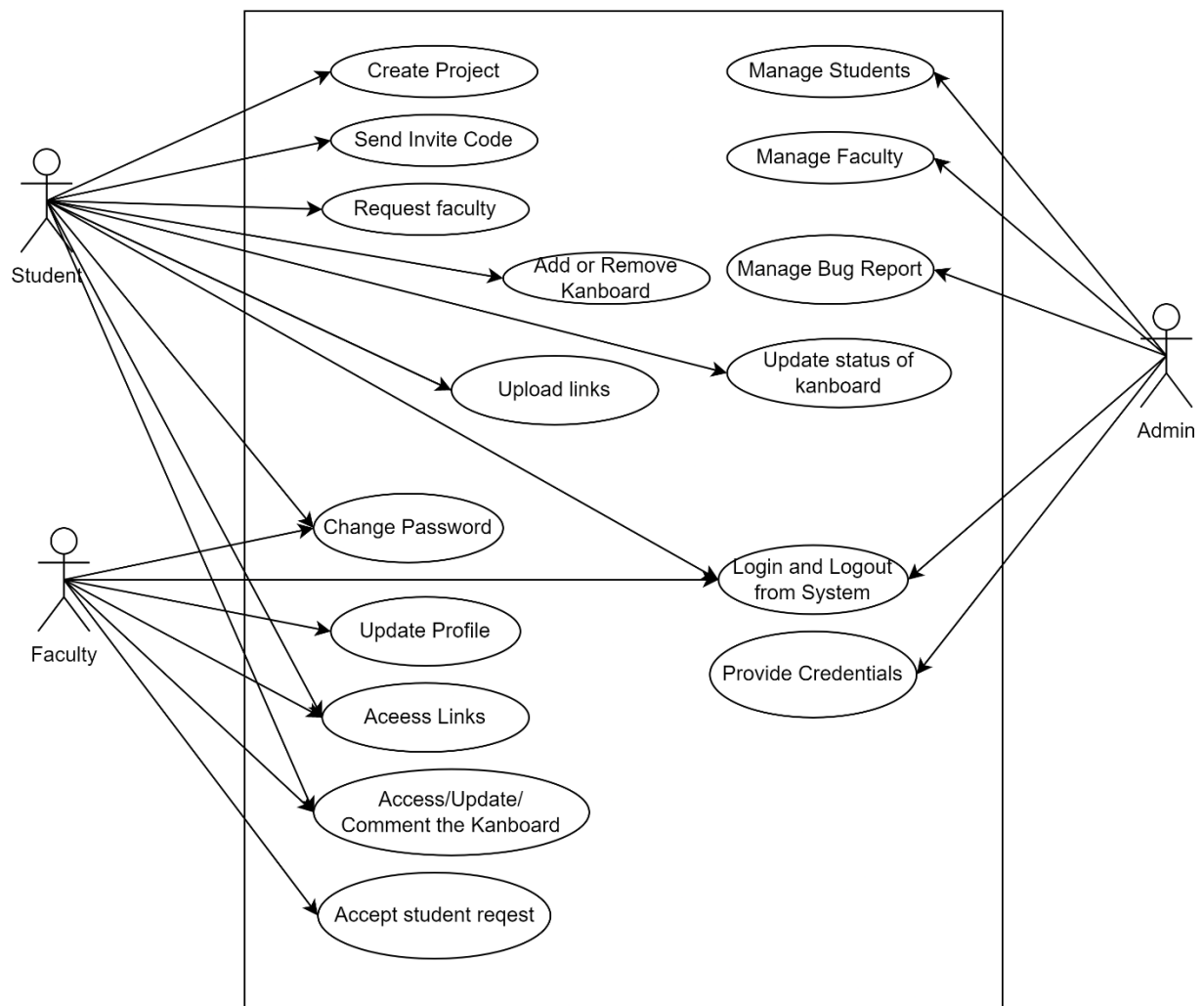**Figure – 5.2: Entity Relationship Diagram**

5.3 Use Case Diagram :
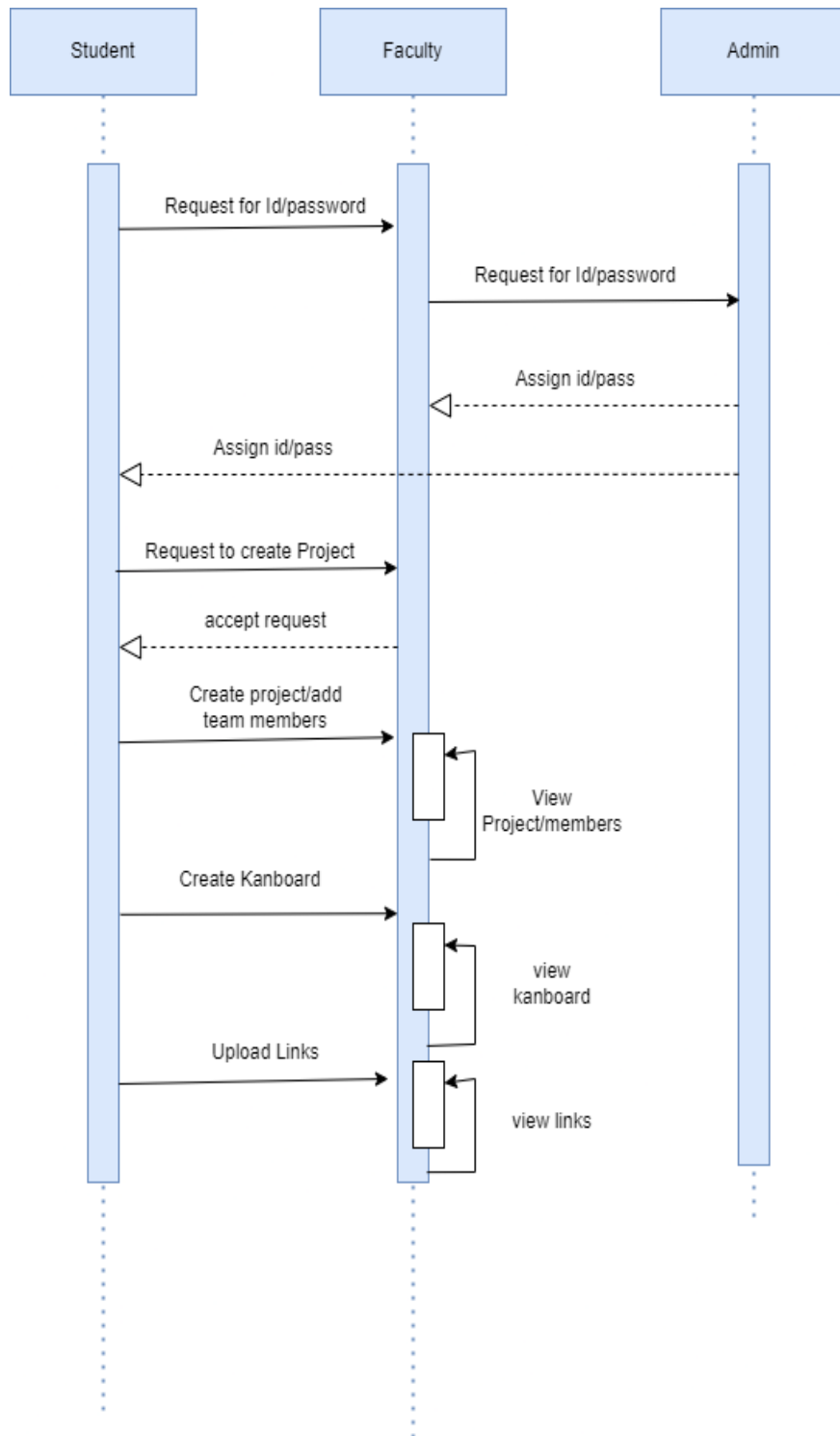

Figure – 5.3: Use Case Diagram

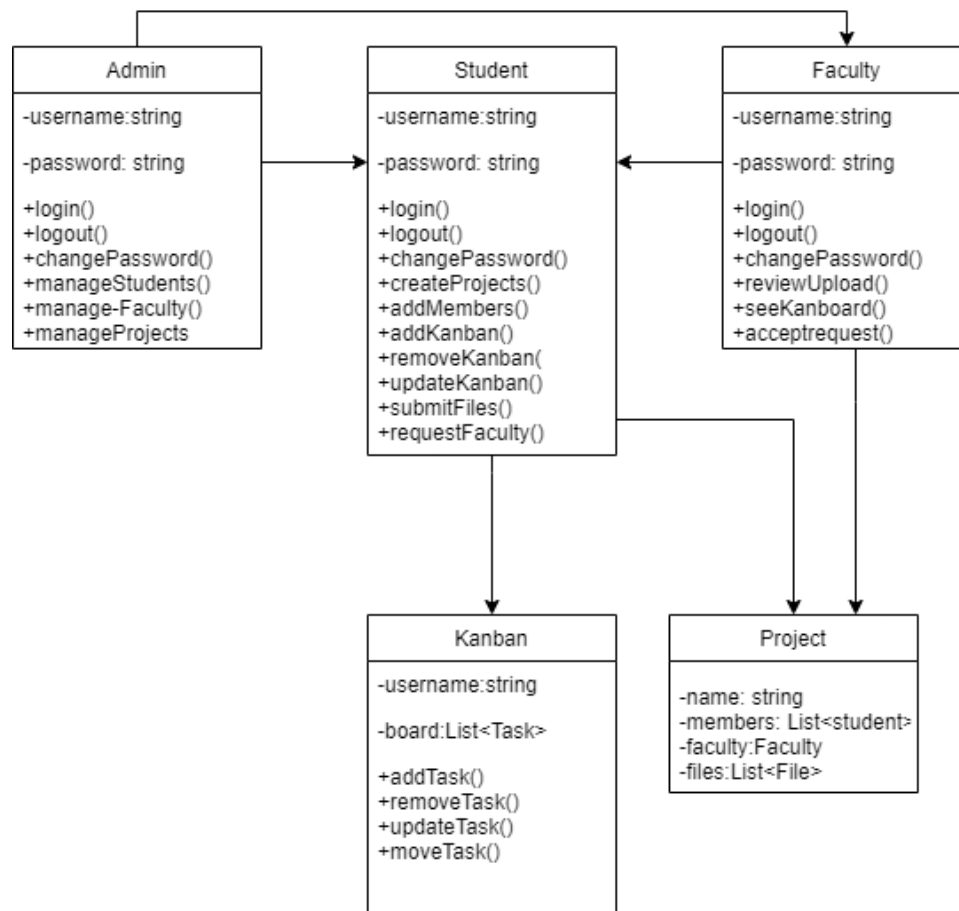## 5.4 Sequence Diagram:

Figure – 5.4: Sequence Diagram

5.5 Class Diagram:

Admin

-username:string

-password: string

+login()
+logout()
+changePassword()
+manageStudents()
+manage-Faculty()
+manageProjects

Student

-username:string

-password: string

+login()
+logout()
+changePassword()
+createProjects()
+addMembers()
+addKanban()
+removeKanban(
+updateKanban()
+submitFiles()
+requestFaculty()

Faculty

-username:string

-password: string

+login()
+logout()
+changePassword()
+reviewUpload()
+seeKanboard()
+acceptrequest()

Kanban

-username:string

-board:List<Task>

+addTask()
+removeTask()
+updateTask()
+moveTask()

Project

-name: string
-members: List<student>
-faculty:Faculty
-files:List<File>

Figure – 5.5: Class Diagram

5.6 Data Flow Diagram:

Level - 1

Figure - 5.6.1: DFD Level – 0

Admin

manage student, faculty
and projects

View Progress, Maanage
Student, Access Files

Project
Mentor

Manage
Project
Details

Student

upload files, create project,
add team members, create
kanboard
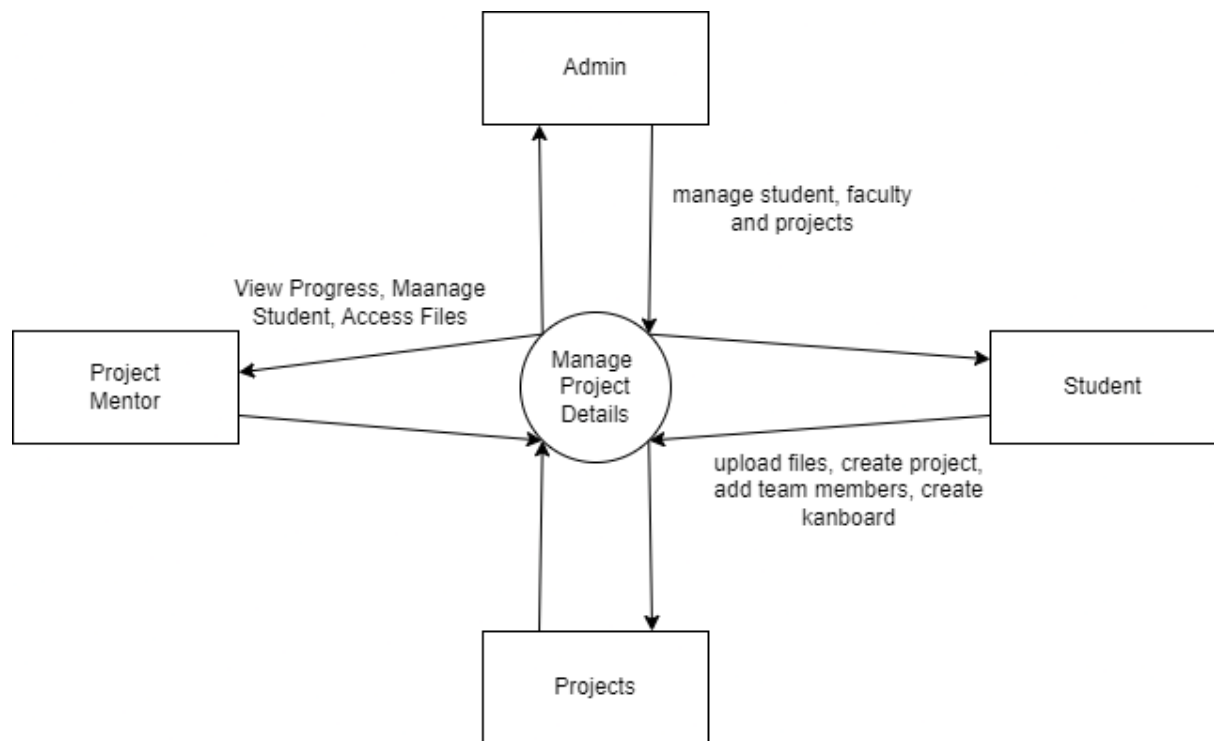
Projects

Figure - 5.6.2: DFD Level – 1
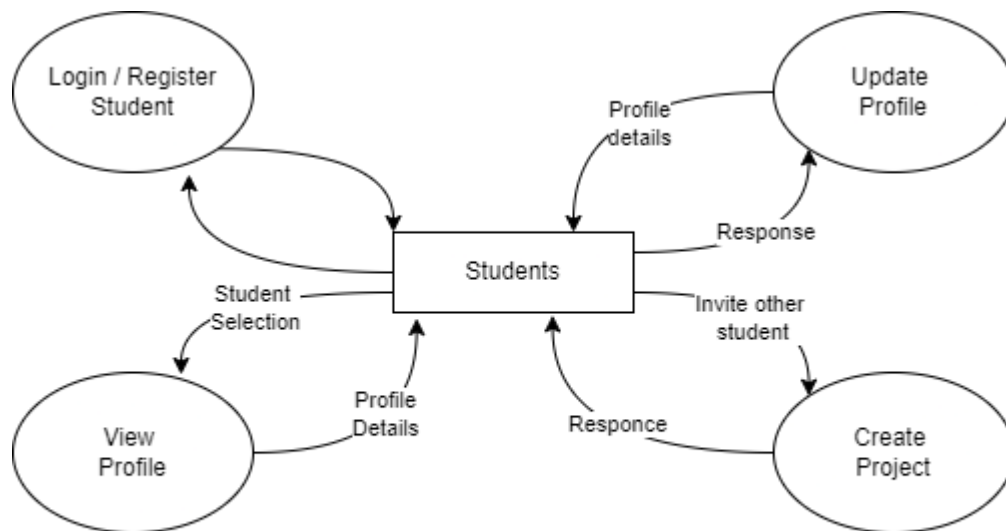
Level - 2
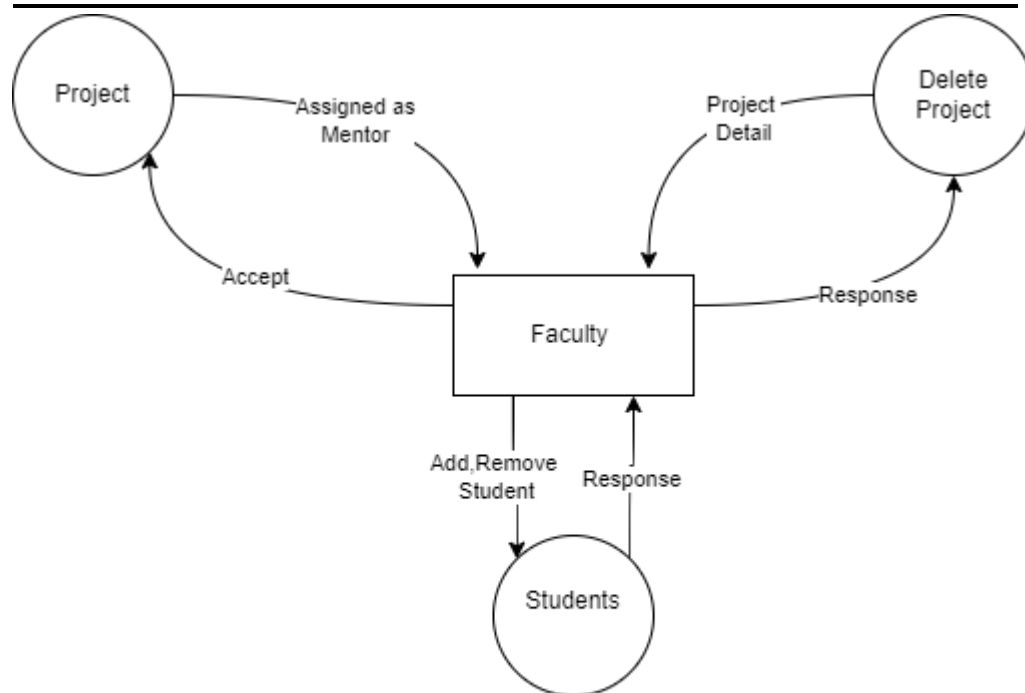
Level - 2

Figure - 5.6.3: DFD Level - 2

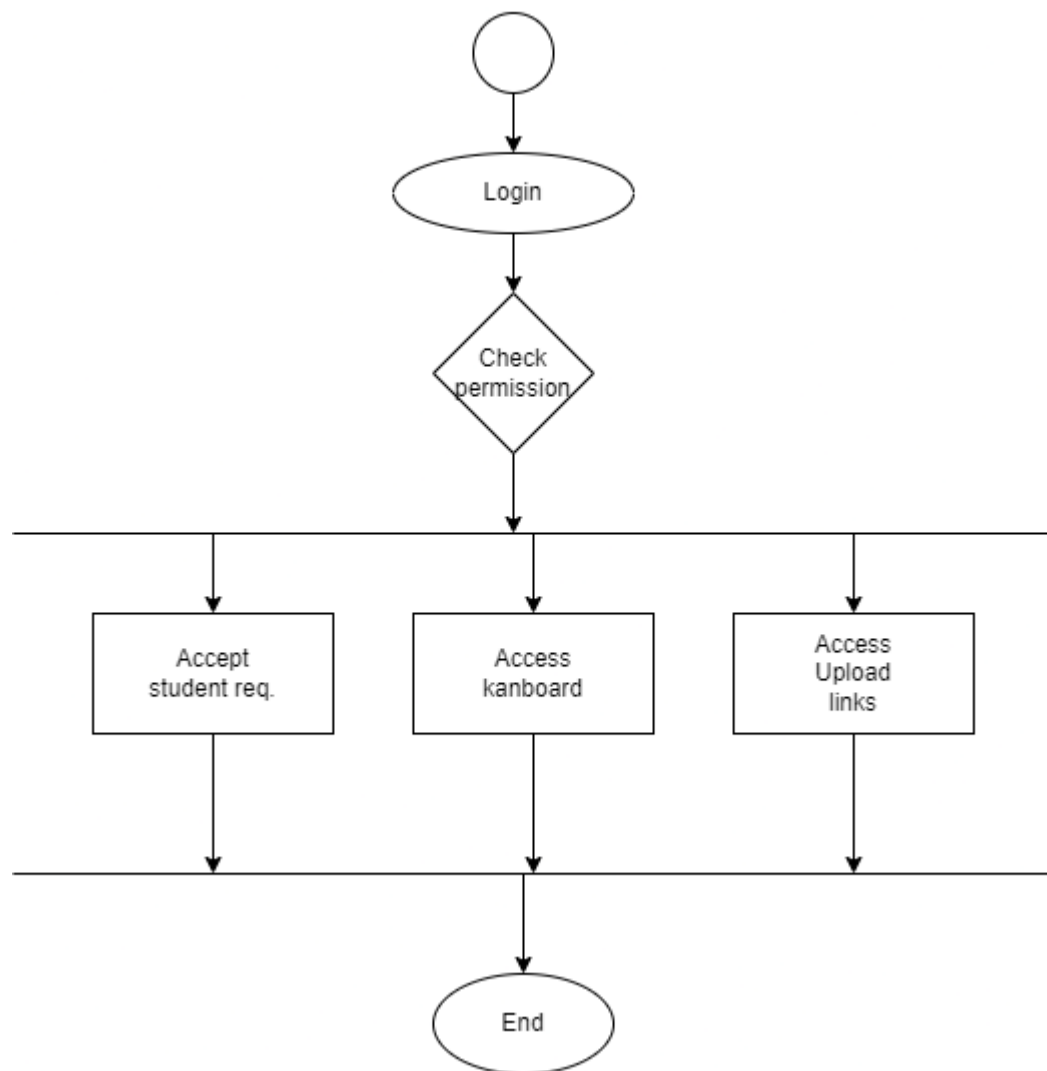## 5.7 Activity Diagram:
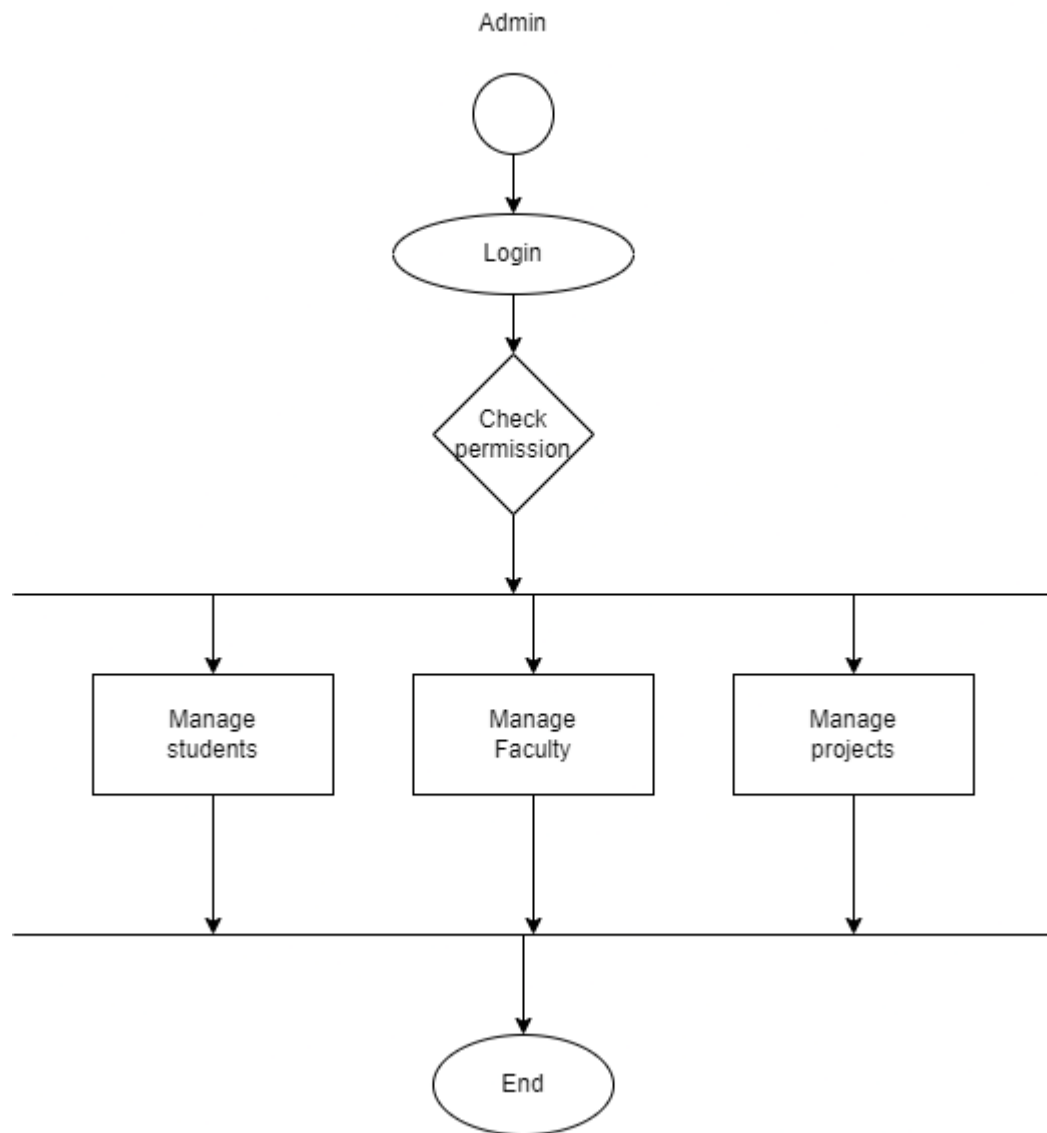
Figure - 5.7.1: Activity Diagram for Admin

Figure - 5.7.2: Activity Diagram for Faculty
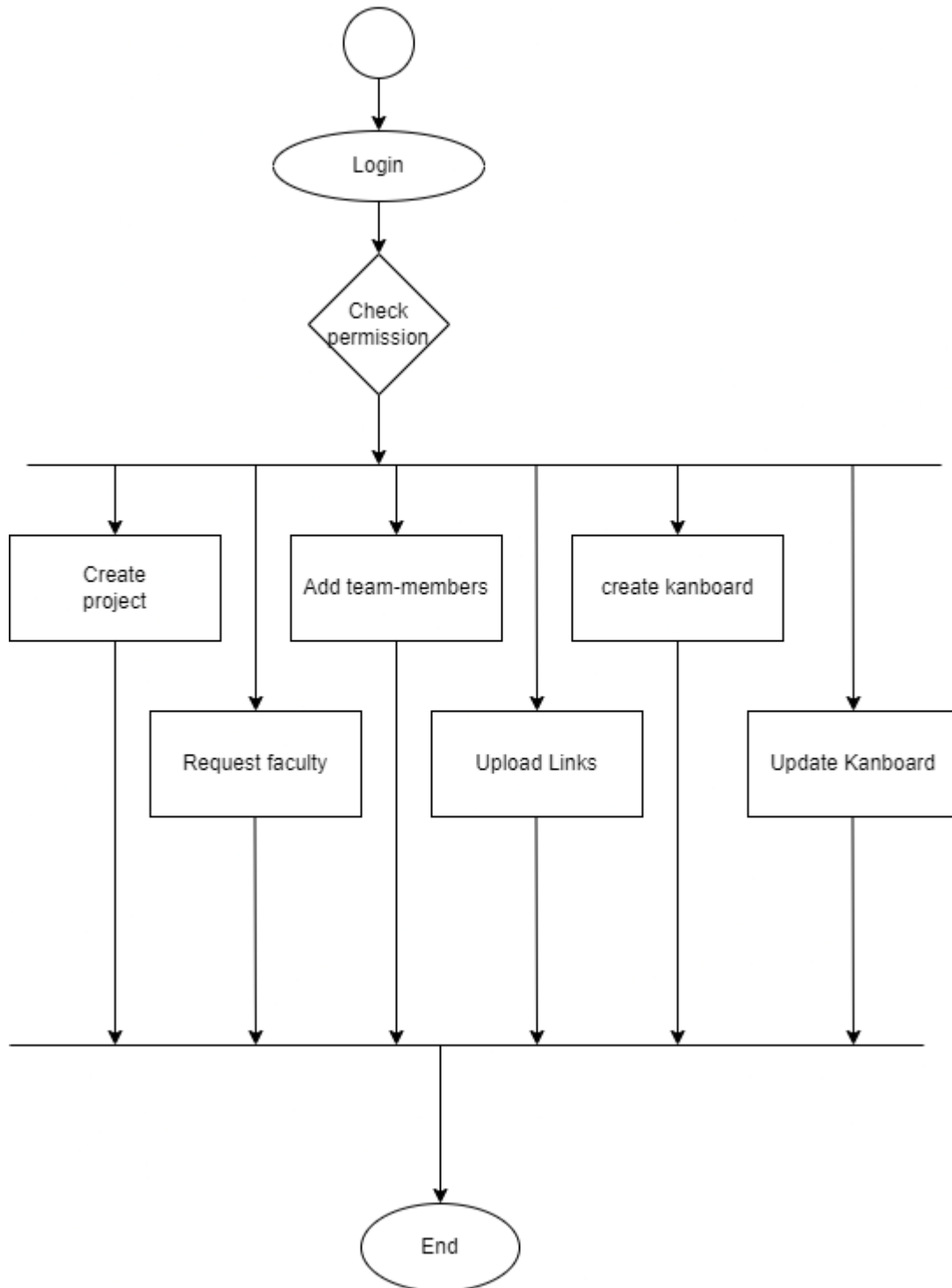
Figure - 5.7.3: Activity Diagram for Student

6. ESTIMATION

6.1 Estimation Cost of Project

6.2 Project Time Line Chart

6.1 Estimation Cost of Project:

In our project in under a Semidetached system. Consider a software project using semidetached system mode with 10000 line of code. We will obtain estimation for this project as follows:

1. Effort Estimation:

E = a1(KLOC) Exp(a2)

Person-months E = 3.0(10) Exp(1.121)

E = 40 PM(approx)

2. Duration Estimation:

D = b1(E) Exp(b2) months

D = 2.5(40) Exp(.35)

D = 9.09

6.2 Project time line chart:

Month 1: Milestones & Deliverables

Milestones	Deliverables
Study about our project requirement and planning	Analysis Report
Understand project definitions and basic terms and logic for Parameter Evaluation.	
Gathering the requirements of the project using different fact- finding techniques.	Analysis Report

Month 2: Milestones & Deliverables

Milestones	Deliverables
Project Analysis	Analysis Report
Project Design including various diagrams	SRS

Month 3-5: Milestones & Deliverables

Milestones	Deliverables
Started coding section with VS code	Designing/Coding
Database creation and Procedures	Designing/Coding

Creating a website and configured with code	Designing/Coding
Admin Module of Project Managament System website.	Designing/Coding
Test a website	Designing/Coding

7.CONCLUSION

7.1 Features of New System

7.2 Conclusion

7.3 Bibliography

7.4 Frontend

7.1 Features of New System:

The features of the online project management system include:

- Dashboard: A dashboard that allows users to view project details such as project name, project mentor, project description, and group members.
- Kanban Board: A Kanban board that enables users to track the progress of their projects and tasks.
- File Management: A file management system that allows users to upload and download project-related files such as project reports, presentations, and other supporting documents.
- Comment Section: A comment section that enables users to discuss project-related issues, share feedback and collaborate effectively.
- Project Management: A project management system that allows students to create projects, and faculty to accept or deny project upload requests. The system generates a unique code for each project, which the group leader can share with other group members to join the project.
- Add user section: Admin can add students and faculties separately via Input form or with the help of the CSV file.

Overall, these features are designed to provide users with a comprehensive and intuitive project management system that can be used by both faculty and students. The system is designed to be easy to use and navigate, and to facilitate effective collaboration and communication between project team members. Additionally, the system is scalable and can be customized to meet the specific needs of different universities and colleges.

7.2 Conclusion:

Based on the information provided, the online project management system is a comprehensive and intuitive system designed to facilitate effective project management and collaboration between faculty and students. The system includes features such as a dashboard, Kanban board, file management, comment section, and project management capabilities.

The system is designed to be easy to use and navigate, and it can be customized to meet the specific needs of different universities and colleges. Additionally, the system is scalable, which

means that it can be expanded and modified over time to support more projects and users.

Overall, the online project management system has the potential to significantly improve the project management process and enhance collaboration between faculty and students. It can help to streamline project workflows, improve communication and feedback, and ultimately lead to better project outcomes. However, the successful implementation of the system will depend on various factors, including user adoption, system reliability, and ongoing support and maintenance.

7.3 Bibliography:

Here is a list of sources that we have used for research on project management systems:

"Project Management Systems." PMI, https://www.pmi.org/learning/library/project-management-systems-5962

"Top 10 Project Management Systems." Capterra, https://www.capterra.com/project-management-software/

"Project Management Software." Wikipedia, https://en.wikipedia.org/wiki/Project_management_software

"Choosing the Right Project Management Software." Harvard Business Review, https://hbr.org/2021/01/choosing-the-right-project-management-software

"10 Best Project Management Tools for Teams." Forbes, https://www.forbes.com/sites/forbestechcouncil/2021/03/29/10-best-project-management-tools-for-teams/?sh=233f92c33820

These sources provide information on project management systems, their features, and how to choose the right one for your organization's needs.
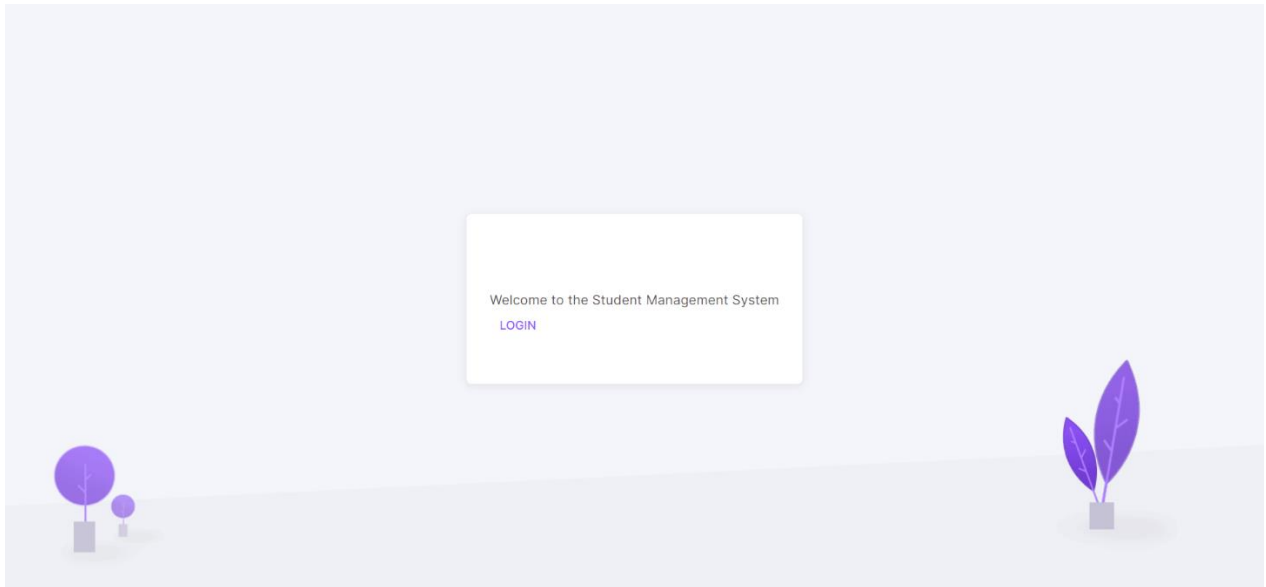
7.4 Frontend:
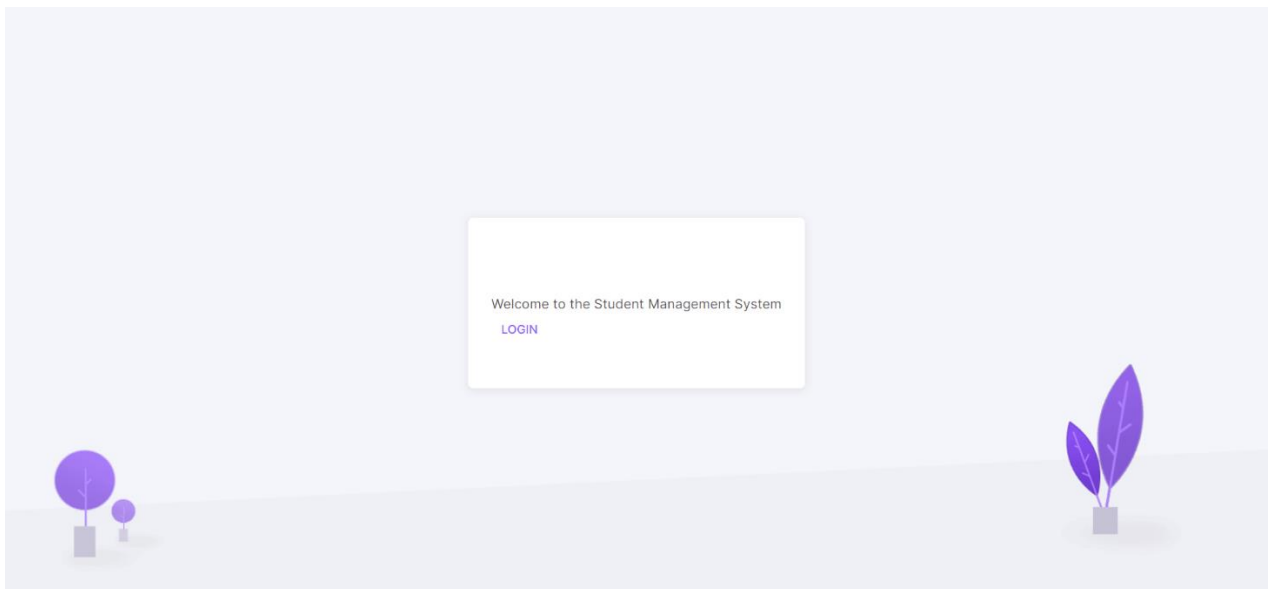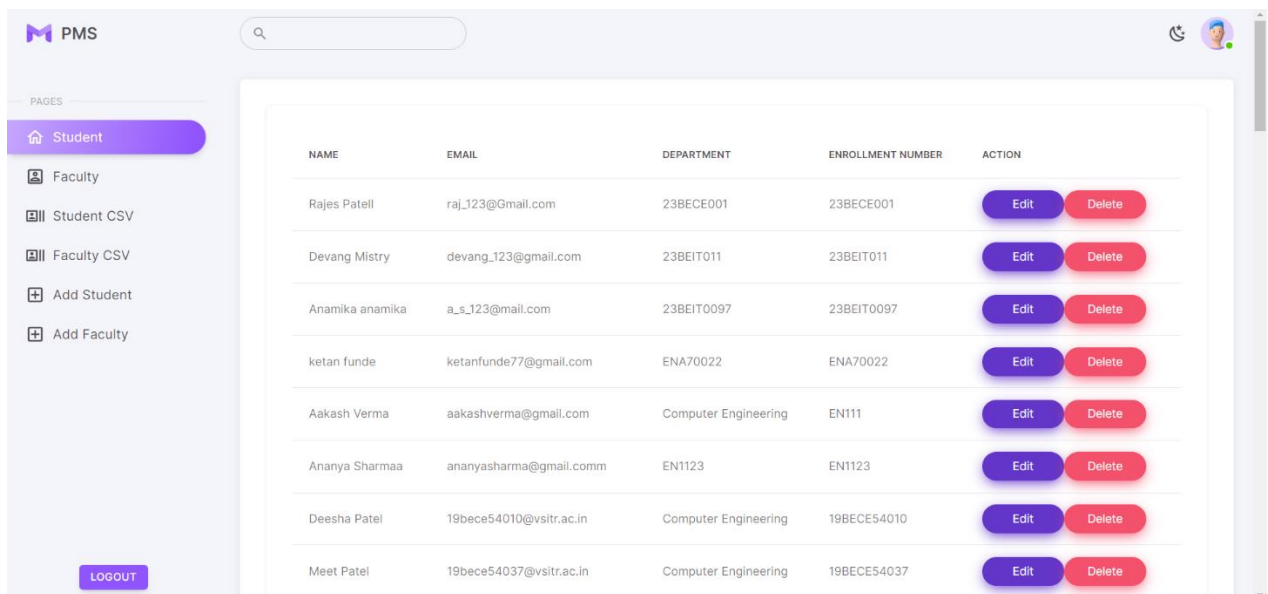

Figure 7.4.1 - Initial Page

Figure 7.4.2 – Login Page

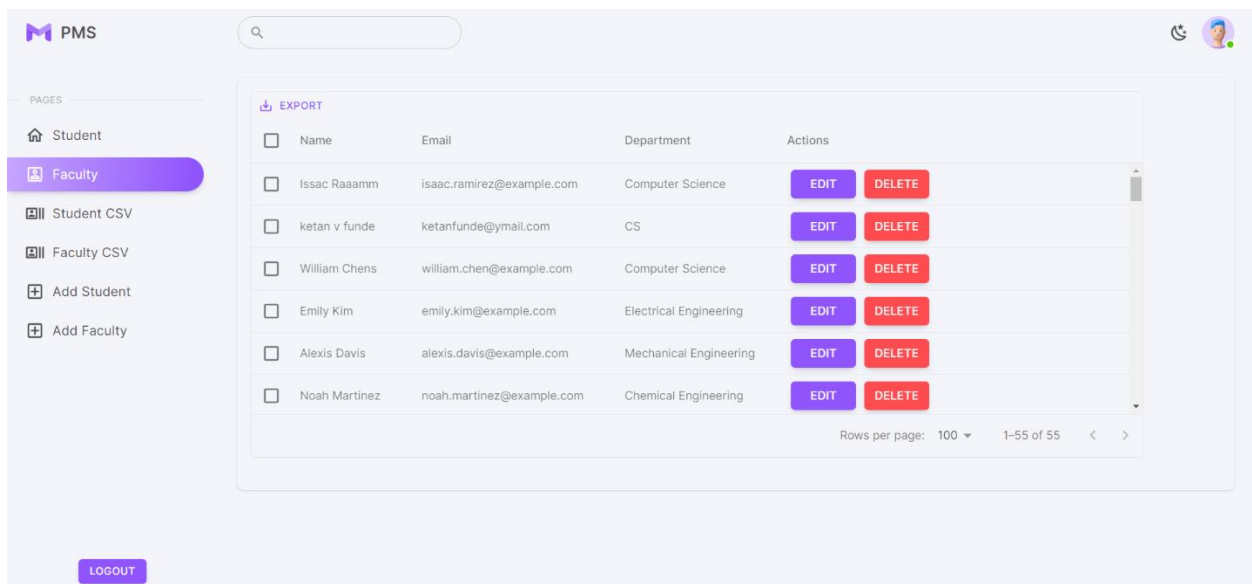**Figure 7.4.3 – Admin Student Dashboard**

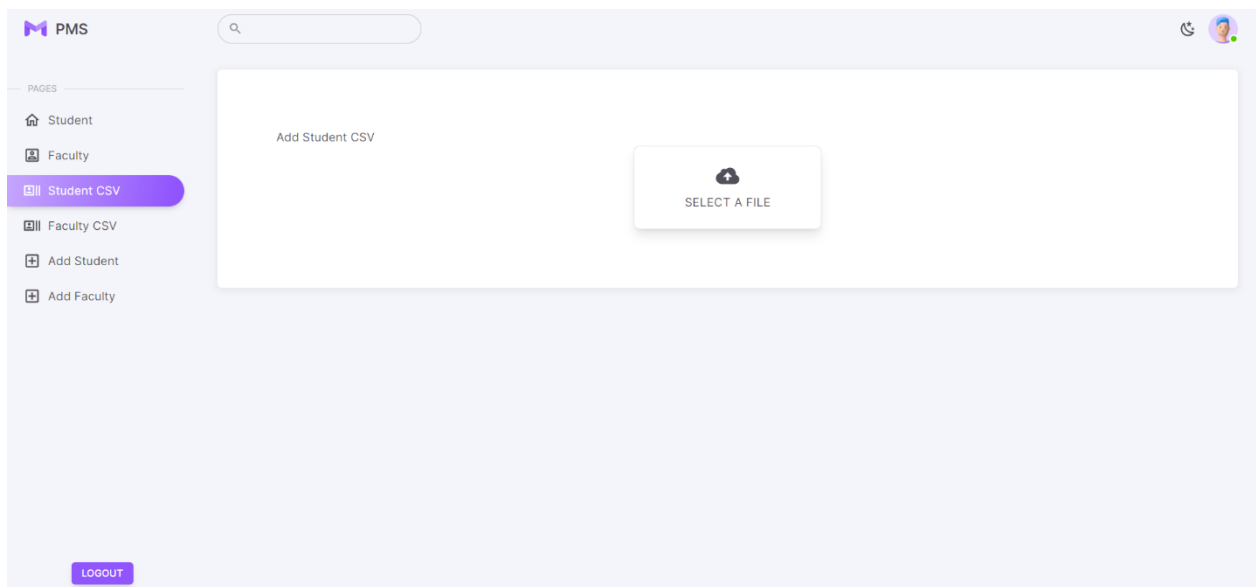**Figure 7.4.4 – Admin Faculty Dashboard**

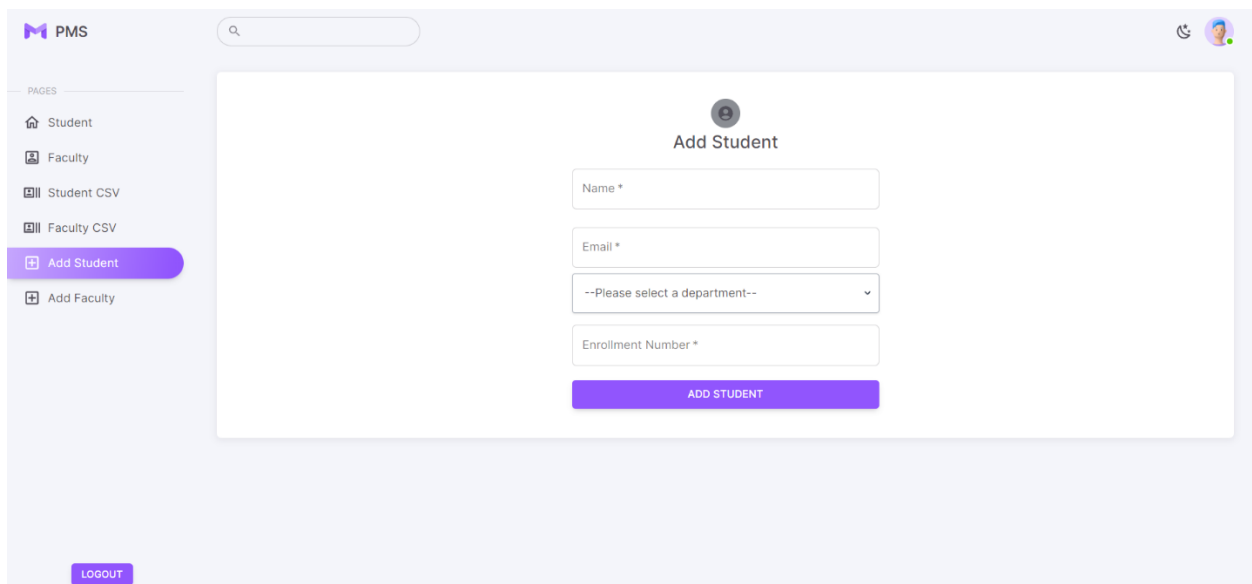**Figure 7.4.5 – Admin – Add Student via CSV File**

Figure 7.4.6 – Admin – Add Single Student

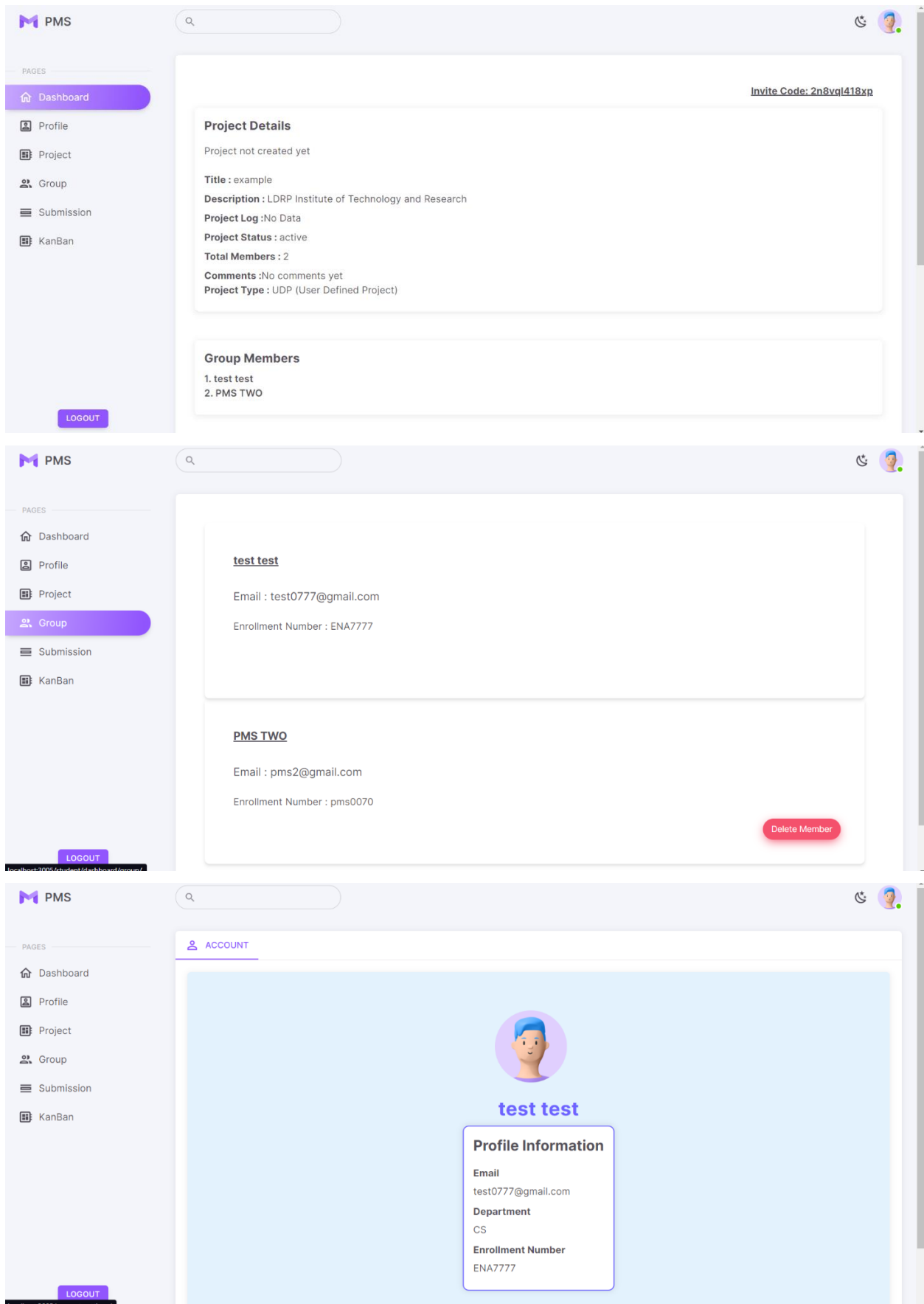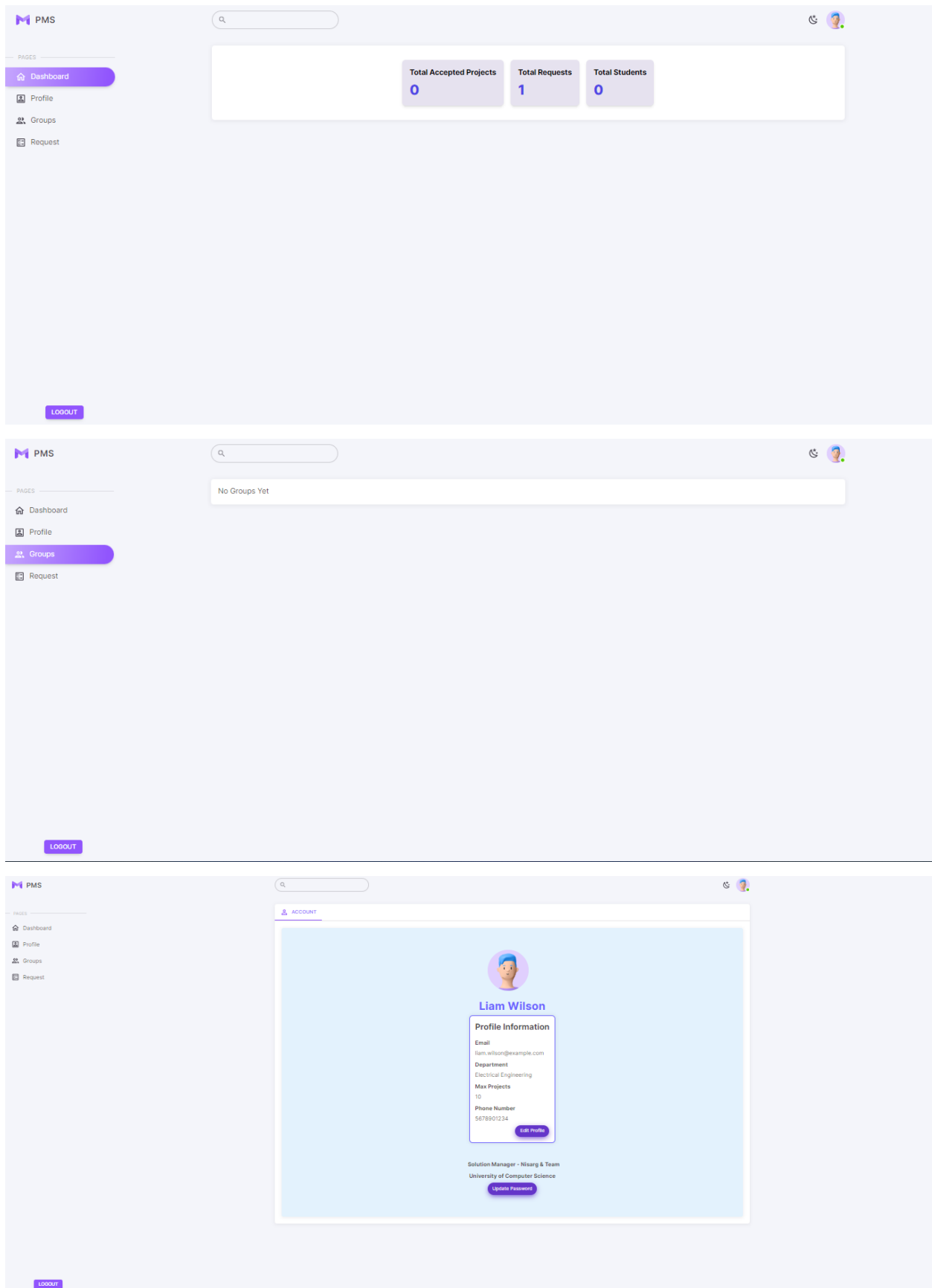**Note:** We have same functionality for faculty as well.

Figure 7.4.7 – Student Side Dashboard

Figure 7.4.8 – Faculty Side Dashboard