

TECHAPPO

MAJOR PROJECT REPORT

SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE
AWARD OF THE DEGREE OF

BACHELOR OF TECHNOLOGY
(Computer Science and Engineering)



Submitted By:

Krupa Gamit (2019033800125845)

Submitted To.:

Assistant Prof. Prerna Kadia

**Department of Computer Science and
Engineering Faculty of Technology & Engineering
The Maharaja Sayajirao University of Baroda
April 2023**

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CERTIFICATE

This is to certify that the project report entitled **TechAppo** submitted by Krupa Gamit, to the Department of Computer Science & Engineering, Faculty of Technology & Engineering, in partial fulfillment for the award of the degree of **B.E. in (Computer Science & Engineering)** is a *bona fide* record of project work carried out by him/her under my/our supervision. The contents of this report, in full or in parts, have not been submitted to any other Institution or University for the award of any degree or diploma.

Assistant Prof. Prerna Kadia
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15th April, 2023

Certificate

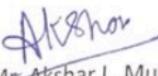
To Whomsoever It May Concern

This is to certify that **Ms. Krupa V. Gamit**, student of B.E (CSE), Semester - VIII, Department of Computer Science and Engineering, Faculty of Technology & Engineering, **The Maharaja Sayajirao University of Baroda**, Vadodara has carried out Internship at our organization from 19th January, 2023 to 15th April, 2023.

During this period she was found to be hardworking, honest, motivated and a committed individual. She took keen interest in the development assignments given to her, which met our expectations.

We wish her great success in all her future endeavors.

For, Enlighten Infosystems


Mr. Akshar L. Muley

Project Manager

ABSTRACT

Full-Semester External Project (FSEP) are the main part of student's university/college life as the students can knowledge as well as experience about the real world problems.TechAppo is a web application that give all-over control of managing the time as well as project reports of both Students as well as Project Guides (allocated) and Project Co-Ordinator.

The flow starts with the registration of Student and Faculty follows the login process which redirects to the individual dashboard i.e Students login is redirected to Student Dashboard and same goes with Faculty. Whereas Project Co-Ordinator doesn't need to get registered as there is only single Project Co-Ordinator who manages Students and Faculty.

The main part of Student Dashboard starts with giving definition about project.Information about Project Definition includes details about whether the student is doing individual project or it is a group project. After that information about student i.e Student ID and Name which is followed by Project Details i.e Title,Definition,Description & Technology used.After that providing Company Details i.e Company Name,Address & Industry Guide as well as Joining Letter. After providing the information Student/Students are allocated to their Guides and are provided their Group ID. After this whole process Groups can schedule the meetings with the Guides for Project progress, feedbacks, etc and can also check if their guides are available with the requested time by giving their answer that's results in meeting pending/fixed/cancelled (if cancelled -> guides can give response of their available time in response box).Students can submit their reports, external exam material i.e ppts, reports to their guides and can get feedbacks on that. Last but not the least Students can appeal to Project Co-Ordinator on issues like changing the group, availability of the guides, etc. Other functionality includes the time-table of their guides so that they can check free slot and request for meet,List of Allocations,Announcements by Project Co-Ordinator including getting notification of the same, Profile Settings, etc.

The Faculty Dashboard deals with reports/ppt submissions, giving feedbacks/corrections on reports, accepting/declining the schedule request by students. Whereas Faculty can also appeal to Project Co-Ordinator about any issues regarding projects and students. Other functionality includes that the announcements done by Project Co-Ordinator are displayed on Faculty dashboard, Faculty has to upload their timetable on the portal which is visible to students so that they get idea about scheduling their meet with their respective guides, Profile Settings, etc.

At last Project Co-Ordinator has the main job to be performed which is to allocate students and guides. Also to keep the records about students and faculty i.e new registrations or students/faculty that left the campus.Project Co-Ordinator also have track records about the meetings scheduled, reports/ppt submissions, and can reply to appeals done by faculty/students and can take actions if the reason of appeal is valid.

Overall its about the scheduling the time of students and their respective guides and for the smooth flow of the Full-Semester External Project.

ACKNOWLEDGEMENT

I/WE are highly grateful to the, Prof. (Dr.) Dhanesh Patel, Dean, Faculty of Technology & Engineering for providing this opportunity to carry out the major project work at Enlighten Infosystems.

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Finally, I/WE are indebted to all whosoever have contributed in this report work.

Krupa Gamit

LIST OF FIGURES

Fig. No.	Figure Description	Page No.
3.1	Use-Case Diagram for Project Co-ordinator	10
3.2	Use-Case Diagram for Faculty	11
3.3	Use-Case Diagram for Student	12
3.4	Activity Diagram for Project Co-ordinator (Announcement)	13
3.5	Activity Diagram for Faculty (Schedule)	14
3.6	Activity Diagram for Student (Add Report)	15
3.7	Activity Diagram for Student (Request/Appeal)	16
3.8	Activity Diagram for Faculty (View Report)	17
3.9	ER Diagram	18
5.1	Login	26
5.2.a	Registration - Step1	27
5.2.b	Registration - Step2	28
5.2.c	Registration - Step3	29
5.2.d	Registration - Step4	30
5.3.a	Forgot Password	31
5.3.b	Forgot Password (Mail)	32
5.4	Dashboard (PC)	32
5.5	Profile (PC)	33
5.6.a	Announcement	33
5.6.b	Announcement list	34
5.7	Guide Allocation	34
5.8	Request - Faculty/Student	35
5.9	Logout	35
5.10	Dashboard (Faculty)	36
5.11	Profile (Faculty)	36
5.12	Announcements	37
5.13.a	Meetings	38
5.13.b	Meetings (Accept/Decline, Reply)	38

LIST OF FIGURES

Fig. No.	Figure Description	Page No.
5.14	Reports & Feedback	39
5.15	Appeal to project co-ordinator	39
5.16	Dashboard (Student)	40
5.17	Profile (Student)	40
5.18.a	Project Details Step1	41
5.18.b	Project Details Step2	41
5.18.c	Project Details Step3	42
5.18.d	Project Details Step4	42
5.18.e	Project Details Step5	43
5.19	Schedule Meetings	44
5.20	Report	45
5.21	Appeal	45
5.22	Final Assessment	46
5.23	Registers Collection	47
5.24	Announcements Collection	48
5.25	Appeals Collection	48
5.26	Schedule Collection	49
5.27	Externals Collection	50
5.28	Faculty Appeals Collection	50
5.29	Reports Collection	51

TABLE OF CONTENTS

Contents	Page No.
Abstract	iv
Acknowledgement	v
List of Figures	vi
CHAPTER 1 : INTRODUCTION	
1.1 Introduction to the project - TechAppo	1
1.2 Project Category	1
1.3 Objectives	1
1.4 Problem Formulation	1
1.5 Identification/Reorganization of Need	2
1.6 Existing System	2
1.7 Proposed System	2
1.8 Unique Features of the System	3
CHAPTER 2 : Requirement Analysis and System Specification	
2.1 Feasibility Study	4
2.2 Software Requirement Specification Document	4
2.3 Validation	6
2.4 Expected hurdles	6
2.5 SDLC model to be used	6
CHAPTER 3 : System Design	
3.1 Design Approach	8
3.2 Detail Design	8
3.3 System Design	10
3.4 User Interface Design	18
3.5 Database Design	
3.5.1 ER diagram	18
3.5.2 ENormalisation	19
3.5.3 Database Manipulation	19
3.5.4 Database Connection Controls and Strings	19

Contents	Page No.
CHAPTER 4 : Implementation, Testing, and Maintenance	
4.1 Introduction to Languages, IDE's, Tools and Technologies used for Implementation	20
CHAPTER 5 : Results and Discussions	
5.1 User Interface Representation	23
5.1.1 Brief Description of Various Modules of the system	23
5.2 Brief Description of Various Modules of the system	26
5.3 Back Ends Representation (Database to be used)	47
5.3.1 Snapshots of Database Tables with brief	47
CHAPTER 6 : Conclusion and Future Scope	
References	52
References	53

CHAPTER 1 : INTRODUCTION

1.1 Introduction to the project - TechAppo

Full-Semester External Project (FSEP) are the main part of student's university/college life as the students can knowledge as well as experience about the real world problems.TechAppo is a web application that give all-over control of managing the time as well as project reports of both Students as well as Project Guides (allocated) and Project Co-Ordinator.

1.2 Project Category

Developing a university website for project management would fall under the project category of web development. This type of project involves creating a website that can be used to support the objectives of the university project. The project may involve designing the website's layout, creating and organizing the website's content, and developing the website's functionality.

Web development projects typically require a team of developers, designers, content creators, and project managers who work together to deliver a website that meets the project's goals and objectives. The project management approach used for web development projects may follow an Agile methodology, which involves breaking the project down into smaller iterations or sprints, each with a specific set of objectives and deliverables.

The project management process for web development projects typically involves defining project goals and scope, creating a project plan, identifying and managing risks, monitoring project progress, and continuously improving the development process. The success of a web development project depends on the ability of the project team to work together effectively, communicate clearly, and adapt to changing requirements throughout the project lifecycle.

1.3 Objectives

TechAppo is a web-based project for students and faculty members where students can get time of their guides and convenor so they can present the project and its progress report. The project head would allocate the guides to the student and can post the important announcement where faculty and students can read. Faculty can interact with their allocated group of students. Also they can accept/reject the request of student made asking about the particular time slot and set the remainder after the time slot is provided. Email notification are made so project head, guides and student can get message about exam presentation, progress report, etc. Students request the guides and convenor asking about particular time slot. They can post their weekly progress report on the portal and the module gets disable the moment new week starts which can only be changed by the faculty members.

1.4 Problem Formulation

To schedule time to project guides and convenor so that the student/group can show their project, progress report, problem.

1.5 Identification/Reorganization of Need

Identifying communication gaps: If there are communication gaps between students, faculty, and staff, a website can be an effective solution. For example, if students are not receiving timely updates about project announcements, reports and ppts submission deadlines, scheduling meetings with their respective faculties or guides, as well as getting , a website can be used to provide this information in a centralized location.

1.6 Existing System

- A web-based platform where students can submit their academic projects or assignments online. The website can also provide faculty members with a centralized location to review and grade student submissions.

- The website can have several features such as:

User registration and login: Students and faculty members can create their accounts on the website and log in to access their respective dashboards.

Assignment creation and submission: Faculty members can create assignments with specific instructions and submission deadlines. Students can submit their projects online in various formats such as PDF, Word, or PowerPoint.

Assignment grading: Faculty members can view the submitted projects and grade them using a grading rubric. They can also provide feedback to the students on their projects.

Notification and reminders: The website can send notifications and reminders to students and faculty members about upcoming submission deadlines and new assignments.

1.7 Proposed System

- It is a web-based project for students and faculty members where students can get time of their guides and convenor so they can present the project and its progress report.
- The project head would allocate the guides to the student and can post the important announcement where faculty and students can read.
- Faculty can interact with their allocated group of students. Also they can accept/reject the request of student made asking about the particular time slot and set the remainder after the time slot is provided. Email notification are made so project head, guides and student can get message about exam presentation, progress report, etc.
- Students request the guides and convenor asking about particular time slot. They can post their weekly progress report on the portal and the module gets disable the moment new week starts which can only be changed by the faculty members.

1.8 Unique Features of the System

Time Scheduling - Students can make an appeal to their respective guides or faculties for scheduling the weekly meeting where they can take the preferable time and day for the meeting which can avoid wastage of time for both students as well as Faculties/Guides.

CHAPTER 2 : Requirement Analysis and System Specification

2.1 Feasibility Study (Technical, Economical, Operational)

A feasibility study for developing a university website for a project would involve analyzing various factors to determine if the project is feasible and if it can be completed within the constraints of time, budget, and resources.

- Technical feasibility: This involves determining if the necessary technical expertise and resources are available to develop the website. The feasibility study should consider factors such as the availability of developers, the required software and hardware, the hosting infrastructure, and the compatibility with different browsers and devices.
- Economic feasibility: This involves analyzing the costs and benefits of developing the website and determining if it is financially viable. The feasibility study should consider factors such as the initial development costs, ongoing maintenance costs, and the expected return on investment (ROI) from the website.
- Operational feasibility: This involves determining if the website can be integrated with existing university systems and workflows. The feasibility study should consider factors such as the ease of use for end-users, the compatibility with existing university systems, and the impact on staff workload and resources.

By conducting a thorough feasibility study, the project team can determine if developing a university website for the project is feasible and if it can be completed successfully within the project's constraints. The feasibility study will help ensure that the project is planned and executed effectively, and that any potential issues or risks are identified and addressed proactively.

2.2 Software Requirement Specification Document

This website aims to schedule time to project guides and convenor so that the student/group can show their project, progress report, problem.

Data Requirement :

- Requires user data which includes personal details like name, email, phone number, password for registering to the website.
- It also includes information which will be displayed on the website such as images, pdfs, ppts, texts.

Functional Requirement :

- Responsive Design : The website should be designed to be responsive, meaning it can adapt to different screen sizes and devices, including desktops, laptops, tablets, and smartphones.

- User registration and login: The website should provide a user registration and login system, allowing users to create accounts, log in securely, and access personalized content.
- Faculty : The website should include directories of faculties, allowing users to search for individuals by name, department, or area of expertise.
- Announcements : The website should include a section for announcements, allowing the project co-ordinator to publish important updates and information to the faculties as well as students related to the project such as presentation date and time.
- Time Scheduling : The website should include a time scheduling where the students can schedule meetings with their respective guides by sending the appeal and requesting to schedule a meeting on particular day and time.

Performance Requirement :

- The website should load quickly, with page load times of no more than three seconds. This is important to ensure that users have a positive experience and do not become frustrated with slow loading times.
- It should handle increased traffic and usage without slowing down or crashing.

Dependability Requirement :

- The website should be available 24/7, with minimal downtime for maintenance or upgrades.
- The website should be designed to ensure data integrity, with appropriate measures to prevent data loss.

Maintainability Requirement :

- The website should be designed with a modular structure, with separate components that can be easily modified or updated without affecting the rest of the website.
- It should be easier to make changes to the website over time.
- The code should be easy to read and maintain.

Security Requirement :

- The website should include appropriate authentication and authorisation mechanisms.
- The website should be designed to protect user data.
- This may include role-based access controls.

Look and feel requirement :

- The website should have clear and intuitive navigation, with a well-organized menu structure that makes it easy for users to find the information they need.

- The website should be designed with a responsive layout.
- The website should provide a positive user experience.

2.3 Validation

- Conducting user testing with a representative group of users to gather feedback on the website's functionality, usability, and user experience. This can help to identify areas for improvement and ensure that the website meets the needs and preferences of its target audience.
- Required fields need to be filled compulsory else forms won't be submitted.
- Testing the website across multiple web browsers and devices to ensure that it is accessible and functions correctly for all users.

2.4 Expected Hurdles

Technical hurdles can arise due to the complexity of the technology used in the development of the website. Technical glitches, server issues, compatibility issues, and other such technical problems can slow down the development process.

Requirements can change during the development process, which can lead to delays. It can be a time consuming process. Security concerns are also a critical issue, especially for a university website that may hold sensitive information.

2.5 SDLC model to be used

- Requirements gathering: The first phase of the SDLC is to gather and analyze requirements for the university website. This involves identifying the needs and expectations of the stakeholders, defining the features and functionality of the website, and determining the technical requirements.
- Design: The design phase involves creating a detailed plan for the website's architecture, user interface, and visual design. This includes creating wireframes, mockups, and prototypes, and developing a design document that outlines the website's look and feel.
- Development: In the development phase, the website is built according to the specifications outlined in the design document. This involves coding the website, integrating any third-party tools or systems, and ensuring that the website is responsive and accessible.
- Testing: Once the website is built, it must be thoroughly tested to ensure that it functions correctly and meets the requirements. This includes testing for functionality, usability, performance, and security.

- Deployment: After testing is complete, the website can be deployed to the production environment. This involves setting up the necessary infrastructure, configuring servers, and ensuring that the website is properly optimized for performance.
- Maintenance: After deployment, the website requires ongoing maintenance to ensure that it continues to function properly and meet the needs of its users. This includes monitoring performance, fixing bugs, and making updates as needed.

CHAPTER 3 : System Design

3.1 Design Approach (Function oriented or Object oriented)

Object Oriented Design Approach

The object-oriented design approach can be applied to the development of a website for a university project. In this approach, the system is modeled as a collection of objects that interact with each other to achieve specific tasks. Here are some examples of how the object-oriented design approach can be applied to the development of a university project website:

A user object can be created to represent the different types of users who will interact with the website, such as students, faculty, and project co-ordinator. Each user object can have properties such as username, password, and email address, and methods for logging in, logging out, and changing account settings.

A report object can be created to represent the different reports given to students that needs to be submitted to their guides. Each report object can have properties such as report name, due date, and report description, and methods for submitting the reports, grading the reports, and viewing feedback.

A forum object can be created to represent the different forums used by students and faculty to discuss project-related topics. Each forum object can have properties such as forum name, forum description, and forum topic, and methods for creating a new topic, replying to a topic, and deleting a topic.

An announcement object can be created through which project co-ordinator can post the announcements and the faculties/guides and students can view the announcements.

By using the object-oriented design approach, the website can be developed as a collection of objects that interact with each other to achieve specific tasks. This approach can make the code more modular, easier to maintain, and scalable, which is essential for the development of a large-scale project such as a university project website.

3.2 Detail Design

The flow starts with the registration of Student and Faculty follows the login process which redirects to the individual dashboard i.e Students login is redirected to Student Dashboard and same goes with Faculty. Whereas Project Co-Ordinator doesn't need to get registered as there is only single Project Co-Ordinator who manages Students and Faculty.

The main part of Student Dashboard starts with giving definition about project. Information about Project Definition includes details about whether the student is doing individual project or it is a group project. After that information about student i.e Student ID and Name which is followed by Project Details i.e Title, Definition, Description & Technology used. After that providing Company Details i.e Company Name, Address & Industry Guide as well as Joining Letter. After providing the

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At last Project Co-Ordinator has the main job to be performed which is to allocate students and guides. Also to keep the records about students and faculty i.e new registrations or students/faculty that left the campus. Project Co-Ordinator also have track records about the meetings scheduled, reports/ppt submissions, and can reply to appeals done by faculty/students and can take actions if the reason of appeal is valid.

Overall its about the scheduling the time of students and their respective guides and for the smooth flow of the Full-Semester External Project.

3.3 System Design using various Structured analysis and design tools such as : DFD's,Data Dictionary,Structured charts,Flowcharts or UML

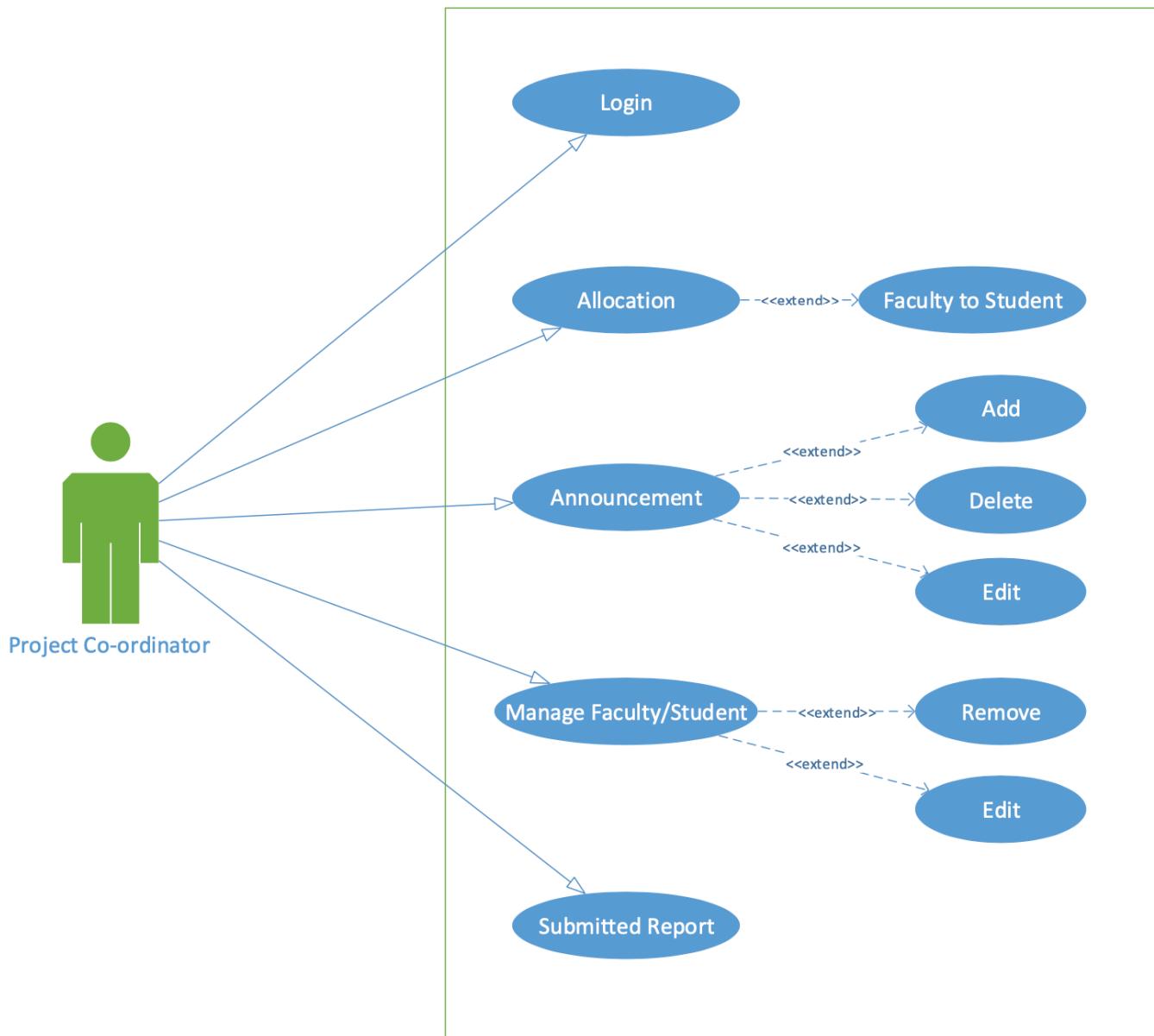


Fig. 3.1 Use-Case Diagram for Project Co-ordinator

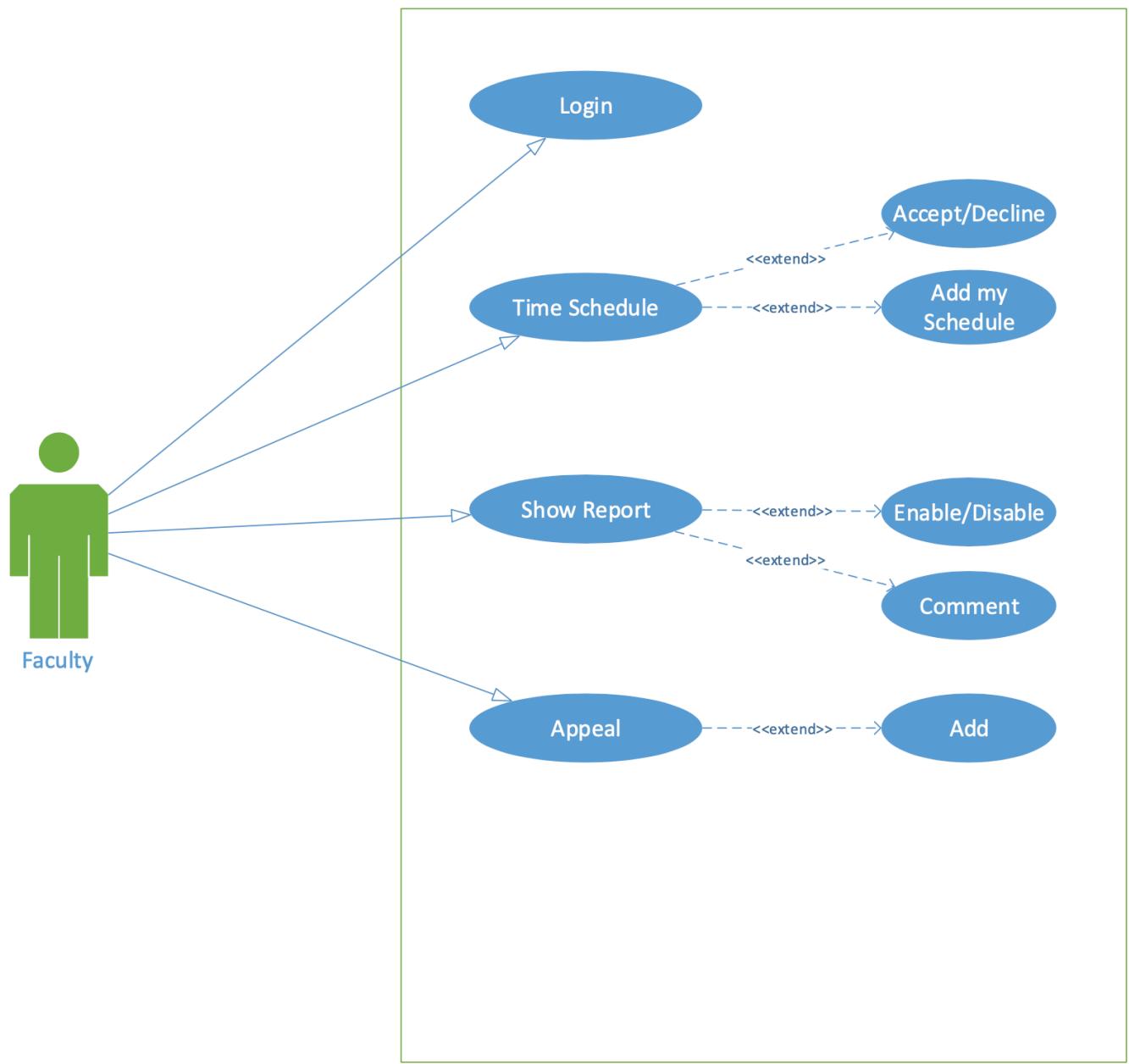


Fig. 3.2 Use-Case Diagram for Faculty

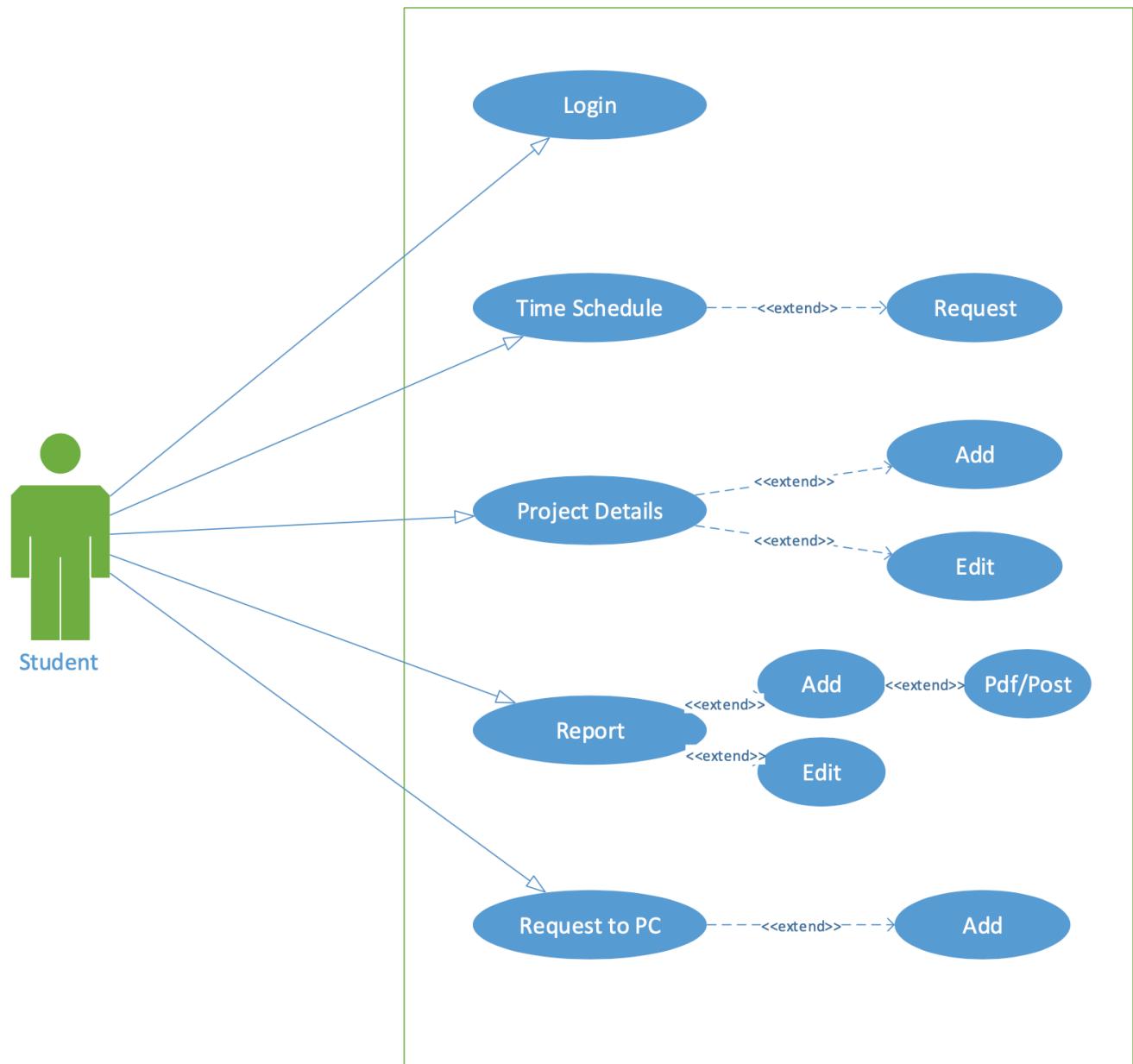


Fig. 3.3 Use-Case Diagram for Student

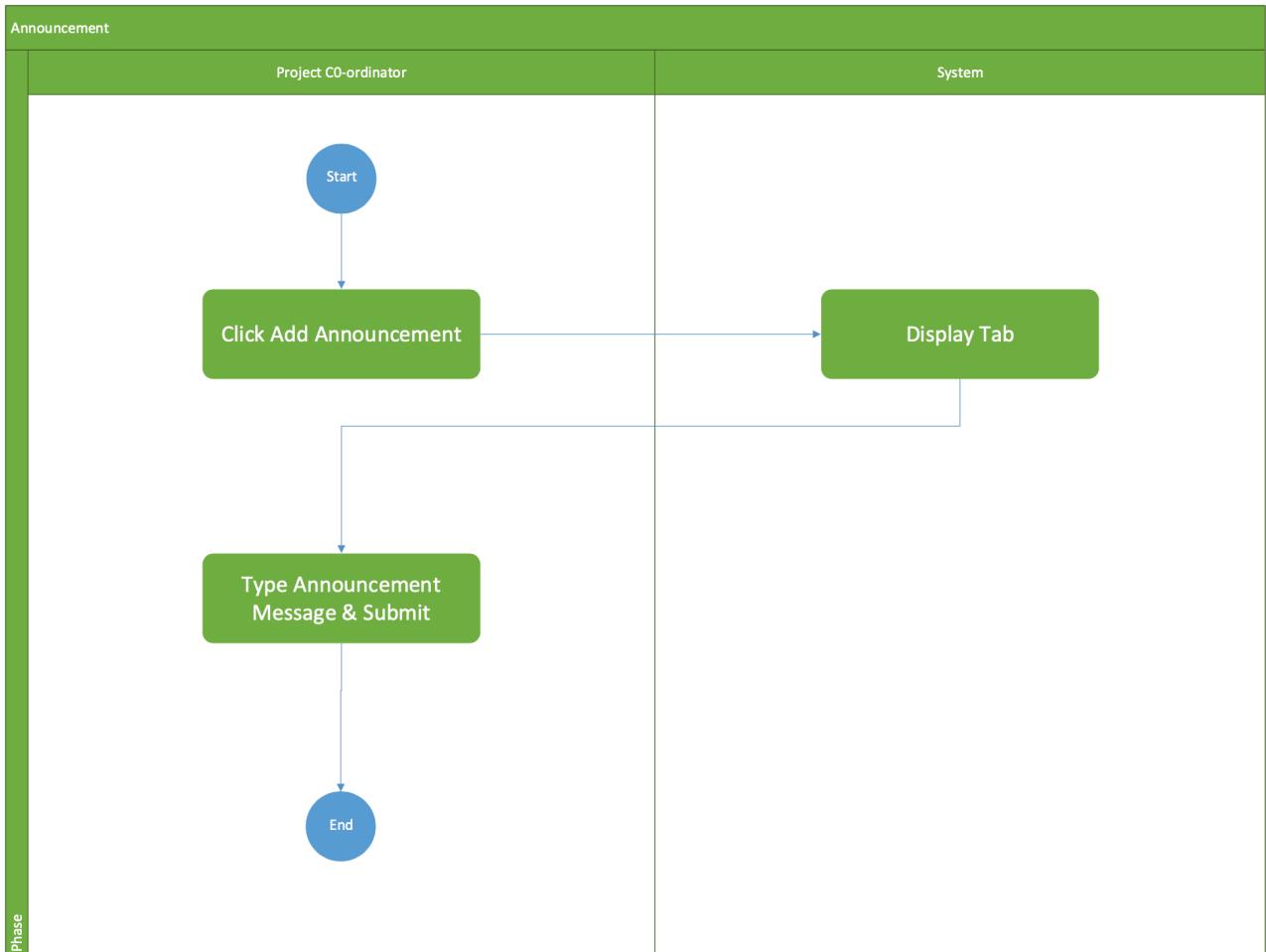


Fig. 3.4 Activity Diagram for Project Co-ordinator (Announcement)

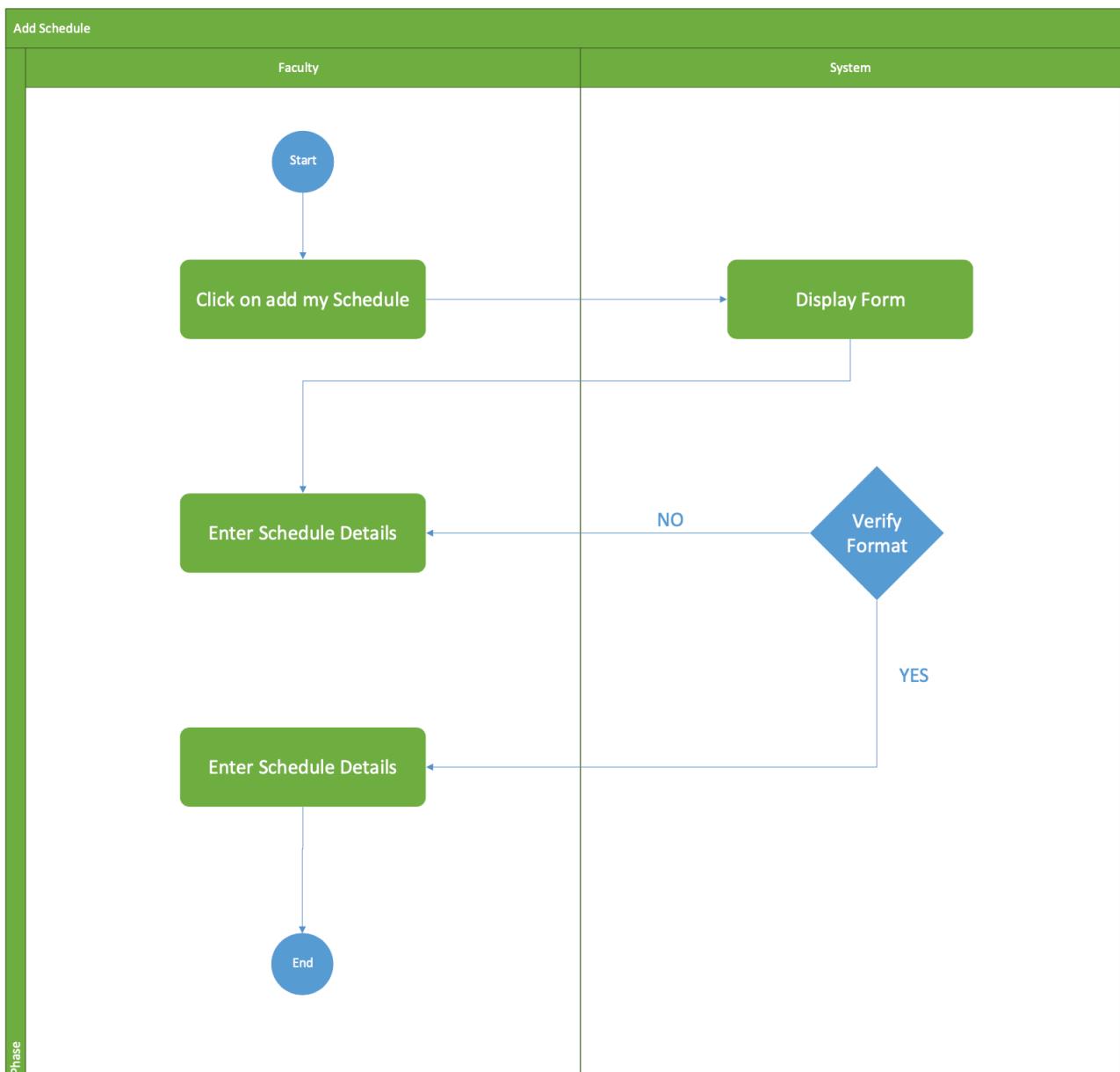


Fig. 3.5 Activity Diagram for Faculty (Schedule)

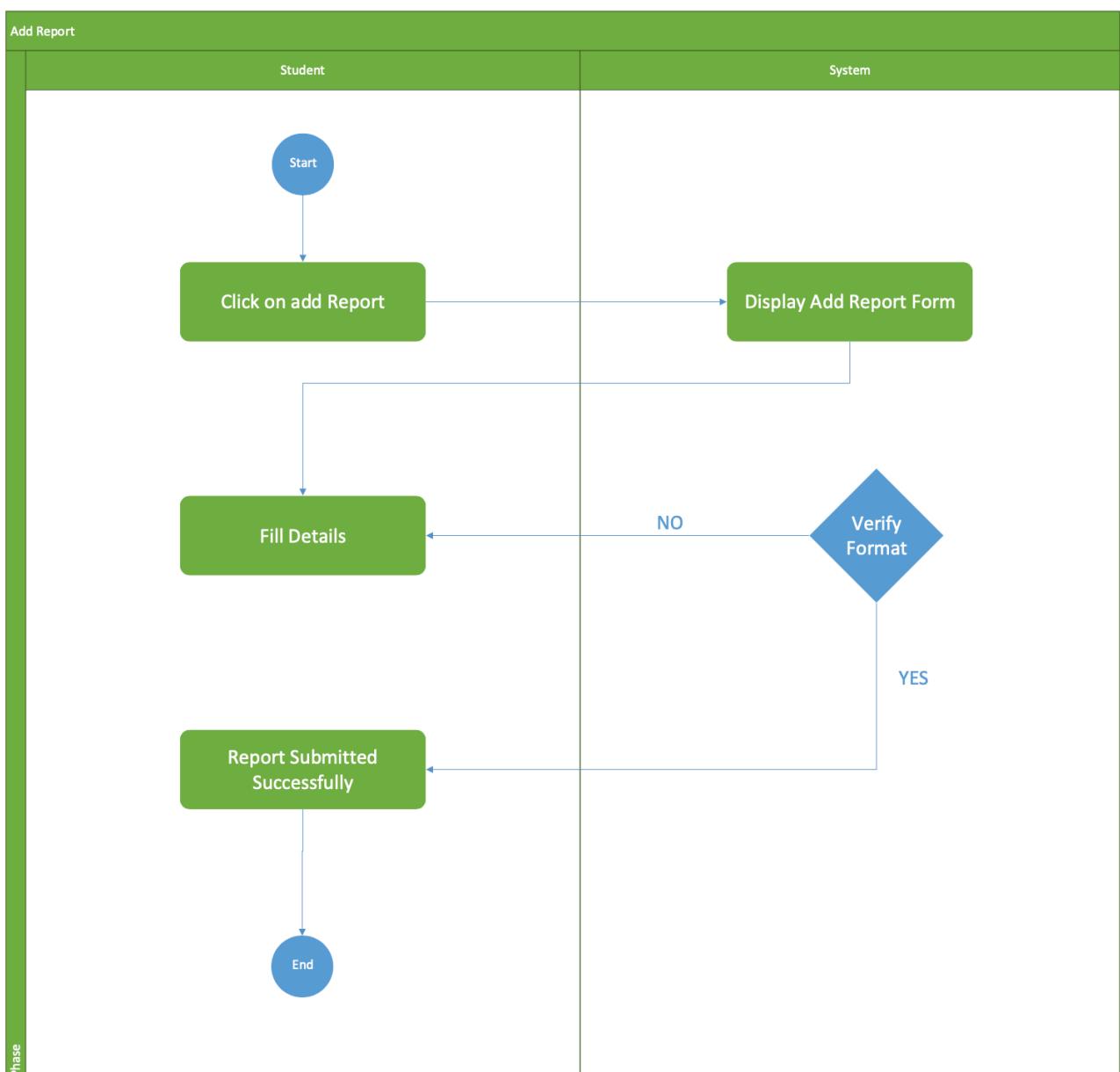


Fig. 3.6 Activity Diagram for Student (Add Report)

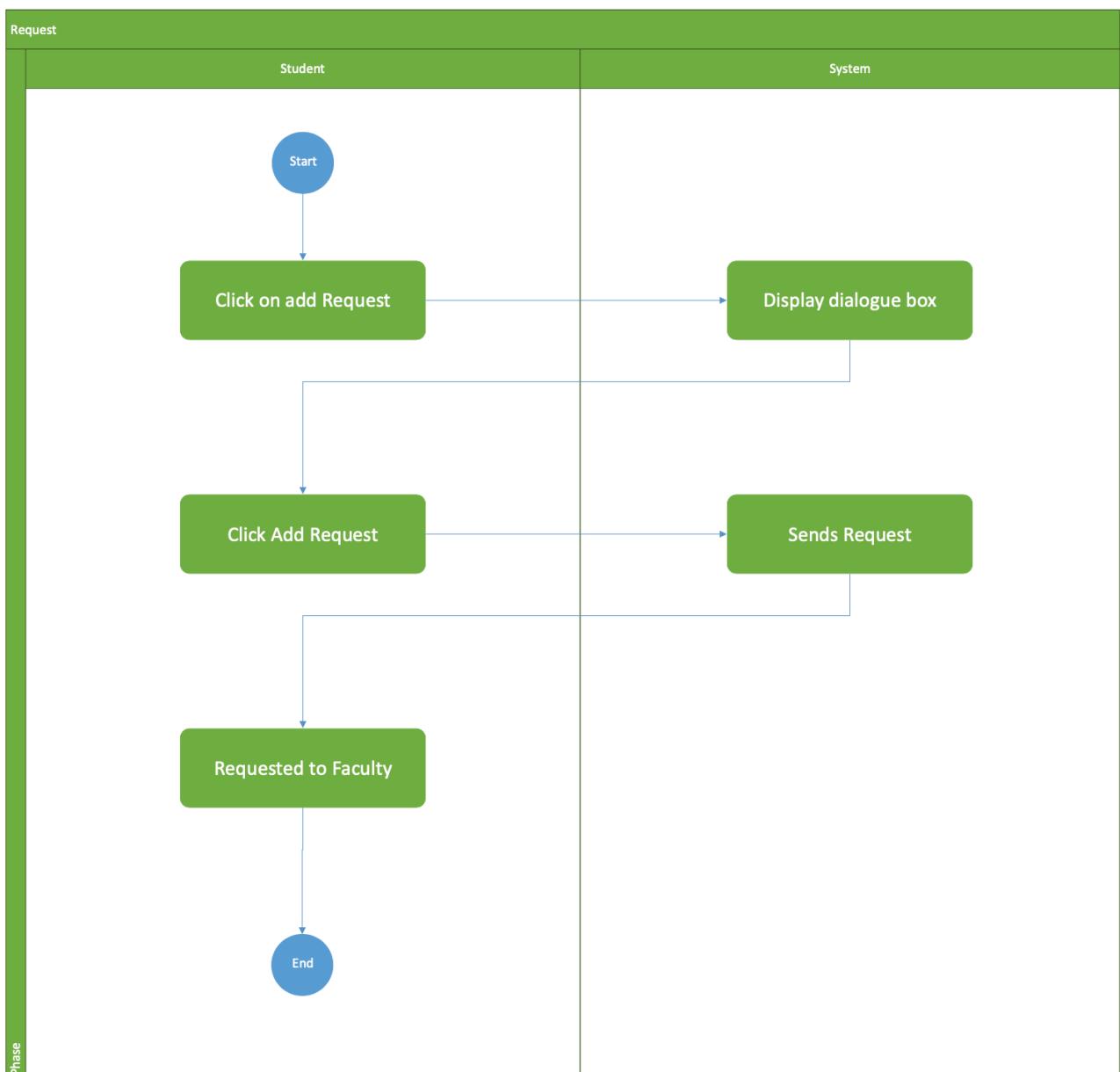


Fig. 3.7 Activity Diagram for Student (Request/Appeal)

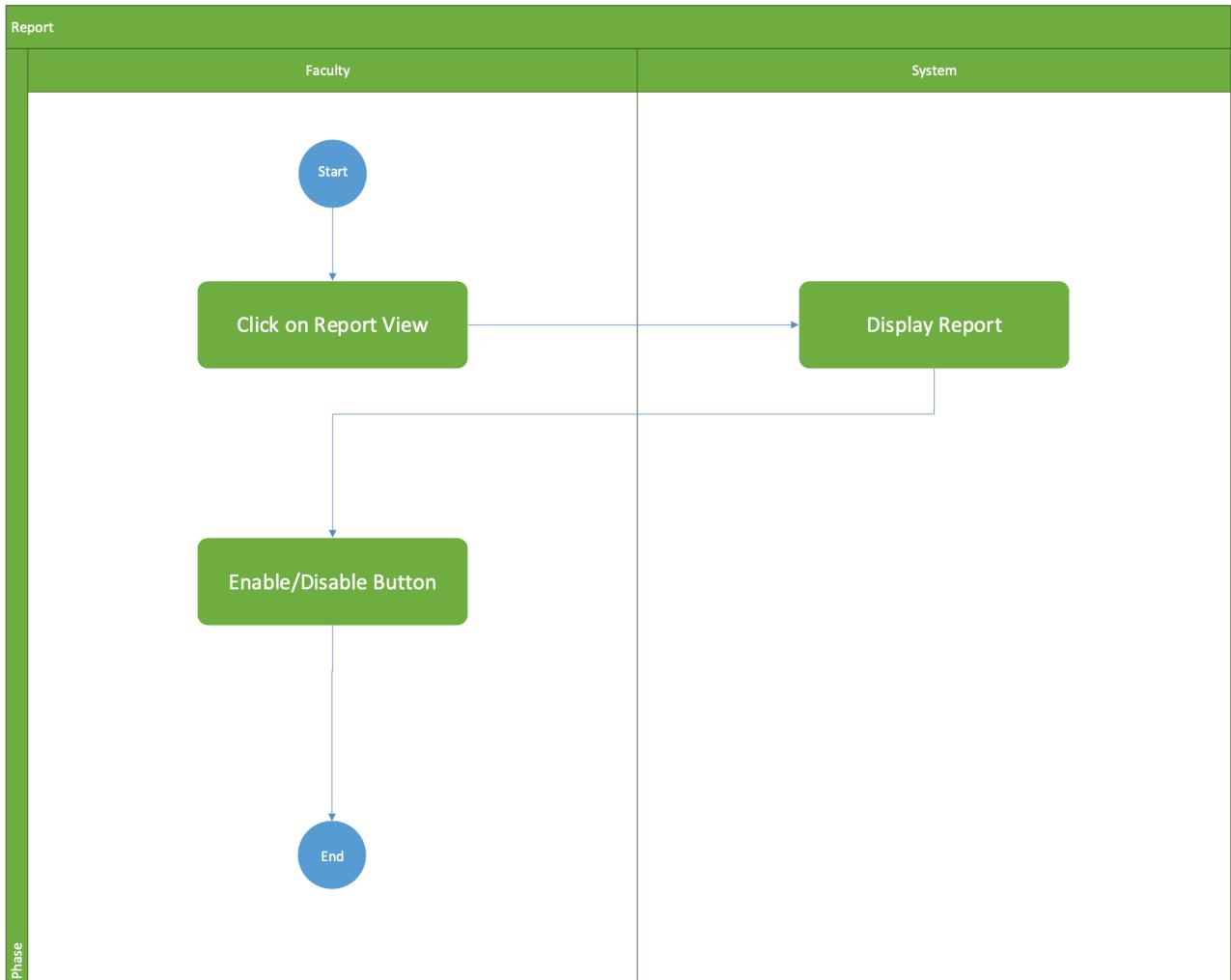


Fig. 3.8 Activity Diagram for Faculty (View Report)

3.4 User Interface Design

- The user interface should be simple and intuitive, with clear labels and easy navigation. Users should be able to find what they need quickly and easily.
- The website should be designed to work on all devices, including desktops, laptops, tablets, and smartphones.
- The use of icons and graphics can make the user interface more visually appealing and easier to understand.

3.5 Database Design

3.5.1 ER Diagrams

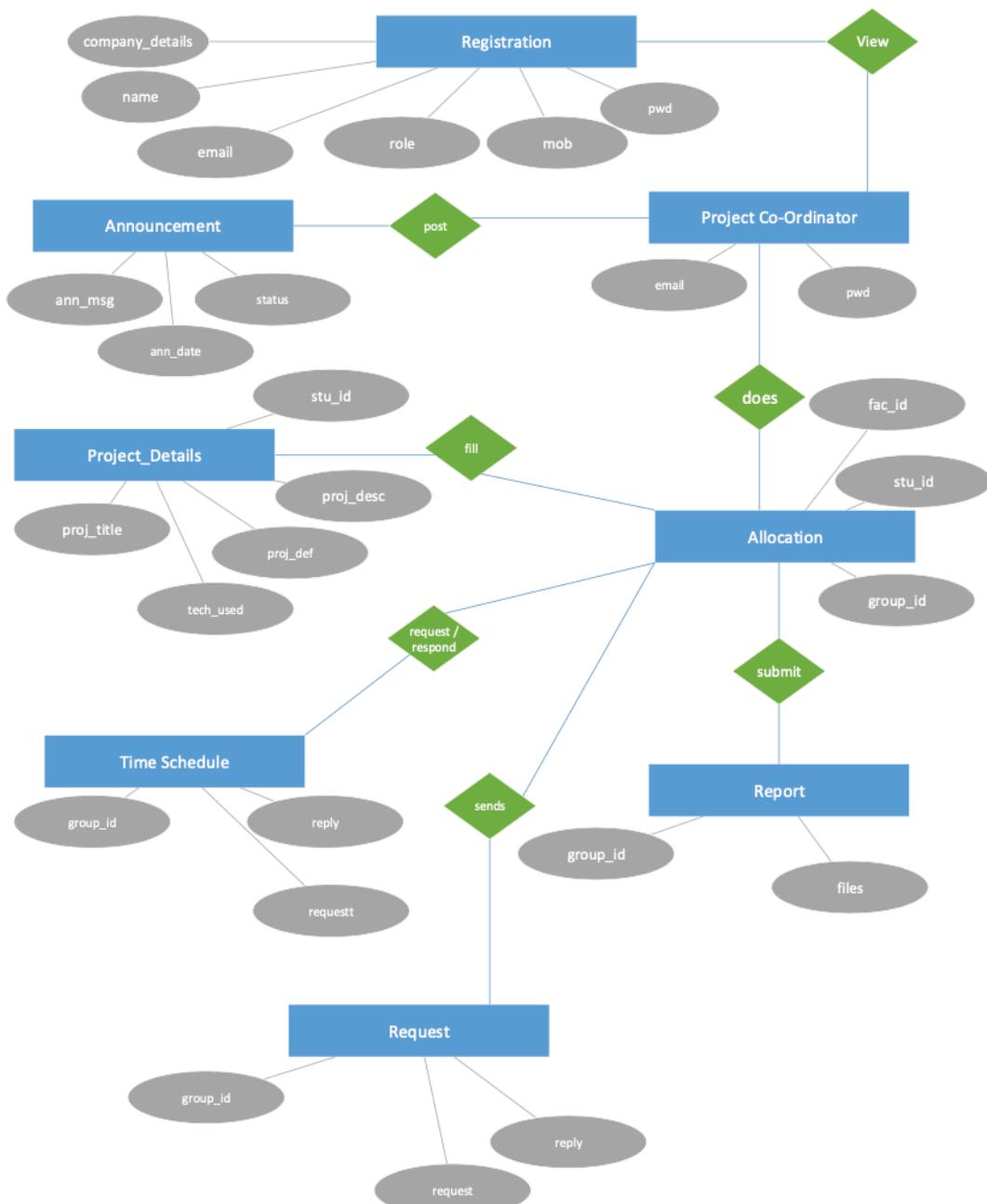


Fig. 3.9 ER Diagram

3.5.2 Normalisation

Normalization is a database design technique used to organize data in a relational database. It involves dividing a large table into smaller, more manageable tables and defining relationships between them to minimize data redundancy and improve data integrity.

For this project, normalization can be applied to ensure that data related to students, faculties, project details, group ids and other entities are organized in a way that reduces redundancy and improves data consistency. For example, information about a student's courses and grades could be stored in a separate table linked to the student's record rather than being repeated in multiple places. For example, information about a student's project and appeals could be stored in a separate table linked to various collections rather than being repeated in multiple places.

3.5.3 Database Manipulation

Database manipulation refers to the process of changing the data stored in a database, such as inserting, updating, deleting or retrieving data. To perform database manipulation in a web application, the website would typically use a server-side programming language such as Node.js to connect to a database management system such as MongoDB. In the context of this website for a project management system, database manipulation would involve operations such as adding new details, updating information, deleting, and reporting.

To manipulate the database, you can use the following functions:

- `insertOne`: Inserts a single document into the collection.
- `insertMany`: Inserts multiple documents into the collection.
- `updateOne`: Updates a single document in the collection.
- `updateMany`: Updates multiple documents in the collection.
- `deleteOne`: Deletes a single document from the collection.
- `deleteMany`: Deletes multiple documents from the collection.
- `find`: Finds documents in the collection that match the specified criteria.

3.5.4 Database Connection Controls and Strings

```
const MongoClient = require('mongodb').MongoClient;
// Connection URL
const url = 'mongodb://localhost:27017';
// Database Name
const dbName = 'TechAppo';
// Use connect method to connect to the server
MongoClient.connect(url, function(err, client) {
  console.log("Connected successfully to server");
  const db = client.db(dbName);
  client.close();
});
```

In the above code, `url` is the MongoDB server URL and `dbName` is the name of the database you want to connect to. Once the connection is established, you can use the `db` object to manipulate the database

CHAPTER 4 : Implementation, Testing, and Maintenance

4.1 Introduction to Languages, IDE's, Tools and Technologies used for Implementation

- React.js
- Node.js
- Express.js
- Mongo DB
- Visual Studio Code

React.js :

- React.js is a popular open-source JavaScript library for building user interfaces (UIs). It was developed by Facebook and is now maintained by Facebook and a community of individual developers and companies.
- React.js uses a declarative programming model, which means that developers can describe the desired state of the UI, and React.js will automatically manage the updates to achieve that state. It also uses a component-based architecture, which makes it easy to create reusable UI components that can be combined to create more complex UIs.
- React.js is widely used for web development, and it can be used to build single-page applications, mobile applications, and desktop applications. It is also often used in conjunction with other web development tools and technologies, such as Node.js, Redux, and Webpack.

Node.js :

- Node.js is an open-source, cross-platform JavaScript runtime environment built on Chrome's V8 JavaScript engine. It allows developers to write server-side JavaScript code that can run on the server, outside of a web browser. Node.js provides a set of built-in modules for handling various types of input/output operations, such as file system access, network requests, and database connectivity.
- Node.js is widely used for building server-side web applications, including APIs and web services. It can also be used to build command-line tools and desktop applications. One of the key benefits of Node.js is its ability to handle large volumes of data and requests efficiently, making it a popular choice for high-performance and scalable web applications.
- Node.js has a large and active community of developers and offers a wide range of third-party libraries and frameworks, making it easy to build complex and feature-rich web applications. Some popular frameworks built on top of Node.js include Express.js, Hapi.js, and Koa.js.

Express.js :

- Express.js is a popular open-source web application framework for Node.js. It provides a set of features and tools for building web applications and APIs quickly and easily. Express.js allows

developers to create server-side web applications using JavaScript and provides a range of built-in functionality for handling HTTP requests, routing, middleware, and more.

- Express.js is highly modular, allowing developers to use only the specific features they need for their project. It also supports various templating engines, including EJS, Pug, and Handlebars, for generating dynamic HTML content.
- One of the main benefits of using Express.js is its extensive library of third-party middleware and plugins, which can be used to add various features and functionality to web applications, such as authentication, security, logging, and more. Express.js is widely used for building APIs, web services, and full-stack web applications.
- Express.js is easy to learn and has a large and active community of developers, making it a popular choice for building web applications with Node.js.

MongoDB :

- MongoDB is a popular open-source NoSQL document-oriented database that stores data in flexible and semi-structured JSON-like documents. It provides a scalable, high-performance, and flexible platform for storing and managing data across distributed systems.
- MongoDB is designed to handle large volumes of data and is highly scalable, allowing developers to easily add or remove nodes to support changing application needs. It also provides built-in sharding and replication features for horizontal scaling.
- One of the key benefits of using MongoDB is its flexibility and ability to handle a wide range of data types and structures, including nested documents and arrays. It also supports a variety of data models, including key-value, graph, and document-oriented, making it a popular choice for a wide range of use cases.
- MongoDB is widely used in modern web development for applications that require high scalability and performance, such as social media platforms, e-commerce websites, and mobile applications. It has a large and active community of developers and offers a range of tools and integrations, including MongoDB Atlas, a cloud-based database service that provides automatic scaling and high availability.

Visual Studio Code :

- Visual Studio Code is a popular open-source code editor developed by Microsoft for building and debugging modern web and cloud applications. It supports a wide range of programming languages, including JavaScript, TypeScript, Python, Java, and many more.
- Visual Studio Code offers a range of features and extensions for improving productivity and efficiency in code development, such as IntelliSense for code completion and syntax highlighting, built-in Git support for version control, and a wide range of debugging tools for various languages.

- One of the key benefits of using Visual Studio Code is its ease of use and customization. It has a simple and intuitive interface and can be customized with a range of themes, extensions, and settings to suit individual preferences and needs.
- Visual Studio Code is highly extensible, allowing developers to add new features and functionality using a wide range of extensions and plugins available in the Visual Studio Code Marketplace. It also integrates well with other Microsoft tools and services, such as Azure and Visual Studio Team Services, making it a popular choice for modern web and cloud application development.

CHAPTER 5 : Results and Discussions

5.1 User Interface Representation

5.1.1 Brief Description of Various Modules of the system

- **Login** - Students, Faculty members & Project Co-ordinator can login to their corresponding Dashboards by filling their respective email Id and password.
- **Registration** - If users i.e. students and faculty members or the guides are not registered on the website then they can register here. As there will be only one Project Co-ordinator so Project Co-ordinator's email id and password is set default by the developer which will be given to the Project Co-ordinator.

Registration Form can be filled in the following 4 steps :

Step : 1

In Step1, Users have to fill the following fields like First Name, Last Name, Role => Student/. Faculty, DOB & Gender.

Step : 2

In Step2, User have to enter their Email Id and their Phone number.

Step : 3

In Step3, User have to enter their Password and confirm the password which will be used during login.

Step : 4

In Step4, whatever information user has filled in the form will be displayed and after submission user will be registered to the website.

- **Forgot Password** - If the user forgets his/her password then on login page user can click on forgot password button which will redirect to forgot password page where user can enter their email and click on send email which will send an email in which their password will be included.

Modules of Project Co-ordinator

- **Dashboard** - Dashboard of Project Co-ordinator includes counts of how many number of report/ppts are submitted, number of announcements etc. It also includes the list of the faculties along with their email id as well as phone numbers.
- **Profile** - Can see and update their profile.
- **Announcement** - Project Co-ordinator can make any announcements like announcing dates for the project presentation, report submission deadline etc. Also he/she can edit or delete the announcement.

- **Project Definition** - Project Co-ordinator can see all the project details filled by the student.
- **Guides Allocation** - After gathering all the information related to project from the students group ids will be generated and as per group number project co-ordinator can allocate guides to the respective groups.
- **Student/Faculty Lists** - Project Co-ordinator can see the information like email id, phone number etc. of all the students and faculty members.
- **Reports, Plea, Final Assessment** - Project Co-ordinator can view all the reports, ppt submitted by the student as well as appeals done by the student and faculties.

Modules of Faculty

- **Dashboard** - Dashboard of Faculty includes counts of how many number of report/ ppt are submitted, latest announcements, meetings scheduled etc.
- **Profile** - Can see and update their profile.
- **Announcement** - See the announcement posted by the project co-ordinator.
- **Meetings** - Meeting requests sent by the student can be accepted or declined along with some message or comment by the faculty/guide.
- **Reports** - Can view the reports of the students allocated to the respective guide as well as give feedback or suggestions to them.
- **Appeal** - Can send request to project co-ordinator like complain regarding student not working properly etc.
- **Final Assessment** - Can view ppt and the final report which needs to be submitted before final presentation.

Modules of Student

- **Dashboard** - Dashboard of student includes number of counts of the report, ppt submitted, meetings scheduled, announcements. Also includes information of the guide allocated to them as well as their project partners if any.
- **Profile** - Can see and update their profile.
- **Allocation List** - Displays groups along with group ids, project partners, project - definitions, description, etc.
- **Announcement** - See the announcement posted by the project co-ordinator.

- **Definitions** - Students have to fill the project detail form which includes all project related details.
- **Scheduling** - Student can schedule their meeting with their respective guides.
- **Report** - Students need to submit their weekly reports.
- **Appeal** - Student can send an appeal to project co-ordinator like changing the group.
- **Feedbacks** - Student can view the feedbacks given by their respective guides regarding the project.
- **Final Submission** - Student have to upload the final report as well as ppts of their project.

5.2 Snapshots of system with brief detail of each

- **Login Page :**

Students, Faculty members & Project Co-ordinator can login to their corresponding Dashboards by filling their respective email Id and password.

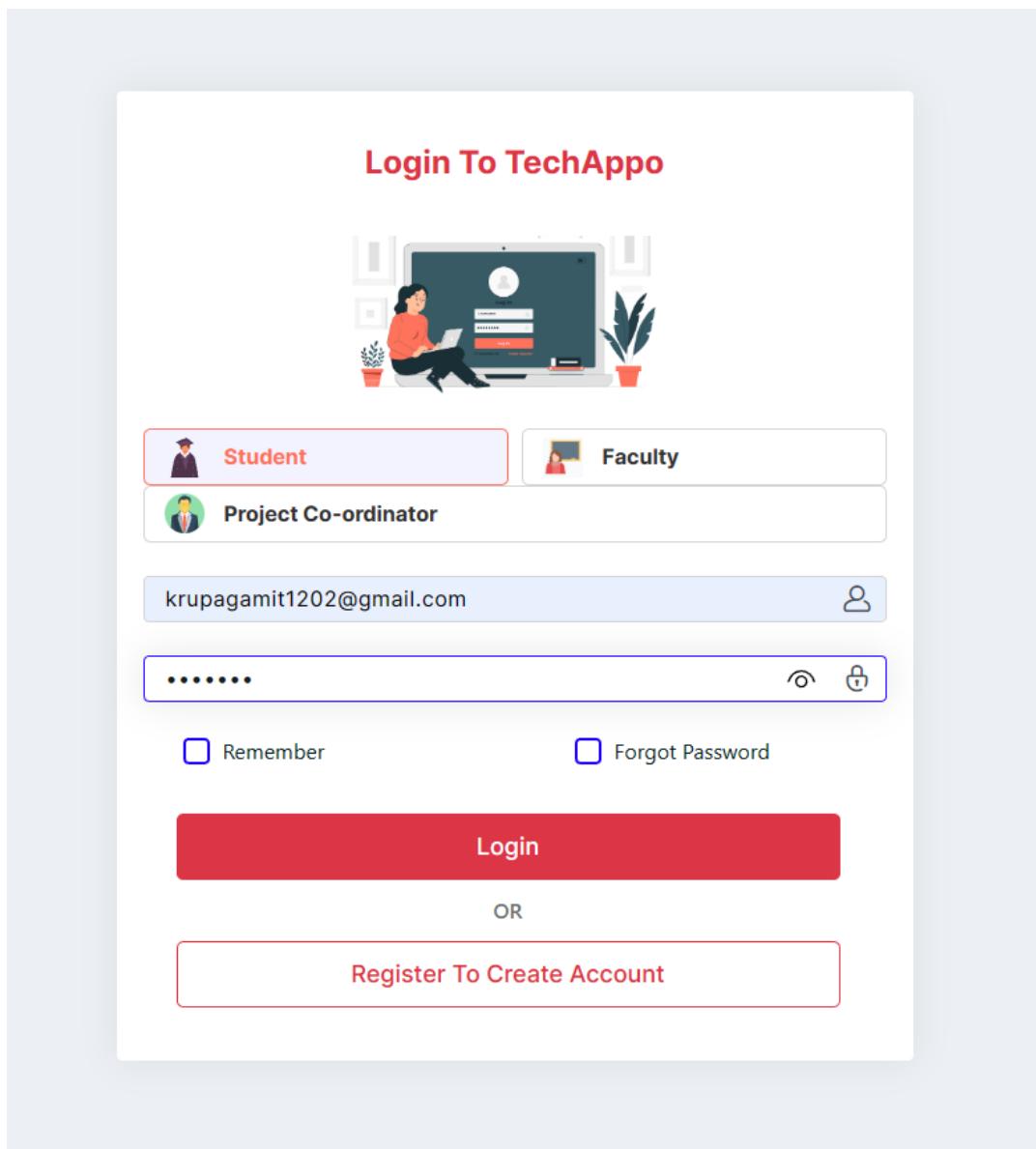


Fig. 5.1 Login

- **Registration Page :**

If users i.e. students and faculty members or the guides are not registered on the website then they can register here. As there will be only one Project Co-ordinator so Project Co-ordinator's email id and password is set default by the developer which will be given to the Project Co-ordinator.

Registration Form can be filled in the following 4 steps :

Step : 1

In Step1, Users have to fill the following fields like First Name, Last Name, Role => Student/Faculty, DOB & Gender.

Step 1
My First Step

Step 2
My Second Step

Step 3
My Third Step

Step 4
My Final Step

New Here? Let's get started!!!

First Name krupa

Last Name gamit

Role Student Faculty Project Coordinator

Date of Birth 28-03-2023

Gender Female Male

Back Next

Fig. 5.2.a Registration - Step1

Step : 2

In Step2, User have to enter their Email Id and their Phone number.

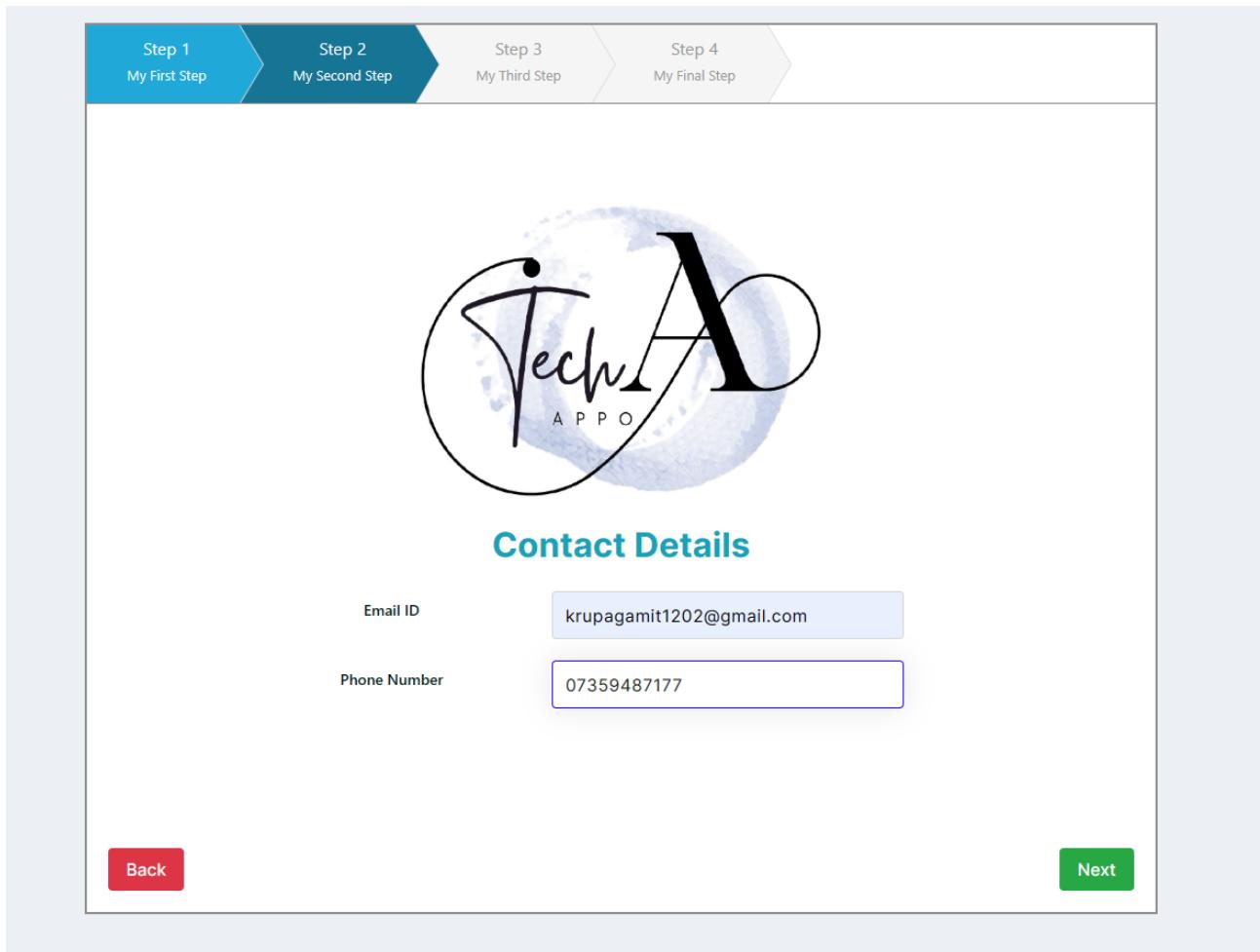


Fig. 5.2.b Registration - Step2

Step : 3

In Step3, User have to enter their Password and confirm the password which will be used during login.

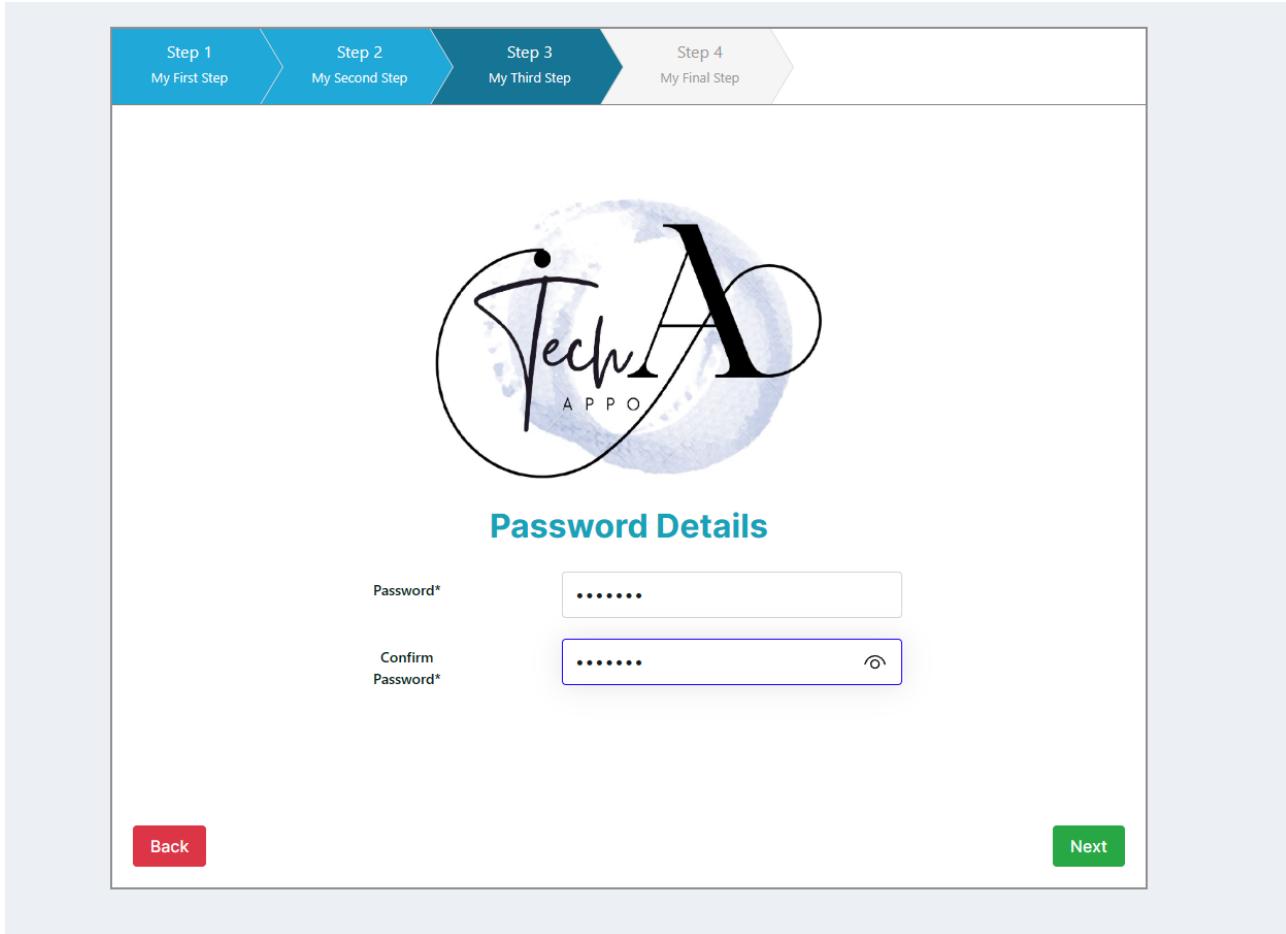


Fig. 5.2.c Registration - Step3

Step : 4

In Step4, whatever information user has filled in the form will be displayed and after submission user will be registered to the website.



The logo features the word "Tech" in a stylized, handwritten font, with a large, bold "A" integrated into the letter "e". Below the "Tech" is the acronym "APPO" in a smaller, sans-serif font. The entire logo is set against a circular background with a blue and white textured pattern.

Overview

Email ID	krupagamit1202@gmail.com
Full Name	krupa gamit
Role	student
Date of birth	2023-03-28
Gender	female
Phone Number	07359487177

I have read and agreed to the terms of services and privacy policy

Back **Submit**

Fig. 5.2.d Registration - Step4

- **Forgot Password**

If the user forgets his/her password then on login page user can click on forgot password button which will redirect to forgot password page where user can enter their email and click on send email which will send an email in which their password will be included.

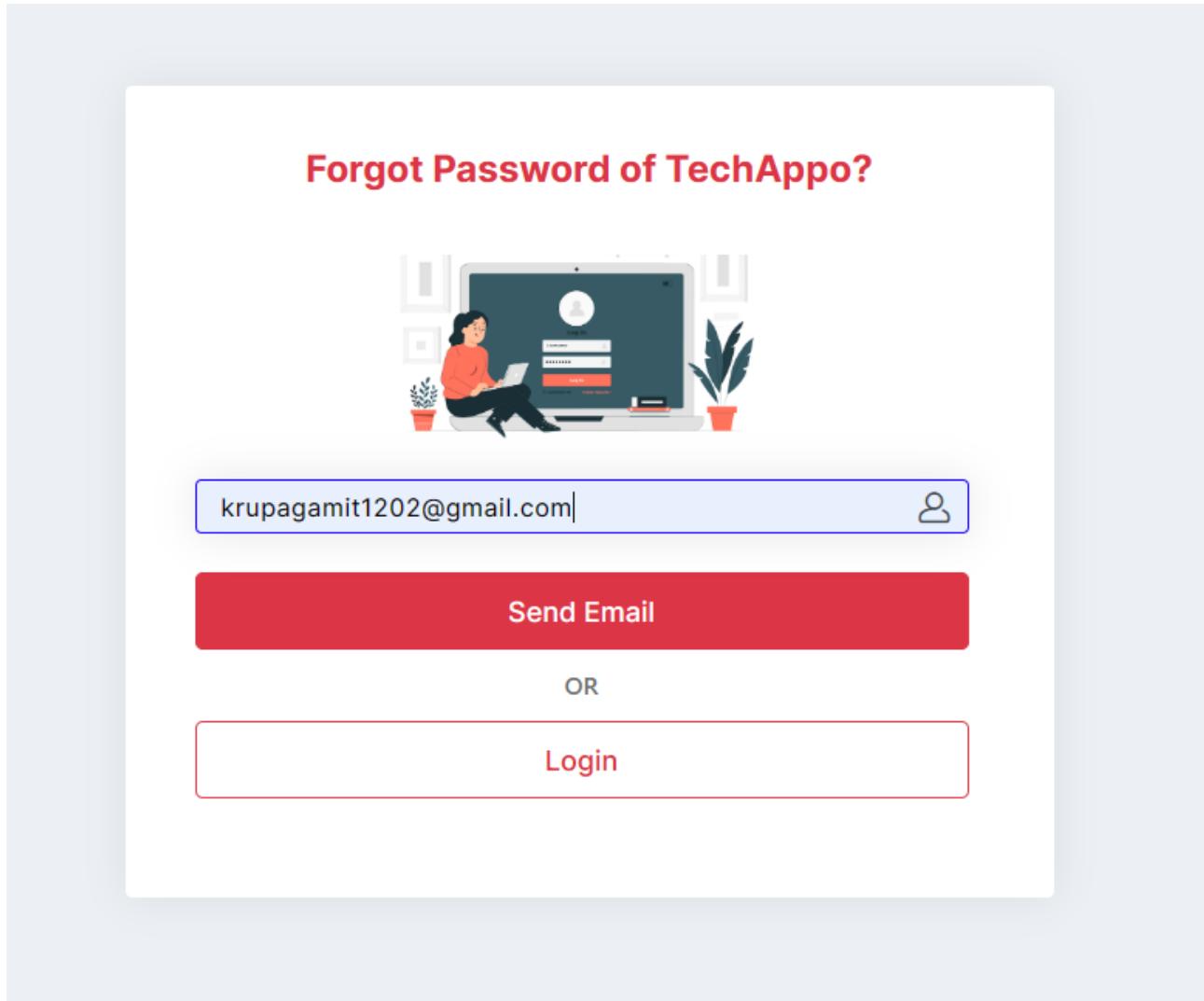


Fig. 5.3.a Forgot Password

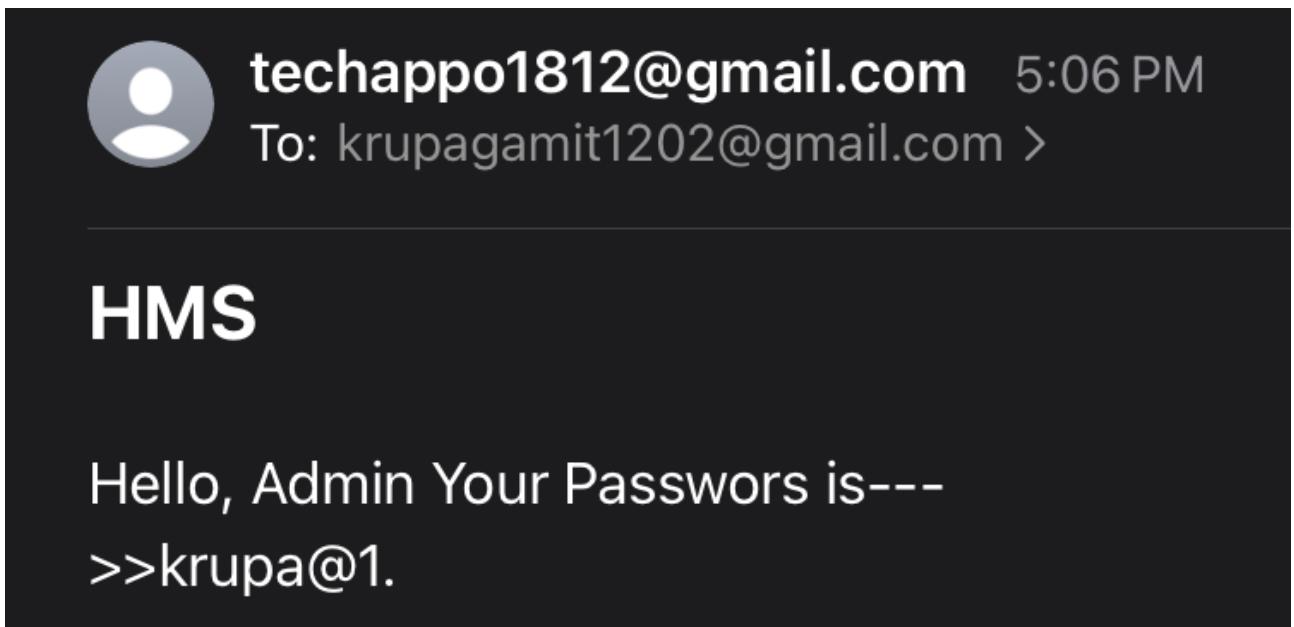


Fig. 5.3.b Forgot Password (Mail)

Modules of Project Co-ordinator

- **Dashboard** - Dashboard of Project Co-ordinator includes counts of how many number of report/ppts are submitted, number of announcements etc. It also includes the list of the faculties along with their email id as well as phone numbers.

A screenshot of the Project Co-ordinator dashboard. On the left is a sidebar with icons for Dashboard, Profile, Announcements, Lists, Allocation, Project Definition, Schedule, Reports, Plea, and Final Assessment, and a Logout button. The main area features a cartoon illustration of a person at a desk with a laptop and a red speech bubble. A welcome message says "Welcome Back Project Co-Ordinator !". Below it are four cards: "4 Reports" (document icon), "7 PPTs" (orange circle icon), "10 Student Requests" (blue circular icon), and "3 Announcements" (red circular icon). At the bottom is a section titled "List of Faculty" with four entries: "Faculty 1 Professor" (man in suit), "Faculty 2 Assistant Professor" (man in plaid shirt), "Faculty 3 Head of Department" (man in grey shirt), and "Faculty 4 Professor" (woman with red hair).

Fig. 5.4 Dashboard (PC)

- **Profile** - Can see and update their profile.

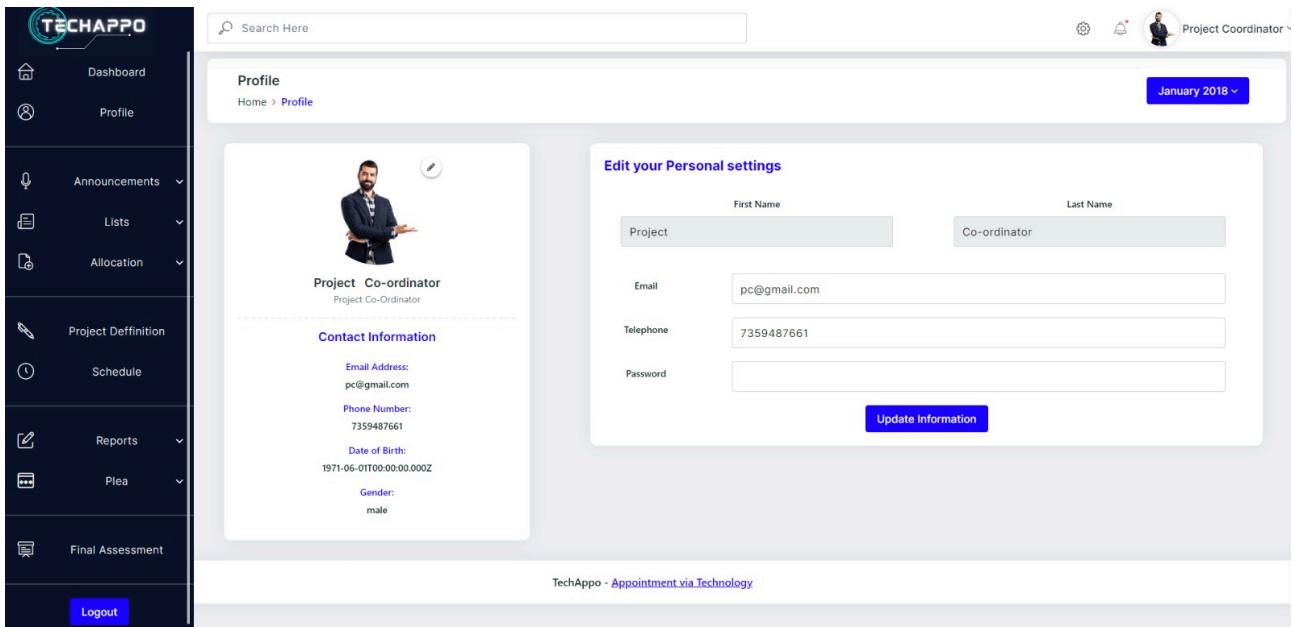


Fig. 5.5 Profile (PC)

- **Announcement** - Project Co-ordinator can make any announcements like announcing dates for the project presentation, report submission deadline etc. Also he/she can edit or delete the announcement.

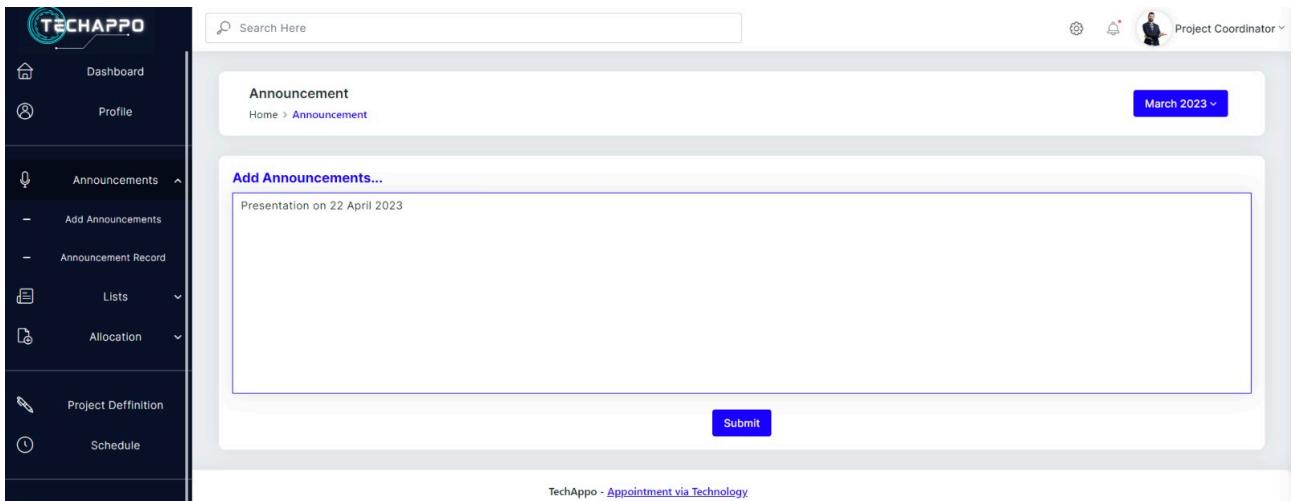


Fig. 5.6.a Announcement

Fig. 5.6.b Announcement list

- **Guides Allocation** - After gathering all the information related to project from the students group ids will generated and as per group number project co-ordinator can allocate guides to the respective groups.

Fig. 5.7 Guide Allocation

- **Reports, Plea, Final Assessment** - Project Co-ordinator can view all the reports, ppts submitted by the student as well as appeals done by the student and faculties.

The screenshot shows the TechAppo software interface. On the left is a sidebar with icons for Announcements, Lists, Allocation, Project Definition, Schedule, Reports, and Plea. The main area has a search bar at the top. Below it, a header says "Request from Faculty" with a date dropdown set to "March 2023". A sub-header "Request from Faculty to Project Co-ordinator" is visible. A table lists two requests:

ID	Faculty Name	Request Date	Appeal	Reply	Action	
6	khushi	2023-03-17T18:30:00.000Z	complain on krupa	okay	Accept / Decline	Viewed
6		2023-03-20T18:30:00.000Z	Student complain		Accept / Decline	Dissard

At the bottom, there's a footer with the text "TechAppo - Appointment via Technology".

Fig. 5.8 Request - Faculty/Student

- **Logout** - Redirects to the login page.

The screenshot shows the TechAppo software interface. In the center, a modal dialog box is displayed with a large orange exclamation mark icon. The text inside the dialog reads "Are you sure? You want to logout!?" with "Cancel" and "OK" buttons below it. The background shows a table with columns "Group ID", "Report", and "Status". The "Group ID" column contains values "Presentation-1" and "Presentation-2". The "Report" column contains "@". The "Status" column contains "Not Submit". At the bottom of the screen, there is a footer with the text "TechAppo - Appointment via Technology".

Fig. 5.9 Logout

Modules of Faculty

- **Dashboard** - Dashboard of Faculty includes counts of how many number of report/ ppts are submitted, latest announcements, meetings scheduled etc.

Welcome Faculty
All systems are running smoothly! You have 3 unread alerts!

Today (10 Jan 2021) Profile

PPTs: 7

Reports: 4

Number of Meetings: 10

Number of Requests: 4

Announcements:

- Presentation on 1st April
2023-04-10T18:30:00.000Z
- Presentation on 8th April.
2023-04-10T18:30:00.000Z
- Report Submission on 20th April.
2023-04-20T18:30:00.000Z

Fig. 5.10 Dashboard (Faculty)

- **Profile** - Can see and update their profile.

Profile

Faculty 1

Contact Information :-

- Email: faculty1@gmail.com
- Mobile: 19374884822
- Date of Birth: 1990-02-13T00:00:00.000Z
- Gender: female

Edit Your Personal Setting

First Name: Faculty

Last Name: 1

Email: faculty1@gmail.com

Phone Number: 19374884822

Change Password

Update Information

Fig. 5.11 Profile (Faculty)

- **Announcement** - See the announcement posted by the project co-ordinator.

2023-04-10T18:30:00.000Z



Presentation on 1st April

2023-04-10T18:30:00.000Z



Presentation on 8th April.

2023-04-10T18:30:00.000Z



Report Submission on 20th April.

2023-04-15T18:30:00.000Z



Presentation on 22 April 2023

Fig. 5.12 Announcements

- **Meetings** - Meeting requests sent by the student can be accepted or declined along with some message or comment by the faculty/guide.

2023-03-16T18:30:00.000Z	to meet tomorrow	2023-03-17T00:00:00.000Z	4pm	<button>Accept/Decline</button>	Cancelled
2023-03-16T18:30:00.000Z	kk			<button>Accept/Decline</button>	Cancelled
2023-03-17T18:30:00.000Z	hello			<button>Accept/Decline</button>	In Progress
2023-03-20T18:30:00.000Z	meeted			<button>Accept/Decline</button>	Fixed

Fig. 5.13.a Meetings

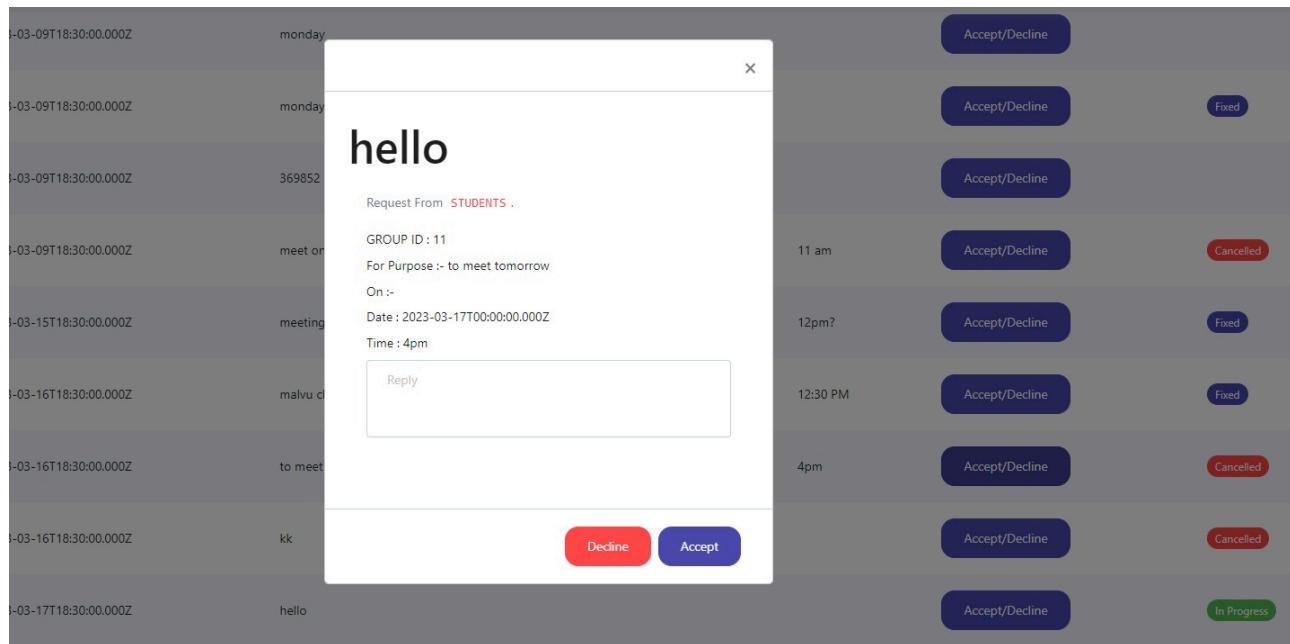


Fig. 5.13.b Meetings (Accept/Decline, Reply)

- **Reports** - Can view the reports of the students allocated to the respective guide as well as give feedback or suggestions to them.

Reports Record

Group id : 11 Project id : Project title : View

Start date	End date	File	
2023-03-17T00:00:00.000Z	2023-03-18T00:00:00.000Z	1681367573812.jpg	View Give Feedback

Fig. 5.14 Reports & Feedback

- **Appeal** - Can send request to project co-ordinator like complain regarding student not working properly etc.

Make A Appeal To Project Co-Ordinator

Use the [.form](#) to make a appeal to Project Co-ordinator.

6	name	request	Submit
---	------	---------	--

Fig. 5.15 Appeal to project co-ordinator

Modules of Student

- **Dashboard** - Dashboard of student includes number of counts of the report, ppts submitted, meetings scheduled, announcements. Also includes information of the guide allocated to them as well as their project partners if any.

The dashboard features a sidebar with navigation links for Profile, Dashboard, ALLOCATION, ANNOUNCEMENTS, DEFINITIONS, SCHEDULING, REPORT TIME, and APPEAL. The main area displays four cards: 'Reports Submitted' (4), 'PPTs' (7), 'Scheduled Meetings' (10), and 'Announcements' (4). Below these are sections for 'Guides Allocated' and 'Project Partner', each showing four profiles with names and titles.

Category	Count	Description
Reports Submitted	4	Jan - April 2023
PPTs	7	Jan - April 2023
Scheduled Meetings	10	Jan - April 2023
Announcements	4	Jan - April 2023

Profile Type	Name	Title
Guides Allocated	Ana Liem	Senior Manager
Guides Allocated	John Abraham	Store Manager
Guides Allocated	John Doe	Sales Man
Guides Allocated	Mehedi Titas	Online Marketer
Project Partner	Ana Liem	Senior Manager
Project Partner	John Abraham	Store Manager
Project Partner	John Doe	Sales Man
Project Partner	Mehedi Titas	Online Marketer

Fig. 5.16 Dashboard (Student)

- **Profile** - Can see and update their profile.

The profile page includes a sidebar with navigation links for Profile, Dashboard, ALLOCATION, ANNOUNCEMENTS, DEFINITIONS, SCHEDULING, and REPORT TIME. The main area shows an 'About Me' section with a profile picture and text, followed by an 'Edit Your Personal Setting' form with fields for First Name, Last Name, Email, Phone Number, and Password, along with an 'Update Information' button.

Setting	Value
First Name	Krupa
Last Name	Gamit
Email	krupagamit1202@gmail.com
Phone Number	9374884811

Fig. 5.17 Profile (Student)

- **Definitions** - Students have to fill the project detail form which includes all project related details.

Step1 :

PROJECT DETAILS

Fill the .project Definitions

Home Members Info Project Details Comapny Details Overview

Are you doing project in Group or Individual ?

Individual

Group

No. of Members

Next

Fig. 5.18.a Project Details Step1

PROJECT DETAILS

Fill the .project Definitions

Home **Members Info** Project Details Comapny Details Overview

Student 1:

Student 2:

Student 3:

Previous **Next**

Fig. 5.18.b Project Details Step2

PROJECT DETAILS

Fill the .project Definitions

Home Members Info **Project Details** Comapny Details Overview

Project Title

Project Definition

Project Description

Technology Used

Previous **Next**

Fig. 5.18.c Project Details Step3

PROJECT DETAILS

Fill the .project Definitions

Home Members Info **Project Details** **Comapny Details** Overview

Company Name

Company Address

Industry Guide

Joining Letter No file chosen

Previous **Next**

Fig. 5.18.d Project Details Step4

PROJECT DETAILS

Fill the `.project Definitions`

Home

Members Info

Project Details

Comapny Details

Overview

Group/Individual :

Members :

Group

Members Info :

1, A

2, B

3, C

Project Title :

TechAppo

Project Definition :

def

Project Description :

long des

Technology Used :

MERN STACK

Company Name :

Englighten Infosystems

Industry Guide :

Joining Letter :

Previous

Cancel

Submit

Fig. 5.18.e Project Details Step5

- **Scheduling** - Student can schedule their meeting with their respective guides.

Schedule Meetings

Use the form to `.schedule meets` with your guides

11	project_id	project_title
----	------------	---------------

Purpose

Weekly meeting

Request for Date : just click `.mydatepicker` to add it.

17-04-2023

12:20

Fig. 5.19 Schedule Meetings

- **Report** - Students need to submit their weekly reports.

Add Weekly Reports

Use the form to .report your guides

13	project_id	project_title
----	------------	---------------

Start Date

□

End Date

□

Upload File

Choose File

▲ Upload

Fig. 5.20 Report

- **Appeal** - Student can send an appeal to project co-ordinator like changing the group.

Appeal Form

use the .form to send request to Project Co-ordinator.

1	19	project_id	request	Send Message ✉
---	----	------------	---------	---

Fig. 5.21 Appeal

- **Final Submission** - Student have to upload the final report as well as ppt's of their project.

Final Assessment

Use the form to `submit assessment material`.

16

project_id

project_title

Upload PPT

No file chosen

Upload Report

No file chosen



Fig. 5.22 Final Assessment

5.3 Back Ends Representation (Database to be used)

5.3.1 Snapshots of Database Tables with brief

- Registers collection - Store data from registration form.

The screenshot shows the MongoDB Compass interface. On the left, there's a sidebar with 'My Queries' and 'Databases'. Below that is a search bar. The main area is titled 'TechAppo.registers' and has tabs for 'Documents', 'Aggregations', 'Schema', 'Explain Plan', 'Indexes', and 'Validation'. Under 'Documents', there's a 'Filter' dropdown and a search bar. Below that are two documents listed:

```
_id: ObjectId('6433ee8efcbb1073c410ed0b')
fname: "Khushi"
lname: "Bhabhor"
email: "khushibhabhor18@gmail.com"
mobile: 7359487116
dob: 2001-12-18T00:00:00.000+00:00
pwd: "1"
cpwd: "1"
role: "student"
gender: "female"
enroll_no: 1
__v: 0

_id: ObjectId('6433eec5fcbb1073c410ed0f')
fname: "Krupa"
lname: "Gamit"
email: "krupagamit1202@gmail.com"
mobile: 9374884811
dob: 2002-02-12T00:00:00.000+00:00
pwd: "2"
cpwd: "2"
role: "student"
gender: "female"
enroll_no: 2
```

Fig. 5.23 Registers Collection

- Announcement collection - Store announcements.

TechAppo.announcements

Documents Aggregations Schema Explain Plan Indexes Validation

Filter Type a query: { field: 'value' }

ADD DATA **EXPORT COLLECTION**

```
_id: ObjectId('6433cf8c3c794a0dd5f7abe1')
en: 1
announcement: "Presentation on 1st April"
date_of_announcement: 2023-04-10T18:30:00.000+00:00
__v: 0
```



```
_id: ObjectId('6433cf993c794a0dd5f7abe5')
en: 2
announcement: "Presentation on 8th April."
date_of_announcement: 2023-04-10T18:30:00.000+00:00
__v: 1
```

Fig. 5.24 Announcements Collection

- Appeals collection - Store all the requests done by the students.

TechAppo.appeals

Documents Aggregations Schema Explain Plan Indexes

Filter Type a query: { field: 'value' }

ADD DATA **EXPORT COLLECTION**

```
_id: ObjectId('6412a4778dddfee8148be33')
requested_date: 2023-03-16T18:30:00.000+00:00
group_id: 19
stu_id: 1
appeal: "hello pc"
__v: 0
date_of_reply: 2023-03-16T18:30:00.000+00:00
reply: "hy"
```

Fig. 5.25 Appeals Collection

- Schedule collection - Store all the meetings scheduled.

The screenshot shows the MongoDB Compass interface with the following details:

- Left Sidebar (My Queries & Databases):**
 - Databases: TechAppo
 - Collections under TechAppo:
 - announcements
 - appeals
 - defines
 - externals
 - faculty_appeals
 - guide_allocations
 - registers
 - reports
 - schedules** (selected)
 - admin
 - config
 - local
 - project_management
- Top Right Title:** TechAppo.schedules
- Header Bar:** Documents (selected), Aggregations, Schema, Explain Plan, Indexes, Validation
- Filter Bar:** Filter (dropdown), Type a query: { field: 'value' }
- Action Buttons:** ADD DATA (with a download icon), EXPORT COLLECTION
- Document 1:**

```
_id: ObjectId('640ad5de87997708c5f76192')
requested_date: 2023-03-09T18:30:00.000+00:00
group_id: 11
purpose: "meet on saturday"
request_date: 2023-12-02T18:30:00.000+00:00
request_time: "11 am"
__v: 0
reply: "okkk"
schedule_status: 0
```
- Document 2:**

```
_id: ObjectId('641172e4ef48380016799491')
requested_date: 2023-03-15T18:30:00.000+00:00
group_id: 11
purpose: "meeting friday??"
request_date: 2023-03-17T00:00:00.000+00:00
request_time: "12pm?"
__v: 0
reply: "okkk"
schedule_status: 1
```
- Document 3:**

```
_id: ObjectId('6412a3478dddcfee8148be21')
requested_date: 2023-03-16T18:30:00.000+00:00
```

Fig. 5.26 Schedule Collection

- Externals collection

TechAppo.externals

Documents Aggregations Schema Explain Plan Indexes Validation

Filter Type a query: { field: 'value' }

ADD DATA EXPORT COLLECTION

```
_id: ObjectId('6411a2bb00fb4c8cb315f973')
requested_date: 2023-03-15T18:30:00.000+00:00
group_id: 16
ppt: "1678877371947-.jpg"
report: "1678877371948-.jpg"
__v: 0
```

Fig. 5.27 Externals Collection

- Faculty Appeals collection

TechAppo.faculty_appeals

Documents Aggregations Schema Explain Plan Indexes

Filter Type a query: { field: 'value' }

ADD DATA EXPORT COLLECTION

```
_id: ObjectId('641396b42f1df183a0bd897e')
requested_date: 2023-03-17T18:30:00.000+00:00
fid: 6
f_name: "khushi"
appeal: "complain on krupa"
f_appeal_status: 1
__v: 0
date_of_reply: 2023-03-24T18:30:00.000+00:00
reply: "okay"
```

Fig. 5.28 Faculty Appeals Collection

- Reports collection

The screenshot shows the MongoDB Compass interface. On the left, the sidebar has sections for 'My Queries' and 'Databases'. Under 'Databases', there is a search bar and a list of databases. Below that is a tree view of collections under 'TechAppo', including 'announcements', 'appeals', 'defines', 'externals', 'faculty_appeals', 'guide_allocations', 'registers', 'reports' (which is selected and highlighted in blue), and 'schedules'. There are also sections for 'admin', 'config', 'local', and 'project_management'. At the bottom of the sidebar, there are three dots (...).

The main area is titled 'TechAppo.reports'. It has tabs for 'Documents', 'Aggregations', 'Schema', 'Explain Plan', 'Indexes', and 'Val'. Below the tabs is a search bar with placeholder text 'Type a query: { field: 'value' }'. There are buttons for 'ADD DATA' and 'EXPORT COLLECTION'. The 'Documents' tab is active.

Three documents are listed:

```

_id: ObjectId('6412deb2744f01653cf30bb4')
requested_date: 2023-03-16T18:30:00.000+00:00
group_id: 11
start_date: 2023-03-17T00:00:00.000+00:00
end_date: 2023-03-18T00:00:00.000+00:00
report: "1681367573812-.jpg"
__v: 0

```

```

_id: ObjectId('642e7450610bac2ce56dd61a')
requested_date: 2023-04-06T18:30:00.000+00:00
group_id: 13
start_date: null
end_date: null
report: "1680766032782-.pptx"
__v: 0

```

```

_id: ObjectId('6437a5caf546357e844e0b3a')
requested_date: 2023-04-13T18:30:00.000+00:00
group_id: 13
start_date: null
end_date: null
report: "1681368522623-.jpg"
__v: 0

```

Fig. 5.29 Reports Collection

CHAPTER 6 : Conclusion and Future Scope

Developing a university website for project management would fall under the project category of web development. TechAppo is a web-based project for students and faculty members where students can get time of their guides and convenor so they can present the project and its progress report. The project head would allocate the guides to the student and can post the important announcement where faculty and students can read. Faculty can interact with their allocated group of students. Also they can accept/reject the request of student made asking about the particular time slot and set the remainder after the time slot is provided. Email notification are made so project head, guides and student can get message about exam presentation, progress report, etc. Students request the guides and convenor asking about particular time slot. They can post their weekly progress report on the portal and the module gets disable the moment new week starts which can only be changed by the faculty members. Time Scheduling - Students can make an appeal to the their respective guides or faculties for scheduling the weekly meeting where they can take the preferable time and day for the meeting which can avoid wastage of time for both students as well as Faculties/Guides. This website is simple to use and good for final semester university projects which can avoid communication gap between the students and the guides.

References

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