PROJECT PROPOSAL ACCEPTANCE SYSTEM

A PROJECT REPORT

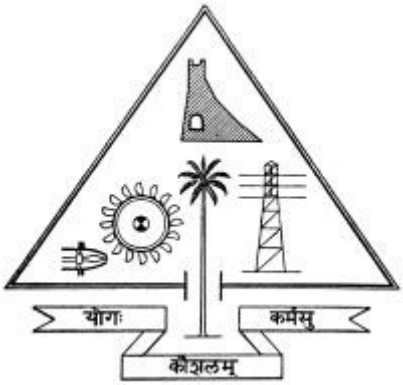
submitted by

MANISHA R
(TCR16MCA13)

to
the APJ Abdul Kalam Technological University
in partial fulfillment of the requirements of the award of the Degree

of

Master of Computer Applications



DEPARTMENT OF COMPUTER APPLICATIONS
GOVERNMENT ENGINEERING COLLEGE
THRISSUR - 680009

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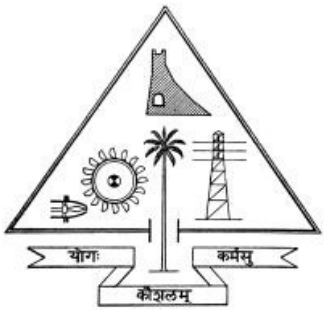

CERTIFICATE

This is to certify that the report entitled **"PROJECT PROPOSAL ACCEPTANCE SYSTEM"** *submitted by* **MANISHA R TCR16MCA13** *to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree of Master of Computer Applications is a bonafide record of the project work carried out by her under my guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.*

Project Guide	**Project Coordinator**	**Head of Department**
Dr. Reena P	Prof. Soumia Chandran	Dr. Reena P
Professor	Assistant Professor	Professor

Date : **External Examiner**

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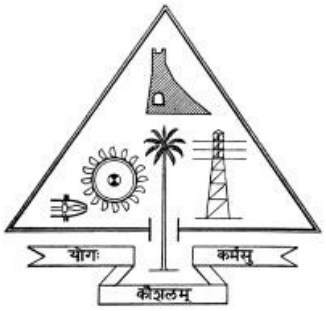

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Project Guide	**Project Coordinator**	**Head of Department**
Dr. Reena P	Prof. Soumia Chandran	Dr. Reena P
Professor	Assistant Professor	Professor

Date : **External Examiner**

DECLARATION

I undersigned hereby declare that the project report Project Proposal Acceptance System , submitted for partial fulfillment of the requirements for the award of degree of Master of Computer Applications of the A.P.J Abdul Kalam Technological University, Kerala is a bonafide work done by me under supervision of Dr. Reena P. This submission represents my ideas in my own words and where ideas or words of others have been included, I have adequately and accurately cited and referenced the original sources. I also declare that I have adhered to ethics of academic honesty and integrity and have not misrepresented or fabricated any data or idea or fact or source in my submission. I understand that any violation of the above will be a cause for disciplinary action by the institute and/or the University and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been obtained. This report has not been previously formed the basis for the award of any degree, diploma or similar title of any other University.

Place : Thrissur

Date :

Signature :

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ABSTRACT

Academic Project management is a major issue which is faced by many educational institutes, the main reason for this is there is no automated system followed in any institute.The proposed system will over come this practical problem and also make the process easy. The faculties can view the project details of each student though the system. The selected topics can be given more suggestions, if needed. The system can be used until the project gets finished.

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NOMENCLATURE

AMP	Apache, MySQL and PHP
FSKKP	Faculty System Computer and Software Engineering
FYP	Final Year Project
J2EE	Java Enterprise Edition
PHP	Hypertext Preprocessor
PMS	Progress Monitoring System
UMP	University Malaysia Pahang
WBS	Work Breakdown Structure
XAMPP	Cross-Platform (X), Apache (A), MySQL (M), PHP (P) and Perl (P)

CHAPTER 1
INTRODUCTION

This chapter introduces the current scenario that demands the proposed system. It also shares the brief idea of system related terms. Objectives and scope of work also discussed in this chapter.

1.1 General Background

Now a days the final year students submit their project topic to the project coordinator manually and explain the details. So, the coordinator and the other faculty members need to spend their working hours to get an idea about the topic. And if the coordinator is not physically present in the department, student can't present their topic. So, the approval of the topic may take time. Here comes the need of the proposed system.

The project is about developing a project proposal acceptance system. It is a web based project proposal acceptance system, which solves the problem of the faculty members while finalizing the project proposals of the final year students in a college.

1.2 Objective

The objective of this project is to develop web based portal, Students and faculty of academic institutions are the expected end users. This web based portal targets to help the faculty members of colleges with the task of finalizing project proposals put forward by final year students of an academic year. The platform helps a student by providing an interface to do the following tasks -

1. Browse through existing projects provided by the database and hence making it easy to select a topic.
2. Keep a track of their progress on the selected project and avoid late submissions.

At the same time the platform helps the faculty by providing an interface to perform the following -

1. Ensure that all students are assigned with a project.
2. Monitor progress of each student and guide them.

Additionally, the portal also provides a inbuilt feature where a student can have a conversation with their guides via email or instant messaging.

CHAPTER 2
LITERATURE REVIEW

There are a few upcoming works related to this topic. Some of the major works are discussed here.

2.1 Student Project Performance Management System for Effective Final Year and Dissertation Projects Supervision

[1]

This paper[1] proposes highlights of another coordinated and collaborative online supervision framework for conclusive year and thesis ventures. The system is presently being worked on and it plans to facilitate the supervision process, unite the assignments of every single included entertainer and improve the student learning knowledge. Gathered criticism from understudies and scholarly staff shows that such a framework can keep up a successful and proficient supervision connection between all gatherings. System[1] incorporates the following elements:-

2.1.1 Project database

This database contains all thesis ventures proposed by all showing staff and students for a given division of order. Undertaking recommendations are transferred to the framework utilizing an online structure. The determination of each undertaking incorporates a conceptual, a rundown of watchwords, a rundown of required resources(hardware and programming), and ideal abilities.

2.1.2 Supervisory Team Database

This database contains the arrangements of guides or supervisors. supervisors are connected to the rundown of tasks that they have proposed and they are ordered by their fields of mastery. These fields of ability coordinate the watchwords utilized in the undertaking database. Inside our framework, administrators can be gathered into little gatherings concerning the various classifications used to order extends.

2.1.3 Performance Management Plan

When an exposition venture is recognized and the supervisory group is concurred and apportioned, the understudy begins handling their undertaking. For this purpose,they should concur a schedule and a work plan with their supervisor.Therefore, our framework contains a presentation the board plan that permits characterizing achievements, assignments and objectives and their relating course of events and anticipated expectations.

2.1.4 Trainings and workshop database

During a thesis venture, an understudy needs to combine and adapt new abilities. To address this issue, we added to our framework a database for scholastic and expert workshops and trainings. As a major aspect of the exhibition the executives plan the understudy needs to concur with their chief which sort of trainings or abilities they require to take care of better accomplish their project.This will be recorded as a particular assignment inside the presentation the board plan.Automatic warning will be sent to the workshop or preparing coordinator. For instance, an understudy might be encouraged to look for assistance from the understudy scholarly help guide to improve time management, scholastic composition and oral introductions abilities. Other specialized aptitudes might be given by outer scholarly organizations or office.

2.1.5 Assessment Forms

Contingent upon the evaluation and the idea of the paper venture, our supervision framework enables the chief and the analysts to finish and print electronic appraisal forms. These structures can be accessed by the understudy toward the end of the supervision procedure with the goal that he will have a definite input about his presentation.

2.1.6 Communication interfaces

The supervision framework offers help for correspondence and gathering work. Case of highlights that are still being worked on incorporate videoconferencing capacity, coordinated talk and whiteboard; online discussion,file the board framework and mail framework.

2.1.7 Pros and Cons

The framework should be completely actualized and after that generally tried to affirm whether it improves the nature of supervision and upgrade understudy learning, criticism and evaluation encounters. Future work will concentrate on these points and gather quantifiable confirmations and measurements to assess the exhibition of this framework.

2.2 Proposal Submission System - A Content Management System Approach for Proposal Submission

[3] 3] Framework [3]aims to give an online proposition accommodation component, improving the conventional and physical techniques for accommodation. Such framework enables task accommodation to be increasingly effective and more noteworthy thoroughness. On-line accommodation gives electronic duplicate of assignments, which has numerous advantages over customary physical duplicate accommodation of assignments. With the execution of Proposition Accommodation Framework, one can be exposed to a similar thoroughness as customary methods without settling on quality

while sticking to a similar procedure work process.

The designer had drilled Hyperlink Web Advancement Approach, and the improved course of events is made base on the system. The course of events chart covers examination and configuration work done in the beginning times, time span of creating and testing the framework, and sending date. This course of events outline indicated is the underlying advancement timetable made amid the previous phase of the framework configuration state. With the improved timetable as the guide for fruition of undertakings, the framework advancement is to be finished in time.

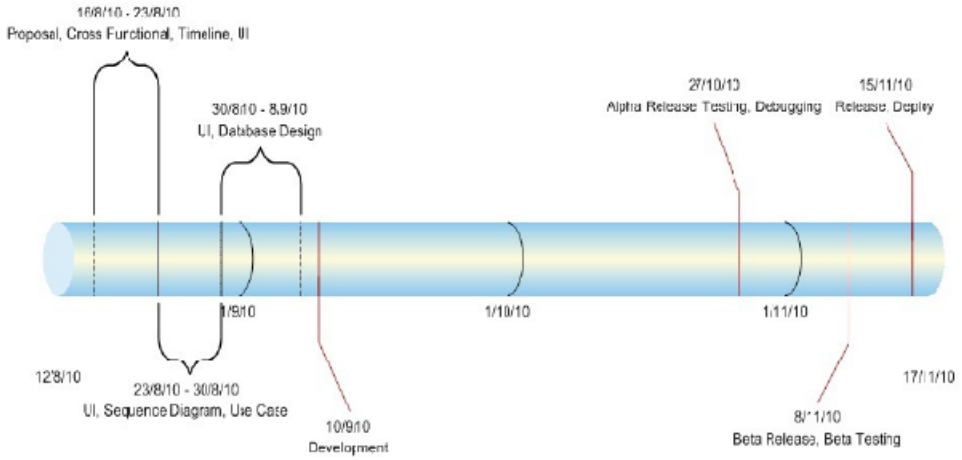

Figure. 2.1: Development Timeline

2.2.1 TOOLS AND TECHNOLOGY FOR DEVELOPMENT

Microsoft's .NET structure and Java's J2EE. Among the decisions, AMP bundle emerges as a famous choice of free open-source framework accessible for improvement. AMP bundle comprise of Apache server, MySQL database with PHP, Perl or Python as server side scripting language. Engineer had picked AMP for improvement of Proposition Accommodation Framework because of his involvement with advancement with AMP bundle without hardly lifting a finger of establishment with XAMPP. XAMPP is a full included AMPP (Apache, MySQL, PHP, Perl) bundle that is one of the few non-business AMPP middleware stacks accessible cross stages. It's bundles incorporates AMPP, yet in addition database instruments (php-

MyAdmin, SQLite), PHP bundles (PEAR) what's more, other advancement instruments. With its highlights, it is feasible for XAMPP to be use for individual landing page to generation webpage for developments.JavaScript referenced to be the most well known scripting language on the web in w3 schools' JavaScript area, which works with every single significant program incorporates Web Wayfarer, Firefox, Chrome, Musical show and Safari. AJAX (Offbeat JavaScript and XML) presented the capacity to create offbeat foundation solicitations to the web, from the customer machine. This permit applications to give rich customer side interfaces, and enables programs to speak with the web without compelling page invigorates; both essential highlights of Rich Web Application.

2.2.2 Pros and Cons

The system[3] helps only in the submission of the proposal. It doesn't consider the further procedures during the project. But the system provides an efficient method to handle with the proposal content. The proposal content can be stored electronically without compromising the quality.

2.3 PROGRESS MONITORING SYSTEM FOR STUDENT FINAL YEAR PROJECT

[2]

The Advancement Checking Framework for Understudy Last Year Venture (PSM) is PC programming which helps understudy contacts of College Malaysia Pahang (UMP) under Workforce Framework PC and Programming Designing (FSKKP) deal with their task arranging and usage through keeping understudy associated with supervisor, paying little respect to where understudy are found. Manager in FSKKP can screen everything about, and effectively. Anyway the framework is tied in with overseeing ventures from remote goals. So that, this framework encourages understudy to finish ventures, keep within financial limit, remain on track, and work together with supervisor. In this manner, the Advancement Checking framework for

Understudy FYP enables its understudy to effectively update venture issues as they emerge. Those update venture issue, really they are will get the feedback from supervisor. Along these lines, Administrator will assess the advancement and allot imprints to understudy dependent on rubric. This framework likewise can enable understudy to streamline the venture the executives procedure, keeping understudy on track and giving client with reports and ongoing information so their undertaking achievement is guaranteed. The product will be utilized to build up this framework is Macromedia Dreamweaver. The language utilized is PHP. For the database we will utilize MySQL, Apache and web server XAMPP. In this system,students can refresh their logbook whenever by means of a paperless, naturally agreeable technique just as present their logbook and last report through on the web. Administrators can get to the understudy's logbook whenever, subsequently they can assess and grade the understudy at their own page. Understudy can present their report what's more, get criticism from their boss. Administrator will allot imprints to understudies on their advancement and execution amid introduction. From that point forward, understudy ready to check.

2.3.1 Pros and Cons

The system can be used only under the specified University. The system is very helpful, since student's can connect to supervisors from remote locations. Supervisors can track the project progress very clearly and make corrections if any.

2.4 Project Management System

project management framework is a framework for overseeing, controlling, observing the last year activities of understudies. It is a electronic entryway or application which is valuable for understudies, venture facilitator and undertaking guide.first of all understudies need to enroll into the framework utilizing enlistment structure. At that point enlisted understudies can

login into the framework utilizing their id and secret key to get confirmed. At the point when the understudies login to the framework, at that point they will form the gatherings by their own. Correspondingly, venture control needs to login into the framework utilizing their id and secret phrase. PMS additionally permits the gathering of the understudies to give in any event three venture areas and afterward framework will consequently appoint the advisers for the gathering of understudies. Undertaking organizer is main part of the framework which will relegate various errands to the understudies. Task facilitator and undertaking guide should co-ordinate with one another. Contingent on the various parameters, the work is doled out by the organizer and the advancement outline of the gathering is made. For making progress graph we are utilizing a work breakdown structure (WBS). Contingent upon advancement graphs the imprints will naturally get appointed for specific gathering of the understudies.

Proposed framework can execute a framework which can oversee venture related all work fulfilled by used what's more, Undertaking organizer or guide. Organizer refreshes venture related data, see work done by an understudy at which time also, see advance graph of work done by understudy, advance diagram is created using WBS ("Work Breakdown Structure"). Understudy recovered the given work data refreshes and fulfills this work at given time and submits into the venture the board framework.

2.4.1 Methodology

They are utilizing hashmap information structure to execute programmed appointing of venture control with the area to student gatherings. In our task, when every one of the understudies register to our entryway, the gathering arrangement happens and the following stage incorporates allocating of guides as indicated by their spaces which are given by the gatherings .This one of a kind doling out of advisers for the gatherings is finished utilizing hashmap which is oftentimes utilized method in java.

2.4.2 Pros and Cons

The current system is developed for single department of college. The system can only be used after the approval of the topic and guide allocation. With the proposed system final year project can be handled efficiently.

CHAPTER 3
METHODOLOGY

3.1 PROBLEM DEFINITION

A system that manages the final year projects in an efficient manner. with The process for selection and approval of project ideas proposed by a student in a institution such as a college is as follows:

- A student looks up various resources like books and internet to find a topic that is relevant to their curriculum.
- The student selects a topic and does certain preliminary analysis, such as feasibility analysis and possible use cases that the project idea can be implemented in the real world.
- The selected topic is submitted to the concerned faculty.
- The submission is in form of either a presentation or as a short documentation which includes the preliminary analysis report, or both.
- This faculty decides if the student can proceed with the detailed analysis of the project requirements and its appropriate implementation.

PROBLEMS with The roadblocks that come up in the process that is detailed above are listed below:

Physical presence of both students and teachers are needed. Students are not clarified with why their projects are accepted

3.2 SYSTEM ARCHITECTURE

There are 4 main roles in the system. The admin registers coordinator and the guide roles. Student can register to the system and submit their topics. If the exact topic is already done, the system alerts the user about that. After that the user has to submit another topic. Coordinator approve the topic and allocates guides to student. Guide can further discuss with their corresponding students about the topic. Student can clarify their doubts through a built-in mail system. Coordinator, guide or even student can clarify the doubts. Figure 3.1 depicts the overview of the proposed model.

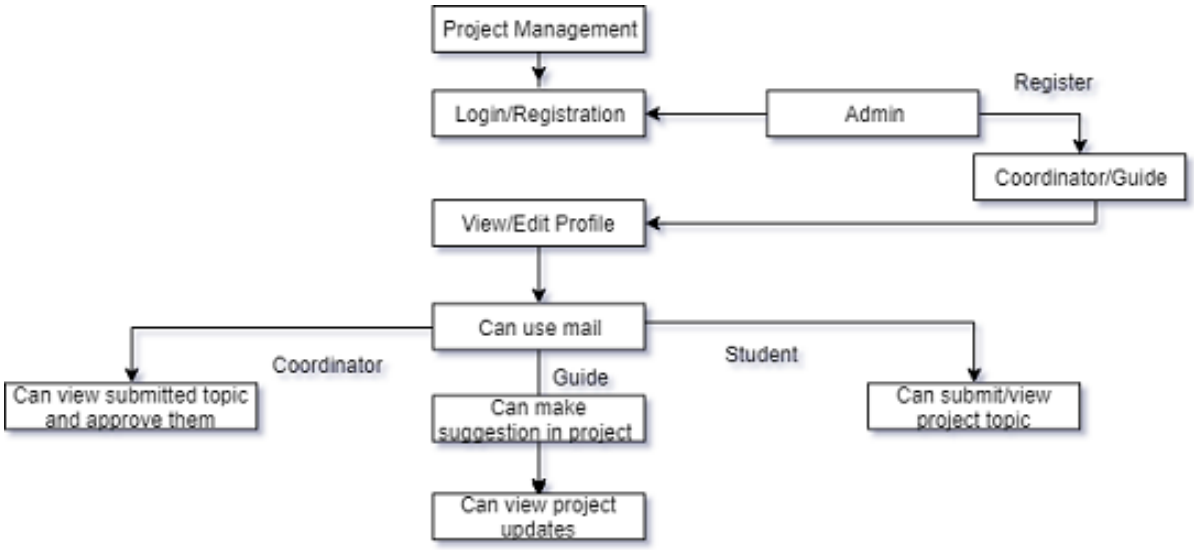

Figure. 3.1: Architecture Diagram

3.2.1 PROPOSED METHODOLOGY

The proposed system has divided into three modules. The modules are Student module,Coordinator module, Guide module.

3.2.1.1 STUDENT MODULE

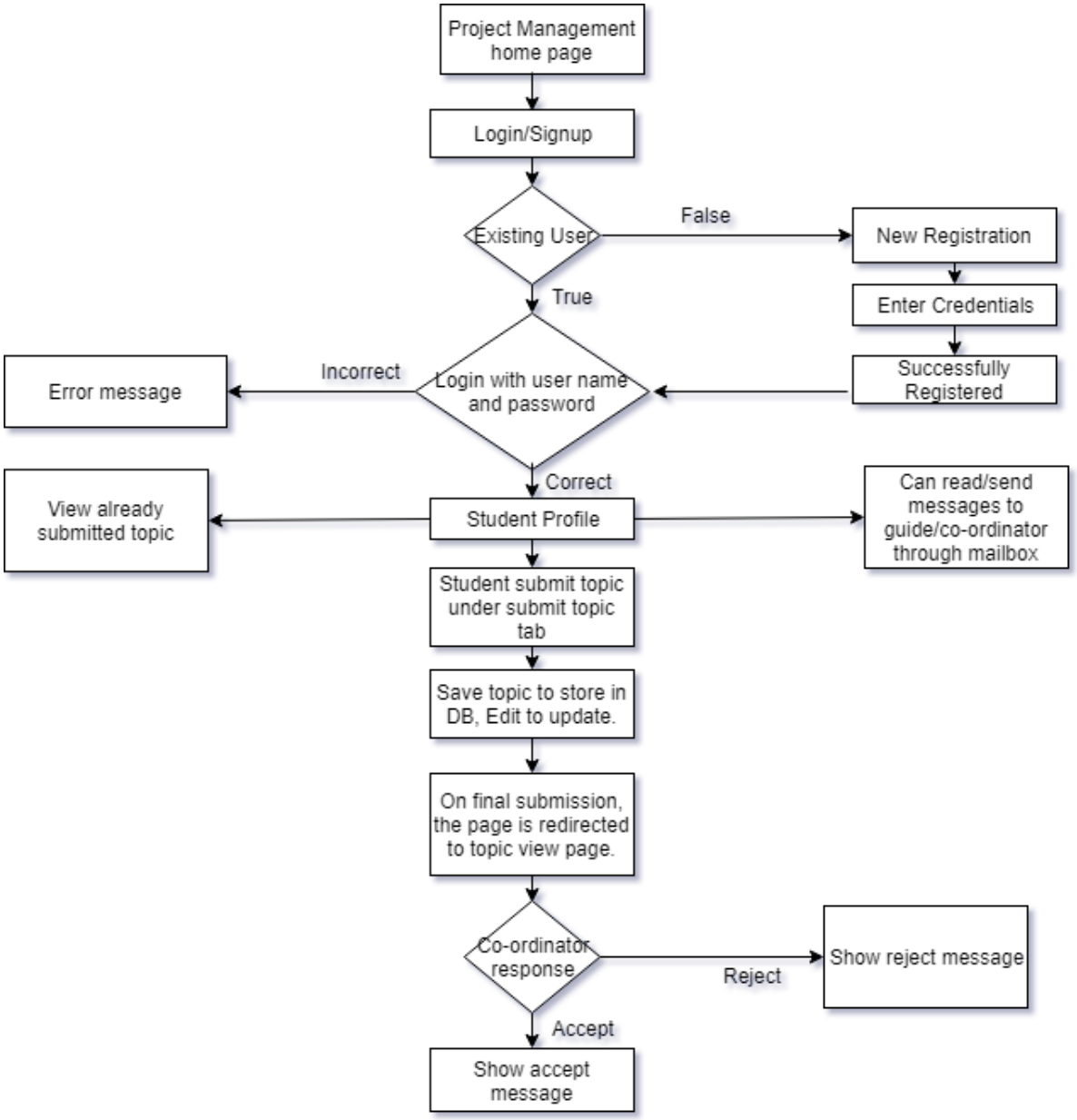

Figure. 3.2: Student Module

Figure 3.2 represent the student module.

- Student first register to the portal by providing the required credentials. Then the student can login and can view the student profile.
- Student can make updates in their profile.

- Student can submit their topic and also view all submitted topic by them.
- There is a mail. Any important details can be shared through the mail.
- Student can view suggestions for their verified project topics submitted by their guide.

3.2.1.2 COORDINATOR MODULE

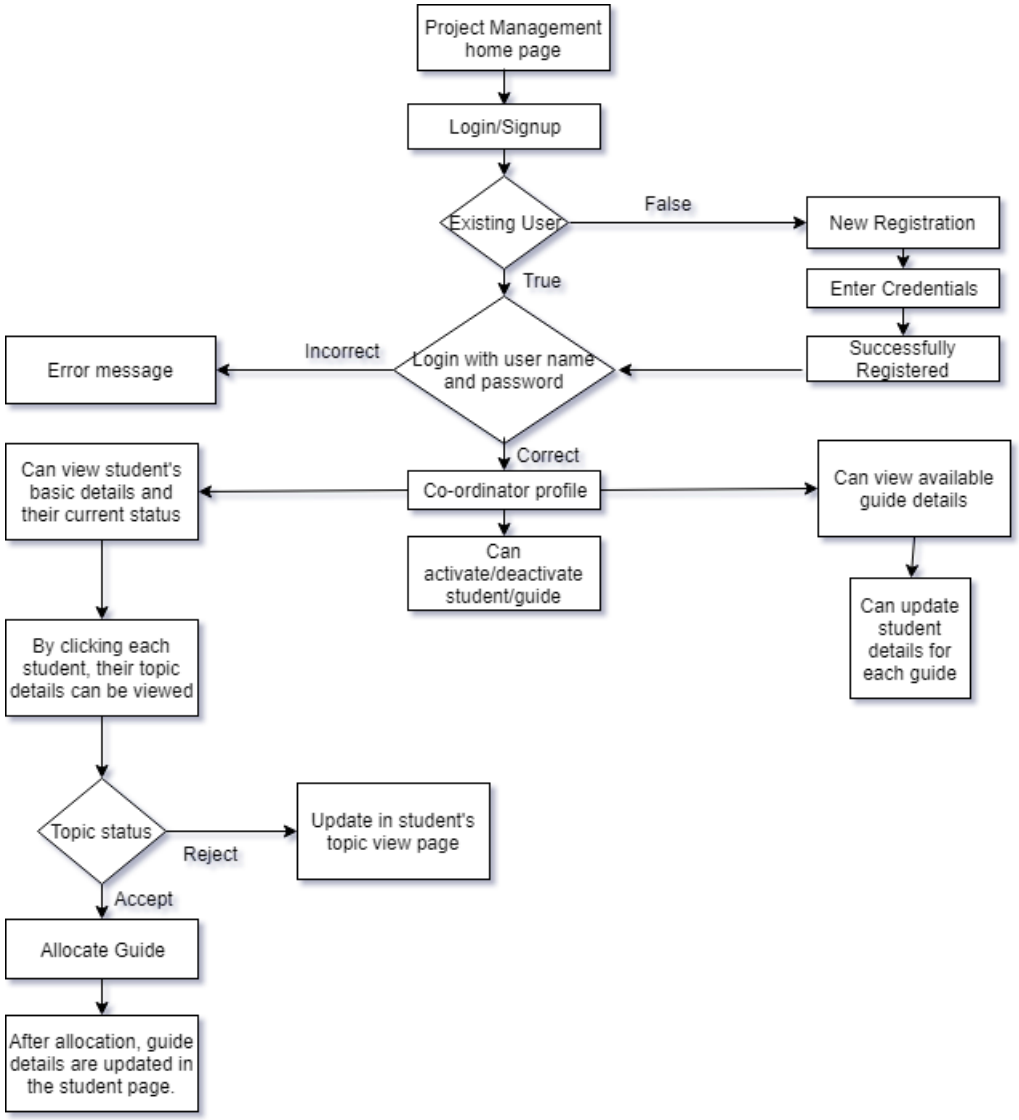

Figure. 3.3: Coordinator Module

Figure 3.3 represent the coordinator module.

- Coordinator is registered by the admin.While coordinator login,by checking the role we redirect to the Coordinator profile page.
- Coordinator can also view and edit the profile.
- The submitted topics of each student is visible to the coordinator. Coordinator can read the topic and the expected output also the other related details of the topic if provided. Based on that coordinator can accept or reject the topic.
- The status of the project is visible for the respective student. If the topic is accepted, coordinator can allocate a guide based on the availability.

3.2.1.3 GUIDE MODULE

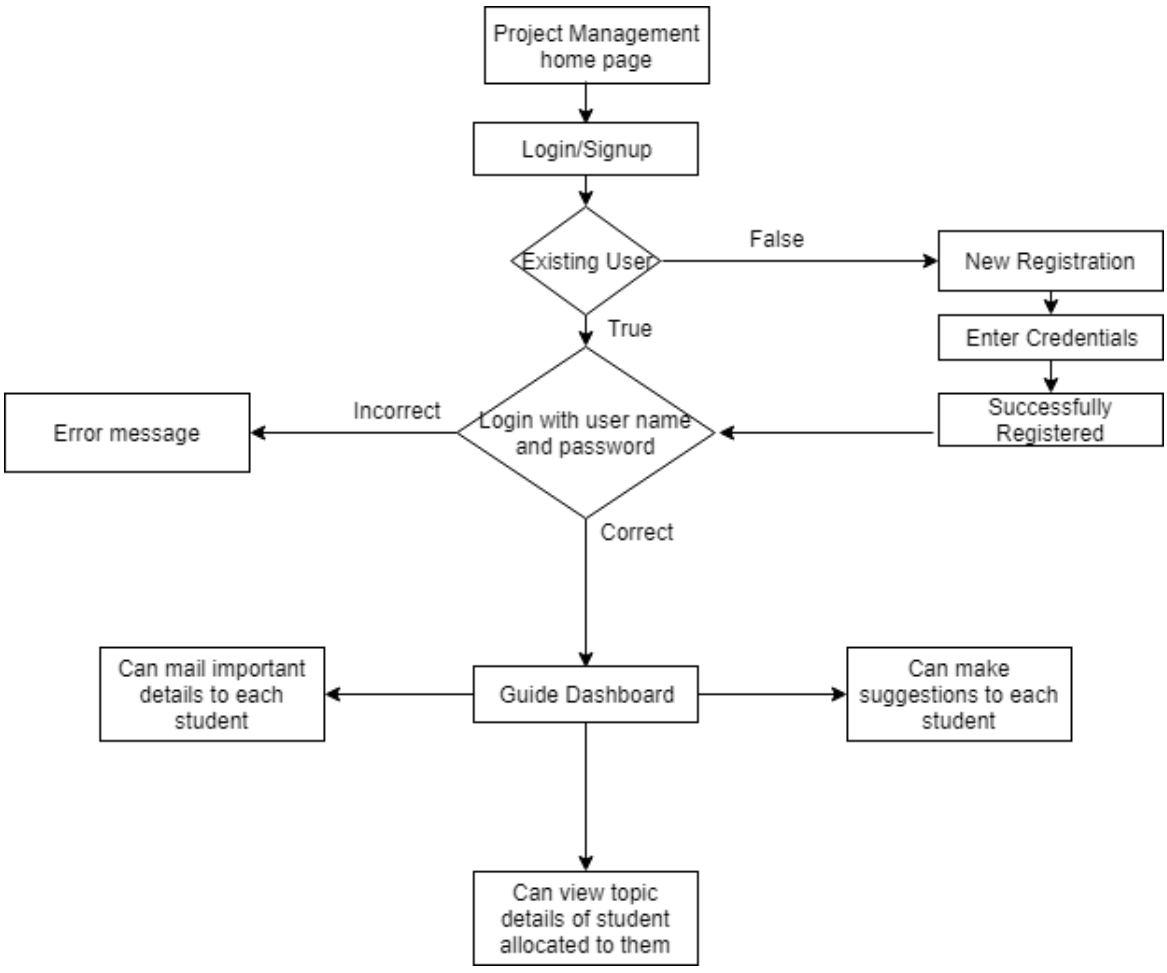

Figure. 3.4: Guide Module

Figure 3.4 represent the guide module.

- Guide must register through sign up page first, then login.
- Guide can view the details of students allotted to them.
- Important project details can be mailed to respective students through mail option. Real time chat can be used for urgent matters.
- Guide can make suggestions or modification to the project. Can also track the improvements of the project.

3.3 SYSTEM DESIGN

This section is going to discuss about how the system is designed and what all things are added to the system.

3.3.1 TABLE DESIGN

This section handles the design of tables used in this system.

Table 3.1: DEPARTMENT

Name	**Type**	**Null**	**Constraints**
Deptid	INT	NO	PRIMARY KEY
Deptname	VARCHAR(100)	NO	

Table 3.1 is used to store department name and id's. This id's can be referred in other tables to represent department.

Table 3.2: COURSE

Name	**Type**	**Null**	**Constraints**
Courseid	INT	NO	PRIMARY KEY
Coursename	VARCHAR(50)	NO	
Noofstudenrolled	INT		
Deptid	INT	NO	FOREIGN KEY

The table 3.2 stores the details of each course provided by each department. It also contains the count of students enrolled to each course. Column Deptid is referred from the department table.

Table 3.3: STAFF

Name	**Type**	**Null**	**Constraints**
Staffid	INT	NO	PRIMARY KEY
Userid	INT	NO	FOREIGN KEY
Staffdeptid	INT	NO	FOREIGN KEY
Staffname	VARCHAR(100)	NO	
Address	VARCHAR(100)	NO	
Contact	INT	NO	
Course	INT	NO	FOREIGN KEY
Mail	VARCHAR(100)	NO	
Role	ENUM		

Table 3.3 is used to store the details of staff present in a particular department. Here staffid is used to uniquely identify each staff. Then all the basic details of staff is stored in this table. Staff table includes 2 roles, Guide and Coordinator. This two roles are identified from the values in the role column.

Table 3.4: PROJECT

Name	**Type**	**Null**	**Constraints**
Userid	INT	NO	FOREIGN KEY
Projid	INT	NO	PRIMARY KEY
Projtitle	VARCHAR(100)	NO	
Projdesc	VARCHAR(900)	NO	
Projsubdate	DATE	NO	
Projdomain	INT		
Projtechnology	VARCHAR(100)		
Projstatus	VARCHAR(100)	NO	
ProjVisibility	VARCHAR(100)	NO	

Table 3.4 is used to store the project details submitted by each student. Projdomain stores the domain id of domains from the domain table. ProjStatus has 4 values pending,approve,reject and verified. When the topic is submitted, it's status is pending. The final state is verified.

Table 3.5: STUDENT

Name	**Type**	**Null**	**Constraints**
Studentid	INT	NO	PRIMARY KEY
Studentname	VARCHAR(100)	NO	
Studentcurracadyr	VARCHAR(100)	NO	
Courseid	INT	NO	FOREIGN KEY
Contact	INT		
Mail	VARCHAR(100)	NO	
Deptid	INT	NO	FOREIGN KEY
Guideid	INT		FOREIGN KEY

Table 3.5 stores the details of the students registering to the system. Studentcurracadyr is automatically stored in the database. Guideid is entered to the database if the submitted project get approved by the coordinator.

Table 3.6: DOMAIN

Name	**Type**	**Null**	**Constraints**
Domainid	INT	NO	PRIMARY KEY
Domainname	VARCHAR(100)	NO	
Noofassoproj	INT		

Table 3.6 stores the new domain names, and the corresponding domain id's are stored the project table to represent the domains entered by the student. The count of project's with each domain id is recorded parallely.

Table 3.7: USER

Name	**Type**	**Null**	**Constraints**
Username	VARCHAR(100)	NO	PRIMARY KEY
Userid	INT	NO	
Password	VARCHAR(100)		
Active	ENUM		
Role	ENUM		

Table 3.7 stores the login details of all the users registered to the system. Role decides whether the user is student, guide or coordinator. There is another role called admin, who can register guide and coordinator. Admin role is performed by a network administrator. Active column defines whether the user is active or not. If user is not active then they can't access to the system. Active column has an enum value 0 or 1. 1 represent active and 0 represent inactive.

Table 3.8: MAIL

Name	**Type**	**Null**	**Constraints**
Mailid	INT	NO	PRIMARY KEY
Userid	INT	NO	FOREIGN KEY
Toaddr	VARCHAR(100)	NO	
Sub	VARCHAR(100)		
Content	TEXT		
MailVisibility	VARCHAR(400)		
role	VARCHAR(400)		FOREIGN KEY
id	VARCHAR(400)		FOREIGN KEY

Table 3.8 stores the details of mail send by all the roles. Any role can send mail to other roles. Each mail can be identified by a mail id. Role stores the role of the mail receiving person.

Table 3.9: SUGGESTION

Name	**Type**	**Null**	**Constraints**
Guideid	INT	NO	FOREIGN KEY
Studentid	INT	NO	FOREIGN KEY
Projid	INT	NO	FOREIGN KEY
Suggestion	TIME	NO	

Table 3.9 stores the suggestion given by each guide to each student. Guideid refers the suggested guide, Studentid refers to the student who gets the suggestion, projid refers the project.

3.3.2 ER-DIAGRAM

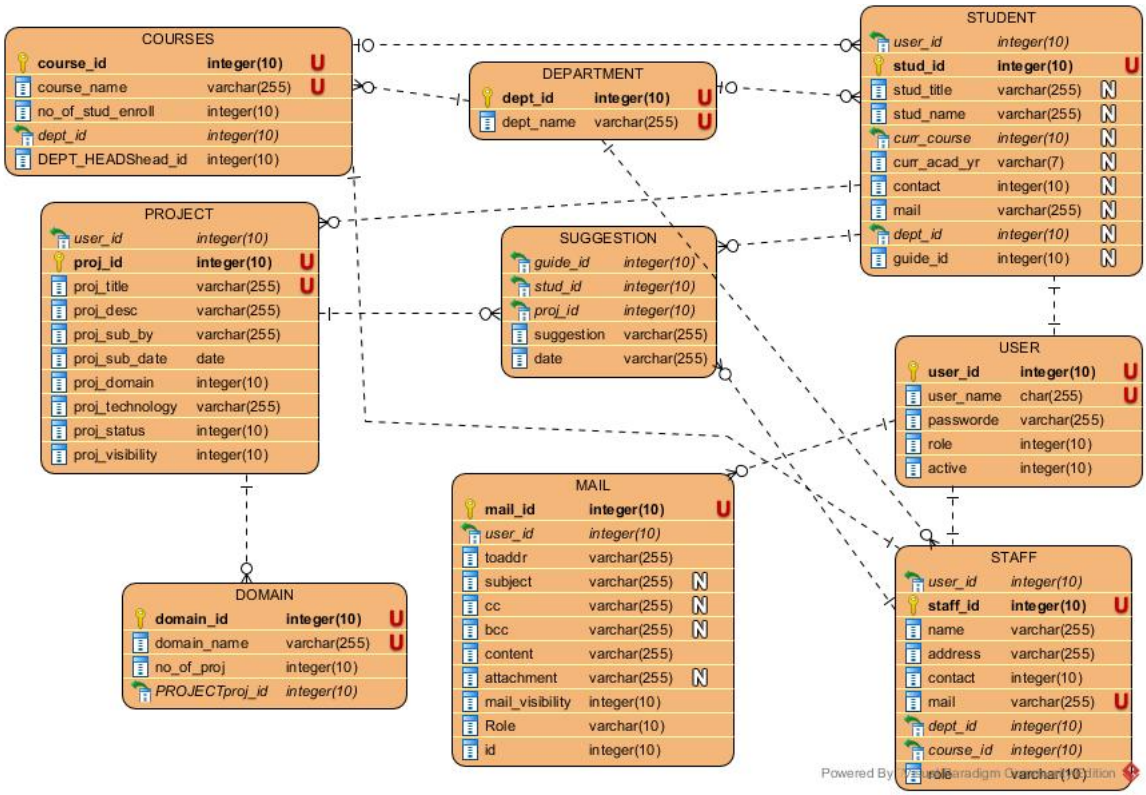

Figure. 3.5: Entity Relationship Diagram

The diagram 3.5 describes the ER diagram of the system. ER diagram represents the relationship between the tables in the system. Here table department has a one to many relation with course, student, and staff table. Student table has one to many relation with project and suggestion, as one student can submit multiple topics and get multiple suggestions. Project table has a one to many relation with suggestion table as same project can have multiple suggestion. Multiple staff and students can join in a course, so course and student table and course and staff table has a one to many relation. User table has a one to one relation with student and staff table. Each user can have multiple mail table entry, so User and mail table has a one to many relation. Each project can have multiple domains so project and domain table can have a one to many relation.

3.4 TOOLS USED

3.4.1 ANGULAR 7

Angular is one of the most popular front-end JavaScript framework besides Vue.js and React. It has been around for past 10 years, and since then, it has gone through innumerable upgrades.The first version of the framework was called AngularJS, which was launched in 2009. Though it was certainly not a perfect framework back then, mainly due to its large bundle size, performance issues, and other technical problems.But that imperfection was the motivation behind the entire rewrite of the AngularJS.

The next version Angular 2 was written in Typescript, which is a popular, typed superset of JavaScript introduced by Microsoft. The main major feature which was added in the Angular 2 was a compiler that was deployed between written code and output shipped to the application.The next version Angular 4 further saw view-engine enhancements and code generation reductions to build an app with less efforts and complexity. Angular version 4.3 that featured HTTP Client, which is an easier-to-use library for creating HTTP requests.After that, Angular 5 was released in November 2017.The key feature of Angular 5 was the support for progressive web apps, and the main improvements included the enhancements in Material Design.

Angular version 6 was then released in May 2018 and was mainly focused on toolchain and making it simple to migrate quickly to Angular, instead of focusing on underlying framework. And now, Google has finally released the Angular 7 on 18th October 2018.

- New features in angular 7
- CLI prompts
- Angular material and component dev kit (CDK)
- Drag and drop
- Virtual scrolling

- Application performance improvements

3.4.2 Windows 10

Windows 10 is a personal computer operating system developed and released by Microsoft as part of the Windows NT family of operating systems. It was rst released on July 29, 2015. Unlike previous versions of Windows, Microsoft has branded Windows 10 as a service that receives on-going feature updates. Devices in enterprise environments can receive these updates at a slower pace, or use long-term support milestones that only receive critical updates, such as security patches, over the item-year lifespan of extended support.

3.4.3 MySQL

MySQL is an in-process library that implements a self-contained, serverless, zero-configuration, transactional SQL database engine. The code for MySQL is in the public domain and is thus free for use for any purpose, commercial or private. MySQL is the most widely deployed database in the world with more applications than we can count, including several high-profile projects. SQLite is an embedded SQL database engine. Unlike most other SQL databases, MySQL does not have a separate server process. MySQL reads and writes directly to ordinary disk files. A complete SQL database with multiple tables, indices, triggers, and views, is contained in a single disk file. MySQL is a compact library. With all features enabled, the library size can be less than 600KB, depending on the target platform and compiler optimization settings.

3.4.4 Node.js

Node.js is an open source server environment.It is free. Node.js runs on various platforms (Windows, Linux, Unix, Mac OS X etc).Node.js uses JavaScript on the server.
Here is how Node.js handles a file request:

- Sends the task to the computer's file system.
- Ready to handle the next request.
- When the file system has opened and read the file, the server returns the content to the client.

Node.js eliminates the waiting, and simply continues with the next request. It runs single-threaded, non-blocking, asynchronously programming, which is very memory efficient.

Though .js is the standard filename extension for JavaScript code, the name "Node.js" does not refer to a particular file in this context and is merely the name of the product. Node.js has an event-driven architecture capable of asynchronous I/O. These design choices aim to optimize throughput and scalability in web applications with many input/output operations, as well as for real-time Web applications .

Features of Node.js:

- **Asynchronous and Event Driven**: All APIs of Node.js library are asynchronous, that is, non-blocking. It essentially means a Node.js based server never waits for an API to return data. The server moves to the next API after calling it and a notification mechanism of Events of Node.js helps the server to get a response from the previous API call.
- **Very Fast**: Being built on Google Chrome's V8 JavaScript Engine, Node.js library is very fast in code execution.
- **Single Threaded but Highly Scalable**: Node.js uses a single threaded model with event looping. Event mechanism helps the server to respond in a non-blocking way and makes the server highly scalable as opposed to traditional servers which create limited threads to handle requests. Node.js uses a single threaded program and the same program can provide service to a much larger number of requests than traditional servers like Apache HTTP Server.

- **No Buffering**: Node.js applications never buffer any data. These applications simply output the data in chunks.

3.5 IMPLEMENTATION

3.5.1 IMPLEMENTATION DETAILS

The above explained tools is used to implement the system. Angular 7 is used in the system as the front end. It help to use many built in libraries in our system. It is only through these libraries we can use html tags or functions here.In angular each page is considered as a component, each component has a typescript file from where we call the backend services. Node.js is used to create the backend. Each function is written as service and is called when needed. Mostly the functions in node.js is synchronous which return a JSON file as result. This result can be processed as our need. We can also use asynchronous function call if we need to execute multiple queries in a single call. MySQL is used for the purpose of database. XAMPP server is used for local server.

3.5.2 Hardware Requirements

- A desktop/laptop/smartphone with active internet connection.

3.5.3 Software Requirements

- OS : MS Windows 7 or higher versions/ Ubuntu 14.04
- A browser (Chrome or Firefox) to access the portal.
- Node.js

3.5.4 TESTING

The system has undergone unit test. After developing each unit/ component each one is tested individually. All the functionality of that component is tested here. If there is any problem in functioning it is corrected and tested again.

Then atlast the system has undergone an integrated testing, by integrating all these individual components and testing. This is done in an incremental process.

CHAPTER 4
RESULTS AND DISCUSSION

When a new student login to their profile, they can see some menus on their left side. From there we can select option for topic submission. The submitted topic gets stored in the database for each student. If a particular student submits the exact same topic which was already submitted, the system alerts them, whether they really want to continue. If yes the topic get saved, but the chance of rejection is high in this case. Usually already submitted topics are no more accepted, student can reset the form and submit a new topic. Thus the system saves the time of staff as they don't want to here same topic repeatedly.

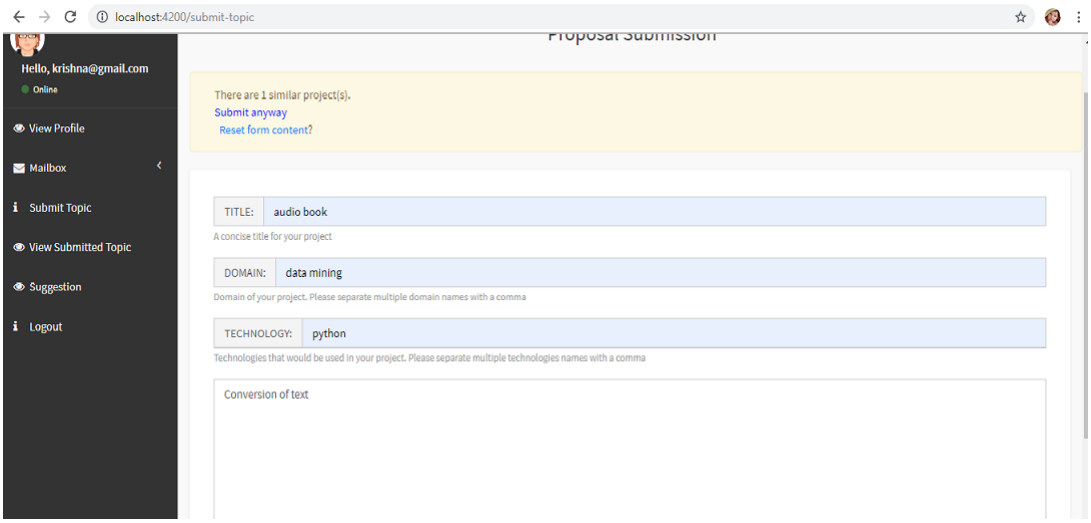

Figure. 4.1: Topic Submission

Here the topic is already submitted by someone else or may be by the student itself. So an alert is given that allows the student to continue or reset.

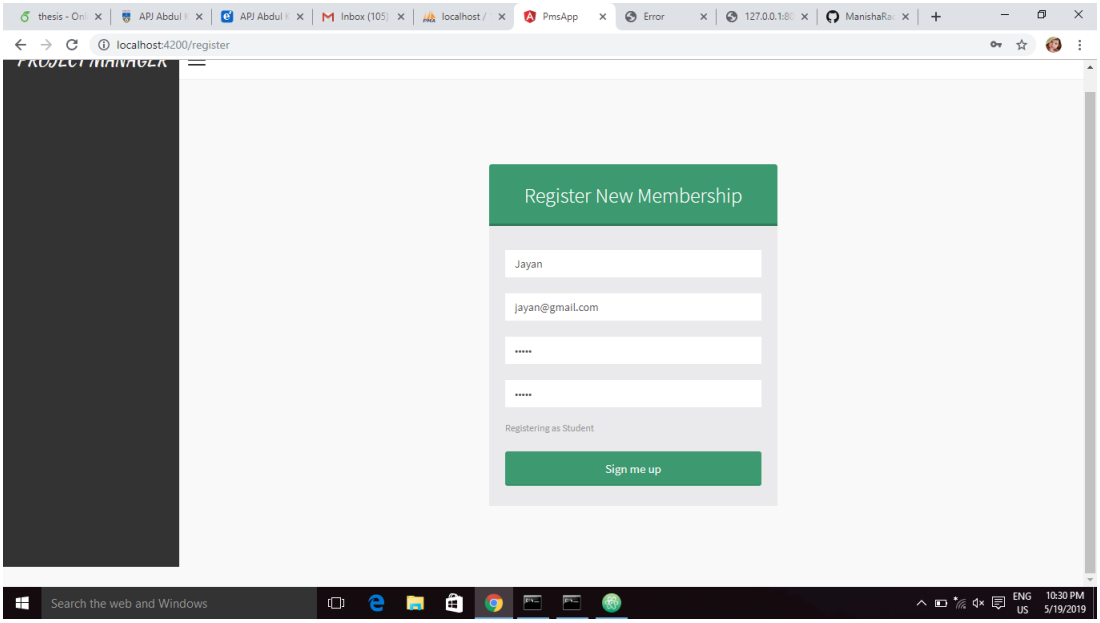

Figure. 4.2: Student Registration Page

It is through this page a new student get registered to the system. The basic details needed to login is given in this page. It will be stored in the database.

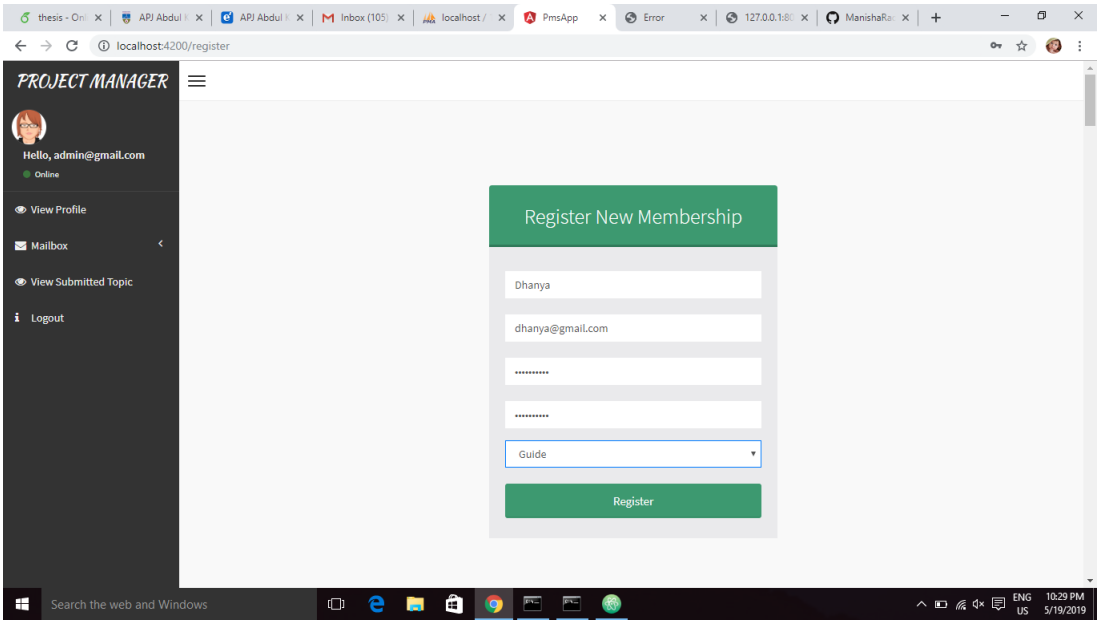

Figure. 4.3: Guide/Coordinator Registration Page

It is the power of an admin to register admin. Admin is given a default password. Later they can change it after login, if needed.

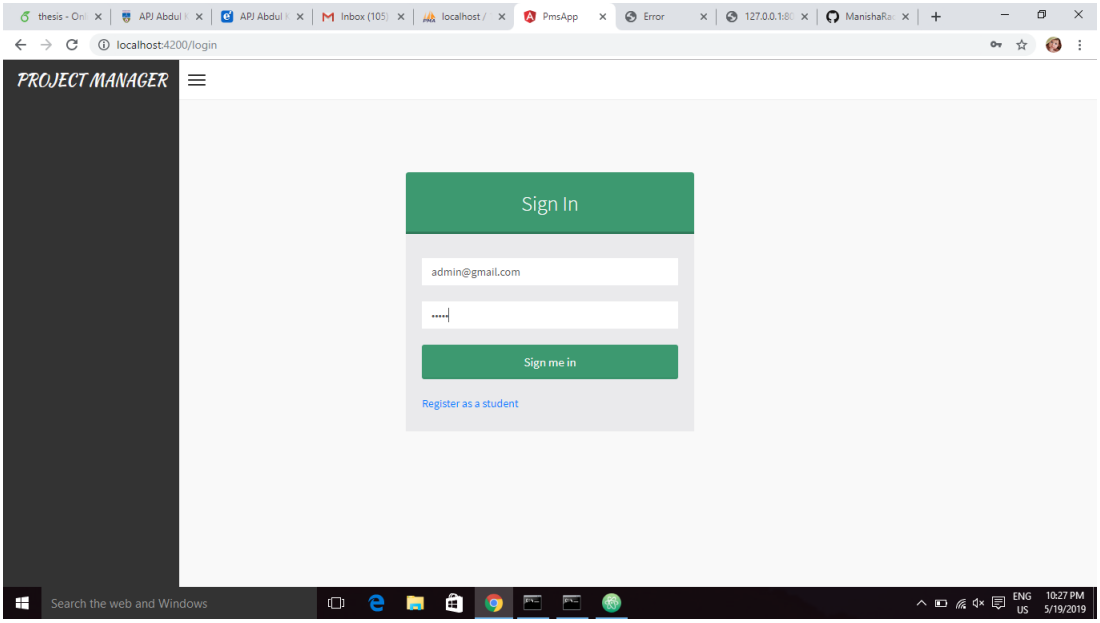

Figure. 4.4: Login Page

All user roles can login to the system through this login page. Successful login leads the user to their profile page. Their personal details can be given over there.

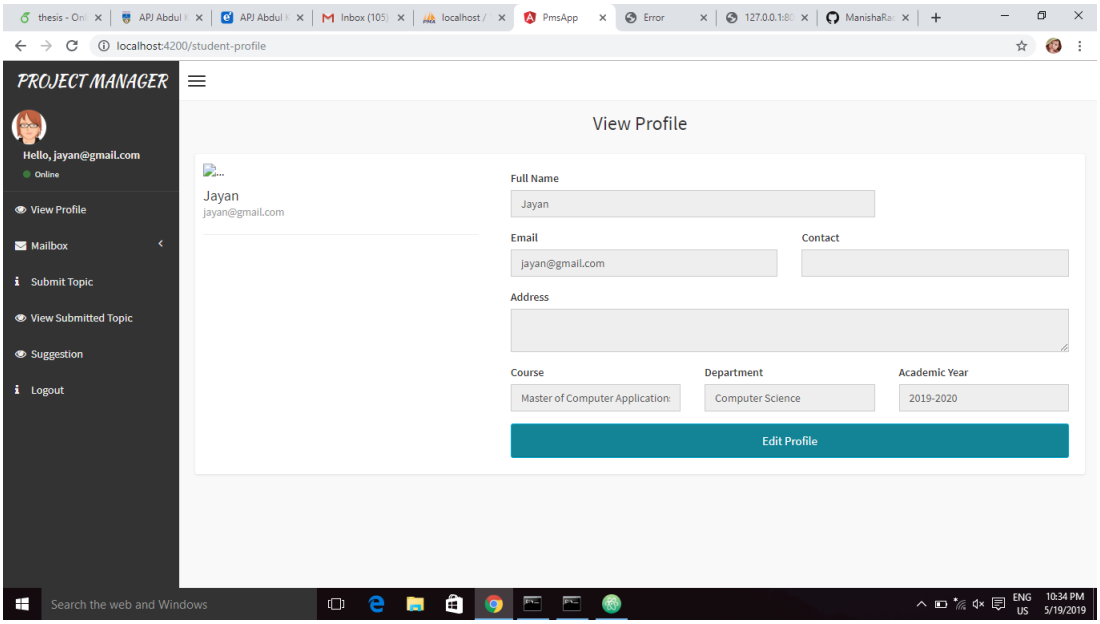

Figure. 4.5: Profile Page

The name Entered while registration time will be shown here. Other relevent details can be entered by the user directly. There is an edit option

provided in the page.

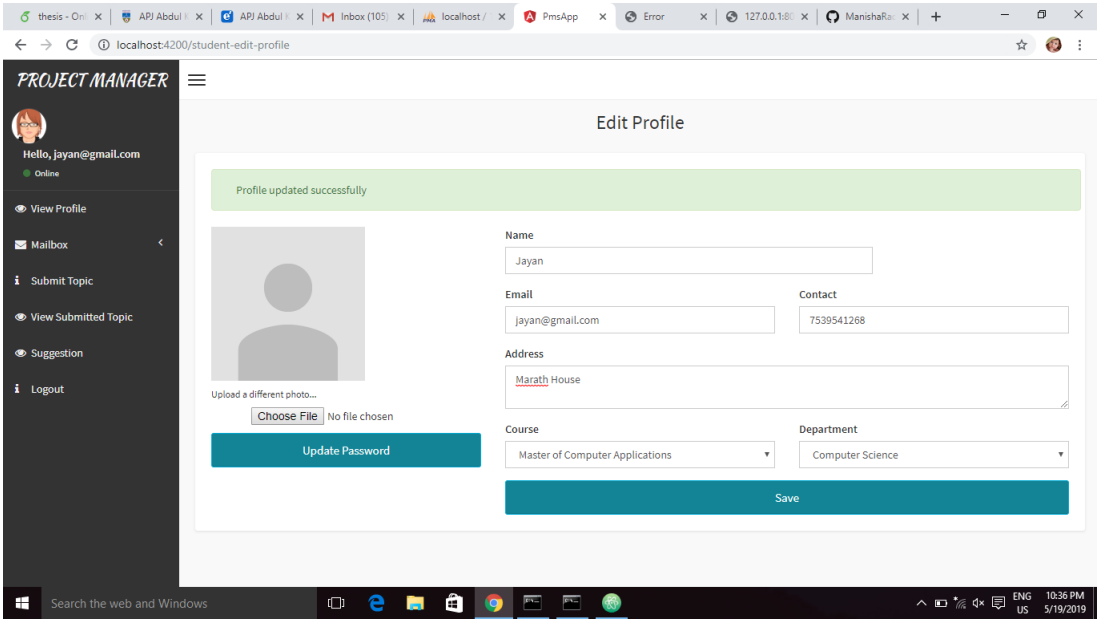

Figure. 4.6: Edit Profile Page

When we click the edit button in the profile page, we get redirected o this page. The details can be given and edited here. When we click the save button after entering the required details, an alert is generated for both success and failure.

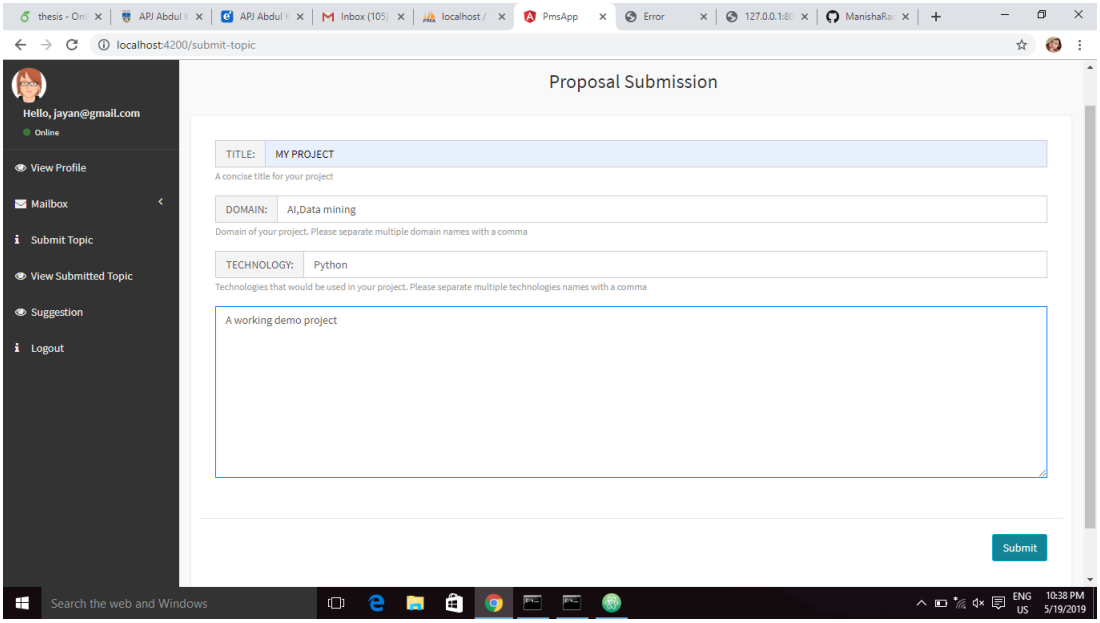

Figure. 4.7: Topic Submission Page

This page is visible only for the student role. The selected topic of each student can be submitted to the system through this page. If the topic is already submitted the system will alert that. Else the topic get saved and the user is redirected to topic view page.

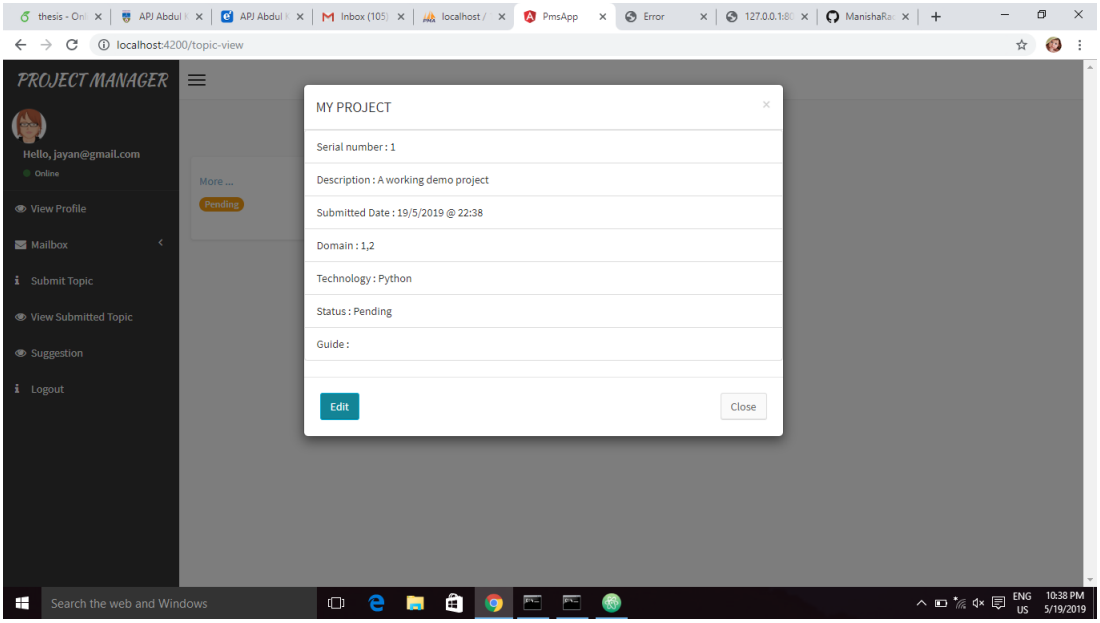

Figure. 4.8: Student Topic View Page

The submitted topic of each students can be view in this page. The details of each project is explained in the pop up card. The status of each submitted topic can be viewed here.

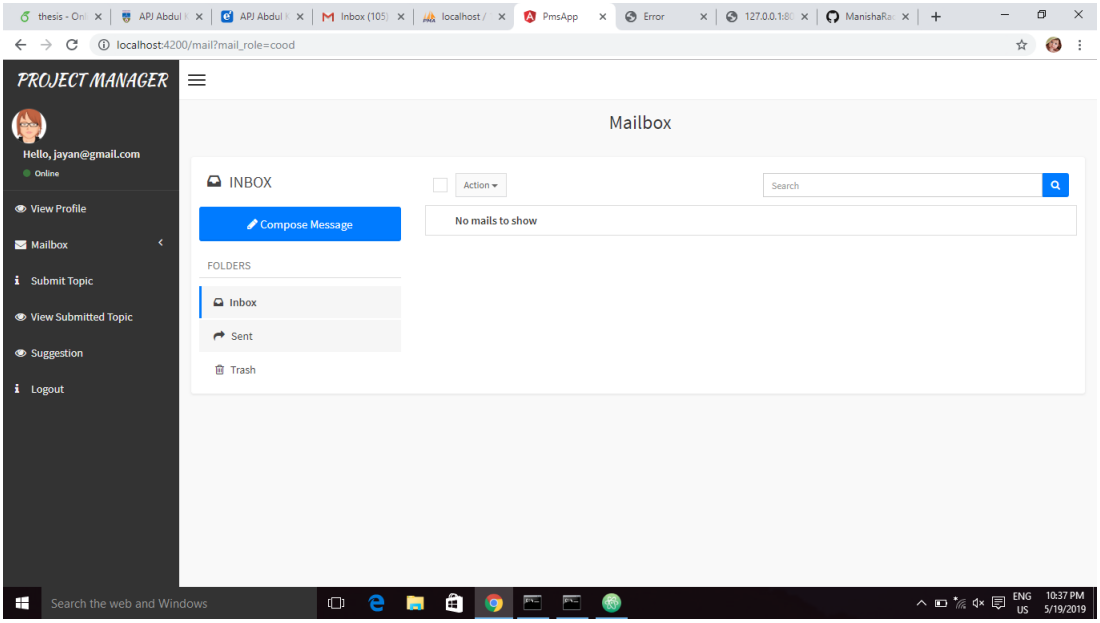

Figure. 4.9: Mail Page

The mail service is used for the purpose of exchanging messages. Here we can retrieve the mail according to the role. Each role is given an inbox, sent mail and trash. If the inbox is empty there is an alert that displays no messages to show. Mail is a common module that can be used by any user role, to share message with others.

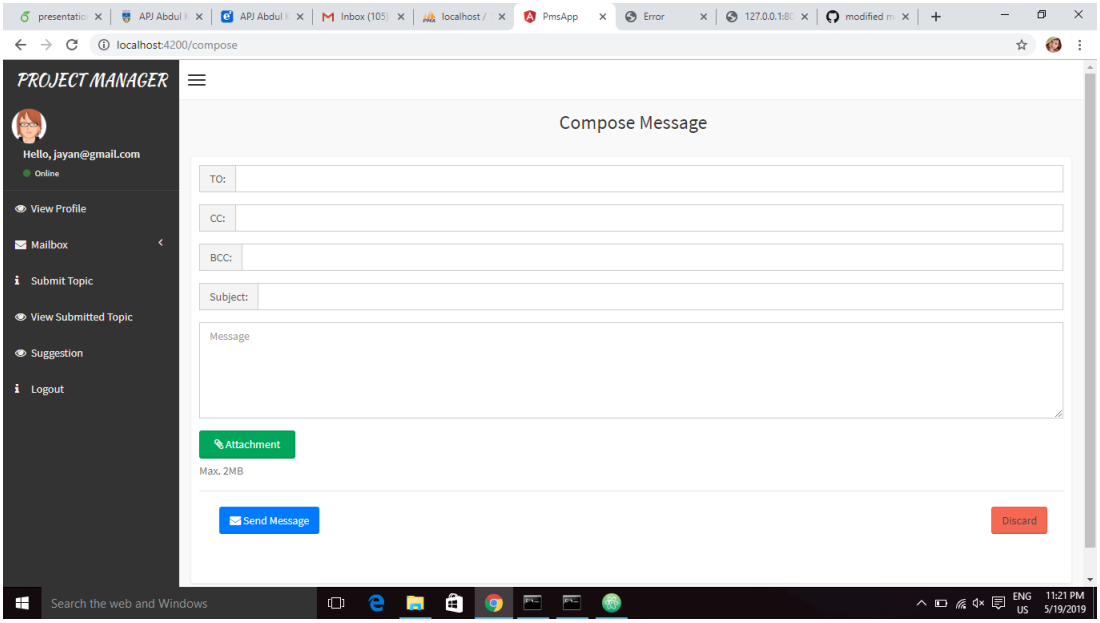

Figure. 4.10: Compose Mail Page

It is this page through which we send message. To address and content are the required contents, subject is omittable. If the message is send successfully the page get redirected to the mail page. The send message is shown in the sent mail option under the respective role for the sender, and in the inbox of the sender under the respective role.

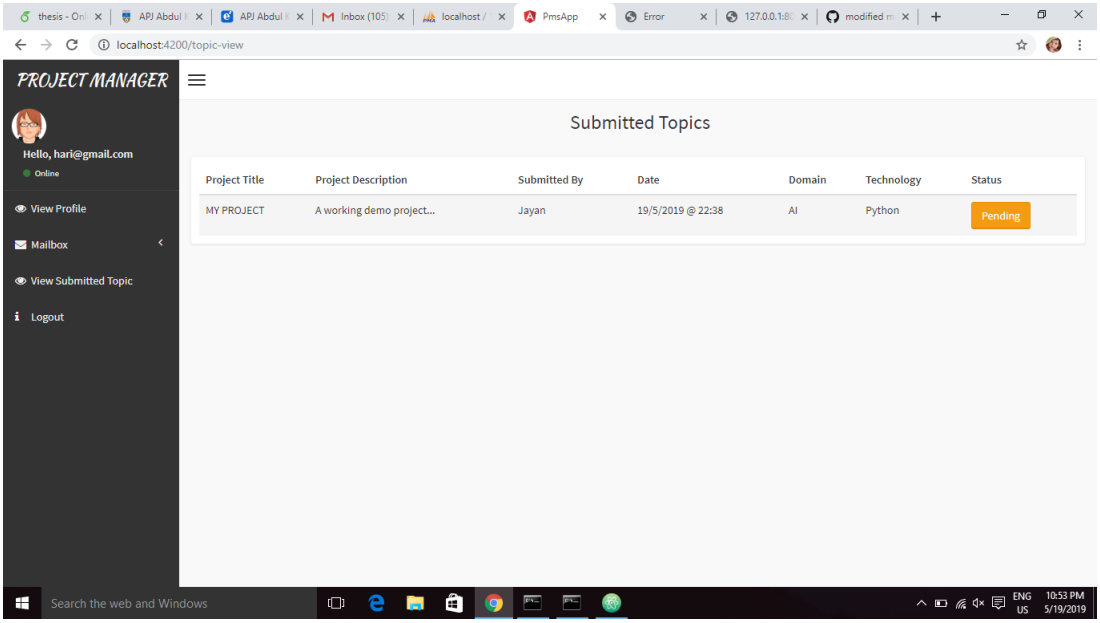

Figure. 4.11: Coordinator Topic View Page

If a student submit a new topic it is the responsibility of the coordinator to approve or reject that topic. So the submitted topic of each student can be seen over here. While approving the topic coordinator can allocate guide to each student. It will be visible to each student on their respective page.

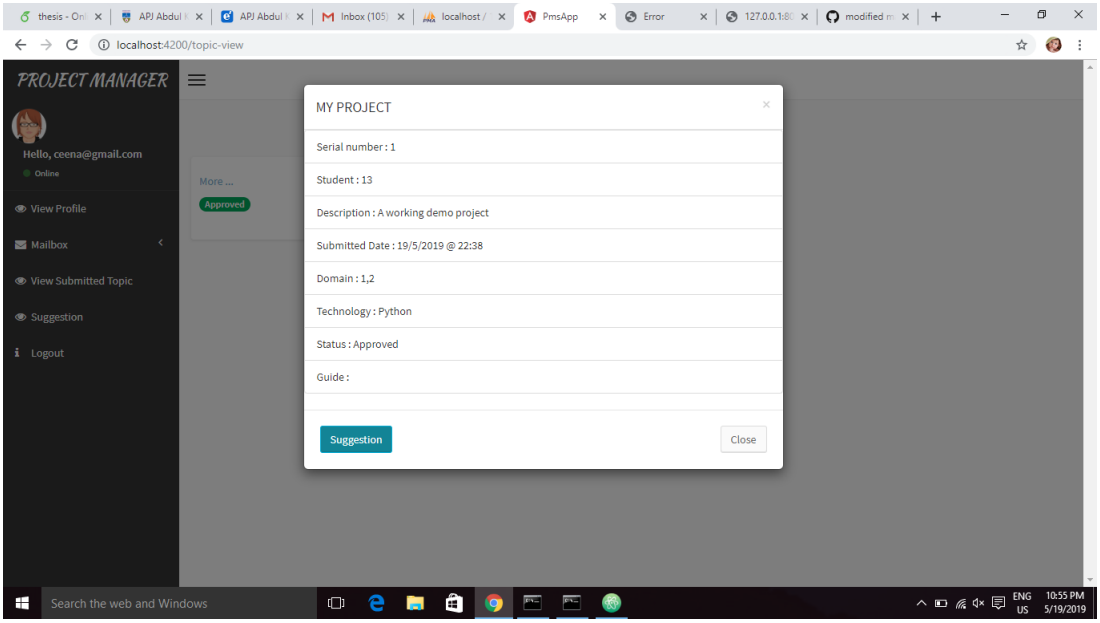

Figure. 4.12: Guide Topic View Page

If the coordinator approves a project and allocate a guide to that student, the corresponding guide can view the details of the allocated project.

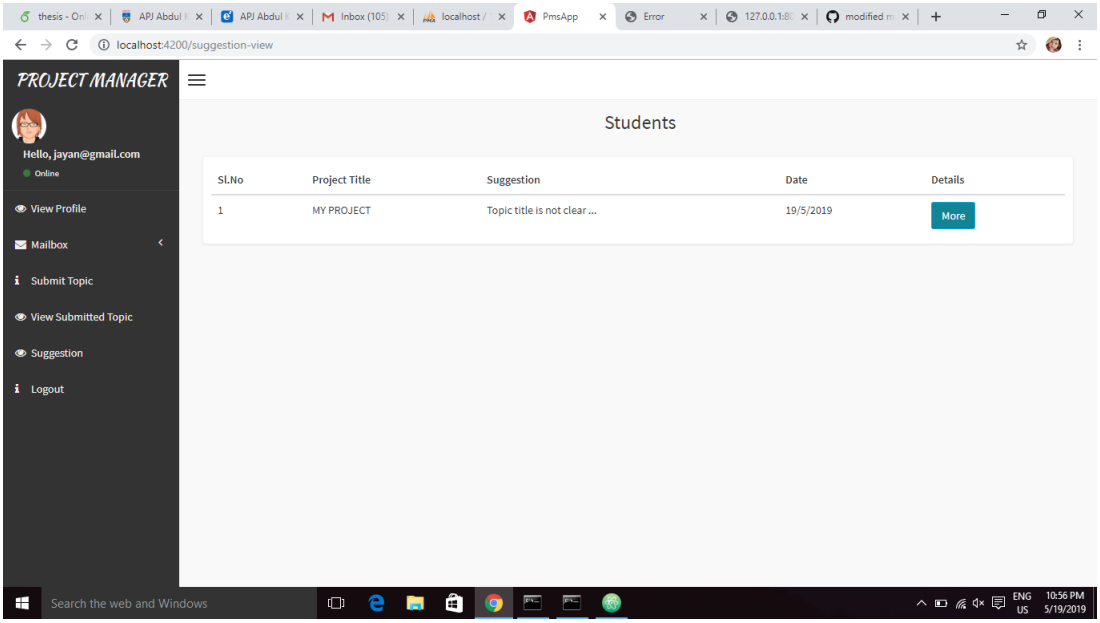

Figure. 4.13: Suggestion Page

Guide can make suggestions to each project get allocated to them. The provided suggestions can be seen on the student suggestion view page.

CHAPTER 5
CONCLUSION

The final result of this project work is a web portal that semi-automate the project selection process for the final year students. The system warns those students who submit already existing topics, that the topic already exists.

5.1 FUTURE SCOPE

If code is directly available on the github for the proposed topic, then the proposed system cant verify it and reject such topics. This function can be implemented in future.Can add any pictorial representation of the progress in the project, so it become easy for the guide to evaluate the student. Can create a group chat module, so that multiple guides can chat with student at the same time if needed.

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