

COLLEGE PROJECT MANAGEMENT SYSTEM

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Abstract - In our college, the Project Coordinator has to manage the student's projects. The Project Coordinator will share a Google sheet with the students to fill out the Batch Formation, Domain, Project Title, and some other project-related details. After this, the Project coordinator manually will allot an internal guide to each batch and conduct an Abstract presentation, Design presentation, and Implementation Presentation. This process seems to be simple, but it takes more time, and a lot of effort and pressure will fall on the Project Coordinator. So, to help the Project Coordinator, we proposed College Project Management System, which is developed using Spring Boot and React, this will reduce the effort and make the tasks easier. This system consists of three modules. They are Project Coordinator Module, Student Module, and Internal Guide Module. The project coordinator will manage the student's details and can easily allot guides. Students can form batches and submit project-related details. Both Project Coordinator and Internal guide can view the student's submitted details.

Key Words: API, Spring Boot, React, Postman.

1. INTRODUCTION

Project Coordinator has to manage a lot more things like filling out the sheets with students, assigning the Internal guides, conducting the presentations, and gathering the project-related details from students. So, the proposed system is concerned with the Project Coordinator. The main intention is to reduce the work of the Project Coordinator. More precisely making the management of all the above-mentioned tasks become easier. For Students and Internal guides also this system is beneficial.

2. EXISTING SYSTEM

Currently, the Project Coordinator will share a Google sheet regarding Batch Formation, Domain, Title, Nature, and so on with the students. The students have to fill out the Google sheet.

Drawbacks:

1. Every time the Project Coordinator has to intimate the students to fill out the particular sheet, which is a hectic and tedious task for the Project Coordinator.
 - For Example, Firstly Project Coordinator will intimate students to fill out the batch formation

details. Project Coordinator has to check whether every student formed a batch or not. If Some students didn't fill the sheet in a given time, the Project Coordinator has to reduce the marks for them and intimate this thing to those students who didn't fill it, this process is done manually and takes some time. After the completion of batch formation, again Project Coordinator has to intimate the student to fill the project domain, this Project Coordinator has to assign a guide to each batch and again intimate to fill the Project Title sheet and this process continues until the Project Coordinator got the necessary details. For every detail, the Project Coordinator has to intimate to fill out the sheet, which is a hectic task.

2. Assigning guides to groups/batches also takes time.
3. Always have to open the Google sheet for any small information.

3. PROPOSED SYSTEM

To overcome those drawbacks of the existing system, we proposed a system, the College Project Management system.

The proposed system has the following benefits:

- Saves a lot of time and effort.
- Lessens paperwork.
- User-friendly interface.

This system consists of three modules.

They are Project Coordinator Module.

Student Module.

Internal Guide Module.

Project Coordinator Module Features: The Project Coordinator can

- add the students of the class to the system (only the added students can log in to the system).
- add internal guides to the system (only the added guides can log in to the system).

- assign guides to groups easily based on domain.
- send messages to all students about the time to complete a particular work.
- view the student's submitted details.

Student Module Features: Students can

- Form a batch.
- Submit the required details (like Domain, Project Title, etc.).
- Know when to submit the work through a message box.

Internal Guide Module Feature: Internal Guide can

- View team members.
- View Project-related data.
- Know the messages sent by the Project Coordinator.

4. RELATED WORK

As per our research regarding the proposed system, some paper consists of a similar idea to ours. In many papers, they designed the system in such a way that students must register to the system, but in our system, the students and internal guides were added to the system by the Project Coordinator itself.

5. SYSTEM DESIGN

5.1. System Architecture:

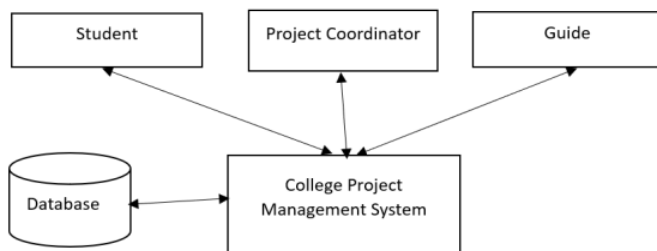


Figure 1: System Architecture

In the above System Architecture, we can observe that College Project Management System is having three modules, which respectively represent the type of user. This system also contains a database. Whenever a user needs the data, this system gives the data from the database, and whenever a user submits the data, this stores the data in that database.

5.2. Data Flow Diagram:

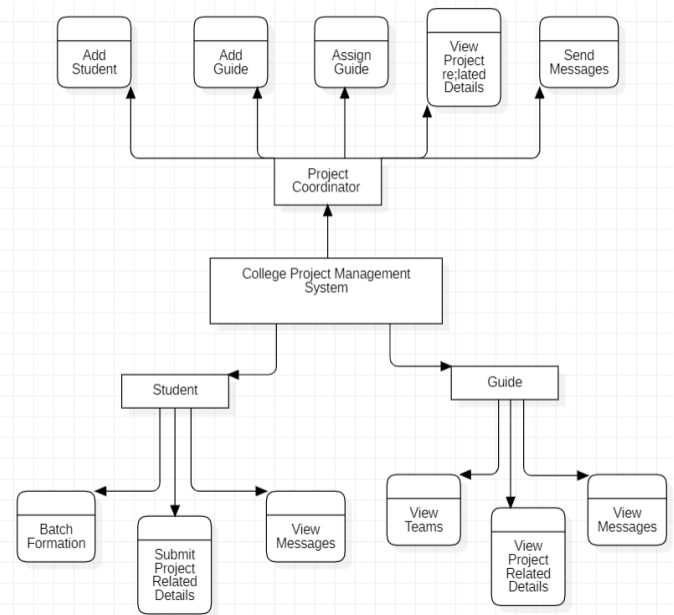


Figure 2: Data Flow Diagram

The above diagram depicts the College Project Management System consisting of three modules. They are the Project Coordinator module, Student Module, and Guide Module. Each module consisting its features.

5.3. UML Diagrams:

5.3.1. Use Case Diagram:

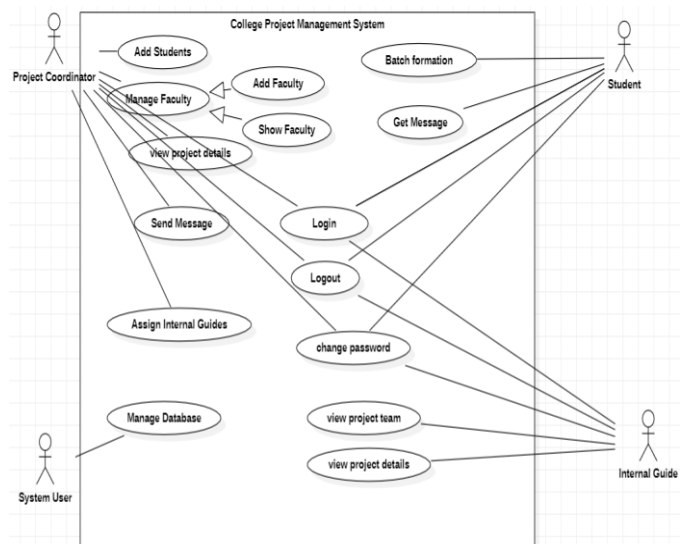


Figure 3: Use Case Diagram

In this use case diagram, we have four actors, Project Coordinator, Student, Internal Guide, and System User.

5.3.2. Activity Diagram:

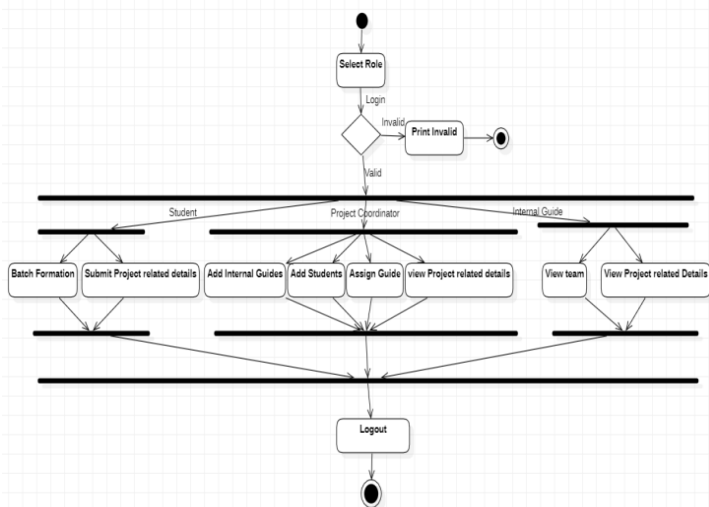


Figure 4: Activity Diagram

In this Activity diagram, we have two forks, two joins, and two final states.

5.3.3. Communication Diagram:

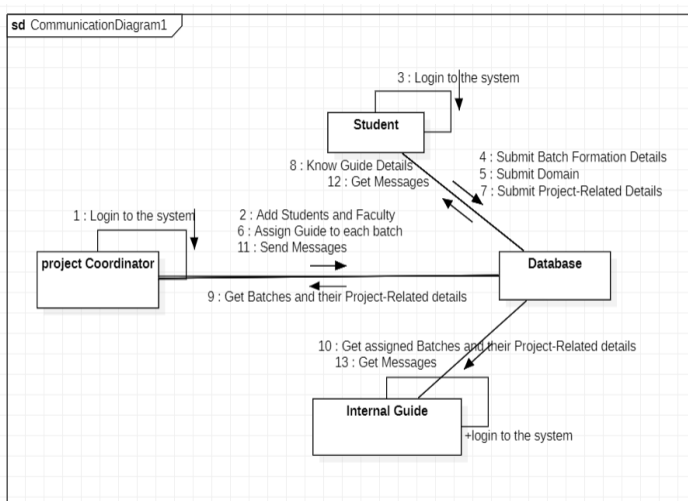


Figure 5: Communication Diagram

In the above Communication Diagram, we are having four lifelines, Project Coordinator, Student, Internal Guide, and Database. Each of them will interact with the messages.

5.3.4. Deployment Diagram:

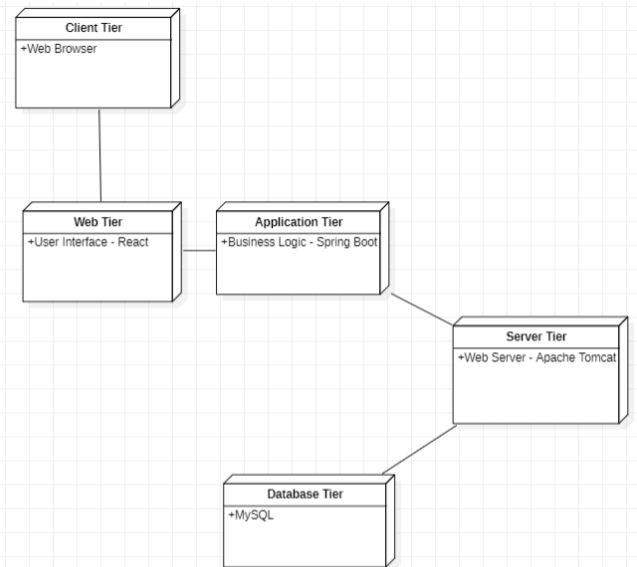


Figure 6: Deployment Diagram

At the client tier, users will interact with the system using web browsers such as Chrome or Microsoft Edge. The web tier is responsible for presenting the user interface of the system, which users can interact with through the web browser. This could include elements such as forms, buttons, menus, and other visual elements.

The application tier contains the main business logic of the system, where the processing of user requests and other application functions occur. When a user sends a request to the application tier, the application tier will fetch data from the database tier, which is represented by the MySQL database. To facilitate this interaction between the application tier and the database tier, the system uses the Apache Tomcat server, which is represented in the server tier.

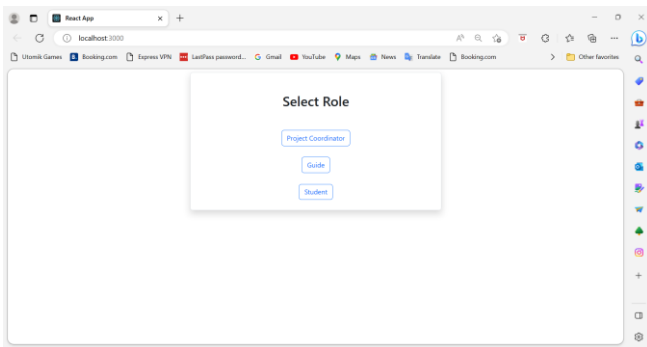
6. TECHNOLOGIES USED

- For Frontend: React
- For Backend: Spring Boot
- For Database: MySQL
- For API Testing: Postman

7. IMPLEMENTATION

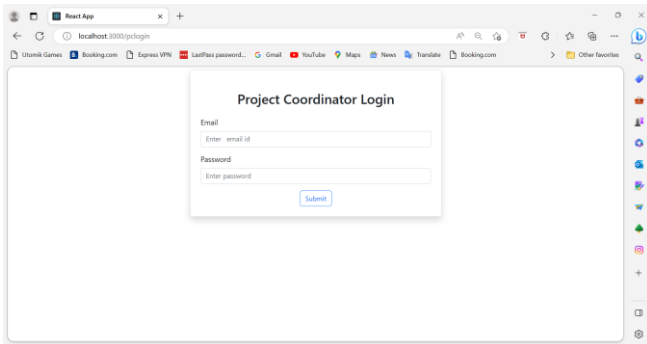
We did the User Interface, which is the frontend part of the system using React in Visual Studio Code. That User Interface is connected to the API (Application Programming Interface), which is the backend part of the system using Spring Boot in Spring Tool Suite (STS) and that backend is connected to the database MySQL of XAMPP for storing the data.

8. RESULT/OUTPUT SCREENSHOTS



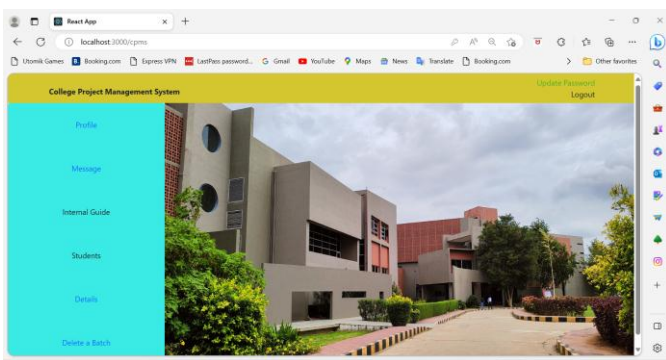
Screenshot 1: Role Selection Page

The user must select the appropriate role to enter into the system.



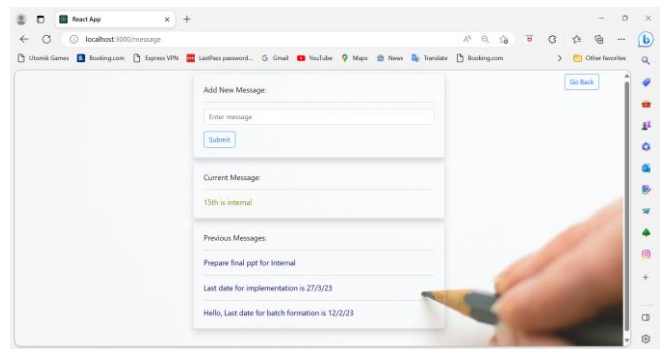
Screenshot 2: Project Coordinator Login Page

When the user selected the Project Coordinator role, that user will be redirected to Project Coordinator Login Page.



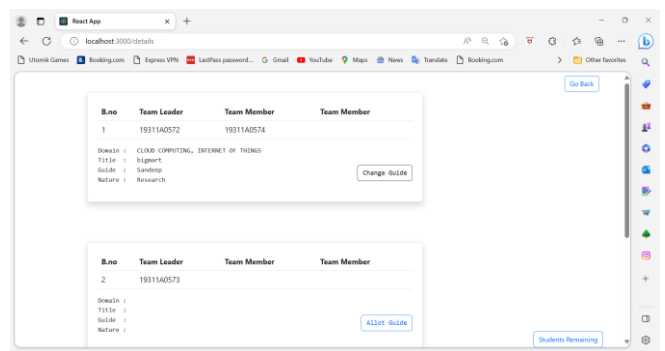
Screenshot 3: Project Coordinator Home Page

After the successful login, the user will be treated as Project Coordinator and will be directed to the home page from Project Coordinator Login page.



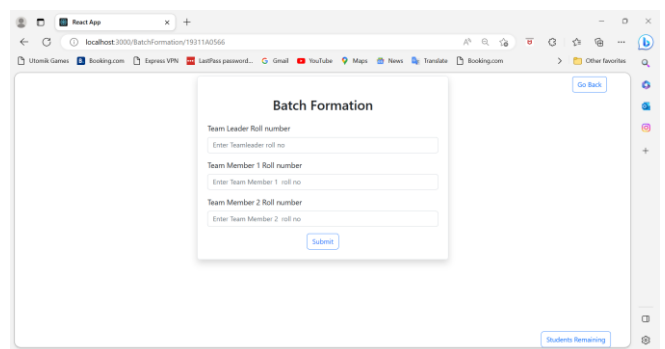
Screenshot 4: Message page of Project Coordinator

From this page, Project Coordinator can send messages to the students regarding submission dates or any other information.



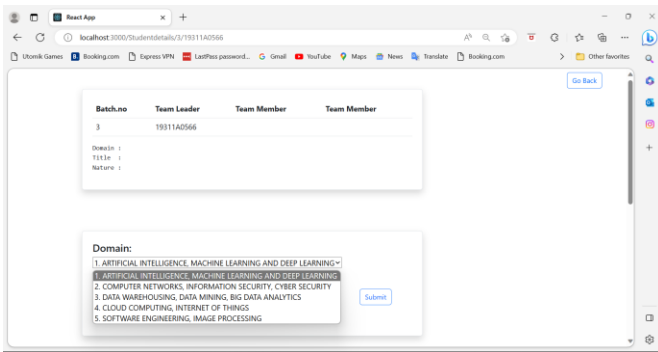
Screenshot 5: Details page of Project Coordinator

The Project Coordinator can view the formed batches and their project-related details on this details page. The Project Coordinator easily allot or change the guide to a batch. Project Coordinator will know the students who didn't form batches by clicking on the "Students Remaining" button, this will help at the time of awarding marks to the students.

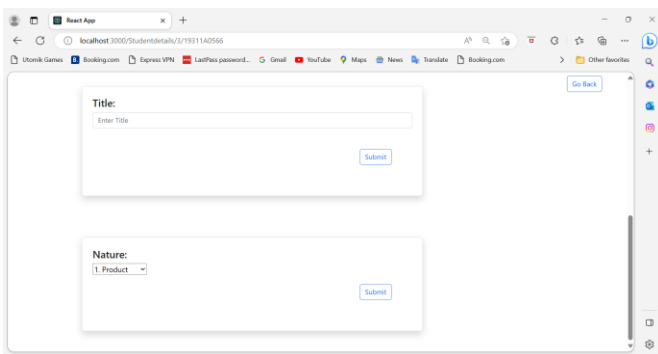


Screenshot 6: Batch Formation page of student

After logging in as a student, the student can form a batch (maximum up to 3 members). With the "Students Remaining" button the student will know which students didn't form batches. Therefore, the student can ask the remaining students to form a batch/team with him/her.

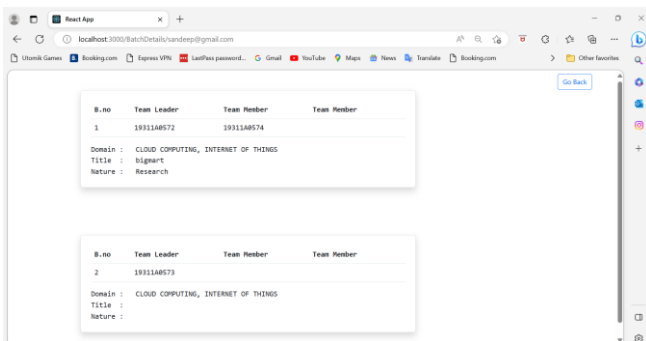


Screenshot 7: Details page of Student: part-1



Screenshot 8: Details page of Student: part-2

After batch formation, students can submit project-related details like Domain, Title, and Nature.



Screenshot 9: Details page of Guide

After successful login as a guide, that guide can know his teams/batches and their project details on this details page.

9. CONCLUSION

Generally, Project Coordinator will undergo a lot of workload in gathering project-related details and managing those details. In order to reduce the workload on the Project Coordinator this College Project Management System is developed. This system helps the Project Coordinator in managing the tasks smoothly and easily by providing a user-friendly interface. Thereby a lot of time and effort will be saved.

10. FUTURE SCOPE

- In the future, we can also add an External Examiner module, so that External Examiner can view all the project-related details, then it becomes easy to ask the related questions to the student in External Exam.
- If the Head of the Department wants to see what things are going daily on the system, then we can also include a HOD module.
- We can also make marks allotment done automatically based on the date of submission, this automates one of the tasks performed by the Project Coordinator.

11. REFERENCES

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