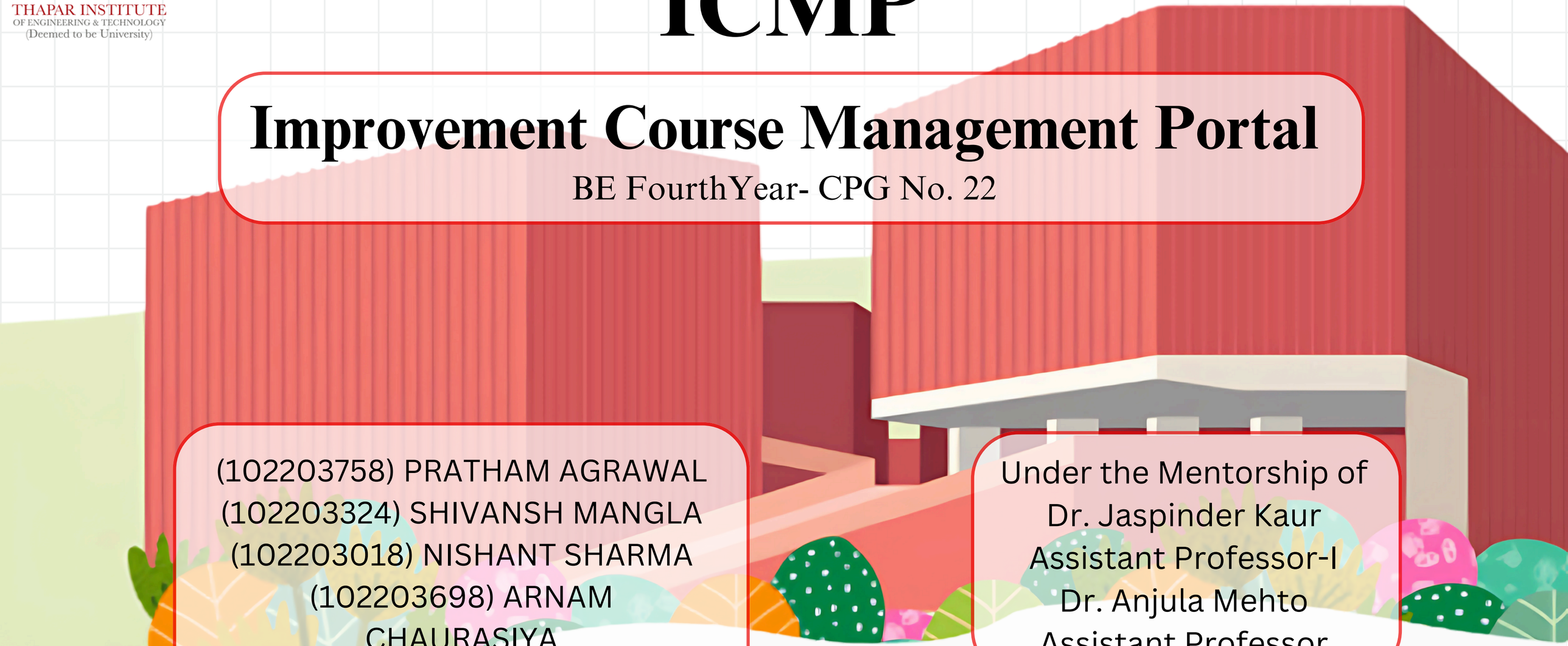
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ICMP

Improvement Course Management Portal

BE FourthYear- CPG No. 22



(102203758) PRATHAM AGRAWAL
(102203324) SHIVANSH MANGLA
(102203018) NISHANT SHARMA
(102203698) ARNAM CHAURASIYA
(102203685) NAINA MITTAL

Under the Mentorship of
Dr. Jaspinder Kaur
Assistant Professor-I
Dr. Anjula Mehto
Assistant Professor

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Problem Defination

Problems Faced During Add/ Drop process in TU

Manual Slot Schedulling



Wastage of Time



Manual Submission to TimeTable Coordinator



Redundant Queries



Administrative Load



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Scope

Standardizes timetables from heterogeneous departmental formats.

Automates clash detection and subgroup suggestion.

Enforces academic rules via pre-validation.

Provides a digital approval workflow with hierarchical roles.

Ensures scalability, security, and extensibility.

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Objectives

Completed

- Timetable excel sheet preprocessing.
- Automated slot-finder with clash detection and ranking.
- Rule-aware pre-validation (credits, attendance, semester approvals).
- Paperless digital approval workflow (Coordinators, HODs, DoAA).
- Management views for HODs and coordinators.
- Secure document uploads via Cloudinary.
- Robust authentication using email Auth and Hashed password.

Future Work

- NLP-powered chatbot.
- Integration with Webkiosk data for personalized view.

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Literature Survey

Manual Course Registration Systems



- Time-consuming and error-prone.
- Requires faculty to manually check and approve requests.
- No automated optimization for subgroup selection.

Learning Management Systems (LMS))



- Designed primarily for content management rather than course scheduling.
- No built-in timetable conflict detection.
- Limited support for automated enrollment request approvals.

University-Specific Course Management Portals



- Most systems still require students to manually verify timetable compatibility.
- Limited support for improvement courses where students need to find free slots in their schedules.
- High dependency on administrative intervention for approvals.

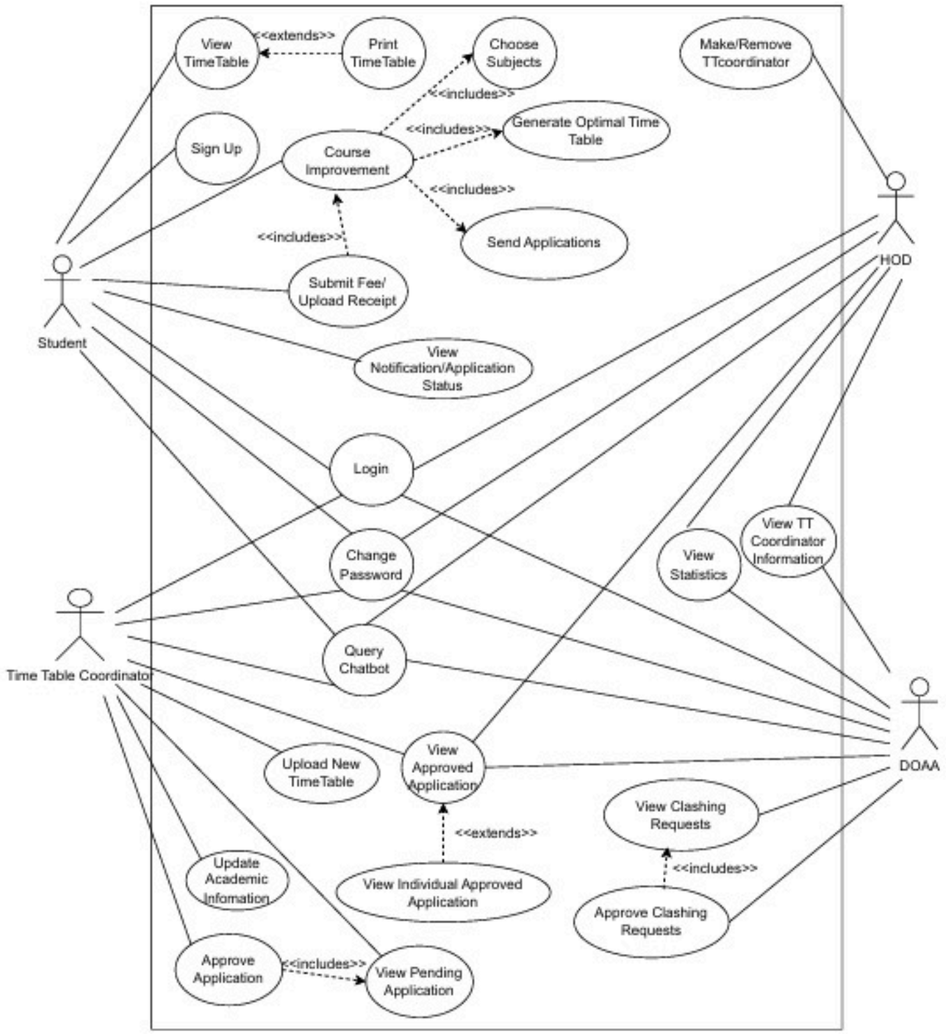
Timetable Processing Systems



- Only provides timetable viewing functionality.
- Does not support automated course add/ drop requests.
- Lacks faculty verification and approval mechanisms

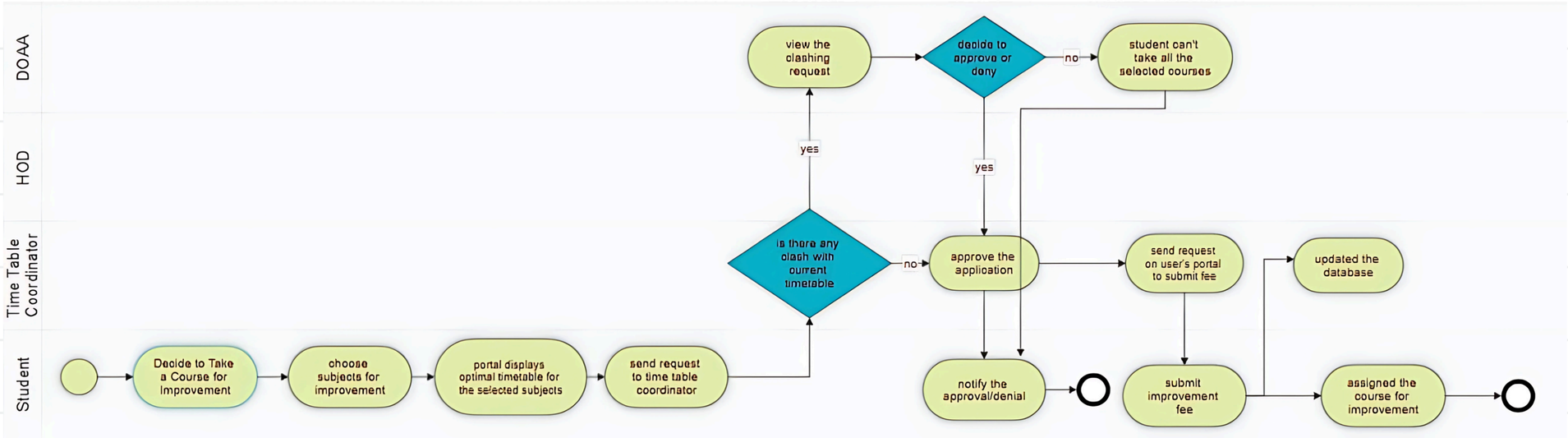
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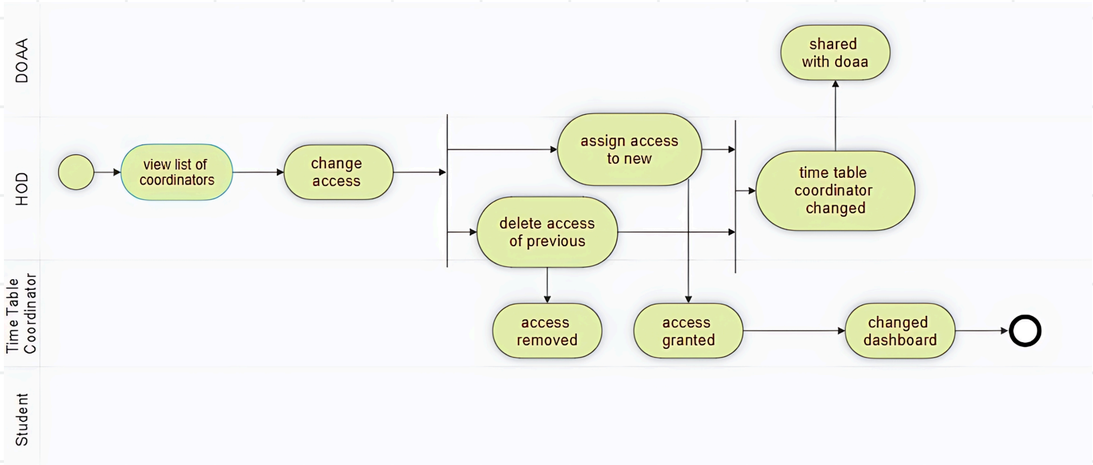
Use Case Diagram



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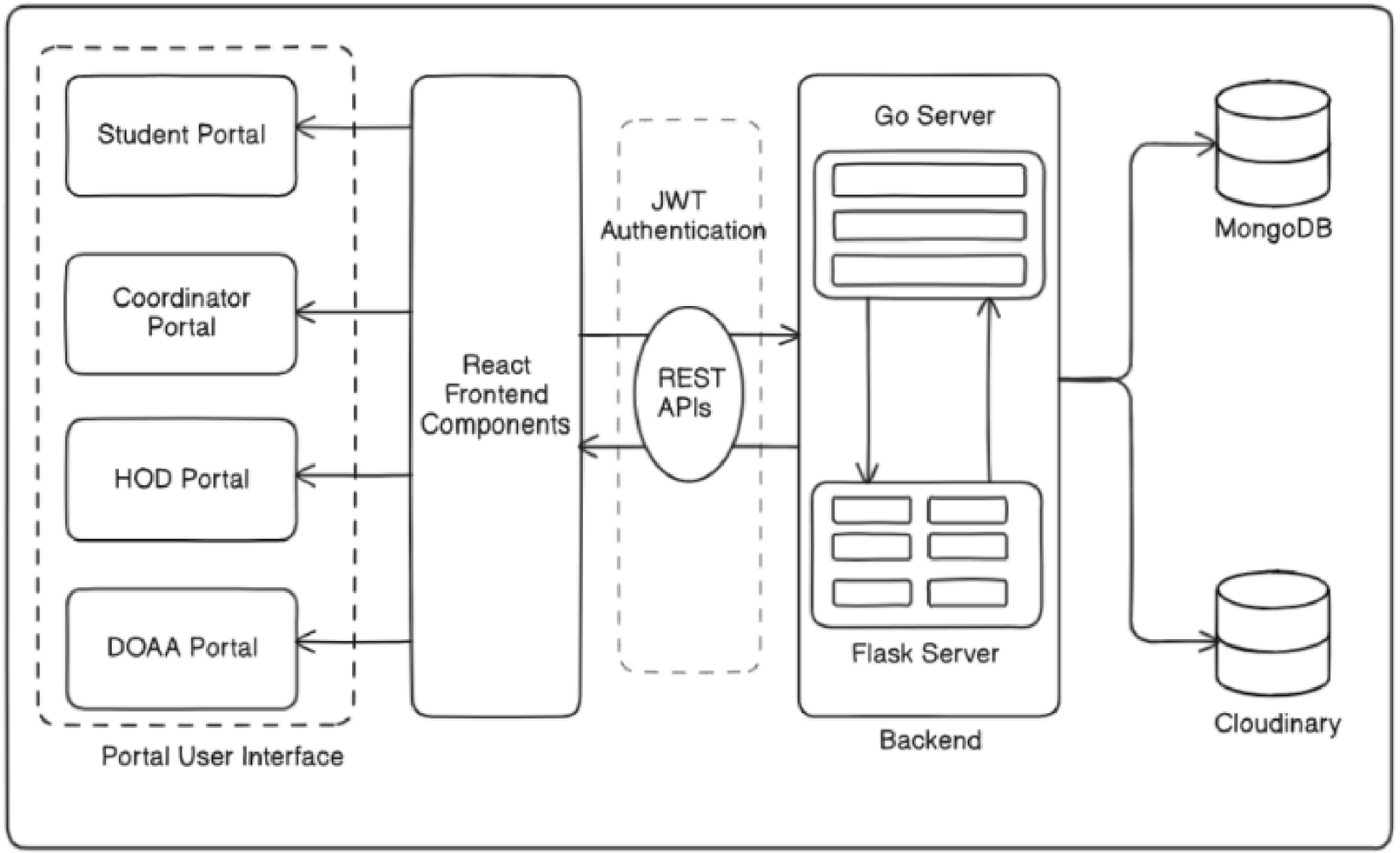
Activity Diagram





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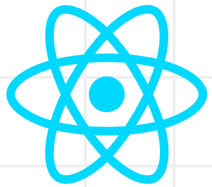
Architecture



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Tools/Platforms used

Frontend



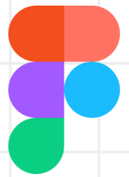

React js Mui

Backend




Golang Flask

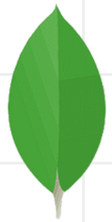
Designing Tools




Figma Canva

Database





Cloudinary Mongo DB

Preprocessing



Python, Pandas, Numpy
OpenPyExcel

Development Tools

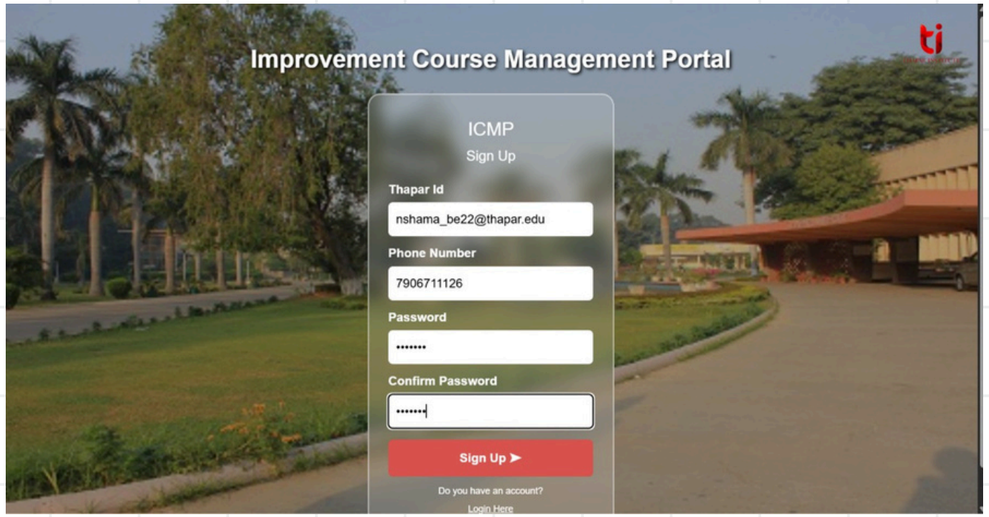


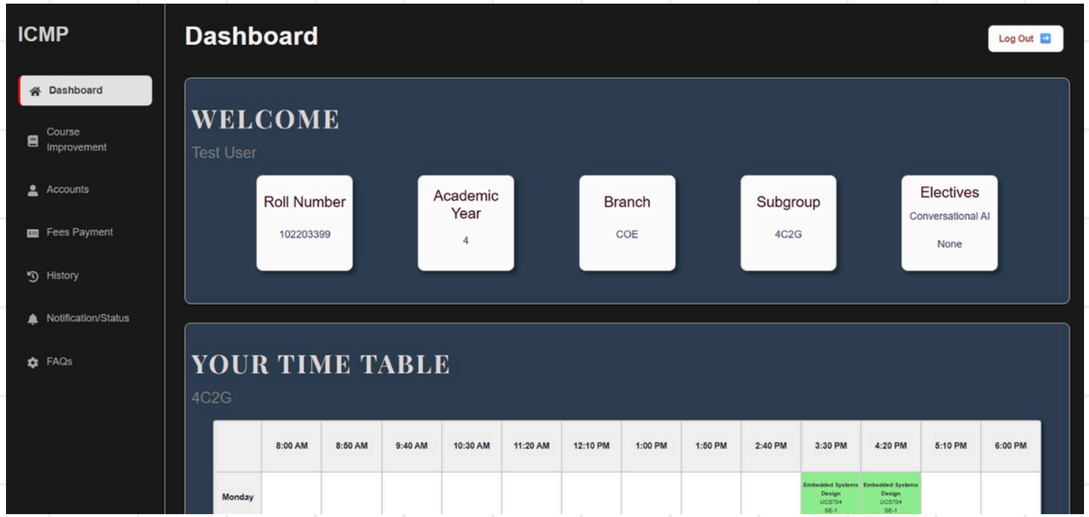


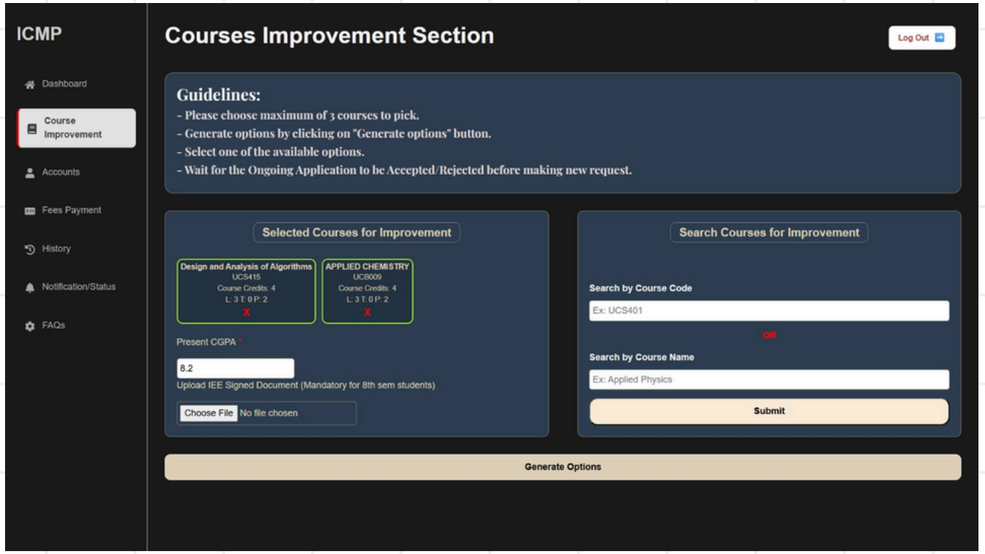
Github Git Postman

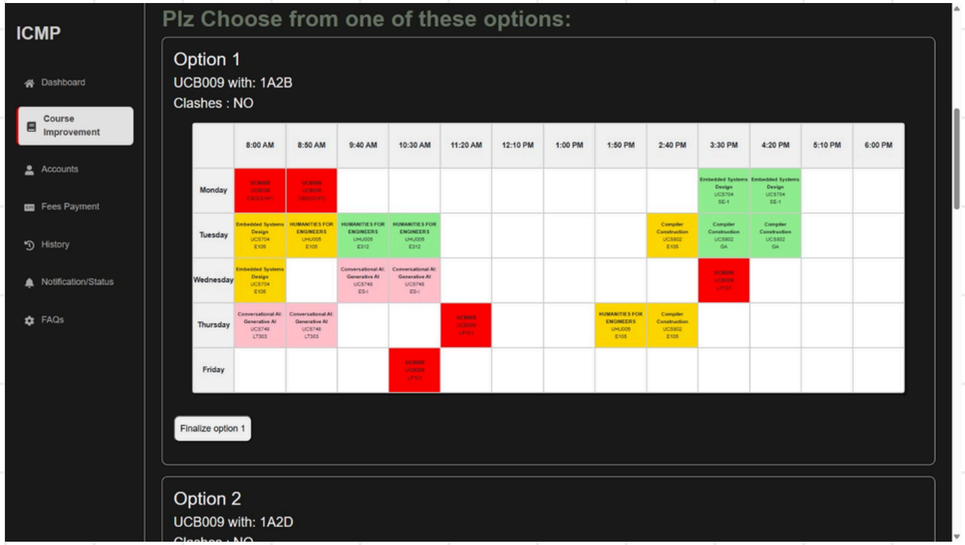
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UI Design



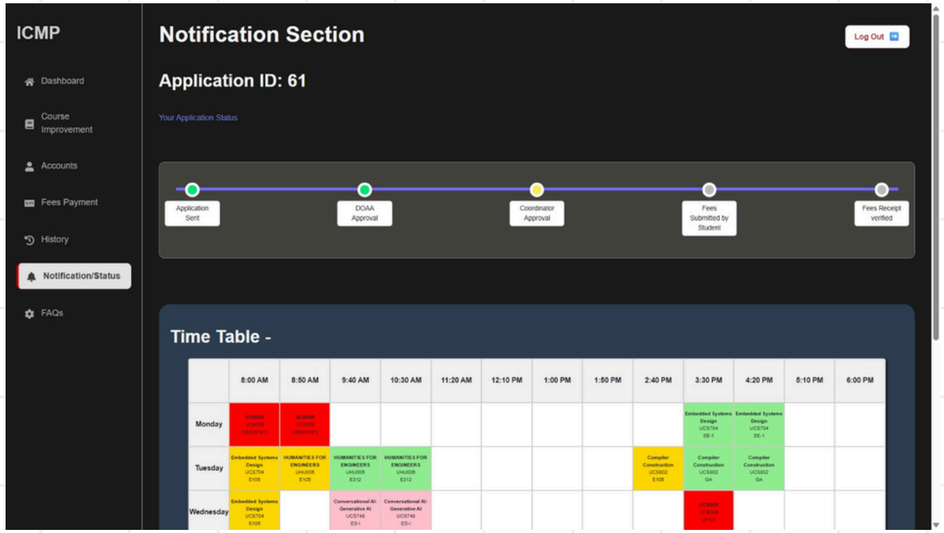


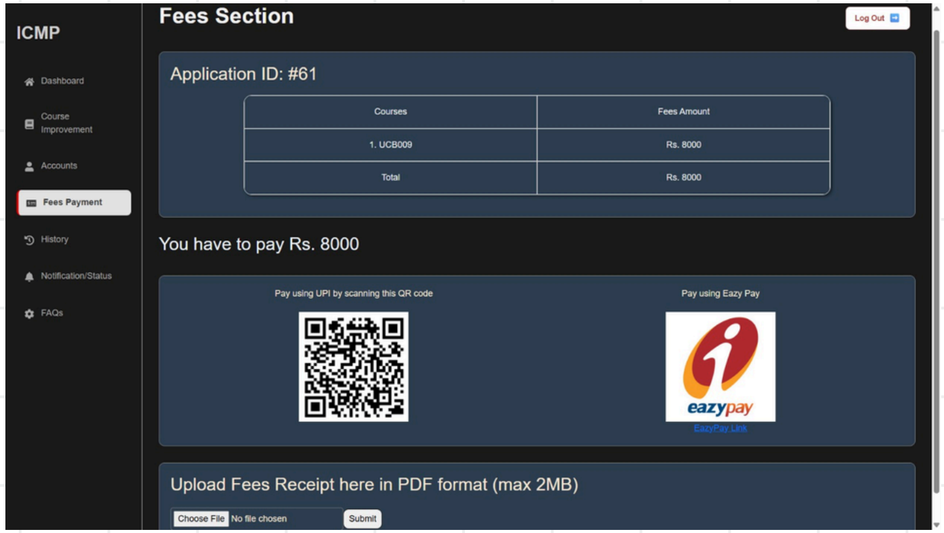


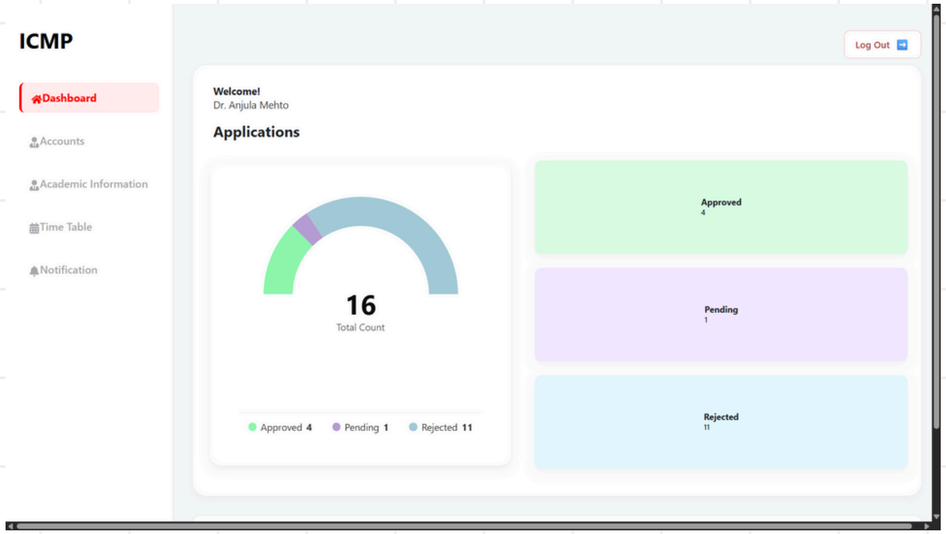


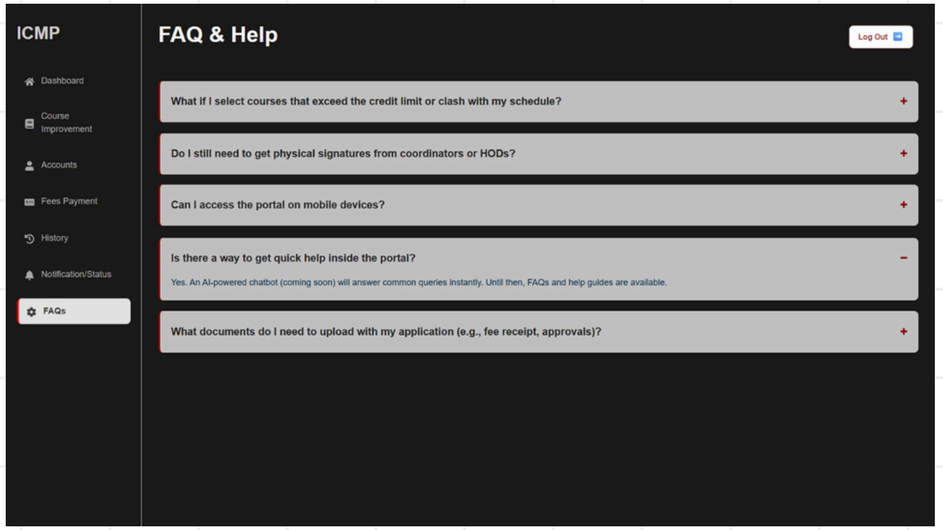
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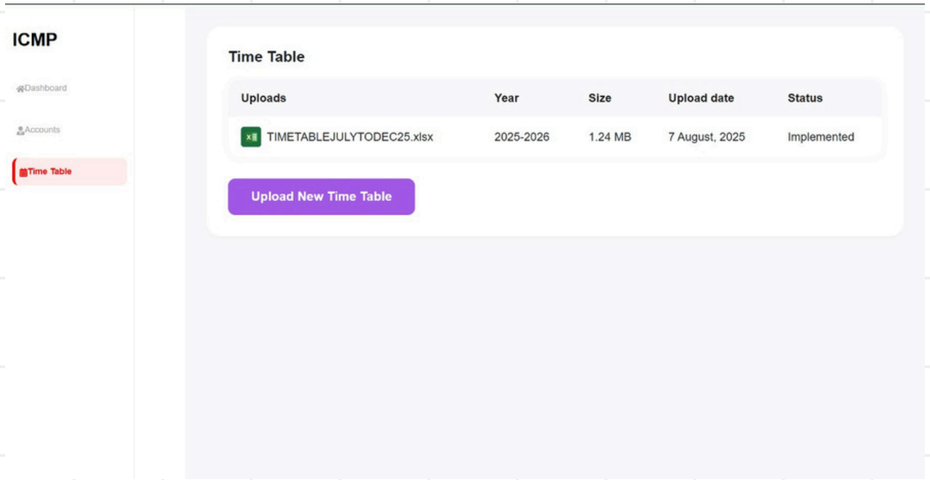


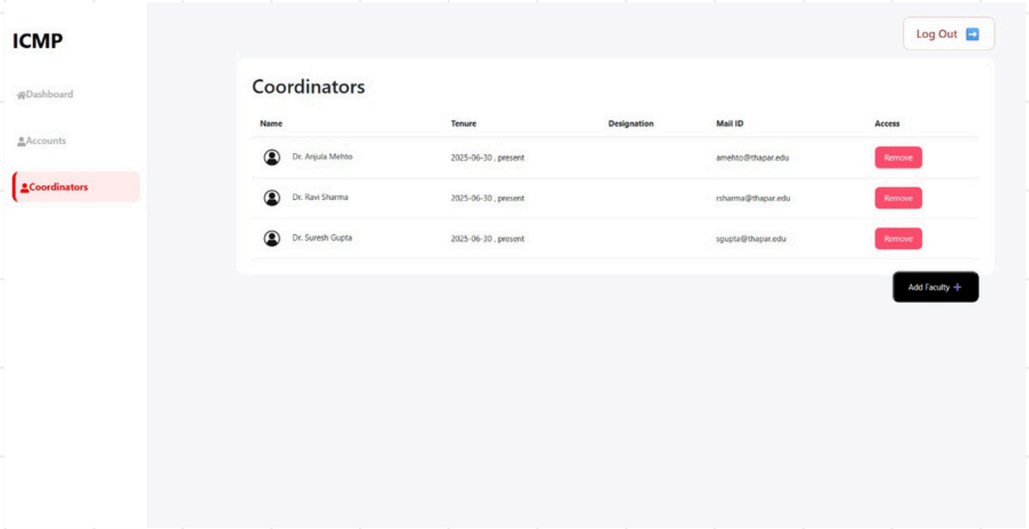


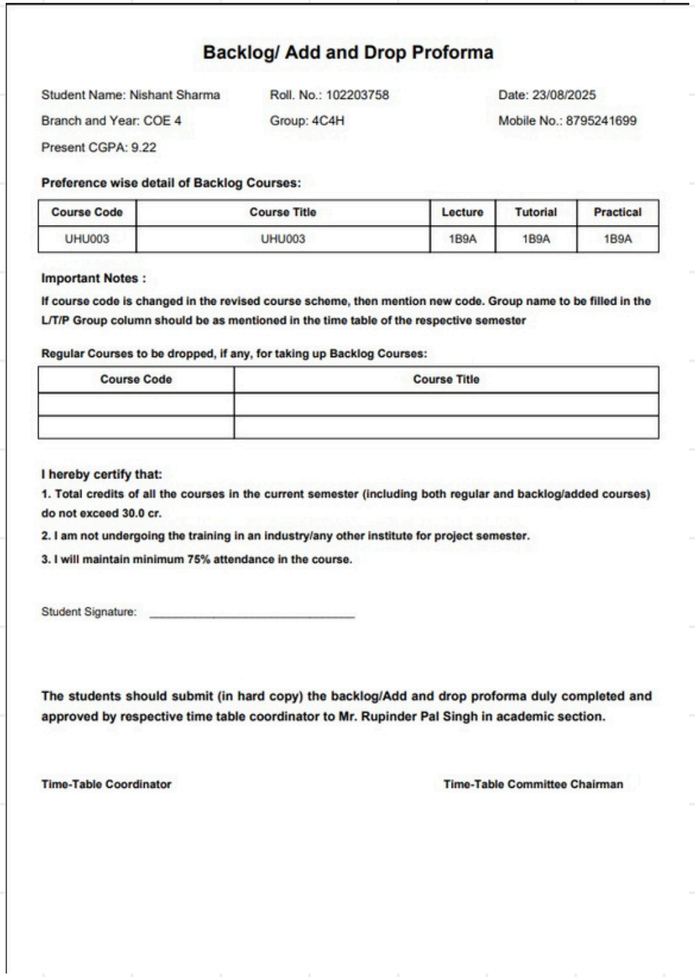


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Backlog/ Add and Drop Proforma

Student Name: Nishant Sharma | Roll. No.: 102203758 | Date: 23/08/2025

Branch and Year: COE 4 | Group: 4C4H | Mobile No.: 8795241699

Present CGPA: 9.22

Preference wise detail of Backlog Courses:

Course Code	Course Title	Lecture	Tutorial	Practical
UHU003	UHU003	1B9A	1B9A	1B9A

Important Notes :

If course code is changed in the revised course scheme, then mention new code. Group name to be filled in the L/T/P Group column should be as mentioned in the time table of the respective semester

Regular Courses to be dropped, if any, for taking up Backlog Courses:

Course Code	Course Title

I hereby certify that:

1. Total credits of all the courses in the current semester (including both regular and backlog/added courses) do not exceed 30.0 cr.

2. I am not undergoing the training in an industry/any other institute for project semester.

3. I will maintain minimum 75% attendance in the course.

Student Signature: _____

The students should submit (in hard copy) the backlog/Add and drop proforma duly completed and approved by respective time table coordinator to Mr. Rupinder Pal Singh in academic section.

Time-Table Coordinator **Time-Table Committee Chairman**

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Cost Analysis

Component	Purpose	Tech Provider	Cost Range
Server	To host and deploy React Modules, Go and Flask APIs	Thapar Server	nil
MongoDB Atlas	To store pre-processed timetable data & details of applicants, application, coordinator , hod and doaa	MongoDB	900 to 1500/month depending on usage
Cloudinary	To store pdfs like application forms, fee receipts, IEP documents	Cloudinary	8000/month beyond 25GB storage

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Project Outcomes

Automation of Course Add/ Drop Process

Faster decision-making for coordinators, HODs, and DoAA.

Efficient Query Resolution with Chatbot

Secure, scalable architecture suitable for institutional deployment.



Minimized Hassle for Students

Real-time Timetable Accessibility

Reduction in Misleading Information

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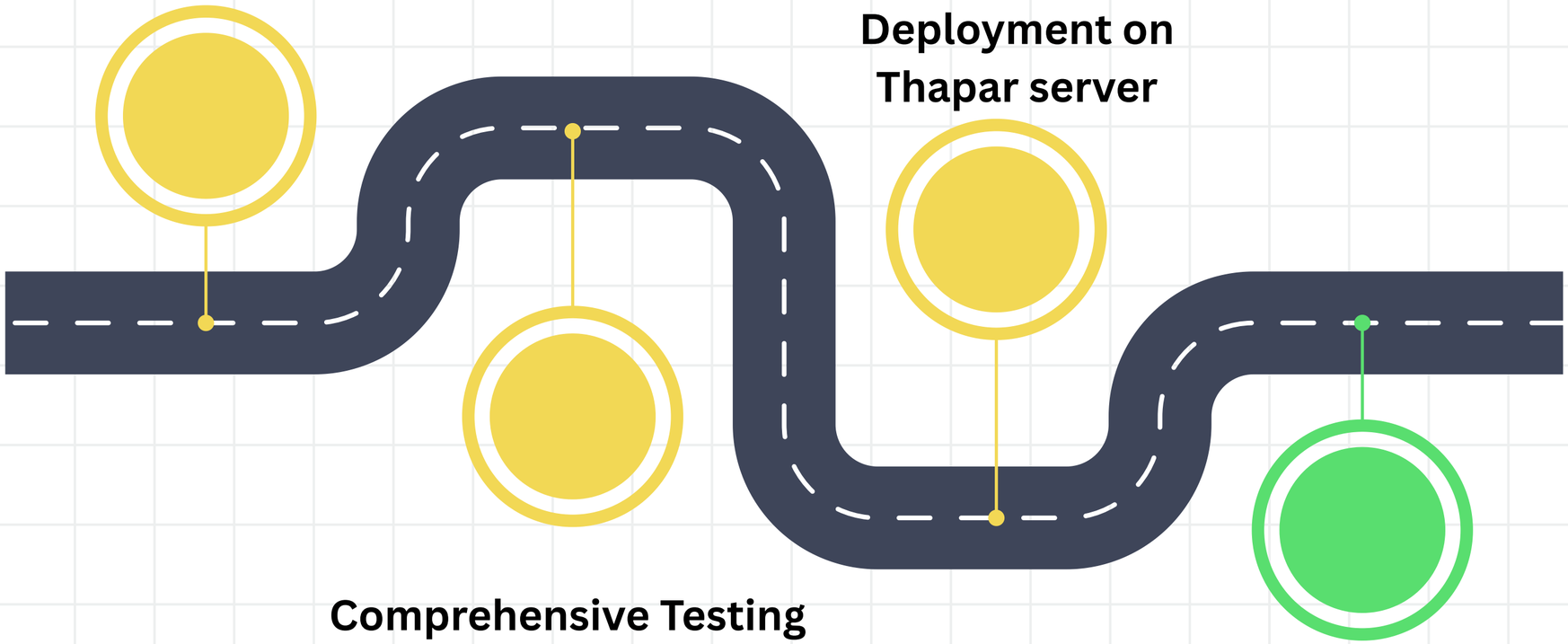
Team Contributions

Shivansh Mangla	Data Preprocessing, Backend Development , Backend integration
Nishant Sharma	Slot Finding Algorithm Development and Frontend Development
Arnam Chaurasiya	User Interface designing, Frontend Development
Pratham Agrawal	Data Structure Development, Database Designing ,and Leading Backend Development
Naina Mittal	System Testing, Frontend Development

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Future Work Plan

NLP Chatbot & Query Solver



Comprehensive Testing on Actual students

Deployment on Thapar server

Portal Complete

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Thank you!