

Modern Database Mini Project

Student Information

SRN	R21EF242
Name	Pavan B N
Branch	CSE 'E'
Project Name	Student Information System

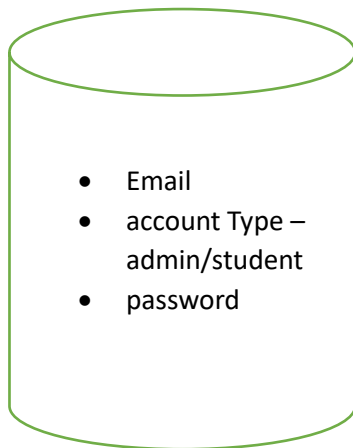
Tech Stack

Frontend	React
Backend	NodeJS
Database	MongoDB

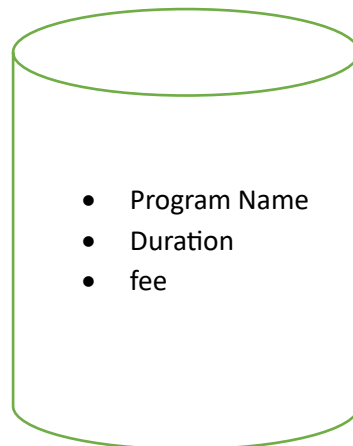
AIM

- Design a Student Information System Which is responsible for Managing basic details of student including their grades, program and course details
- Design a database to store student information, courses, grades, and attendance records.
- Include features like adding/editing students, enrolling in courses, and generating report cards.

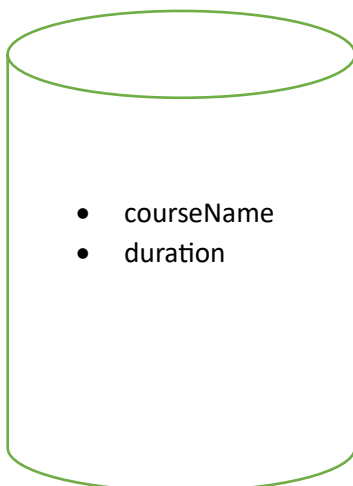
Database Design



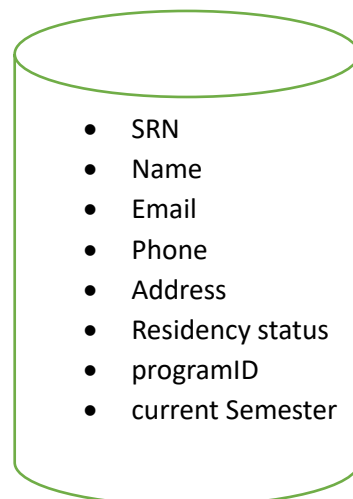
User Model



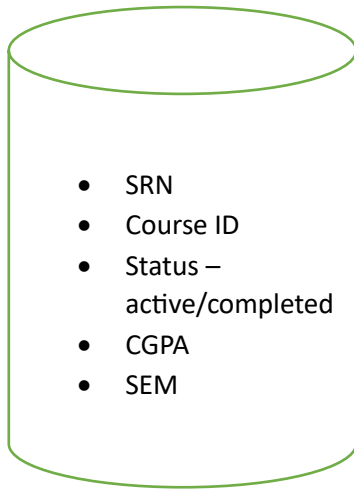
Program Detail Model



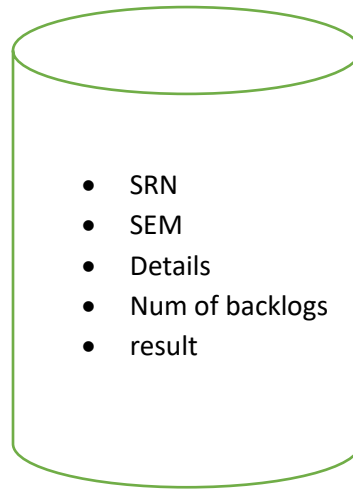
Course Detail Model



Student Info Model



Enrolled Course Model



Grade Model

NodeJS API Endpoints

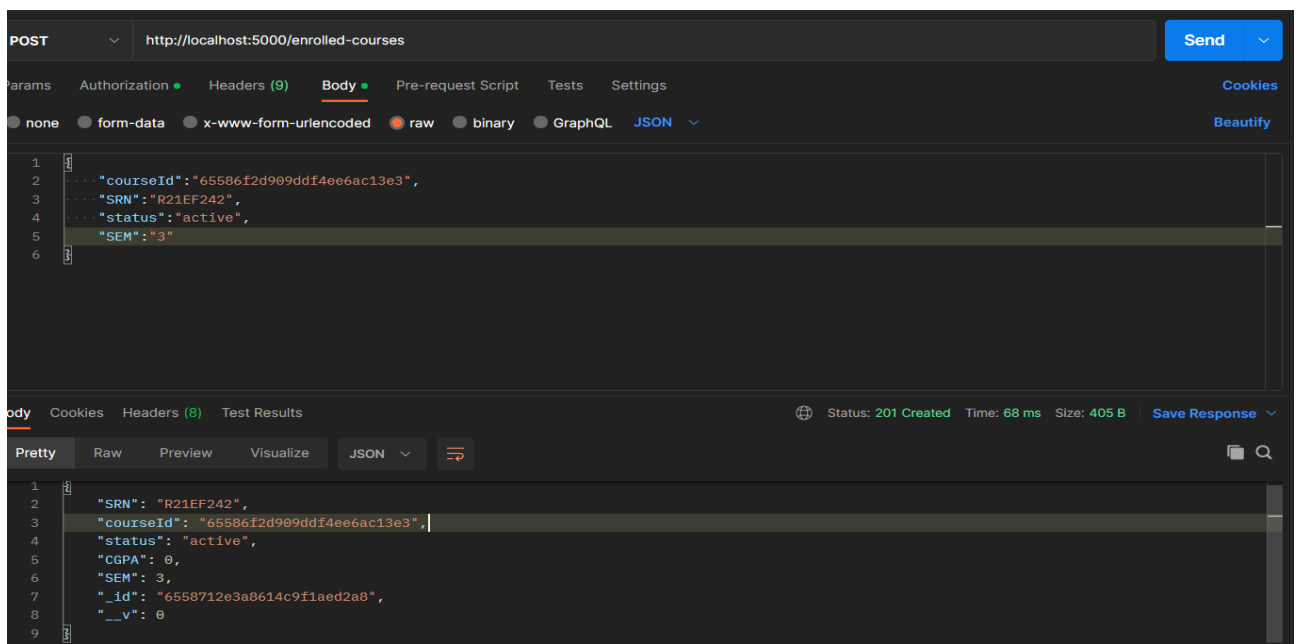
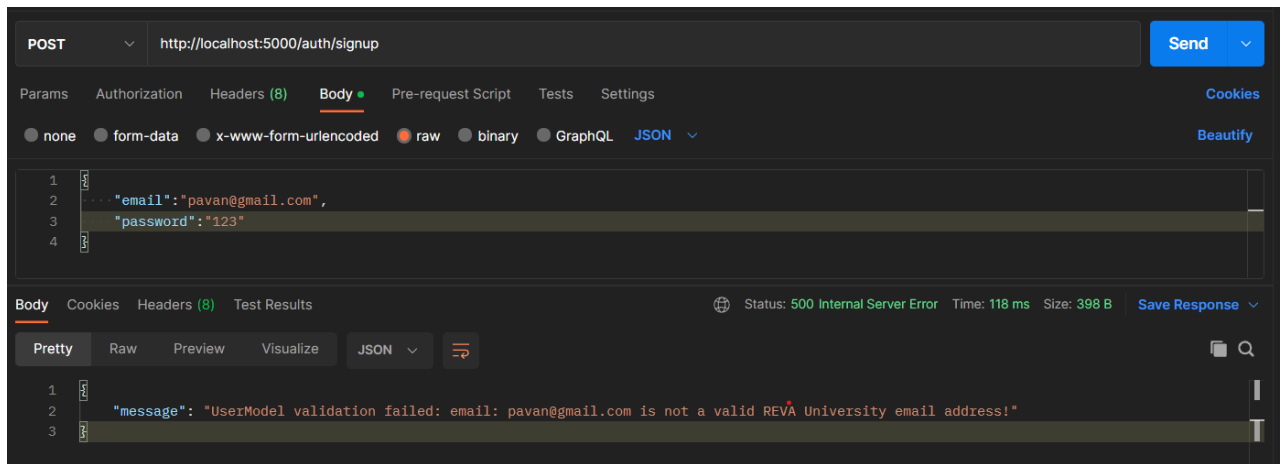
```
app.use("/auth", AuthRoute)
app.use("/program-detail", ProgramDetailsRoute)
app.use("/course-detail", CourseDetailsRoute)
app.use("/enrolled-courses", EnrolledCoursesRoute)
app.use("/grade-detail", GradeDetailsRoute)
app.use("/student-detail", StudentDetailsRoute)
```

API Endpoints Tested Using Postman

The screenshot shows a Postman interface for a POST request to `http://localhost:5000/program-detail`. The request body is a JSON object:

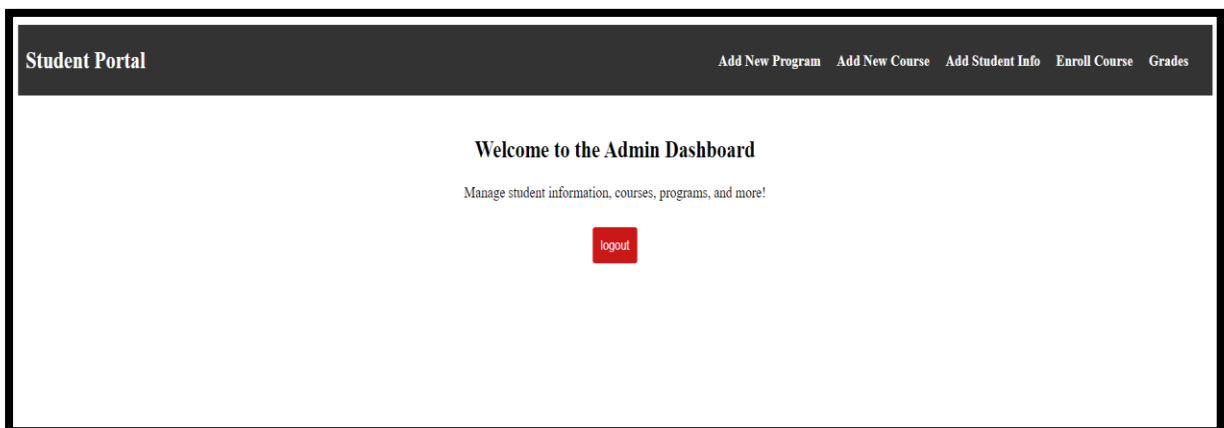
```
{  "programName": "B Tech",  "duration": 4,  "fee": 460000}
```

The response status is `400 Bad Request` with a message: `"message": "E11000 duplicate key error collection: studentsInfoSystem.programdetailmodels index: programName_1 dup key: { programName: 'B Tech' }"`. This indicates a database constraint violation due to a duplicate program name.



Application Interface Frontend React

➤ Admin Dashboard



- Admin has access to add new program, courses and enrol new course to a student.

Add New Program

Program Name:

Duration In Years:

Fee:

Add New Program

Add New Course

Course Name:

Duration:

Add Course

Enroll New Course to a Student

SRN:

Course:

SEM:

Enroll

- Admin also have access to add and update basic student information and declare the student academics grades

Add Student Information

SRN:

Email:

Name:

Phone:

Address:

Residency Status:
☒ Day Scholar ☐ PG ☐ Hostel

Add Student Grades

SRN:

SEM:

Course ID:

CGPA:

New Course

Submit

- Student can access their information by logging in to the portal

Student Details

SRN: R21EF242
Email: 2109723@reva.edu.in
Phone: 8073149346
Address: bangalore laggere - 560058
Residency Status: dayscholar
Program Name: B Tech
Program Duration: 4
Current Semester: 5

Logout

My Grades

SRN: R21EF242	SRN: R21EF242
SEM: 3	SEM: 4
Details:	Details:
Java, CGPA: 9.8	Modern Database, CGPA: 9.9
	Machine Learning, CGPA: 9.7
	OOPs with C++, CGPA: 10
Result: pass	Result: pass
Number of Backlogs: 0	Number of Backlogs: 0

My Enrolled Courses

SRN: R21EF242	SRN: R21EF242	SRN: R21EF242	SRN: R21EF242
Course Name: Modern Database	Course Name: Embedded System	Course Name: OOPs with C++	Course Name: Machine Learning
Course Duration: 6	Course Duration: 6	Course Duration: 6	Course Duration: 6
Status: active	Status: active	Status: active	Status: active
SEM: 5	SEM: 5	SEM: 5	SEM: 5