



Code for Gov Tech

# PROGRESS REPORT

Extending Education MIS systems to design student-level  
interventions in a district

# Introduction

The Education Management System is being developed from scratch to address the need for a centralized and structured way to track academic performance across schools under ADC Karnal. Currently, there is no digital system in place to monitor data like student marks, attendance, or school-level progress. This project aims to fill that gap by providing district officials with detailed insights across schools and enabling teachers to upload and access student performance data for their subjects. The system focuses on secure role-based access, reduced manual workload, and smarter, data-driven decision-making in education.

# current challenges



- Lack of Granular Data: The current EMIS does not capture day-to-day student activity, subject-teacher mapping, or real-time class engagement.
- Static Reporting: Dashboards and reports are not interactive, lack drill-down capabilities, and do not provide real-time alerts or heatmaps.
- Stakeholder Disconnect: School, block, and district administrators lack access to actionable, up-to-date insights for timely interventions.
- Data Gaps: Missing or outdated data hinders the ability to monitor progress, identify at-risk students, and optimize teaching resources

# Mid-term Progress

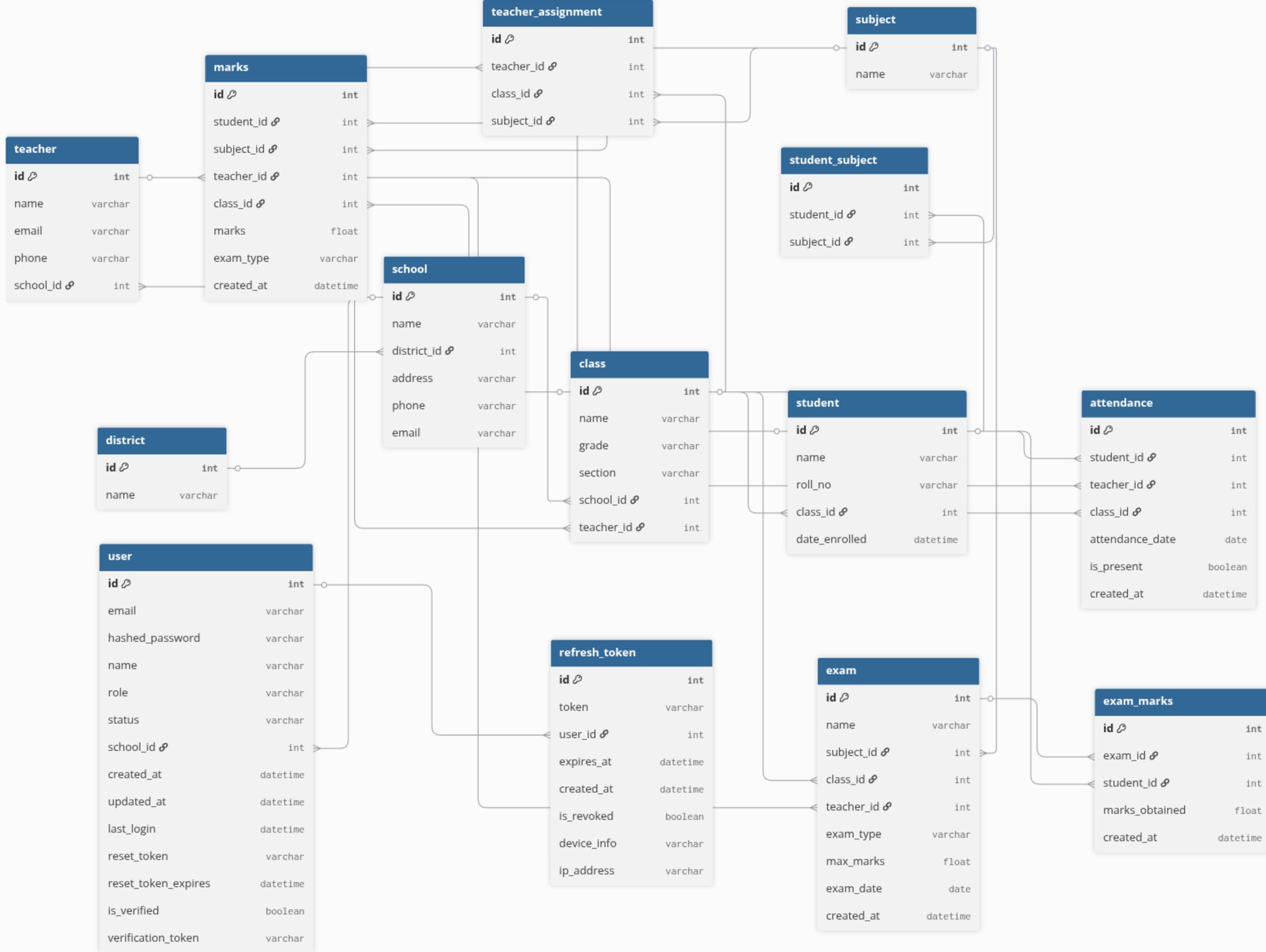


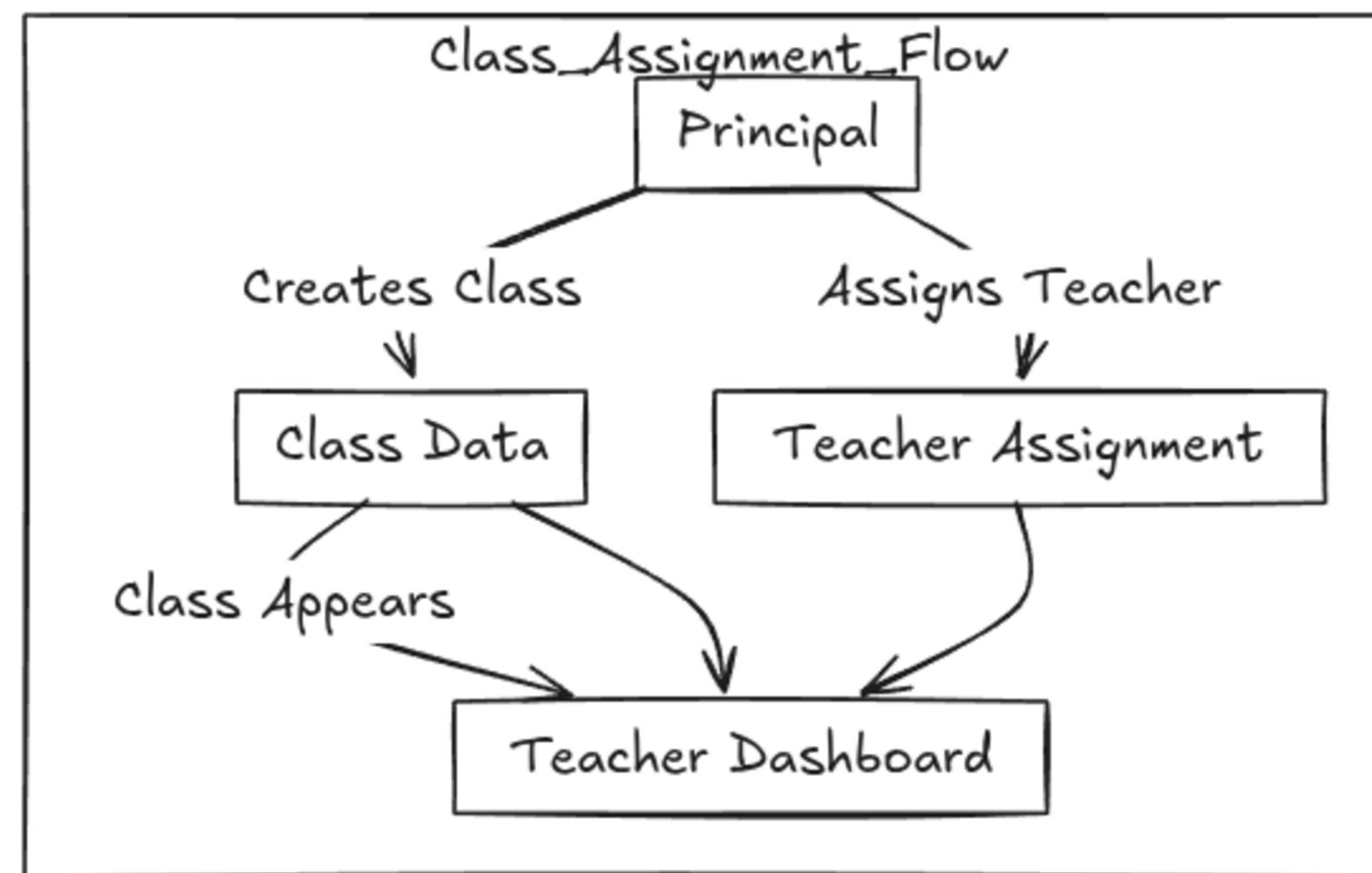
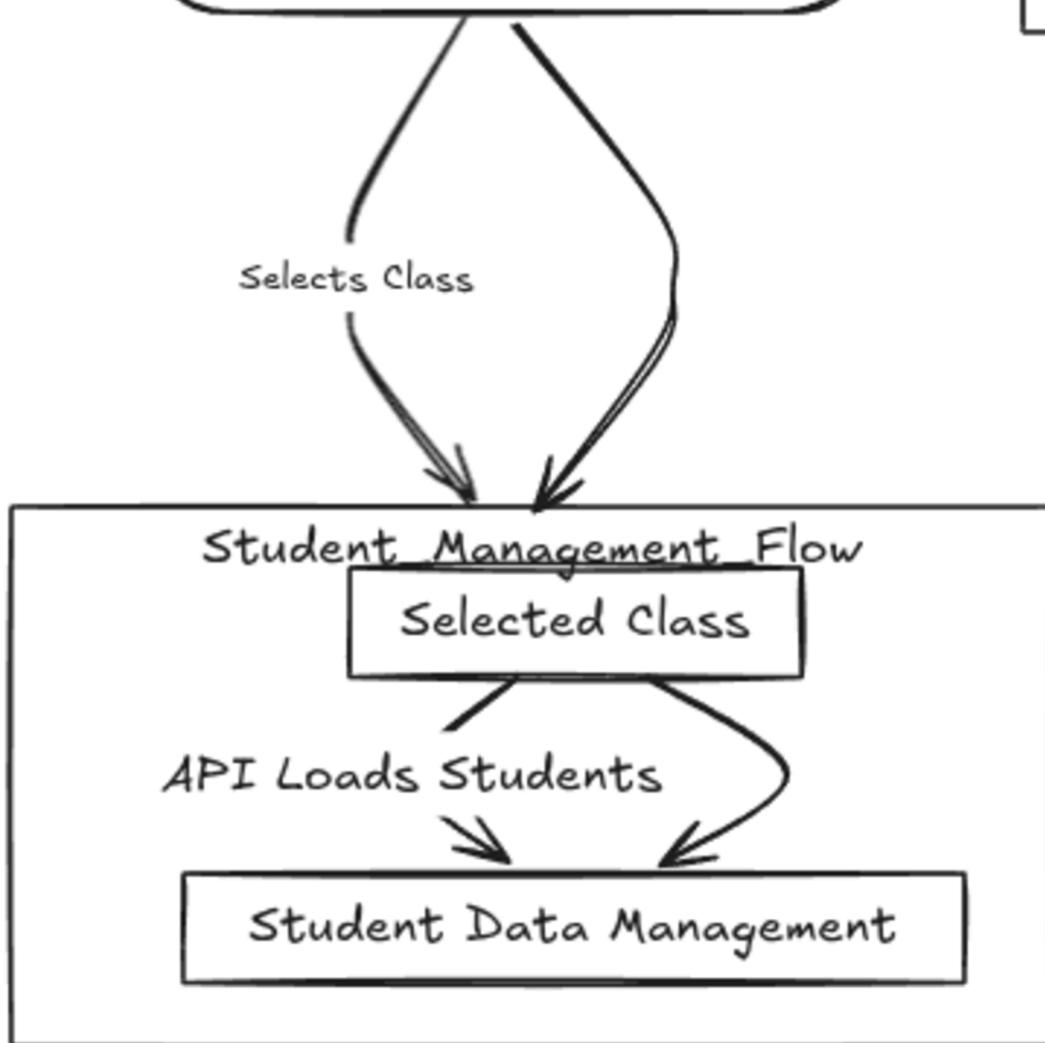
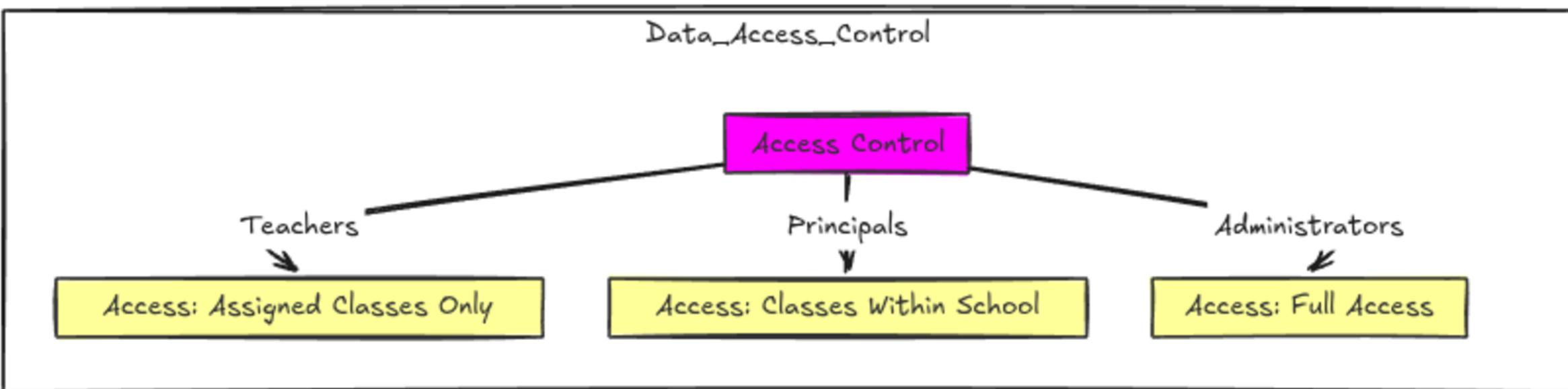
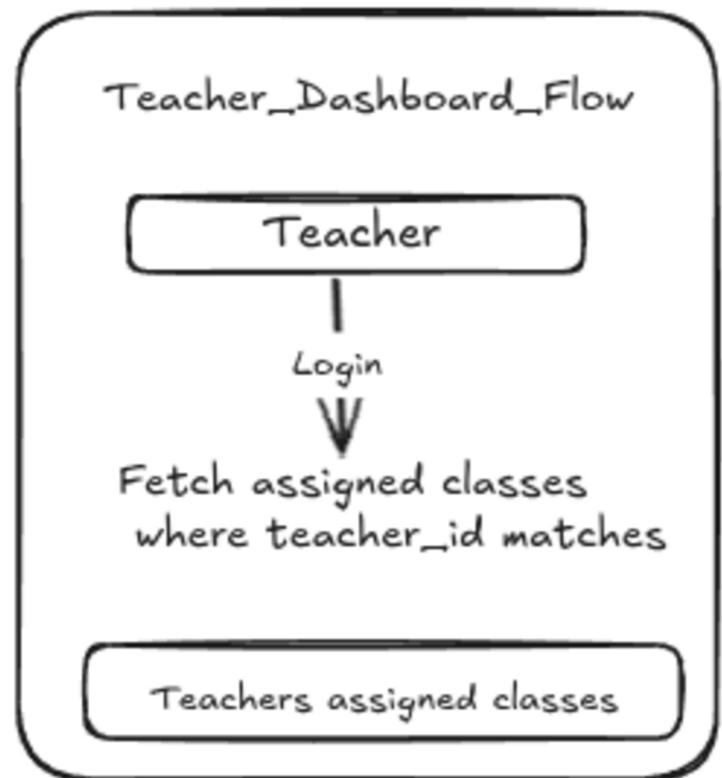
- Finalized core features and identified the key metrics to track for each stakeholder (students, teachers, schools).
- Implemented basic dashboard structure with support for chart-based visualizations (using libraries like Chart.js or Recharts).
- Upload sample student and school data to enable more effective and realistic visualizations

# End- term Progress



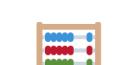
- Initialized project and set up backend environment
- Created database models and schemas for districts, schools, classes, teachers, students, subjects, and marks
- Implemented authentication system with three roles: District **Admin, Principal, Teacher**
- Developed role-based dashboards:
- Principal: Manage classes, subjects, assign teachers
- Teacher: View assigned classes, add/manage students
- Integrated student progress tracking, attendance, and exam/marks entry







### District-Level Features

-  No. of students with below pass percentage
-  School-wise performance overview
-  Block-wise comparison of performance
-  Filter to see school-wise performance of individual subjects
-  Attendance trends & growth analytics
-  Alerts for missing data
-  Flag schools who are not updating data
-  Stream-wise performance across schools
-  Improvement analysis on attendance
-  Announcements for teachers



## SCHOOL LEVEL FEATURES

- School-level features
- Teacher attendance monitoring
- Workload analysis for teachers
- Class-wise subject performance
- Subject-wise performance comparison
- Filter to see section-wise student performance
- Class-wise attendance matrix
- Drill down to individual student growth
- Announcements for teachers
- Attendance metrics for school
- Stream-wise performance
- 

## TEACHER LEVEL FEATURES

- Overall student performance in assigned subjects
- Enter marks per test/exam
- Track individual student progress
- Upload attendance
- View announcements from school/district

# Upcoming tasks - midterm

I will be working on backend architecture using a relational database structure. This will include mapping students, teachers, schools, and subjects appropriately. I'll also focus on building backend APIs to handle the following:

- Accepting and parsing CSV data (such as marks uploaded via Google Sheets or dashboards).
- Storing and managing this data in the database.
- Serving the processed data to the frontend for visualizations like performance trends, attendance, and subject-wise analysis.

This structure will serve as the foundation for seamless data flow and accurate insights on the dashboard.

# What's left??

- Seed more data (schools, teachers, students) and test APIs thoroughly
- Replace hardcoded frontend data with backend seed data
- Complete remaining sections like alert, of the main landing dashboard
- Perform final testing of the entire application



EMIS

## Dashboard

Dashboard

Schools

Teachers

Students

Subjects

Reports

Data Management

Analytics

Settings

## Dashboard Overview

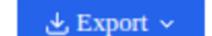
View and analyze educational data across the district

Search...

District

School

Export



Total Schools

3

+2 vs. last period



Total Students

5

+3.2% vs. last period



Teachers

756

+5 vs. last period

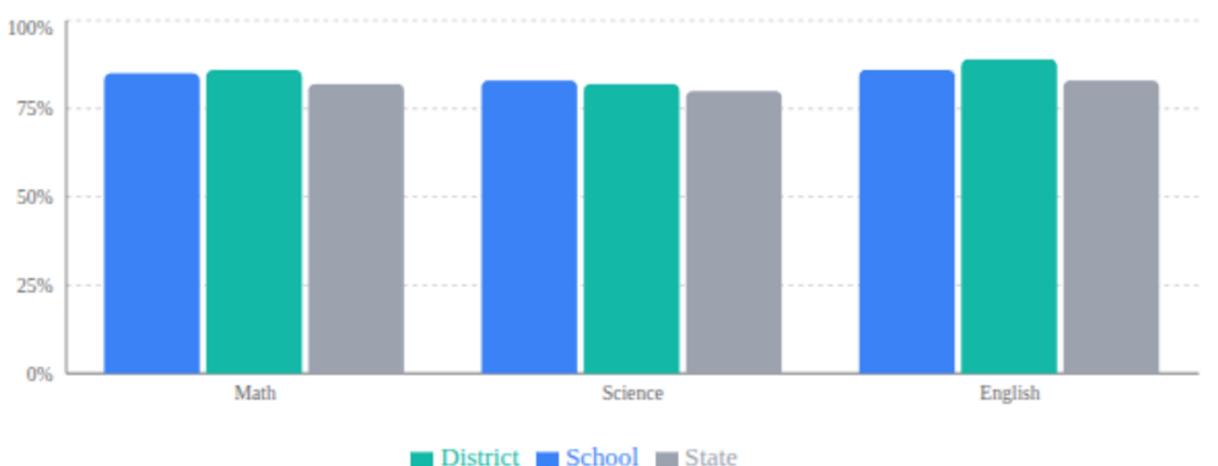


Subjects

24

## Subject Performance

Average scores compared to district and state benchmarks



## Recent Alerts

- ⚠️ Missing attendance data for Grade 8B (Feb 15, 2025)  
2 hours ago
- ⚠️ Low engagement detected in Science Class 9A  
3 hours ago
- ⚠️ Teacher John Doe has 8+ hours scheduled on Tuesday  
5 hours ago
- ✅ All Math assessment data successfully imported  
1 day ago

View all alerts



Classes Conducted

1,254

+12% vs. last period



Average Attendance

92.7%

+1.5% vs. last period



Data Quality Alerts

8

3 vs. last period

## Need help?

Check our documentation or contact support for assistance.

View Documentation



EMIS

## Dashboard



User Admin

Dashboard

Schools

Teachers

Students

Subjects

Reports

Data Management

Analytics

Settings

[← Back to Students List](#)

## Student Progress: Amy Johnson

Individual performance tracking across terms

Student

**Amy Johnson**

Class

**10A**

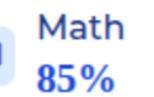
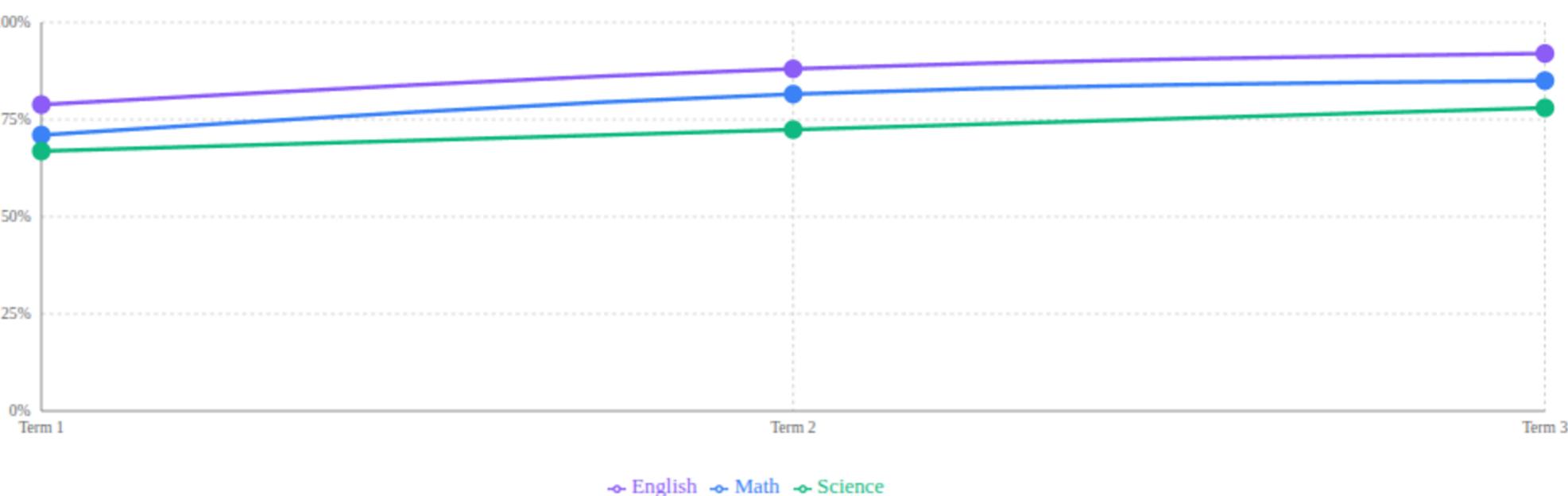
School

**Lincoln High School**

Attendance

**92%**

### Progress Over Terms

**Math**  
85%

Current Score

**Science**  
78%

Current Score

**English**  
92%

Current Score

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**THANK  
YOU**