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Phase-1

Students Grading System – Admin Dashboard with Charts

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Introduction

The Students Grading System is designed to automate the process of mark entry, grade calculation, and result generation. The Admin Dashboard plays a crucial role in managing academic operations. To make it more effective, the dashboard is enhanced with interactive charts that visualize student performance, subject analysis, and overall academic trends.

Charts provide quick insights for decision-making and reduce the effort required for manual analysis.

Problem Statement

- o In existing systems, results are shown only in tabular format, making it difficult to analyze performance trends.

- o Teachers face challenges in comparing class results.

- o Admins cannot identify weak subjects or toppers at a glance.

- o Students and parents lack clear visual representation of grades.

- o Hence, a chart-based Admin Dashboard is required.

Users & Stakeholders

Primary Users

- o Students: View grades, GPA, and performance graphs.

- o Teachers: Upload marks and review reports with charts.

- o Admins: Manage users, subjects, and generate performance charts.

Secondary Users

- o Department Heads: Analyze class/subject-wise performance trends.
- o Parents: Track student progress with visual dashboards.
- o Stakeholders.
- o College Management.
- o Examination Cell.
- o Academic Coordinators.

User Stories

- o As an Admin, I want to view performance charts so that I can quickly identify weak students.

- o As a Teacher, I want subject-wise bar charts so that I can analyze student understanding.

- o As a Student, I want to see my grade progression chart so that I can improve my performance.

- o As a Parent, I want pie charts of my child's subject grades so that I can track progress easily.

MVP Features (Admin Dashboard)

1. User Authentication (Admin, Teacher, Student)

2. Marks Entry Module (for teachers)

3. Automated Grade Calculation

4. Charts in Dashboard:

   - Bar Charts – Subject-wise performance

   - Line Charts – Student progress over semesters

   - Pie Charts – Grade distribution (A, B, C, etc.)

   - Comparative Charts – Class average vs individual marks

5. Report Generation (PDF/Excel)

Wireframes (Sample Dashboard Design)

Admin Dashboard Layout:

Left Panel: Navigation (Students, Teachers, Reports, Charts)

- Top Panel: Academic Year & Class Filters

- Main Area: Charts Display (Bar, Pie, Line, Donut)

- Buttons: "Export Report", "Download as PDF"

API Endpoint List (Node.js REST API)

- o POST /api/auth/login – User Login

- o POST /api/marks – Enter Marks

- o GET /api/marks/:studentId – View Student Marks

- o GET /api/grades/:studentId – Get Student Grades

- o GET /api/reports/class/:classId – Class Report with Charts

- o GET /api/reports/subject/:subjectId – Subject-wise Performance

Acceptance Criteria

o Admin can view student grades with charts.

o Teachers can upload marks and charts update automatically.

o Charts must support filters (by student, subject, semester).

o Reports can be downloaded in PDF/Excel format.

o Data is secure and accessible only by authorized users.

Conclusion

❖ The Admin Dashboard with Charts transforms the grading system into a data-driven platform. By integrating visual analytics, it enhances decision-making, improves transparency, and motivates students through performance visualization.

Future Scope:

o AI-based prediction of student performance.

o Real-time notifications for parents.

o Mobile app integration with charts.