Project Report: Student Result Management System

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Introduction

This section discusses the motivation behind automating the Student Result Management System. It introduces the current manual methods and their drawbacks, such as challenges in maintaining accurate records and delays in calculations.

Problem Statement

The existing manual process is inefficient and prone to errors in SPI calculation. It makes it difficult to retrieve student data, as records are currently stored in Excel sheets.

Objectives

The project aims to:

- Automate SPI and CPI calculations.

- Centralize data for easy management and retrieval.

- Streamline the generation of mark sheets in PDF format.

Scope of the System

The system allows the admin to:

- Upload grades via Excel.

- Calculate and update SPI and CPI in the database.

- Retrieve student performance data semester-wise.

Functional Requirements

The functional requirements include:

- Admin Login

- Excel File Upload

- SPI Calculation

- Database Update

- Student Performance View

- Download Feature for PDF results.

System Modules

Modules of the system:

- Admin Login and Management

- File Upload and Data Processing

- SPI and CPI Calculations

- Student Data Retrieval

Technology Stack

Tools and technologies used:

- Frontend: ReactJS, HTML, CSS

- Backend: Node.js, Express.js

- Database: MySQL

- Data Transfer: Axios for HTTP requests

UML Diagrams

Diagrams representing system architecture:

- Data Flow Diagram (Level 0 and Level 1)

- Sequential Diagram

- Use Case Diagram

Future Scope

Potential future extensions:

- Integration with email for result notifications

- Precise formatting of mark sheets

- Expansion for broader data analytics

Conclusion

The project successfully implements a streamlined system for student result management, benefiting educational institutions with automation, accuracy, and efficiency.