

DBMS-JAVA MINI PROJECT ABSTRACT

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Problem Statement: Student Attendance and Performance System

In educational institutions, effectively tracking and managing student attendance and academic performance is crucial for both administrative and academic purposes. The goal of this project is to design and implement a Student Attendance and Performance System that allows administrators, teachers, and authorized staff to record, view, and manage student attendance and grades for various subjects.

Objective

The Student Attendance and Performance System will:

1. Track student attendance across subjects and record each instance of presence or absence.
2. Maintain a comprehensive list of students and the subjects in which they are enrolled.
3. Record and manage grades assigned to students for each subject.
4. Generate summary reports for individual students or classes to assess overall attendance and academic performance.

Scope

The system will be implemented using Java for application logic and SQL for data storage and retrieval. This project will utilize JDBC (Java Database Connectivity) to interact with a MySQL database. The system will feature basic CRUD (Create, Read, Update, Delete) operations for managing students, subjects, attendance records, and grades.

System Requirements

1. User Management:

- Each student has a unique ID, name, and email.
- Each subject is assigned a unique ID and name.

2. Attendance Tracking:

Track student attendance daily for each subject, marking students as "Present" or "Absent."

3. Grade Management:

Record grades for students in each subject.
low for grade updates as needed.

4. Reports:

View individual student attendance and grades across subjects.
Generate class-level attendance and performance summaries.

Functional Requirements

1. Student Registration: Add, view, update, and delete student information.
2. Subject Management: Add, view, and delete subjects.
3. Attendance Recording: Mark student attendance as "Present" or "Absent" for each class.
4. Grade Recording: Record and update grades for students in each subject.
5. Report Generation: Generate and view reports summarizing attendance and performance.

Non-Functional Requirements

1. Reliability: Ensure accurate data entry and retrieval for reliable attendance and performance tracking.
2. Usability: User-friendly interface for administrators and teachers.
3. Scalability: Able to manage records for a large number of students and subjects.

Solution Overview

The project will be built in Java using JDBC to connect with MySQL. Core functionality includes:

Student and Subject Management: Using CRUD operations to manage records.

Attendance and Grade Tracking: Recording attendance and grades per subject, with support for viewing and updating.

Reporting: Display individual and overall performance metrics for review.

Expected Outcomes

A fully functional Student Attendance and Performance System that provides educational institutions with an organized and efficient method for managing attendance and academic records, improving the ability to monitor and support student progress.