



Team Data Dynamics (CSC 675 Course Project)

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Introduction

- In this presentation, we will develop into the various aspects of database systems and explore the significance they hold in managing student data. Our primary focus will be on the Student-Teacher Interaction System and its importance in streamlining the entire process of managing student information.
- We will also examine the main features and benefits of our Student-Teacher Interaction System. This system has been specifically designed to simplify the process of managing student information by providing a centralized and organized platform for all stakeholders involved. We will also discuss the various technologies that were utilized to build this system and how they contribute to its efficiency.
- You will also gain a comprehensive understanding of the significance of database systems in managing student information. By the end of the presentation, you will get a better understanding to utilize database systems in their respective fields to effectively manage and maintain data, ensuring that they remain organized and accessible at all times.

Main Features

- The Student-Teacher Interaction that we have developed is an all-encompassing platform that enables administrators to effectively manage various aspects of student data. With this system, administrators can easily oversee and maintain student records, course schedules, attendance tracking, and grading. Additionally, the system boasts an online portal that allows students to conveniently access their records and communicate with faculty members.
- The online portal serves as a one-stop-shop for students, providing them with the flexibility and convenience to access their records and communicate with faculty members from any location. This feature has proven to be particularly useful for students who are unable to attend classes physically or need to reach out to faculty members outside of regular working hours.
- Our Student Management System comes with real-time notifications that keeps everyone updated on important deadlines and events. This ensures that both students and faculty members are well-informed and never miss important deadlines or events. The system's notification feature also allows administrators to quickly communicate any changes or updates to the entire student body, ensuring that everyone stays on the same page. Overall, our Student Management System is a comprehensive and efficient tool that facilitates effective communication and information management between students, faculty members, and administrators. With this system in place, managing student data has never been easier!

Design Description

- The student teacher interaction application that we are developing is a comprehensive solution that enables students to view their classes and corresponding grades. The application is also designed to facilitate communication between students and teachers, allowing teachers to update the grade of each student as needed. This system will streamline the grading process, making it easier for teachers to update grades and for students to stay informed about their academic progress.
- Our database is designed to support the four entities that are critical to the student-teacher interaction application: Student, Teacher, Class, and Grade. The Student entity will contain student-specific information such as their name, contact details, and other relevant information. The Teacher entity will contain information about the teachers who teach each class, including their name, contact information, and other relevant details.
- The Class entity will contain information about the classes that are being offered, including the course title, course code, and other relevant details. The Grade entity will contain information about the grades that are assigned to each student, along with the corresponding class and teacher information. With these four entities in place, the student-teacher interaction application will have all the necessary data to function efficiently and effectively.

Requirements For Data

The data requirements for each table are as follows:

- **Students table**: We need to store the data for all students enrolled in the school, including their name, id, date of birth, grade level, and contact information.
- **Teachers table**: We need to store the data for all teachers employed by the school, including their name, id, contact information, and the classes they teach.
- **Classes table**: We need to store the data for all classes offered by the school, including the class name, id, description, teacher, and students enrolled in each class.
- **Grades table**: We need to store the data for all grades assigned to students in each class, including the student, class, teacher, and grade score.

Constraints on the data

- Each student must have a unique identifier and name.
- Each teacher must have a unique identifier and name.
- Each class must have a unique identifier and name.
- Each grade must have a unique identifier and be associated with a specific student, class, and teacher.

Entities

	Data (underline is primary key)
Student	<u>student_id</u> , name, data_of_birth, grade_level, phone_number, email, address
Teacher	<u>teacher_id</u> , name, phone_number, email, address, classes_taught
Classes	<u>class_id</u> , name, description, teacher_id, students_enrolled
Grades	<u>grade_id</u> , student_id, class_id, teacher_id, grade

Entity Relationships

	Entities Involved and How
Teaches	A Teacher teaches a Class and teaches Students
Gives	A Teacher gives a Grade
Gets	A Student gets a Grade

Implementation

- Determine the features that you want to include in the application. Some basic features can include messaging, video conferencing, file sharing, and assignment submission.(Features we can add in our application)
- Create a user-friendly interface that allows both students and teachers to easily navigate through the application. Ensure that the design is intuitive and visually appealing.
- Overall, creating an effective student-teacher interaction application requires a combination of technical skills, design expertise, and an understanding of the needs of both students and teachers.

Live Demo of SQL Queries

- Now we will be showing a live demo of the SQL queries and functions on how they are implemented

