CAMARINES SUR
POLYTECHNIC COLLEGES
COLLEGE *of*
COMPUTER STUDIES

CCCS 105 - Information Management 1

Final Project
(Group 7)
Python Based Database Application

Student Record Management System

A Python-based application program that can access, store, and modify data from a database.

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Introduction

The Student Management System (SMS) database is a specialized application designed to make it easier for instructors to manage student academic records. This system provides a secure and user-friendly platform for instructors to input grades and remarks for their students. By leveraging a relational database management system (RDBMS), this application ensures data accuracy, integrity, and accessibility, ultimately contributing to a more efficient educational environment.

1 Project Description

The Student Record Management System (SRMS) is a web application built using Flask. The purpose of SRMS is to provide an efficient and user-friendly platform for educational institutions to manage their student data, course offerings, instructor information, and academic records. The application allow the users to add, update, edit and delete records from the database

2 Project Objectives

- The application aims to provide a straightforward and efficient interface for instructors to input and update student grades for overall course performance.
- Provide instructors with tools to generate reports on student performance, both for individual students and for entire classes.
- Develop a simple, easy-to-use interface tailored for instructors, minimizing the learning curve and making data entry quick and efficient.

3 Project Features

1. The application provides a user-friendly interface with different pages for managing students, courses, instructors, and grades.
2. Users can view records of students, courses, grades, and instructors.
3. Users can add a new record to all the tables by manually entering data to the database.
4. Users can edit the record in the tables (except for grades) by choosing from the existing data.
5. Users can delete records from the tables by selecting the specific table and confirming the deletion.
6. The application will only accept the correct data type in every table to avoid having wrong data in the records.
7. Student, course, instructor, and grade information is presented in a clear and organized manner, facilitating easy access and understanding.
8. Basic error handling is implemented to handle database connection issues and ensure smooth functioning of the application.

4 Technologies

- Python 3.11
- Flask Python Framework
- MySQL
- XAMPP MySQL Server
- HTML
- Bootstrap
- Diango

5 Business Rules

1. Instructors must input grades using the predefined grading scales and criteria.
2. Instructors must only put “passed” or “failed” remarks on the students.
3. Users must manually add a new record to the database if the data they want to update is not on the existing record of the database.
4. Users can only edit records that they have created
5. Student information should be presented in a clear and organized manner, including personal details, courses enrolled, and grades.
6. Course information should include course name, instructor details, enrollment status, and grades.

6 Models

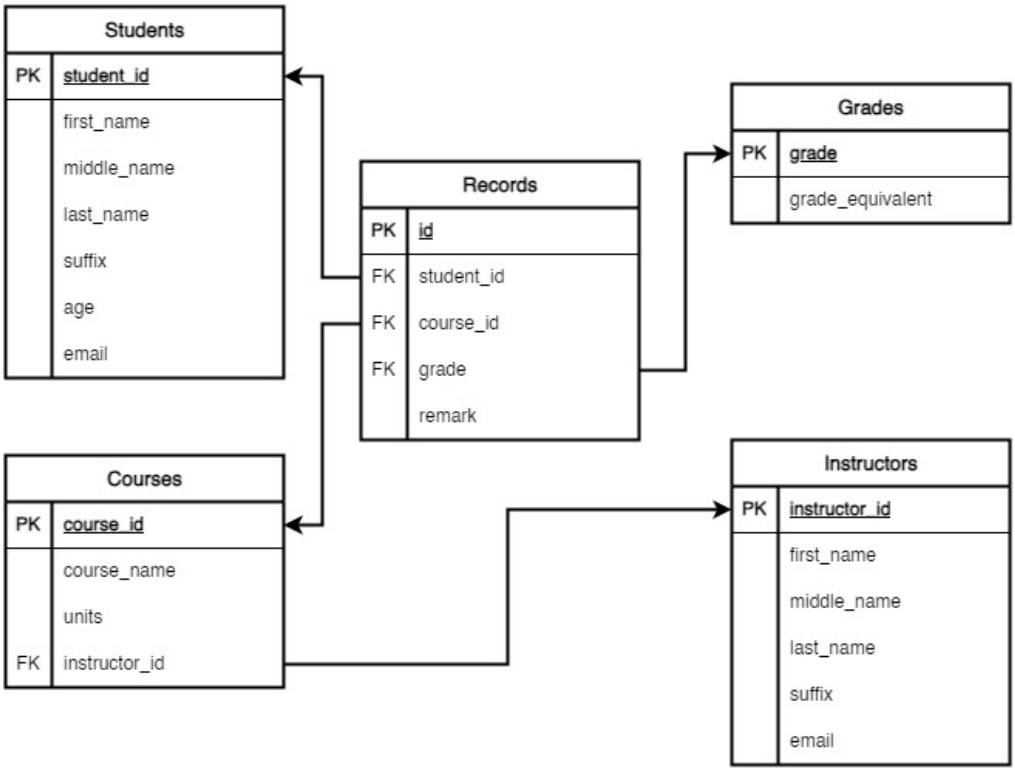

Figure 1: Relational Model

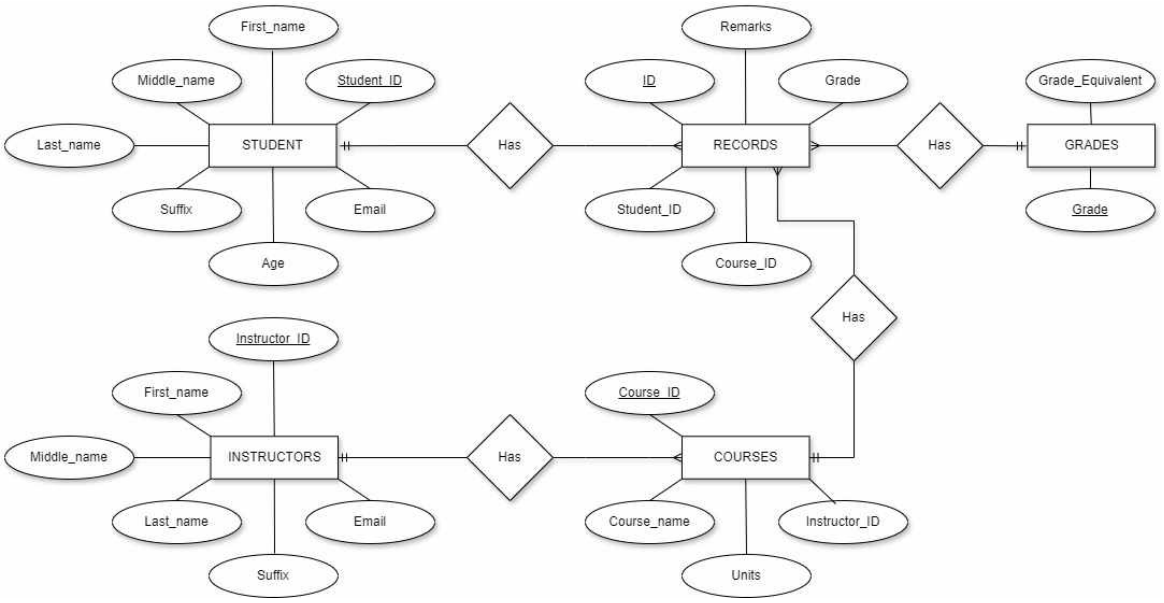

Figure 2: Entity Relationship Diagram