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CS 3380: Introduction to Databases & Information Systems

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Final Project: Phase 1

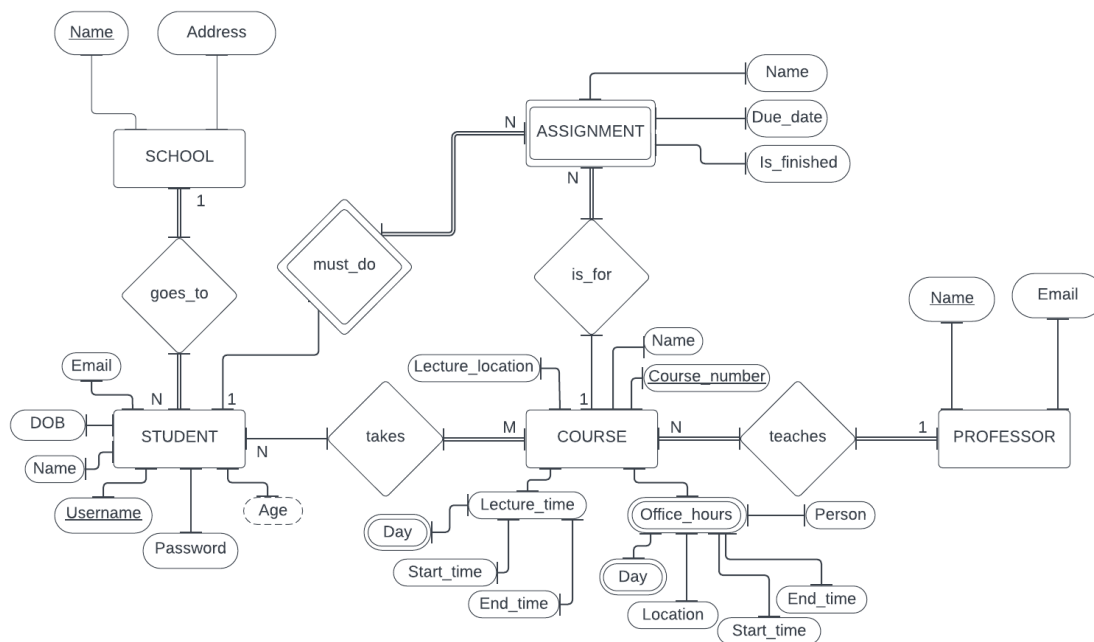
1. **Problem Statement:** I plan to build a database system that contains user information for a website. The website will serve as a virtual planner and will include a calendar feature, but it will be designed specifically for students. Therefore, it will include attributes such as the classes a student is taking and the assignments they have. The database for this project is essential because there will be a large amount of data that will dynamically alter the page depending on who the user is and what their schedule looks like. A database system is a much better alternative to storing user information in a file, as it is extremely efficient in comparison and efficiency is important to make sure the page does not take a long time to render.

2. **Conceptual Database Design:**

This design stores information about students, the schools they go to, their courses and assignments for those courses, and the professors that teach them.

Assumptions:

1. All classes are taught by exactly one professor.
2. Not all student users have added courses to their schedule.
3. All student users go to exactly one school.



3. **Database Functions:**

- a. **Add a class to a student's schedule:** This would involve checking if the course exists already in the table, and if not adding a new tuple. This would also involve the student entity that stores the student information, as well as the professor entity because the database requires that the course must have a professor. The assignment entity may also be involved, but it is not required like the others.

- b. Mark an assignment as finished: Along with the assignment entity, this would involve the student entity because the assignment is a weak entity type defined by the student.
- c. Adding a new student user: This would of course involve the Student entity. It would also involve the school entity because a student must go to a school in order to be in the database. The course entity might also be involved if the student immediately adds courses, but this is not required like the other two.