Database Development and Class Registration

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The implementation phase is a crucial step in developing a database-driven application. It involves translating the design specifications into a functional system. This phase focuses on creating the necessary tables in the MySQL database, connecting the application's pages to the backend database, and implementing features like class registration, listing registered classes, adding courses to a semester, and deleting classes from a schedule (Tsui, Karam, & Bernal, 2018).

Summary of the Implementation Process:

1. Create Tables within the MySQL Database: During this step, database tables are designed and created to store the necessary data. This involves identifying the required entities, their attributes, and defining relationships between tables. The schema is then implemented in the MySQL database using SQL statements to create the tables (Tsui et al., 2018). In my project, I created the following tables: ‘student’, ‘course’, ‘offering’, ‘waitlist’, ‘enrollment’, and ‘notification’
2. Connect Pages to the Backend Database: To enable data retrieval and manipulation, the application's pages need to be connected to the backend database. This involves establishing a connection using appropriate APIs or libraries provided by the programming language being used. The connection allows the application to interact with the database by executing SQL queries and retrieving or modifying data (Tsui et al., 2018). I
3. Create the Register for Classes: In this step, the functionality for class registration is implemented. The user interface is designed to allow users to select classes they want to register for. When a user submits the registration, the application processes the request and updates the corresponding tables in the database to reflect the registration.
4. List the Classes You Are Registered For: To provide users with information about their registered classes, the application needs to retrieve the relevant data from the database. This is typically achieved by executing SQL queries to retrieve the user's registered classes based on their unique identifier or session information. The retrieved data is then displayed on the user interface.
5. Add More Courses to Your Semester: To enable users to add additional courses to their semester, the application should provide a form or interface where users can input the necessary details of the course they wish to add. The application then processes the user's request, validates the information, and updates the appropriate tables in the database to reflect the addition of the new course.
6. Delete Classes from Your Schedule: To allow users to remove classes from their schedule, the application should provide a mechanism, such as a delete button or checkbox, for users to select the classes they want to remove. When the user triggers the deletion action, the application updates the database accordingly, removing the selected classes from the user's schedule.

Conclusion: The implementation phase of a database-driven project involves creating database tables, connecting pages to the backend database, and implementing features such as class registration, listing registered classes, adding courses, and deleting classes. It requires careful consideration of the project's design specifications, utilization of appropriate programming languages and APIs, and adherence to best practices for database design and development (Tsui et al., 2018).

**Screenshots**

**Search Courses**

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**Add Courses**

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References:

Tsui, F., Karam, O., & Bernal, B. (2018). Essentials of software engineering (4th ed.). Jones & Bartlett Learning.