



Modern Application Development I Project Report

Quiz Master Application

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Project statement for - Quiz Master - V1

It is a multi-user app (one requires an administrator and other users) that acts as an exam preparation site for multiple courses.

Description

The Quiz Master application is a comprehensive platform designed to manage quizzes, chapters, and subjects for both administrators and users. The platform supports two primary user roles: Admin and User. Admins can manage subjects, chapters, quizzes, and users, while users can explore quizzes, attempt them, and view their scores. The application ensures secure user registration, login, and session management, along with robust data validation and feedback mechanisms.

❖ Frameworks and Libraries Used :

- Flask: For routing, request handling, and rendering templates.
- Flask SQLAlchemy: For ORM-based database operations.
- Jinja2: For dynamic HTML templating.
- SQLite: For storing application data.
- Flask-Session: For secure session management.
- Bootstrap: For responsive front-end design.

❖ Architecture

- ❖ The Quiz Master application follows a Model-View-Controller (MVC) architecture, ensuring a clear separation of concerns:

❖ **Database:** SQLite is used as the database backend, with SQLAlchemy handling ORM operations.

❖ **Session Management:** Flask-Session is used to manage user sessions securely.

❖ Features of the application :

❖ User Management:

- User registration with validation for strong passwords.
- Login/logout functionality with session management.
- Admin can manage users, toggle user status (active/inactive), and view user scores.

❖ Quiz Management:

- Admin can add, edit, and delete subjects, chapters, quizzes, and questions.
- Admin can view scores for specific quizzes, chapters, or users.

❖ Quiz Attempt:

- Users can attempt quizzes and receive feedback on their answers.
- Scores are calculated and stored for each attempt.

❖ Role-Based Access:

- Admins have access to manage users, quizzes, and view scores.
- Users can explore quizzes, attempt them, and view their scores.

❖ Responsive Design:

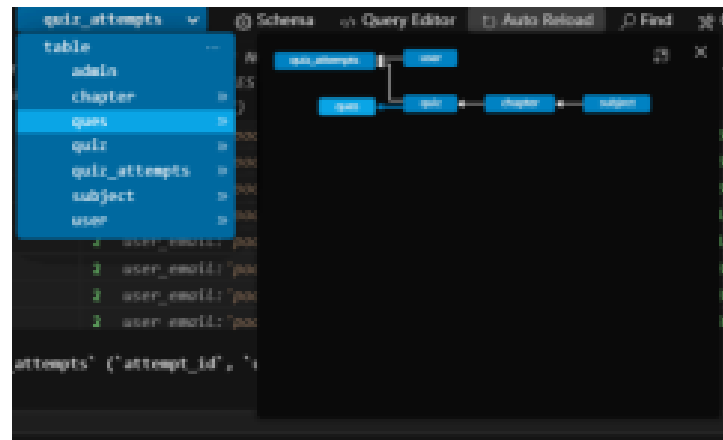
- The application uses Bootstrap for a responsive and user-friendly interface.

❖ Data Validation and Error Handling:

- Extensive validation for user inputs, including password strength, email format, and required fields.
- Flash messages are used to provide feedback for errors and operations.

❖ **Database Schema :** The database includes the following tables:

- This architecture and feature set ensure a robust and scalable quiz management system.



Presentation Video link:

https://drive.google.com/drive/folders/1fR-_5HVJVZoEqwnE141TZLmaXCtYkEv9?usp=sharing