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I hold a Bachelor's degree in Mathematics and a Master's degree in Operations Research from Delhi University. Currently, I am pursuing the Diploma level in the IIT Madras BS Degree program. I am passionate about problem-solving, data analysis, and building efficient systems, which aligns with my academic and professional interests.

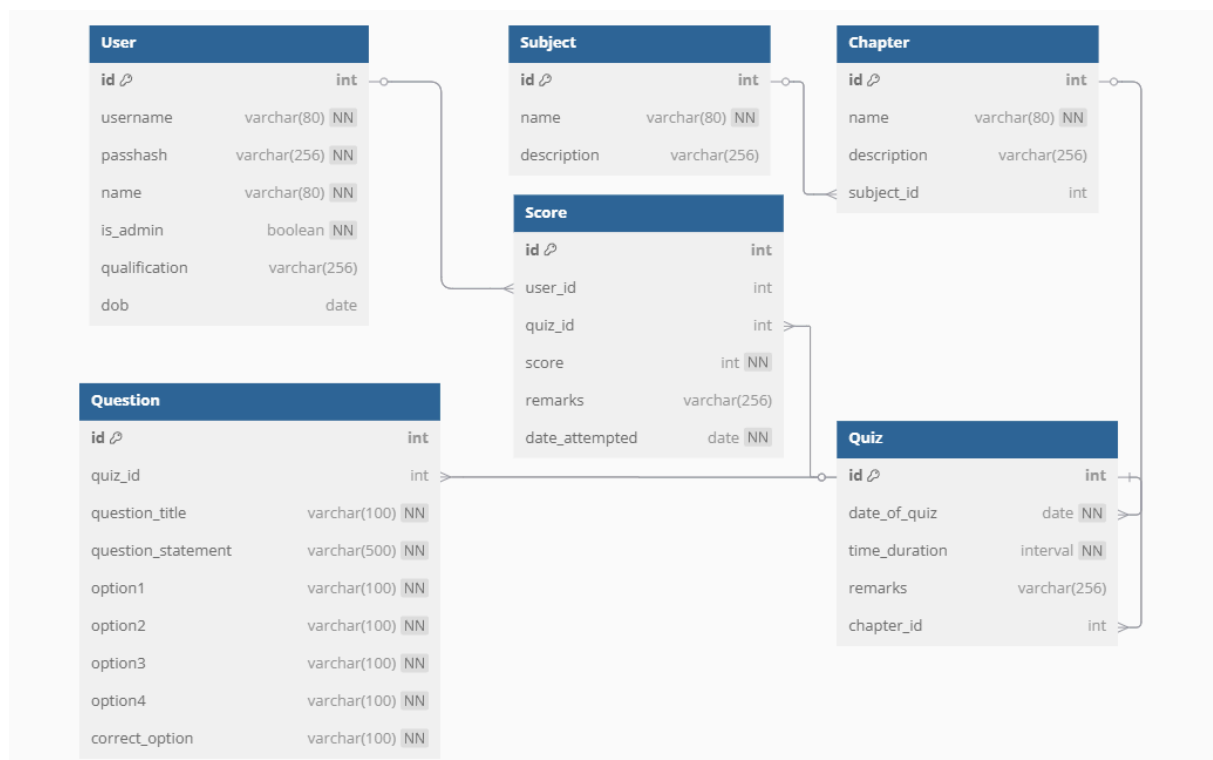
Description

This project aims to create a web-based quiz management system that allows users to take quizzes and admin to manage quizzes, users, and results.

Technologies used

- Flask (Backend Framework)
- SQLAlchemy (Database ORM)
- Bootstrap (Frontend Framework)
- Chart.js (Data Visualization)

DB Schema Design



Architecture and Features

Architecture

The project is organised using the Model-View-Controller (MVC) architecture:

- Controllers (Routes):
 - Located in the routes.py file.
 - Handle API requests, user authentication, and backend logic.
- Models:
 - Located in the models.py file.
 - Define the database schema using SQLAlchemy.
- Templates:
 - Located in the templates folder.
 - Render HTML pages for the user interface.

The project uses Flask as the backend framework, SQLAlchemy for database management, and Bootstrap for the frontend design.

Features

Default Features:

1. User Authentication:
 - Users can register, log in, and log out.
 - Passwords are securely hashed using werkzeug.security.
2. Quiz Management:
 - Administrators can create, update, and delete quizzes.
 - Quizzes are linked to chapters and subjects.
3. Question Management:
 - Administrators can add, update, and delete questions for quizzes.
 - Each question has four options and one correct answer.
4. Score Tracking:
 - User scores are recorded after each quiz attempt.
 - Scores are linked to users and quizzes.

Additional Features:

1. Search Functionality:
 - Users and administrators can search for subjects, quizzes, chapters, and questions using a search bar.
 - Implemented using query parameters (parameter and query) in the URL.
2. Admin Dashboard:
 - Admin can view and manage users, subjects, chapters, quizzes, and scores from a centralised dashboard.
 - Admin can view subject-wise and month-wise quiz attempts using bar and pie charts implemented using Chart.js for data visualization.

Video: [Link to vedio](#)