

Project Report: Quiz Master Web Application

1. Introduction

The Quiz Master web application is designed to allow users to take quizzes and track their progress, while administrators can manage quiz content.

Objectives:

- Implement user authentication with admin and user roles.
- Enable administrators to add subjects, chapters, and questions.
- Allow users to take quizzes and view scores.
- Provide a smooth quiz-taking experience.

2. System Design

Architecture:

- **Frontend:** HTML, CSS, Bootstrap
- **Backend:** Flask, SQLAlchemy
- **Database:** SQLite

Database Structure:

- **user_info:** Stores user details and roles.
- **subject:** Stores quiz subjects.
- **addchapter:** Stores chapters within subjects.
- **question:** Stores questions and correct answers.
- **quiz_attempt:** Stores users' quiz attempts and scores.

3. Implementation

- **User Authentication:** Register/Login with roles.
- **Admin Dashboard:** Manage quiz content.
- **Quiz System:** Users select a subject and chapter, answer questions, and receive scores.
- **Quiz History:** Users can view past quiz attempts.

4. Testing & Results

- Manual testing ensured proper functionality.
- Core features (registration, login, quiz-taking, and result tracking) passed testing.

5. Challenges & Solutions

- **Issue:** Managing quiz structure in the database.
 - **Solution:** Refined table relationships and optimized queries.
- **Issue:** Linking quiz attempts to users.
 - **Solution:** Implemented user sessions and proper foreign key relationships.

6. Conclusion & Future Enhancements

- Successfully developed a functional quiz platform.
- Future improvements: Leaderboards, detailed reports, and AI-based quiz recommendations.
- LINK TO VIDEO DEMO:
https://drive.google.com/file/d/1yDklkZxNY1DJFF8EgSP81qz1_dGUilK0/view?usp=drive_link