

# Quiz Master

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Roll No.24f2008926 | Program: BS Degree in Data Science and Applications | Level: DIPLOMA

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# 1. Project Statement – Quiz Master

Quiz Master is a multi-user application designed as an exam preparation platform for multiple courses. It supports two roles: an **Administrator** (Quiz Master) and **Users**. The administrator manages quizzes, while users can attempt quizzes and track their scores

## Technology used

- **Back-end:** Flask
- **Front-end:** Jinja2 templating, HTML, CSS, Bootstrap
- **Database:** SQLite

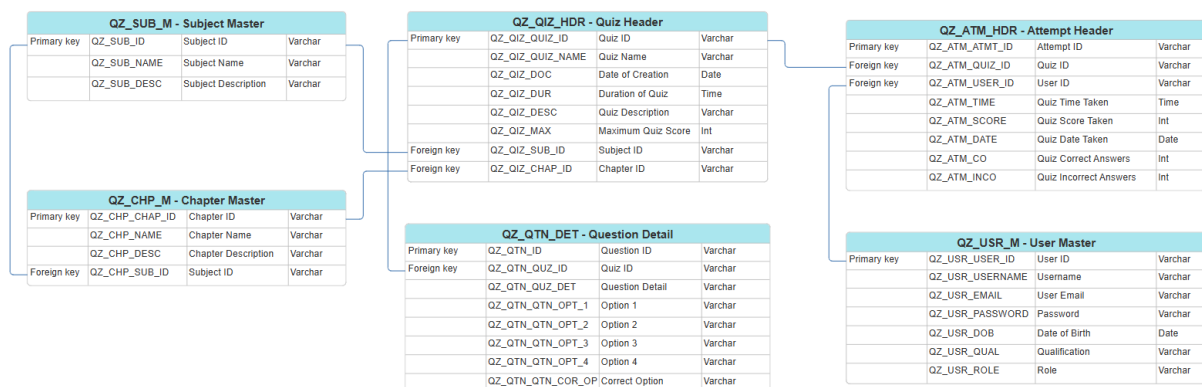
## Functional Requirement Specifications

Module wise

- Requirements
- Validations

# 2. System Design & Technical Specifications

- Database Design – SQL Lite
- Table specifications & ER Diagram



# 3. Architecture

- **Main.py:** Main entry point of the application
- **App:** contains all the templates folder, static folder, models and routes
- **Templates :** The necessary html files are stored here
- **Static:** Contains CSS and image files
- **\_\_init\_\_.py :** This is the file which initializes the application
- **Config.py :** The database connection is established in this file
- **Models.py:** Database schema is defined in this file
- **Routes.py :** This file contains all the necessary routes to run the app

```
QUIZ_MASTER_24F2008926
├── app
│   ├── __pycache__
│   ├── static
│   │   ├── # styles.css
│   │   ├── teacher.jpg
│   │   └── templates
│   │       ├── add_chapter.html
│   │       ├── add_question.html
│   │       ├── add_quiz.html
│   │       ├── add_subject.html
│   │       ├── base.html
│   │       ├── dashboard.html
│   │       ├── home.html
│   │       ├── login.html
│   │       ├── past_results.html
│   │       ├── quiz_result.html
│   │       ├── register.html
│   │       ├── report.html
│   │       ├── search_results.html
│   │       ├── take_quiz.html
│   │       ├── update_question.html
│   │       ├── view_chapter.html
│   │       ├── view_quiz.html
│   │       └── view_subject.html
│   ├── __init__.py
│   ├── config.py
│   ├── models.py
│   ├── routes.py
│   └── instance
├── ~WRL0003.tmp
├── main.py
└── project_report.docx
```

## 4. User Registration

### Admin Registration

#### *Functionalities*

- Only one admin exists in the system.
- Admin can create, edit, and delete subjects, chapters, quizzes, and questions.
- Admin can manage users and view analytics.

#### *Validations*

- System ensures only **one admin account** is present.
- Admin must log in using valid credentials.

### User Registration

#### *Functionalities*

- Users must register using a unique email.
- Users can log in and attempt quizzes.
- Users can attempt multiple quizzes multiple times.

### *Validations*

- **Unique Email Constraint:** Users cannot register with an already registered email.
- **Strong Password:** Password must be at least 8 characters, including a number and a special character.
- **Email Verification:** Users must verify their email before attempting quizzes.
- **Login Attempts Limit:** After 5 failed login attempts, the account is temporarily locked.

## 5. Master Data Management

### Subject & Chapter Master Data

#### *Functionalities*

- Admin can create multiple subjects.
- Each subject can have multiple chapters.

#### *Validations*

- **Unique Subject Name:** No duplicate subject names allowed.
- **Unique Chapter Name within Subject:** No duplicate chapter names under the same subject.

### Questions and Quiz Data

#### *Functionalities*

- Admin can create multiple quizzes under a chapter.
- Each quiz can have multiple questions.
- Admin can edit, create, or delete questions at any time.

#### *Validations*

- **Quiz Must Belong to a Chapter:** A quiz must be linked to a specific chapter.
- **Minimum Question Requirement:** A quiz must have at least 5 questions before it is published.
- **Unique Question Constraint:** No duplicate questions in the same quiz

## 6. Quiz Event Management

#### *Functionalities*

- Users can attempt any quiz of their choice.
- Multiple attempts are allowed for quizzes.
- Each attempt is recorded for analytics.

### *Validations*

- **Quiz Availability Check:** Users can only attempt quizzes that are published.
- **Time Limit for Quiz:** Each quiz has a set time limit for completion.
- **Auto-Submit on Timeout:** If the user doesn't finish within the given time, the quiz auto-submits.
- **Question Navigation Restriction:** Based on settings, users may not be able to go back to previous questions once answered.

## 7. Reports and Analytics

### User Dashboard

#### *Functionalities*

- Shows quiz attempts and performance stats for the user.
- Displays scores and history of quizzes taken.

#### *Validations*

- **Data Visibility:** Users can only view their own performance reports.

### Admin Dashboard

#### *Functionalities*

- Displays all quiz statistics.
- Shows user performance and participation metrics.
- Provides an overview of active quizzes and question banks.

#### *Validations*

- **Admin-Only Access:** Dashboard data is restricted to admin view only.
- **Real-Time Updates:** Scores and analytics update immediately after quiz completion.

## 8. Project demonstration video

### **Video link:**

<https://drive.google.com/file/d/1oD58pxonY8Lmib6AQNnfIF439LtJwJWg/view?usp=sharing>