**Quiz Master V2 – Final Project Report**

**1. Student Details**

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• Email ID: [Your registered IITM BS Email]

• Batch: App Dev II – Jan 2025

• Qualification: B.S. in Data Science and Applications

• Date of Birth: [DD-MM-YYYY]

**2. Problem Statement & Approach**

Problem Statement:  
Build a multi-user Quiz Master V2 application acting as an academic preparation platform. It must support two roles: Admin (Quiz Master) and Users, and enable CRUD operations for quizzes, subjects, chapters, and questions. Users can register, attempt quizzes, and view their performance statistics.

Our Approach:  
• Followed Flask + Vue 3 CLI architecture.  
• Divided into two clear roles: Admin handles subject, chapter, quiz, and question creation; Users register/login, attempt quizzes.  
• Used Celery + Redis for async jobs (user export, reminders, reports).  
• Fully responsive UI and role-based access using Flask sessions.

**3. ER Diagram**

Refer to the attached ER diagram image file for a detailed view of entities and relationships.

**4. API Resource Endpoints**

|  |  |  |
| --- | --- | --- |
| Method | Endpoint | Description |
| POST | /login | Login for both admin and users |
| POST | /register | Register a new user |
| GET | /subjects | Get list of subjects |
| POST | /subjects | Create a new subject (admin) |
| GET | /quizzes/<chapter\_id> | List quizzes under a chapter |
| POST | /quizzes | Create new quiz (admin) |
| POST | /quizzes/<quiz\_id>/attempt | Submit answers and calculate score |
| GET | /scores/<user\_id> | Get quiz history of a user |
| GET | /export/user/<id> | Trigger CSV export (user) |
| GET | /export/admin | Trigger admin performance CSV export |

**5. Frameworks & Libraries Used**

Backend:  
• Flask – Core API framework  
• Flask SQLAlchemy – ORM for SQLite  
• Flask-Login – Session-based auth  
• Celery – Async job handler  
• Redis – Message broker  
• Flask-Mail – Monthly reports  
• Google Chat Webhook – User alerts

Frontend:  
• Vue 3 (CLI based) – Component-based UI  
• Axios – API communication  
• Bootstrap 5 – Responsive styling  
• Chart.js – Charts for analytics

**6. Google Drive Link to Video Presentation**

🔗 [Insert Your Video Link Here] (Set to 'Anyone with the link can view')