

Quiz Master V2 - Project Report

Modern Application Development II – Jan 2025

Student Details

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Subject: Modern Application Development II (MAD II)

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Project Overview

Quiz Master V2 is a multi-user quiz management platform built for efficient exam preparation. It includes admin control for managing subjects, chapters, and quizzes, and user roles for registering, attempting quizzes, viewing scores, and downloading reports. The platform supports real-time quiz evaluation, scoreboards, and a full-featured user dashboard.

Key Features

- Admin can create/edit/delete subjects, chapters, and quizzes.
- Users can register/login and attempt MCQ quizzes with a timer.
- Score tracking with visual summaries using Chart.js.
- Monthly performance PDF reports.
- Daily reminder jobs and user-triggered CSV exports via Celery + Redis.
- Frontend built using VueJS 3 + Bootstrap, Backend powered by Flask and SQLite.

Frameworks and Libraries Used

Layer	Technology
Frontend	VueJS 3, Bootstrap
Backend	Flask, SQLite
Async Jobs	Celery, Redis
Reports & Charts	ReportLab (PDF), Chart.js

API Endpoints

Endpoint	Method	Description
/register	POST	User registration
/login	POST	Login for user/admin
/subjects	GET	Fetch all subjects
/addSubject	POST	Admin adds new subject
/addChapter/<subject>	POST	Add chapter to subject
/createQuiz/<chapter>	POST	Create quiz for chapter
/submitQuiz/<quiz_id>	POST	Submit quiz answers
/scores/<user>	GET	Fetch user's scores
/monthlyReport/<user>	GET	Trigger monthly PDF report
/csvExport/<user>	POST	Export quiz data as CSV

Asynchronous Jobs (Celery + Redis)

1. **Daily Reminder:** Sends evening reminders for new or unattempted quizzes.
2. **Monthly Report:** Auto-generated PDF sent on 1st of each month.
3. **CSV Export (User/Admin):** Download quiz performance or participation stats.

Database ER Diagram (Textual View)

The system includes the following major entities: - USERS (user_id, name, email, password, dob, qualification) - SUBJECTS (subject_id, name, description) - CHAPTERS (chapter_id, subject_id, name, description) - QUIZZES (quiz_id, chapter_id, date, duration, remarks) - QUESTIONS (question_id, quiz_id, question, options[], correct_answer) - SCORES (score_id, user_id, quiz_id, timestamp, total_score)

This report outlines the full development of Quiz Master V2 and satisfies all the academic and technical requirements as specified.