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## Milestones for Quiz Master - V2 Modern Application Development - 2

**Project:** Quiz Master - V2  
(MAD-II)

The milestones are divided into **Core Requirements**, **Recommended Enhancements**. Students can complete core milestones (1-10) in any order but recommended (milestone 11-12) need to be done only after the core is completed. Each milestone includes a **brief explanation** and a **Git commit message** to track progress. When you finish a milestone, use the exact **Git commit message** given in every milestone to save your work. Then, push the changes to GitHub to update the online version of your project.

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## Repository Setup (Mandatory)

**Expected Time:** 1 day**Completion****Progress:** 5%

- Create a **private GitHub repository** for version control.
- Add **README.md** with a basic project description.
- Create a **.gitignore** file to exclude unnecessary files.
- Set up a **Flask-VueJS project skeleton** and ensure it runs.
- Define an **issue tracker for milestone progress** in GitHub.
- Refer to the [git tracker document](#) to add **MADII-cs2006**



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[Adding Github  
Collaborator using  
VSCode and WSL](#)

### Git Commit

**Message:** Initialized  
private GitHub  
repository with  
README and  
.gitignore

## Core Milestones (1-9)

These milestones are  
**mandatory** for project  
completion.

### Milestone 1: Database Schema Design & Implementation

✓ **Expected Time:** 5-7  
days

 **Completion**  
**Progress:** 15%

- Define tables for  
User, Admin,  
Subject,  
Chapter, Quiz,



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- Set up relationships between tables (e.g., Subjects have multiple Chapters, Quizzes belong to Chapters).
- Ensure the database is programmatically created through a python script/file.

### Git Commit

**Message:** Created database schema for users, subjects, quizzes, and scores

## Milestone 2: Token-Based Authentication & Role-Based Access Control

**Expected Time:** 5 days**Completion****Progress:** 5%

- Implement **Token-based authentication** for Admin and Users.



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and login securely.

- **Role-Based Access Control (RBAC):**
  - Admin can **manage quizzes, users, subjects, and questions.**
  - Users can only **attempt quizzes and view their scores.**

#### Git Commit

**Message:** Implemented token-based authentication & RBAC

### Milestone 3: Admin Dashboard Management (Python API and VueJS UI)

✓ **Expected Time:** 7-9 days



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- **Create/Edit/Delete Subjects.**
- **Create/Edit/Delete Chapters** under a subject.
- **Create/Edit/Delete Quizzes** under a chapter.
- **Create/Edit/Delete Questions** under a quiz.
- Implement **VueJS UI for the admin dashboard and CRUD using Flask.**
- Admin should see a list of all users and their details in **VueJS UI.**

### Git Commit

**Message:** Built Admin dashboard using VueJS with CRUD operations for subjects, chapters, quizzes, and questions using API.



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**Expected Time:** 7 days**Completion****Progress:** 10%

- Users should see a list of **available subjects and quizzes**.
- Users should be able to **attempt a quiz** (MCQ format with one correct option).
- Add a **timer per quiz** and **instant feedback** for correct/incorrect answers.
- Store **quiz scores in the database**.

### Git Commit

**Message:** Developed User Dashboard with quiz attempt functionality and timer



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**Expected Time:** 5 days**Completion****Progress:** 15%

- Store quiz scores after submission.
- Users should see **past quiz attempts and scores.**
- Display a **quiz summary report** with total scores.

### Git Commit

**Message:** Implemented score tracking and quiz result display

## Milestone 6: Quiz Scheduling & Time Management

**Expected Time:** 4 days**Completion****Progress:** 10%

- Admin can **set quiz start date and time duration (HH:MM)**





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times.

- Implement **automatic quiz locking after expiry**.

### Git Commit

**Message:** Implemented quiz scheduling with time duration

## Milestone 7: Backend Jobs - Daily Reminders & Monthly Reports



**Expected Time:** 7 days



**Completion**

**Progress:** 10%

- Implement **Celery tasks** for:
  - **Daily Quiz Reminders** (via G-Chat/SMS/Email).
  - **Monthly Performance Reports** (sent



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processing.

### Git Commit

**Message:** Added  
Celery-based backend  
jobs for reminders &  
reports

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## Milestone 8: Search Functionality for Admin & Users

✓ **Expected Time:** 4 days  
📊 **Completion**  
**Progress:** 5%

- **Admin Search:** Find users, subjects, quizzes, questions.
- **User Search:** Find quizzes and subjects by keyword.

### Git Commit

**Message:** Added search  
functionality for  
Admin and Users

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**Expected Time:** 5 days**Completion****Progress:** 5%

- **User-triggered export:** Quiz history in CSV format.

**OR**

**Admin-triggered export:** User performance data in CSV.

- Use **Celery background tasks** to handle async exports.

### Git Commit

**Message:** Implemented  
async CSV export for  
quizzes & user data

## Milestone 10: API Performance Optimization &



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**Progress:** 5%

- Optimize API response times.
- Secure endpoints with rate-limiting ( use caching decorators ) .
- Use **Redis caching** for API optimization.

### Git Commit

**Message:** `Optimized  
API performance  
using redis cache`

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## Recommended Enhancements (Milestones 11-12)

These milestones are recommended but **not mandatory**.



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✓ **Expected Time:** 7 days

Improve **UI styling** using  
Bootstrap & VueJS.

- Ensure a **mobile-friendly and responsive layout**.
- Implement **frontend validation** (JavaScript) and **backend validation** (Flask).

### Git Commit

**Message:** Enhanced  
UI/UX and added  
frontend validation

## Milestone 12: Advanced Quiz Analytics & Leaderboard

✓ **Expected Time:** 7 days

- Display **detailed performance analytics** for users.



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progress tracking  
charts.

#### Git Commit

**Message:** Added  
advanced analytics  
and leaderboard  
feature

## Final Project Submission

### Milestone 13: Final Project Submission Details

✓ Expected Time: 2 days  
After, **Completion**  
**Progress is 100%.**

Ensure you submit the final  
project, including:

- Code ZIP file.
- 3-5 page report.
- 3-10 min video presentation.



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- The g-drive link must be included in the report for review. Report pdf should be added to the zip file.
- Ensure all **code is documented & structured**.

### Git Commit

**Message:** Finalized project submission with report and presentation link

## Tracking Progress

To track progress, you should:

1. **Use Git commits** for each milestone.
2. **Test functionality** after completing each milestone.
3. **Log issues** encountered



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## Timeline Overview

### Project Completion Overview

Milestone	Average Time Estimate	Split (%)	Progress (%)
Milestone 0: GitHub Setup	1 day	5%	5%
Milestone 1: Database Setup	5-7 days	15%	20%
Milestone 2: Authentication & RBAC	5 days	5%	25%
Milestone 3: Admin Dashboard	7-9 days	15%	40%
Milestone 4: User Dashboard & Quiz	7 days	10%	50%
Milestone 5: Score Management	5 days	15%	65%





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<b>Milestone 8:</b> Search Feature	4 days	5%	90%
<b>Milestone 9:</b> CSV Export	5 days	5%	95%
<b>Milestone 10:</b> Redis Cache	4 days	5%	100%

Extra Work  
Overview

Milestone	Average Time Estimate
<b>Milestone 11:</b> UI/UX & Responsive Design	7 days
<b>Milestone 12:</b> Advanced Quiz Analytics	7 days

Final Submission  
Overview

Milestone	Average Time
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Details	
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**Note:** *The average time estimate is not a strict deadline. Each student has a different level of understanding, so you can take the time you need. The provided time estimates indicate the average duration students typically take to complete each milestone if they dedicate 2-3 hours (approx.) per day.*