

Project Report

Online Quiz System (Java)

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Introduction

This project implements a simple console-based Multiple Choice Question (MCQ) Quiz System in Java. It allows administrators to add questions and students to take quizzes. Results are saved to CSV for record-keeping.

Functional Requirements

1. Load questions from CSV
2. Run shuffled quizzes
3. Add questions (admin)
4. Save results to CSV

Non-Functional Requirements

Usability, Reliability, Maintainability, Performance

Use Case Diagram - Online Quiz System

Actor: Student - Take Quiz -
View Results

Actor: Admin (Teacher) - Add
Questions - View Results

System: Online Quiz System -
Load questions from CSV -
Run Quiz Engine - Save
results

Class Diagram - Online Quiz System

Question - id - text - options - correctIndex + fromCSV() + toString()	model.Question
QuizResult - userName - totalQuestions - correctAnswers - takenAt	model.QuizResult
QuestionLoader - getAllQuestions() - addQuestion()	service.QuestionLoader
QuizEngine - runQuiz()	service.QuizEngine
ResultManager - saveResult() - getAllResults()	service.ResultManager
FileHandler - readAllLines() - appendLine() - overwrite()	util.FileHandler

Sequence Diagram - Take Quiz Flow

User -> Main Select 'Take Quiz'

Main -> QuizEngine
runQuiz(name, n)

QuizEngine -> QuestionLoader
getAllQuestions()

QuizEngine -> User show Q/A

QuizEngine -> ResultManager
(save) QuizResult

ResultManager ->
data/results.csv append
result

Architecture Diagram - Online Quiz System

UI: Console (Main)

Services: QuizEngine,
QuestionLoader,
ResultManager

Models: Question, QuizResult

Storage: data/questions.csv,
data/results.csv

Utils: FileHandler (CSV IO)