



Low Level Design Document

Introduction

This Low Level Design (LLD) document outlines the implementation details for **Quizzzy - Interactive JavaScript Quiz**. Quizzzy is a React application built with TypeScript and Tailwind CSS, designed to test users on JavaScript fundamentals through dynamic quizzes and real-time scoring.

1. System Components

Component	Description	Key Responsibilities
QuizContainer	Main quiz logic and state management	Load questions, manage progress, score
QuestionCard	Displays current question and options	Render question, handle answer select
ScoreDisplay	Shows final score and feedback	Display results, restart option
QuestionService	Provides question data (static/dynamic)	Fetch/serve questions

2. Class/Interface Overview

Name	Type	Description	Key Methods/Props
QuizContainer	Component	Manages quiz state and flow	handleAnswer , nextQuestion
QuestionCard	Component	Renders question and options	onSelectOption , question
ScoreDisplay	Component	Shows score and restart button	score , onRestart
Question	Interface	Question data model	id , text , options , answer
QuestionService	Module	Supplies questions	getQuestions()

Relationships:

- QuizContainer uses QuestionService to fetch questions, renders QuestionCard for each question, and shows ScoreDisplay at the end.

3. Data Structure Overview

Field	Type	Description
id	string	Unique question identifier
text	string	Question text
options	string[]	List of answer options
answer	string	Correct answer



```
interface Question {  
  id: string;  
  text: string;  
  options: string[];  
  answer: string;  
}
```

4. Algorithms / Logic

Quiz Flow Pseudocode:

```
questions = getQuestions()  
current = 0  
score = 0  
  
while current < questions.length:  
  display questions[current]  
  userAnswer = getUserSelection()  
  if userAnswer == questions[current].answer:  
    score += 1  
  current += 1  
  
displayScore(score)
```

5. Error Handling

Scenario	Handling Approach
Failed to load questions	Show error message, retry option
Invalid user input	Ignore, prompt user to select an option
Unexpected component error	Fallback UI, log error

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