Software Requirements Specification (SRS)

Quiz Management and Examination System (Streamlit Web Application)

Version 1.0
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1. Introduction

1.1 Problem Definition

Traditional quiz creation and exam administration often rely on manual or semi-manual processes such as printed exams, simple Google Forms, or disconnected tools that do not provide real-time control, secure question management, or consistent evaluation.

These methods introduce several challenges:

- Difficulty creating and managing multiple exams and question banks.

- Lack of a unified system for teachers and students.

- No automated scoring with detailed analytics.

- Limited tracking of students' performance.

- No centralized storage or role-based access control.

As the need for digital examinations grows—especially in universities and training centers—a system is required to support digital quiz creation, timed examinations, automated scoring, and performance analytics through a modern and user-friendly interface.

The **Quiz Management and Examination System** addresses these issues by providing a centralized web platform built using **Python + Streamlit** for teachers and students. It enables easy exam creation, secure question storage, timed assessments, automated scoring, and student performance reports.

1.2 Purpose

The purpose of this Software Requirements Specification (SRS) document is to define all functional and non-functional requirements for the Quiz Management and Examination System.

This document ensures that:

- **Developers** understand system modules and interactions.

- **Testers** can validate features and behaviors.

- **Instructors/clients** can confirm that the system fulfills the educational objectives.

The document describes:

- Quiz creation and management features.

- Student exam-taking workflow.

- Authentication, timing, scoring, and report generation.

- Streamlit-based user interface.

- Database design and dependencies.

1.3 Scope

The Quiz Management and Examination System is a **web-based Streamlit application** designed for teachers and students in academic environments.

User Roles

- **Teacher (Admin)**
  Creates and manages exams, questions, and results.

- **Student**
  Takes exams, views scores, and tracks performance.

- **System Admin (optional future role)**
  Manages users and system configurations.

Core Features

- User registration and login.

- Exam creation, editing, and deletion.

- Question bank with multiple-choice questions.

- Timed examinations (per question or full exam timer).

- Automated scoring and incorrect answer breakdown.

- Student performance reports.

- Secure database storage (SQLite).

- Web interface built using Streamlit.

Not Included in This Version

- Payment systems.

- AI-based question generation.

- Multimedia question types.

- Mobile application.

1.4 Definitions, Acronyms, and Abbreviations

Term	Definition
SRS	Software Requirements Specification
UI	User Interface
DBMS	Database Management System
CRUD	Create, Read, Update, Delete
Exam	A structured set of questions assigned to students
MCQ	Multiple-Choice Question
Student	User who takes exams
Teacher	User who creates exams
Streamlit	Python framework used to build the web application