Software Requirements Document

Project Title: Testing System

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1. Business Overview

The Testing System is a lightweight application designed to facilitate test creation, participation, and result evaluation for academic or training purposes. This system eliminates unnecessary complexity, focusing on streamlined functionality to support basic testing needs.

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2. Stakeholders

- **Test Takers**: End-users who participate in the tests.
- **Admin**: The administrator managing tests and user accounts.
- **Developers**: Responsible for building and maintaining the system.
- **System Owner**: Overseas deployment and maintenance.

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3. Scope

- Allow **Test Takers** to register, log in, take tests, and view results.
- Allow **Admins** to create, edit, and assign tests, manage users, and view results.
- Allow users to have only one role (either **Admin** or **Test Taker**).
- Provide a simple and responsive user interface for all users.

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4. Functional Requirements

4.1 User Management

- **Test Taker Requirements**:
  - Register with first name, last name, gender, email, and password.
  - Log in using email and password.
  - Access assigned tests.
  - View test results (title, date, score, and status).

- **Admin Requirements**:
  - Manage user accounts:
    - Add new Test Takers.
    - Update or deactivate user accounts.
  - Authenticate using secure login credentials.

4.2 Test Management

- **Admin**:
  - Create new tests:
    - Define test title, description, duration, number of questions, passing score and settings like shuffling test questions, randomly picking questions (if there would be more available questions).
    - Add questions (MCQ, Checkboxes, True/False, Short Answer, Essay, Matching, Fill-in-the-Blank). Each question can be worth different points, ranging from 0 to 5 (allowing only natural numbers).
  - Update or delete tests.
  - Assign tests to specific Test Takers by specifing test date and time.

4.3 Test Participation

- **Test Taker Requirements**:
  - Access assigned tests during active periods.
  - View submission confirmation upon test completion.

4.4 Results Management

- Automatically evaluate test submissions based on predefined criteria (except manual review is needed, for example with short answer or essay questions) .
- Allow Admins to view test-taker performance.
- Provide pass/fail status for Test Takers.

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5. Non-Functional Requirements

5.1 Performance

- System supports up to 50 concurrent users.
- Test submissions process within 2 seconds.

5.2 Usability

- Design interfaces to prioritize simplicity and clarity.

- Ensure mobile and desktop compatibility.

5.3 Security

- Secure password storage (e.g., hashed using bcrypt).

- Restrict access by roles (Admin/Test Taker).

- Use HTTPS for all communications.

5.4 Maintainability

- Implement modular design for ease of future development.

- Provide well-documented API endpoints for all operations.

5.5 Data Integrity

- ==Real-time autosave during tests.==

- Daily backup of the database.

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6. Assumptions and Constraints

- The system will operate in a cloud-hosted environment.

- Initial user base limited to small organizations or groups.

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7. Future Considerations

- Include email notifications for test assignments and results.

- Implement analytical dashboards for Admins.

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8. Glossary

- **Test Taker**: User who participates in a test.

- **Admin**: User with permissions to create and manage tests and users.

- **Test**: A set of predefined questions assigned to users.

- **Result**: A score or status assigned to a Test Taker based on test performance.

- **Test Event**: A scheduled event assigned by an Admin, in which a Test Taker participates at a specific date and time.

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