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| Njaz.org |
| Requirement Analysis |
| Arabic Psychometrics and Surveys Application |

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Requirement Analysis Document

# Introduction

## Purpose

The purpose of this document is to provide a detailed analysis of the requirements for the Arabic Psychometrics and Surveys Application. It outlines the features and functionalities of the application, defines user roles, describes use cases, and specifies the requirements needed to develop the application.

## Scope

This document covers the functional and non-functional requirements of the application. It is intended to serve as a guide for the development team, ensuring that all necessary features are implemented and that the application meets the needs of its users.

## Audience

The primary audience for this document includes project stakeholders, developers, QA engineers, and any other team members involved in the development of the application.

# Features and Functionalities

## Core Features

1. **User Registration and Authentication**
   * Secure login and registration for researchers.
   * Role-based access control.
2. **Psychometric Creation**
   * Tools for creating new psychometric tests.
   * Customizable question formats and scoring methods.
3. **Survey Creation**
   * Ability to create surveys using one or more psychometrics.
   * Flexible survey design options.
4. **Database Integration**
   * Access to a repository of existing psychometrics.
   * Import and export functionality.
5. **Survey Publishing**
   * Generate and share survey links.
   * Options for survey anonymity and data protection.
6. **Data Analysis and Statistics**
   * Real-time data collection and visualization.
   * Advanced statistical tools for in-depth analysis.
7. **Payment Processing**
   * Integration with payment gateways for subscription and pay-per-use models.

## Additional Features

1. **User Dashboard**
   * Overview of active surveys and statistics.
   * Access to account settings and preferences.
2. **Notification System**
   * Email and in-app notifications for survey updates and results.
3. **Multilingual Support**
   * Primary focus on Arabic with potential for other languages in future updates.

# User Roles

## Researcher

* **Responsibilities**:
  + Create and manage psychometric tests and surveys.
    - **Details**: Researchers should have access to tools for creating, editing, and deleting psychometric tests and surveys.
  + Analyze survey results.
    - **Details**: Researchers need access to both basic and advanced statistical analysis tools to interpret survey data effectively.
  + Manage account settings and payment options.
    - **Details**: Researchers should be able to update their profile information, change passwords, and manage subscription or payment details.

## Survey Participant

* **Responsibilities**:
  + Complete surveys shared by researchers.
    - **Details**: Participants should be able to access and fill out surveys seamlessly. The system should ensure that the process is user-friendly and intuitive.
  + Provide feedback on survey experience.
    - **Details**: Participants should have a mechanism to provide feedback on the survey-taking experience, which can help in improving future surveys.

## Admin

* **Responsibilities**:
  + Manage the application’s user base.
    - **Details**: Admins should be able to create, update, and delete user accounts. They should also be able to assign roles and permissions.
  + Oversee system operations and maintenance.
    - **Details**: Admins need access to system logs, performance metrics, and tools for monitoring the health of the application. They should ensure that the application is running smoothly and address any operational issues promptly.
  + Handle customer support and issue resolution.
    - **Details**: Admins should manage support tickets, respond to user queries, and resolve any issues faced by researchers or participants. They should have tools to track and manage customer support interactions.

# Use Cases

## Use Case 1: User Registration and Login

* **Actors**: Researcher
* **Description**: A researcher registers for an account and logs into the application.
* **Preconditions**: The researcher has access to the application.
* **Steps**:
  1. Researcher navigates to the registration page.
  2. Researcher fills in required information (e.g., name, email, password).
  3. System sends a verification email to the researcher.
  4. Researcher clicks on the verification link in the email.
  5. System verifies the account and allows the researcher to log in.
  6. Researcher logs in using email and password.
* **Postconditions**: Researcher is successfully registered and logged into the application.
* **Exceptions**:
  1. If email is already registered, show an error message.
  2. If the password does not meet security requirements, prompt for a stronger password.

## **Use Case 2: Create Psychometric Test**

* **Actors**: Researcher
* **Description**: A researcher creates a new psychometric test with customizable questions and scoring methods.
* **Preconditions**: Researcher is logged into the application.
* **Steps**:
  1. Researcher navigates to the psychometric test creation page.
  2. Researcher enters the test name and description.
  3. Researcher adds questions with various formats (e.g., multiple-choice, Likert scale).
  4. Researcher defines scoring methods for each question.
  5. Researcher saves the psychometric test.
* **Postconditions**: The psychometric test is created and saved in the system.
* **Exceptions**:
  1. If required fields are missing, prompt the researcher to fill them in.
  2. If there is an error saving the test, show an error message.

## **Use Case 3: Create Survey**

* **Actors**: Researcher
* **Description**: A researcher creates a survey by selecting one or more psychometric tests from the database.
* **Preconditions**: Researcher is logged into the application and has created at least one psychometric test.
* **Steps**:
  1. Researcher navigates to the survey creation page.
  2. Researcher selects one or more psychometric tests from the database.
  3. Researcher configures survey settings (e.g., survey title, description, instructions).
  4. Researcher saves the survey.
* **Postconditions**: The survey is created and saved in the system.
* **Exceptions**:
  1. If no psychometric tests are available, prompt the researcher to create one first.
  2. If required fields are missing, prompt the researcher to fill them in.

## **Use Case 4: Publish and Share Survey**

* **Actors**: Researcher
* **Description**: A researcher publishes a survey, generates a shareable link, and shares it using various methods (e.g., email, Facebook, WhatsApp).
* **Preconditions**: Researcher is logged into the application and has created a survey.
* **Steps**:
  1. Researcher navigates to the survey management page.
  2. Researcher selects the survey to be published.
  3. Researcher configures publishing settings (e.g., survey duration, anonymity options).
  4. Researcher publishes the survey.
  5. System generates a unique shareable link for the survey.
  6. Researcher shares the survey link via email, Facebook, WhatsApp, and other methods.
  7. Researcher can activate or deactivate the survey link as needed.
  8. Researcher sets a threshold for auto-deactivation or receives notifications when the threshold is met (e.g., a specific number of responses or a time limit).
* **Postconditions**: The survey is published, and the link is shared with participants.
* **Exceptions**:
  1. If there is an error generating the link, show an error message.
  2. If there is an issue sharing the link, prompt the researcher to retry.

## **Use Case 5: Participate in Survey**

* **Actors**: Survey Participant
* **Description**: A participant completes a survey using the link provided by the researcher.
* **Preconditions**: Participant has access to the survey link.
* **Steps**:
  1. Participant clicks on the survey link.
  2. Participant completes the survey by answering all questions.
  3. Participant submits the survey.
* **Postconditions**: Survey responses are recorded in the system.
* **Exceptions**:
  1. If the survey link is invalid or expired, show an error message.

## **Use Case 6: Analyze Survey Results**

* **Actors**: Researcher
* **Description**: A researcher views and analyzes the results of a completed survey using the application’s statistical tools.
* **Preconditions**: Researcher is logged into the application and the survey has responses.
* **Steps**:
  1. Researcher navigates to the survey analysis page.
  2. Researcher selects the survey to analyze.
  3. The system displays survey responses and basic statistics.
  4. Researcher uses advanced statistical tools for in-depth analysis (if available).
* **Postconditions**: Researcher can view and interpret survey results.
* **Exceptions**:
  1. If no responses are available, inform the researcher.

## Use Case 7: Process Payment

* **Actors**: Researcher
* **Description**: A researcher makes a payment for accessing advanced statistical features or subscribing to a plan.
* **Preconditions**: Researcher is logged into the application.
* **Steps**:
  1. Researcher navigates to the payment page.
  2. Researcher selects the subscription plan or advanced features.
  3. Researcher enters payment details.
  4. System processes the payment.
  5. Researcher receives confirmation of payment.
* **Postconditions**: Payment is processed, and researcher has access to advanced features or subscription plan.
* **Exceptions**:
  1. If payment fails, show an error message, and allow retry.

## Additional Features to Mention

* **Sharing Methods**: The system shall provide options to share survey links via multiple channels such as email, Facebook, WhatsApp, and others.
* **Survey Activation/Deactivation**: Researchers can activate or deactivate survey links as needed.
* **Threshold Notifications**: Researchers can set thresholds for survey responses or time limits and receive notifications when these thresholds are met. The system can also auto-deactivate surveys based on these thresholds.

# Requirements Specification

## Functional Requirements

### Core Functionalities (Initial Release) - High Priority

1. **User Registration and Authentication**
   * The system shall allow researchers to register and log in securely.
   * The system shall provide role-based access control.
2. **Psychometric Creation**
   * The system shall allow researchers to create new psychometric tests with customizable question formats.
   * The system shall allow for different scoring methods for psychometric tests.
3. **Survey Creation**
   * The system shall enable researchers to create surveys using existing or new psychometric tests.
   * The system shall provide flexible survey design options.
4. **Database Integration**
   * The system shall provide access to a repository of existing psychometrics.
   * The system shall support the import and export of psychometric data.
5. **Survey Publishing**
   * The system shall generate shareable links for published surveys.
   * The system shall provide options for survey anonymity and data protection.
6. **Basic Data Analysis and Statistics**
   * The system shall collect and visualize survey data in real-time.
   * The system shall provide basic statistical tools for initial analysis (e.g., mean, median, mode, standard deviation).

### Advanced Features (Subsequent Iterations) - Medium Priority

1. **Advanced Data Analysis and Statistics**
   * The system shall provide advanced statistical tools for in-depth analysis (e.g., regression analysis, ANOVA, principal component analysis).
   * The system shall integrate libraries for advanced data analysis (e.g., Python with AWS Lambda).
   * The system shall include complete documented reporting capabilities.
2. **Payment Processing**
   * The system shall integrate with payment gateways for processing subscriptions and pay-per-use models.
   * The system shall provide detailed payment options for accessing advanced statistical features.
   * The system shall manage subscriptions and pricing details for advanced features.

## Non-Functional Requirements

1. **Performance**
   * The system shall handle concurrent users efficiently.
   * The system shall load survey data within acceptable time frames.
2. **Security**
   * The system shall ensure secure user authentication and data protection.
   * The system shall comply with relevant data protection regulations.
3. **Usability**
   * The system shall have a user-friendly interface.
   * The system shall provide clear instructions and help options.
4. **Scalability**
   * The system shall be scalable to accommodate a growing user base.
   * The system shall support future enhancements and additional features.
5. **Reliability**
   * The system shall have high availability and minimal downtime.
   * The system shall provide reliable data storage and backup mechanisms.