Software Requirements Specification

for

Academic Promotion System (APS)

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version
ASP	20/24/2024	Outdated, inefficient design that doesn't reflect the business logic	V 1.1
ASP	23/24/2024	Added figma design and UI analysis	V 1.2

1. Introduction

1.1 Purpose

This Software Requirements Specification (SRS) document defines the functional and non-functional requirements and specifications for the **Academic Promotion System (APS)** used by a major governmental institution in Egypt **(SCU: Supreme Council of Universities)**. The APS facilitates the generation of **Impact Factor (IF) Reports** and **Plagiarism Reports (PR)** as part of the academic promotion process for applicants advancing to associate professor or full professor roles. The scope of this document focuses on the refactoring and modernization of the system's frontend technology to improve user experience and operational efficiency. It covers the requirements for the existing workflows and how to address them with a new UI.

1.2 Document Conventions

This document adheres to the following conventions:

- **Bold** text indicates primary terms or roles.
- *Italicized* text highlights examples or scenarios.
- Requirements are categorized and labeled as **[FR-xx]** for functional requirements and **[NFR-xx]** for non-functional requirements.
- Figma diagrams are included in the appendices for clarity and visualization.

1.3 Intended Audience and Reading Suggestions

This SRS document is intended for:

- **Developers**: To understand the functional and technical requirements for refactoring the system.
- **Project Managers including SCU**: To oversee project planning, execution, and ensure alignment with institutional goals.
- **Testers**: To design and execute test cases based on the documented requirements.
- **Operational and Technical Staff**: To facilitate system integration, deployment, and maintenance.
- **End Users**: To review requirements and provide feedback on the user interface and workflow improvements.

Readers are encouraged to start with **Section 1 (Introduction)** for an overview, followed by **Section 2 (General Description)** for context, and then proceed to specific requirements sections based on their role and interest.

1.4 Product Scope

The **Academic Promotion System (APS)** is designed to streamline and digitize the academic promotion process, ensuring fairness, accuracy, and compliance with institutional standards. Its primary objectives include:

- Facilitate the preparation and revision of **Impact Factor (IF)** and **Plagiarism (PR)** reports.
- Enhancing operational efficiency by modernizing the frontend technology.
- Creating a friendly user interface that facilitates the interactions with the end user.

Key Benefits:

- Improved user experience for applicants and system users through a modern interface.
- Easier to use resulting in faster processing times for applications.
- Highlight the process of creating an application to always keep the applicant on track.
- Easier access to help like user guide and contacting information.
- Enhance the application management by the applicant to be more clear.
- User friendly and enhanced interface using comfortable colors and modern styles.

The system aligns with the institution's goal of promoting academic excellence and maintaining rigorous standards in the promotion process.

1.5 References

[The IEEE standard format](#)

[The website to be refactored](#)

[Elicitation Reports](#)

2. Overall Description

2.1 Product Perspective

The **Academic Promotion System (APS)** is an enhancement for the existing system used by the supreme council of Universities in Egypt SCU to facilitate academic promotions. It aims to address limitations in the current design that doesn't reflect the business logic by adopting a modern frontend framework while retaining compatibility with the existing backend making the interface more modern and better in reflecting the logic of the system and integrated systems. The APS is a critical component within a larger ecosystem, which includes systems for academic evaluation and promotion processing and within this document we will enhance the applicant interface.

2.2 Product Functions

Homepage:
- Create a new user or login to an existing one.
- Search bar to facilitate the navigation.
- Explanation video and explainable text about the platform.

User Guide:
- Having texts and videos to help the user navigate through the system.

Personal Profile:
- Manage your personal information and save them.

My applications:
- View and manage all my applications and fast access to required steps to make.

Application information:
- Being able to see the application through its different phases through the steps, manage and print it.

Creating Application:
- Being able to create a new application and upload the required papers.

Payment:

- Being able to proceed payment easily seeing the fees and information about the payment.
- Access the payment receipt after it's done.

2.3 User Classes and Characteristics

The APS serves multiple user classes, each with distinct roles and characteristics:

1. **Academics (Applicants)**:
    ○ Frequency of use: Occasional.
    ○ Characteristics: Limited research expertise; focus on submitting and tracking applications.
2. **Voucher**:
    ○ Frequency of use: Regular.
    ○ Characteristics: Moderate technical expertise; responsible for application validation.
3. **Coordinator**:
    ○ Frequency of use: Frequent.
    ○ Characteristics: Organizational skills to assign tasks efficiently.
4. **Preparation Personnel**:
    ○ Frequency of use: Frequent.
    ○ Characteristics: Research experts; focus on generating reports.
5. **Revision Personnel**:
    ○ Frequency of use: Frequent.
    ○ Characteristics: Senior research experts; validate report accuracy.
6. **Operational Admin**:
    ○ Frequency of use: Frequent.
    ○ Characteristics: High technical and research expertise; oversight and troubleshooting responsibilities.
7. **Super Admin**:
    ○ Frequency of use: Rare.
    ○ Characteristics: Senior management; focuses on monitoring system KPIs and generating reports.

2.4 User Documentation

There is a quick start guide available on the website of SCU:

https://dlumis.scu.eg/user_guide

Also you can download the manual user guide through:

https://dlumis.scu.eg/user_guide/pdf

And there is a video to illustrate the process visually through:

https://dlumis.scu.eg/video_guide

2.5 Assumptions and Dependencies

Assumptions:

- The existing backend and integration APIs will remain operational and stable during the development and deployment phases of the frontend.
- Backend fully reflects the required business logic and we are only building a better UI.

Dependencies:

- Dependency on existing backend systems for data storage, processing, and external integrations.
- Reliance on secure and reliable network infrastructure for communication between the frontend and backend.
- Use of third-party libraries or frameworks for frontend development, which must be actively maintained by their communities.
- Support from the IT department to ensure smooth deployment and maintenance of the system.
- Use of BanqueMisr payment gateway.

3. External Interface Requirements
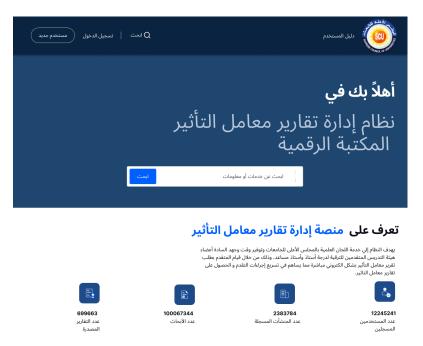
3.1 User Interfaces

This section describes the logical characteristics of the user interfaces (UIs) for the Academic Promotion System (APS). The UI is designed to improve user experience by adopting modern frontend frameworks and adhering to usability principles. Detailed UI designs are provided in the appendices as annotated images for reference.

3.1.1 General Interface Characteristics

- **Style and Consistency**: The UI adheres to a unified style guide, ensuring consistency across all screens. This includes:
  - Comfortable colors for improved readability and reduced eye strain.
  - Modern, intuitive layout with clear navigation pathways.
  - Standardized fonts, icons, and button styles across all pages.
- **Responsive Design**: The interface is optimized for use on various devices, including desktops, tablets, and mobile phones.
- **Standards:** The user can access the contacts and help in any page and the identity of SCU is preserved.

3.1.2 Key UI Components

1. **Homepage**:

- ○ **Features**:
  - ■ Login and registration buttons.
  - ■ Search bar for navigating the system.
  - ■ Embedded explanation video and textual descriptions of the platform's purpose and functionalities.
- ○ **Visual Layout**: Includes a banner with institutional branding, prominent call-to-action buttons, and a quick access panel for help resources.

2. **User Guide**:

- ○ **Features**:
    - ■ Access to text-based and video tutorials for navigating the system.
- ○ **Visual Layout**: Starts with a textual explanation followed by many explanatory videos for the different phases in our platform.

3. **Personal Profile**:

○ **Features**:
  ■ Manage and edit personal information where you can first create your account then another UI to update your information later on.
  ■ Save changes and view data in an organized format.
○ **Visual Layout**: Tabbed interface for different sections (e.g., Personal Details, Contact Information).

4. **My Applications**:

- ○ **Features**:
  - ■ Button to create a new application.
  - ■ Display a list of submitted applications with status indicators. Differentiate between requests and awards
  - ■ Quick access to required actions for incomplete applications.
- ○ **Visual Layout**: Table format with colored rows to represent different applications.

5. **Creating Application**:

○ **Features**:
  ■ Creating a new application and entering their details.
○ **Visual Layout**: Text boxes to enter the details with a save button at the bottom.

6. **Application Information**:

- ○ **Features**:
    - ■ View detailed information about each application.
    - ■ Track the application's progress through various phases.
    - ■ Changeable buttons according to the phase of the application.
    - ■ Print functionality for generating hard copies or saving soft copies locally.
- ○ **Visual Layout**: Multi-step progress bar at the top and texts to show the status of the application also many buttons for different functionalities under them.

7. **Payment**:

- ○ **Features**:
  - ■ Display payment fees and transaction details.
  - ■ Provide an interface for secure payment processing.
  - ■ Access to payment receipts post-transaction.
- ○ **Visual Layout**: Text to explain the details as a summary panel and buttons at the button for different functionalities like paying or printing.

8. **Adding Research Papers**:

- **Features**:
  - ■ Creating a new application and entering their details with an auto-fill option.
- **Visual Layout**: Text boxes to enter the details with a save button at the bottom.

3.1.3 Standard UI Elements

- **Navigation Bar**: Persistent across all screens, featuring:

    ○ Links to the My Applications, User Guide, and Profile.
    ○ A "Help" footer for accessing support. Includes Whatsapp contact and SCU hotline for more details and help.

- **Error Handling**:

    ○ Errors are displayed as inline messages near the relevant fields.

3.1.4 References to UI Design

Annotated UI designs are included in **Appendix A** for reference. These designs provide:

- Visual representations of each screen.
- Key elements and workflows.
- User flow diagrams demonstrating interactions between screens.

The detailed designs are accessible with more pages.

4. System Features

4.1 User Authentication and Profile Management

4.1.1 Description and Priority
This feature allows users to log in, create a new account, or manage their personal profiles. It is of High priority, as it is the first point of interaction for all users and provides access to the system so it needs to be simple and user friendly. The user profile ensures that all personal and professional data are stored and accessible for view and update for applications and reports.

4.1.2 Stimulus/Response Sequences

1. New User Account Creation:
    - Stimulus: The user clicks the "New User" button.
    - Response: The system presents a form to enter personal details and register a new account.
2. Existing User Login:
    - Stimulus: The user enters credentials and clicks the "Login" button.
    - Response: The system authenticates the user and redirects to their dashboard.
3. Profile Updates:
    - Stimulus: The user accesses their profile and clicks "Save" after updating details.
    - Response: The system saves the updated profile information and displays a confirmation message.

4.1.3 Functional Requirements

- [FR-01]: The system must allow users to register a new account by providing basic details such as name, email, and password in a user-friendly page.
- [FR-02]: The system must authenticate users by checking the credentials (email, password) entered during login.
- [FR-03]: The system must provide an option for users to update their personal information in the profile into an easy to update page.
- [FR-04]: If the login fails, the system must display an appropriate error message (e.g., "Invalid credentials") in a clear place to notify the user.
- [FR-05]: The system must securely store user passwords and sensitive data.

4.2 Application Management

4.2.1 Description and Priority
This feature enables users to create, modify, delete, and track their applications. It is of high priority, as it is central to the platform's functionality for submitting and managing academic promotion applications.

4.2.2 Stimulus/Response Sequences

1. Check the personal details
   - Stimulus: The user clicks the "Add New Application" button.
   - Response: The system displays a page of the user's personal details in order to make sure his data is correct before he enters the creating application process.
2. Create a New Application:
   - Stimulus: The user clicks the "Go to application" button after he checks his personal details.
   - Response: The system displays a form for application details that includes information about promotion. The form includes details about university, faculty and detailed specialization.
3. Modify Application:
   - Stimulus: The user clicks "Modify" for an existing application after he clicks the "More button" in the main applications page.
   - Response: The system allows the user to edit and save changes to the application.
4. Delete Application:
   - Stimulus: The user clicks "Delete" for a particular application after he clicks the "More button" in the main applications page.
   - Response: The system asks for confirmation, then deletes the application if confirmed.
5. Pay Fees:
   - Stimulus: The user clicks "Pay Fees" and fills in payment details. The user is redirected to the payment gateway's page.
   - Response: The system processes the payment and confirms the transaction.
6. Print application receipt:
   - Stimulus: The user clicks "Print the receipt" for a particular application after he clicks the "More button" in the main applications page.
   - Response: The system goes on with the printing process of the receipt after the user has paid the fees.
7. Add Research papers:
   - Stimulus: The user clicks "add research papers to the application" to upload their research paper after he clicks the "More button" in the main applications page. After being done with a research paper, the user can continue to the other papers if there are any.
   - Response: The system detects the data and auto-fills the research paper forms. The user can then save and continue later or continue to the next research papers.
8. Mange Research papers:
   - Stimulus: After clicking the "More" button, the user can still edit in his attachments if a voucher hasn't been assigned to his request yet.
   - Response: The system shows the uploaded attachments and gives the option to update.

9. Track status:
    ○ Stimulus: After the request is assigned to a voucher, the user can see the status of the request being updated.
    ○ Response: The request in the dashboard has an updated status and the user can still view details and status of the request.
10. Print Application:
    ○ Stimulus: The user clicks "download the report" to print their report after he clicks the "More button" in the main applications page. This is done when the reports are done.
    ○ Response:The system goes on with the downloading process of the report.

4.2.3 Functional Requirements

● [FR-06]: The system must display a user-friendly page with clear layouts and accessible sections showing the user's personal details to verify their data before entering the application creation process.

● [FR-07]: The system must provide an intuitive and well-structured form for entering research details, including fields for the dean's letter and research list. The frontend must ensure responsive design and clear labels to assist users in filling out the form. It must also facilitate navigation between research papers.

● [FR-08]: The system must allow users to modify an existing application with an intuitive interface that supports easy identification of editable fields. The frontend must include features such as inline editing, validation prompts, and an autosave function to minimize data loss.

● [FR-09]: The system must provide a visually distinct confirmation dialog when users attempt to delete an application. The frontend must use clear warnings, distinct colors (e.g., red for delete actions), and an undo option for improved user experience.

● [FR-10]: The system must allow users to print an application receipt through a clean and organized interface.

● [FR-11]: The system must guide users through the fee payment process with a frontend that displays clear instructions, input validation for payment details. Post-payment, it must show a confirmation page with a downloadable receipt.

● [FR-12]: The system must enable users to manage research paper attachments with an intuitive upload and management interface. The frontend must include good labeled text boxes and error messages for invalid files, ensuring smooth user interaction. The frontend should handle auto-fill for research papers.

● [FR-13]: The system must display uploaded attachments in a clear and organized manner. The frontend must support previewing file contents and offering options to download or replace attachments seamlessly.

● [FR-14]: The system must facilitate printing the final report and application.

● [FR-15]: The system should show the applications for the user and whenever a specific application is opened a progress bar with the process appears to show the progress.

4.3 Payment and Fee Processing

4.3.1 Description and Priority
This feature handles the payment of fees required to submit applications. It is of medium priority, as it's essential for completing the application process but not part of the core report generation workflow.

4.3.2 Stimulus/Response Sequences

1. Initiate Payment:
    - Stimulus: The user clicks "Pay Fees" and enters payment details.
    - Response: The system redirects to the payment gateway for processing.
2. Print the receipt
    - Stimulus: After payment is processed, a summary of the payment is shown that includes only relevant information. The user can print and download the receipt that includes all the details..
    - Response: The system initiates the printing process for the receipt.

4.3.3 Functional Requirements

- [FR-16]: The system must allow users to initiate payment by clicking the "Pay Fees" button and entering payment details through an intuitive and user-friendly frontend interface.
- [FR-17]: The system must display a confirmation screen after payment processing, with a prominent "Print Receipt" button to allow users to initiate the receipt printing process directly from the frontend.

5. Other Nonfunctional Requirements

Performance and Responsiveness

- [NFR-01]: The system must provide a responsive and adaptive frontend design to ensure compatibility with various screen sizes and devices, including desktops, tablets, and smartphones.
- [NFR-02]: The system must maintain fast loading times for all frontend pages, ensuring that users experience minimal delays during interactions.

Accessibility and Usability

- [NFR-03]: The system must use accessible and consistent UI/UX components, including buttons, forms, and navigation elements, to enhance usability for all users, including those with disabilities.
- [NFR-04]: The system must provide clear error messages to guide users in case of incorrect inputs or issues during form submission or navigation.

Visual Design and Aesthetics

- [NFR-05]: The system must utilize modern, visually appealing color schemes and typography to create a professional and user-friendly interface that aligns with institutional branding.
- [NFR-06]: The system must ensure a consistent layout across all pages, with a fixed header, footer, and navigation bar for improved usability and accessibility.

Interactivity and Feedback

- [NFR-07]: The system must incorporate a progress tracker for multi-step processes, such as application creation, to visually guide users and keep them informed of their progress.
- [NFR-08]: The system must implement visual feedback for user actions, such as button clicks, form submissions, and loading states, to enhance interactivity and clarity.

File and Document Management

- [NFR-09]: The system must support intuitive functionality for uploading files making them easier and attachments, improving the user experience during document submission.

Cross-Platform Compatibility

- [NFR-10]: The system must ensure consistent functionality and appearance across all major browsers (e.g., Chrome, Firefox, Safari, and Edge) to provide a seamless user experience.

Appendix A: Figma Pages

access to the provided pages via figma

Appendix B: UI Analysis

This is an example of the UI analysis. For more, check the whole document: access the User interface Analysis

My Requests Page:

Issue 1: The page lacks a clear distinction between headings, instructions, and table content. Everything appears relatively uniform in size and style. Bond fonts and larger sizes can be used for headings and margins or spacing can be used for section distinction.

Issue 2: Procedures change based on the status of the application which could be unintuitive for the user.

Issue 3: Procedures are put in a dropdown menu which is not very clear for the user and should be replaced by a button that redirects to a page with the application information and possible procedures to take at this point depending on the status of the application.