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**REQUIREMENT ANALYSIS**

1. **Elaboration**

The architecture for the future system must be proven throughout the Elaboration phase. The goal is to ensure that the team is capable of creating a system that meets the requirement

1. **Introduction**

The primary goal of our product is to facilitate the online sale of educational materials and provide additional functionalities such as order tracking, sales analytics, and payment records for Sultana Foundation Boys High School System. The system is web-based, aiming to store crucial information that can contribute to future decision-making processes within the educational organization.

* 1. **Purpose**

This document outlines the software requirements specification (SRS) for the Sultana Foundation Boys High School System, a web-based application that grants users, including administrators and students, access to various educational features. Developed using ReactJS+ASP.Net Frameworks, the system employs an SQL database for effective data management. There are three distinct user roles:

1. Admin, with comprehensive read and write access to all system modules.
2. Teacher, with specialized role with permissions tailored for course management, assignment creation, grading, and other teaching-related activities.
3. Student, with limited access for tasks such as course enrollment, accessing materials, and viewing grades.

To ensure data security, the system employs user authentication, with clearly defined user rights. The primary user, the admin, possesses full control over all system modules. On the other hand, students, who constitute the customer role in this educational context, have restricted access, allowing them to view course details, access learning materials, and manage their enrollment.

The main modules which are focused on this project:

* + User Management
  + Course Management
  + Assessment Management
  + Administration Management
  + Communication Module
  + Attendance Management
  1. **Scope**

In the current era of online education, it is imperative to have a dedicated platform for efficient management and delivery of educational services. This project focuses on creating a Learning

Management System (LMS) where the web-based application, developed using .Net with frameworks and backed by SQL, offers a comprehensive solution for users. The SQL database stores diverse information, providing administrators with complete access to view and modify data through the application.

Admins, equipped with full system access, can effortlessly navigate through and modify the stored information. On the other hand, students, with limited access, can view specific information related to courses. This adaptable project allows the integration of additional modules as needed, ensuring flexibility for future enhancements.

This document serves as a foundation for discussions regarding the implementation decisions of the Sultana Foundation Boys High School System. Users engaging with this product should possess a basic understanding of relational database management systems (RDMS), SQL, interfaces, and classes.

**Definition, acronyms, and abbreviation**

|  |  |
| --- | --- |
| **Terms/Abbreviation** | **Definition** |
| HTML | Hypertext Markup Language |
| CSS | Cascading Style Sheets |
| MYSQL | Use For Database |
| MS VISO | Designing Tool |
| GUI | Graphical User interface |
| ASP.NET | Back End |
| UML | Unified Modeling Language |

* 1. **Overview**

This document outlines the requirements for the Sultana Foundation Boys High School System, a web-based application. The functional requirements have been gathered from the stakeholders, including school administrators and educators.

## System Main Features:

1. Security Management:
   1. Signup
   2. Login
   3. Forget Password
   4. Change Password
2. User Management:
   1. Block/Unblock User
   2. Instant Messaging
3. Course Management:
   1. Course Creation and Configuration
   2. Course Materials Management
   3. Assignment Management
4. Assessment Management:
   1. Quiz and Exam Creation
   2. Grading and Evaluation
5. Administration Management:
   1. User Roles and Permissions
   2. System Maintenance
6. Communication:
   1. Announcement and Notification System
   2. Chat Features
7. Attendance:
   1. Student Attendance

# Functional Requirement

## Security Management

**Registration**

|  |  |
| --- | --- |
| **SRS-1** | The system allows administrators to register users. |
| **SRS-2** | Registration involves capturing user information such as user ID, name, and contact number. |
| **SRS-3** | User information is securely saved. |

**Process Login**

|  |  |
| --- | --- |
| **SRS-4** | Both administrators and users can log in using their credentials. |
| **SRS-5** | The system permits successful login for administrators and users. |
| **SRS-6** | Administrators and users can log out of their accounts. |
| **SRS-7** | After logout, users are redirected to the homepage. |

**Forgot password**

|  |  |
| --- | --- |
| **SRS-8** | Users can recover their passwords via registered email. |
| **SR9-9** | The system supports password recovery. |

**Change password**

|  |  |
| --- | --- |
| **SRS-10** | Users can change their passwords for security reasons post-login. |
| **SRS-11** | Password changes are reflected in the system. |

## User Management:

**Block / Unblock User**

|  |  |
| --- | --- |
| **SRS-12** | Admin block / unblock any user at any time |
| **SRS-13** | This action is taken based on their behavior |

**Add User**

|  |  |
| --- | --- |
| **SRS-14** | Admin add any user at any time |
| **SRS-15** | System will add user details in database |

**View User**

|  |  |
| --- | --- |
| **SRS-16** | Admin Can view any User details. |
| **SRS-17** | The system will show the user’s details. |

**Edit User**

|  |  |
| --- | --- |
| **SRS-18** | Admin can edit/update the user’s details. |
| **SRS-19** | System will add user details in database |

**Delete User**

|  |  |
| --- | --- |
| **SRS-20** | Admin can Delete/remove any user. |
| **SRS-21** | System will add user details in database |

**Instant Messaging**

|  |  |
| --- | --- |
| **SRS-22** | User can do instant message |
| **SRS-23** | Admins can respond to user messages. |

## Course Management

**Course Creation:**

|  |  |
| --- | --- |
| **SRS-24** | Teacher can create new courses within the system. |
| **SRS-25** | Additional details such as course name, course code, schedule, and description will be entered. |
| **SRS-26** | The system is capable of saving the course information. |

**Delete Course**

|  |  |
| --- | --- |
| **SRS-27** | Teacher have the capability to delete any course information. |
| **SRS-28** | The system supports the deletion of course information. |

**Update Course**

|  |  |
| --- | --- |
| **SRS-29** | Teacher can update course information based on the course name. |
| **SRS-30** | Updates can include changes to the course name, schedule, and description. |
| **SRS-31** | The system is designed to accommodate and update this information. |

**Visualize Courses:**

|  |  |
| --- | --- |
| **SRS-32** | Teacher can visualize details for every course in the system. |
| **SRS-33** | Students have the ability to visualize all newly added and updated courses. |
| **SRS-34** | The system provides a feature allowing users to visualize all course information. |

**Submit/Unsubmit Assignment:**

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| --- | --- |
| **SRS-35** | Students can submit/unsubmit their assignment related to selected course. |
| **SRS-36** | The system update the assignment status. |

**View Assignment:**

|  |  |
| --- | --- |
| **SRS-37** | Students can view their assignment related to selected course. |
| **SRS-38** | Teacher has ability to view student submitted Assignment. |

## Assessment Management

**Quiz/Exam Creation**

|  |  |
| --- | --- |
| **SRS-39** | Teachers can create quizzes and exams within the system. |
| **SRS-40** | Details such as assessment name, questions, options, and correct answers are entered during the creation process. |
| **SRS-41** | The system saves the assessment information. |

**Grading and Evaluation**

|  |  |
| --- | --- |
| **SRS-42** | Teachers can grade and evaluate student assessments. |
| **SRS-43** | The system allows for the input of grades and feedback. |
| **SRS-44** | Graded assessments are securely stored in the system. |

**Update Quiz/Exam**

|  |  |
| --- | --- |
| **SRS-45** | Teacher can update quiz/exam |
| **SRS-46** | System will show Quiz/exam Details to teacher which has to be update |

**Visualize Quiz/Exam**

|  |  |
| --- | --- |
| **SRS-47** | Teachers and Students can view quizzes and exams within the system. |
| **SRS-48** | Details such as assessment name, questions, options, and correct answers are entered during the creation process. |

**Delete Quiz/Exam**

|  |  |
| --- | --- |
| **SRS-49** | Teachers can delete quizzes or exams within the system. |
| **SRS-50** | System will delete quiz/exam from database |

## Administration Management

**User Roles and Permissions**

|  |  |
| --- | --- |
| **SRS-51** | Admins can control who can do what in the system by managing user roles and permissions. |
| **SRS-52** | Admins can assign specific access rights to different user roles. |

**System Maintenance**

|  |  |
| --- | --- |
| **SRS-53** | Admins can perform routine tasks to keep the system running smoothly. |
| **SRS-54** | The system allows for updates to ensure it stays current. |

## Communication Module Add Announcement

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| --- | --- |
| **SRS-55** | Teachers and administrators can send announcements to students. |
| **SRS-56** | The system notifies students about important updates and information. |

**Delete Announcement**

|  |  |
| --- | --- |
| **SRS-57** | Teachers and administrators can delete announcements that contains in list. |
| **SRS-58** | The system notifies when announcement deleted. |

**View Announcement**

|  |  |
| --- | --- |
| **SRS-59** | Teachers, Student and administrators can view announcements in the system. |
| **SRS-60** | The system show latest announcement to viewer. |

**Chat Features**

|  |  |
| --- | --- |
| **SRS-61** | Teachers and students can engage in real-time chat within the LMS. |
| **SRS-62** | The chat feature supports text-based communication. |

## Attendance Management

**View Student Attendance**

|  |  |
| --- | --- |
| **SRS-63** | Student can view their attendance |
| **SRS-64** | The system will show attendance |

**Mark Student Attendance**

|  |  |
| --- | --- |
| **SRS-65** | Teachers can mark student attendance for each class. |
| **SRS-66** | The system Securely stores student attendance data |

# Non-Functional Requirement

In this system, the authentication of the user is an important factor. In this system, user authentication will be done by login by user name and password and classified by user type. Users will get access to the system as permissions are classified for that type of user.

The system has a consistent interface so that the system is easy to use and in the interface of our system buttons and forms are used to enter data related to a specific module.

* 1. **Security**

For security issues, only the admin can change the password on behalf of the staff. Staff can only access this system for sales, service, and checking reports

* 1. **Usability**

Users will be trained with proper guidance within a week, the interfaces of the system will also guide the user and hopefully, they won't need to read the manuals to use it.

* 1. **Design Constraints**

The Agile model is an iterative and flexible approach to software development that emphasizes collaboration, adaptability, and customer feedback. In the Agile model, the development process is divided into short iterations, known as sprints. During each sprint, a cross-functional team works on a prioritized set of features or user stories. The work is typically organized in a backlog, and the team collaboratively decides which items to include in each sprint based on customer feedback and changing priorities.

* 1. **User help/Manuals**

A manual or guidebook is given to users so will train and get help from it a weekly training session will be held to ensure that the user understands the system and gets the maximum benefit from the system.

## External Interface Requirement

This section provides information to ensure that the system will communicate properly with external components

* 1. **User Interface**

The user interface will be user-friendly, easy to understand, and memorable, and the software will be interactive and self-explanatory with proper HCI implemented.

* 1. **Software Interface**
     + We will use React JS In Front End.
     + We will use ASP.Net Framework in Back end, and SQL Server in Database.