

Software Requirements Specification (SRS) Document

1. Introduction

The Student Attendance System is designed to automate the process of tracking and managing student attendance efficiently. This system aims to provide an easy-to-use interface for both students and administrators to monitor attendance records, generate reports, and manage attendance-related tasks.

2. Purpose

The purpose of this document is to outline the functional and non-functional requirements of the Student Attendance System, providing a comprehensive understanding of the system's features, interfaces, and constraints.

3. Scope

The Student Attendance System will encompass the following functionalities:

- Student registration and enrollment.
- Recording attendance through various methods (e.g., biometric, RFID, manual).
- Viewing and updating attendance records.
- Generating reports on individual and aggregate attendance.
- Notification system for absentees.
- User authentication and authorization for security purposes.

4. Functional Requirements

4.1 User Management

Registration : Students and faculty can register with the system by providing necessary details such as name, email, and identification information.

Login : Users should be able to log in securely using their credentials.

Role-based Access Control : Administrators, teachers, and students have different levels of access and permissions within the system.

4.2 Attendance Management

Recording Attendance - The system should allow teachers to record attendance for each class session.

Multiple Methods : Support for various methods of recording attendance, including manual entry, biometric scanning, and RFID cards.

Real-time Updates : Attendance records should be updated in real-time to reflect current status.

Edit and Delete : Teachers should be able to edit or delete attendance entries as needed.

4.3 Reporting

Individual Reports : Students can view their own attendance records.

Class Reports : Teachers and administrators can generate reports for individual classes or groups of students.

Aggregate Reports : Overall attendance reports for departments or the entire institution.

4.4 Notification System

Absentee Alerts : Automatic notifications to students and/or guardians in case of repeated absences.

Customizable Alerts : Users can set preferences for receiving notifications (e.g., email, SMS).

4.5 Security

Authentication : Secure login mechanism using usernames and passwords.

Data Encryption : Sensitive data such as passwords should be encrypted to ensure security.

Access Control : Users should only have access to functionalities based on their roles and permissions.

5. Non-functional Requirements

5.1 Performance

Response Time : The system should respond promptly to user requests.

Scalability : Ability to handle a large number of users and data without compromising performance.

5.2 Reliability

Fault Tolerance : The system should be resilient to failures and able to recover gracefully.

Data Integrity : Ensure the accuracy and consistency of attendance records.

5.3 Usability

Intuitive Interface : The user interface should be user-friendly and easy to navigate.

Accessibility : The system should be accessible to users with disabilities.

5.4 Security

Data Protection : Implement measures to prevent unauthorized access, data breaches, and tampering.

Audit Trails : Maintain logs of user activities for accountability and security purposes.

6. Constraints

Hardware Compatibility : The system's compatibility with existing hardware such as biometric scanners or RFID readers.

Regulatory Compliance : Adherence to data protection regulations and institutional policies.

7. Glossary

Administrator : A user with elevated privileges responsible for managing the system.

Biometric Scanning : The process of identifying individuals based on physiological or behavioral characteristics.

RFID : Radio Frequency Identification, a technology for tracking and identifying objects using radio waves.

8. References

- Any external documents or resources referenced during the development of this SRS.

This Software Requirements Specification document outlines the functional and non-functional requirements, as well as constraints, for the Student Attendance System. It serves as a guideline for the development team to ensure that the system meets the needs and expectations of its users.