Software Requirements Specification (SRS) for Student Attendance Management System

1. Introduction:

The Student Attendance Management System is a software application designed to automate and simplify the process of recording and managing student attendance in educational institutions. The system aims to provide an efficient and accurate way to track student attendance, generate attendance reports, and facilitate communication between students, teachers, and administrators.

2. Scope:

The Student Attendance Management System will encompass the following features:

- User authentication and role-based access control.

- Student registration and profile management.

- Recording student attendance for classes.

- Viewing individual and class attendance reports.

- Automated notifications to students and guardians about attendance.

- Faculty management of attendance and related tasks.

3. Functional Requirements:

3.1 User Authentication and Role-based Access:

- Users (students, faculty, and administrators) must log in using their unique credentials.

- Different user roles: Student, Faculty, and Administrator.

- Role-based access control to ensure proper data access and manipulation.

3.2 Student Registration and Profile Management:

- Students can register by providing necessary details such as name, student ID, contact information, etc.

- Students can update their profile information.

3.3 Recording Student Attendance:

- Faculty members can mark students as present or absent for specific classes.

- Attendance can be recorded for various subjects and class periods.

3.4 Viewing Attendance Reports:

- Students can view their individual attendance history.

- Faculty can view attendance records for their respective classes.

- Attendance records can be filtered by date, subjects, and classes.

3.5 Generating Attendance Reports:

- Students can generate reports showing their attendance for a specific time period.

- Faculty can generate class attendance reports for evaluation and record-keeping.

- Reports can be exported in different formats (PDF, Excel, etc.).

3.6 Automated Notifications:

- Students and guardians should receive automated notifications about student attendance (e.g., absence alerts).

- Faculty and administrators can receive notifications for unusual attendance patterns.

3.7 Faculty Management:

- Faculty members can manage attendance records for their assigned classes.

- Faculty can update attendance records in case of mistakes.

4. Non-Functional Requirements:

4.1 Performance:

- The system should handle a significant number of users simultaneously without performance degradation.

- Response times for generating reports and recording attendance should be optimal.

4.2 Security:

- Student data and attendance records must be securely stored and accessed only by authorized users.

- Passwords must be securely hashed before storage.

4.3 User Interface:

- The user interface should be intuitive and user-friendly, catering to users with varying levels of technical expertise.

4.4 Availability:

- The system should have high availability, with minimal downtime for maintenance and updates.

4.5 Scalability:

- The system architecture should allow for easy scalability to accommodate future expansion.

5. Constraints:

- The system must be developed using specific technologies (to be specified).

- The system must be compatible with modern web browsers and mobile devices.

6. Assumptions:

- Users possess basic computer literacy to navigate and interact with the system.

- The necessary hardware and software infrastructure will be provided.

7. Glossary:

- SAM System: Student Attendance Management System

8. References:

- Any relevant documents, guidelines, or educational standards used during development.

This SRS outlines the functional and non-functional requirements for the Student Attendance Management System, serving as a foundation for project development, testing, and implementation.