Software Requirements Specification (SRS)

for School Management System

Version 1.0

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1. INTRODUCTION

1.1 PURPOSE

This document defines the software requirements for the School Management System (SMS). It provides an overview of the system, its functionalities, and constraints. The system aims to automate school administrative functions, including student management, cleaning staff management, and office staff management.

1.2 SCOPE

The SMS is a standalone desktop-based system that enables administrators to manage students, cleaning staff, and office staff efficiently. The system will include features such as student registration, staff record management, attendance tracking, and report generation. The system will store all records in a database and provide an intuitive GUI for ease of use.

1.3 DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

- SMS: School Management System
- GUI: Graphical User Interface
- DBMS: Database Management System
- JRE: Java Runtime Environment

1.4 REFERENCES

- Source code extracted from the provided project files.
- Java documentation and MySQL database reference.
- NetBeans IDE user guide.

2. OVERALL DESCRIPTION

2.1 PRODUCT PERSPECTIVE

- A standalone desktop-based system developed using Java.
- Uses MySQL as the database management system.
- Developed using NetBeans IDE.
- Designed for school administrators to manage student and staff records efficiently.

2.2 PRODUCT FUNCTIONS

2.2.1 STUDENT MANAGEMENT

- Add, update, delete, and search student records.
- Maintain details such as name, grade, section, and contact information.

2.2.2 CLEANING STAFF MANAGEMENT

- Register new cleaning staff members with personal details.
- Update and delete staff records.
- Assign cleaning schedules and tasks.

2.2.3 OFFICE STAFF MANAGEMENT

- Maintain records of office staff roles and responsibilities.
- Update and manage attendance records.

2.2.4 ATTENDANCE TRACKING

- Record student and staff attendance.
- Generate reports on attendance trends.

2.2.5 REPORTS AND LOGS

- Generate reports on student enrollment, staff details, and attendance records.
- Maintain a log of administrative activities for auditing purposes.

2.3 USER CHARACTERISTICS

2.3.1 ADMINISTRATOR

- The only user with access to the system.
- Responsible for managing all records and generating reports.

2.4 CONSTRAINTS

- The system should be compatible with Windows OS.
- Requires Java Runtime Environment (JRE) for execution.
- MySQL database must be configured before running the system.

3. SPECIFIC REQUIREMENTS

3.1 FUNCTIONAL REQUIREMENTS

- The administrator should be able to log in securely.
- The system should allow student and staff record management.
- Attendance records should be maintained for both students and staff.
- All records should be stored securely in a database.
- Generate reports on student and staff data.

3.2 PERFORMANCE REQUIREMENTS

- The system should support up to 5,000 student records.
- Query response time should be under 2 seconds.
- The system should operate smoothly with minimal processing delays.

3.3 DESIGN CONSTRAINTS

- Developed using Java and MySQL.
- NetBeans IDE is used for development.

3.4 SOFTWARE SYSTEM ATTRIBUTES

3.4.1 SECURITY

- The administrator must log in to access the system.
- Role-based access control for data protection.

3.4.2 USABILITY

- Should have an intuitive and user-friendly interface.
- Form-based navigation with tooltips for guidance.

3.4.3 MAINTAINABILITY

- Modular code design for easy updates and debugging.
- Well-documented code with comments and structured directories.

4. EXTERNAL INTERFACE REQUIREMENTS

4.1 USER INTERFACES

- GUI-based interface with form-based navigation.
- Buttons, dropdowns, and input fields for interaction.

4.2 HARDWARE INTERFACES

- Minimum system requirements: 4GB RAM, 1GHz processor.

4.3 SOFTWARE INTERFACES

- Java-based desktop application.
- MySQL database for data storage.
- JDBC for database connectivity.

5. ASSUMPTIONS AND DEPENDENCIES

- The system assumes a stable internet connection for remote database access.
- Java and MySQL drivers must be pre-installed on the system.
- The system assumes data integrity in the database, requiring proper validation mechanisms.