

# **Customer requirement document**

## **Project: Student Information System for ABC School**

### **1. Introduction:**

The objective of this project is to develop a comprehensive Student Information System (SIS) for ABC School to enhance communication, streamline administrative processes, and provide valuable insights into student performance. The system will be built using AngularJS for the front end, Python Flask framework for the backend, and MS SQL Server for the database.

### **2. Modules:**

#### **1. Student Login:**

Requirements:

- Secure authentication using unique credentials for each student.
- Password recovery mechanism with multi-factor authentication.
- Session management for secure and seamless user interactions.
- Password policies (complexity, expiration).

#### **2. Academic Performance:**

Requirements:

- Display of subject-wise marks and grades for each test and assessment.
- Historical performance analysis with graphical representation.
- Option to download/print academic reports.
- Notification system for parents about upcoming assessments and results.

#### **3. Leave Management:**

Requirements:

- Leave request submission form with reason, dates, and supporting documents.
- Real-time notifications to parents and teachers upon leave request submission.
- Approval and rejection options with comments for parents and teachers.
- Calendar view displaying approved leave dates.

#### **4. Time Table:**

Requirements:

- Dynamic display of the weekly class schedule for each student.
- Ability for administrators to update and modify the timetable.
- Option to view an overview of daily/weekly schedules.
- Integration with other modules to avoid conflicts with events.

## **5. Notification Center:**

Requirements:

- Centralized dashboard for school management to send notifications.
- Categorization of notifications (urgent, general, event-related, etc.).
- Delivery of real-time notifications to parents via web and mobile.
- Option for parents to customize notification preferences.

## **6. Student Profile:**

Requirements:

- Detailed personal information including emergency contact details.
- Academic history with a list of subjects, grades, and extracurricular activities.
- Uploading and updating of student photos.
- Privacy settings allowing parents to control the visibility of certain information.

## **7. Contact Class Teacher:**

Requirements:

- Direct messaging system between parents and class teachers.
- Scheduling system for virtual or physical meetings with teachers.
- Notification system for new messages and meeting requests.
- Archive or history of communication for reference.

## **8. Fees and Payments:**

Requirements:

- Display of current fees, outstanding payments, and payment history.
- Secure payment gateway integration for fee transactions.
- Generation of digital receipts for payments made.
- Automated alerts for upcoming fee due dates.

### **3. Software Tools Requirements:**

#### **Frontend Development:**

- AngularJS for a responsive and dynamic user interface.
- Integration of UI components for an intuitive user experience.

#### **Backend Development:**

- Python Flask framework for server-side logic.
- Efficient handling of data requests and responses.

#### **Database Management:**

- MS SQL Server for secure, scalable, and relational data storage.
- Implementation of database triggers for data integrity.

#### **Security:**

- SSL/TLS encryption for secure data transmission.
- Implementation of secure coding practices to prevent vulnerabilities.
- Regular security audits and updates.

#### **Notification Services:**

- Integration with notification services for real-time alerts and communication.

#### **Payment Gateway:**

- Integration with a reputable and secure payment gateway for fee transactions.

#### **Version Control:**

- Git for version control, allowing for collaboration and code management.

#### **Development Environment:**

- Code editors (e.g., Visual Studio Code), development servers, and debugging tools.
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