Project Requirements for Student Information System

Functional Requirements

1. **Teacher Login Screen**
   * The system shall allow the teacher to input a username and password for login.
   * The system shall authenticate the teacher’s credentials and grant access to the Teacher Main Panel if the login is successful.
   * The system shall display an error message if the login fails.
   * The system shall provide a "Forgot Password" option that displays a message: "Please contact your administrator."
   * The system shall provide a "Back" button that returns the user to the main choice screen (user type selection).
2. **Teacher Main Panel**
   * The system shall display a main panel for the teacher with options such as sending messages to students, viewing reports, and creating announcements.
   * The system shall provide a "Send Message" button to allow the teacher to send messages to students.
   * The system shall allow the teacher to send messages either to a specific student (by entering student ID) or to all students.
   * The system shall provide a "Back" button to return the teacher to the login screen or previous panel.
3. **Student Report Screen**
   * The system shall display a table showing the student’s course name, credits, grade, and pass/fail status.
   * The system shall provide a "Back" button to navigate the student back to the previous screen.
4. **Teacher Report Screen**
   * The system shall display a table showing student names, courses, grades, and pass/fail status.
   * The system shall provide filtering options based on course selection and pass/fail status.
   * The system shall allow the teacher to search for students by name or ID.
   * The system shall provide "Export as PDF" and "Export as Excel" options for exporting the report.
   * The system shall provide a "Back" button to return the teacher to the previous screen.
5. **Course Registration**
   * The system shall allow students to select courses from a list of available courses.
   * The system shall allow students to add or remove courses from their registration list.
   * The system shall display a table of registered courses.
   * The system shall provide a "Save" button to save the selected courses.
   * The system shall provide a "Back" button to return the student to the previous screen.
6. **Announcements and Messages**
   * The system shall allow the teacher to create announcements for students, including text such as exam schedules and holiday notices.
   * The system shall display all announcements in a dedicated section.
   * The system shall allow teachers to send messages to students, with options to send individual messages or broadcast to all students.
   * The system shall provide a "Back" button to return the teacher to the previous screen.

Non-Functional Requirements

1. **Performance**
   * The system shall be able to handle up to 1000 simultaneous users without significant performance degradation.
   * The system shall process user requests (e.g., login, sending messages, searching, etc.) in less than 3 seconds.
2. **Usability**
   * The system shall provide an intuitive and user-friendly interface with clear instructions and labels for all buttons and fields.
   * The system shall provide appropriate error messages and feedback to guide the user in case of mistakes (e.g., incorrect login credentials).
3. **Security**
   * The system shall securely store user passwords (e.g., using hashing and encryption techniques).
   * The system shall ensure that only authorized users (e.g., teachers, students) can access their respective panels and data.
4. **Reliability**
   * The system shall ensure high availability, with 99.9% uptime.
   * The system shall have regular backups of user data and system settings.
5. **Maintainability**
   * The system shall be designed with modular components to facilitate easy maintenance and updates.
   * The system shall be well-documented to support future developers in understanding and modifying the code.
6. **Compatibility**
   * The system shall be compatible with modern web browsers such as Google Chrome, Firefox, and Safari.
   * The system shall be accessible on both Windows and macOS operating systems.
7. **Scalability**
   * The system shall be scalable to accommodate future expansion, such as adding new features or increasing the number of users.
8. **Accessibility**
   * The system shall be accessible to users with disabilities, following WCAG 2.1 guidelines, with support for screen readers and keyboard navigation.