# PROJECT REPORT

# STUDENT COUNSELING MANAGEMENT SYSTEM

## SUBMITTED TO

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**Objective:**

The Student Counseling Management System aims to streamline and enhance the counseling process within our educational institution. This system aims to provide an efficient and convenient platform for both students and teachers to manage counseling appointments, reducing wait times and improving the overall counseling experience.

The prime purpose is to create a user-friendly online platform for students to view teachers' counseling schedules, request appointments, and receive timely confirmations and to empower teachers with a tool to manage their counseling availability and appointment requests efficiently.

**Motivation:**

The motivation behind this project arises from the inefficiencies currently faced within our institution.

Inefficient Scheduling: Long waiting times and uncertainty when seeking counseling.

Lack of Transparency: Limited visibility into teachers' counseling availability.

Ineffective communication: Miscommunications and appointment conflicts in the present system.

**Expected Outcomes:**

Upon successful completion of this project, the anticipated outcomes:

Streamlined counseling appointments: Students will be able to book appointments easily and teachers can efficiently manage their schedules.

Reduced waiting times: Students will no longer need to wait unnecessarily as appointments will only be confirmed when teachers are available.

Improved transparency: Students will have real-time access to teacher availability and will receive timely confirmations and notifications.

Enhanced communication: The system will facilitate better communication between students and teachers, reducing scheduling conflicts and misunderstandings.

Increased Accessibility: The platform's online accessibility will make it easier for students to access counseling services, particularly for those who have physical or scheduling constraints.

Better Student Performance: Improved counseling accessibility and efficiency can contribute to better academic and personal outcomes for students, which can positively impact overall student performance and satisfaction.

Faculty Development: The system can facilitate ongoing professional development for teachers by providing data on the number and types of counseling sessions, potentially leading to improvements in counseling skills and support services.

Overall satisfaction: An improved counseling experience for both students and teachers, leading to greater satisfaction and positive feedback.

**Targeted Audience:**

Students: Those seeking counseling services and wishing to schedule appointments.

Teachers: Faculty members who provide counseling services and manage their schedules.

Administrators: Individuals responsible for overseeing and maintaining the system.

Educational institutions: This system can be extended to other educational institutions seeking a similar solution for counseling management.

**Future Works:**

Integration with a notification system to remind both students and teachers of upcoming appointments.

A feedback system that allows providing comments on counseling sessions for continuous improvement.

Integration with other educational systems, such as grade management and course registration, for a more comprehensive student experience.

Mobile applications for greater accessibility and convenience.

**Model:**

Given the nature of the project, an Agile approach would be better suitable, particularly the Scrum Agile Process.
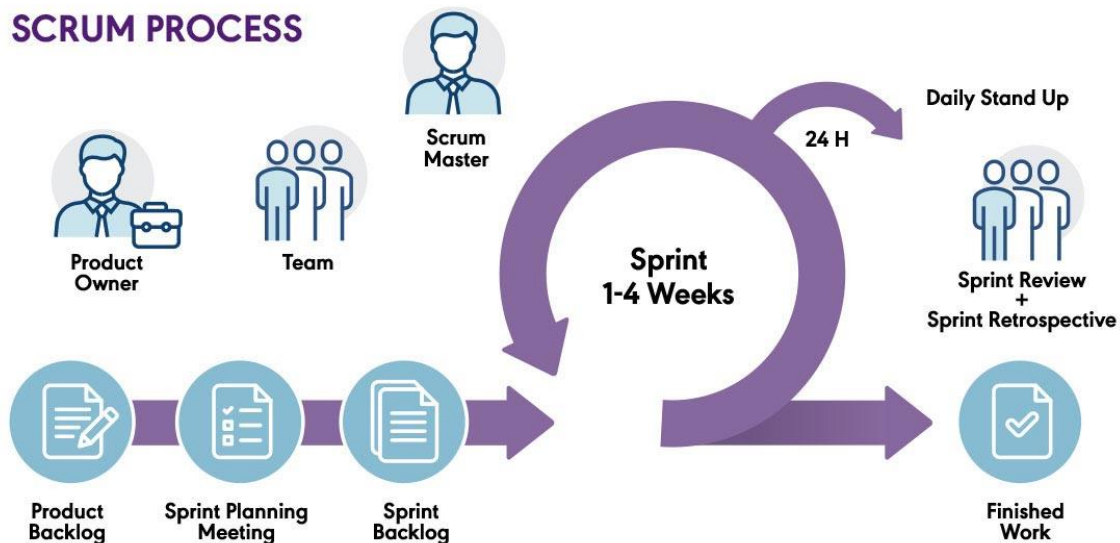


*Fig.1 [Scrum Agile Mode Diagram]*

Why Scrum Agile Model:

Flexibility: The Scrum framework is highly adaptable, making it well-suited for projects where requirements may evolve or where there's a need for frequent feedback and adjustments.

Incremental Development: Scrum promotes incremental development with frequent iterations. This aligns with the project's goal of providing students and teachers with a platform that can be continuously improved and expanded based on feedback and changing needs.

Collaboration: Scrum encourages close collaboration between the development team (project team) and stakeholders (students, teachers, and administrators). This collaboration is essential to ensure that the system meets the needs of all users effectively.

Transparency: Scrum emphasizes transparency through daily stand-up meetings, sprint reviews, and sprint planning. This transparency can be valuable in a counseling system, where students and teachers need clear and real-time information on available counseling slots and appointment statuses.

How is Scrum suitable:

Product Backlog: Start by creating a product backlog, listing all the features, functionalities, and requirements of the Student Counseling Management System.

Sprints: Divide the development process into time-bound sprints (usually 2-4 weeks each). In each sprint, prioritize items from the product backlog to develop.

Sprint Planning: At the beginning of each sprint, the team selects items from the product backlog and plans how to implement them.

Daily Stand-up Meetings: Hold daily stand-up meetings (15-minute check-ins) to discuss progress, challenges, and next steps.

Sprint Review: At the end of each sprint, conduct a sprint review where the team presents the completed work to stakeholders for feedback.

Retrospectives: After each sprint, have a retrospective meeting to identify areas for improvement in the development process.

Continuous Improvement: Use feedback from stakeholders to adjust and improve the system with each sprint.

Scrum Roles: Assign roles like Scrum Master, Product Owner, and Development Team members to ensure that responsibilities are clearly defined.

**Requirements:**

<u>Functional Requirements:</u> describe the specific functions or features that a system, software, or project must perform.

1. User Authentication: The system shall allow users to log in as either a student or a teacher with valid credentials.

2. View List of Teachers: Students shall be able to view a list of available teachers for counseling, including their schedules and availability.

3. Appointment Booking: Students shall be able to request counseling appointments by providing necessary information, such as their name, student ID, department, reason for counseling, and selecting a date and time.

4. Teacher Notifications: Teachers shall receive notifications when a student requests an appointment and be able to accept, reject, or reschedule appointments.

5. Real-Time Updates: The system shall provide real-time updates on the status of appointments, ensuring that appointments are only confirmed when teachers are available.

<u>Non- Functional Requirements:</u> define the quality attributes and constraints that a system must adhere to.

1. Performance: The system should load within 5 seconds for all users, ensuring a responsive and efficient user experience.

2. Security: User data, including personal and scheduling information, must be securely stored and transmitted, adhering to data protection regulations.

3. Usability: The user interface should be intuitive and user-friendly to ensure ease of use for both students and teachers.

4. Scalability: The system should be able to handle an increasing number of users and appointments as the institution grows without a significant decrease in performance.

5. Reliability: The system should have a minimal downtime rate, with scheduled maintenance windows communicated to users in advance.

**Data Collection Method:**

1. Surveys and Questionnaires: Create online surveys or questionnaires for students, teachers, and administrators to gather feedback on their needs and expectations for the counseling system.

2. Interviews: Conduct one-on-one interviews with representatives from students and teachers.

3. Observations: Observe the current counseling processes in action to identify pain points, bottlenecks, and the actual user experience.

4. Focus Groups: Organize group discussions with students and teachers to facilitate open conversations about their experiences with the existing counseling system and their desired improvements.

5. Document Review: Review existing counseling records to gain insights into historical data and trends related to counseling.

**Use Case Diagram:**
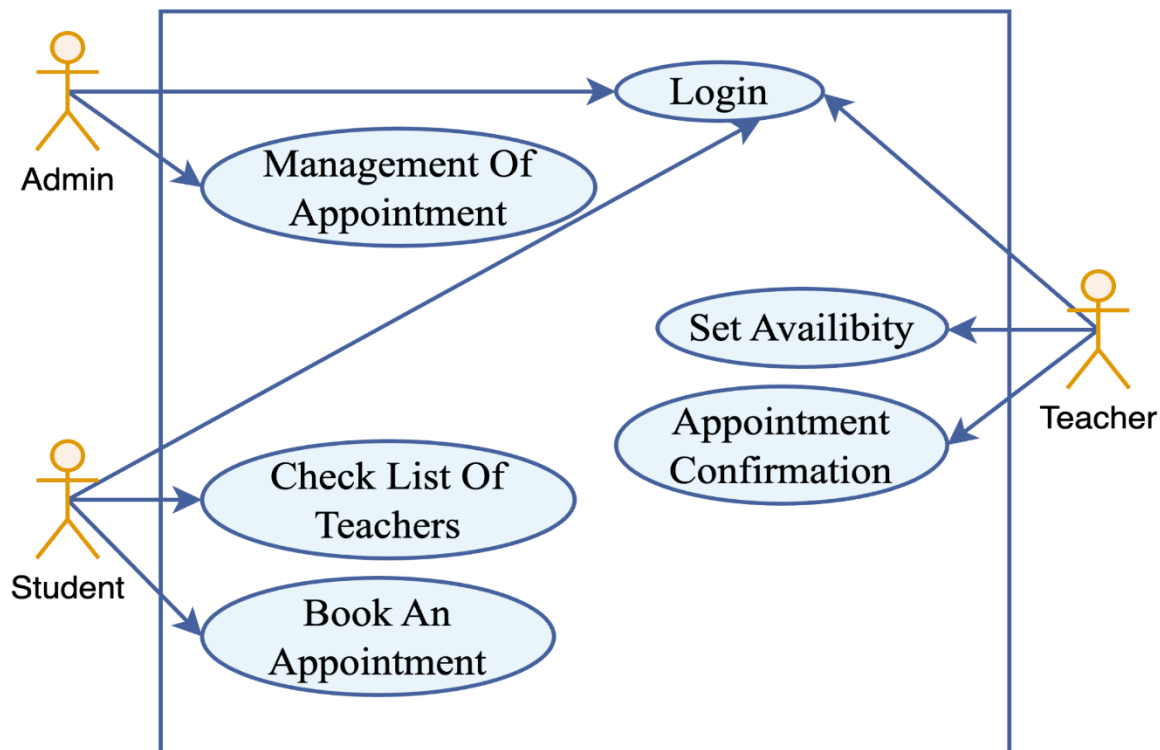


*Fig.2 [Use Case Diagram]*

**Use case description:**

Student:

View Schedule: Students can check list of available teachers and view the counseling schedules of teachers, including their availability, counseling hours, and appointment slots.

Book Appointment: Students can request counseling appointments by providing their details, reasons, and selecting an available time slot.

Teacher:

Set Availability: Teachers can define their counseling availability, specifying days and times when they are available for counseling sessions.

Confirm Appointment: Teachers can confirm or reschedule counseling appointments, ensuring that they are available at the selected time slots.

Administrator:

Manage Appointments: Administrators can manage appointment-related data, including confirming or rescheduling appointments as needed.

**Activity Diagram:**
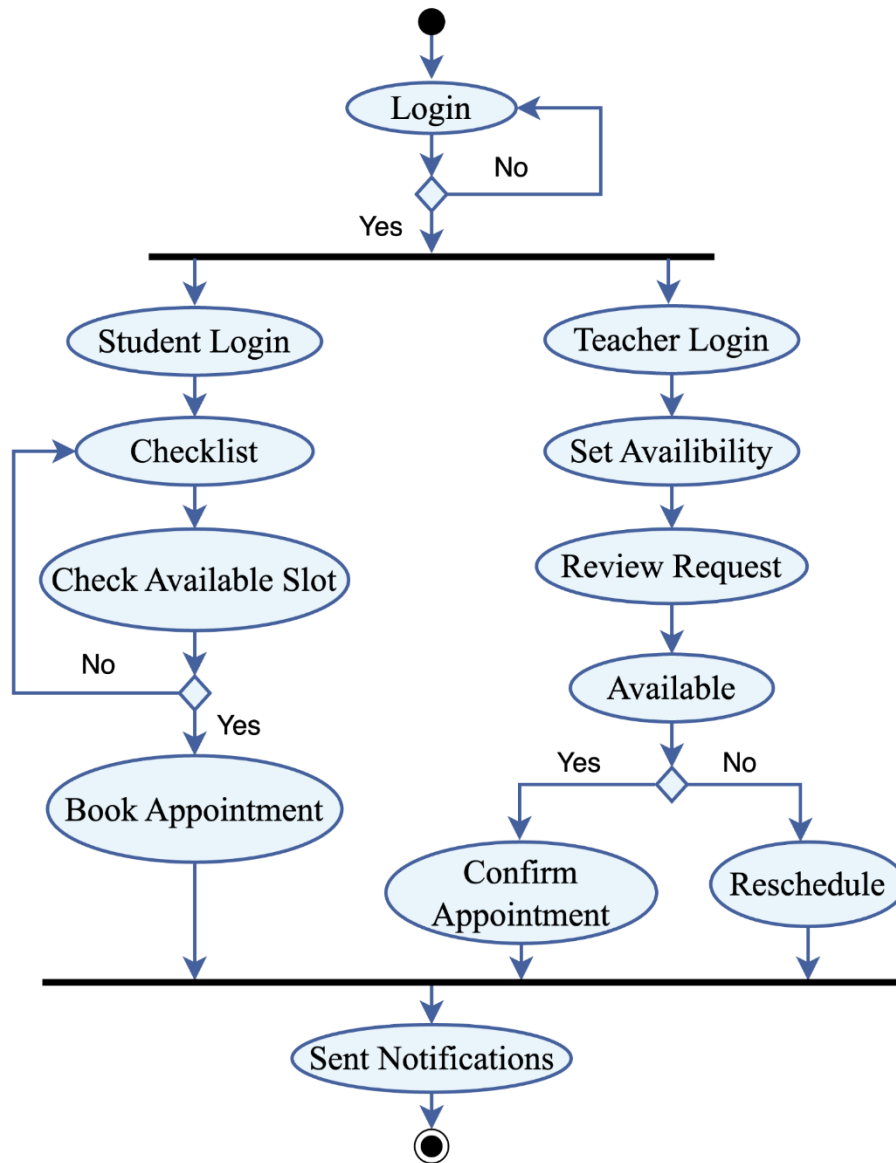


*Fig.3 [Use Case Diagram]*

**Sequence Diagram:**
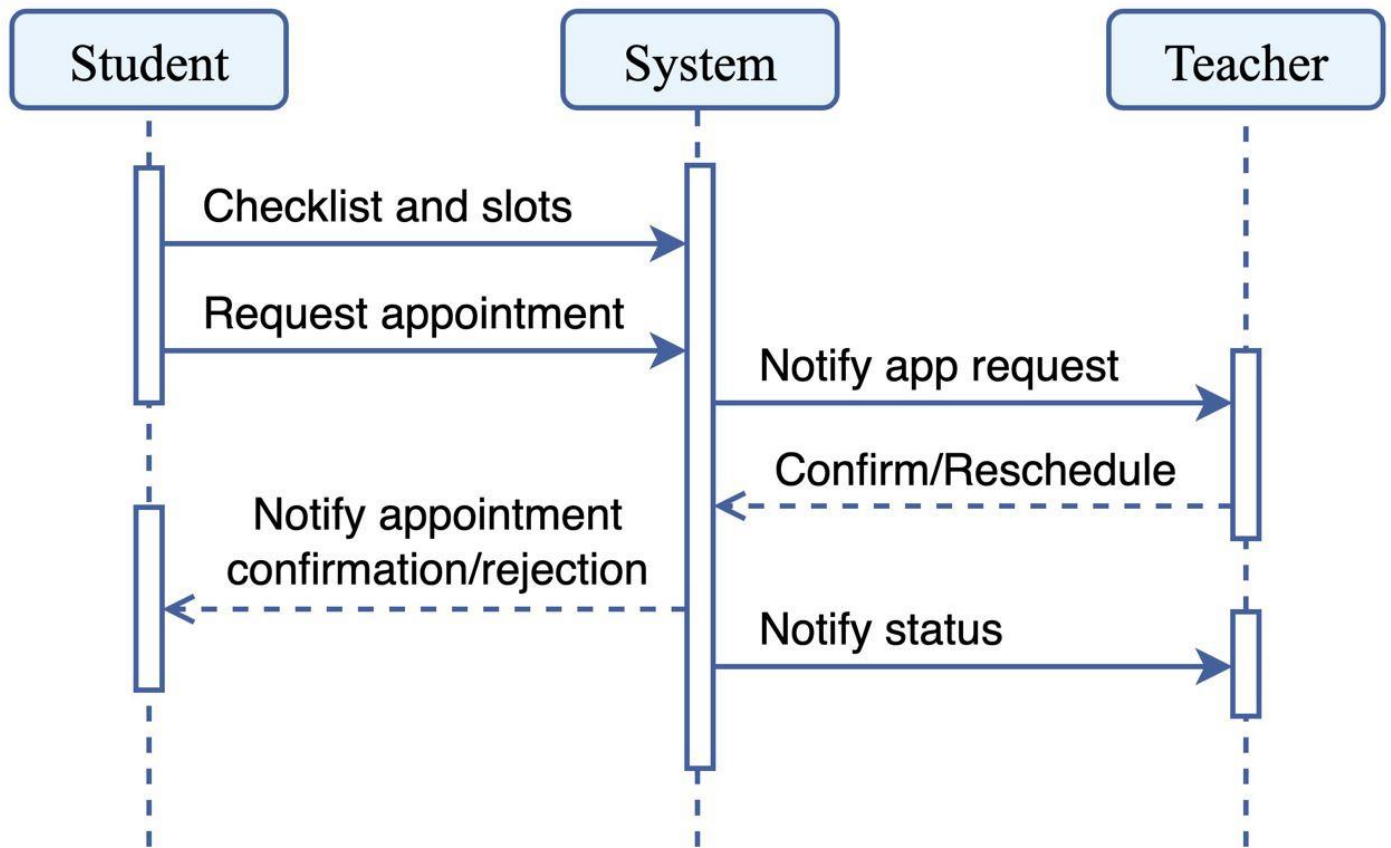


*Fig.4 [Sequence Diagram]*

**Graphics User Interface:**

**References**

1. Course Material provided by Course Teacher, Abdus Sattar.

2. https://www.scrum.org/resources/what-scrum-module

3. https://www.geeksforgeeks.org/software-engineering-classification-of-software-requirements/