American International University-Bangladesh (AIUB)

Department of Computer Science and Engineering

Faculty of Science &Technology (FST)

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CSC 00191- Object Oriented Analysis And Design (OOAD)

Section: P

Project Title: School Management System

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1.Project Title: **School Management System**

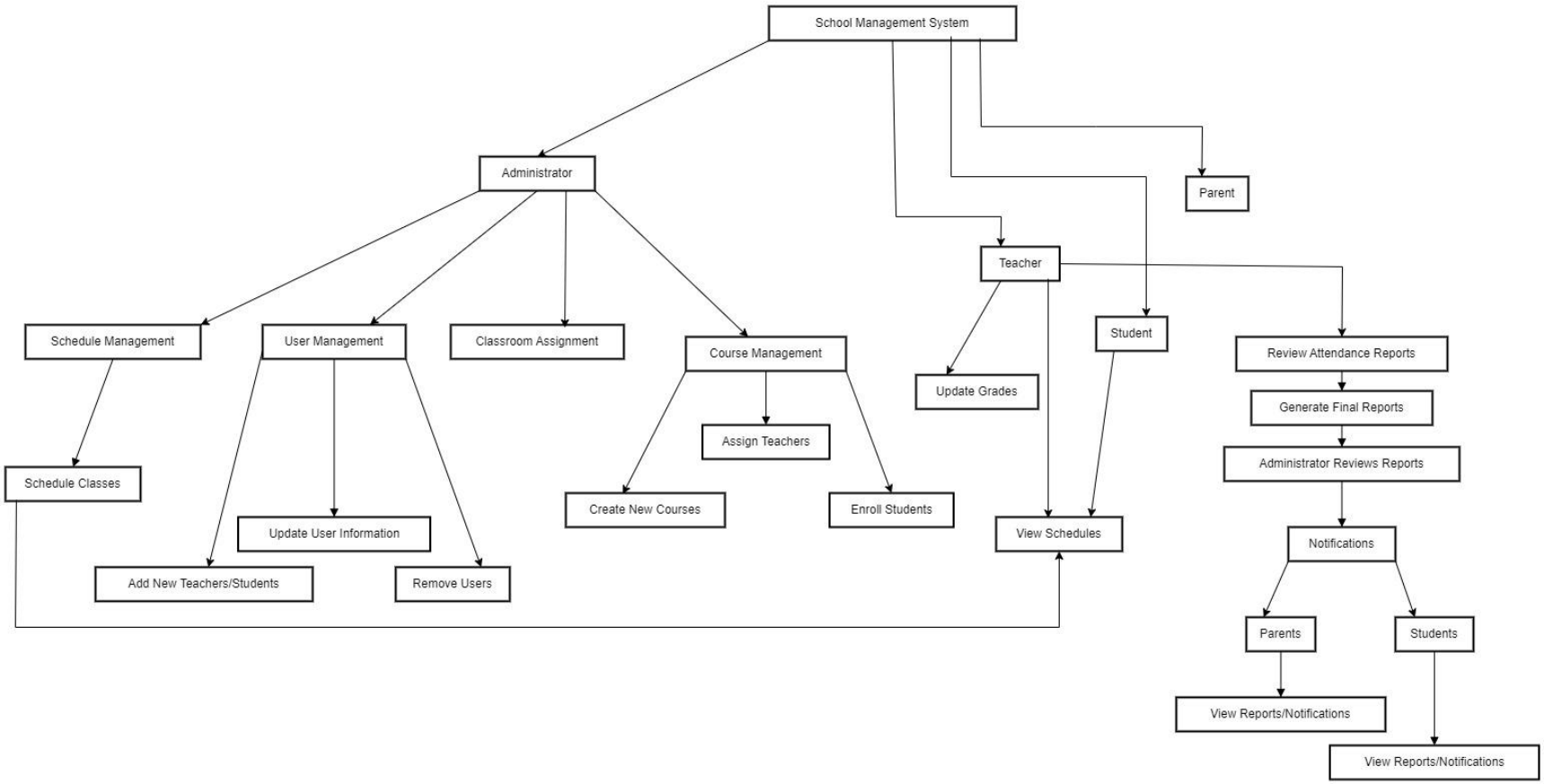
2. Project Overview:

The School Management System is designed to streamline the administrative processes of schools, enhancing communication and efficiency among administrators, teachers, students, and parents. The primary objective of the system is to ensure accurate management of student records, seamless course administration, efficient communication, and timely generation of reports. By automating these tasks, the system aims to improve the overall educational experience for all stakeholders.

Objectives:

1. **Efficient User Management:** Facilitate the addition, update, and removal of users including teachers, students, and administrative staff.
2. **Course and Class Management:** Streamline the creation, assignment, and scheduling of courses and classes.
3. **Communication:** Enhance communication between administrators, teachers, parents, and students.
4. **Report Generation:** Automate the generation of grade and attendance reports for end-of-term reviews.
5. **Notification System:** Ensure timely notifications about important updates, such as grade changes and absences.

Block Diagram:


School Management System
Administrator
Parent
Teacher
Student
Schedule Management
User Management
Classroom Assignment
Course Management
Update Grades
Review Attendance Reports
Generate Final Reports
Assign Teachers
Schedule Classes
Administrator Reviews Reports
Update User Information
Create New Courses
Enroll Students
View Schedules
Notifications
Add New Teachers/Students
Remove Users
Parents
Students
View Reports/Notifications
View Reports/Notifications

Users and Benefits:

1. **Administrators:**
    - **Benefits:** Efficiently manage user data, courses, and class schedules. Simplify communication with teachers and parents. Automate report generation and ensure data accuracy.
2. **Teachers:**
    - **Benefits:** Easily update and manage student grades and attendance records. Communicate efficiently with administrators and parents. Access up-to-date class schedules and reports.
3. **Parents:**
    - **Benefits:** Receive timely notifications about their child's performance and attendance. Access grade and attendance reports easily. Improve communication with teachers and administrators.
4. **Students:**
    - **Benefits:** Stay informed about grades and attendance records. Receive notifications about important updates. Access class schedules and course information seamlessly.

By integrating these sub-systems into a cohesive School Management System, the project aims to enhance the administrative efficiency of schools, improve communication, and ensure that all stakeholders have timely access to accurate information, ultimately fostering a better educational environment.

3. Justification:

Developing the School Management System is essential to address several key challenges and improve overall school operations:

1. **Administrative Efficiency**: Automates time-consuming manual processes, reducing errors and freeing up staff for more strategic tasks.

2. **Accurate Record-Keeping:** Ensures all student, teacher, and course records are accurately maintained and easily accessible.

3. **Enhanced Communication:** Provides a centralized platform for seamless communication between administrators, teachers, parents, and students.

4. **Timely Notifications:** Ensures parents and students receive timely updates about grades, attendance, and important information.

5. **Streamlined Reporting:** Automates the generation and distribution of accurate grade and attendance reports, improving transparency.

6. **User-Friendly Access:** Offers an intuitive interface for easy access to schedules, grades, and attendance information.

7. **Data Security:** Incorporates robust security measures to protect sensitive information and ensure compliance with privacy regulations.

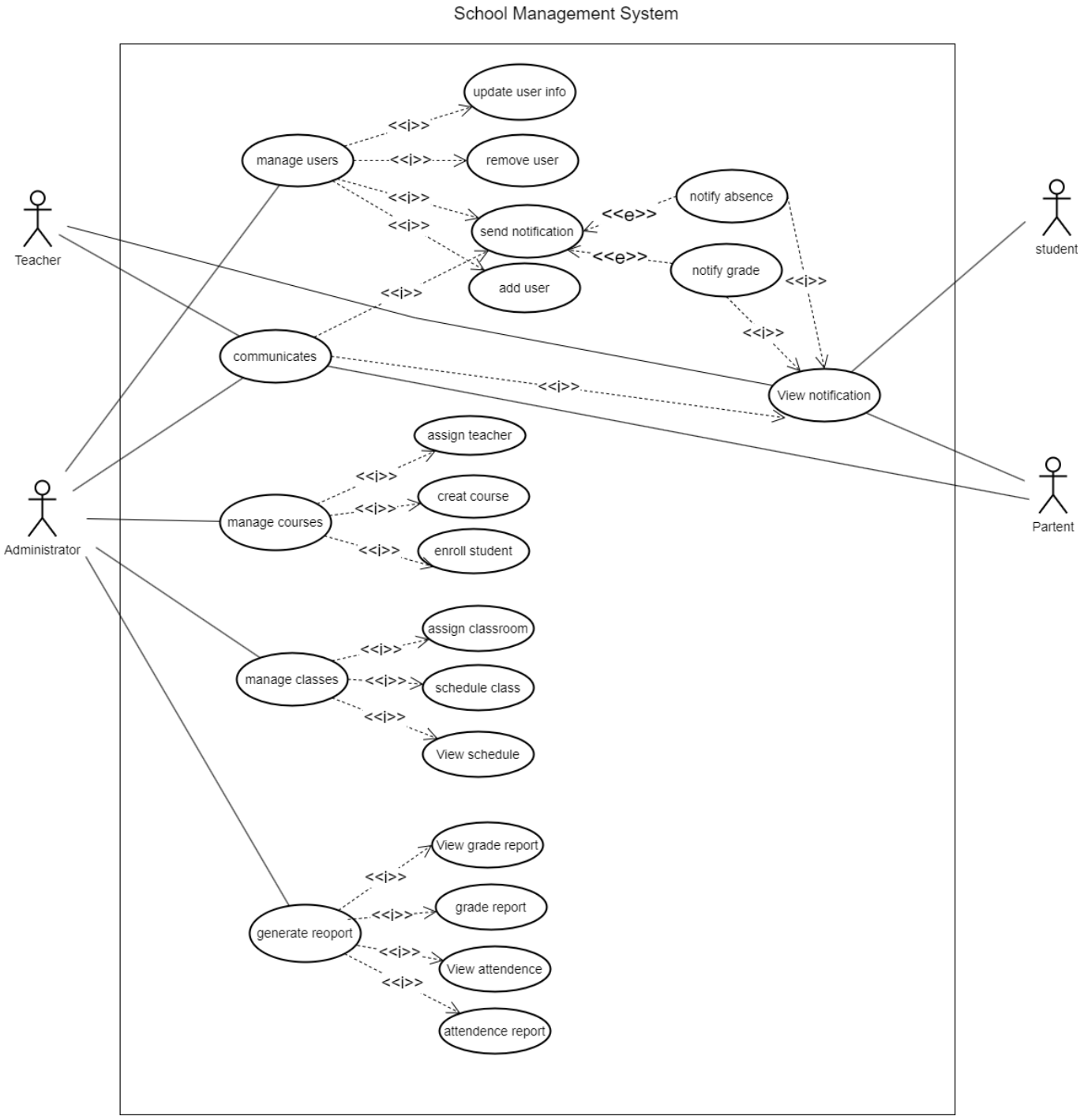
By addressing these challenges, the School Management System enhances administrative efficiency, improves communication, and ensures accurate and timely information for all stakeholders, ultimately modernizing school management practices.

4.Overall Use Case of the project:

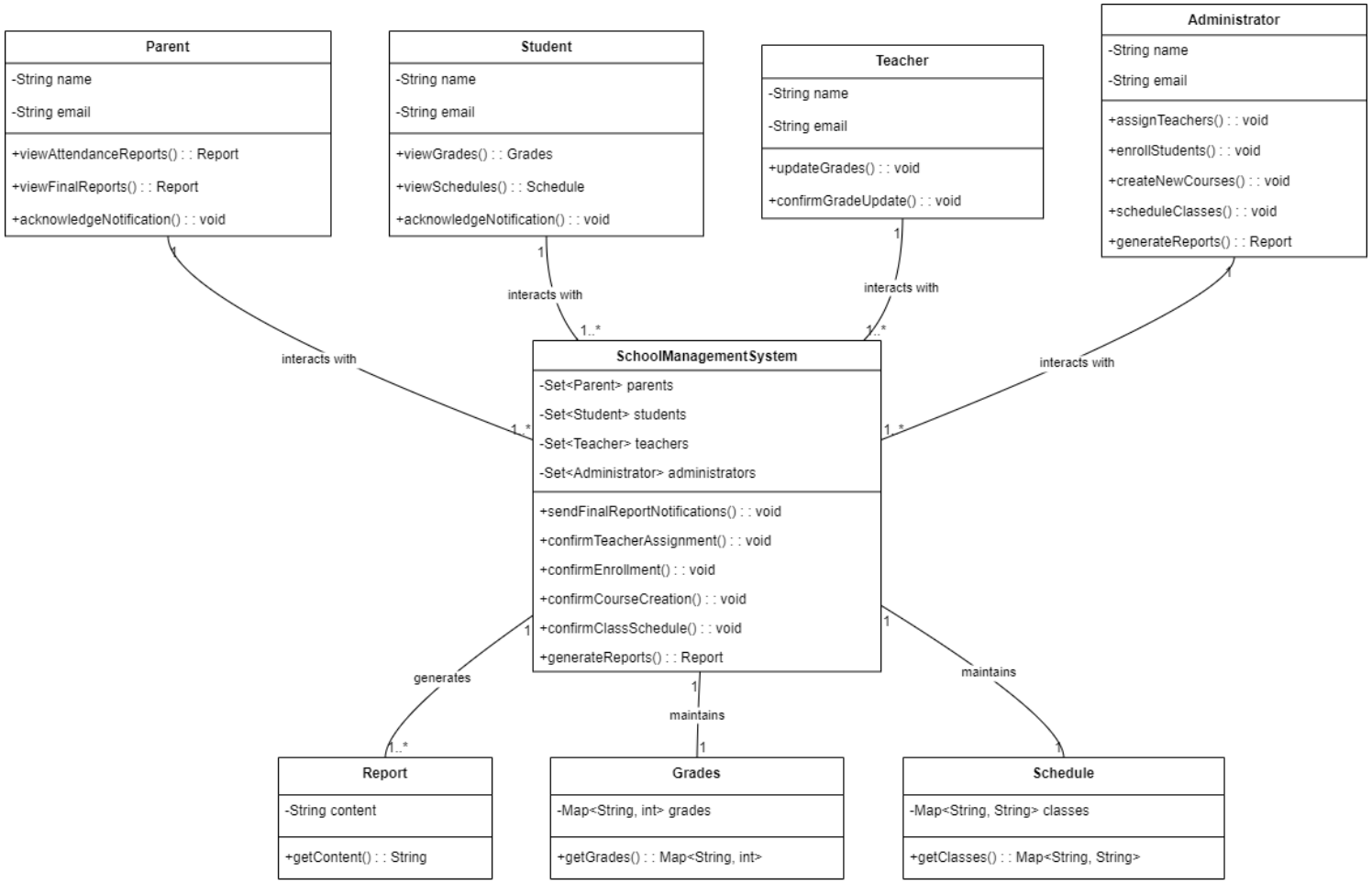
In the School Management System ensures that all student records are up-to-date, and reports are generated for review by parents, involving administrators, teachers, parents, and students. The administrator begins by managing users, adding new teachers and students, updating existing user information, and removing those who are no longer part of the school. Subsequently, the administrator manages courses by creating new courses, assigning teachers, and enrolling students. Additionally, classrooms are assigned, classes are scheduled, and schedules are made available for viewing by teachers and students.

Teachers and administrators use the system to communicate important updates. Teachers update student grades using the "View Grade Report" function and review attendance reports to ensure accuracy. The system then generates final grade and attendance reports, which are reviewed by the administrator. Notifications about grade updates and any absences are sent to parents and students. Parents and students can log in to view these reports and any relevant notifications. Through this process, all stakeholders have up-to-date information, parents are informed about their child's performance and attendance, and the school ensures transparent and efficient communication among all parties, facilitating a smooth end-of-term process.

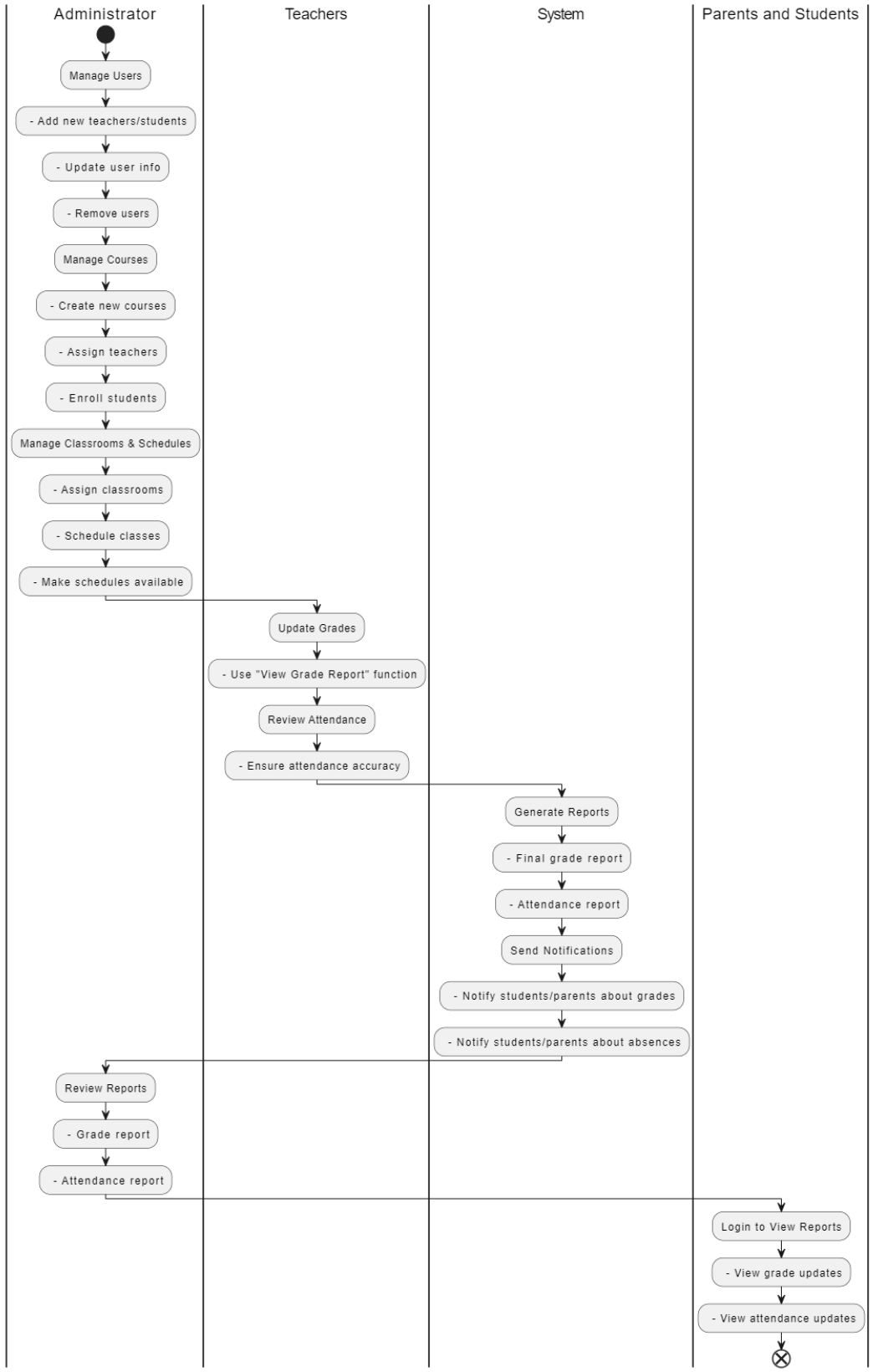
Use Case Diagram:



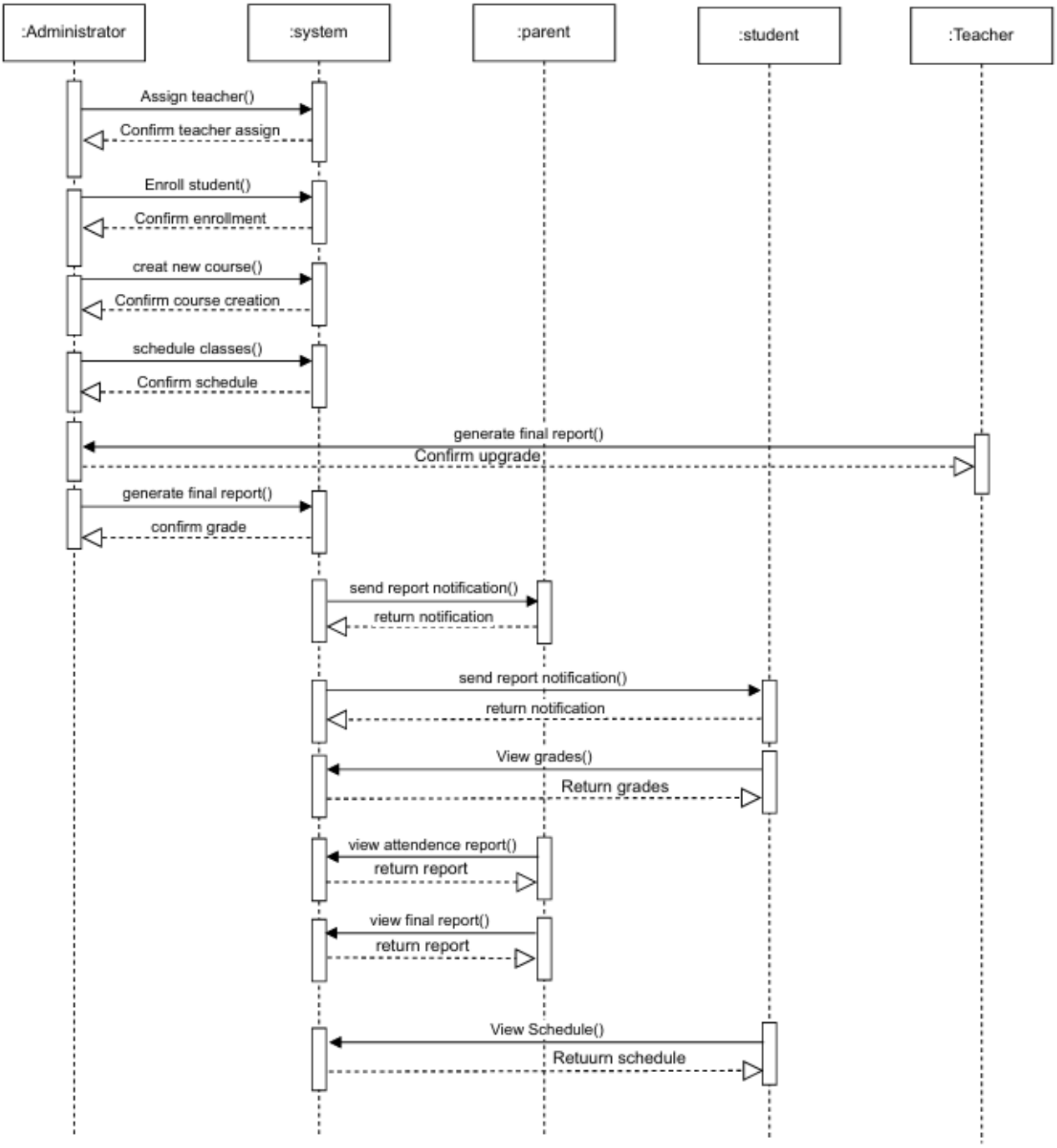
5.Class Diagram :



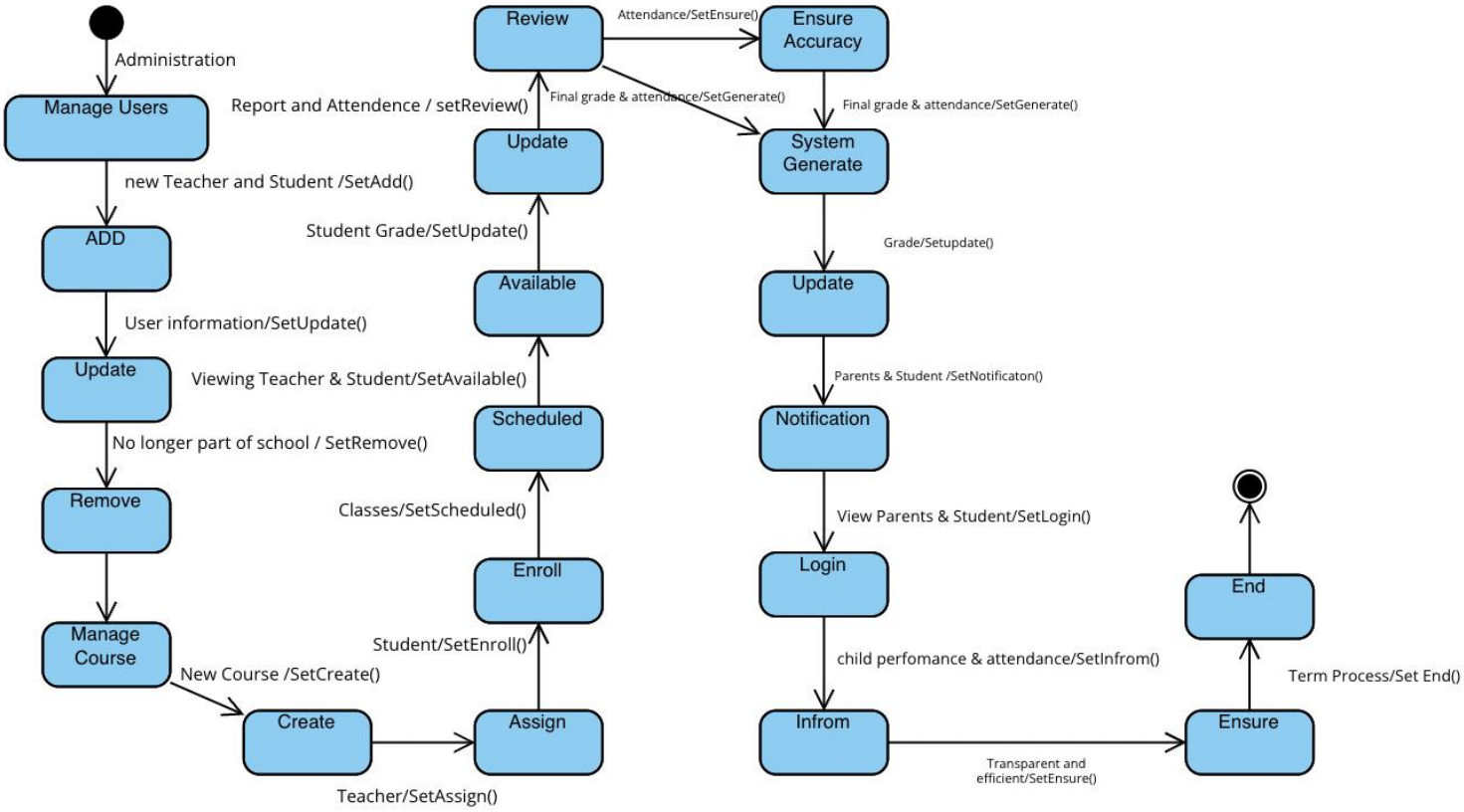
6.Activity Diagram:



7.Sequence Diagram:



8.Statechart Diagram:



9.Conclusion:

The School Management System significantly enhances the management of educational institutions by streamlining administrative tasks, improving communication, and maintaining accurate records. By integrating user management, course administration, and reporting into a cohesive platform, it effectively serves the needs of administrators, teachers, students, and parents.

Administrators benefit from automated processes that reduce manual workloads and ensure data accuracy, while teachers gain simplified access to student information and communication channels. Parents receive timely notifications about their child's performance, promoting engagement, and students have clear visibility into their academic records and schedules.

Overall, the system modernizes school management practices, fostering a transparent and efficient communication framework. This holistic approach improves the educational experience, ensuring all stakeholders have access to timely and accurate information, ultimately supporting a productive learning environment and student success.

Thank You