



Assignment: 1.

Subject: Software Design and Architecture

Registration no: FA22-BSE-098

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Case Study: Virtual Study Group System

The Virtual Study Group System is an innovative solution designed to address the growing need for collaborative learning in a digital environment. In today's fast-paced educational landscape, students often seek ways to engage with their peers outside the traditional classroom setting. The system aims to provide a platform that fosters collaboration, communication, and peer-to-peer learning, ensuring that students can easily form study groups, share knowledge, and stay connected regardless of physical location.

The platform supports the creation and management of study groups, where students can join, leave, and interact with other members. It facilitates notifications to keep all members informed about any changes in the group, such as when new members join, or when messages are sent by other members. These features are crucial for maintaining an active and engaged learning community, ensuring that students are always aware of important updates.

One of the key challenges the system addresses is the difficulty students face when trying to form effective study groups. By automating group management and communication, the system reduces the barriers to entry for students, allowing them to focus more on collaborative learning and less on administrative tasks. This ease of use is especially beneficial for students who may not have easy access to face-to-face study groups due to geographic, social, or time constraints.

The Virtual Study Group System also supports the role of administrators who have control over group membership. Admins can add or remove members, ensuring that the group remains well-organized and that all members are engaged in the study process.

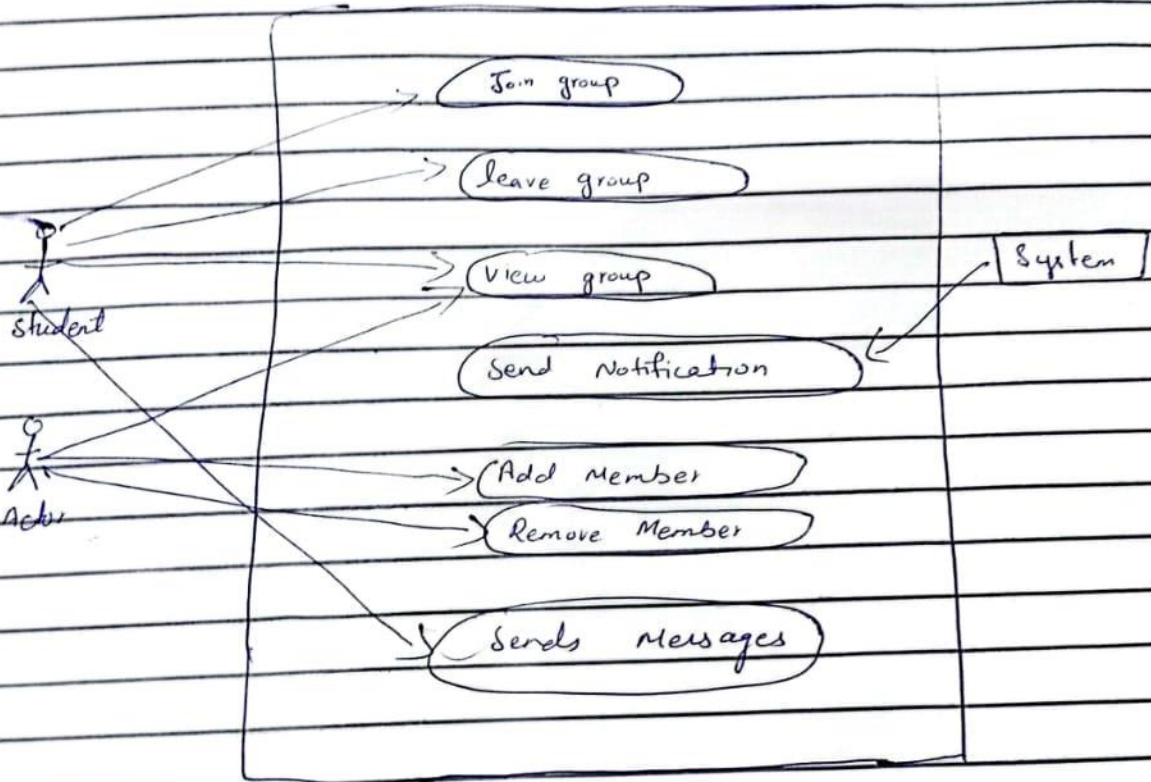
Through the implementation of this system, students are empowered to take charge of their learning experience by actively participating in study groups and engaging with peers. The system not only enhances their academic performance but also helps build a sense of community and collaboration, which is essential for the modern learner. The study group environment created by this system fosters knowledge sharing, problem-solving, and teamwork, which are invaluable skills in both academic and professional settings.

Use Case: Join Study Group

Diagrams:

Use case diagram

Use Case



Fully Dressed Use Case

Actor: Student

Preconditions: The student must be logged into the system.

Postconditions: The student is added to the group, and all members (and admins) are notified.

Flow of Events:

The student selects "Join Group" from the options.

The system verifies the group exists.

The system adds the student to the group.

The system sends notifications to all members and admins of the new member joining.

The system logs the event for record keeping.

SSD

SSD



Join group ()

verify Group exist ()

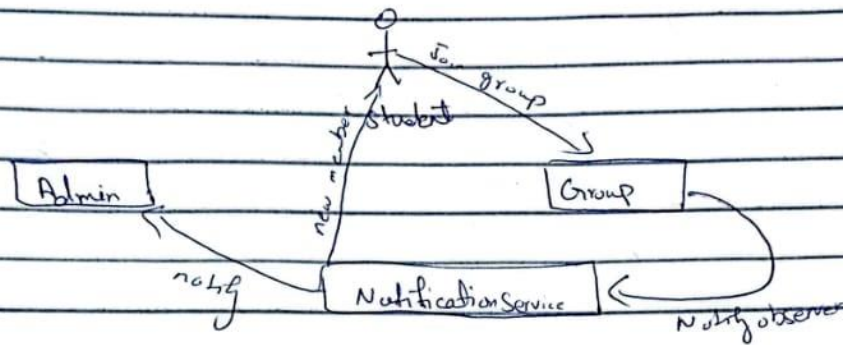
Add student

Sending notification

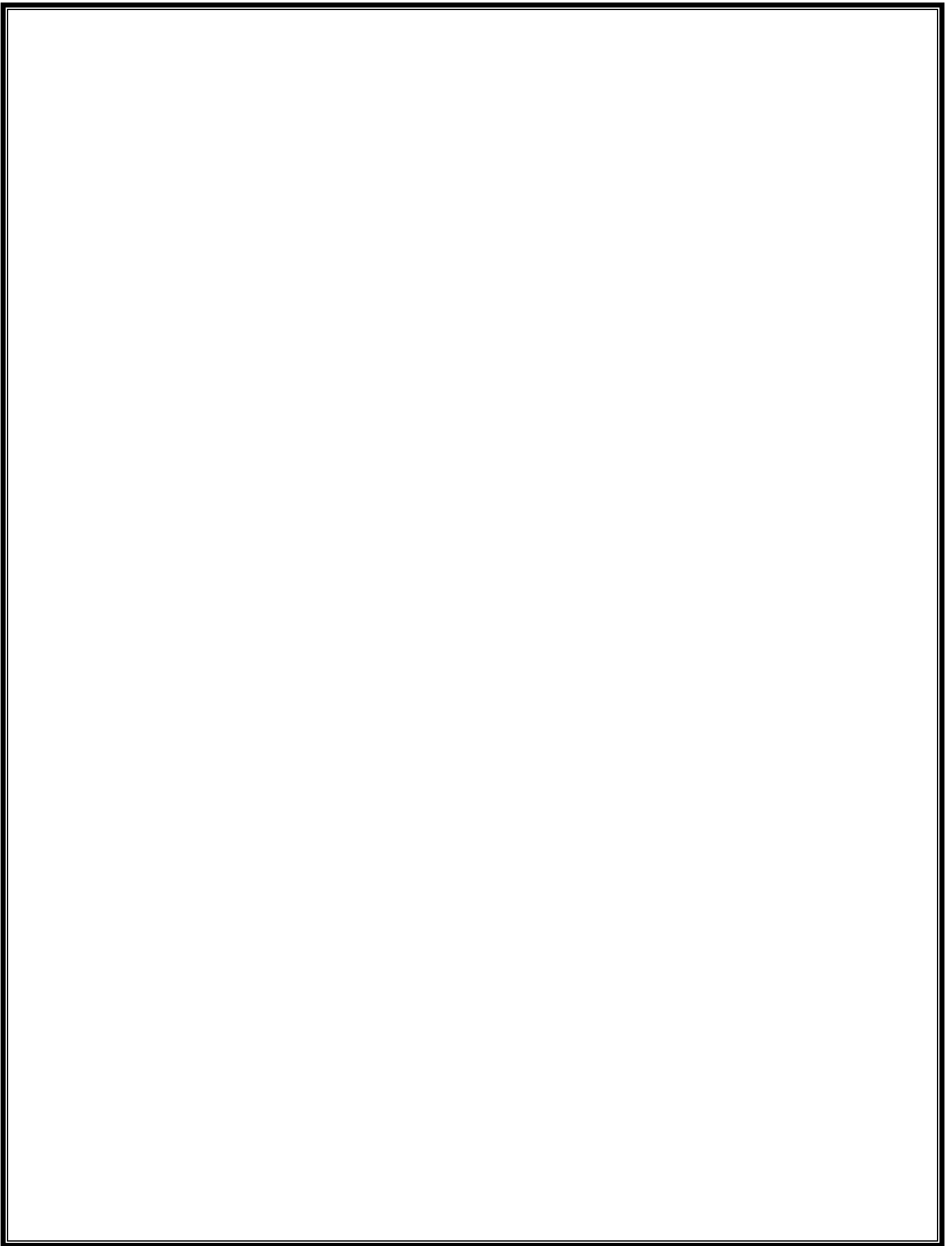
notify ()

Communication diagram

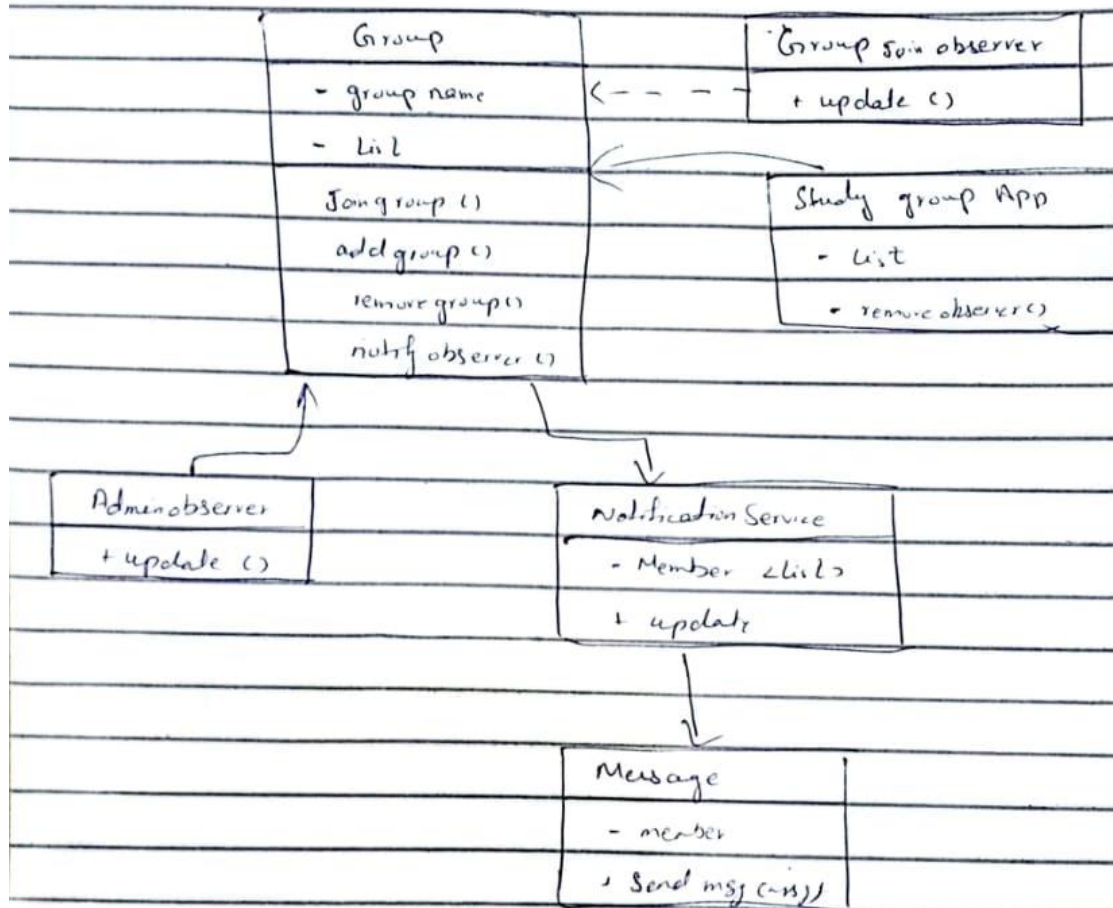
Communication Diagram



Class Diagram



Class diagram



Package Diagram

Class diagram

