Batch: D-2	**Roll No.: 16010123324** **16010123325** **16010123331**
Experiment No. 5	
Grade: AA / AB / BB / BC / CC / CD /DD	
Signature of the Staff In-charge with date	

Title: To develop UML diagrams for selected project

Aim: To learn and understand the way of creating various UML diagrams for requirement analysis

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CO: Analyse the software requirements and Model the defined problem with the help of UML diagrams.

Books/ Journals/ Websites referred:

1. Roger Pressman, "Software Engineering", sixth edition, Tata McGraw Hill.
2. System Analysis & Design by Satzinger, Jackson and Burd, Cengage Learning, 2007
3. System Analysis and Design Methods by Jeffery l. Whitten, Lonnie D Bentley,McGraw Hill, 7th edition.
4. System Analysis and Design by Alan Dennis, Barbara H. Wixom, Roberta M. Roth,Wiley India 4th edition
5. http://en.wikipedia.org/wiki/Software_requirements_specification
6. http://en.wikipedia.org/wiki/Use_case

Pre Lab/ Prior Concepts:

Activity Diagram:

- An activity diagram represents the workflow or the sequence of activities in a system. It illustrates the dynamic aspects of the system, showing how different activities are connected and the flow of control from one activity to another.
- For your project, the activity diagram helps map out the processes or workflows within the system. It allows you to visualize how the system behaves during

different operations, such as how a user might navigate through the system or how different components interact during a process.

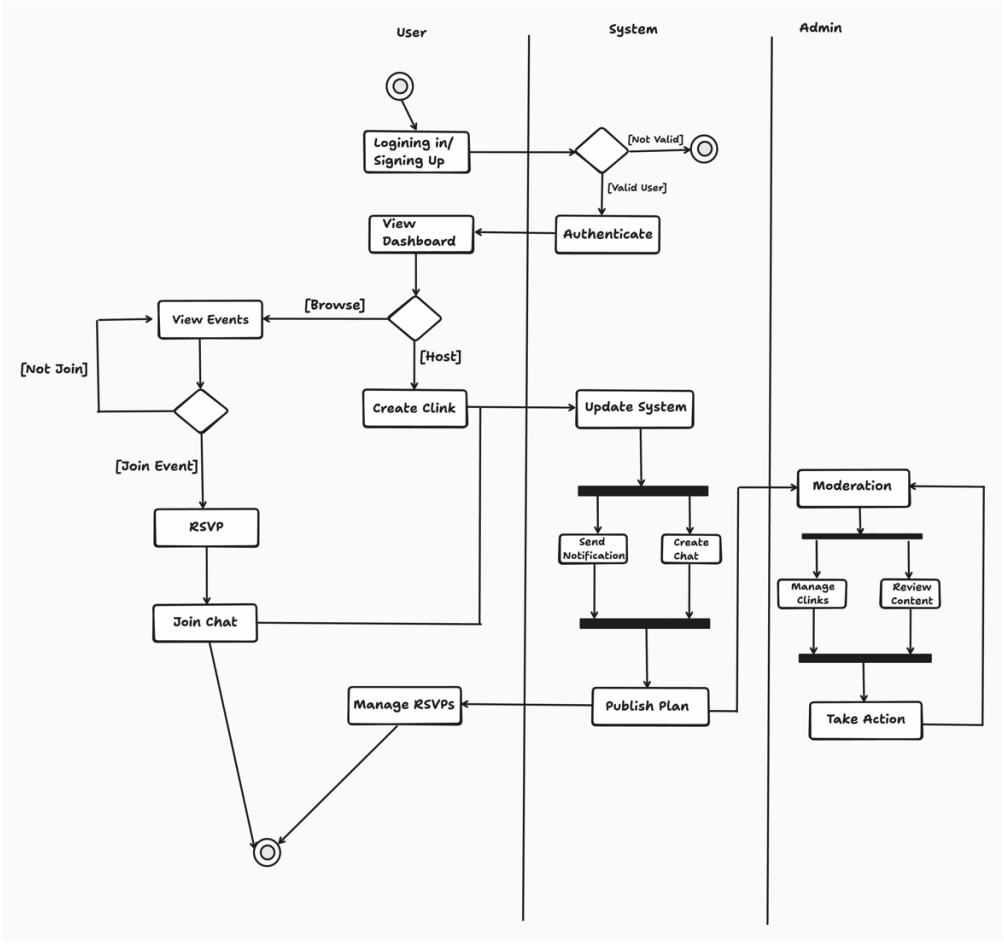
Sequence Diagram:

- A sequence diagram focuses on the time-ordering of messages or interactions between objects or components in the system. It shows how objects interact with each other over time to carry out a particular functionality.
- In your project, the sequence diagram is used to detail the interactions between objects for specific use cases. It helps in understanding the flow of messages between objects, the order of operations, and how the system's components work together to achieve a particular outcome.

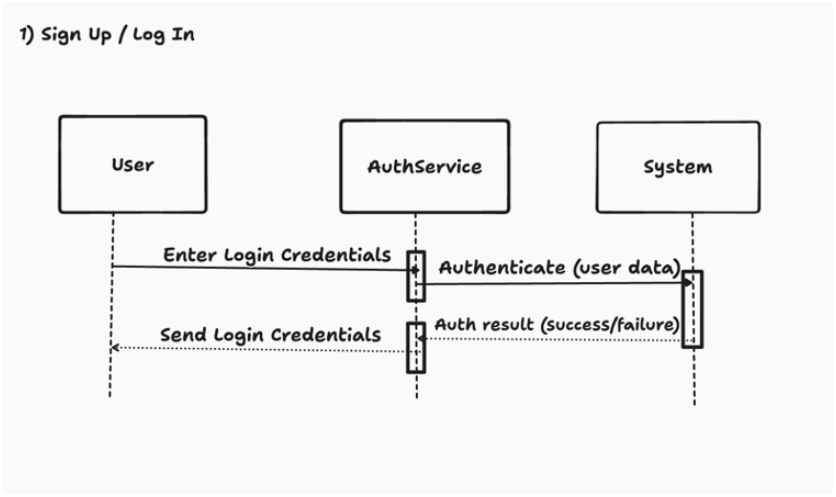
Developing these UML diagrams for your project provides a comprehensive view of both the static and dynamic aspects of the system. They are crucial for the design phase, ensuring that all stakeholders have a clear understanding of the system's architecture and behavior. By creating these diagrams, you lay the foundation for a well-structured, maintainable, and scalable software system.

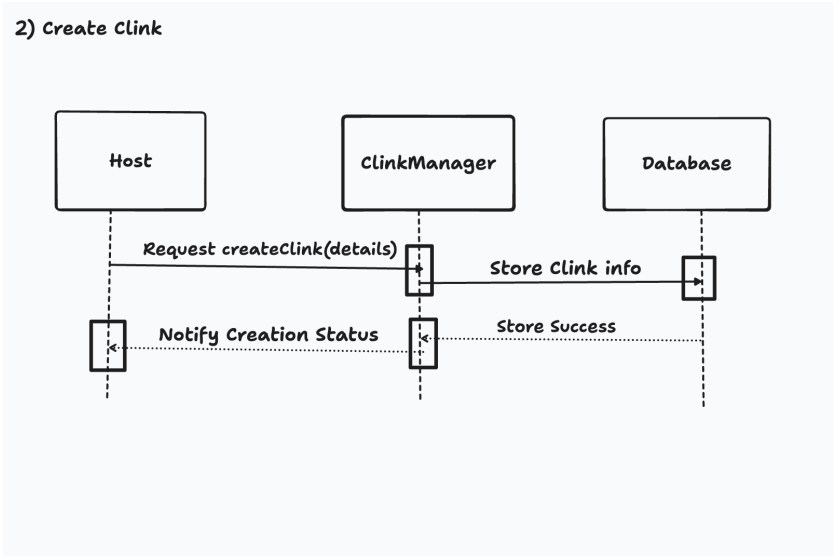
Diagram for your system:

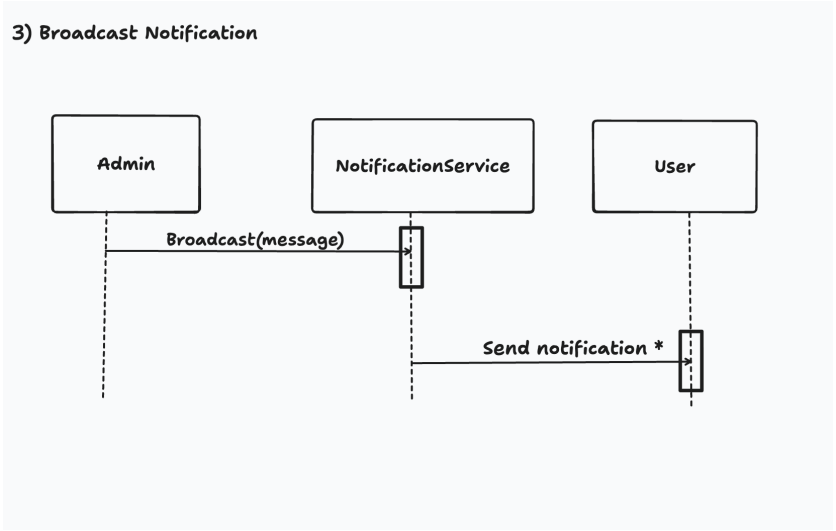
Activity diagram:



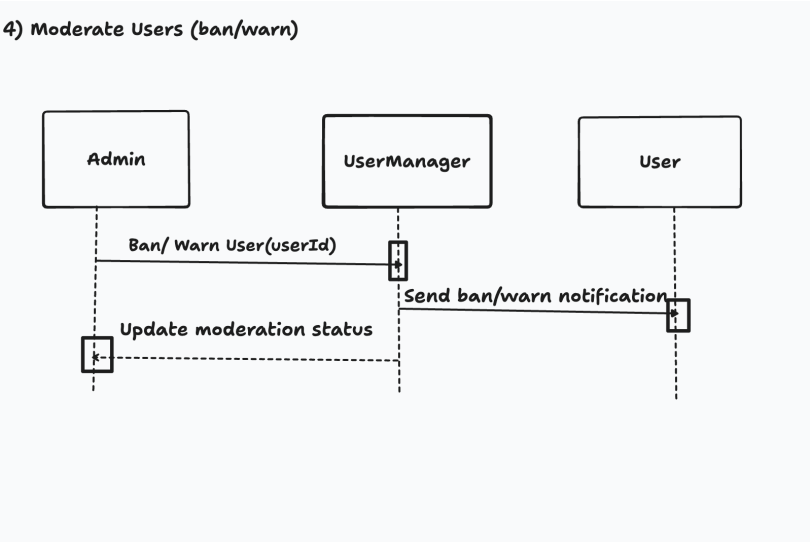
Sequence diagram:



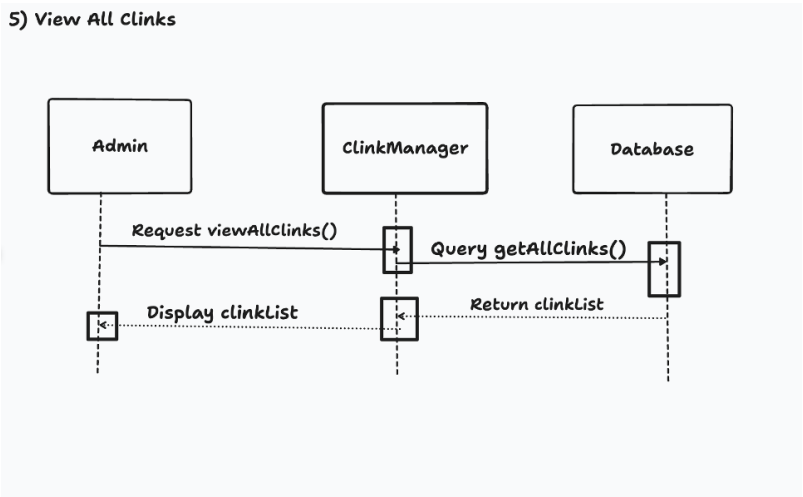




4) Moderate Users (ban/warn)



5) View All Clinks



Conclusion:

In the above experiment we created sequence diagrams for the use cases of Clink along with the activity diagram of Clink. The experiment also demonstrated the scope of each diagram and the differences between collaboration and sequence diagram.

Post Lab Descriptive Questions:

1. Compare sequence diagram with collaboration diagram. Explain pros and cons of each.

   A **Sequence Diagram** emphasizes the time order of messages between objects. Objects are placed at the top with lifelines extending downward, and messages are shown as arrows in a top-to-bottom sequence.
   Pros: Sequence diagrams are intuitive and easy to understand, making them well suited for analyzing use case scenarios. They clearly depict the order of interactions over time and help in detecting timing-related issues.
   Cons: They do not show structural relationships between objects. For complex interactions, they can become very lengthy and cluttered.

   A **Collaboration (or Communication) Diagram** emphasizes the structural organization of objects and their relationships. Objects are shown as nodes connected by links, and messages are indicated by numbers to represent the sequence of interaction.
   Pros: Collaboration diagrams are more compact and highlight how objects are linked. They provide a clear view of object collaboration and the distribution of responsibilities.
   Cons: They are less effective in showing the exact timing and order of messages compared to sequence diagrams. With many interconnected objects, they may become confusing.