SHRI VILEPARLE KELAVANI MANDAL'S
DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING
(Autonomous College Affiliated to the University of Mumbai)
NAAC ACCREDITED with "A" GRADE (CGPA : 3.18)

Software Engineering - Experiment 3

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Aim
Identify scenarios & develop UML Use case and Class Diagram for the project

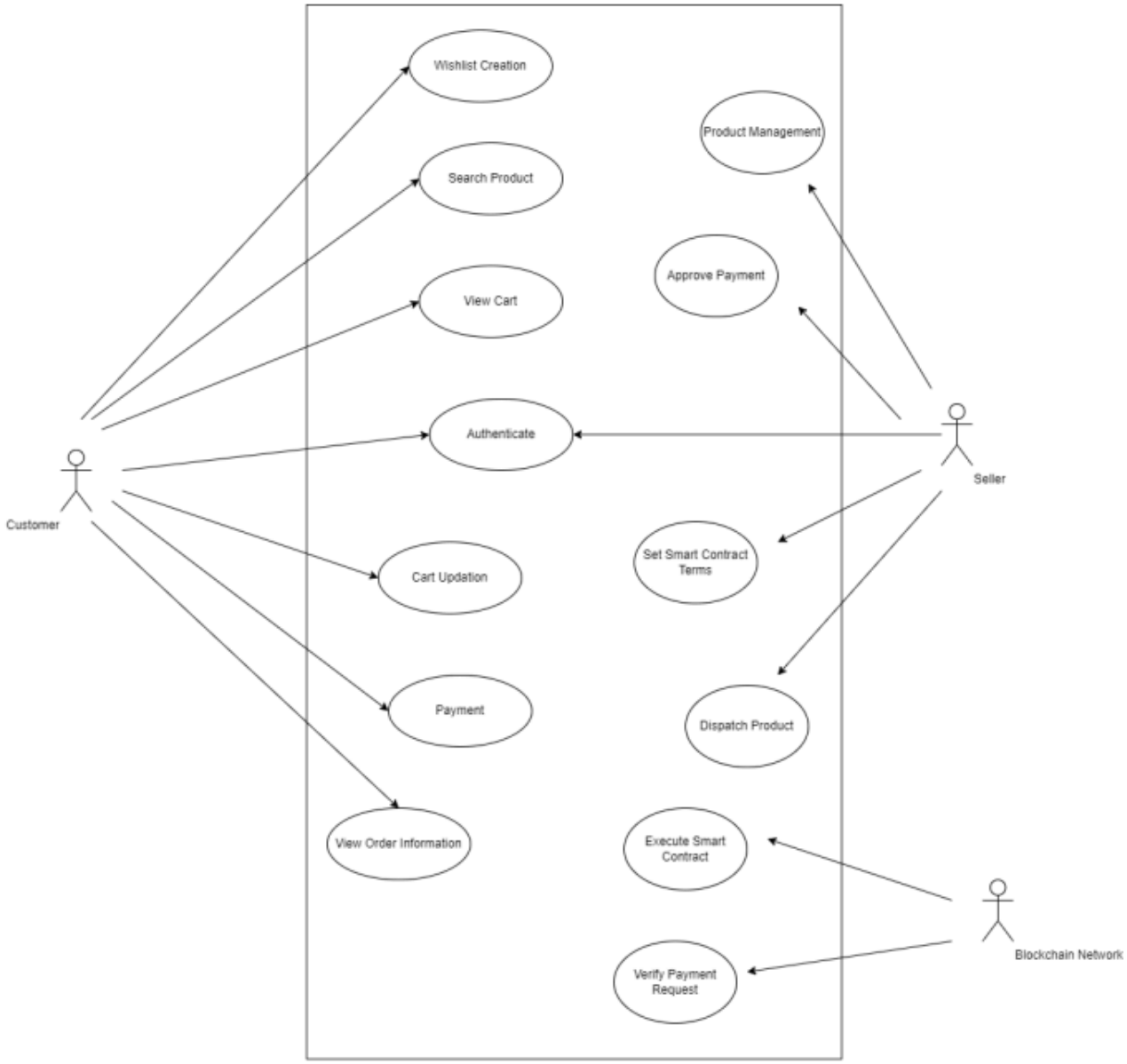
Theory
Use case diagrams and class diagrams are two important tools used in the field of software engineering to model and design software systems.

A use case diagram is a visual representation of the functional requirements of a system. It consists of actors, use cases, and the relationships between them. The actors are the external entities that interact with the system, while the use cases are the actions or services provided by the system. The relationships between them depict how the actors and use cases interact with each other. The use case diagram provides an overview of the system's functionality and can be used to communicate the system's behaviour to stakeholders.

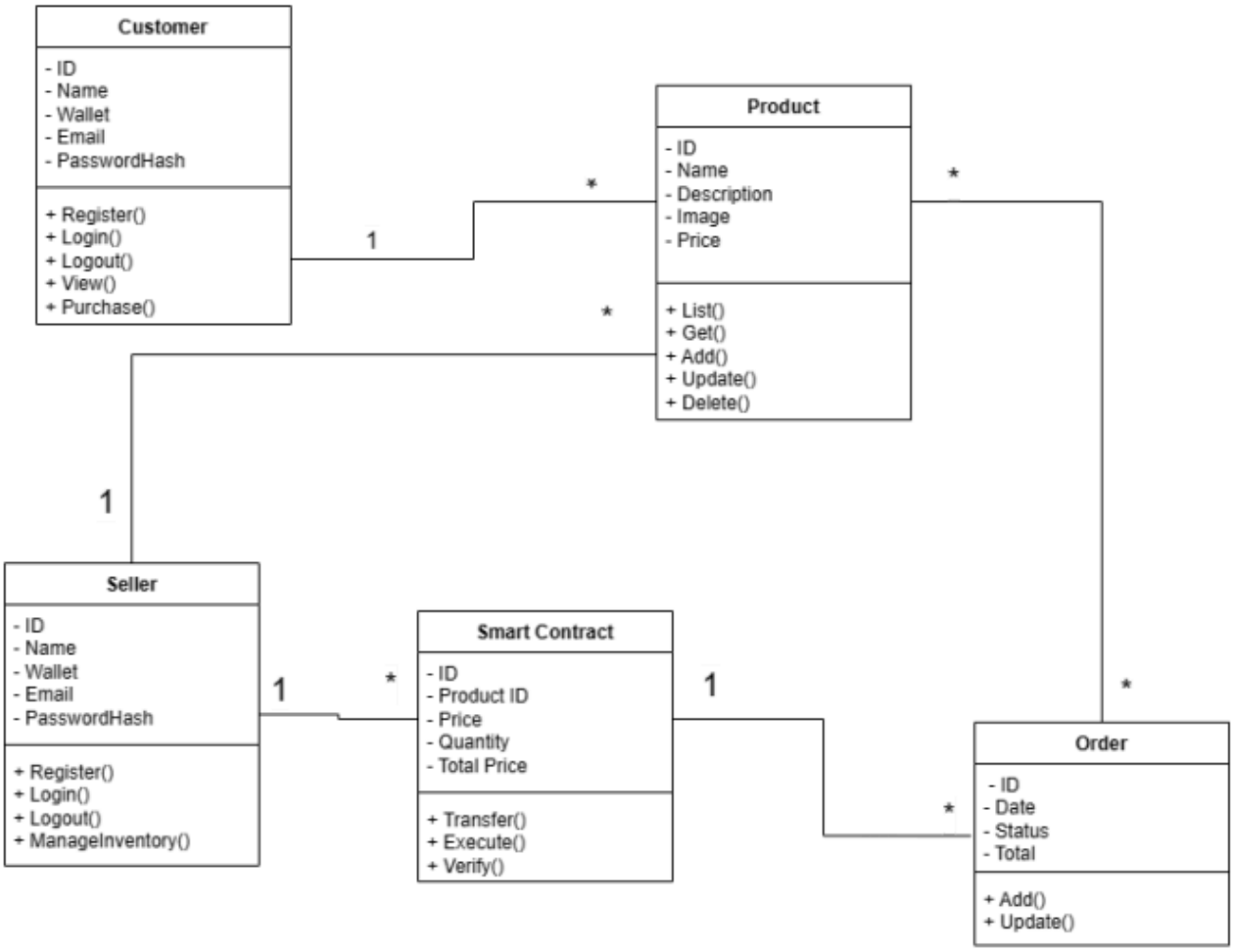
On the other hand, a class diagram is a structural diagram that describes the classes, attributes, and methods of a system. It provides a detailed view of the system's internal structure and is used to model the behaviour of the system's objects. A class diagram consists of classes, relationships between classes, attributes, and methods. Classes represent the objects in the system, and the relationships between them represent the associations, dependencies, and inheritance relationships. Attributes describe the properties of the objects, while methods define the behaviour of the objects.

Together, use case diagrams and class diagrams provide a comprehensive view of a software system's functionality and structure. They help software developers to communicate their design decisions to stakeholders and ensure that everyone has a clear understanding of the system's behaviour and structure. By using these diagrams, software developers can model and design software systems that are robust, reliable, and meet the needs of their users.

Use Case Diagram



Class Diagram



Conclusion

In conclusion, use case diagrams and class diagrams are essential tools for software engineers in the design and development of software systems. Use case diagrams provide a high-level view of a system's functionality and the interactions between the system and its users, while class diagrams provide a detailed view of a system's internal structure, including the classes, attributes, and methods that define its behaviour.

Use case diagrams and class diagrams are complementary tools that help software developers to communicate their design decisions to stakeholders, ensuring that everyone has a clear understanding of the system's behaviour and structure. By using these diagrams, software developers can model and design software systems that are robust, reliable, and meet the needs of their users.

Overall, the use of use case diagrams and class diagrams promotes effective communication, enhances system design and development, and ultimately leads to the creation of high-quality software systems.