Deccan Education Society's (DES)
Pune University, Pune
School of Engineering and Technology
Department of Computer Engineering and Technology
Program: B. Tech in Computer Science and Engineering

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Title: Generating Use Case Diagrams using Miro/StarUML

1. What is UML?

Unified Modeling Language (UML) is a standardized modeling language that provides a general-purpose, developmental framework for visualizing, specifying, constructing, and documenting the components of a software system. UML is widely used to depict the structure and behavior of software systems through various types of diagrams, such as class diagrams, sequence diagrams, and use case diagrams.

2. Need for Use Case Diagrams

A use case diagram is a visual representation of the functional requirements of a system. It illustrates how different actors (users or other systems) interact with various use cases (functionalities) of the system. The purpose of use case diagrams is to capture the dynamic aspects of a system, thereby facilitating communication between stakeholders and developers while defining the system's boundaries.

3. Notations in Use Case Diagrams

- **Actors:** Represented by stick figures, actors are external entities that interact with the system.

- **Use Cases:** Represented by ovals, use cases describe specific functionalities or actions within the system.

- **Associations:** Lines that connect actors to use cases, showing interactions.

- **System Boundary:** A rectangle that defines the scope of the system being modeled.

- **Include Relationship:** A dashed arrow indicating that a use case always includes the behavior of another use case.

- **Extend Relationship:** A dashed arrow indicating optional behavior that extends the base use case under certain conditions.

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4. Example

Below is an example use case diagram for a simple online bookstore. It includes actors such as Customer, Admin, and Payment Gateway, along with use cases like 'Search Books,' 'View Book Details,' 'Add to Cart,' 'Checkout,' and 'Manage Inventory.'

5. Use Case Diagram