CSE 333 – Software Engineering

Pranta Sarker

Lecturer

Dept. of CSE, NEUB

Lecture 11

Outline

- Use case diagram

Use case diagram

- A use case diagram is a dynamic or behavior diagram in UML.
- Use case diagrams model the functionality of a system using actors and use cases.
- Use cases are a set of actions, services, and functions that the system needs to perform.
- In this context, a "system" is something being developed or operated, such as a web site.
- The "actors" are people or entities operating under defined roles within the system.

Why Make Use Case Diagrams?

- Use case diagrams are valuable for visualizing the functional requirements of a system that will translate into design choices and development priorities.
- They also help identify any internal or external factors that may influence the system and should be taken into consideration.
- They provide a good high-level analysis from outside the system.
- Use case diagrams specify how the system interacts with actors without worrying about the details of how that functionality is implemented.

Use case diagrams symbols and notations

- System
- Use case
- Actors
- Relationships

Use case diagrams symbols and notations

System

- Draw your system's boundaries using a rectangle that contains use cases. Place actors outside the system's boundaries.

Use case diagrams symbols and notations

Use case

- Draw use cases using ovals. Label the ovals with verbs that represent the system's functions.

Use case diagrams symbols and notations

Actors

- Actors are the users of a system. When one system is the actor of another system, label the actor system with the actor stereotype.

Actor

Use case diagrams symbols and notations

Relationships

- Illustrate relationships between an actor and a use case with a simple line.
- For relationships among use cases, use arrows labeled either “uses” or "extends“ or “include”.
- A "uses" relationship indicates that one use case is needed by another in order to perform a task.
- An "extends" relationship indicates alternative options under a certain use case.
- It is used to extract use-case fragments that are duplicated in multiple use-cases. It is also used to simplify large use-case by splitting it into several use-cases and to extract common parts of the behaviors of two or more use-cases.

<<extends>> <<include>> <<uses>>

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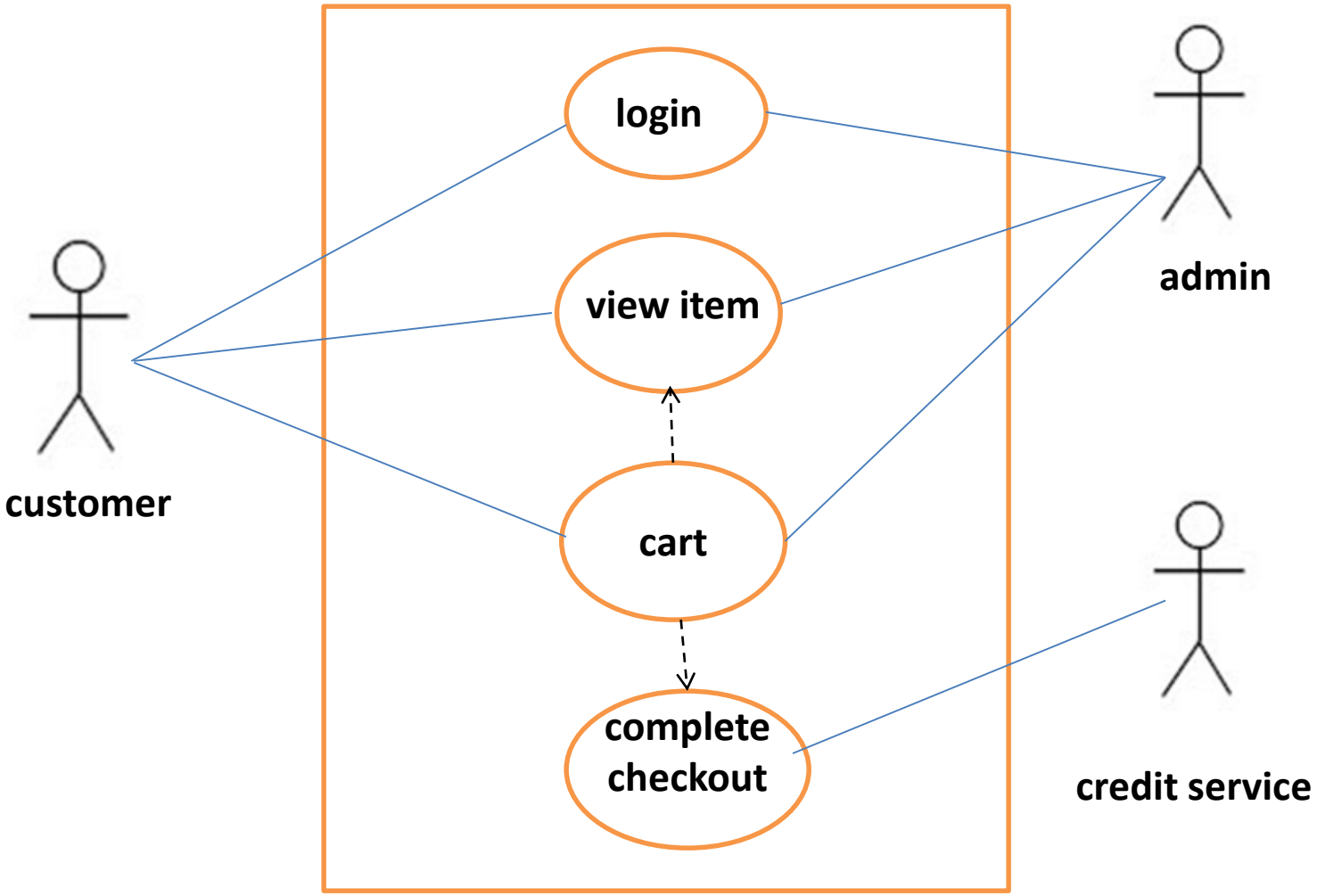
Use case diagram: Example

1. For an online shopping system, a user may be a customer after a valid login system by admin.
2. A customer can view items.
3. A customer can insert an item into cart whice he wants to buy.
4. Customer can check-out after a valid payment service by credit for that particuler item(s).

Use case diagram: Example



Thank you!!