

Use Case Diagrams

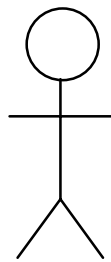
- Basic Concepts
- Actor
- Use Case
- <<includes>>
- <<extends>>

Basic Concepts

- Use cases are not inherently object-oriented
 - An external (user) view of the system
 - Intended for modelling the dialog between the users and the system
- The main concepts in use cases are
 - Actor
 - Use Case
 - <<includes>>
 - <<extends>>

Actor

- An Actor is a role of an object or objects outside of a system that interacts directly with it as part of a coherent work unit (a use case)
 - One physical object (or class) may play several different roles and be modeled by several actors
- Notation



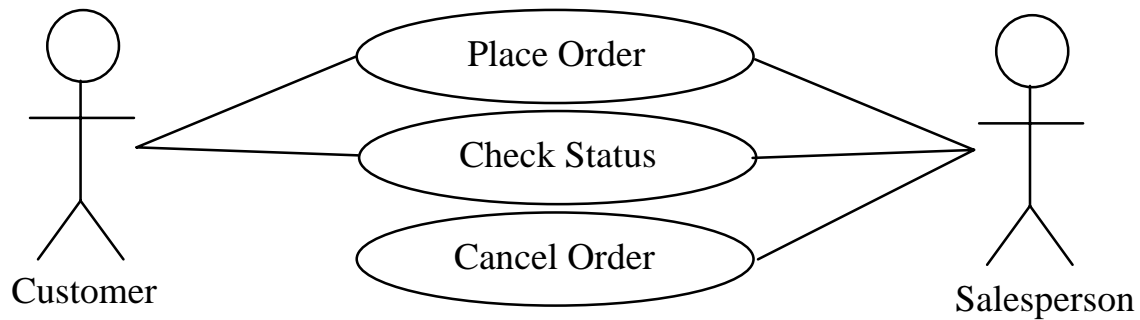
Reservation Agent

- Example actors for an Airline Reservation system
 - Airline administrators (fare/schedule setting)
 - Travel Agent
 - Airline Reservations Agent
 - Check-in Agents at Airport
 - Gate Agent at Airport
 - ...

Use Case

- A Use Case captures some actor-visible function
 - Achieves some discrete (business-level) goal for that actor
 - May be read, write, or read-modify-write in nature

- Notation

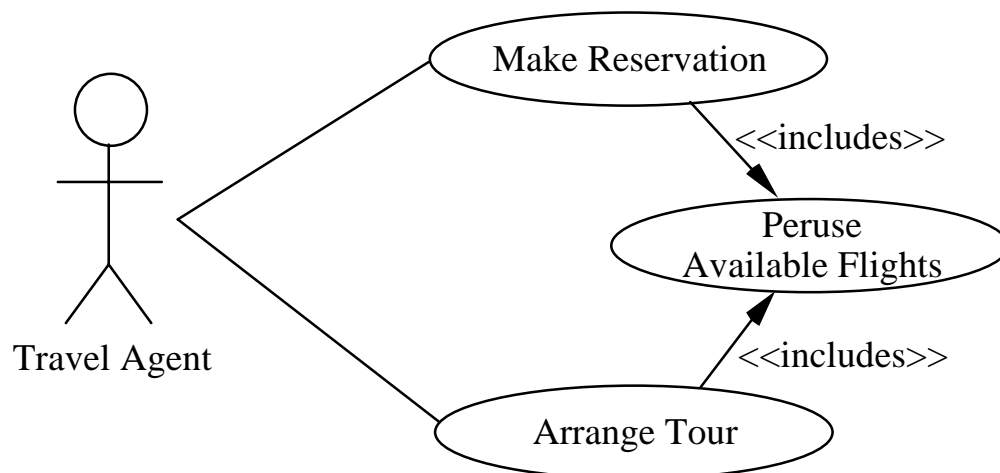


- Use cases within an Airline Reservation system might include
 - Checking in for a flight
 - Assigning a seat
 - Checking baggage
 - ...

<<includes>>

- One common fragment of a user-perceivable action has been pulled out into a separate use case
 - Like a “use case subroutine”

- Example



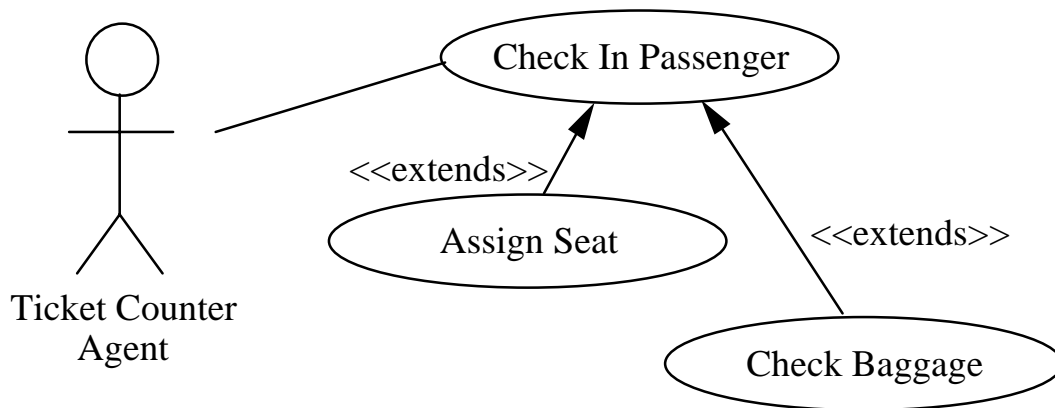
- Make Reservation and Arrange Tour both depend on Peruse Available Flights
 - * Note that the arrows go from the dependent use cases

- Typically used when the same unit of functionality is part of more than one use case
 - The base use cases are, in a sense, incomplete without the included use case

<<extends>>

- A significant alternative course of action exists within the use case
 - Like “use case inheritance”

- Example



- Assign Seat and Check Baggage both depend on Check In Passenger
 - * Note that the arrows go from the dependent use cases
- Typically used when there are important, *optional* variations on the basic theme of the base use case
 - The base use case is complete in and of itself

Key Points

- Use cases are not inherently object-oriented
 - An external (user) view of the system
 - Intended for modelling the dialog between the users and the system
- An Actor is a role of an object or objects outside of a system that interacts directly with it as part of a coherent work unit (a use case)
- A Use Case captures some actor-visible function that achieves some discrete (business-level) goal for that actor
- <<includes>> and <<extends>> allow common fragments of use cases to be pulled out into a separate use cases
 - <<includes>> is like a “use case subroutine”
 - <<extends>> is an alternative course of action