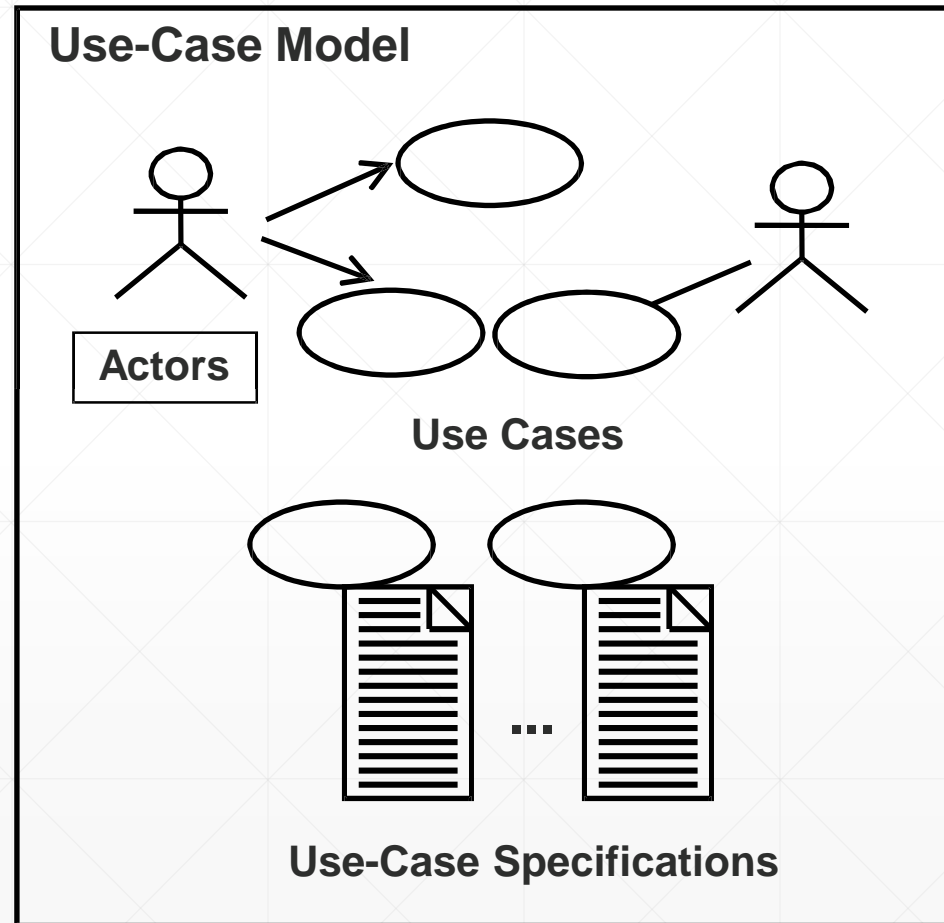


Use Case Model

Use case description

Relevant Requirements Artifacts



**Supplementary
Specification**

Full Use Case Description

- Shows steps (“Flow of Events”) in more detailed and are structured; they dig deeper

A Recommended Template:

Use Case Description	
Use Case name:	
Use Case Description:	
Primary actor:	Other actors:
Stakeholders:	
Relationships <ul style="list-style-type: none">▪ Includes:▪ Extends:	
Pre-conditions: <ul style="list-style-type: none">▪	
Flow of Events: 1. Actor does.... 3. 4.	
Alternative and exceptional flows: 4.1	
Post-conditions: <ul style="list-style-type: none">▪	

Use Cases Basics

- A use case has four mandatory elements:
 1. **Name**: Each use case has a unique name describing what is achieved by the interaction with the actor.

EX: "Turn Light On/Off" and "Print Document" are good examples.
 2. **Brief description**: The purpose of the use case should be described in one or two sentences.

EX: "This use case controls the selected light bank when instructed by the actor Homeowner."
 3. **Actor(s)** List each actor that participates in the use case.
 4. **Flow of events**: The heart of the use case is the event flow, usually a textual description of the interactions between the actor and the system.
 - The main (basic) flow of events
 - The alternate flows of events

Use Cases Basics

- Optional elements in a Use case:
 - **Pre-conditions**: Must be present in order for a use case to start. Represent some system state that must be present before the use case can be used.

EX: A pre-condition of the "Print Author's Manuscript Draft" use case is that a document must be open.

- **Post-conditions**: Describe the state of the system after a use case has run. Represent persistent data that is saved by the system as a result of executing the use case.

EX: Post-condition of "Register" use case is that the new data is added in the profile of the student.

Use Cases Basics

- **Other stakeholders**: Other key stakeholders who may be affected by the use case.

EX: A manager may use a report built by the system, and yet the manager may not personally interact with the system in any way and therefore would not appear as an actor on the system.

Brief Description of Use Case

Create new order description

When the customer calls to order, the order clerk and system verify customer information, create a new order, add items to the order, verify payment, create the order transaction, and finalize the order.

- Same description that is usually captured in initial Use Case Diagrams

Full Use Case Description

- Telephone Order Scenario for Create New Order Use Case

Use Case Name:	Create new order
Brief Description:	When customer calls to order, the order clerk and system verify customer information, create a new order, add items to the order, verify payment, create the order transaction, and finalize the order.
Actors:	Telephone sales clerk
Related Use Cases:	Includes: <i>Check item availability</i>
Stakeholders:	Sales department: to provide primary definition Shipping department: to verify that information content is adequate for fulfillment Marketing department: to collect customer statistics for studies of buying patterns
Preconditions:	Customer must exist. Catalog, Products, and Inventory items must exist for requested items.
Postconditions:	Order and order line items must be created. Order transaction must be created for the order payment. Inventory items must have the quantity on hand updated. The order must be related (associated) to a customer.

Full Use Case Description

- Telephone Order Scenario for Create New Order Use Case

Flow of Events:	<ol style="list-style-type: none">1. Sales clerk answers telephone and connects to a customer.2. Clerk verifies customer information.3. Clerk initiates the creation of a new order.4. Customer requests an item be added to the order.5. Clerk verifies the item (<i>Check item availability</i> use case).6. Clerk adds item to the order.7. Repeat steps 4, 5, and 6 until all items are added to the order.8. Customer indicates end of order; clerk enters end of order.9. Customer submits payment; clerk enters amount.
Exception Conditions:	<ol style="list-style-type: none">2.1 If customer does not exist, then the clerk pauses this use case and invokes <i>Maintain customer information</i> use case.2.2 If customer has a credit hold, then clerk transfers the customer to a customer service representative.4.1 If an item is not in stock, then customer can<ol style="list-style-type: none">a. choose not to purchase item, orb. request item be added as a back-ordered item.9.1 If customer payment is rejected due to bad-credit verification, then<ol style="list-style-type: none">a. order is canceled, orb. order is put on hold until check is received.

Use-Cases – Common Mistakes

- Complex diagram
- No system
- No actor
- Too many user interface details
 - “User types ID and password, clicks OK or hits Enter”
- Very low goal details
 - User provides name
 - User provides address
 - User provides telephone number.

Writing Use Case Descriptions

1. Select a use case
2. Write abbreviated *full description* (Use case name, Scenario (if any), Actors, Flow of steps, Exception conditions)
3. For figuring Flow of steps,
 - Keep in mind general system model: Input-Processing-Output
 - Steps should be at nearly the same level of abstraction (each makes nearly same progress toward use case completion)
4. For figuring exception conditions, focus on if-then logic.

Exercise

Customer arrives at checkout with items to purchase in cash. Cashier records the items and takes cash payment. On completion, customer leaves with items.

Home Work Exercise

A patient calls the clinic to make an appointment for a yearly checkup. The receptionist finds the nearest empty time slot in the appointment book and schedules the appointment for that time slot. "