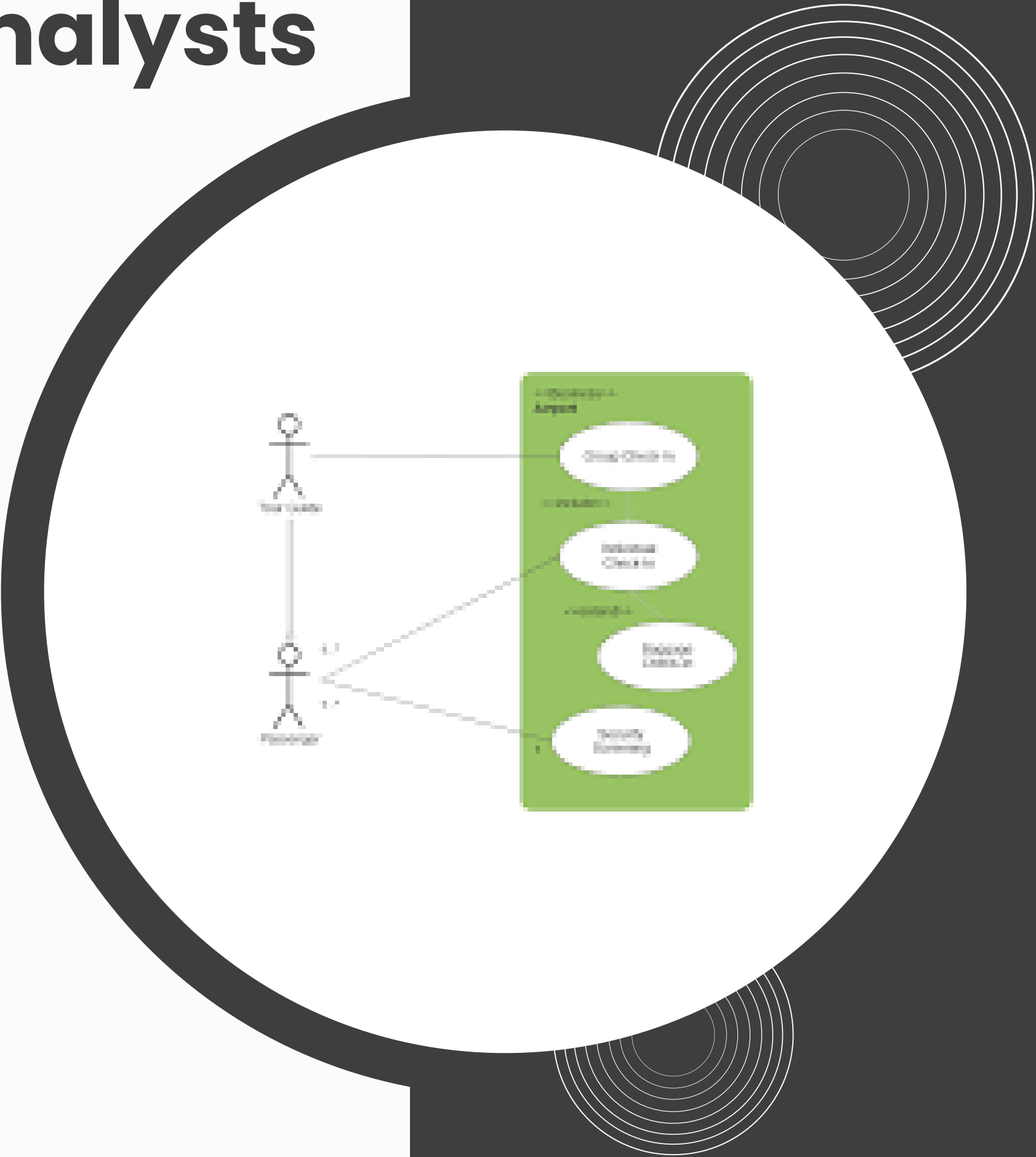


Understanding Use Cases and Scenarios for Business Analysts



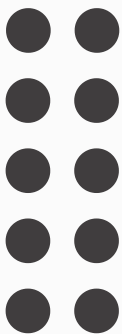
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What is a Use Case?

A use case describes the interactions between:

- The primary actor (who has the goal),
- The solution (the system being developed),
- And any secondary actors (who assist in achieving the goal).

Use cases are usually triggered by the primary actor, but in some methods, they might also be triggered by:

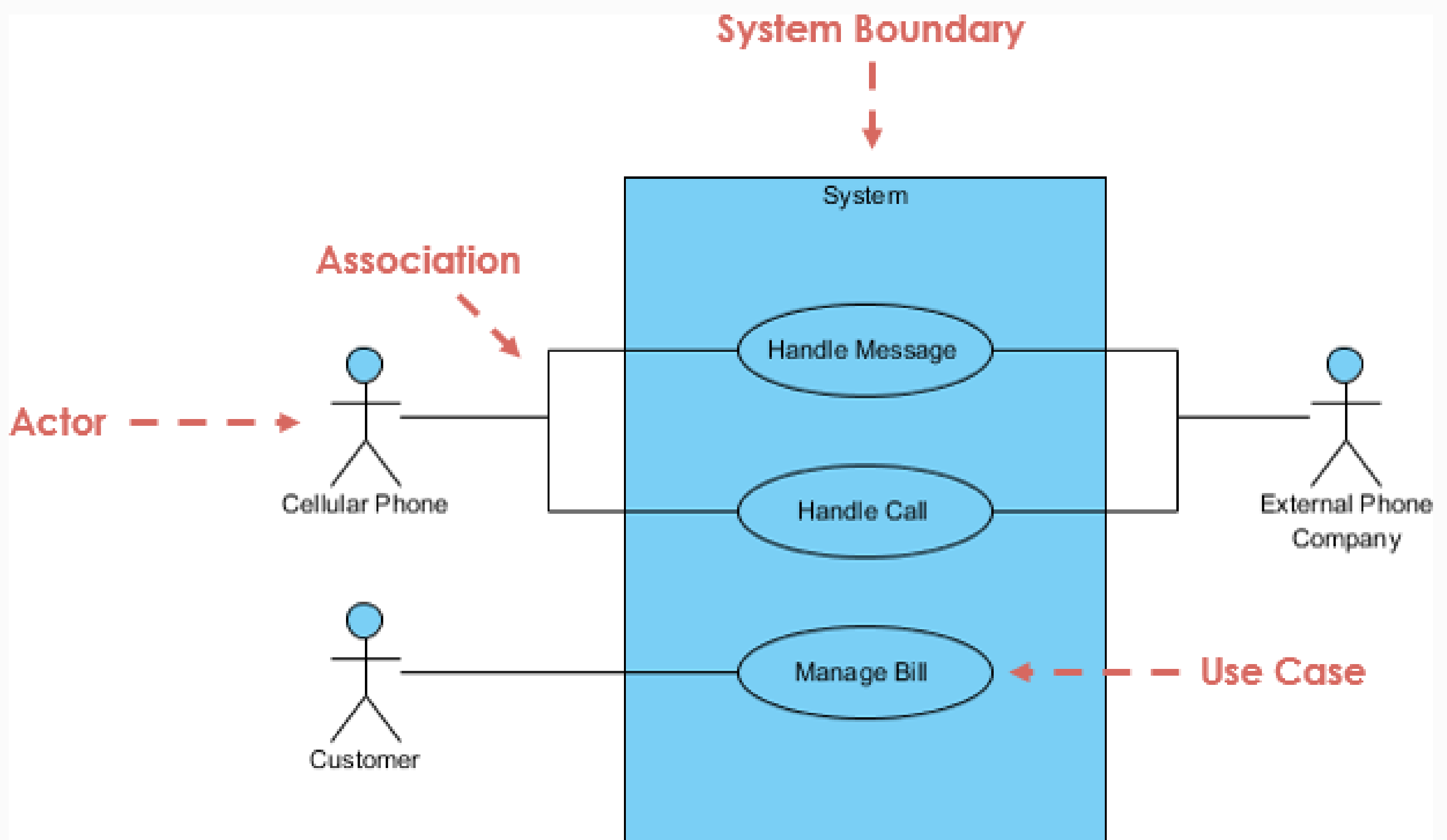
- Another system
- An external event
- A timer

What is a Use Case Diagram?

A Use Case Diagram is a visual tool that shows:

- Actors (who interacts with the system),
- Use Cases (what the system does for the actors),
- Relationships (how actors and use cases connect).

It provides a high-level overview of system functionality and user interactions at a glance – without going into system design or internal processes.



Key Elements of a Use Case Diagram

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Element	Symbol	Description
Actor	Stick figure 👤	A person, group, system, or organization interacting with the solution.
System Boundary	Rectangle 📦	Defines what is inside (the system) and outside (actors).
Use Case	Oval ●	Represents a goal or service the system provides to the actor.
Association	Line —	Connects actors to the use cases they interact with.

1. Association (Actor to Use Case)

◆ Definition:

A solid line between an actor and a use case.

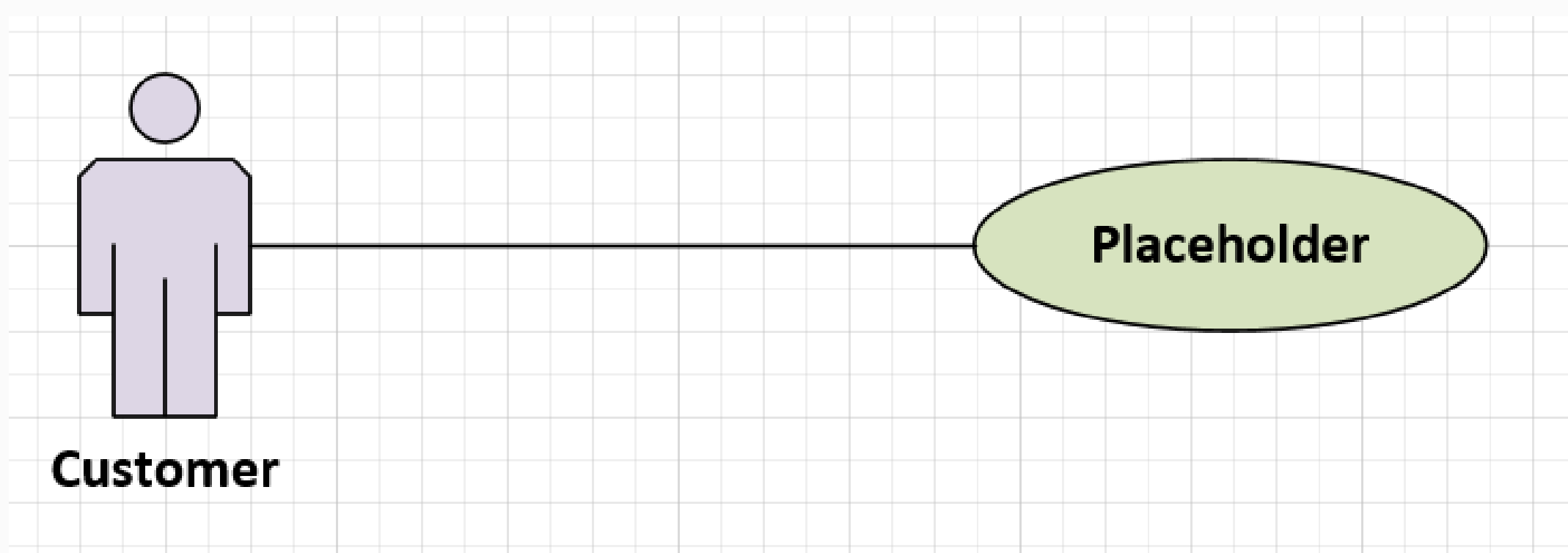
◆ Meaning:

Shows that the actor participates in the use case (triggers it or receives output).

◆ Example:

- A Customer → "Place Order"
- An Admin → "Manage Users"

◆ Diagram:



2. Include (Use Case to Use Case)

◆ Definition:

A dashed arrow with label <<include>>, from a base use case to an included use case.

◆ Meaning:

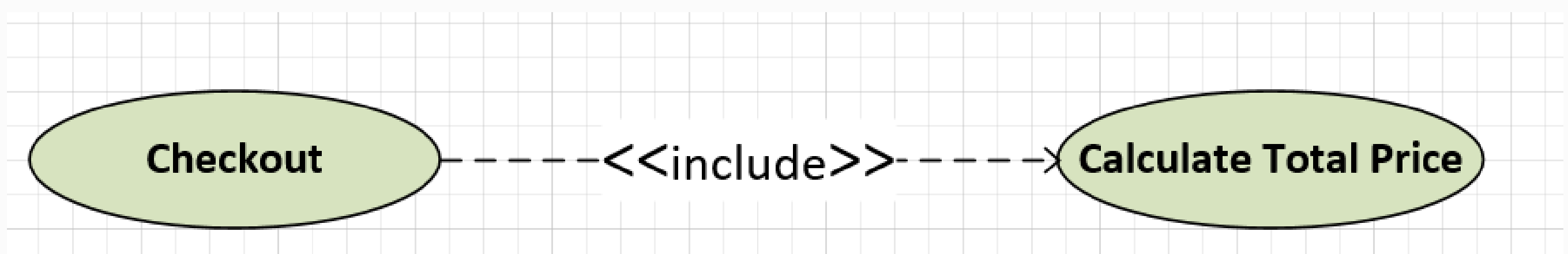
One use case always includes the behavior of another. It's like reusing a subroutine.

◆ Use When:

- Common functionality is repeated in multiple use cases.
- Forces reuse to keep the diagram clean.

◆ Example:

- "Checkout" includes "Calculate Total Price"
- "Register Account" includes "Validate Email"



3. Extend (Use Case to Use Case)

◆ Definition:

A dashed arrow with label <<extend>>, from an extended use case to the base use case.

◆ Meaning:

An optional behavior that sometimes happens under specific conditions.

◆ Use When:

- The additional behavior is optional, conditional, or happens only sometimes.

◆ Example:

- "Place Order" may extend to "Apply Discount" (only if there's a promo code).
- "Login" may extend to "Reset Password" (only if the user forgets).

◆ Diagram:



4. Generalization (Actor to Actor or Use Case to Use Case)

◆ Definition:

A solid line with a hollow triangle pointing to the more general actor or use case.

◆ Meaning:

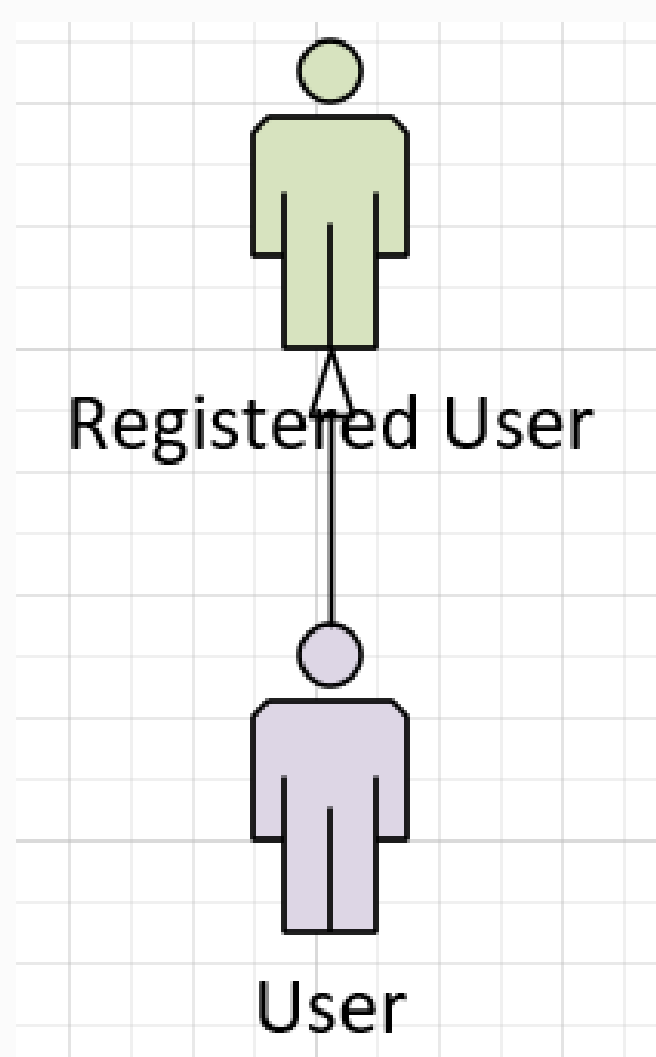
Shows inheritance — one actor or use case inherits the behavior of another.

◆ Use When:

- One actor is a specialized version of another.
- One use case is a specialized version of another.

◆ Example:

- Actor Generalization:
- "Registered User" is a specialized version of "User"
- Use Case Generalization:
- "Withdraw Cash (ATM)" generalizes "Withdraw Money"



Important Tips

- **Include** = Always happens (Mandatory behavior)
- **Extend** = Might happen (Optional behavior)
- **Generalization** = "Is-a" relationship (Specialization)

Relationship	Symbol	Purpose
Association	Solid Line —	Connect actor to use case
Include	Dashed Arrow + <<include>> ➡	Force reuse of common behavior
Extend	Dashed Arrow + <<extend>> ➡	Add optional behavior
Generalization	Solid Line + Hollow Triangle ▲	Specialization or inheritance

What is a Scenario?

- ♦ A scenario is a specific sequence of actions and interactions between actors and the system that describes one particular path to achieve a goal.
- → A use case describes all possible scenarios for achieving a goal.
- → A scenario describes only one specific way of achieving it (successful or unsuccessful).

Structure of a Scenario

A scenario is usually described as steps:

1. Actor initiates the action.
2. System responds.
3. Actor provides more input.
4. System delivers the result.

Each step shows either:

1. An action by an actor
2. A response from the solution/system

Types of Scenarios

Type	Description	Example
Main (Primary) Scenario	The normal, most common, successful path.	Customer adds an item to the cart and pays successfully.
Alternative Scenario	A variation from the main path, still achieving the goal.	Customer selects express shipping instead of standard shipping.
Exception Scenario	A path where something goes wrong and the goal is not achieved.	Payment fails due to insufficient funds.

Main Scenario (Happy Path):

1. Customer logs into the system.
2. Customer browses items and selects a product.
3. Customer adds the product to the cart.
4. Customer provides shipping and payment information.
5. System processes the payment.
6. System confirms the order and sends a receipt.

Alternative Scenario (Customer uses a saved address):

- At step 4, instead of entering a new address, the customer selects a saved address.

Exception Scenario (Payment fails):

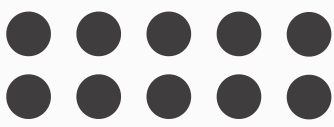
- After step 5, the system detects a payment failure.
- System displays an error message.
- Customer can retry payment or cancel the order.

Scenario vs. Use Case

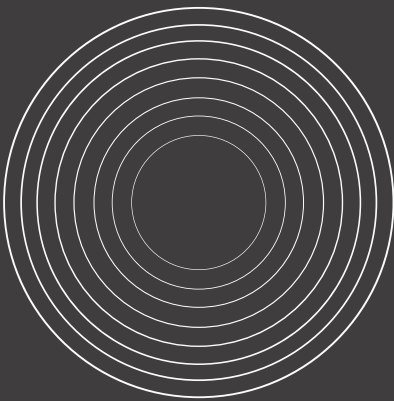
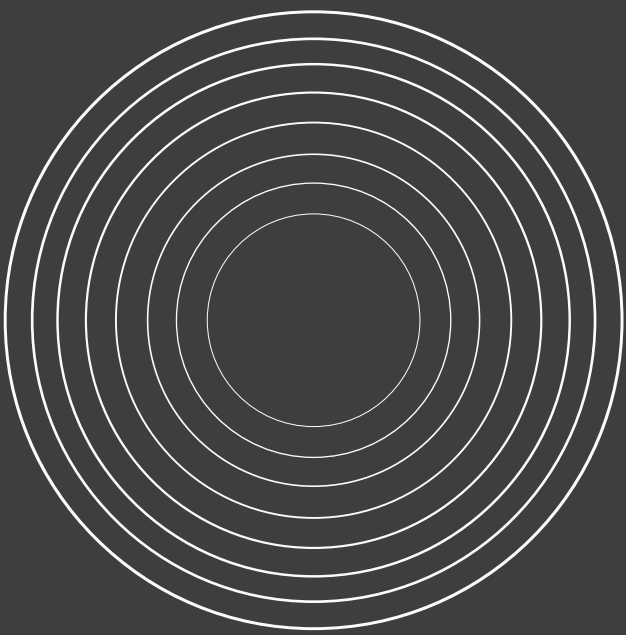
Use Case	Scenario
Describes all possible ways to achieve a goal.	Describes one specific way to achieve a goal.
Includes primary, alternative, and exception flows.	Focuses on one flow only.
Higher-level document.	Detailed step-by-step interaction.

Why Are Scenarios Important for Business Analysts?

- ✓ **Help understand all behaviors the system must handle.**
- ✓ **Help discover exceptions and errors early.**
- ✓ **Make it easier to write user stories, test cases, and acceptance criteria.**
- ✓ **Improve communication with stakeholders and developers.**



Thanks for your Attentions



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