

# Usecase

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## Use Case

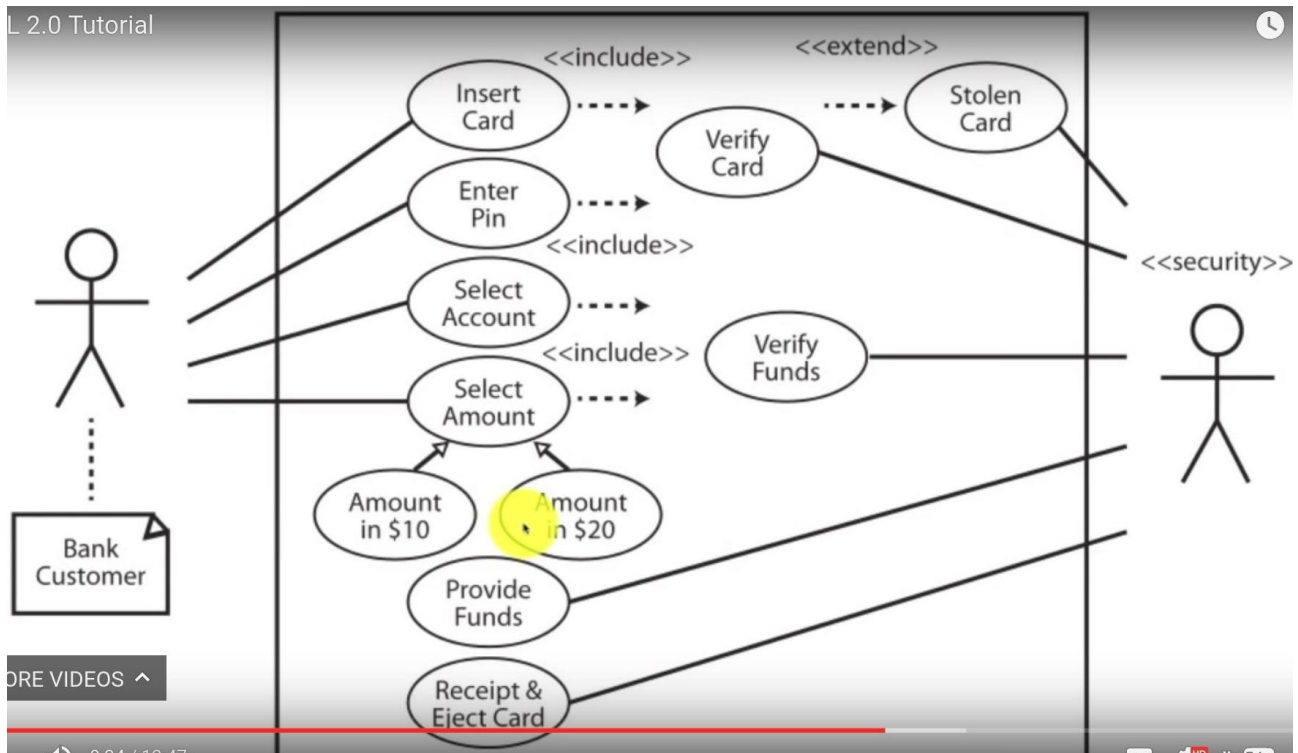
- ▶ List of steps a system needs to follow to reach a goal
  - ▶ Define what is required and how those requirements are met
  - ▶ Don't try to write code in a Use Case Diagram
  - ▶ Shall vs. Should Requirements
- ▶ These steps normally include interactions with an Actor (Human / External System)

- ActorsCustomer
- Bank Security

### Example Use Case Description

Description

- The user enters their card and PIN. Security verifies the card. The user selects the account to use. They select an amount. Security verifies if the amount is available. The system comes to a conclusion on if money is provided. The user selects funds as \$10s or \$20s. Security provides the funds if possible. Security provides a receipt and the users card.Trigger**



- PreconditionsSecure Connection to Bank
- Bank Has Cash

Goals (Successful Conclusion)

- Secure Client Accounts
- Provide Customer with Funds

## Use Case Description

### ► Description

- The user enters their card and PIN. Security verifies the card. The user selects the account to use. They select an amount. Security verifies if the amount is available. The system comes to a conclusion on if money is provided. The user selects funds as \$10s or \$20s. Security provides the funds if possible. Security provides a receipt and the users card.

## Failed Conclusion

- Invalid Card
- Invalid PIN
- Customer Insufficient Funds
- ATM Insufficient Funds
- Over Daily Limit
- Stolen Card

The screenshot shows a presentation slide with a green header titled "Use Case Description". Below the header, there are two columns of content. The left column is titled "Failed Conclusion" and lists six items: 1. Invalid Card, 2. Invalid PIN, 3. Customer Insufficient Funds, 4. ATM Insufficient Funds, 5. Over Daily Limit, and 6. Stolen Card. The right column is titled "Extensions (Alternatives)" and lists two items: 1. If PIN is Invalid 3 Times (Eat Card) and 2. If Card Marked as Stolen (Eat Card). A small "EOS ^" icon is visible in the bottom left corner of the slide.

Failed Conclusion	Extensions (Alternatives)
▶ 1. Invalid Card	▶ 1. If PIN is Invalid 3 Times (Eat Card)
▶ 2. Invalid PIN	▶ 2. If Card Marked as Stolen (Eat Card)
▶ 3. Customer Insufficient Funds	
▶ 4. ATM Insufficient Funds	
▶ 5. Over Daily Limit	
▶ 6. Stolen Card	

## Extensions (Alternatives)

- If PIN is Invalid 3 Times (Eat Card)
- If Card Marked as Stolen (Eat Card)

## Steps of Execution (Requirements)

- 1. Customer Inserts Card
- 1A. Card is Invalid
- 1B. Eject Card
- 2. Card is Validated
- 3. Customer Enters PIN
- 3A. PIN is Invalid
- 3B. PIN is Invalid 3 Times
- 3C. Card Marked as Stolen
- 4. PIN is Validated
- 5. Account is Selected
- 6. Amount is Selected

- 6A. Over Daily Maximum
- 6B. Over Account Funds Available
- 6C. Over Funds in Machine
- 6D. Ask for New Amount
- 7. Provide \$10 or \$20
- 8. Provide Funds
- Provide Receipt
- 10. Eject Card

## Use Case Description

- ▶ Steps of Execution (Requirements)
- ▶ 1. Customer Inserts Card
- ▶ 1A. Card is Invalid
- ▶ 1B. Eject Card
- ▶ 2. Card is Validated
- ▶ 3A. PIN is Invalid
- ▶ 3B. PIN is Invalid 3 Times
- ▶ 3C. Card Marked as Stolen
- ▶ 4. PIN is Validated
- ▶ 5. Account is Selected
- ▶ 6. Amount is Selected
- ▶ Customer Enters PIN

EOS ^





# Use Cases

## What's a use case?

- Use cases capture the functional requirements of a system.
- Use cases describe the interactions between various actors and the system.

Use Case elements.

## Use Case Elements



**Actor:** Has a goal in using the system

**Goal:** What the actor wants to achieve by interacting with the system



Use cases capture all the different **goals** that various **actors** have in using the system.

UML use case diagrams serve as a **visual Table of Contents** to written use cases.

# Written Use Cases

For each use case...

- Describe the steps involved in an interaction between an actor and the system, beginning with the **primary actor**.
- Start with the **main success scenario**.
- Look for alternative paths:

**Exceptions:** What could go wrong here?

**Extensions:** What other goal might come into play here?

Use Case example.

## What a Use Case Diagram Looks Like

