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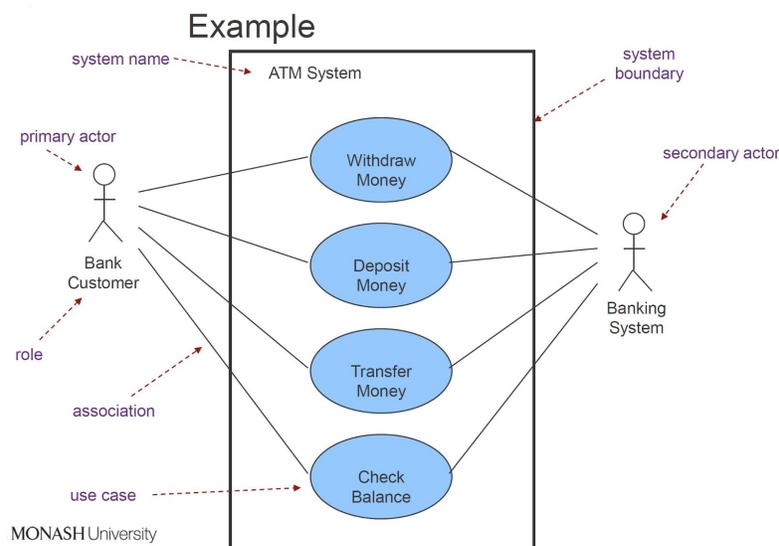
## L4 - Investigating, understanding, and documenting system requirements: Use Case Diagrams, Use Case Descriptions, & Activity Diagrams

### Use Case Diagrams

**What:** a representation of a user's interaction with the system that shows the relationship between the user and the different use cases in which the user is involved

**Main elements:**

- Primary/Secondary actor
- Use Case: an interaction between system and actor (VERB) eg. Open account
- Association: line indicating an actor makes use of functionality provided by use case
- System Boundary: box that defines scope of system
- Relationship: between two use cases
  - Include: when one use case executes another use case automatically
  - Extend: like superclass + subclass
  - Generalisation



### Use Case Description

**What:** provides the details of the functionality that the system will support and describes how the actors will use the system in order to obtain a specific result of value.

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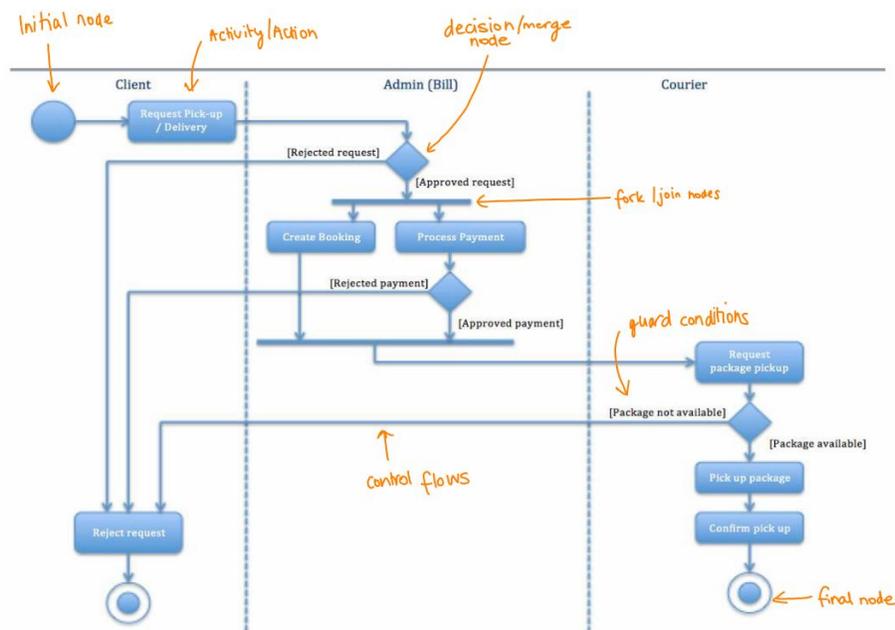
**Example:**

Number	Unique use case number	
Name	Brief noun-verb phrase Eg. Application capturing process	
Summary	Brief summary of use case major actions Eg. User applies for jobs online	
Priority	1-5 (1 = lowest priority, 5 = highest priority)	
Preconditions		
Post-condition		
Primary Actor(s)	Eg. User applying for job	
Secondary Actor(s)	Eg. Web admin, Manager	
Trigger	The action that causes this use case to begin Eg. Applicant logs into account	
Main Scenario	Step	Action
	1	System displays recruiting home page
	2	User chooses job offer
	3	System displays job information
	4	User applies for job
	...	...
Extensions	Step	Branching Action
	1a	If user hasn't created a profile and are therefore unable to log in, System prompts user to create a profile
	10a	System prompts the user to submit the application before leaving the page
Open issues	1	Should the system allow users to create multiple

## Activity Diagrams

**Example:** On the spot courier services

When Bill Wiley receives a request for pickup, he checks to see if the pick up is valid, and rejects it if it isn't valid. If it is valid, he enters the pickup information on a form and processes the payment. If the payment is approved, he contacts his courier staff with the pick up information, otherwise he rejects the request. When the courier picks up the package they confirm pickup. If the package is not available for pickup, the request is rejected.



## L5 - Investigating System Requirements - Prototyping, Developing Usable systems

### Prototyping

**What:** Process of quickly mocking up the future of a system

- + Explore ideas before investing in them → Saves time and money
- + Shows relationship between systems
- + Allows design exploration
- Risk users may thin system is developed