

# Use Case Modelling II

**CSIT883 System Analysis and Project Management**



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# Outline

Fully Developed Use Case Description

Activity Diagram

System Sequence Diagram

**CRUD Analysis**



# Use Case and CRUD

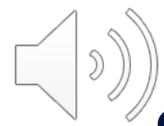
- CRUD technique –
  - **Create**
  - **Read/Report**
  - **Update**
  - **Delete**
- A good cross-check against the existing set of use cases.
  - Often used in database context
  - Ensure that all classes have a complete “cover” of use cases
- *Not* for primary identification of use cases



# Use Case and CRUD

- Verifying use cases for the Customer class

<b>Data entity/domain class</b>	<b>CRUD</b>	<b>Verified use case</b>
Customer	Create	Create customer account
	Read/report	Look up customer Produce customer usage report
	Update	Process account adjustment Update customer account
	Delete	Update customer account (to archive)



# Sample CRUD Matrix

Use case vs. entity/domain class	Customer	Account	Sale	Adjustment
Create customer account	C	C		
Look up customer	R	R		
Produce customer usage report	R	R	R	
Process account adjustment	R	U	R	C
Update customer account	UD (archive)	UD (archive)		



# CRUD Analysis

## Steps

1. Identify all domain classes
2. For each class verify that use cases exist to
  - Create a new instance
  - Update existing instances
  - Reads or reports on information in the class
  - Deletes or archives inactive instances
3. Add new use cases as required. Identify responsible stakeholders
4. Identify which application has responsibility for each action: which to create, which to update, which to use



# Summary

- Use case diagrams, use case descriptions or activity diagrams, and system sequence diagrams to model the use cases.
- Full-developed use case description is most formal and comprehensive.
- Activity diagrams are intuitive.
- SSD reveals the message exchanged between an actor and the system.
- The CRUD technique is used to validate use cases.