

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

Data entity/domain class	CRUD	Verified use case
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.