Ch 5

Chapter 5

SA

← عشان نعمل represent للسيستم بنعمل بال modeling

← Another model for every Usecase is usecase description

Types of descriptions

- brief description
  وصف بشكل مختصر
  لكل usecase

- Fully description
  وصف بشكل كامل
  بنعمق في ال usecase
  by elements :-
  ال precondition و postcondition
  flow of activity / normal flow
  و نحط ال alternative flows الي
  هي ال Exception conditions
  دول المهم ده غير حجات تاني

Preconditions : لازم تكون true عشان يشتغل ال system

Post conditions : حجات لازم تحصل بعد ال usecase

ال Flow of activity بتكون زي ال DFD باختلاف انه
لو شغال object-oriented ← Flow of activity
لو شغال structured ← DFD

Validators : احنا مش بنثق في اي حاجة ال user بيجيبها
لازم نعمل لكل حاجة valide لازم اي input
لأي system نعمله validate

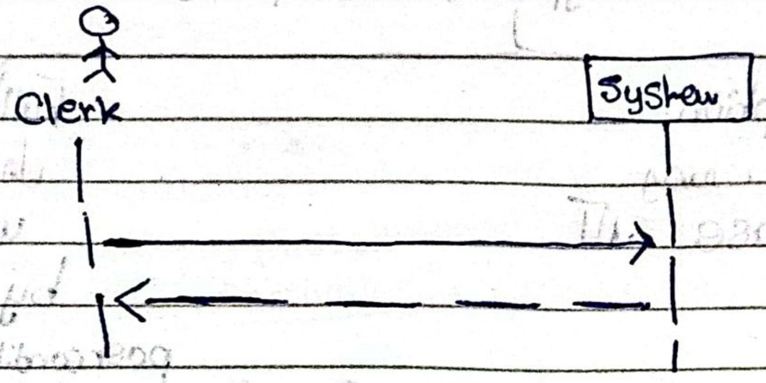
ال Usecase description هو textual model يعني ده موديل

← ممكن ابني لكل usecase اعمله activity diagram ليه

← ممكن اعمل model لل usecase هو ال SSD فيه

1. actor
2. the System

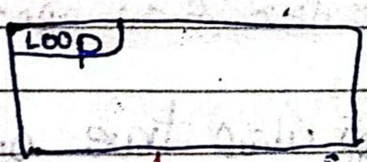
interaction between actor and system



Frames in SSD

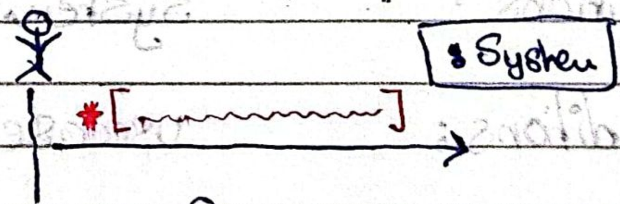
as → Loop هيتكرر كذا مرة في ال system

ممكن تعملها جوة frame

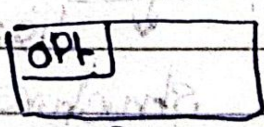


most common ده ال

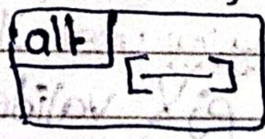
ممكن نعمل طريقة تانية



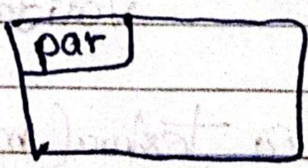
as → opt ال if condition



as → alt if , else

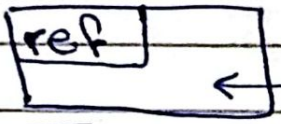


as → par



حاجات بتتعمل في نفس الوقت

as → ref حجات عشان يعملها لازم يعمل Login



ح اسم الـ usecase نفسها
عشان مش كل مرة تعمل زي فكرة الـ method Login

CRUD technique

Create read update delete

ده مساك كل class في الـ class diagram وارص على الـ usecase المسؤلة عن الـ object دي الي مسؤلة
delete / update / read / create اعملي

archieve : delete from database and store it in a storage media نوع من انواع الـ delete

← بيعمل Matrix بال CRUD بال represent
لازم واحنا بنعمل الـ matrix يكون كل Column فيه
كل الانواع DCUCRCC

كدة خلصنا analysis لنبتدي مرة الجاية في الـ design

Overview (1 of 2)

- Chapters 3 and 4 identified and modeled the two primary aspects of functional requirements: *use cases* and *domain classes*
- This chapter focuses on detail modelling for use cases to document the internal steps within a use case
- Fully *developed use case descriptions* provide information about each use case, including actors, stakeholders, preconditions, post conditions, the flow of activities and exceptions conditions
- *Activity diagrams* (first shown in Chapter 2) can also be used to show the flow of activities for a use case

Overview (2 of 2)

- *System sequence diagrams* (SSDs) show the inputs and outputs for each use case as messages
- CRUD analysis, which correlates problem domain classes and use cases, is an effective technique to double check that all required use cases have been identified
- Not all use cases are modelled at this level of detail. Only model when there is complexity and a need to communicate details

Types of descriptions

brief description
وصف بشكل مختصر

Fully description
وصف بشكل كامل

Use Case Description Details (1 of 2)

* Usecase description is Textual model

- Use case name
  - Verb-noun
- Scenario (if needed)
  - A use case can have more than one scenario (special case or more specific path)
- Triggering event
  - Based on event decomposition technique
- Brief description
  - Written previously when use case was identified
- Actors
  - One or more users from use case diagrams

Sample CRUD Matrix

لازم كل column يكون فيه كل الانواع C، R، U، D

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)		

Extending and Integrating Requirements Models

Primary aspect of Functional Requirement

- Use cases — Structural - Static
  - Use case diagram
    - Use case description
    - Activity diagram
    - System sequence diagram (SSD)
- Domain Classes — Behavioral – Dynamic
  - Domain model class diagram
    - State machine diagram