Aufgabe 5

Nathan Ritter
5566519
Lorenzo Tecchia
5581906
2023.05.20

Contents

List of Figures

Chapter 1

Task 1

(a) Use cases describe interactions between users and a system using a graphical model and a structured text. A use case indentifies the actors involved in an interaction and names the type of interaction. Additional information can be added in order to describe the interaction with the system. Those additional information can be a textual description or one or more models such as the UML sequence diagram or the state charts.

(b) 1. We identified these criteria for the product view:

- Hold Functional Requirements in an easy to read, easy to track text format.
- Represents the goal of an interaction between an actor and the system. The goal represents a meaningful and measurable objective for the actor.
- Records a set of paths (scenarios) that traverse an actor from a trigger event (start of the use case) to the goal (success scenarios).
- Records a set of scenarios that traverse an actor from a trigger event toward a goal but fall short of the goal (failure scenarios).
- Are multi-level: one use case can use/extent the functionality of another. [2]

2. We identified these criteria for the process view:

- The sentence shows the intent of the actor, not their particular movements in accomplishing that intent (semantics, not dialog).[2]
- All the action depicted by the use cases should have neutrality inside their representation.
- The sentence shows the process moving distinctly forward. [1]
- Since we're not gonna describe the interface with which the actors interact(e.g. the GUI of a software) but instead the control of action that is exchanged from one actor to another(e.g. data passes from actor B to actor A or vice versa).[3]

- Mentioning the timing is optional.

(c) A scenario starts with an outline of the interaction. During the elicitation process, details are added to create a complete description of that interaction. It can include a description of what the system and user expect when the scenario starts, a description of the normal flow of the events in the scenario, a description of what can go wrong and how resulting problems can be handled, information about other activities that might be going on at the same time, a description of the system state when the scenario ends.[3]
So from the statements from above we can clearly see the difference: use cases show "how the ball is passed", in particular how the control of the system gets passed from one actor to another, and its depiction it's as precise and not-ambiguous as it is necessary for the determined use case. As said the timing of all of these action in use cases is not necessary.

Chapter 2

Task 2

(a) A usecase diagram is an Summary/ overview of general Information regarding the Users and their interactions with a System and how the different use cases affect each other in contrast to a usecase which provides more specific and complete information about a particular interaction of a specific user with the system.[4]
Advantages of usecase diagrams in uml are:

- they provide a useful overview of the context and requirements of a system
- they are easy to understand

Disadvantages of use case diagrams are:

- They are not very detailed / don't contain allot of information
- They are Generalized so they might exclude important information like Failure cases

(b) The actor model element in a use case diagram represents a user which interacts with the system, it can be a person organization, or external system.

(c) A use case diagram contains usecases ovals which represent the different usecases for a user, Associations lines between usecases and actors with denote which actors are associated with a use case and System boundaries which define the scope of the system e.g where the system starts and ends.

(d) Use cases can have following types of relations to each other in a usecase-diagram:<<includes>> and <<extends>>. includes indicates that the behavior of a usecase is present in another usecase where as extends indicates that additional behavior of another use case should be added to a usecase possibly conditionally.

Chapter 3

Task 3

Table 3.1: Table1

Use Case	Webshop
Description	A company wants to use the Database in a webshop to check if they can sell a product to a customer
Actors	Customer company-employee/website
Assumptions	The product data is stored in the database, the data in the database is accurate
Steps	• Webserver recieves purchase request • Webserver sends query to database • IF stock of the requested product is greater than 1 – THEN webserver continues purchasing process • ELSE webserver rejects request
Variation	The webserver could check if the user has already bought x of the product and reject their offer according to a x per person policy
Non-Functional	The database must be able to handle multiple queries at once in order to process multiple orders at once
Issues	

(a)

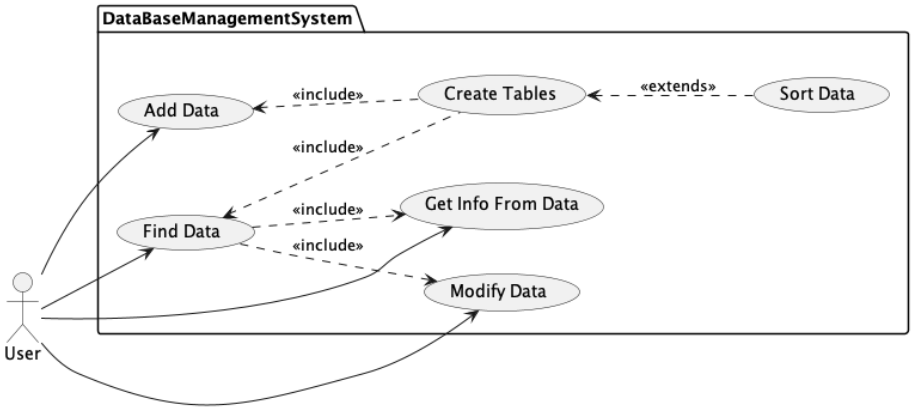

Figure 3.1: UMl-UseCase

(b)

Bibliography

Adolph, Steve and Paul Bramble. *Patterns for effective use cases*. Boston: Addison-Wesley, 2003. ISBN: 0201721848.

Coming Soon — alistair.cockburn.us. `http://alistair.cockburn.us/Use+case+fundamentals`. [Accessed 19-May-2023].

Sommerville, Ian. *Software engineering*. 7th ed. Boston: Pearson/Addison-Wesley, 2004. ISBN: 0321210263.

UML - Use Case Diagramm (Anwendungsfalldiagramm) — lucidchart.com. `https://www.lucidchart.com/pages/de/uml-anwendungsfalldiagramm`. [Accessed 20-May-2023].