Kennedy Uzoho

SNHU CS-255 (Interpreting UML Diagrams)

02/20/2022

UML activity and Sequence Diagram

After analyzing the UML activity and sequence diagrams, here is a description I prepared to support their use cases and as well provide about two possible deficiencies the system design may have then provide a constructive solution to one of the deficiencies.

Activity Diagram

The UML activity diagram graphically represents the activity flow within a system. In the case of this activity diagram, the use case happened between the entities ‘the User’ and ‘the Bank’. The system mapped its activity/operations by using use case, which began with the user inserting their Bank Card into the system, then the system validates the user with (pin code and card Id number) if login is successful then the system will require the user to perform various operations, such as Withdrawals, Deposit, and Other possible operations. After a guided successful operation, the system will display a receipt option, if the user says yes to receive a transaction/balance/operation receipt then the system will print a receipt and update ‘Bank’, if not, no receipt will be printed, and the system will update bank and start the activity all over again.

Sequence Diagram

The sequence diagram graphically represents interactions in a system in a sequential manner. In the case of the sequential diagram provided, the system objects are classified as external and internal objects. External object brings in information and internal objects validate and confirms the information provided by the external object. Here, the internal objects are the ATM and Bank, and the External object is the User. The UML sequence diagram provided correctly describes the interaction between the external and internal entities in the system. The interactions between User, ATM, and Bank in the system happened in the following order, User entered the card in the atm card slot, atm asked User for a pin, User Entered pin into atm, atm passed the pin to the bank for verification, bank verified the pin, atm asked User for withdrawal amount, User entered the amount withdrawal amount and lastly atm dispensed cash.

Some deficiencies I could think of includes adding a feature in the system that will allow future optimization and modification, for example, I added a feature that a Developer/DevOps engineer can leverage to include additional functionality to the atm bank system and I also think that the system activity mapping should be on the loop, so after each operation, the system will return back to its normal UI ‘welcome page’ state. Below is an atm activity case diagram I designed, I included the deficiencies I mentioned above.

Diagram

Description automatically generated