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Module 6: Understanding UML Diagrams

The UML Activity and Sequence Diagrams both illustrate the operations involved in ATM usage, yet they present subtle variances in the depicted processes. They each endeavor to capture the dynamics of an ATM interaction from a user's perspective.

In the Activity Diagram, the process involves: authentication of the PIN with a decision node for accuracy; solicitation of the withdrawal amount; a conditional node checking fund availability; the transaction completion with cash dispensation; and the generation and printing of a transaction receipt.

Conversely, the Sequence Diagram introduces three entities: USER, ATM, and BANK. It begins with the USER inserting their card, prompting the ATM to request the PIN. Upon receiving the PIN, the ATM communicates with the BANK to confirm its validity. Once validated, the ATM inquires about the desired withdrawal amount from the USER. The diagram culminates with the ATM issuing the specified amount of money. Notably, the Sequence Diagram omits any representation of incorrect PIN entry, which was addressed in the Activity Diagram, suggesting a possible omission.

The review of these diagrams highlights certain areas for enhancement. Firstly, there should be a check against the requested amount exceeding the available balance or the ATM's dispensing limit. Secondly, the USER's ability to retry a PIN entry upon mistake should be incorporated. Lastly, an added functionality for depositing funds could be considered for inclusion.

A diagram of a cash flow

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