The ATM UML activity diagram and sequence diagram both describe an ATM’s functions but in a slightly different manner. Both diagrams are used to describe how an individual would interact with an ATM to withdraw cash from their account. While both diagrams describe the same interaction between a customer and an ATM, the diagrams are different regarding how this task is accomplished.

The UML activity diagram begins with verifying the user’s PIN. When a correct PIN is entered, then the transaction can continue. If the wrong PIN is entered, then the task ends. In the case of a successful PIN entry, the system will ask the user for the amount that they wish to withdraw. If the amount is not available, then the system will proceed to generate and print a receipt and then end the transaction. If the amount is available, then the ATM will dispense the requested amount of cash, generate, and print a receipt, then end the transaction.

The UML sequence diagram begins with the user entering their ATM card. The ATM will then ask the user to enter the PIN associated with their ATM card. The user will interact with the keypad to enter their PIN. The ATM then verifies the PIN with the bank and returns the validation to the ATM. The ATM will then ask the user for the amount that they wish to withdraw. The user will then interact with the keypad to enter the amount that they wish to withdraw. The ATM will then dispense the requested cash amount to the user.

There are several deficiencies in the logic or functionality of the current design. The UML activity diagram has several errors with its logic and functionality. The UML activity diagram does not account for subsequent PIN entry requests following an invalid PIN entry. The UML activity diagram also does not account for the entering and returning of the user’s ATM card. Adding an invalid PIN entry and ATM card functionality would greatly improve the existing system. The UML sequence diagram also has several errors with its logic and functionality. The UML sequence diagram also does not account for an incorrect PIN entry. The UML sequence diagram does not have logic implemented to handle the user asking for funds that their bank account doesn’t have. There is no logic for if the amount requested exceeds their account balance. While the sequence diagram does consider that the user must enter their card into the ATM machine to begin the transaction, the card is never returned to the user and no receipts are generated or printed. Adding some additional ATM card functionality and the ability to generate and print receipts would greatly improve the existing system.

A diagram of a atm

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