Interpreting UML Diagrams

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**Interpreting UML Diagrams: ATM Withdrawal**

The diagrams describe the "Withdraw Cash" use case of an ATM system. The user initiates the interaction by entering their card into the ATM. The ATM then prompts the user to enter their PIN. After the user enters their PIN, the ATM verifies it. If the PIN is valid, the ATM asks the user to enter the desired withdrawal amount. Once the user enters the amount, the ATM dispenses the cash for the user. The information being passed back and forth includes the card information, PIN, withdrawal amount, and transaction confirmation.

Two deficiencies in the current design:

1. Lack of Error Handling: The diagrams do not account for scenarios where the user enters an incorrect PIN multiple times or requests an amount that exceeds their available balance or the ATM's withdrawal limit. In a real-world scenario, the ATM should be able to handle these errors gracefully, providing appropriate feedback to the user and potentially blocking the card after a certain number of incorrect PIN attempts.
2. No Confirmation Step: The ATM dispenses cash immediately after the user enters the amount, without any confirmation step. This could lead to accidental withdrawals if the user enters the wrong amount.

A screenshot of a computer

Description automatically generated

**References:**

Lucid Software Inc. (n.d.). Lucidchart. Retrieved from <https://www.lucidchart.com/>

Lucid Software Inc. (2018, November 26). UML sequence diagrams tutorial. YouTube. <https://www.youtube.com/watch?v=pCK6prSq8aw>