**1. Diagram Interpretation:**

These diagrams represent the use case of an ATM transaction where a user withdraws cash. The UML activity diagram illustrates the flow of actions, starting from verifying the user's PIN, asking for the amount, dispensing cash, generating, and printing a receipt. The UML sequence diagram highlights interactions between the user, the ATM system, and the bank, from inserting the card to entering the amount and receiving the cash. In this process, the information being exchanged includes the card, PIN, and the withdrawal amount.

**2. Design Analysis (Deficiencies):**

* **Exception Handling for Invalid PINs**: The current design only shows a simple loop back to verify the PIN if it is wrong. However, there’s no logic in place for limiting the number of incorrect attempts before the system blocks the card or denies further transactions.
* **No Handling for Card Issues**: There’s no interaction for handling issues such as a damaged or unreadable card. The system should display an error if the card is unreadable and prompt the user to reinsert the card or notify them of a failure.

**3. Diagram Improvement:**

* **Improvement for Invalid PINs**: A new flow could be added in the activity diagram that includes a counter to limit the number of PIN retries before the system locks the user out or notifies the bank. The sequence diagram could also be updated to include interactions between the ATM and the bank to notify about multiple failed attempts.

A diagram of a cash flow

Description automatically generated