The diagrams show how an ATM system supports multiple customer transactions, including checking a balance, making a withdrawal, or depositing funds. In this use case, the customer inserts a card, enters a PIN, and selects a desired transaction. The main interactions occur between the user and the ATM, such as entering the PIN, selecting options, and confirming actions, while the ATM and the bank system exchange verification requests, balance inquiries, and debit or credit confirmations. Information passed back and forth includes the customer’s card ID, PIN verification results, account details, and transaction confirmations.

While the overall flow is logical, the original design misses a few critical elements. First, there is no defined limit on failed PIN attempts, nor is there a step to retain the card after multiple failures. Second, the design does not include checks for insufficient funds or the ATM’s available cash before dispensing. To strengthen the system, I added a three-attempt PIN retry loop with card retention after lockout, a balance and cash-availability check, and a debit or hold on the account before cash is dispensed. These updates make the system more secure and realistic while improving the logical flow of operations. The revised diagram follows proper UML activity notation with clearly labeled decisions and outcomes.

*The following page contains my reconstructed UML activity.*

**Reference**

Visual Paradigm. (n.d.). *UML – Behavioral diagram vs structural diagram.* https://www.visual-paradigm.com/guide/uml-unified-modeling-language/behavior-vs-structural-diagram/

