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Interpreting UML Diagrams

The diagrams within the guidelines and rubric represent an activity and sequence diagram for the authentication process of an ATM. After authentication, the user will ask for money, and it may or may not be collected from the machine. The activity diagram focuses on the activities of the system, or rather, the actions which the ATM will go through. This diagram details the steps from top to bottom, following a very logical order. The sequence diagram represents the sequencing for the system. In other words, three different actors on the system, the User, the ATM, and the Bank all contribute something to the system. The sequence diagram describes actions as well, however it also illustrates the actors in the system, where the activity diagram does not. The interactions are between the bank, ATM, and the user. Additionally, the data being passed back and forth is the pin number, amount of cash, and possibly the receipt.

There are a few deficiencies in these diagrams. For one, when the user enters too much money, the system does not allow a re-write for how much money the person wants from the ATM. There should be a way for the person to correct the information as it could be bad design if the user accidently entered the wrong number and they had to go through the authentication process again. Another deficiency is that when the user asks for money, and the ATM dispenses it, the bank has no clue about this transaction. There needs to be a way for the bank to get updated about this, maybe when the ATM is generating the receipt. Lastly, when entering the pin, there is allowed unlimited attempts. If someone were trying to brute force their way into someone’s account using a stolen card, it would then be possible to do so, as there is no process/action to stop this. Implementing an action to stop this would improve functionality as it would be more secure and trustworthy.