# Thomas Martin

# [CS-255-H2981 System Analysis and Design 23EW2](https://learn.snhu.edu/d2l/home/1426255)6-3

# 6-3 Assignment: Interpreting UML Diagrams

# Southern New Hampshire University

**December 01, 2023**

The use case provided by the UML activity and sequence diagrams is the process of a customer withdrawing cash from an ATM.

In both use cases, these interactions involve the customer, the ATM, and the bank. The customer inserts their card, inputs their PIN, selects an amount, and receives cash or a receipt. The ATM, in turn, accepts cards, requests PINs, verifies PINs with the bank, requests withdrawal amounts, checks account balances, dispenses cash if available, and prints receipts. After receiving it from the ATM, the bank verifies the PIN, completing the withdrawal process.

Analyzing the design, two deficiencies could be identified. Firstly, the sequence diagram lacks information on printing receipts and alternative system pathways and decisions. This deficient issue could be resolved by including additional steps for the printing of receipts, highlighting the interaction between the ATM and the printer component. Secondly, the activity diagram might not provide sufficient details on certain decision points or alternative paths for security. When the user enters an incorrect PIN the interaction ends and exits the system. This deficiency could be resolved by inserting a loop to provide additional attempts to enter the correct PIN. When the user enters an incorrect PIN a loop would be entered asking for the correct PIN, before ending the interaction. The same type of loop could be utilized if the user requests an incorrect amount of money.

A diagram of a pin

Description automatically generated