CS 255 Module Six Assignment Guidelines and Rubric

Overview

In your previous readings about object and process modeling, you learned about the importance of different diagrams in system design. You also learned about the importance of the Unified Modeling Language (UML), which is used to communicate to different types of stakeholders, including clients, businesspeople, and developers. Different types of UML diagrams represent different "views" of a system.
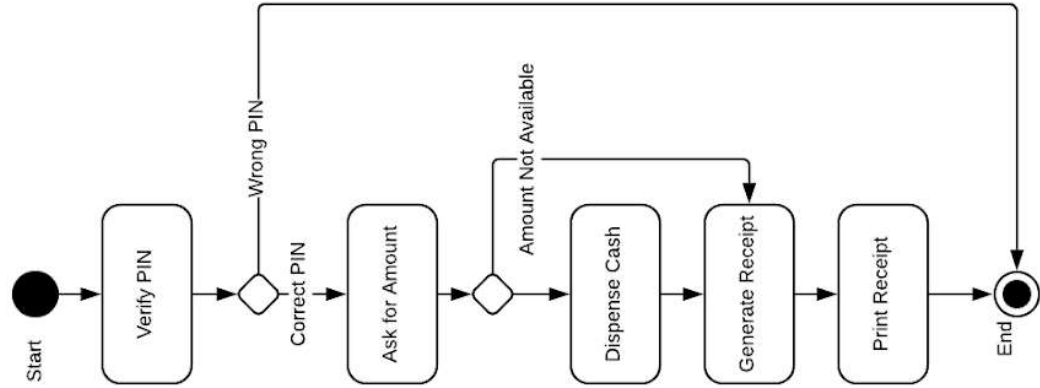
In this assignment, you will focus more specifically on two types of UML diagrams: a UML activity diagram and a UML sequence diagram. You will be asked to interpret the diagrams, which will help reinforce an understanding of how these diagrams are used to communicate a system's design. You will also be asked to make improvements to one of the diagrams, which will help support your work in creating your own UML activity and sequence diagrams for Project Two.
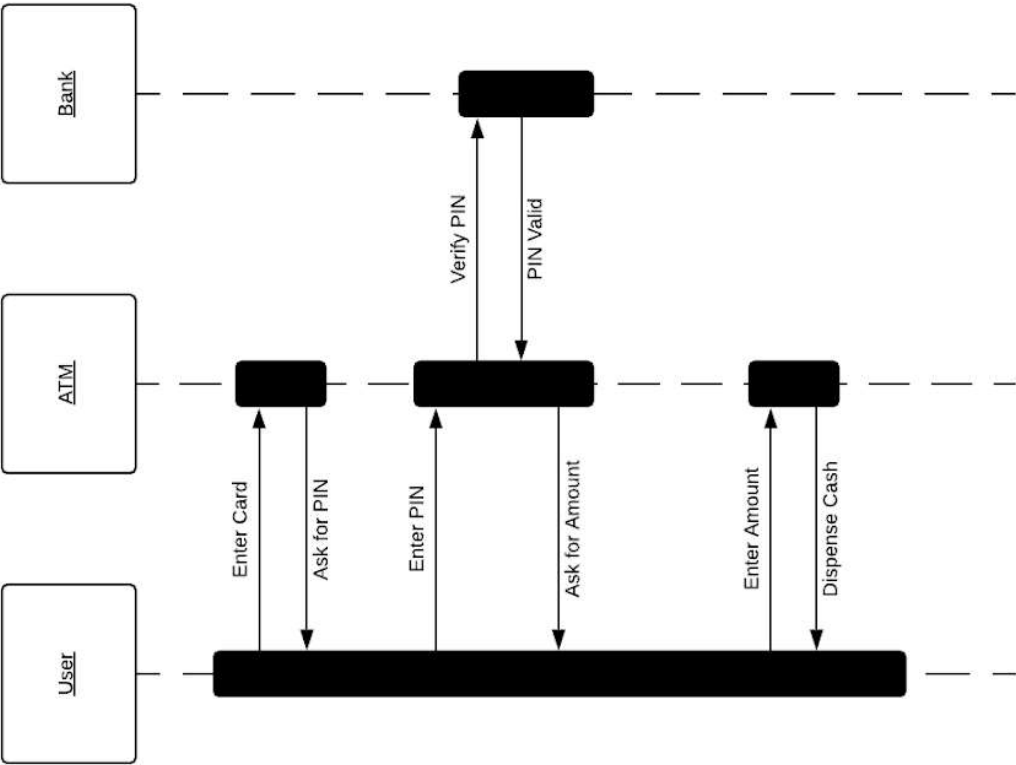
Prompt

In this assignment, you will analyze one use case of an ATM. You will be asked to interpret the UML activity and sequence diagrams for this use case. Then you will make improvements to one of the UML diagrams using a CASE tool.

1. Review the following UML activity and sequence diagrams. Remember, both diagrams describe the *same* use case, just from different viewpoints. A version with alternative text is also available: [Module Six Assignment UML Activity and Sequence Diagrams With Alternative Text.](#)

UML Sequence Diagram

	User	ATM	Bank

Enter Card
Ask for PIN
Enter PIN
Verify PIN
PIN Valid
Ask for Amount
Enter Amount
Dispense Cash

UML Activity Diagram

Start
Verify PIN
Wrong PIN
Correct PIN
Ask for Amount
Amount Not Available
Dispense Cash
Generate Receipt
Print Receipt
End

2. Write a short, paragraph-length response **interpreting the diagrams.** Be sure to address the following questions:

  o What use case is being described by these diagrams?

  o What interactions are involved in this use case? What information is being passed back and forth?

3. These diagrams describe one basic design for this use case. **Analyze the design** by identifying *at least two* deficiencies in the logic or functionality of the current design. Think about ways that you could address these deficiencies to improve the logic or functionality of the design.

4. Choose *one* of the deficiencies that you identified. Then **reconstruct a UML activity *or* sequence diagram** to improve functionality. Use the CASE tool Lucidchart to reconstruct the diagram. Be sure to use **proper UML notation and diagram flow.**

What to Submit

Submit your assignment as a Word document. Be sure to include all parts of your assignment in the Word document: diagram interpretation (one paragraph), design analysis (at least two improvements), and your reconstructed UML activity **or** sequence diagram.

Module Six Assignment Rubric

Criteria	Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Meet Expectations	Value
Diagram Interpretation	Exceeds expectations in an exceptionally clear, insightful, sophisticated, or creative manner (100%)	Interprets UML activity and sequence diagrams by identifying the depicted use case and describing the entities and information involved (85%)	Shows progress toward meeting expectations, but with errors or omissions (55%)	Does not attempt criterion (0%)	25
Design Analysis	Exceeds expectations in an exceptionally clear, insightful, sophisticated, or creative manner (100%)	Analyzes design by identifying deficiencies in the diagram (85%)	Shows progress toward meeting expectations, but with errors or omissions; areas for improvement may include identifying at least two deficiencies (55%)	Does not attempt criterion (0%)	30
Reconstructed Diagram: Functionality	N/A	Reconstructs UML activity or sequence diagram to improve functionality (100%)	Shows progress toward meeting expectations, but with errors or omissions (55%)	Does not attempt criterion (0%)	25
Reconstructed Diagram: UML Notation	N/A	Uses CASE tools to reconstruct diagram that includes proper UML notation and diagram flow (100%)	Shows progress toward meeting expectations, but with errors or omissions (55%)	Does not attempt criterion (0%)	15

Criteria	Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Meet Expectations	Value
Clear Communication	Exceeds expectations with an intentional use of language that promotes a thorough understanding (100%)	Consistently and effectively communicates in an organized way to a specific audience (85%)	Shows progress toward meeting expectations, but communication is inconsistent or ineffective in a way that negatively impacts understanding (55%)	Shows no evidence of consistent, effective, or organized communication (0%)	5
				Total:	100%