

CNIT 38000: Assignment #8

State Machine Diagram (SMD)

Using your corrected Context Model Diagram (CMD) from Assignment #1, your corrected Requirements (REQ) from Assignment #2, and your corrected Event Analysis Matrix (EAM) from Assignment #3 and Use Case Diagram (UCD) from Assignment #4, Use Case Narratives (UCN) from Assignment #5, Activity Diagrams (AD) from Assignment #6, Class Diagrams (CD) from Assignment #7 and the following additional SecureIT banking system information, prepare:

A state machine diagram. The diagram should adhere to class diagramming standards and include:

- Object states.
- Business events that transition the object from one state to another.

LAB OBJECTIVES

Distinguish Object States.
Analyze Business Events.
Create Object Transitions.
Model a State Machine Diagram.

Loan Account Narrative

When a customer submits a loan application, it is entered into the system, and given an **“applied”** status. If the loan is denied, it is given a **“denied”** status (go to TERMINATE). If the loan is approved it is given a **“pending”** status. If the customer decides not to go through with the loan, the account is given a **“cancelled”** status (go to TERMINATE). Once the customer receives the loan proceeds (money) the account is given an **“active”** status.

If the customer fails to make a payment after one month, the account is given a **“delinquent”** status. If the customer pays the delinquent amount to bring the loan current, it is reassigned to an **“active”** status.

If the customer fails to make a payment after three months, the loan is assigned a **“collections”** status. Once all delinquent payments are made, the account is reassigned an **“active”** status.

If the loan is in **“collections”** and is deemed unrecoverable (never paid), it is assigned a status of **“default”** (go to TERMINATE).

The customer may repay the entire balance at any time (EXCEPT if it is in **“default”**) and the account is given a **“closed”** status.

REQUIREMENTS:

1. You **MUST** draw your diagram using Visual Paradigm or Microsoft Visio Professional or Upgraded. The templates that your State Machine Diagram and UML are to be used.
2. For diagram type, use **UML STATE MACHINE.**
3. Label all object states, use transitions to indicate flows between states. Label all flows between states with the business event that caused the change of state.
 - a. Only (1) start,
 - b. One (1) stop,
 - c. Do not cross lines.
 - d. All states should be connected to one or more other states or TERMINATE.
 - e. It is **NOT** necessary to label the transition from a state to the final, TERMINATE node.
4. Copy and paste your diagram into the Word document (Assignment #8 - Student Answers.doc) where indicated, replacing the yellow, highlighted text. Add your name and submission date. NO .PNG files.
5. DO NOT zip your file
6. Attach the .VPP or .VSDX file(s) in case I have questions.
7. DO NOT use an old student's file, as there are some changed system, actor, process names, etc. in this semester's assignments.
8. Attach and submit the two files **separately** in Brightspace.