CISC 327 Assignment 2

Breaking Bank

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**Design Document**

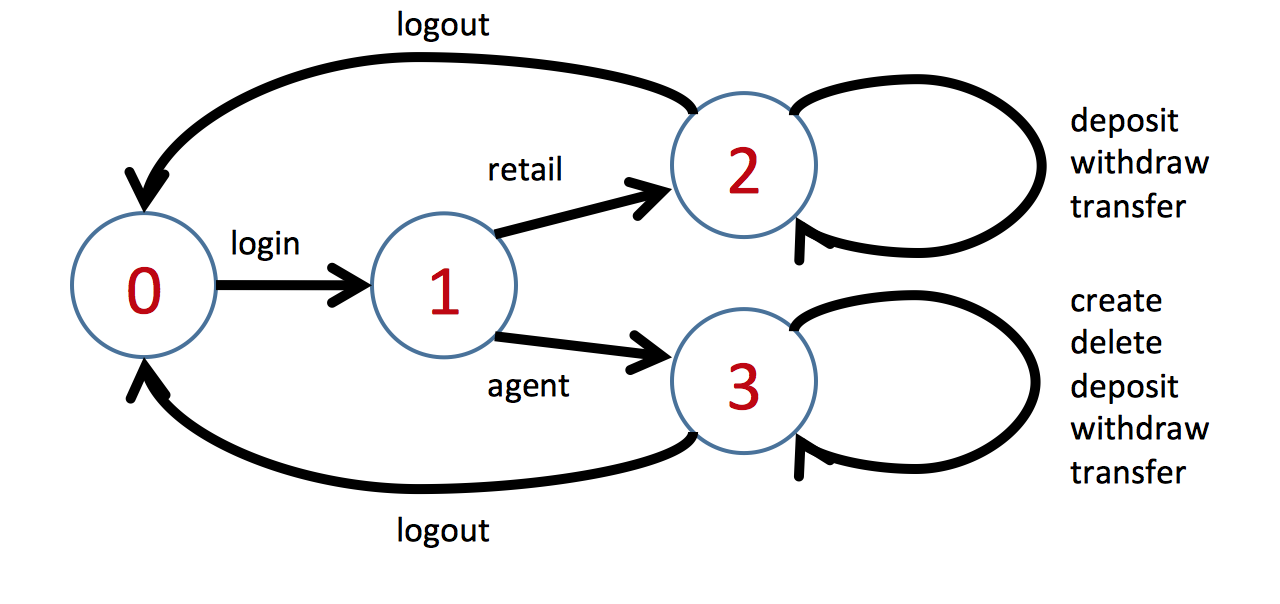
For our architecture we have chosen to go with a Main program which contains one function, and with 2 classes that handle agent and retail. When our program first runs the main program executes our openBankingSystem function, this function is designed to handle the system login, which type of day to run, and restarting the system after logout. However the function itself does not take the logout command as input, rather receives a logout signal from one of the instances of which day it is and then reboots the system.

Our Agent and Retail are quite similar in construction and how they operate. The openBankingSystem function instantiates one of these classes and then runs either the runAgentDay or runRetailDay method with in the class based on which type was instantiated. These methods are meant to be running to receive any sort of transaction that might occur during a banking day. This is also where the logout command will be received and then returns a logout signal back to openBankingSystem for it to reboot the system.

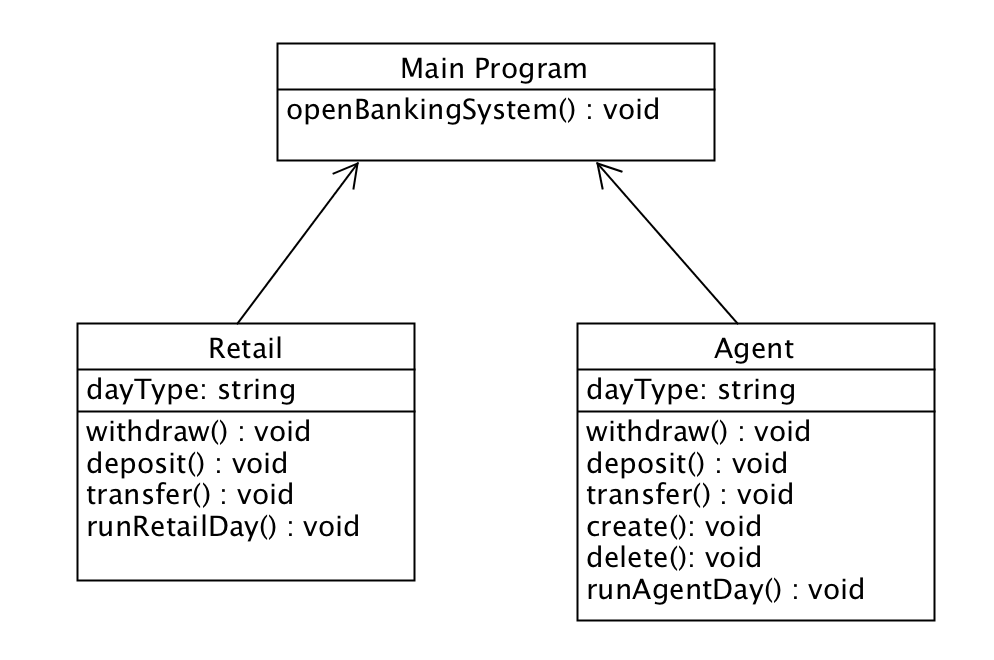
This is architecture is modeled after the 0 to 3 stage architecture (See Figure 1) modeled during class. We decided to implement a similar design because it would make the simplest solution. The 0 and 1 phase of the design are handled by the openBankingSystem function in our main program. Our Retail and Agent classes represent the 2 and 3 phases respectively. The logout functionality is handled in a similar way with either stage 2 or 3 receiving the logout command and starting over in stage 0.

Figure 2 is a UML diagram of the programs structure. The arrows are there to illustrate the relationship between the main program and the 2 classes.

**Figure 1**

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**Figure 2**

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|  |  |  |
| --- | --- | --- |
| **Class** | **Method** | **Function** |
| Main Program | openBankingSystem | Handles login, agent/retail instances (Stage 0 and 1, from Figure 1) |
| Retail | withdraw |  |
| Retail | deposit |  |
| Retail | transfer |  |
| Retail | runRetailDay |  |
| Agent | withdraw |  |
| Agent | deposit |  |
| Agent | transfer |  |
| Agent | create |  |
| Agent | delete |  |
| Agent | runAgent Day |  |