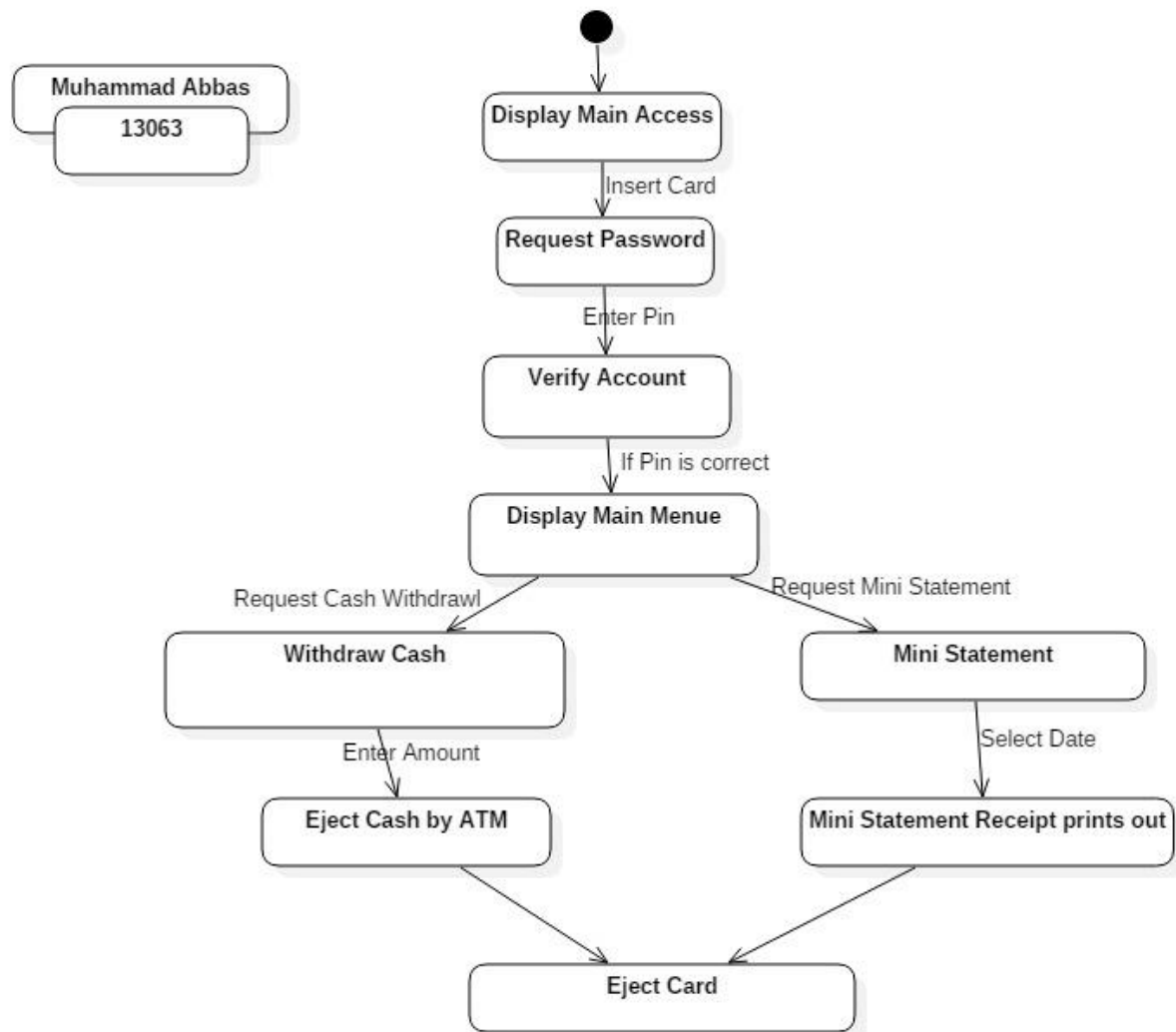


SEC302 - Object Oriented Software Engineering

FINAL EXAM

Question #1 (16 Marks)

An ATM machine can be used for Money Withdrawal and getting Mini Account statement. Make a State Machine Diagram for these two cases.



Question #2 (10 Marks)

You have to make a personalized software for a consultancy firm. Some components of the software are those for which you already have code. Some parts of the software are such that you can find ready-to-be-used code from internet. If you want to embed both types of code into your product, and complete the software by coding

the remaining part, what can you expect during this whole process? Will it be easy or hard? What problems you might face and how will you overcome those problems?

Ans: I think combining my code with ready to use code from the internet will be easy but ready to use code may not be exactly the same what my system demands or if in-future there is some error in that ready to use code then it would be hard to fix because fixing the other person's code is really a tough job. It's not easy to understand other person's code.

Secondly ready-to-use codes are not always free. You will have to pay money for the code you want.

When embedding two or more than two codes there are high chances of evolving bugs and errors.

Question #3 (24 Marks)

1. What is the difference between a Task and a Work Product? Explain in your own words and give an example of each.

Ans: Work Products: A work product is a visible outcome of a task

Examples.

- A document
- A presentation
- A piece of code

Tasks: Provides guidance on the work that needs to be done to transform inputs into outputs through a series of steps performed by one or more roles.

Examples:

- Collecting requirements.
- Analysis
- Designing

2. You are working on coding of a software in which a lot of calculations are involved. The calculations are quite easy to be done, but you do expect some inconsistency in the calculations because of some inner problem with the software. Would you rather go for Fault Avoidance technique or Fault Detection technique in the Testing Phase? Explain your answer.

Ans: I think we will go for Fault detection technique. Because there is an issue and it needs to be addressed.

- **Fault detection** techniques, such as debugging and testing, are uncontrolled and controlled experiments, respectively, used during the development process to identify erroneous states and find the underlying faults before releasing the system. Fault detection techniques assist in finding faults in systems, but do not try to recover from the failures caused by them. In general, fault detection techniques are applied during development, but in some cases they are also used after the release of the system. The blackboxes in an airplane to log the last few minutes of a flight is an example of a fault detection technique.

3. There are different types of testing. State which techniques are performed by the developer and which of them are performed by the client.

Ans:

- **System testing** tests all the components together, seen as a single system to identify faults with respect to the scenarios from the problem statement and the requirements and design goals identified in the analysis and system design, respectively:
- **Functional testing** tests the requirements from the RAD and the user manual.
- **Performance testing** checks the nonfunctional requirements and additional design goals from the SDD. Functional and performance testing are done by developers.
- **Acceptance testing** and installation testing check the system against the project agreement and is done by the client, if necessary, with help by the developers.

Instructions for Paper Submission

1. Write your names and Ids at the top of each paper of answer sheet.
2. Scan / Take Photo of each paper and save each photo with a number. E.g. photo of page 1 of answer sheet be saved with name 1.jpg, then 2.jpg and so on.
3. Put all answer photos in a folder, name the folder with your Roll Number, Name and Subject Name, e.g. "11512 - Sanaa Jeehan - OOSE". Alternately, you can also make a PDF file of all the pictures and name it as explained.
4. Zip the folder and upload.