

# **ITMD: 511 Application Development Methodologies**

## **Chapter 5 & 6: System Modeling & Architectural Design**

### **Exercise**

1. Based on your experience with a bank ATM, draw an activity diagram that models the data processing involved when a customer withdraws cash from the machine.
2. Draw a sequence diagram for the same system. Explain why you might want to develop both activity and sequence diagrams when modeling the behavior of a system.
3. Draw state diagrams of the control software for the software for a DVD player.
4. When describing a system, explain why you may have to start the design of the system architecture before the requirements specification is complete.
5. Performance and security may pose to be conflicting non-functional requirements when architecting software systems. Make an argument in support of this statement.
6. Should there be a separate profession of 'software architect' whose role is to work independently with a customer to design the software system architecture? A separate software company would then implement the system. What might be the difficulties of establishing such a profession?

### **References**