

Cosc 4F00

Assignment 1

(Due date for assignment is Monday October 21st, 4:00 p.m. , Late date Thursday October. 24th, 4:00 p.m.)

Q1) Systems Requirements Specification. Consider a system for making a cup of coffee in say a hospital or waiting area. Vending machine coffee—yuck. This system must produce a cup of coffee to order, with the ability to fill any one of 2 sizes of cups with the options of adding varying amounts of whitener and a sweetener. The system should inform the service company should consumables become dangerously low. This is a basic description of the system which was written down on a paper napkin, and may surely be devoid of much detail.

Note: that a system will be developed and the final system may look much different than the simplified description given. In fact it is expected that the above lists the basic context in which a system will operate. You may have to iterate through the list below, before a stable solution is discovered.

- [6] a) List the functional and non-functional requirements of this system.
- [5] b) From the above requirements write a proper system description which encompasses those requirements. Be aware, that the initial statement must be considerably fleshed out.
- [8] c) Using a UML editor, create a state diagram which describes the start to finish process of making a cup of coffee. Use abstraction to define the parts. You may have several diagrams with varying levels of abstraction.
- [6] d) Create a UML sequence diagram for the purchase authorization of a cup of coffee. This is the part where the machine takes your money and only when complete will the machine turn to making coffee. Remember, we are in 2019 look at various purchase methods.
- [3] e) Give an architecture for the proposed system. Use an architecture diagram to describe this.
- [6] Q2) Compare and contrast the benefits and disadvantages of Agile verses Plan driven development.

UML editors, Star UML and draw.io are relatively free and can be adapted for this assignment.

End.