CISC/SOFT 423: Software Requirements
Assignment 2 – UML Diagrams
Due Date: 11:59pm on Feb 20, 2024

Description

We will now be analyzing the desired behavior for the software system you selected in Assignment 1 (feel free to select any of the systems but it is perhaps easier to pick your choice for Assignment1).

Specifically, you will do this by creating 3 UML diagrams: an **Activity Diagram**, a **Sequence Diagram**, and a **Statechart Diagram**. These diagrams needn't describe the entire functionality of the systems, but should contain sufficient detail to demonstrate your knowledge of the three diagram types, and your ability to accurately represent an existing system.

What to Submit

For this assignment, you will submit, via OnQ, **a single PDF** submission which contains:

- The name and brief (2 to 3 sentence) description of the software system that you chose.
- One (1) Activity Diagram showing a set of activities that are part of using your selected software system.
    - You will need to include multiple decision/merge points, at least one use of fork/join control, and must structure your diagram using swimlanes.
- One (1) Sequence Diagram showing the interactions of using your selected system through a number of steps.
    - You will need to include multiple message types (at least 4), at least 4 total objects (can include user/actor), and some use of looping.
- One (1) Statechart Diagram demonstrating the high level states that your system can take during its usage, and the transitions between them.
    - You will need to include the use of the following Statechart features: hierarchical states, transitions with triggers, guards, and resulting actions (as long as all are sufficiently demonstrated), at least two concurrent statecharts, a history state, and at least one of each parent and child transitions.

Marking

The below table shows the marking system. Ideally a submission (that includes all the requirements based on the below rubric) will get a total of 40 points which gains the full 20% of the final mark.

Rubric – total of 40 Points

Criteria	High Quality	Medium Quality	Low Quality	Not Submitted
Name and Brief Description of Chosen System	A clear name and description is provided in the submission. **1 Point**			Name and/or description of system is missing. **0 Points**
Activity Diagram – Completeness	All of the required components are included in the activity diagram. **7 Points**	The activity diagram is missing 1 or 2 components from the provided list. **5 Points**	The activity diagram is missing 3 or more components. **3 Points**	The activity diagram does not contain any of the required components. **0 Points**
Activity Diagram – Correctness	It is clear from the diagram how a user would navigate the system and participate in the activities. No errors are present. **6 Points**	The diagram presents some issues of understandability causing some confusion or misinformation. A few minor errors present. **4 Points**	The submitted diagram is too confusing to accurately represent the desired behavior of the system. **2 Points**	The diagram is completely incorrect. **0 Points**
Sequence Diagram – Completeness	All of the required components are included in the sequence diagram. **7 Points**	The sequence diagram is missing 1 or 2 components from the provided list. **5 Points**	The sequence diagram is missing 3 or more components. **3 Points**	The sequence diagram does not contain any of the required components. **0 Points**
Sequence Diagram – Correctness	It is clear from the diagram how a user would interact with the system components and participate in the sequences. No errors are present. **6 Points**	The diagram presents some issues of understandability causing some confusion or misinformation. A few minor errors present. **4 Points**	The submitted diagram is too confusing to accurately represent the desired behavior of the system. **2 Points**	The diagram is completely incorrect. **0 Points**
Statechart Diagram – Completeness	All of the required components are included in the statechart diagram. **7 Points**	The statechart diagram is missing 1 or 2 components from the provided list. **5 Points**	The statechart diagram is missing 3 or more components. **3 Points**	The statechart diagram does not contain any of the required components. **0 Points**
Statechart Diagram – Correctness	The diagram clearly communicates how the system (as a whole) operates. Sufficient detail is given for several functions of the system, not just one or two. No errors are present. **6 Points**	The diagram presents some issues of understandability causing some confusion or misinformation. Or the diagram shows too small of a view of the system's behavior. A few minor errors present. **4 Points**	The submitted diagram is too confusing to accurately represent the desired behavior of the system. **2 Points**	The diagram is completely incorrect. **0 Points**