**CIS 320 Assignment 3**

**Analysis Modeling Skills Development**

Background: One of the most important course goals is to develop your critical thinking and systems modeling skills. This assignment will allow you to practice the modeling techniques most often associated with systems analysis.

Objectives: Create a series of models that move from requirements to use cases, and then to behavioral and structural models. Demonstrate your mastery of the analysis and modeling techniques listed below.

Task: Create the series of models and deliverables listed below for the use cases assigned to you. I suggest you create the models in the order in which they are listed below; they build on each other in a logical manner.

For the use cases assigned to you, create: (1) use case descriptions; (2) a use case diagram; (3) a prototype of each use case, (4) a class diagram and (5) a sequence diagram for each use case. Expectations for each model are defined below.

Note: this is an individual assignment. The team should agree on the assignment of use cases to team members. It may also share the set of system requirements. Other forms of collaboration are not permitted.

|  |  |
| --- | --- |
| **Item** | **Description** |
| Use Case Descriptions | For the assigned use case, construct a detail, essential use case description. Follow the actor/system response format shown in Arlow and Neustadt. Adhere to use case naming conventions.  Include the most recent set of system requirements. Provide a trace matrix that associates your use cases with system requirements. |
| Use Case Diagram | Create a use case diagram for your use cases. Use the guidelines in Arlow and Neustadt in formatting the diagram.  Provide a narrative explaining how to interpret the use case diagram; i.e., what you would want the client to conclude about the system model when viewing the diagram. |

|  |  |
| --- | --- |
| **Item** | **Description** |
| Use Case Prototypes | Create high-level prototypes (HTML or similar screen mockups) that represents the data needs and process flows of your use cases. The prototype may not connect to databases or use anything other than the minimum of programming. |
| Class Diagram | Create a class diagram showing the data attributes and operations of all classes identified during this assignment. Show the relationships among classes. Provide a narrative explaining how to interpret the class diagram; i.e., what you would want the client to conclude about the system model when viewing the diagram. |
| Sequence Diagram | Create sequence diagrams for the “happy day” scenarios of your use cases. List the use case main flow along the left side of the sequence diagram. |