



Systems Analysis, Design & Testing Project Specification

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Due Date: 01/12/2023

Worth: 30%

Instructions:

For this case study you are required to choose an example online system to model using UML. You should choose your example system carefully as you will be expected to continue designing the same system using different UML diagramming techniques for the remainder of the year. This case study should include the following criteria:

1. **Detailed Summary** explaining the overall concept of your system and how the system should operate
2. A **Use Case diagram** that models the most important features of the system and includes the following:
 - (a) Example of '**includes**' relationship
 - (b) Example of '**extends**' relationship

3. **5 Typical Scenarios** (i.e. how the user interacts with the use case to achieve a goal) based on the Use Case, recorded in scenario table format
4. A **Class diagram** of your system that includes the following:
 - (a) Detailed classes
 - (b) Example of **inheritance**
 - (c) Examples of **basic aggregation**
 - (d) Examples of **composition**
 - (e) Multiplicity
5. **Sequence diagrams** of your system that includes the following:
 - (a) At least 5 sequence diagrams of the most important features of your system
 - (b) Message Analysis Table explaining the sequence of steps for each diagram
 - (c) Include all the necessary sequence diagram elements to describe each scenario
6. **Test Cases** (in table format) of the system that includes the following:
 - (a) At least 5 test cases of the most important features of your system
 - (b) A unique name and number
 - (c) A requirement which this test case is exercising
 - (d) Preconditions which describe the state of the software before the test case (which is often a previous test case that must always be run before the current test case)
 - (e) Steps that describe the specific steps which make up the interaction
 - (f) Expected Results which describe the expected state of the software after the test case is executed

Deliverables:

- The **Summary, Use Cases & Class diagram, Sequence & Test Cases** should be presented in a single document
- All diagrams should be created using a UML tool (e.g. StarUML, UMLet, etc.)
- Soft copy of project documentation should be submitted to Blackboard and include your name (e.g. Airport-System-Joe-Bloggs.pdf)
- **Deliverable deadline: 1st December 2023**

Extra Information:

1. Unique online system to model per team/student, unless radically different from another system
2. Email me your choices (3 choices in preferential order) of online system to model before you start working on it (wait for approval from me first!)
3. Drawn on a professional tool (e.g StarUML, etc.) and exported as gif, png, etc. in good quality
4. Marks will be deducted for late submissions