University of the West of Scotland

MSc Information Technology

COMP11112 Enterprise Architecture

Coursework Checklist 2024-25 T1

This checklist has been written to help you not to miss important points when preparing and submitting your coursework.

1. General

- ☑ Your report must have a **cover page** with
  - ☑ module code and title
  - ☑ campus
  - ☑ lecturer name
  - ☑ full names and Banner IDs of group members
  - ☑ submission date.
- ☑ Your report must have **Declaration of Originality page**.
- ☑ Your report must have **a Table of Contents page**.
- ☑ Your report must have **page numbers**.
- ☑ **Name your report file** with this format:
  - ☑ Name - Banner ID - Enterprise Architecture Coursework.docx
    For example: John Smith - B01234567 - Enterprise Architecture Coursework.docx
  - ☑ Only the submitting student's name and Banner ID is needed.
- ☑ There is no literature research for this coursework. Therefore, you don't include any citations and references to your report.

2. Quality Considerations

- ☑ Professional **appearance and presentation** of your report should also be a priority
  - ☑ Consistent **fonts**
  - ☑ Consistent **colours**
  - ☑ Well-structured **organisation**
  - ☑ Consistency in all **written and drawn elements**
- ☑ Your diagrams must conform to **standard UML**.
- ☑ Your diagrams must be **high-quality** and must be readable.
- ☑ You must not distort the diagram images when resizing them to fit the page.
- ☑ You must avoid pasting screenshot of your entire screen.

3. Plagiarism

- ☑ No plagiarism.
- ☑ No cheating of any form.
- ☑ All is your own genuine work and effort.
- ☑ You know your lecturer can detect cheating very easily.

4. Business Context Diagram (10 marks)

Q1. Create a business context diagram showing the business context model for the Movie/Game DVD Rental System. (10 marks)

- ☑ You have identified major parties in the system and included them in the diagram.
- ☑ All interactions between parties are on the diagram.
- ☑ Interaction arrows contain the labels of the request/response messages being exchanged.
- ☑ Interactions must match the use cases on the use case diagram.

5. High-level Business Process Model (15 marks)

Q2. Create a UML activity diagram with horizontal swimlanes showing the high-level business process model of the Movie/Game DVD Rental System. (15 marks)

- ☑ This is a **high-level** diagram, so:
  - ☑ It must **not** contain any details of messages/documents being sent/received.
  - ☑ It must focus on the high-level actions performed sequentially. It is not meant for showing which service is calling which operation on the other service!
- ☑ You have used horizontal swimlanes.
- ☑ You have used standard UML activity diagram elements.
- ☑ Actions must be verb-phrases, such as Get Products, Calculate Price, and so on.

6. UML Use Case Diagram (10 marks)

Q3. Create a UML use case diagram showing the functionality of the Movie/Game DVD Rental System. (10 marks)

- ☑ System boundary is visible.
- ☑ DVD Scanning Machine cannot be an actor as it is not initiating a use case scenario.
- ☑ All actors are primary actors that initiate a use case scenario directly.
- ☑ Use case names must be verb phrases, such as Register, Modify, View, and so on.
- ☑ There are some use cases linked by <<include>>.
  - ☑ Check arrow direction – what is including what?
- ☑ There are some use cases linked by <<extend>>.
  - ☑ Check arrow direction – what is extending what?
- ☑ There are some use cases linked by generalisation.
  - ☑ Check triangle direction – what is general and what is special?
- ☑ Entities such as DVD, Customer, Supplier cannot be a use case! Make sure your diagram does not include such things as use cases. They are more likely to be classes!
- ☑ Actors are connected to use cases by solid lines, not by dashed lines and not by arrows.
- ☑ You have a “Rent DVDs” use case. You’ll refer to this use case in the other stages of CW.

7. UML Activity Diagram for “Rent DVDs” (15 marks)

Q4. Create a UML activity diagram with vertical swimlanes showing the scenario of the use case “Rent DVDs” in the use case diagram created for Q3 in the above. (15 marks)

- ☑ This is a **detailed** diagram, so:
  - ☑ It must show which actor/service is calling which operation on the other service!
  - ☑ It must contain all details of messages/documents being sent/received between service operation calls.
  - ☑ Document objects should have <<Document>> stereotype if you have used object symbols (sharp big rectangles) in your diagram.
  - ☑ Document [states] should be provided if relevant.
- ☑ You have used vertical swimlanes.
- ☑ You have used standard UML activity diagram elements.
- ☑ Actions must be verb-phrases, such as Get Products, Calculate Price, and so on.
- ☑ Vertical swimlanes must represent either a primary actor such as a user that initiates the use case or a service in your SOA system being developed.
  - ☑ Services must match the <<Service>> classes in your Service Interaction Diagram.
- ☑ Actions (round rectangles in the swimlanes) must match service operations of your <<Service>> classes in your Service Interaction Diagram.

8. Information Model (15 marks)

Q5. Create a UML class diagram showing the information model of the Movie/Game DVD Rental System. (15 marks)

- ☑ You have identified all pieces of data/information that is generated or processed or stored or retrieved or exchanged in the whole scenario, not only for “Rent DVDs” use case.
- ☑ Entity classes must have attributes but no operations.
- ☑ Class and attribute names must be nouns or noun phrases, such as Student, Module, ClassCode, Department, BirthDate, and so on.
- ☑ Class associations must have their multiplicities such as 1, 1..*, 0..*, and so on.
- ☑ You should use generalisation where meaningful and possible.
- ☑ You must not put attribute data types and attribute visibility modifiers.
- ☑ You have used standard UML class diagram elements.

9. Service Interaction Diagram (10 marks)

Q6. Create a service interaction diagram (shown in a UML class diagram) showing service interactions meant by the UML activity diagram created for Q4 in the above. (10 marks)

- ☑ You have put all services that take place in the UML activity diagram you have created for Q4.
  - ☑ Services and their names must match the ones in Q4 solution.
- ☑ Your service classes all have their stereotypes <<Service>>.
- ☑ Your service classes must not have any attributes.
- ☑ Your service classes must have at least one operation (obviously!).
  - ☑ These service operations and their names must match the actions in the corresponding swimlanes in your detailed UML activity diagram.
- ☑ You have drawn dependency arrows (dashed line with an arrow) between service classes if there is a dependency between them. The element at the tail of the arrow depends on the element at the arrowhead.
- ☑ You don't need to put parameters on service operations as Service Interface Diagram will display this information in detail.

10. Service Interface Diagram (15 marks)

Q7. Create a service interface diagram (shown in a UML class diagram) showing the service definition meant by the UML activity diagram created for Q4 in the above. (15 marks)

- ☑ You have created a **separate diagram for each service** in the Service Interaction Diagram in Q6 solution.
  - ☑ Instead, you can put all services on one single diagram if you like. But you must group operations by the services they belong to in order to make them organised and easy to understand.
- ☑ You have provided classes for possible exceptions that can occur in the process, such as InvalidID, OutOfRange, and so on.
- ☑ Your operation classes all have their stereotypes <<Operation>>.
- ☑ Your operation classes all have their inputs and outputs as either simple data types or documents.
- ☑ Your document classes all have their stereotypes <<Document>>.
- ☑ Your data type classes all have their stereotypes <<DataType>>.
- ☑ Your exception classes all have their stereotypes <<Exception>>.
- ☑ Your classes must not have any attributes or operations.