

Discussed What we've done for task 3 further discussing what we need to do for task 4
Assigning roles for the architecture

In this task, you will work as a software architect to produce an Architectural Design of the system in the

microservices architectural style. The design should be at two different levels as follows.

(a) Architecture of the subsystem (10 Marks, Individual effort): Each member of the team should produce an architectural design of your subsystem with focus on the microservices your subsystem provides and the microservices that your subsystem requests and other subsystems provides.

(b) Architecture of the whole system (10 Marks, Team effort): The team should produce an architectural design of the whole system through integrating the subsystems together.

Note:

a. You should specify the architectural designs in the UML component diagrams with a set of component nodes to represent microservices and a set of interfaces to represent the connectors between them.

b. The components and connectors, including their methods and parameters, should be specified in a textual documentation to define their functionalities and meanings.

c. In this part of the design, you are not required to give the internal structure of the components and connectors.

We'll discuss the task 5 during the next meeting:

In this task, you will work as a software designer to produce a Detailed Design of the system for object-oriented

implementation of the components (i.e. the microservices) in your architectural design of the subsystem. The design should specify the components from both structural and behavioural aspects in UML.

(a) Structural Model (10 Marks, Individual effort): Each student should select one component in the architectural design of your subsystem and develop a Class Diagram to define the structure of the component.

Note:

a. The selected component must be in the architectural model of your subsystem, but not in any other subsystems.

b. The UML class diagram must contain the classes and relationships between them. You must give the attributes and methods of the classes.

(b) Behaviour Model (10 Marks, Individual effort): Each student should produce a Sequence Diagram for the same component selected in Task 5(a) to define the dynamic behaviour of the component.

Note:

a. The sequence diagram should specify the internal process of the interactions between the objects inside the component. It must be consistent with the structural model that you produced in Task 3(a).

b. The behaviour model must cover all possible scenarios of the operations of the component using advanced modelling facilities such as frames.