

Homework #1

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Task #1

- Implementation of Agent Behaviors
- Implement agent behaviors in JADE Framework with respect to scenario proposed.
- Behaviors should correspond to each category below:
 - **Simple Behavior** (at least 5 different behaviors):
 - CyclicBehaviour, MsgReceiver, OneShotBehaviour,
 - SimpleAchieveREInitiator, SimpleAchieveREResponder,
 - TickerBehaviour, WakerBehaviour
 - **Composite Behaviors** (at least 2 different behaviors):
 - ParallelBehaviour, FSMBehaviour, SequentialBehaviour

We chose the following behaviors:

For the Profiler Agent:

We use **OneShotBehaviour** to print the User information.

Then we had to use a **TickerBehaviour** so the Profiler Updates every 30 seconds, to look for the TourGuideAgent and the CuratorAgent, and then you get a tour.

We use the **SimpleAchieveREInitiator** to send request to TourGuideAgent, then to the CuratorAgent.

And the **SequentialBehaviour** is used to send the request in order so we first get the IDs, and then get the details.

For the TourGuideAgent:

Here we implement the **MsgReceiver** to get the message from the request sent by the ProfilerAgent.

We use the **SimpleAchieveREInitiator** to ask the CuratorAgent to make a tour based on the message from the ProfilerAgent.

For the Curator Agent:

We use the `SimpleAchieveREResponder` to answer to the requests from the TourGuideAgent and the ProfilerAgent.

In this case we use a `ParallelBehaviour` so that the responders of the messages work in parallel.

Task 2

- Using DF (Directory Facilitator) agent.
- In the context of the scenario proposed define the role of the DF agent and implement the following activities for agents (Profiler, TourGuide, Curator) with respect to scenario proposed:
 - Implement an agent that provides some service and registers it at DF.
 - Implement an agent that can discover all registered services at DF, asks user for its choice and then displays the parameters expected to use that service.
 - Implement an agent that subscribes to DF and gets notified each time the desired service is published at DF.

We have 2 registered DF TourGuides and Curators, and the ProfilerAgent uses the TourGuides to look if there are any TourGuideAgents and uses the Curators to see if there are any CuratorAgents. Also, the TourGuideAgent uses the list to find if there are any Curators to send the message.

The TourGuideAgents uses subscribe because it is looking if in the DF there is a service that matches the required properties, in this case if there is a curator.