1 Agent and Operation Modelling

This problem class is based on van Lamsweerde ex11.6 and ex12.4.

You are given the following goals for the Ambulance Dispatching System of problem class 1:

Achieve[Ambulance Allocated based on Incident Info]

Def When an incident has been encoded as requiring an ambulance by the call operator, a first available ambulance shall immediately be allocated by the dispatching software. This ambulance must be the nearest available one to the incident location, based on recorded location information.

Achieve[Allocated Ambulance Mobilized]

Def When an ambulance is allocated to an incident, the allocation and precise incident location shall immediately be notified to the ambulance’s mobile communications unit.

1. Using the heuristics for agent modelling, identify agents and responsibility assignments for these goals. Document these responsibilities as instance declarations.

2. Give a partial agent diagram (with agent-goal-object mappings).

3. Give a context diagram for this partial agent model.

4. For the first goal, give the signature, domain pre- and postconditions for operation AllocateAmbulance which operationalizes this goal. Give the required trigger and postcondition.

Answer:
