AOSE - multi-agent

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1 Logical architecture

1. we define the internal state we some logical formula

2. we define the deduction rules.

2 Reactive architecture

1. by using some priority rules we can specify each behaviour of the agent

2. rules specified by layered, higher priority to lower layers.

3. example: avoid obstacles -¿ wander -¿ explore -¿ build maps -¿ monitor changes -¿ identify objects;

4. example: Steels Mars Explorer system (see last time slides).

5. simple, no reasoning, low computational complexity and robust.

3 Hybrid architectures

1. Integrate to the reactive architecture some aspects of the logic architectures

2. at first Reactive part: react to the environment

3. then deliberative part: develop plans and make decision (more sophisticate reasoning)

4. two different type of layering: horizontal layer give priority to the lover layer; vertical layer -¿ see layer one at the time.

4 BDI architecture

1. The most popular one.

2. Plans

3. Belief: information about the world

4. Desire(Goal): my desire state, capture why a particular piece of code is executed

5. Intention: selected course of actions (plan instances)