CS 316: A quick overview of intelligent agents

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A QUICK OVERVIEW OF INTELLIGENT AGENTS

- An intelligent agent is anything that can be viewed as perceiving its environment and acting upon that environment
- A rational agent is one that does the right thing
  - We, the independent observers are the ones that decide on objective performance measures
- What is rational at a given moment depends on four things:
  - The performance measure (rational $\neq$ successful)
  - The percept sequence of the agent (rational $\neq$ clairvoyant)
  - What the agent knows about the environment (rational $\neq$ omniscient)
  - What are the actions the agent can perform

Structure of intelligent agents

P ercepts
A ctions
G oals
E nvironment

- Percepts may update an internal state used in order to choose proper actions
- Agent types:
  - simple reflex agents
  - reflex agents with state
  - goal-based agents
  - utility-based agents
- Environment types:

	Chess	**Image anal.**	**eBay**	**Taxi**
Accessible				
Deterministic				
Episodic				
Static				
Discrete				

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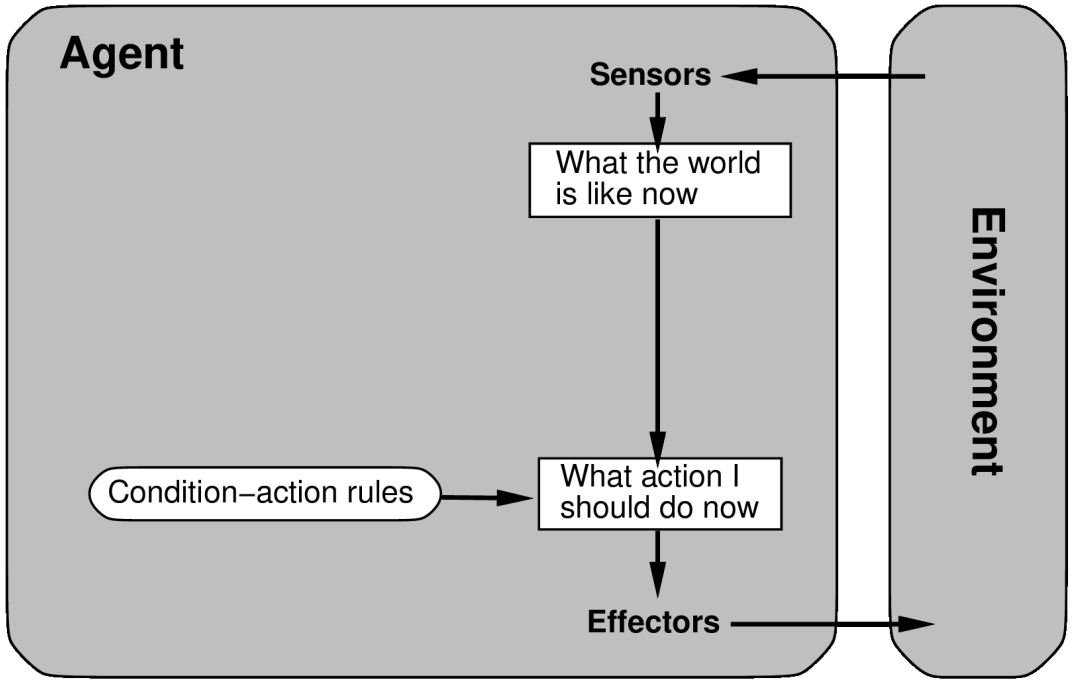
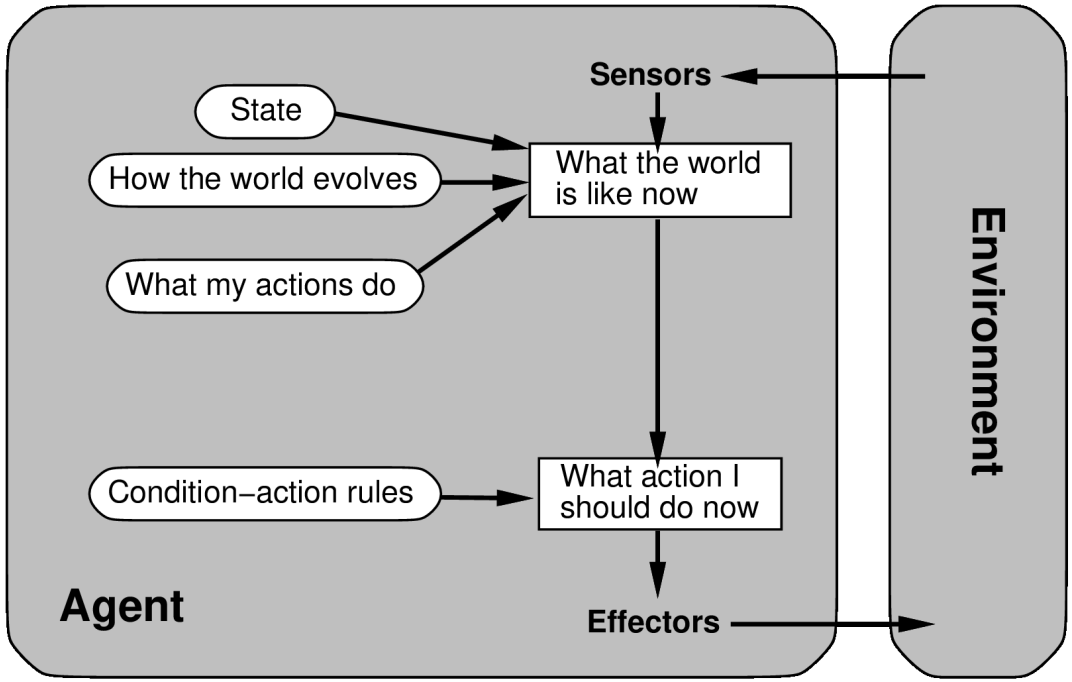
Static	Yes	Semi	Semi	No
Discrete	Yes	No	Yes	No

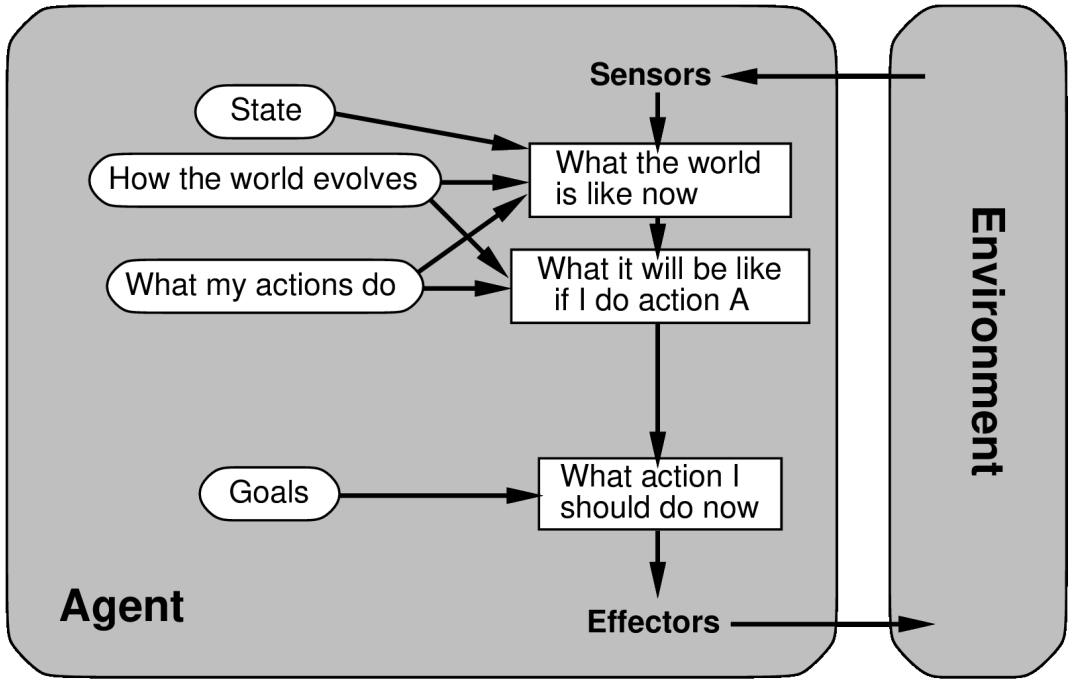
Simple reflex agents



Reflex agents with state



GOAL-BASED AGENTS



UTILITY-BASED AGENTS