CS 316: A quick overview of intelligent agents

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- 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 ≠ successful)
  - The percept sequence of the agent (rational ≠ clairvoyant)
  - What the agent knows about the environment (rational ≠ omniscient)
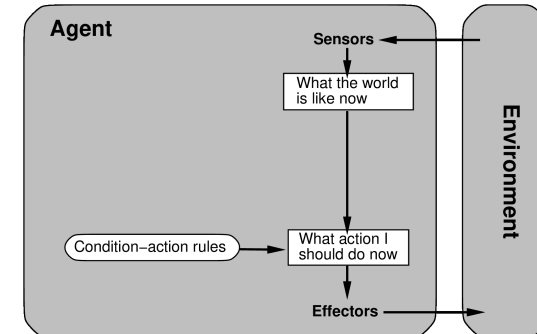 - What are the actions the agent can perform

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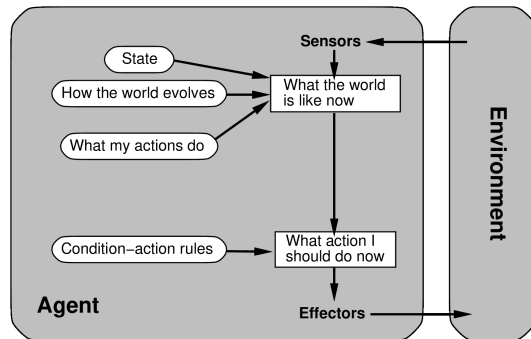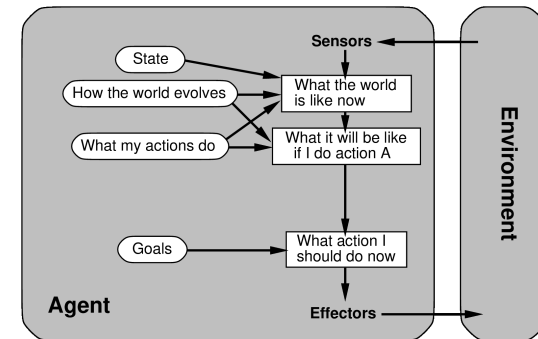 - goal-based agents
  - utility-based agents

P ercepts

A ctions

G oals

E nvironment

- Environment types:

	Chess	**Image anal.**	**eBay**	**Taxi**
Accessible	Yes	Yes	No	No
Deterministic	Yes	Yes	Partly	No
Episodic	No	Yes	No	No
Static	Yes	Semi	Semi	No
Discrete	Yes	No	Yes	No

Reflex agents with state

Goal-based agents

Utility-based agents