

## **Practical examples and applications of reactive agents**

### **Reactive Agent**

Reactive agent is an agent that perceives its environment and reacts to it in a timely fashion.

### **Practical examples**

Balch and Arkin use Reactive Agent to study formation maintenance in autonomous robots.

Another example is pursuit domain work by Levy and Rosenschein, this agents assumes that each will work in service of its own goal.

### **Applications**

**Entertainment** – video games where characters face difficulties in virtual word situation.

Especially in fighting and shooting games.

**Vehicle collision avoidance** – obstacle avoidance in innovation in intelligent system can be used to reduce road accidents.

**Traffic management** – agents can respond quickly to frequent traffic changes. Where agents are simple and react to their environment and also respond other agents adjacent to them.

**Electronic commerce** – agents combine business strategies to bring customers and suppliers together to do transactions online.

## **Practical examples and applications of goal-based agents.**

This kind of intelligent agent has a goal and has a strategy to reach that goal, all actions are based on its goal and from a set of possible actions it selects the one that improves the progress towards goal that is not necessarily the best one.

Example is an agent class is searching robots that has initial location and want to reach a destination.

## **Applications**

### **1. Network Management**

Some of the first applications of multi-agent systems were related with network management. ARCHON was both a generic platform and a methodology to build up multi-agent systems integrating heterogeneous expert systems like agents. All the agents, besides to maintain their own specific goals, were able to jointly work, co-operatively, perform an overall system's goal. ARCHON was used for managing and controlling a big electric energy distribution network.

### **2. Automated Driving**

This is a goal based, utility-based agent. Cameras are used to gain positions of car, the edges of lanes and the position of the goals. The car can speed up, slow down, change lanes, turn, park, pull away and so forth.

### **3. Goal Oriented Action Planning**

This is a planning architecture designed for real time control of autonomous character behaviour in games. Goal Oriented Action Planning will give your agents choice and the ability to make intelligent decisions without having to maintain a complex finite state machine (FSM). It is an artificial intelligence system for autonomous agents that allows them to dynamically plan a sequence of actions to satisfy a set goal.