The Team Description of YowAI2004

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RoboCupRescue project aims to simulate large urban disasters. Rescue agents such as ambulance teams, police forces, and fire brigades operate against the disaster space in the simulation system. Buildings and houses collapse and burn, and roads are blocked in the disaster space. So a number of civilian agents are sacrificed and injured. In order to minimize damage resulting from the disaster, these agents have to try to accomplish their missions.

Many agents such as civilians, ambulance teams and so on, lived in the disaster space. Soon after a large earthquake, buildings collapse, many civilians are buried in the collapsed buildings, fires propagate, and it becomes difficult for agents to move roads because these are blocked by debris of buildings and something else.

Platoon agents need to cooperate with other same and different types utilizing as little comunication as possible under stringently limited visual sensory information.

Our YowAI2004 team solved future work of YowAI2003 in RoboCup2003 and dealt with some problems issued by the revised rule. Our agent's features are as follows:

- Agents gathered information by using efficient communication. Pieces of information are re-arranged before transmission to make important information to be sent more quickly. It copes with the problem of communication restrictions. Because the problem of handling imperfect information is one of the most important problems of RoboCupRescue simulation, we have to utilize communication capability as far as possible, obeying the restriction. Our efficient communication scheme leads to quick rescue activities.
- In order to achieve dynamically changing various tasks, some agents would do better to form a team, since here are many problems in the disaster space, that cannot be solved by single agent. We developed a mechanism to make agents to form a team by their needs. If an agent feels need to form a team, it calls for team participation. Agents that answered the call will form a team and try to solve the task. Team formation and team dissolution take place quite dynamically. So the mechanism can cope with dyanmically changing disaster situation. It enhanced our rescue activities.