

## Simulator changes

Organizer is now a separate entity in the grid world. It is not part of the Search and Rescue agents but sits as a separate object.

The **goal structure** is static. My assumption here is that only the Organizer is capable of changing the role of an agent.

An agent need not play all roles. This is specified in the agent capabilities.

**Scoring scheme:** There are 3 types of scoring done in the simulator.

roleScore:

This scoring starts when an agent capable of playing a particular score is assigned to play the role. Each move of the agent gets positive points. Each successful task completion gets the agent negative points.

At the end of the simulation, each agent will have scores for each role that it played.

score, Importance factor:

score is the organization's total performance on the particular scenario. Importance factor of an agent is the agent's credit in the team's performance.

$$\text{score} = \sum_{\text{agents}} \sum_{\text{role}} \text{score}$$

$$\text{Importance factor of each agent} = \sum_{\text{role}} \text{score} / \text{Organization score}$$

goalSatScore:

How well a particular role is played depends on the agent playing that role. Since different agents play the same role with varied efficiency, it is easier to calculate the how well an agent achieved (tried to achieve) a particular goal: agentGoalSatScore. The goalSatScore for a particular role can then be assigned as the agentGoalSatScore of an agent whose roleScore for that role is the maximum in the given set of agents.

Below is a rough description of the scores.

