Human-Agent Collaboration for Multi-UAV Coordination

Sarvapali Ramchurn

Scenario

Silver Command

Max-Sum

Bronze Operators

ARCHITECTURE

Silver command Interface

UAV
Simulation Engine

Plan suggestions

UAV state
+ Actions

Manual
Annotations

Max-SUM coordination
module

4 Scenarios + 2 training:

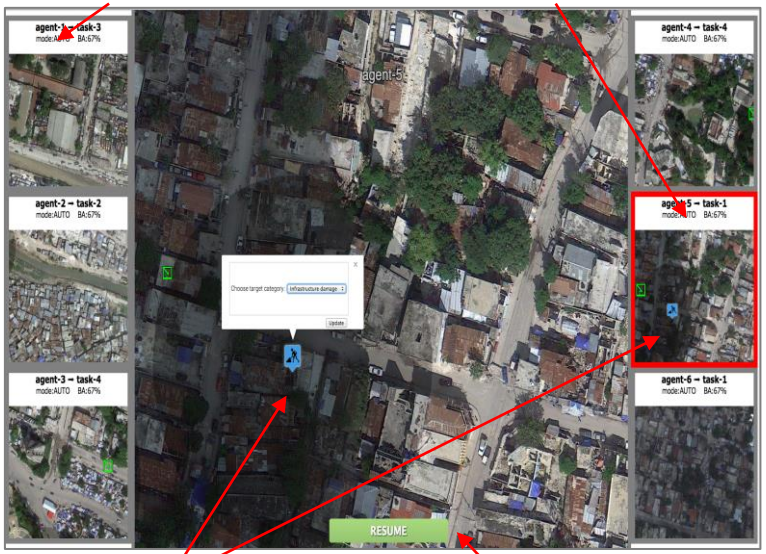
"There are a number of targets to the east of the base"
"There are some targets south of the map"

Silver Command View

Camera View

UAV Status

Selected UAV Video Feed



Unidentified Target

Resume/Stop

Planner View

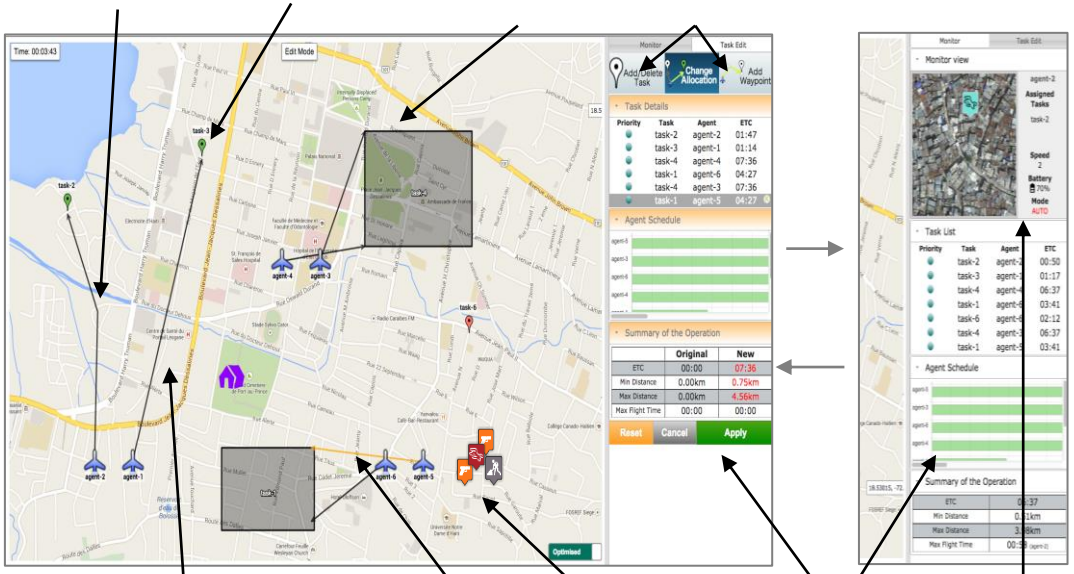
Waypoint

Point task

Region task

Edit Modes

Monitor Mode



Max-sum Allocation (black line)

Manual Allocation (orange line)

Cluster of Detected Targets

Plan status

UAV status

Research Questions

Supporting human decision making

Multi-Human Multi-UAV systems

Multi-UAV coordination challenges