
RWA Update

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Personnel

- ◆ Johnny Chen
- ◆ Jon Gratch
- ◆ Randy Hill
- ◆ Paul Rosenbloom
- ◆ Milind Tambe

Overview

- ◆ Pilots and commanders for synthetic helos
- ◆ Research on agent capabilities
- ◆ Deployment in STOW '97

Helicopter Pilots

- ◆ Perform three types of missions
 - Army deep attack
 - Marine transport
 - Marine escort

Combined Mission
- ◆ Fly three types of helicopters
 - AH-64C Apache (attack)
 - CH-46E Sea Knight (transport)
 - AH-1W SuperCobra (escort)

Pilot Research Areas

- ◆ Group perception (Randy Hill)
 - See Randy's talk
- ◆ Monitoring (Gal Kaminka)
 - Track others' plans via RESC
 - Compare with own plans to yield possible errors
 - Related to social comparison theory

Pilot Research Areas (cont.)

- ◆ Teamwork (Milind Tambe)
 - STEAM: General model of teamwork
 - » Utilize joint intentions (Cohen & Levesque)
 - » Monitor and reorganize based on joint intentions
 - » Decision theoretic communication selectivity
 - RWA Attack ==> Transport and RoboCup
 - Experimental results on flexibility and reuse

Company Commanders

- ◆ Command companies of Army helos
 - Read and refine orders
 - Transmit new orders and monitor execution
- ◆ Uses a hierarchical partial-order planner
 - See Jon Gratch's talk for research on this

Some Statistics

- ◆ Army pilots
 - 1577 rules; 93 operators
 - As of last workshop were ~1100 rules
- ◆ Marine pilots
 - 1341 rules; 60 operators
 - Significant sharing with Army pilots
- ◆ Commanders
 - 826 rules; 116 operators; ~10 problem spaces
 - As of last workshop were ~400 rules
- ◆ Can run 8 pilots + ModSAF on Sun Ultra1

STOW '97

- ◆ *October 26-27, 1997*
 - But may consume entire second half of October
- ◆ Sequence of intermediate tests
 - Finished sequence of “CTs”
 - Now on “FSTs”
 - » FST2: 7/7-11; FST3: 8/11-15; FST4: 9/22-26
- ◆ Integration and testing is “quite a process”

Advanced Simulation Technology Thrust (ASTT)

- ◆ New joint effort with Michigan
 - Runs through September 30, 1999
- ◆ Michigan focus is on knowledge acquisition
- ◆ USC focus is on group behavior

Group Behavior

- ◆ Perception: Attention
- ◆ Understanding: Larger, inhomogeneous groups
 - Also possibility of delaying commitments
- ◆ Planning: Replanning and collaboration
 - Also temporal, conditional, and IG planning
- ◆ Execution: Involve commander in teamwork
- ◆ Learning: Improve models of others
- ◆ Emotion: Interpersonal (fear)
- ◆ Command: Larger groups (battalions)

Summary

- ◆ We're burning out!
- ◆ We will make it to STOW '97
- ◆ ASTT has more of a research focus
- ◆ Soar team competing in RoboCup at IJCAI