

Testing the Situation Awareness Panel

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- The Situation Awareness Panel (SAP) is a graphical user interface to aid in the observation, use, and development of Tac Air-Soar intelligent agents that control simulated military aircraft (Jones, 1998) within JSAF, developed by Soar Technology

The Plan View Display

JSAF Station [JSAF 4.16 / CPSIT:(U)STOW-PGM-JSAF-06212000] @ LEOPARD Exercise: 1 PO Database: 1 Terrain: swa_970922-0003

UNCLASSIFIED

File Tools Scale Features Force Show As Special Display HHours Privilege Views **On Order** 12:04:03 SIM

The screenshot displays a military simulation interface. At the top, a title bar shows the station name and exercise details. Below it is a menu bar with options like File, Tools, Scale, Features, Force, Show As, Special, Display, HHours, Privilege, Views, and a status indicator 'On Order' and a timer '12:04:03 SIM'. The main area is a map with a grid overlay. The map shows terrain in shades of brown and green, and a large red area representing a threat or target zone. Labels on the map include 'MIG29A', 'Snyper1', 'Shooter? Eyeball', and 'AEW'. A scale of 1:1,999,999 is shown in the top right corner. A north arrow is also present. On the left side, there is a toolbar with various icons for navigation and editing. Below the toolbar is a list of selected items, currently showing 'MIG29A' and 'MIG29B'. At the bottom, there is a status bar with the text 'Select an item to edit' and 'UNCLASSIFIED'.

46E 31N 47E 48E 49E 50E 51E 31N

MIG29A

1:1,999,999

30N

Snyper1

Shooter? Eyeball

AEW

29N

28N

46E 47E 48E 49E 50E 51E

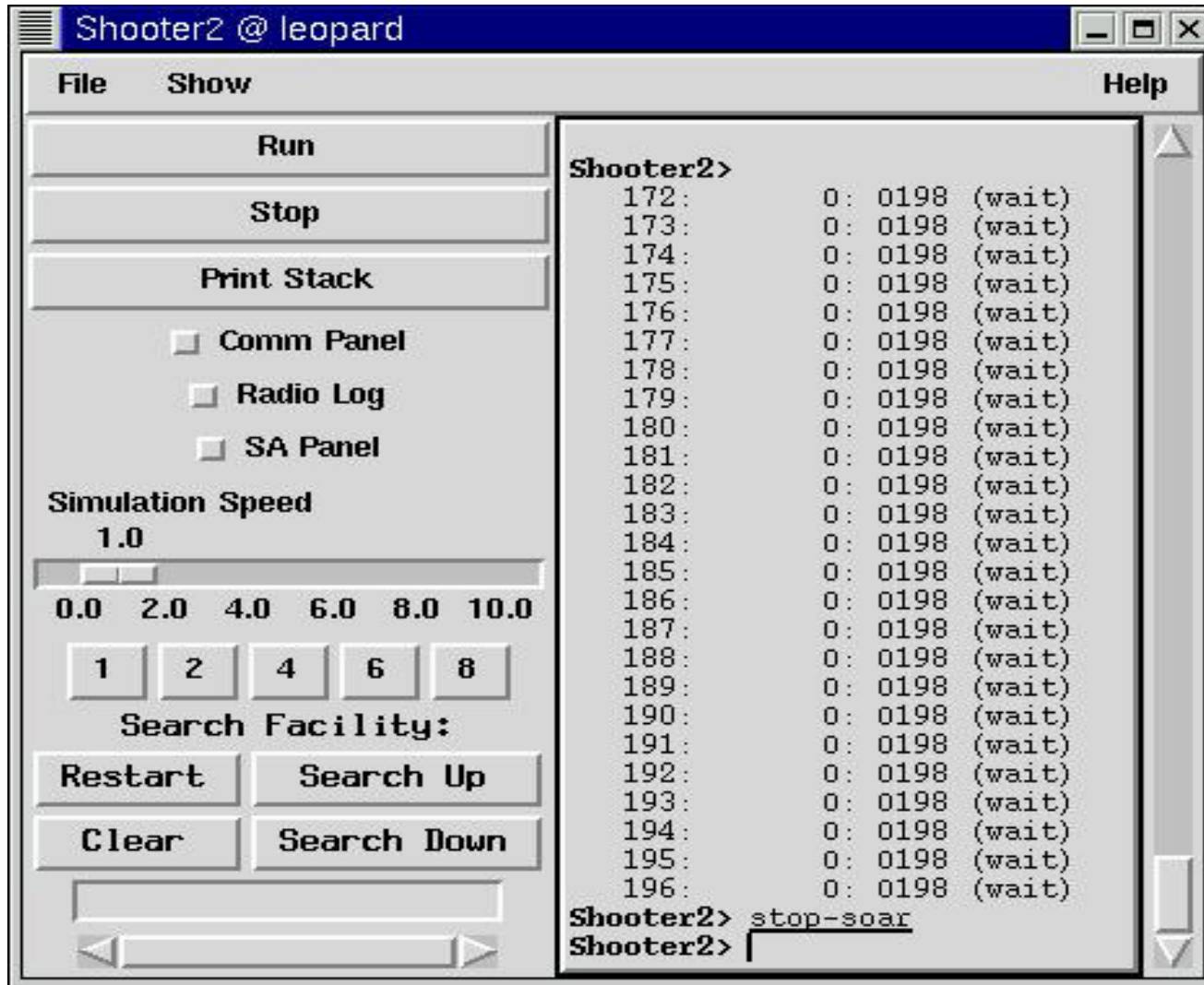
27N

Zoom: click middle to zoom in around point; click right to zoom out around point; click and drag middle to set screen area

Select an item to edit

UNCLASSIFIED

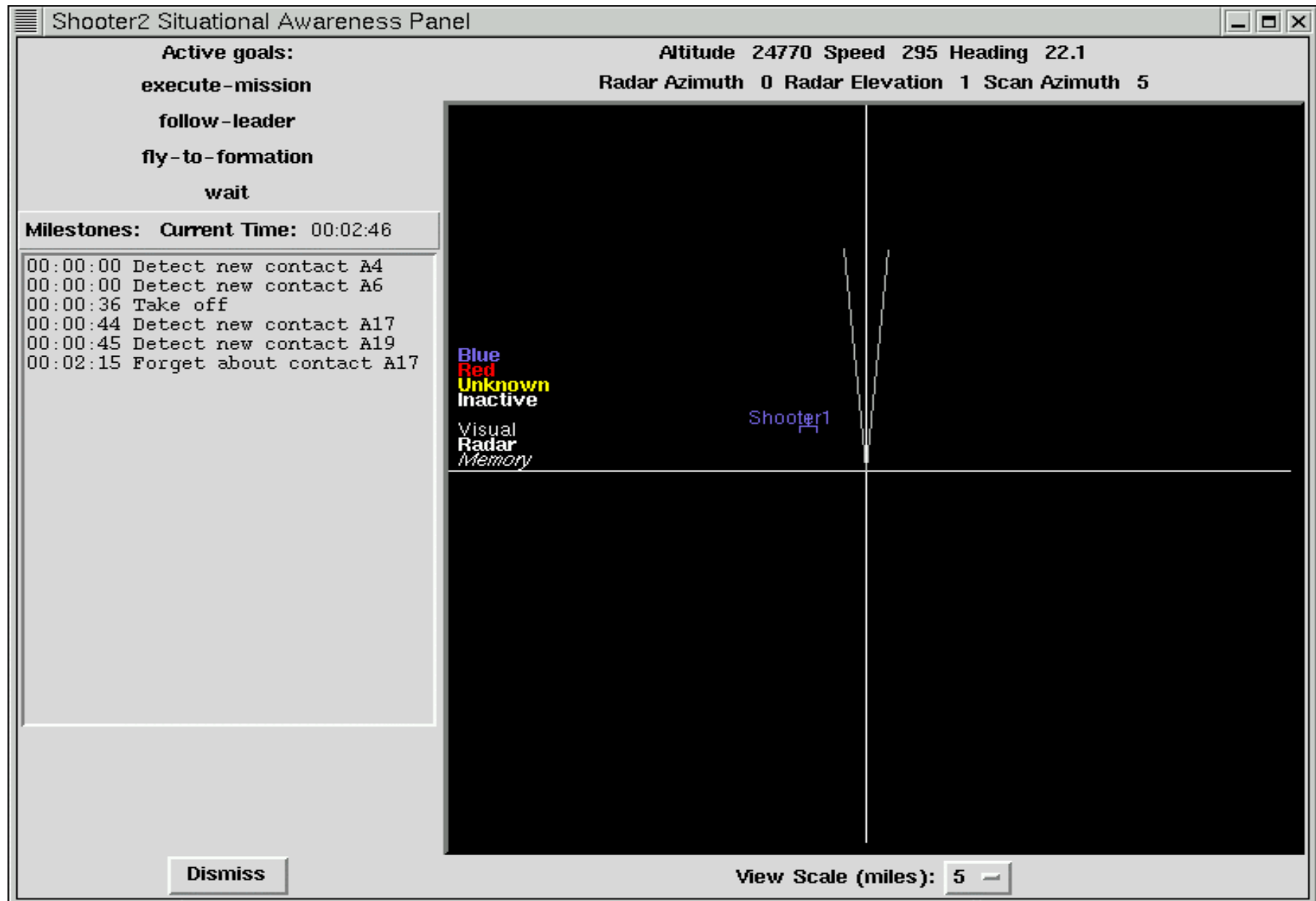
The Agent's window



Parts of the SAP

- **Active Goal Display:** Shows the agent's stack of active goals and subgoals.
- **Milestone Display:** Provides a quick overview of the agent's recent history. It displays milestone events presented with a time stamp.
- **Aircraft Status Display:** Shows cockpit-interface information that is available to the reasoning processes of the agent.
- **Agent Awareness Display:** Provides a graphical representation of the agent's current state of awareness

The Situation Awareness Panel



Approach

- Scenario to guide discussions (based on TA)
- HCI/Soar experts x 3
- Cog modeling expert
- GIS expert
- Marines expert
- Group HCI expert x 2
- Local commercial pilot, former Navy
- BMH former military pilots

Deliverables Now and in Sept.

- Task analysis (then, does the SAP support these?)
 - From HCI experts
 - From Task analysis
 - From military experts
- Manual
 - From our foibles and mistakes
 - From task analysis
 - From expert's use and further comments

Examples of Interesting Suggestions

- From TA misalignment
 - Radar range indicators don't resize with scale changes,
- From local experts
 - show the attention of the agent, maybe as a spotlight.
 - put environmental landmarks in Plan View Display.
 - show what is in the environment but out of the awareness of the agent.
 - Access other agents' awareness from within the awareness of each agent
- From interaction with Soar Tech
 - SAP should not resize as more goals/subgoals are added on the goal stack

Summary

- **Gold**
 - Can positively improve interfaces
 - Can educate (and be educated!) about users and use
 - Proofreading an interface
- **Coal**
 - Takes effort
 - They are moving so fast that interface changes during task