Interactive Visualization of Situational Awareness

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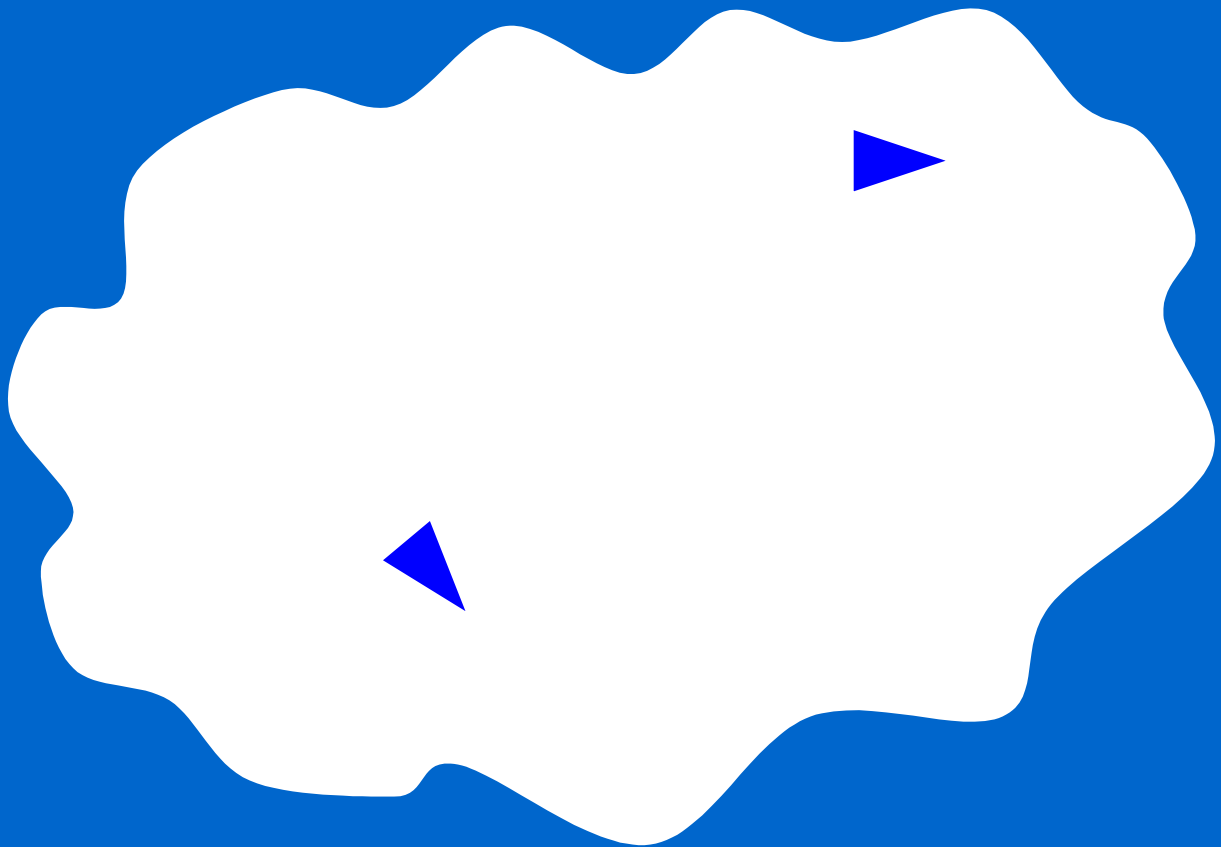
CGF's are inscrutable

- When they do something "wrong", it is difficult to tell why.
- Sometimes they do things "right", but for the wrong reasons
- "Behavior-based" verification has limitations

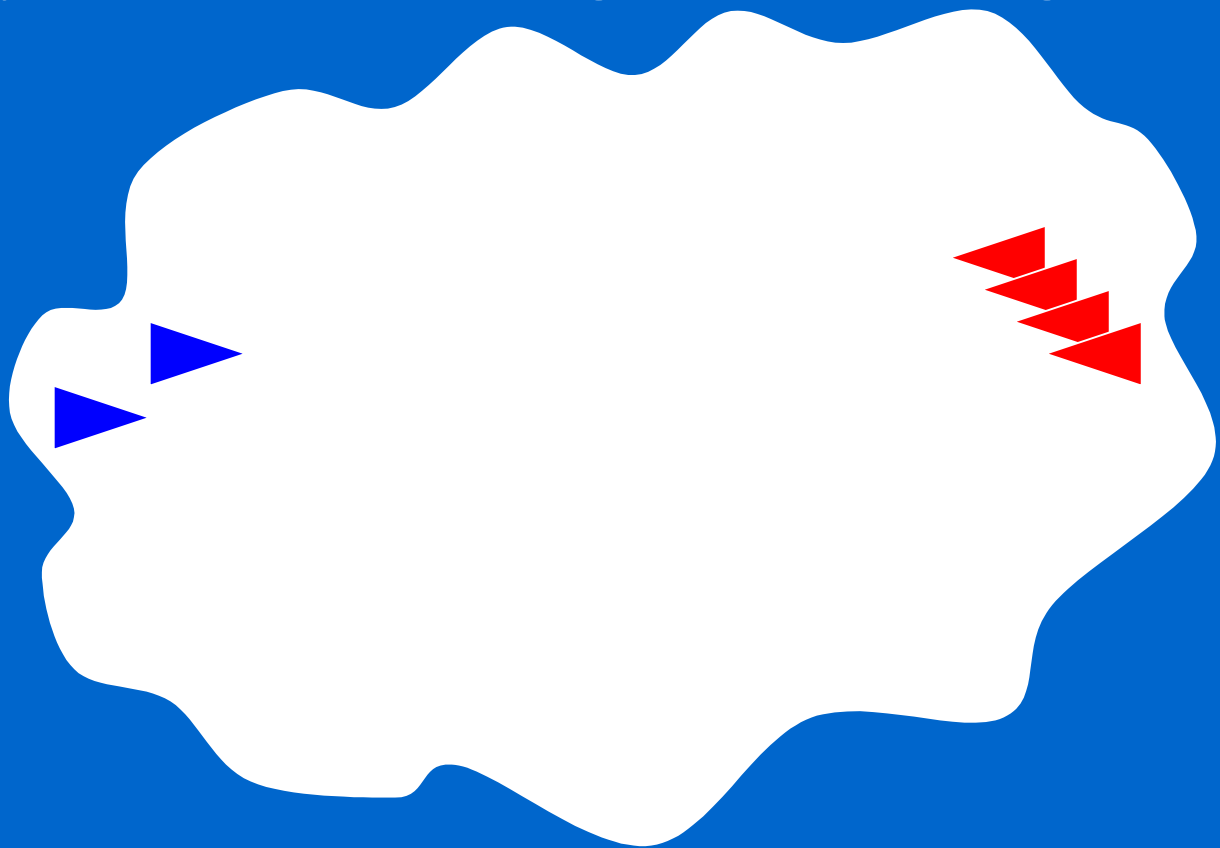
Example

- Why is the wingman flying over there?



Example

- Why isn't the blue fighter shooting?



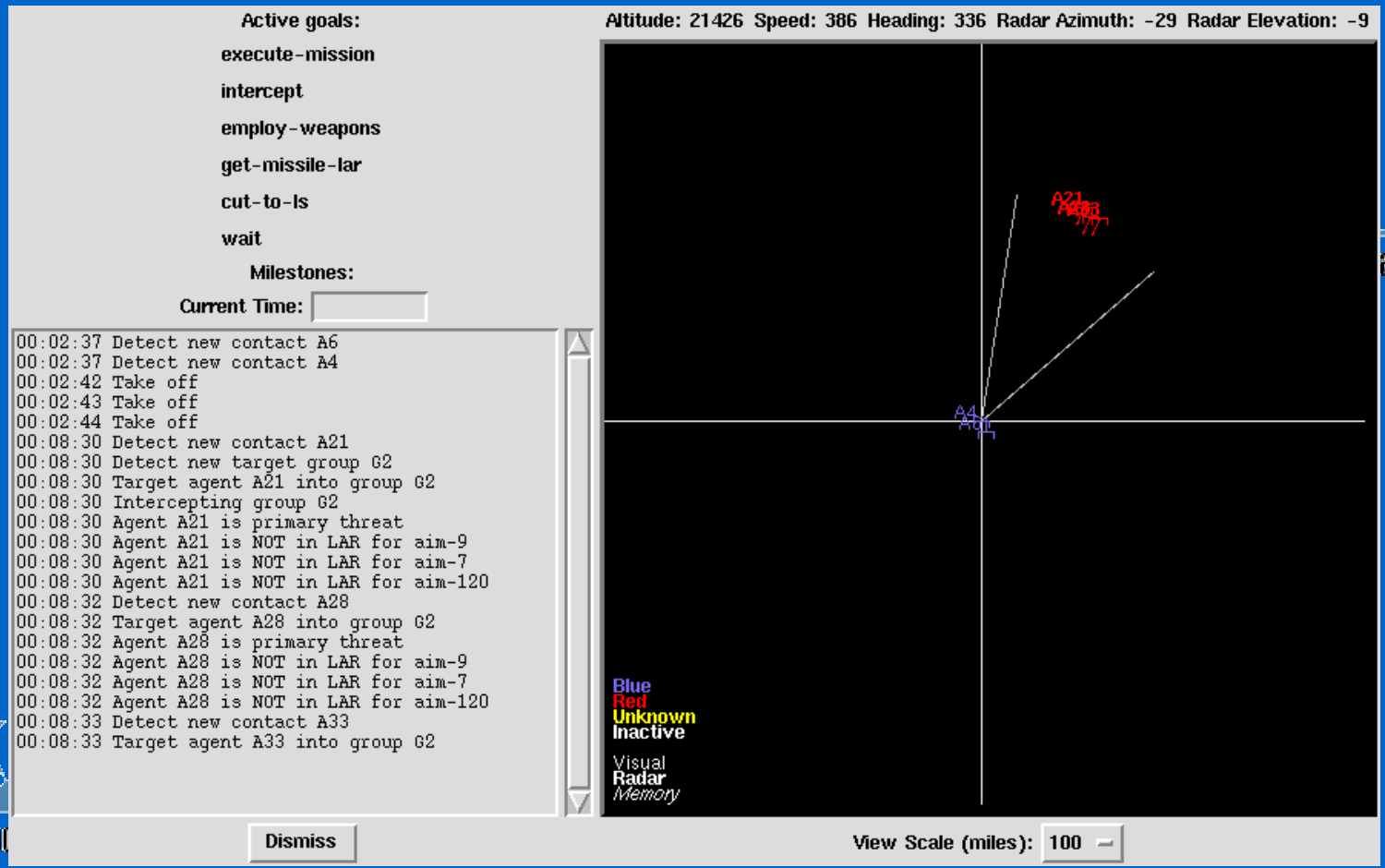
Soar Technology

Soar Technology

The Situational Awareness Panel

- Graphically presents
  - Agent's current picture of situation
  - Current perception of world
  - Internal states and goals
  - Significant milestones that can (and should) affect behavior

The Situational Awareness Panel



Expanding the Role of the SAP

- Project funded by Naval Air Warfare Center Training Systems Division (NAWCTSD), US Navy
  - Currently in first of three years
- Turn the SAP into a tool for developers, subject-matter experts, trainers, and trainees

Project Goals

- Improve effectiveness of training (by improving understanding of agent behavior)
- Improve validation and acceptance of agent behavior
- Improve agent development
- Generalize across behavior architectures

Technical Objectives

- Value-oriented improvements in usability
  - With help of Ritter's usability lab
- Symbol-level API
  - Target Soar, COGNET, task frames
- Behavior logging and replay
- Point-and-click question answering and behavior traceability
  - Building in part from Johnson's Debrief tool

Current Activities

- Design and usability interviews, and planned user studies
- Object-oriented symbol-level knowledge representation
  - To provide architecture-independent API
  - Prototype being implemented in TCL with symbol interface written in Soar