Mission Team

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9 October 2006

Team Scope:
• Facilitating the design and roles of high-level control and reasoning.
• Three parts
  ▫ goal management
  ▫ fault tolerance
  ▫ mission/goal consistency

Summer 2006 Members:
• Coordinator: Tim Chung, Nok Wongpiromsarn
• Students: Stefano di Cairano, Noel duToit, Josh Feingold, Shawn Surdyk
• JPL: Bob Rasmussen
• Other: Stephanie Balster (NGC), Jonathan Chow (Lockheed Martin), Adriana Tapus (USC)
Summer 2006 Activities and Status

State Analysis

• Provide a process for capturing system and software requirements in the form of explicit models of system behavior.
  ▪ Represent everything we need to know for controlling and estimating the state of the system under control.
  ▪ Capture the physical cause-and-effect relationships between state variables.

• Status: Developed the first version of state models and objective tree

High level system architecture analysis

• Hierarchical (Distributed) VS SuperCon (Centralized)
Fall 2006 Activities

Small projects: none to date

Trade studies
- Supervisory control architectures: hierarchical VS centralized
- Mission and contingency management software: modifying an existing software such as MDS and CLARAty VS developing an entirely new software

Additional activities
- Literature review of existing contingency management approaches
- Traffic scene analysis: go through all the possible traffic scenarios to make sure that the current (hierarchical) architecture is able to handle any of them
- State models and objective tree: refine the first version and make sure that they are consistent with the current architecture and system spec