**Mixed-Initiative Agent Coordination**

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**CoAX Role:**

**Description:**

- Agent development tools for *mixed-initiative* (user interactive) planning and co-ordination.
- *Information sharing* techniques enable commanded agents to co-ordinate their information needs dynamically.
- DAML ontologies represent agent capabilities so other agents can discover and utilize new capabilities and information sources dynamically. (with CMU, LM/ATL)
- DAML-based message filtering between Domains based on message content (with IHMC)

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**Results as Demonstrated:**

- Mixed-initiative tasking, monitoring of agents (e.g., planning of ship blockade)
- DAML-based capability and information sharing protocols enable agent discovery of Arabello Intel services, dynamic subscription.
- DAML-based semantic filtering of messages crossing domain boundaries integrated with domain policy enforcement system.

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**Future:**

- User Task Models to help interpret directives, provide active assistance to users.
- Integration of human-to-human and agent-to-human communications.
- Tools to assist in scaling up development of repositories of agent service descriptions.
- Improved mechanisms for managing cross-domain communications and security.

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**Mixed-Initiative Tasking**

**Dynamic, Real-time Agent Interoperation**

- DAML-S Matchmaker is the agent ‘Yellow Pages’
- DAML Information Broker is the ‘Reference Librarian’
- DAML-S Matchmaker is used to Formulate Messages, Advertise
- DAML-S descriptions used to Subscribe, Interprete responses, Sensor Report
- New Agent: I2AT: Agent Construction Toolkit
- Create, Advertise, Subscribe, Interprete responses, Sensor Report

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**Content-based Message Filtering**

Technique:

DAML ontologies used to describe both message content and the classes of allowed messages for different policies.

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**CoAX Final Demonstration**