Programming a Distributed Agent Society with COUGAAR

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Cougaar (Cognitive Agent Architecture) is an open source java-based architecture for the construction of large-scale distributed agent-based applications. It is the product of a multi-year DARPA research project into large scale agent systems and includes not only the core architecture but also a variety of demonstration, visualization and management components to simplify the development of complex, distributed applications.

This tutorial explores this new architecture for creating distributed applications, and using actual code developed during the tutorial, demonstrates creation, operation, and management of an agent based society.

We explore and demonstrate design patterns that emulate the human cognitive model for hierarchical decomposition of complex tasks, tasking, allocation, assessment, and dynamic replanning. The tutorial also covers

- Designing distributed systems for modularity and scalability
- Using generic "PlugIns" to rapidly build complex applications
- Managing and coordinating resources across multiple agents
- Building multiple inter-related user interfaces through PSPs

And much more...

Ideally, to get the most from this tutorial, you should have some previous exposure to distributed systems, and some understanding of a modern programming language such as Java.

Dana Moore acts as Chief Scientist for Roku Technologies, a company focused on creating active information spaces and information switching. His research specialties are agent-based systems and information fusion.

He holds a Master of Science in Technology Management from the University of Maryland, College Park, and a Bachelor of Science in Engineering also from the University of Maryland.

Dana has over twenty years of experience in designing distributed systems and has written numerous articles on topics ranging from active object data bases to self-managed work teams. Dana is a founding member of the Agent Society and sits on its Board.