Intelligent Agent Technology

Intelligent Agents and Multi-Agent Systems emerge as a key enabling technology in building open, large-scale, and distributed systems for operation in complex dynamic environments. It includes a wide range of application areas in today’s knowledge society and networked economy such as e-commerce, collaborative e-business, virtual enterprises, smart environments, and web/grid service-oriented applications. IAT with their abilities of autonomous operations, learning, adaptation, interactions, cooperation, and mobility offer many benefits to individual users and organisations. It includes the automation of routine tasks and business processes, adaptive decision and collaboration support, and coordinated service and resource sharing within and across organisations, leading to new efficiencies, productivity gains and better services for individuals and businesses.

Based on internationally recognised capabilities, our research focuses on developing new techniques, mechanisms and software solutions for autonomous decision-making, coordination and adaptation in the IAT group, and their applications in complex real-world problems including:

- Complex agent negotiations and collective decisions
- Responsive learning, prediction and adaptation
- Dynamic coalitions and virtual organisations
- Intelligent mobile agents and service-oriented agents
- Adaptive and dynamic management of services
- Collaborative e-business and virtual enterprises
- Autonomic systems and smart environments

We are actively involved in research collaboration with industry and research partners in Australia and overseas including Everyday Interactive Networks, Defence Science and Technology Organisation, Telstra and the EU FP6 Adaptive Services Grid Consortium. Some of our external R&D projects include:

- Adaptive Services Grid
- Service Environment Networks for Virtual Organisations
- Adaptive Service Agreement & Process Management
- Agent-based Smart Information Environments

Contact

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