

CAP6671 Intelligent Systems

Lecture 1: Introduction

Instructor: Dr. Gita Sukthankar

Email: gitar@eecs.ucf.edu

Schedule: T & Th 9:00-10:15am

Location: HEC 302

Office Hours (in HEC 232):

T & Th 10:30am-12

Outline

- Course overview
- What are intelligent systems?
- Course requirements
- Web site:
 - <http://www.eecs.ucf.edu/~gitars/cap6671/>
- Reading: Katia Sycara, [Multiagent Systems](#), AI Magazine 19(2): Summer 1998, 79-92.
(posted on web site)

Course History

- Course is being redesigned this semester and will be available on FEEDS next year
- Your feedback is important and welcome
- Derived from my 2 favorite courses at CMU
 - Planning, Execution, and Learning (R. Simmons)
 - Autonomous Multi-agent/Multi-robot Systems (T. Balch)
- Course objectives:
 - Learn how to build an intelligent agent system
 - Tackle some of the AI challenge problems
 - General exposure to the literature on intelligent systems

Introductions

- Introduce yourself:
 - Your name
 - Masters or Ph.D/how many years at UCF?
 - What did you do before coming to UCF?
 - Which faculty member(s) do you work with?

Background

- What is an intelligent system?

Background

- What are some examples of intelligent systems?

Background

- What are the desiderata of an intelligent systems?

Background

- How do robotic systems differ from other types of intelligent systems?

Background

- How does the study of intelligent systems differ from the study of artificial intelligence as a whole?

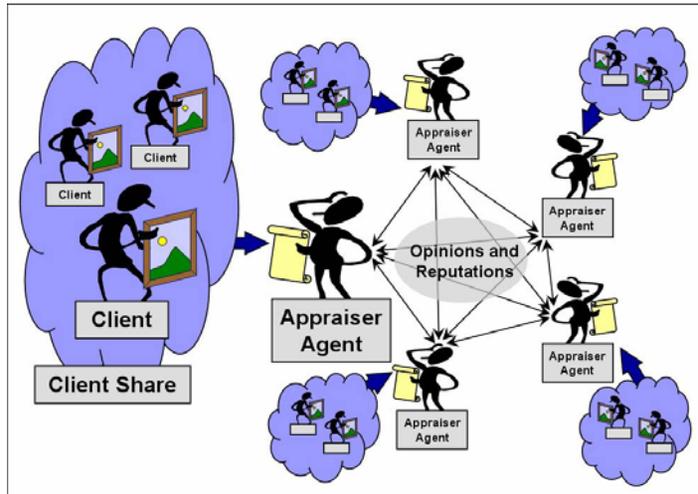
Background

- Does artificial intelligence have to mimic human intelligence?

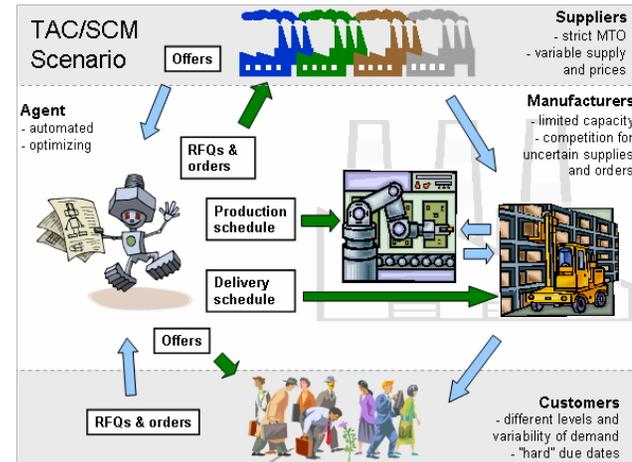
Course Outline

- Algorithms for creating intelligent behavior
 - Planning: HTN planning, MDP planning
 - Learning: Reinforcement learning
 - Coordination mechanisms: team planning, auction-based mechanisms
- Robotic agents
- Architecting intelligence (sense, think, act in real-time):
 - 3-tier architectures
 - Cognitive architectures

AI Challenge Problems



Agent Reputation and Trust



Trading Agent Competition



Urban Rescue robot teams



Robocup soccer

Evaluation

- Homework (mainly implementation):
 - Planning
 - Learning
 - Coordination
- Lead one class discussion
- Midterm exam covering the reading
- Final project: AI challenge problem