Principles of AI Planning
Thesis and project topics

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February 13, 2009
What I am working on

Central Theme: Nondeterminism

Nondeterminism can come in different flavors:
- Agent vs. nature or Agent vs. agent
- Game-solving or game-playing
- Different goal conditions etc.

Orthogonal but related aspects
- Real-time
- Partial observability
What I am working on

Main Algorithmic Approach: Heuristic Search

- Heuristic search algorithms (AO*, PNS, ...)
- Construction of heuristics (delete-relaxation, PDB, ...)
- Theoretic examination of heuristic functions
No completely elaborated topics, but some ideas:

- Heuristic approaches to strong and strong cyclic planning
- Pattern selection for PDB heuristics in a nondeterministic context
- Ideas from heuristic search planning applied to General Game Playing (thesis would probably be co-supervised by Thomas Keller (<tkeller@informatik.uni-freiburg.de>) and me).
How do we proceed?

If you are interested in a topic . . .

- ...send me an e-mail: mattmuel@informatik.uni-freiburg.de.
- We will meet and agree on the scope of your thesis/project.
- Later: regular meetings to talk about ideas, code, literature etc.