



Project 3

Making a Game

AI for Interactive Environments

4003-552, 4005-752
Spring Quarter 20073

Due Dates

Project 3 is due on May 16th, 2008 at 11:59pm. There will be no late project submissions accepted.

Project

The goal of this project is to use a variety of the techniques you've learned in order to create a game. This project may be done in groups of size 1-4. The larger the group becomes, the more work that will be required. Half of the functionality in terms of the AI was due for project 2 and the remaining half will be finished for project 3.

Your game must meet the following requirements:

- Implement one complex steering behavior made up from smaller steering behaviors. An example complex steering behavior is flocking.
- Implement A* pathfinding in your game.
- Use a particular decision making architecture such as a subsumption architecture, finite state machine, blackboard architecture, or rule-based architecture.

Here is a list of AI enhancements for your game:

- Environmental intelligence
- Enhanced sensory model
- Teamwork
- A non-FSM architecture
- A learning algorithm
- A Bayes network
- Dempster Shafer reasoning
- Another algorithm with teacher permission

Depending on your group size and whether you're a graduate student or not you will implement different numbers of enhancements according to the list below:

- A single undergraduate: Implement all base requirements plus one enhancement.
- A single graduate: Implement all base requirements plus two enhancements
- A team of size two: The single requirement plus an extra enhancements (total of two enhancements for undergraduates and three for graduate students)
- A team of size three: The requirements for a team of size two plus an extra enhancement
- A team of size four: The requirements for a team of size three plus an extra enhancement

Your program must be written from scratch in C# and should not use outside packages for any of the AI functionality (you may use packages for things such as graphics). You may use either DirectX or XNA. In addition to the program, you must submit the following items:

- Individual document: An individually done document explaining the group's timeline for the project pieces, how the group is meeting the requirements, and what game is being done. This document should be several pages in length for adequate description.
- Readme document: A group document describing how to compile, run, and play the game as well as any information on working/non-working pieces of the game for the end of the project.

Submission

You should submit all required documents to wtry.

Grading

Your overall grade will be based on the following:

- The individually written document (45 out of 100 points)
- Code readability and style (5 out of 100 points)
- Creativity (5 out of 100 points)
- The readme document (5 out of 100 points)
- The code (40 out of 100 points)