Software for Intelligent Robotics, Spring 2007
Final Project Presentation Details
(for April 24, 26 in-class presentations)

Extra credit for attendance:

Here's an opportunity for extra credit: if you attend both classes on April 24th and 26th, for the full class periods, you will receive 10 points extra credit added to your homework #4 grade. No extra credit will be awarded if you do not attend both classes in full. This extra credit applies even if you're an undergraduate student who isn't doing a final project.

The presentations:

Everyone who is doing a final project is required to present their project in class on April 24 or 26 (see schedule below). The primary purpose of this presentation is to allow the rest of the class to learn from your cool ideas. It is assumed that you will not be completely finished with your project at this point, since the final project software and report is not due until May 2nd. However, you should be sufficiently far along that you can present a meaningful report on your project in this oral presentation, with at least *some* accomplished work or results that you can report.

Your presentation must be 5 minutes long (± 1 minute). We will then allow 1 additional minute for Q&A from the class. Your presentation should clearly define your problem, your approach, your evaluation metrics and experimental approach, your work or results to date (at least something meaningful and tangible you've acccomplished to date), and your summary and conclusions. You must prepare electronic slides for your presentation. I recommend that you prepare 1 slide per each of these 5 topics (although the exact number of slides is not required, as long as you cover all the required material). Be sure to practice your talk in advance, to ensure that you are within the 5 minute time limit (± 1 minute).

Suggestions on making interesting presentations:

While you will not be graded on how fascinating your presentation is, your classmates would certainly appreciate it if you attempt to make your presentation as interesting as possible. Here are some suggestions:

- Use graphics or images whenever possible
- Make your text font size easily readable (> 16 point)
- Avoid all-word slides whenever possible
- Design each slide to convey a clear message
- Use color and font type wisely
- Aim for an appropriate amount of material per slide (not too little nor too busy).

The mechanics:

You must prepare electronic slides (e.g., in Powerpoint or pdf) for this presentation. You must either bring your own laptop (in which case you should confirm in advance that you can successfully project the slides using the classroom projector) or bring your presentation on a USB flash drive, to be loaded onto a class laptop provided for this purpose (in which case you should confirm in advance that you can get your slides to display correctly). If you are using presentation software other than Powerpoint or Adobe Acrobat, and you are not providing your own laptop, you must check with Rasko to make sure the class laptop will work for you. If not, you are responsible for providing your own laptop to run your presentation (or converting your slides to Powerpoint or pdf).

[Please note: in real life these days, we are often called upon to make electronic presentations. In these real-life situations, if you can't get your slides to display, you have lost your opportunity. Your funding sponsor, conference attendee, or client usually won't give you a second chance. So, for this project presentation, you will lose most of your available presentation points if you can't get your presentation to project on the overhead screen within 5 minutes of first trying (i.e, at the time of your assigned presentation). This may seem harsh, but it is the reality of today's working world; it's easier to learn this lesson by losing most of your presentation points on this project than it would be to have to learn it by blowing a conference presentation or an important presentation to a client in real life.]

Grading the presentations:

Your presentation counts 10% of your final project grade, which means that you can earn a maximum of 10 points and a minimum of 0 points (i.e., if you completely foul up everything, you won't get less than 0 points). Here's how your presentation will be graded. We'll have a checklist of items as follows, each of which will be marked "yes" or "no", based upon your presentation:

- *Electronic slides prepared and presented?* [If not, -8. This means that you'll lose these points if you have electronic difficulties that prevent you from displaying your presentation at your scheduled presentation time. So test it out in advance! If you can't get your slides to display within 5 minutes of first attempting it at your scheduled presentation time, then your time is up. You can continue and present your project without slides to earn the remaining 2 points.]
- *Talk lasts from 4-6 minutes?* [If not, -2]

- *Problem defined?* [If not, -2]
- *Approach described?* [If not, -2]
- *Evaluation metrics and experimental approach defined/described?* [If not, -2]
- *Some meaningful/tangible results or work to date presented?* [If not, -2]
- *Summary and conclusions presented?* [If not, -2]

Presentation Schedule:

I have grouped the presentations according to topic. The first day will be devoted primarily to coverage, exploration, and mapping. The second day is primarily multi-robot foraging, formations, and path coordination/planning. (Note: if everything moves smoothly, each day's class should wrap up early. However, if this case, talks scheduled for Thursday will *not* be moved up to Tuesday. We'll just finish early each day.)

Student	*Topic*
Tuesday, April 24	
1. Parakramaweera, Haz	Coverage
2. Phillips, Charles	Exploration and coverage
3. Khomenko, Andrey	Voronoi- vs. frontier-based exploration
4. Horton, Mitch	Maze exploration and extraction
5. Beeler, Michael	Frontier-based exploration and mapping
6. Buchanan, Nick	Mapping
7. Albright, Austin	HIMM (Histogram in motion mapping)
8. Habgood, Ken	Robot line following and mapping
Thursday, April 26	
9. Haun, Alex	Coordinated robotic foraging
10. Gonzales, Harold	Multi-robot foraging
11. Sidenstick, Robert	Coordinated vs. non-coordinated foraging
12. Resseguie, David	Active sensing in multi-robot teams
13. Finchum, James	Multi-robot formations
14. Harvey, Karen	Multi-robot formations
15. Ellison, Justin	Traffic Management
16. Yang, Dong	Traffic Management
17. Pjesivac, Rasko	3D path planning in Gazebo