

CMSI 182

INTRODUCTION TO COMPUTER SCIENCE

Fall 2009

Assignment 1208

For the final assignment of the semester, we take what we've learned in theory about AI and see how it works out in practice.

Not for Submission

By December 3

Concurrently with this assignment, try to get some work done on your portfolio so that things don't clog up near the end of the semester. That way, if you have questions or get stuck on some times, you have time to talk to me.

For Submission

A Simple Agent

Using either Second Life or Lego Mindstorms, design and implement a simple agent that responds in a simple manner to some set of simple stimuli (did I mention to keep it simple? :)).

- If you choose a Second Life agent, leave it somewhere in the sandbox area of the LMU CS Island platform, with the name "*your-real-last-name* Assignment 1208." Make sure that it grants sufficient permissions for my avatar to look at it, especially at its attached script. You can verify this by trying things out with me beforehand, or with any other avatar/classmate.
- Since there are only five Lego Mindstorms kits available in the Keck lab, we will maximize class time by having you work with the robots in pairs. Everyone will get some "face time" with a Lego Mindstorms robot, but the shared time in class might not be enough. If you choose a Lego Mindstorms agent, make sure that you have enough time outside of class to work with it in the Keck lab. Submit your final Lego Mindstorms program in any electronic form, such as by e-mail, a flash drive copy, etc.

Reflection: The Agent & I

Add a "The Agent & I" section to the *reflection.html* web page and copy + answer these questions, then update the online version of your web site. As before, I will read your answers off the site.

1. Describe the agent as you envisioned it (not necessarily as it turned out). List the stimuli that you wanted it to "perceive," and the responses that you wanted it to exhibit.
2. What substantial differences do you see between the software (Second Life) and (Lego Mindstorms) agents? Were any of these differences instrumental in your deciding which agent to pursue for this assignment?
3. Having now gotten some experience with putting together an agent, how do you feel about the feasibility of an agent passing the Turing test or "imitation game" one day?
4. Do you see yourself (or people in general) as an agent in the same way that the artificial intelligence field defines it? Explain your view.

Extra Credit

If you submit *both types* of agents, *or* an agent with sufficiently more sophistication than required for this assignment, you will get an extra assignment credit. For the latter criterion, I reserve exclusive judgment on what comprises "sufficiently more sophistication" — thus, if you plan to go this route, make sure to check with me first.