Massachusetts Institute of Technology

6.038 Artificial Intelligence in Practice

Handout 1: Tuesday, February 3, 1998

TR 1:00-2:30, 38-136
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Web Page: `http://www.ai.mit.edu/courses/6.038/`

The Pre-Requisites

6.034 is the key pre-requisite but we will expect more experience in programming than is expected in 6.034. That is, you should feel comfortable reading and writing substantial programs (in C and Lisp/Scheme). The "tools" that will be made available are written in C or some variant of Lisp.

The Objectives

The goal of the course is to give you experience in building AI systems. While it is not possible within the confines of a one-term course to build a "real" system, we do want to approximate the experience. In general, This experience has five parts:

1. Functionality: Given a general objective, pick the functionality that the system should provide.
2. Background: Read about what's been done and evaluate available tools.
3. Design: Design the system, trying whenever possible to reduce problems to the application of existing methods.
4. Prototype implementation: Evaluate the design by building prototypes of some of the main components.
5. Design revision and final implementation: Produce the complete version of the system.

We'll try to sample all of these.

The Course

The class time of the course will be focused primarily around a series of "case studies" of AI systems, some new and some drawn from the literature. There will be some readings from the literature to accompany these. Class attendance and participation is expected. Some lectures of specific topics not covered in 6.034 but required for the case studies will also be provided.

The course has two major types of assignments:

In the first part of the course, we'll look at a variety of concrete problems and try to solve them using the methods you learned about in 6.034 (with some extensions). These will be structured as homework assignments to be done individually. To do these assignments, you will be expected to be able to read and understand some code but they will not involve major programming. In most cases you will be given software tools to do the assignments.

The second part of the course is focused on a project to be done in groups (ideally of three). The subject of the project is not constrained a priori but will require prior approval. The problem sets are intended to provide starting points for a variety of interesting projects. The project will involve writing design documents, programming a solution, testing it and presentating the design and results. A final paper will be due on each project.

The Grade

Your grade will be based on the problem sets (40%), the final project (50%) and class participation (10%).

The Rest

Everything else, including schedules, suggested readings, copies of handouts etc. can be found on the course Web page (see top of handout).