6.270 Team Assignment 1

Released: Monday, January 08, 2001 Due: Friday, January 12, 2001
Course website: `http://web.mit.edu/6.270/`

Timely and satisfactory completion of this assignment is required for you to pass 6.270.

Introduction

Welcome to 6.270! Autonomous Robot Design Competition (6.270) is a hands-on, learn-by-doing class. There are no official prerequisites for 6.270; consequently, you will be able to learn everything you will need to know from the lectures, workshops, and (increasingly as IAP goes on) each other.

As of the first lecture, you have exactly three weeks and two days remaining until you impound your (hopefully completed) robot. Unfortunately, this is not a lot of time. If you hang on, we believe you will enjoy the ride and hopefully learn a bit about robotics at the same time.

Purpose

The goal of this assignment is help you thoroughly think through the contest. The sooner you start to think about your robot and the contest the better.

After you've completed this assignment, you will:

– know the contest and its rules thoroughly

– know how to learn things from 6.270

– have the preliminary design idea for your robot

– know your organizer and TA by name =)

Deliverables

1.1 Preliminary Design

Over this first week, we recommend that you carefully analyze every aspect of the contest and the rules. Brainstorm possible designs and consider the positive and negative aspects of each.come up with a preliminary idea for the final design of your robot. Your design should include a complete strategy and a physical structure. How are you going to reliably score points? How are you going to fend off the other robot? How are you going to find your way around the table? What drive mechanism are you going to use?

These are just some of the many issues you might consider addressing ...

1.2 Documentation

In words, document your design and, more importantly, document your rationale. We do not expect drawings, specifications, etc., though you are encouraged to explore your design by whatever means you see fit. One page should suffice.

1.3 Presentation

In advance, arrange a meeting for your team, organizer, and TA. If your team is expeditious, an earlier meeting time is probably beneficial to your robot. Keep in mind that Friday is the absolute due date, not a recommended meeting date. Hand in your documentation. Give a short, impromptu presentation. Expect some short questions afterward. If things are in order, your organizer will check you off and clear you to work on Team Assignment 2.

Throughout the contest, you should endeavor to keep your organizer and TA up-to-date on your progress and thought process. Their expertise may (or may not) save you considerable amounts of time and energy.

Help and Advice

As always, if you have questions, feel free to email your staff pair, use the zephyr instance, or email all of us at `6.270-staff@mit.edu`. Good luck!