

ECE 450: *Kick-the-Can Competition*

I. Overview

Kick the Can will pull together all the labs/sensors you have used so far in a totally new arrangement. In this competition, there will be six 16-oz cans (well, actually bottles) placed near the circumference of a 2-ft radius circle marked with black electrical tape. You will have 60 seconds to remove as many cans as possible.

II. Rules

Cans

1. The cans are regular half-liter plastic bottles of soda (empty).
2. The cans will be placed at designated positions in the playing field before the start of the round.
3. Cans are declared outside the rink when the entire can is beyond the inside edge of the playing field boundary, when viewed from directly above.
4. Once a can is declared outside the rink, it can not be counted as being inside, even if it rolls back. After being declared outside the rink, cans may be removed from the playing field at the judges' discretion.

Period of Play

1. To set up the round, the contestant will place the robot in the designated starting circle. The contestant may choose the initial orientation of the robot.
2. The powered portion of a round will last 60 seconds: After the machines are started, they will have 60 seconds to apply battery power to their motors.
3. The round ends when all machines and cans come to rest.
4. The start of the round will be indicated by a judge, upon whose signal the contestant will press a button on the robot to start play.
5. The machines must have their own internal clock which cuts off power to the motors at the end of 60 seconds. Any machines that continue to supply actuator power after 60 seconds will lose a point for each second thereafter.

Control

1. All entries must be solely controlled by their onboard computer. There can be no human intervention once the round begins.
2. *No robot or robot part may extend more than 8 inches from its center.*

III. Requirements

1. After the competition, only your code will be required and perhaps a few questions answered. There will be no lab report due.