

Contest Three: *Escape/Robot Musical Chairs*

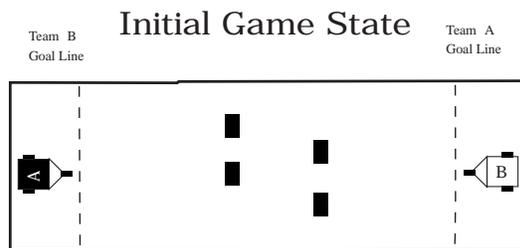
ROBOTIC AUTONOMY
Summer 2002

Autonomous robots might escapeó you can demonstrate such a caper. In addition, with so many robots awake, it is time to have them all moving at the same time and interacting. Robot musical chairs gives us this opportunity.

Escape

Two robots. One field of obstacles. Opposing dreams. Each robot starts on one side, pointed accurately at the opposite side. When the game begins, the goal of each robot is to reach the opposite side as quickly as possible. There will be obstacles in the way, and the robots may interfere (i.e. block) accidentally or deliberately with one another. The rules:

1. There is a three-minute time limit.
2. If any part of a robot crosses the opposite finish line, the game ends and that robot wins.
3. If the game ends at the time limit, the robot closest to its finish line wins.
4. Once the game begins, the robots must make decisions completely autonomously.



Robot Musical Chairs

In robot musical chairs, robots autonomously wander in the midst of a field with obstacles and safe zones. While the music plays, robots must autonomously wander and dance. Robots may not purposefully stay within a single safety zone. Any robot that remains within a safety zone for more than 10 seconds is removed. If a robot remains motionless for more than four seconds during play, it is also removed. Head motion alone is insufficient; the trikebot's body must move.

Each episode is signalled by the announcer when he stops the music. At that point, team members will tell their robots via their interface to reach a safety zone as quickly as possible. You can use textfields and buttons, but not the joystick for this portion. The last robot reaching a safety zone (or not at all) is removed from play. After each elimination, the responsibility of TrikeBot driver switches to another team member for the remaining groups, until only one team is left in a zone.

Initial Game State

