

Robot Programming Competition

Competition Description

The team is required to pick and place designated objects by programming a Rhino robot using RoboTalk. The task simulated is the serving of a cup of coffee.

Rules

1. The team is required to pick & place objects using the programmable robotic arm.
2. Scoring will be based two-thirds (2/3) on accuracy of placement and one-third (1/3) on operating time.
3. The robot is expected to start from a designated "home" position and return to the "home" position.
4. Each service item is to rest on the surface of the 8" X 12" service mat located a distance of 3" to the far side of the robot platform as illustrated below. No item is to be in contact with another. The service items are:
 - Filled coffee container
 - Coffee cup (with handle)
 - Sugar lumps (2)
 - Spoon
5. The automatic sequence to be followed is:
 - Pick up & place empty coffee cup on 8" X 8" placemat located a distance of 3" to the left of the robot platform as illustrated below. Gripper is to grasp the cup by its handle.
 - Pickup & place sugar lumps (2) into empty coffee cup.
 - Pick up filled coffee container and pour contents into coffee cup to within one inch of upper rim. Return container to starting area.
 - Pick up and place spoon to "customer's" right-hand side of coffee cup oriented with handle pointed toward "customer".

Materials provided:

- Plastic coffee cup (1)
- Plastic coffee container (1)
- Coffee [kitty litter] (2 cups)
- Sugar lumps [wood blocks] (2)
- Plastic spoon (1)
- Cardboard 8" X 12" service mat (1)
- Cardboard 8" X 8" placemat (1)



**Service Mat
(8" X 12")**

**Placemat
(8" X 8")**

Robot Platform



Customer Location

Robot Programming Score

TEAM: _____

MEMBERS

1. Automatic Sequence Phase Timing

Automatic Sequence Time		Total Time <i>(minutes/seconds)</i>
Start time:	End time:	
	Weighting	X .33
	Time Subtotal	

2. Accuracy of Placement

Accuracy of Placement	Total
Number of objects positioned outside of designated placement footprint	
Penalty time	X 5 minutes
Penalty Time Subtotal	
Weighting for Accuracy	X.66
Accuracy Subtotal	

3. Final Scoring Totals *(Note, lower scores are better than higher scores)*

Final Score	Totals
Subtotal Time (from #1)	
Subtotal Accuracy (from #2)	
FINAL SCORE	

Comments:
