Data Specifications

Project: Design an Autonomous Robot

Task: To design an autonomous robot that is capable of navigating to a predetermined position while avoiding obstacles and firing objects at two targets. This is to be done in the shortest time possible.

Document Version Number: 1

Date: February 17th, 2015

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# Ultrasonic Localization

Detect to minimum

Advance to Intersection

Cannot fail  
Can perform wall detection with walls located over 60cm from robot’s front Ultrasonic Sensor.

Both localization within 1 minute

# Light Localization

Accurately define intersection

Cannot fail

Both localizations within 1 minute

# Navigation

Navigate to (9.5 , 9.5) with an error no more than 1 tile.

# Obstacle Avoidance

Safely avoid without collision. (Slight collision may be allowed if its recovered by Ultrasonic Sensor localization at the end).

# Launching

Shoot over wall

Accurately within 7.5cm radius

Consistent, at least 1/3 each target

Cover most of the field’s target locations.

\*\*Subject to Change\*\*