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Search Bot

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Search Bot

Alejandro Peña-Pabon Roque Pabon, Manuel G. Castro Rosales Garcia Contiveros

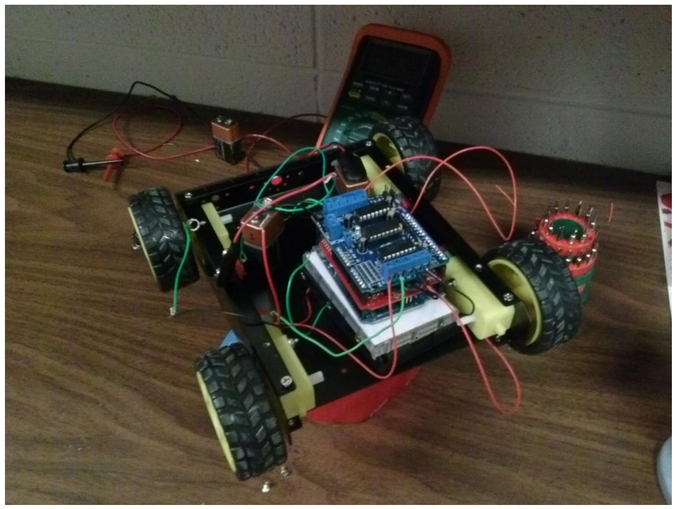
Faculty Advisor/s: Dr. B. G. Grossman, Dept of ECE, Florida Institute of Technology

Overview

The purpose of the project is to create a versatile search robot. The robot will use a camera, as well as multiple sensors to survey the environment. Used mainly for military or in situations not suitable for humans.

Robot Sensors:

- Temperature
- MQ-2: Various Gasses
  - LPG
  - Propane
  - Alcohol
  - Hydrogen
  - Smoke
- MQ-4 Gas Sensor:
  - Coal gas
  - Methane
  - Carbon Monoxide
- Photocell



Chassis:

- Reduction ratio: 1:48
- No load speed: 220rpm
- Chassis dimension: 206x200x26 mm
- Chassis weight: 620g

MQ-2 Various Gas Sensor:

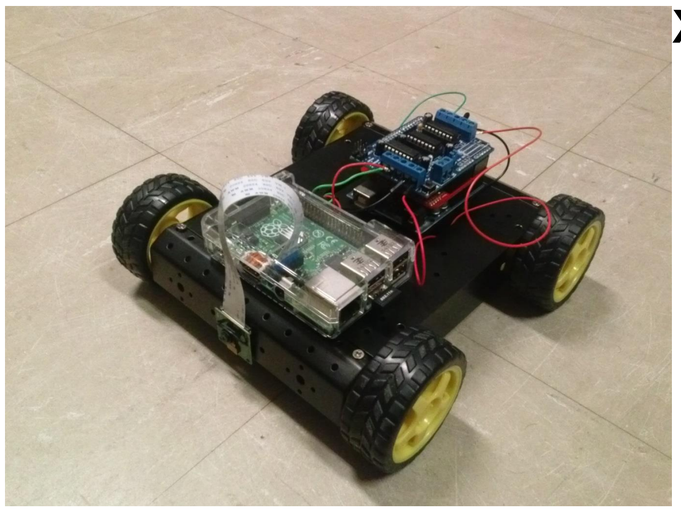
- Detection Zone 300 to 10000 ppmm
- Characteristic Gas:1000ppmmIso-Butane
- Response Time: 10ms
- Recovery Time: 30ms

Wifi Xbee Module:

- 3.3V @ 309mA
- 72Mbps Max data rate

Features:

- Long Lifespan
- Large variety of detectable environmental variables
- High speed movement
- Portable
- Dedicated Modules
- Controlled, and monitored via laptop



XBee Pro 60mW Wire Antenna

- 3.3V @ 215mA
- 250kbps Max data rate
- 60mW output (+18dBm)
- 1 mile (1500m) range