

# SLAM Air Quality Monitoring Robot

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Software

- Project definition
- Scope of the work
- Similar products
- Constraints
- Future Work
- Will discuss current progress throughout

# Project Definition

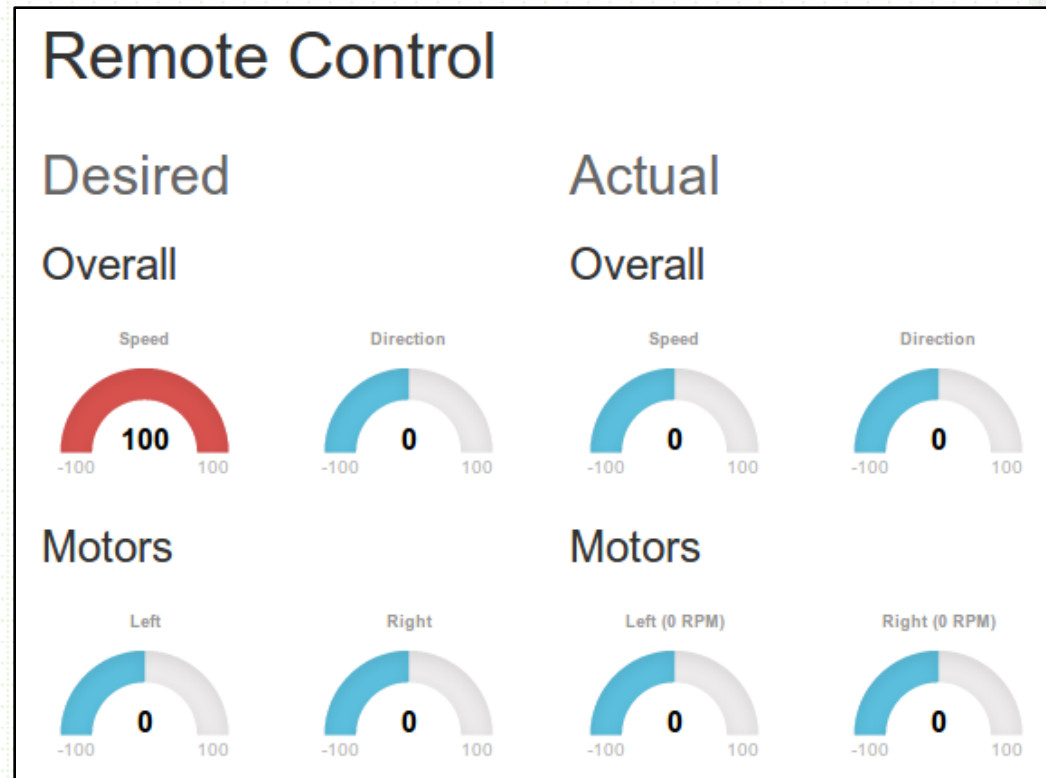
- Small modular robot
- Drive it around
- Map environment
- Map air quality in environment

# Desired Attributes

- Where it is
- Where it's going
- What it sees
- Autonomous (not this year)

# Requirements

- WiFi
- Web interface
- Aesthetically pleasing
- Economical



Web interface as of October 6

# Hardware Tasks

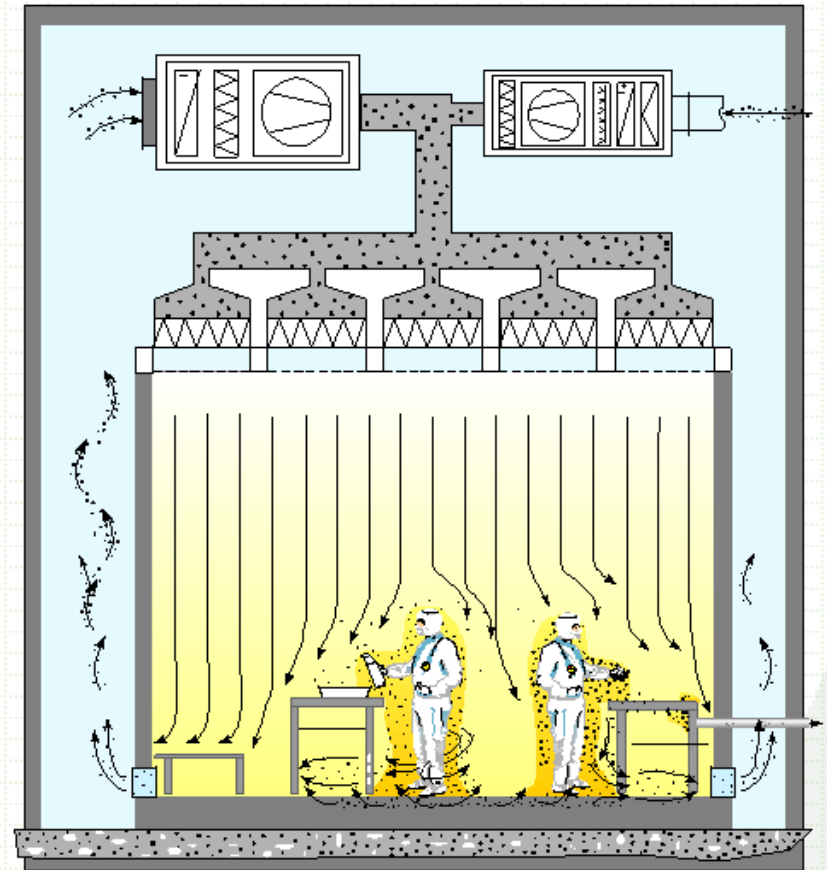
- RC car
- PS3 controller, LCD, & streaming video
- Sensors
- Test environment
- Final works-like & looks-like prototypes

# Software Tasks

- RC car
- PS3 controller, LCD, & streaming video
- Sensors
- Localization
- Mapping
- Air quality

# Applications

- Monitor ventilation ducts/networks
- Draft blueprints for existing buildings
- Verify inventory in warehouses/stores
- **Monitor air quality**





# Competing Products

- **Siemens QPA84**

- Wall-mounted indoor
- \$106



[www.buildingtechnologies.siemens.com](http://www.buildingtechnologies.siemens.com)

- **TSI IAQ-CALC 7545**

- Hand-held indoor
- \$2180



[www.tsi.com](http://www.tsi.com)

# Constraints

- **Time**
  - Scheduling conflicts
  - Prioritize tasks
- **Money**
  - Ballpark \$500
- **Skills**
  - Software
  - Hardware

# Future Work

- Research and planning
  - Talk to industry reps & clean room experts
- Be able to drive around
- Test infrared sensors
- Write code for various components

Thank you