Characteristics and Implementations of the iRobot Roomba & Create

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Introduction

When asked the question “What does future robotics mean to you?”, some people might address the popular film “I, Robot” where humanoid robots are seen everyday assisting humans in such task as walking the dog, cooking, and delivering mail. Though we may not have robots that maybe bent on taking over the world, we do have robots that help with military operations in Iraq and Afghanistan. We also have robots that even scrub and vacuum floors when you may be to busy. The interest of Robotics research has lead to the developments of these products. Research continues to progress towards providing more sophisticated solutions that may impact our daily lives.

In the networking lab we worked with the iRobot Create. It is an inexpensive robotic platform that comes well equipped with sensors and a program interface that can be manipulated by the user. We wanted to network the iRobot Create to use multiply robot mapping to execute a certain objective. So I researched the capabilities of the Create to farther educate myself and team on general information needed for our research project.

Background

- The Create RoboMaid
  - Pick up objects on the floor
  - Robotic arm and an infrared sensor
  - Useful when cleaning up a room
- Adverbot
  - Drive around a public space advertising
  - Playback prerecorded messages

Research

- Worked with the iRobot Create
  - Future Research operations
    - Networking multiple robot operations
- Program the Robotic Command Module
  - Researched using Gumstix’s devices.
- Researched the Capabilities of the iRobot Create
- Presented a Survey on the characteristics and implementations of the iRobot Create and Roomba

Conclusions

In conclusion the Roomba and Create robots use a brilliant set of sensors and algorithms to evenly distribute the task of navigating a room. I did this survey to convey the importance of using the iRobot Create for future robotics research. The iRobot Create and Roomba are both inexpensive and come well equipped with plenty of sensors and an interface that can also be used to manipulate the robots to achieve certain task. For example, it maybe possible to use multiple robot networking with the iRobot Creates to keep a hospital floor clean in order to reduce the risk of spreading bacteria or germs amongst patients and hospital staff. I helped in researching the capabilities of both robotic platform units. Hopefully my findings will educate and encourage future roboticists or teachers to use the iRobot Create or Roomba in future impacting projects.