Project Charter - Tuluken, the Robot Dog
October 11, 2017 (v1)

Overview

Tuluken, the Robot Dog is a loyal robot dog that will serve as anyone's companion. He can follow 2 commands, "Come", and "Follow".

Approach

This is a project we are building from scratch and also includes some topics we are unfamiliar with, so we decided that an iterative (agile) approach is the most ideal. This approach will allow us for repeated testing, feature adjustment, and redevelopment when needed. The following marks the availability of team members:
Andrew Millman (6 hours per week)
Nathan Ouyang (6 hours per week)

Objectives

- Develop a robotic system that can move around on wheels
- Make the system able to respond accurately and quickly to the inputs "Come" and "Follow"
- Make the system travel to the sound source that inputted the "Come" command
- Make the system continuously travel to the sound source that inputted the "Follow" command from its footsteps

Major Deliverables

October 25 - Electronic Circuit Design Finished (Motor Drive System, Microphone System)
November 8 - Motor Drive and Microphone Hardware System Done
November 22 - Software System for Positioning and Input Processing Done
November 29 - Integration of Software and Hardware Done
December 6 - Bug Fixes and Optimization Done

Constraints

The largest current constraints that we see are limited materials in the lab and the delivery time of electronics that we would order online. For unexpected events like parts breaking or realizing that we need to order certain parts later on, this could be detrimental to our workflow and ability to complete tasks in a timely manner.

Risks and Feasibility

The biggest foreseeable risk of this project is being able to properly and accurately determine commands, as well as being able to determine the positioning of the commander's footsteps. This may take a while, but hopefully by parallelizing the other processes we can make more time for this task.