
CSCE574 – Robotics

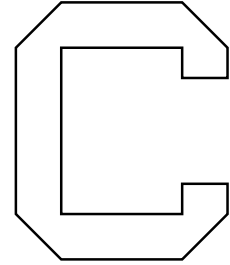
Spring 2014 – Project 1

Assigned: January 16

Due: February 3 ~~January 31~~ ~~January 30~~

The purpose of this assignment is to introduce you to the ROS software platform, and to give you some experience writing software that interacts with ROS.

You should do this assignment on your own.



Getting ready

This assignment relies on the material from Chapters 1, 2, and 3 of *AGITR*. The tutorials at `ros.org` may be useful as well. The assignments for this course, including this one, will be extremely painful and/or impossible if you don't master that material.

The Task

Write a ROS node that uses the `turtlesim` simulator to draw the outline of the “Block C” USC logo, shown above. Some details:

- Create a new package called `blockc_lastname_firstname` (example: `blockc_okane_jason`). Your package should contain an executable with the same name as the package.
- Your program should assume that `roscore` and `turtlesim_node` have been started independently.
- The drawing should not take longer than a minute or so to complete.
- You should not use the teleport services offered by `turtlesim`.
- Your program should subscribe to at least one topic.

What to Submit

Please see the course website for details on how to submit your project. However:

1. Since you'll do this project on your own, the “Allocation of Effort” part of your report should be very easy to write.
2. For this project, we'll skip the demos. Therefore, *you can ignore Steps 3 and 4 of the submission procedure.*

CSCE574 – Project 1 Cover Sheet

Name(s): _____

ROS usage (20):

- Submitted file contains a well-formed ROS package.
- Package is named correctly.
- Package dependencies are correct.
- Package is configured correctly to build executable.

Correctness (20):

- Becomes a ROS node correctly.
- Publishes to correct topic.
- Publishes messages of the correct type.
- Subscribes to one or more ROS topics, and processes callbacks appropriately.

Performance (50):

- Shape resembles a Block C at least vaguely.
- Shape is a relatively precise Block C, with little or no global distortion.
- Shape has precise corners.
- Lengths of edges are in correct proportion.
- Shape finishes near where it starts.

Report (10):

- Report is complete and clear.
- Required sections exist under readily identifiable headings.
- Report is free of typos and grammatical errors.

Other comments:

Total:
