UDACITY

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DISCUSS ON STUDENT HUB

Home Service Robot

REVIEW

HISTORY

Meets Specifications

Dear student,
Congratulations on passing the final project of the course. You have put all the knowledge that you have gained throughout the course into a single project and you have demonstrated that you are now skilled enough to do advanced projects in ROS. On behalf of everyone at Udacity, I wish you all the very best for your future endeavours. Hope this course will give you all the essential knowledge to excel in the robotics industry. Once again **All the very best.**

Now that you know how to create a robot in simulation, here is an external resource to further your learning.

- This IEEE research paper will help you understand **how to build a real robot** including how to select hardware and also a brief note on the communication protocol that can be used on a real robot.

Happy learning. Have a great day.

Cheers.

Please don't forget to rate the review which will be helpful to me. Also leave a comment to let me know if I did something good or if you feel there is something that I need to improve in my review strategy to help serve students better as a reviewer.

Basic Requirements

Student submitted all required files:
ROS Packages
Shell scripts

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✅ ROS Packages
✅ Shell scripts

Feedback: You have submitted all the required ROS packages and the Shell scripts required to review the project. Good job 👏.

Simulation Setup

Student's simulation world and robot could properly load in Gazebo.

✅ Student's simulation world and robot could properly load in Gazebo.

Feedback: Your robot and world is able to load properly in Gazebo.

Mapping

The student should write a test_slam.sh script file and launch it to manually test SLAM.

✅ The student should write a test_slam.sh script file and launch it to manually test SLAM.

Feedback: Well done. The map you have created is fantastic and the represents the world perfectly. Great work. Keep it up.

Student created a functional map of the environment which would be used for localization and navigation tasks.

✅ Student created a functional map of the environment which would be used for localization and navigation tasks.

Feedback: Well done. The environment map looks perfect for localization.

Localization and Navigation

The student's robot could navigate in the environment after a 2D Nav Goal command is issued. The student created a test_navigation.sh script file to launch it for manual navigation test.

✅ The student's robot could navigate in the environment after a 2D Nav Goal command is issued. The student created a test_navigation.sh script file to launch it for manual navigation test.

Feedback: Good job. The robot is able to follow the nav goal with ease. It also runs smoothly. Good work.

"The student created a pick_objects.sh file that will send multiple goals for the robot to reach.
The robot travels to the desired pickup zone, displays a message that it reached its destination, waits 5 seconds, travels to the desired drop off zone, and displays a message that it reached the drop off zone."

robot to reach.
✅ The robot travels to the desired pickup zone, displays a message that it reached its destination, waits 5 seconds, travels to the desired drop off zone, and displays a message that it reached the drop off zone."

Feedback: Excellent. The **pick_object.sh** file launched the appropriate nodes. Also the **pick_objects.cpp** file is well commented and looks clean. Kudos.

Home Service Functions

The student should write a add_marker.sh file that will publish a marker to rviz.
The marker should initially be published at the pickup zone. After 5 seconds it should be hidden. Then after another 5 seconds it should appear at the drop off zone.

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✅ The marker should initially be published at the pickup zone. After 5 seconds it should be hidden. Then after another 5 seconds it should appear at the drop off zone.

Feedback: Good work. The **add_markers.sh** file launched the appropriate nodes. The **add_markers.cpp** file is well commented. **Many students get this rubric wrong the first time, but you got it right in your first try.** 👏👏. Congratulations.

The student should write a home_service.sh file that will run all the nodes in this project.
The student's home service robot should be simulated as follow:
Initially show the marker at the pickup zone.
Hide the marker once your robot reach the pickup zone.
Wait 5 seconds to simulate a pickup.
Show the marker at the drop off zone once your robot reaches it.

✅ The student should write a home_service.sh file that will run all the nodes in this project.
The student's home service robot should be simulated as follow:

- ✅ Initially show the marker at the pickup zone.
- ✅ Hide the marker once your robot reach the pickup zone.
- ✅ Wait 5 seconds to simulate a pickup.
- ✅ Show the marker at the drop off zone once your robot reaches it.

Feedback: Perfect. The robot is able to pick and drop the objects easily. A great work dear student. You have just simulated what most of the industrial mobile robots do. They pick objects from one place and drop it at anther. Now you can easily tell that you have good knowledge on how industrial mobile robots work.

The student should include a brief write-up explaining the packages used for this project, covering localization, mapping and navigation.

✅ The student should include a brief write-up explaining the packages used for this project, covering localization, mapping and navigation.

Feedback: Well done. The ReadMe file explains all the packages used in the project. Good job.👏🏽

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