Assignment 1

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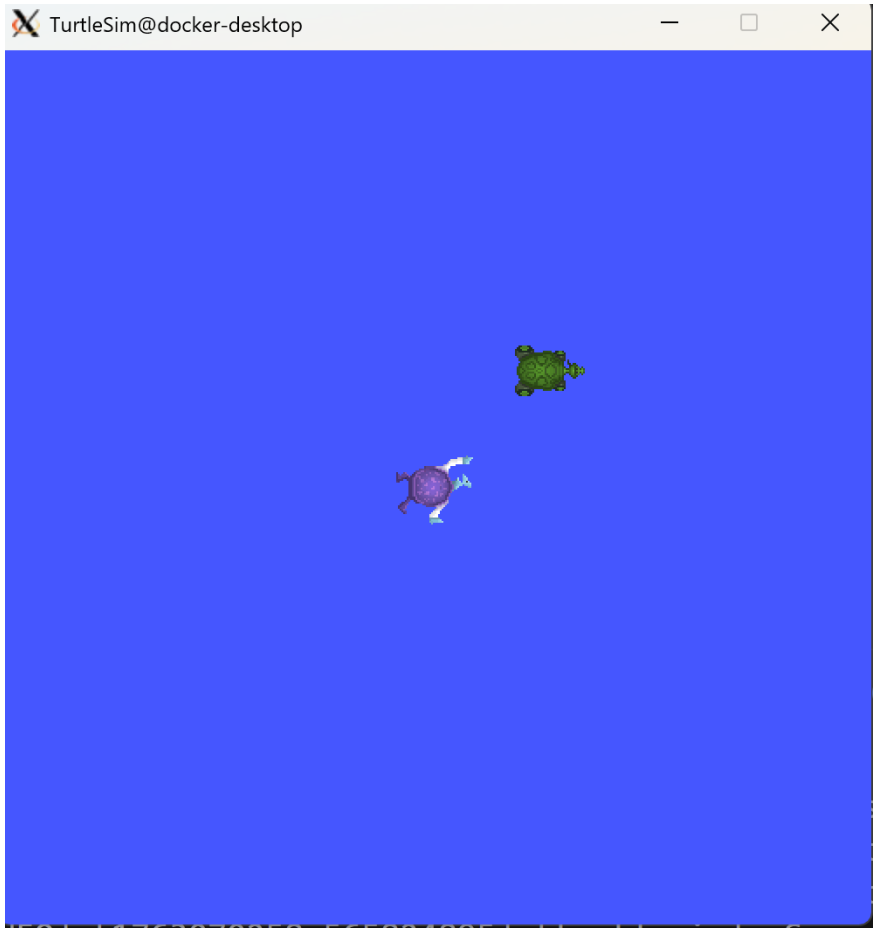
Assignment

Start the turtlesim node, plus the additional python script turtle_spawn.py



Assignment

Create a new package named “assignment1_rt”, including two nodes that implement the following:

- UI (node1):

  ✓Implement a simple textual interface to retrieve the user command (i.e., you can use cin (c++) or input (python). The user should be able to select the robot they want to control (turtle1 or turtle2), and the velocity of the robot.

  ✓The command should be sent for 1 second, and then the robot should stop, and the user should be able again to insert the command.

Assignment

- Distance (node2):

  ✓A node that checks the relative distance between turtle1 and turtle2 and:

    - publish on a topic the distance (you can use a std_msgs/Float32 for that)

    - stops the moving turtle if the two turtles are “too close” (you may set a threshold to monitor that)

    - stops the moving turtle if the position is too close to the boundaries (.e.g, x or y > 10.0, x or y < 1.0)

Assignment

How to deliver the assignment:

- The assignment can be done in python or cpp. Feel free to use the programming language you feel more confident with, or the one you think you need to learn the most. Please consider that using both programming languages in the two assignments will be positively evaluated.

- Update your github page with your code. Having an history of updates (e.g., different commits that show how you have worked on your code) will be positively evaluated. Also, the presence of a Readme that describes what you have done and how to run the code will be evaluated.

Assignment

Deadline:

- **5/12/2025**.

I will add a section in Aulaweb where you could add your github link. There will be some tolerance on delays (with some malus in the evaluation), but the Aulaweb section to insert the github link will definitely close on 10/12/2025.

Assignment will contribute to the final mark.