Follow me behavior (detection part) tests

Olivier Aycard
Grenoble INP - PHELMA
GIPSA Lab
https://www.gipsa-lab.grenoble-inp.fr/user/olivier.aycard
olivier.aycard@grenoble-inp.fr

Follow me behavior (perception part): tests

1. Offline tests
2. Tests on robair

Follow me behavior (perception part): offline tests

- Open 5 terminals:
  1. Roscore
  2. Rosrun follow_me *robot_moving_node*;
     - The laser data are only processed when the robot does not move;
     - This is automatically taken into account by the node *robot_moving_node*;
     - You do not have to take care about this issue.
  3. Rviz: the vizualization tool of ROS.
     - To have a graphical display of the processing;
     - Do not forget to load your configuration file

Follow me behavior (perception part): offline tests

- Open 5 terminals:
  4. Rosrun follow_me *detection_node*;
     - Look at the textual display in the terminal;
     - Look at the graphical display in rviz: select the corresponding graphical marker
  5. Rosbag play *data_file*.bag: to play a saved file;
     - Use a rosbag in ~/catkin_ws/data_for_labs/detection
     - Do not forget to put your rosbag in pause with « space »
     - Run your rosbag step by step « s key »

Follow me behavior (perception part): offline tests

- Moreover you can directly debug you detection_node in vscode:
  - Add breakpoint
  - Look at the value of variables at a given breakpoint

Follow me behavior (perception part): offline tests

- Each rosbag of detection must be run for each function of your detection process:
  - Detect_motion;
  - Perform_clustering;
  - Detect_legs;
  - Detect_persons;
  - Detect_a_moving_person.

- Look carefully at the textual output of your detection_node and the appropriate graphical marker in rviz
- Your code will be automatically tested for your evaluation

Follow me behavior (perception part): tests

1. Offline tests
2. Tests on robair

Follow me behavior (perception part): tests on robair(1/2)

- Open 3 terminals:
  1. Rosrun follow_me *detection_node*;
  2. Rosrun follow_me *robot_moving_node*;
     - The laser data are only processed when the robot does not move;
     - This is automatically taken into account by the node *robot_moving_node*;
     - You do not have to take care about this issue.
  3. Rviz: the vizualization tool of ROS.
     - To have a graphical display of the processing;
     - See screenshots on next slides

Follow me behavior (perception part): tests on robair (2/2)

1. Move in front of robair and check that you are detected;
2. Open a new terminal:
   - Rosrun teleoperation teleoperation_node.py;
   - Only using the green marker in the middle of your 2 legs, rotate robair so that it is facing you;
3. Only using the green marker in the middle of your 2 legs, move robair so that it stays close to you;

4. Ask to a second person to move in front of robair while you are not moving
   - What happen with the green marker ?
   - If you move robair only using the green marker, is robair still following you ?