lab8

Part-1

2022-10-18

Simulation

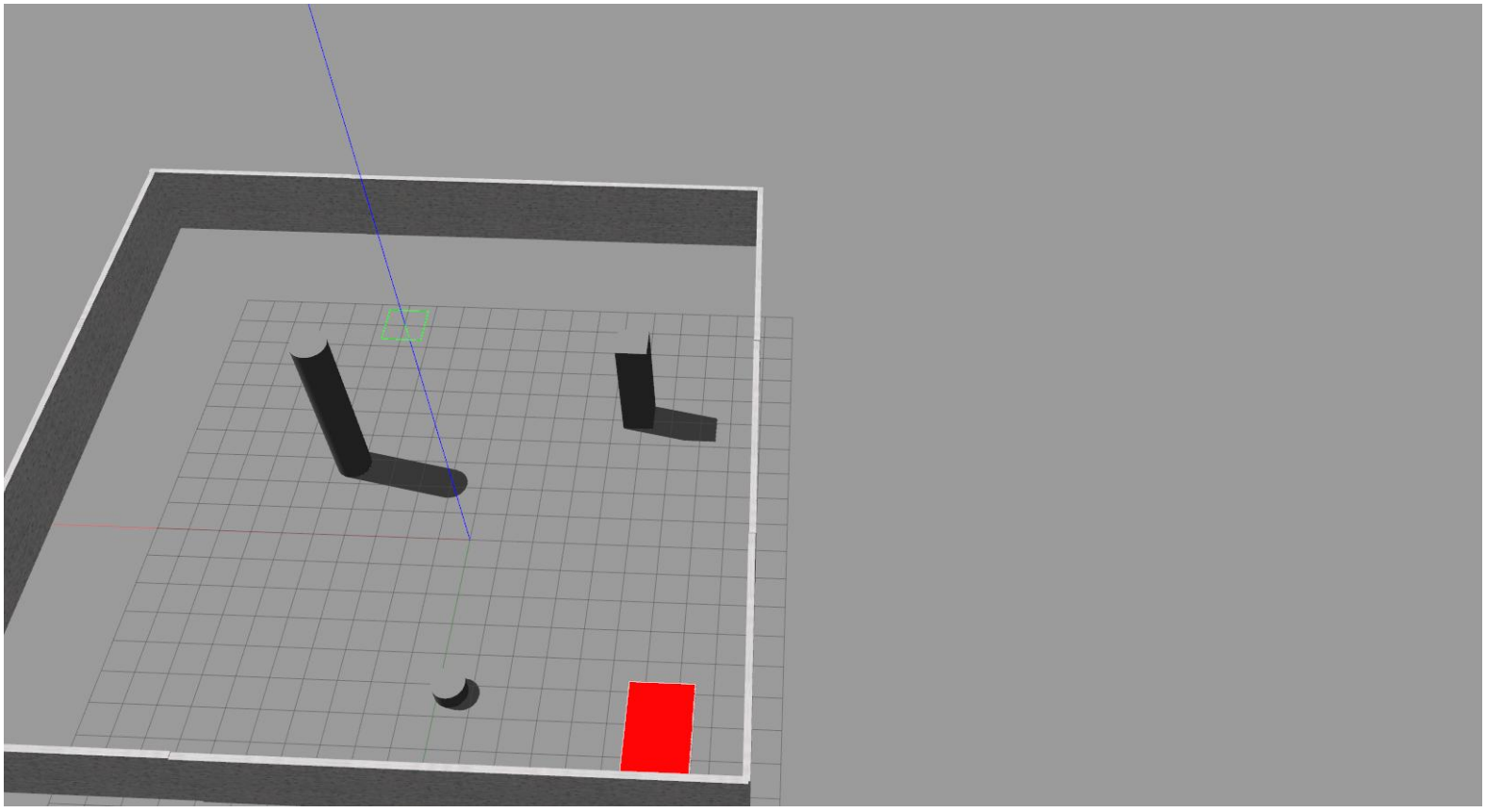
Goal : Create a gazebo world Environment to test the designed motion planners .

TO DO

- All necessary files are in lab_8_part_1 folder
- Create a new catkin work space
- Extract the packages provided (lab_8_helper folder) in src folder
- Create A new custom package xyz (name the package) having following dependencies:
  - rospy
  - sensor_msgs
  - std_msgs
  - message_generation
- Do the next parts in this package

TO DO

- Use Gazebo to create the similar Environment As shown in the following figure save it as lab8.world . (must include : walls,red launching pad at a corner , obstacles of different shapes)



TO DO

- Create a launch file
  - to load lab8.world file and
  - to Spawn a bebop drone on the launching pad .
  - take the help of launch files provided in **bebop_gazebo** package (one of the package in lab_8_helper folder)
- Use the commands used in the lab7 to fly the drone .
- Create a new message type of obs_poses_list (message file provided) , copy it in msg folder in xyz package
- make suitable changes in cmakelists.txt
- copy the get_pose_from_gazebo.py (provided) script to scripts folder of xyz package and edit it to get the pose of the obstacle present in your environment . (your lab8.world should have at least 3 obstacle (of different shapes(Cylindrical & Cuboid)), you can exclude the walls & the launching pad of the drone from the obstacle list .)