Report ps1 EECS376/476
ChenhuiYang cxy231

This assignment is finished by step by step experiments.

First I use the "catkin_create_pkg" to create "my_stdr_cmd" package and copy the example commander from "stdr" package. Noticed that auto generated "package.xml" use format2. In order to be consistent with class, omit format.

There are two kinds of action the robot can have – translational move and rotational move as shown below.

Rotational:
```
//================[eigth Spin]=================================
   twist_cmd.angular.z=yaw_rate-0.02; //added correction value 0.02
   timer=0.0; //reset the timer
   while(timer<time_3_sec) {
      twist_commander.publish(twist_cmd);
      timer+=sample_dt;
      loop_timer.sleep();
      }

   twist_cmd.angular.z=0.0; //and stop spinning in place
//================[End of eigth Spin,~90 degree]====================
```
Translational:
```
//=======[final Move/ Zeta Move ]====================================
   twist_cmd.linear.x=speed-.5; //and move forward again
   timer=0.0; //reset the timer
   while(timer<time_3_sec) {
      twist_commander.publish(twist_cmd);
      timer+=sample_dt;
      loop_timer.sleep();
      }
   twist_cmd.linear.x=0.0;
//==========[End of Zeta move,1.5m]=============================
```

Each experiment, I add a new sequence of movement into the commander and "catkin_make" to build my code.

Video link:https://www.youtube.com/watch?v=joysKYeXDg0

Github Link:https://github.com/chenhuiyang1994/EECS376_ps1/blob/master/my_stdr_cmd.cpp

_____

ROS is fun!