Autonomous Mobile Robots Homework Team consolidation

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1 Motion controller consolidation

For evaluating the performances of this program we made the following tests:

- **Test 1:** from starting position go to pose (0,0,0), check for straight path, deceleration and simultaneous linear and angular motion.

- **Test 2:** from pose (0,0,0), go to pose (1,1,180) check for simultaneous angular and linear motion.

- **Test 3:** from pose (1,1,180), go to pose (8,8,200) check for simultaneous angular and linear motion.

- **Test 4:** make only a rotation, no translation.

All tests are conducted at simulator speed 1.

Test results:

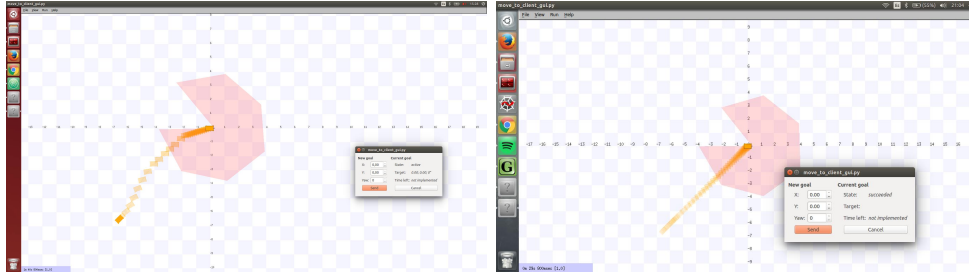| Test	Gabriela	Roberto
Test 1	curved path, simultaneous motion	straight path, simultaneous motion
Test 2	satisfactory	satisfactory
Test 3	curved path, simultaneous motion	satisfactory
Test 4	satisfactory	satisfactory

Figure 1: Path from test 1

Since Roberto's code meets the test requirements, that code will be used for the team repository.

2 Wallfollower consolidation

For evaluating the performances of this program we made the following tests:

- **Test 1:** robot follow straight wall, keeping clearance distance.

- **Test 2:** turns away from concave corners.

- **Test 3:** turns into convex corners.

- **Test 4:** can change side on the run.

All tests are conducted at simulator speed 1 and clearance 0.4.

Test results:

Test	Gabriela	Roberto
Test 1	positive	positive
Test 2	positive	positive
Test 3	mixed results	positive
Test 4	satisfactory	satisfactory

Since Roberto's code meets the test requirements, that code will be used for the team repository.
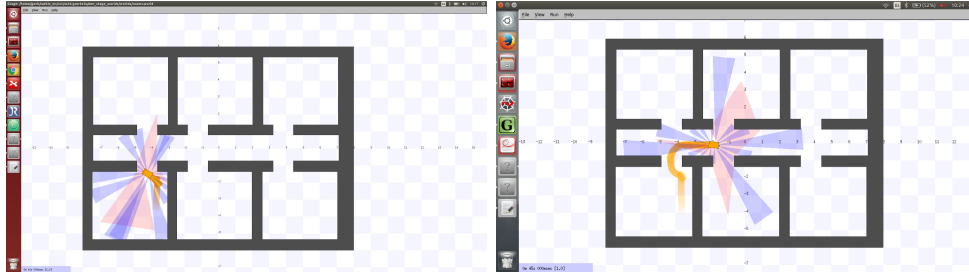
Figure 2: Path results from test 3

3 Bugbrain Consolidation

For evaluating the performances of this program we made the following tests:

- **Test 1:** go from position (7,4) to (-7,4), avoiding two obstacles.

- **Test 2:** go from starting position to (-5,-5), advanced bugbrain behavior.

- **Test 3:** go from (0,0) to (3,4), determine that goal is unreachable.

roberto, gaby avoid one obstacle ok, ok advanced avoidance ok, ok unreachable ok, ok remarks slow when unreachable, crashes

Test results:

Test	Gabriela*	Roberto
Test 1	positive	positive
Test 2	positive	positive
Test 3	positive	positive**

Remarks:
* Robot sometime crashes when finding wall in sharp corners.
** When finding if goal is unreachable, robot is slower.

Since Roberto's code meets the test requirements, that code will be used for the team repository.

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