Flatland

2d robot simulator for ROS

AVIDBOTS

Use Case

- We clean a large number of big indoor spaces (malls, airports, universities)

- We wish to simulate our robots cleaning all customer locations frequently to ensure build

- This represents thousands of sim-hours per day

- We wish to generate dynamic scenarios like people wandering through the map

What is it?

- Open source (BSD), C++

- Easily extensible (pluginlib)

- Designed to simulate indoor robots in flat environments **fast**

- Built with:
    - Box2d for physics
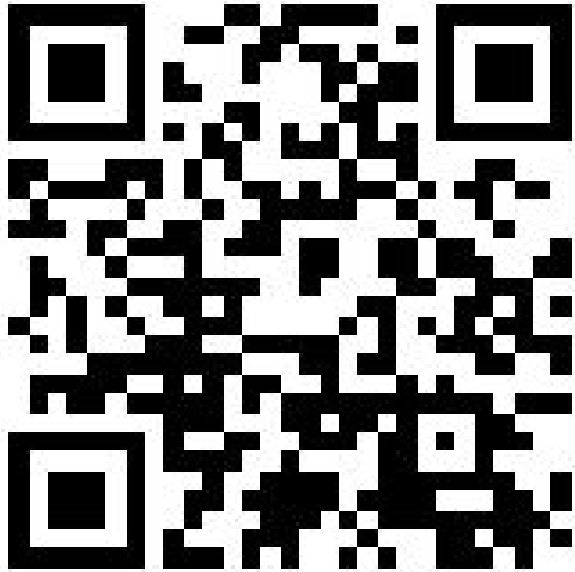   - ROS (tf, odom, vis. msgs)

What can it do?

- Layered 2d simulation

- Objects with joints, multilayer bodies and/or plugins

- Collision response w/ filtering

- Drivetrains (w/ noise)
    - Differential Drive Plugin
    - Bicycle Drive Plugin

- 2d lidar plugin (w/ noise)

(a quick port of turtlebot_simulator coming soon* to github)

For more info:

Code: (BSD licensed C++)

https://github.com/avidbots/flatland

Documentation:

flatland-simulator.rtfd.io

flatland-simulator-api.readthedocs.io