Flatland

2d robot simulator for ROS

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