链滴

[ROS]Cartographer 的初体验

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来源网站：链滴

前几天google宣布开源了Cartographer,所以赶紧过来体验一把.

本文的介绍的是google开源的Cartographer的初体验.

Cartographer是一个提供多平台和多传感器配置下能够完成2D和3D下的SLAM(实时地图构建和定位的系统.同时google也提供了ROS下的集成.关于什么是ROS参考:http://cpp.pub/articles/2016/08/0/1470651164496.html

###1.安装

Cartographer运行需要ubuntu 14.04(Trusty)下的Indigo版本或者ubuntu16.04(Xenial)下的Kinetic本.关于如何安装ROS参考:http://cpp.pub/articles/2016/07/19/1468907829652.html

按顺序执行以下语句:

```
# 安装 wstool and rosdep.
sudo apt-get update
sudo apt-get install -y python-wstool python-rosdep ninja-build

# 创建新的工作空间:'catkin_ws'.
mkdir catkin_ws
cd catkin_ws
wstool init src

# 合并cartographer_ros.rosinstall文件并或者代码的依赖
wstool merge -t src https://raw.githubusercontent.com/googlecartographer/cartographer_ros
master/cartographer_ros.rosinstall
wstool update -t src

# 安装依赖
rosdep update
rosdep install --from-paths src --ignore-src --rosdistro=${ROS_DISTRO} -y

# 安装
catkin_make_isolated --install --use-ninja
source install_isolated/setup.bash
```

###2.运行demo

执行完1中的步骤,就完成了Cartographer和Cartographer中的ROS集成包,下载google提供的示例包可以测试了.

依次执行以下语句:

```
# 下载2D示例包
wget -P ~/Downloads https://storage.googleapis.com/cartographer-public-data/bags/backp
ck_2d/cartographer_paper_deutsches_museum.bag

# 启动测试2D示例
roslaunch cartographer_ros demo_backpack_2d.launch bag_filename:=${HOME}/Downloads/
artographer_paper_deutsches_museum.bag

# 下载3D示例包
wget -P ~/Downloads https://storage.googleapis.com/cartographer-public-data/bags/backp
ck_3d/cartographer_3d_deutsches_museum.bag
```

```
# 启动测试3D示例
roslaunch cartographer_ros demo_backpack_3d.launch bag_filename:=${HOME}/Downloads/
artographer_3d_deutsches_museum.bag

# 下载基于Revo LDS平台的示例包
wget -P ~/Downloads https://storage.googleapis.com/cartographer-public-data/bags/revo_l
s/cartographer_paper_revo_lds.bag

# 启动测试
roslaunch cartographer_ros demo_revo_lds.launch bag_filename:=${HOME}/Downloads/carto
rapher_paper_revo_lds.bag

# 下载基于PR2平台的示例包
wget -P ~/Downloads https://storage.googleapis.com/cartographer-public-data/bags/pr2/20
1-09-15-08-32-46.bag

# 启动测试
roslaunch cartographer_ros demo_pr2.launch bag_filename:=${HOME}/Downloads/2011-09-
5-08-32-46.bag
```

上面的launch文件将会自动启动roscore和rviz.

执行之后就可以看到效果了,运行的结果和google提供的一样样,说明本文的目标达到.