The Description of project

The architecture of C++ project, the function of ROS packages, and the operating environment of the project will be introduced in the following.

1. Overview

Based on the gazebo simulation environment of ROS and the actual environment, this project builds a set of topology map construction and preservation framework from metric map to topology map.

1. ROS package introduction

<hokuyo\_node>: The drive of the hokuyo laser sensor.

<path\_server>: Generate real-time paths that can be displayed in RVIZ and also as an input to the topology map construction algorithm.

<topo\_mapping>: The core algorithm for topology map construction.

<topomap\_server>: The core algorithm for topological map preservation.

<turtlebot>: The basic components of the turtlebot2 robot.

<turtlebot\_gazebo>: The simulation component of the turtlebot2 robot.

1. Notebook requirements

System: Ubuntu16.04

ROS version: kinetic