Table of Contents

Welcome

Project Willy

- History of Willy
- Project Willy
- Publicity
- Sponsors

Getting started

- Development Guide
- Driving Willy
- Documentation

Build of Willy

- Design history
- Requirements
- Design reference
- Physical build
- Hardware

Robotic Operating System

- Introduction to ROS
- ROS Tutorials
- Multi master

Architecture

- Software Architecture
- Hardware Architecture
- ROS topic design

Hardware nodes

- sensor node
- si node
- power node
- WillyWRT

1. Lidar

The lidar is a node to process the raw LIDAR information to the LIDAR topic.

1.1. Repository

Windesheim-Willy/lidar

1.1.1. Background

The previous group has also done research on a LIDAR sensor. Unfortunately the previous documentation stated that it was not possible to link a LIDAR to ROS. Also other methods where somehow researched by a previous group but not in the form of a LIDAR. (Research localization system v1.1, 2017)

A LIDAR sensor uses a laser to measure distance. With these measurements the sensor makes a map of all the objects in the environment.

The previous group has done some research concerning LIDAR and the link to ROS. But came to the conclusion that it is not possible to create a link between LIDAR and ROS. Therefore they decided to not implement the LIDAR sensor.

After doing some research we found that it is possible and supported to link ROS to a LIDAR sensor.

At this stage we use the LIDAR to navigate with Willy. The sensor is placed at the front of the robot.

The LIDAR is connected with an Ethernet connection via a router to the pc.