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

Components

- ROS master

1. ROS topics

These are the topics at the ROS master of Willy. There are several communication protocols defined in ROS, but in Willy only the topics system is used. The topics are shown in the next table.

Topic name	Purpose	Publisher	Subscriber	Message type	Message protocol
/willy/health	Is Willy healthy or is there an issue?	All nodes	All nodes	Int32	1 = healthy 2 = non-critical issue 3 = critical issue

Topic name	Purpose	Publisher	Subscriber	Message type	Message protocol
/willy/health_reason	If Willy is not healthy, the reason for that is published in clear text here	All nodes	All nodes	String	Clear text
/willy/activity	What is Willy doing?	Brain SI	All nodes	Int32	• 1 = cruising • 2 = conversation • 3 = enquête • 4 = driving with a defined target
/interaction/is_active	If the social interaction is busy?	Social interaction speech recognition	All nodes	Int32	• 0 = not active • 1 = active
/interaction/clear_text	The unprocessed text what the person said	Social interaction speech recognition	All nodes	String	Who are you?
/move_action	Move actions for willy	Navigation brain	SI	String	• turn_around = Turn Willy around
/human_detect	Is there a human in front of Willy?	Power node	Brain	String	• 1 = id • 2 = accuracy • 3 = distance