

Abstract

In recent decades, there have been numerous advances in robotics, to be easily extrapolated to the field of assistive technologies, specifically to intelligent wheelchairs, but they have not always been applied.

Continuing the work developed in the Electronics Department, in this TFG is poses to incorporate new software technology currently used in the field of mobile robotics, ROS (Robotic Operating System), to the wheelchair SARA, whose low-level control and structure was designed in previous works. In this work it has been developed a SARA model that allows to perform simulations of its autonomous navigation, and to read the values of the CAN bus. Thus it is now possible to communicate in real time the wheelchair low-level control nodes with the high-level one (PC), in order to perform the tasks of autonomous navigation based on ROS functions.