

ROS4HRI (Deprecated)

Introduction

ROS for Human-Robot Interaction (ROS4HRI) is a collection of ROS packages and tools that help develop interactive robots in ROS. It is written with C++ and python APIs, and mainly deals with human body tracking, using a MediaPipe-based 3D full-body pose estimator.

The development of interactive robots capable of perceiving and responding to human gestures is the next stage in human robot interaction, as it allows users to interact with the robot in a natural and intuitive fashion.

ROS4HRI was considered for this project as gaze and gesture detection were needed for the robot to understand visual commands. It's ability to track the orientation of the head and hands makes it a good starting point for a gesture and gaze detector. In addition, it already contains a ROS API, which will allow seamless integration with the rest of the project

Deprecation

ROS4HRI is compatible with ROS, not ROS2. Two possible solutions were to either migrate the ROS4HRI packages to ROS2, or to use ROS1 to ROS2 bridge, which allows communication between ROS and ROS2 packages. The migration appeared to entail a significant amount of effort, and the bridge is usually used as a temporary solution. The final decision was to use alternative packages for human tracking.