

WHOLE BODY CONTROL

- Hierarchical quadratic solver providing:
- On-line inverse kinematics of the robot's upper body (7 DoF arm, torso prismatic joint, 2 DoF head)
 - Self-collision avoidance
 - Gaze control



UPPER BODY TELEOPERATION

Teleoperation of the 7 DoF arm, the torso prismatic joint and the Hey5 Hand/parallel gripper by using a Leap Motion* sensor**



ADVANCED NAVIGATION

Laser-based mapping, self-localization and autonomous navigation with obstacle avoidance

Navigation to points of interest or through a sequence of points



MAP EDITOR

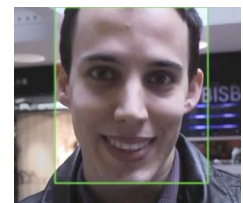
- Rviz plugin to easily:
- Download maps from the robot
 - Upload maps to the robot
 - Add virtual obstacles, define points/regions of interest



FACIAL PERCEPTION

Face detection, matching, tracking and 6 basic emotions recognition

Facial features identification (glasses, smile, open mouth, blinking)



AUTOMATIC SPEECH RECOGNITION

Off-the-shelf integration of Sphinx with ROS interface providing ASR and Word Spotting
Languages supported: English, French, Russian and Spanish
User defined grammars (examples of grammars provided)

CMU Sphinx

TEXT-TO-SPEECH

Extra languages and voices

acapela

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** The sensor is included with this option software.