

****Camera/depth/registered/points**

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find grasps
point cloud clicker

grasps sampler

point cloud

-look for possible grasps in a point cloud
-checks if the point cloud is received for it to continue with the process
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****camera/rgb/image_raw**

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ClickedImageClient

rgb image

-makes the rgb interactive obtaining clicked pixel coordinate. Then it sends that coordinate as an action goal to point_cloud_clicker.

Pixel coordinate Goal

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point_cloud_clicker

x and y coordinate

-receives pixel coordinate and looks for points in the point cloud that correspond to that pixel. Then it sends another goal to find_grasps containing point position in space and the workspace boundaries around this point in which grasps will be found.

Point position Goal

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find_grasps

point position & workspace boundaries (10 cm3)

-calculates possible grasps within the workspace boundaries with the AGILE code. Publishes a list of grasps.

List of grasps

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grasps_sampler

-evaluates list of grasps and filter them with the heuristic evaluator. Publishes a list of heuristic modified grasps.

List of heuristic modified grasps

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point_and_click

-interactive marker server which will locate a gripper hand at the grasp location. This will also send the position of the gripper as a goal for a real robot arm to execute the grasps by going to the indicated location.