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jsk_visualization Documentation

Release 2.1.7

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Contents

jsk_visualization is a stack for the visualization packages which are used in JSK lab.

The code is open source, and available on github.

This repository contains following ros packages:

Chapter 1

jsk_rviz_plugins

jsk_rviz_plugins is a package to provide original rviz plugins.

You can use these rviz plugins, panels and tools just by launching rviz.

1.1 SegmentArray

1.1.1 What is this?

Visualize `jsk_recognition_msgs/SegmentArray.msg`.

1.1.2 Sample

1.2 BoundingBox

1.2.1 What is this?

Visualize `jsk_recognition_msgs/BoundingBox.msg`.

1.3 BoundingBoxArray

1.3.1 What is this?

Visualize `jsk_recognition_msgs/BoundingBoxArray.msg`.

1.4 CameraInfo

Visualize `sensor_msgs/CameraInfo`.

1.5 Footstep

1.5.1 What is this?

Visualize `jsk_footstep_msgs/Footstep.msg`.

1.6 HumanSkeltonArray

Visualize `jsk_recognition_msgs/HumanSkeltonArray`

1.7 LinearGauge

Plot a linear gauge of `std_msgs/Float32` on rviz as HUD overlay.

To change caption text, please rename plugin display name on rviz Displays tab

It can increase in either horizontal or vertical direction

1.7.1 Sample

1.8 Normal

This will show the Normal which is subcribed from topic (sensor_msgs::PointCloud2). The normal is assumed to have the features x,y,z,normal_x,normal_y,normal_z.

Normal

Plugin

1.8.1 Samples

Plug the depth sensor which could be launched by openni.launch and execute below command.

1.9 OverlayText

Draw text of `jsk_rviz_plugins/OverlayText` on rviz as HUD overlay.

1.9.1 Sample

1.10 PeoplePositionMeasuermentArray

It visualizes `people_msgs/PositionMeasuermentArray`.

1.11 Pictogram

Pictogram

movie

Pictogram is a rviz plugin to visualize icons. Pictogram plugin uses Entypo and FontAwesome.

You need to use `jsk_rviz_plugins/Pictogram` and `jsk_rviz_plugins/PictogramArray` message to use it.

You can find mapping with `character` and icons at here and here.

If you set STRING_MODE, you can show the string popups.

1.12 PieChart

Plot a pie chart of `std_msgs/Float32` on rviz as HUD overlay.

To change caption text, please rename plugin display name on rviz Displays tab

1.12.1 Properties

- `Topic`

  `std_msgs::Float32` topic to subscribe to
- `size`

  Size of the plotter window
- `left`

  Left of the plotter window
- `top`

  Top of the plotter window
- `foreground color`

  Color to draw line
- `foreground alpha`

  Alpha belnding value for foreground
- `foreground alpha2`

  Alpha belnding value for foreground for indicator
- `background color`

  Background color
- `background alpha`

  Alpha belnding value for background

- `text size`

  Text size

- `show caption`

  Show caption

- `max value`

  Max value of pie chart

- `min value`

  Min value of pie chart

- `auto color change`

  Change the color automatically

- `max color`

  Max color of pie chart

  Only used if auto color change is set to True

- `med color`

  Med color of pie chart

  Only used if auto color change is set to True

- `max color change threshold`

  Change the max color at this threshold

  Only used if auto color change is set to True

- `med color change threshold`

  Change the med color at this threshold

  Only used if auto color change is set to True

- `clockwise rotate direction`

  Change the rotate direction

1.12.2 Sample

or

1.13 Plotter2D

Plot a line graph of `std_msgs/Float32` on rviz as HUD Display.

To change caption text, please rename plugin display name on rviz Displays tab

1.13.1 Sample

1.14 PolygonArray

PolygonArray

Visualize `jsk_recognition_msgs/PolygonArray` message

1.14.1 Properties

- `Topic`

  Name of topic of `jsk_recognition_msgs/PolygonArray`

- `auto color`

  If itâĂŹs true, color of polygons are automatically changed

- `Color`

  Color of polygons, only enabled if `auto color` is false

- `Alpha`

  Transparency of polygons

- `only border`

  Draws only edges of polygons.

- `show normal`

  Show normal of polygons.

- `nromal length`

Lenght of normal [m].

1.15 RvizScenePublisher

1.15.1 What is this?

RvizScenePublisher plugin can publish `sensor_msgs/Image` of rviz.

1.15.2 Publishing Topic

- `/rviz/image` (`sensor_msgs/Image`)

  Scene of rviz image. You can change the topic name by changing `topic_name` in Displays.

1.16 SimpleOccupancyGridArray

Visualize `jsk_recognition_msgs/SimpleOccupancyGridArray`.

1.17 String

Draw text of `std_msgs/String` on rviz as HUD overlay.

1.17.1 Sample

1.18 TFTrajectory

https://youtu.be/d9

Visualize trajectory of a tf frame.

1.19 TorusArray

TorusArray

Visualize `jsk_pcl_ros/TorusArray` message

1.19.1 Properties

- `Topic`

  Name of topic of `jsk_pcl_ros/TorusArray`

- `auto color`

  If itâĂŹs true, color of polygons are automatically changed

- `Color`

  Color of polygons, only enabled if `auto color` is false

- `Alpha`

  Transparency of polygons

- `uv-smooth`

  Smoothness the surface

- `show normal`

  Show normal of toruses.

- `nromal length`

  Lenght of normal [m].

1.20 TwistStamped

Movie

Visualize `geometry_msgs/TwistStamped` by arrows. Linear velocity is represented by one arrow and angular velocity is represented by 3 arrows for each axis.

1.20.1 Properties

- linear scale (default: `1.0`)
- angular scale (default: `1.0`)

  Scale factor of size of arrows
- linear color (default: `RGB(0, 255, 0)`)
- angular color (default: `RGB(255, 0, 0)`)

  Color of arrows

1.21 VideoCapture

VideoCapture plugin can capture video of rviz.

You need to specify valid filename and fps before capturing video. You can also specify width and height of video manually instead of using 3D viewer size if you want. After that, toggle start capture checkbox and the movie will be recorded until you uncheck the checkbox.

Be careful on creating too large video.

1.22 CancelAction

CancelAction

This will publish action_msg/GoalID to `topic_name`/cancel. You can choose multiple cancel goals.

1.23 ObjectFitOperatorAction

ObjectFitOperatorAction

This will publish jsk_rviz_plugins/ObjectFitCommand to /object_fit_commandâĂİ. If you check `reversed`, the reversed version will publish.

1.24 PublishTopic

PublishTopic

This will publish std_msgs/Empty to the topic you designate.

1.25 RecordAction

RecordAction

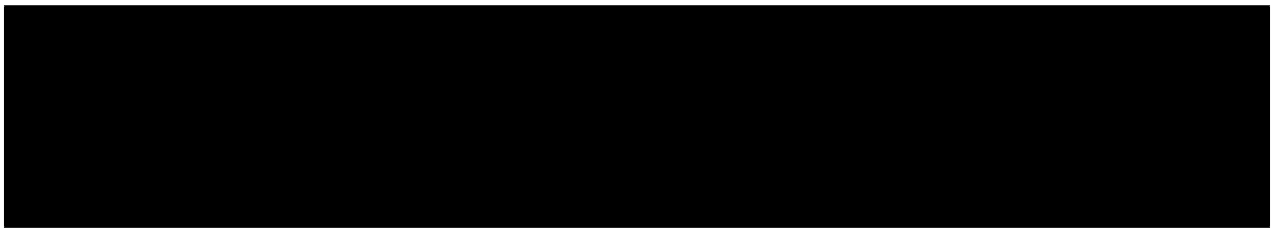
This will publish jsk_rviz_plugins/RecordCommand to /record_command. Set the target name.

1.26 RobotCommandInterfaceAction

RobotCommandIr

This will call service to /eus_command with jsk_rviz_plugins/EusCommand srv. All the buttons are configured via `~robot_command_buttons` parameters. See `robot_command_interface_sample.launch` file to know how to use it.

Parameter format is:



1.27 SelectPointCloudPublishAction

SelectPointCloudPublishAction

This will publish sensor_msgs/PointCloud2 to /selected_pointcloud.

1. First, push `Select`Button and select the pointcloud region(Note that you need to choose only pointcloud. DonâĂŹt include other parts).
2. Secord, push the SelectPointCloudPublishAction button.

3. Then the selected pointcloud will be published.

1.28 TransformableMarkerOperatorAction

TransformableMarkerOperatorAction

TransformableMarkerOperatorAction

This will call service to /request_marker_operate to insert/erase transformable_object

1.29 YesNoButton

Get yes/no user input with rviz button interface.

1.29.1 Advertising Services

- `/rviz/yes_no_button` (`jsk_gui_msgs/YesNo`)

  Service server to get yes/no user input.

1.30 OverlayPickerTool

It is a tool to move overlay plugins interactively.

If you drag overlay widget with pressing `Shift` key, the widget is aligned to grid.

1.31 ScreenshotListenerTool

It is a tool to take screenshot of rviz via service interface.

Click âĂIJadd buttonâĂİ of toolbar on rviz and you will see popup to add tools.

And `/rviz/screenshot` service will be available.

You can save screenshot via service call:

1.32 classification_result_visualizer.py

1.32.1 What is this?

Publish classification results as text markers for each classified object.

The `ClassificationResult` is synchronized with one topic which represents poses for each classified object / person.

1.32.2 Subscribing Topic

- `~input/classes` (`jsk_recognition_msgs/ClassificationResult`)

  Classification result
- `~input/boxes` (`jsk_recognition_msgs/BoundingBoxArray`)

  Bounding boxes of classified objects
- `~input/poses` (`geometry_msgs/PoseArray`)

  Poses of classified objects
- `~input/people` (`jsk_recognition_msgs/PeoplePoseArray`)

  Poses of classified people
- `~input/ObjectDetection` (`posedetection_msgs/ObjectDetection`)

  Poses of classified objects

1.32.3 Publishing Topic

- `~output` (`visualization_msgs/MarkerArray`)

  Text message markers

1.32.4 Parameters

- `~appriximate_sync` (Bool, Default: `false`)

  Option to enable approximate synchronization
- `~queue_size` (Int, Default: `100`)

  Queue size of subscribers on synchronization
- `~slop` (Double, Default: `0.1`)

  Slop duration on approximate synchronization
- `~text_color_blue` (Double, Default: `1.0`)

  Blue of text color
- `~text_color_green` (Double, Default: `0.0`)

  Green of text color
- `~text_color_red` (Double, Default: `0.0`)

  Red of text color
- `~text_color_alpha` (Double, Default: `1.0`)

  Alpha of text color
- `~text_offset_x` (Double, Default: `0.0`)

  Text offset on x-axis for each object
- `~text_offset_y` (Double, Default: `0.0`)

  Text offset on y-axis for each object

- `~text_offset_z` (Double, Default: `0.07`)

  Text offset on y-axis for each object

- `~text_size` (Double, Default: `0.05`)

  Text size

- `~marker_lifetime` (Double, Default: `5.0`)

  Marker lifetime

- `~show_proba` (Bool, Default: `true`)

  Enable to display probability for each classification

1.33 rosconsole_overlay_text.py

1.33.1 What is this?

Publish message for overlaying ROS console output on rviz.

1.33.2 Subscribing Topic

- `/rosout` (`rosgraph_msgs/Log`)

  ROS console output.

1.33.3 Publishing Topic

- `~output` (`jsk_rviz_plugins/OverlayText`)

  Text message displayed on rviz with OverlayText plugin.

1.33.4 Parameters

- `~nodes` (List of String, Default: `[]`)

  Node names whose messages will be published. If an empty list is specified (default), then messages from all nodes will be published.

- `~nodes_regexp` (String, Default: `""`)

  Regular expression used to filter unmatching nodes. If an empty string is specified (default), then messages from all nodes will be published.

Note that the combination of `~nodes` and `~nodes_regexp` is `AND` filter.

- `~ignore_nodes` (List of String, Default: `[]`)

  Node names whose messages wonâĂŹt be published. This parameter takes priority over `~nodes` or `nodes_regexp`.

- `~exclude_regexes` (List of String, Default: `[]`)

  Regular expressions used to exclude matching messages.

- `~line_buffer_length` (Int, Default: `100`)

  Max number of messages stored in buffer.

- `~reverse_lines` (Bool, default: `True`)

  If True, the order of stored messages in the buffer will be reversed.

1.33.5 Sample

Chapter 2

jsk_rqt_plugins

rqt_plugins created in JSK Lab.

2.1 rqt_2d_plot

Plot data of specified topic as scatter plot.

2.1.1 Topic Type

- `jsk_recognition_msgs/PlotData`

2.1.2 Optional Arguments

- `--line`: Plot with lines instead of scatter.
- `--fit-line`: Plot line with least-square fitting.
- `--fit-line-ransac`: Plot line with RANSAC.
- `--fit-line-ransac-outlier`: Plot line with RANSAC.

2.1.3 Sample

2.2 rqt_3d_plot

Plot multiple topics in 3-dimentional layout.

2.2.1 Topic Type

- numeric data such as `std_msgs/Float32`

2.2.2 Optional Arguments

- `-P`, `--pause`: Start in paused state.
- `-L`, `--line`: Show lines rather than polygon representation.
- `--no-legend`: Do not show legend.
- `-B`, `--buffer`: The length of the buffer. (default = 100)

2.2.3 Sample

2.3 rqt_drc_mini_maxwell

Subscribe specified topic and show status in facial expression.

2.3.1 Subscribing Topic

- `/drc_2015_environment/is_disabled` (`std_msgs/Bool`)
- `/drc_2015_environment/is_blackout` (`std_msgs/Bool`)
- `/drc_2015_environment/next_whiteout_time` (`std_msgs/Time`)

If `is_disabled` is True, then it frowns and the background color becomes gray.

If `is_disabled` is False and `is_blackout` is True, then it frowns and the background color becomes red. `next_whiteout_time` is enabled only in this condition.

If `is_disabled` is False and `is_blackout` is False, then it smiles and the background color becomes green.

2.3.2 Sample

2.4 rqt_histogram_plot

Plot histogram data. It supported array fields of topics and `jsk_recognition_msgs/HistogramWithRange`. If you want to specify x-values of figure, use `jsk_recognition_msgs/HistogramWithRange`.

2.5 rqt_image_view2

rqt wrapper of image_view2.

It retrieves `image_marked` topic from `image_view2` and publish `event` topic to `image_view2`.

2.5.1 Sample

2.6 rqt_service_buttons

Generate service buttons according to the configuration written in yaml file.

- sample yaml file: `jsk_rqt_plugins/resource/service_button_layout.yaml`
- sample perspective file: `jsk_rqt_plugins/resource/rqt_service_buttons.perspective`

2.6.1 Sample

2.7 rqt_service_radio_buttons

Generate service buttons according to the configuration written in yaml file.

- sample yaml file: `jsk_rqt_plugins/resource/service_radio_button_layout.yaml`
- sample perspective file: `jsk_rqt_plugins/resource/rqt_service_radio_buttons.perspective`

2.7.1 Sample

2.8 rqt_status_light

Subscribe specified topic and show status in a simple color.

2.8.1 Topic Type

- `std_msgs/UInt8`

2.8.2 Correspondence between Value and Color

- `1`: green
- `2`: yellow
- `(other)`: gray

2.8.3 Usage

2.9 rqt_string_label

Subscribe string under specified topic and show the string message.

2.9.1 Topic Type

- Any topic type which has `string` slot

2.9.2 Usage

2.10 rqt_yn_btn

Serves yes/no buttons. The buttons are enabled when there is a request.

2.10.1 Advertising Service

- `rqt_yn_btn(jsk_rqt_plugins/YesNo)`

2.10.2 Usage

Chapter 3

jsk_interactive_marker

jsk_interactive_marker is a code using interactive marker.

3.1 moveit_msgs/DisplayRobotStateãĆŠåĹľçŤĺãĄŮãĄęrvizäÿŁãĄńãČ■ãČIJã

rvizäÿŁãĄńèĞłçŤśãĄńãČ■ãČIJãČČãČĹãĆŠéĖ■ç¡õãĄŮãĂĄåŔŕèęŰåŇŰãĄŹãĆŃãĄńãĄŕmoveit_msgs/DisplayRobotStateãĄŇä¿£åĹľãĄğãĄŹãĂĆ ãĄŞãĆŇãĆŠåĹľçŤĺãĄŹãĆŃãĄŞãĄĺãĄğãĂĄéŰćçŕĂèğŠåžę+ãČńãČijãČĹãČłãČşãĆ

ãĆţãČşãČŮãČńãĄŕroslaunch jsk_interactive_marker sample_display_robot_state.launchãĄğçćžèł■ãĄğãĄ■ãĄ¿ãĄŹãĂĆ

moveit_msgs/DisplayRobotStateãĆŠåĹľçŤĺãĄŹãĆŃãĄ§ãĆĄãĄńãĄŕãĂĄmoveit_ros_visualizationãĄŇãĆĽRobo

ãĄŞãĄőRobotStateãČŮãČľãĆřãĆđãČşãĄŕ2ãĄđãĄőãČŚãČľãČąãČijãĆ£ãĂĄ1ãĄđãĄőãČĹãČŤãČČãĆŕãĄńä¿Ìå■ŸãĄŮãĄ¿ãĄŹã

- parameter
  - /robot_description

    ãČ■ãČIJãČČãČĹãĄőå¡ćçŁűãĆŠè■ãĆĂãĄ§ãĆĄãĄńãĂĄrobot_descriptionãĆŠå£ËèęĄãĄĺãĄŮãĄ¿ãĄŹãĂĆ

  - /robot_description_semantic

    moveitãĄğåĽ'çŤĺãĄŢãĆŇãĆŃãĂĄãČđãČŃãČŤãČěãČňãČijãĆ£æČĚåăśç■L'ãĆŠä£ÌæŇĄãĄŹãĆŃãČŚãČľãČąãČijãĆ£ãĂĆ
    äžőæČşãĆÿãČğãĆđ'ãČşãČĹãĆŠè£¡åŁäãĄŹãĆŃãĄŞãĄĺãĄŇãĄğãĄ■ãĆŃãĄ§ãĆĄãĂĄãĄŞãĆŇãĆŚåĽ'çŤĺãĄŮãĄęãČńãČi

- topic
  - Robot State Topic (moveit_msgs/DisplayRobotState)

    ãČĹãČŤãČČãĆŕåŘ■ãĄŕãČŮãČľãĆřãĆđãČşãĄőãČŢãĆľãČijãČäãĄğèĺ■åőŽåŔŕèČ¡ãĂĆ

ãČ■ãČIJãČČãČĹãĄőãČńãČijãČĹãČŁãČşãĆŕãĆŠæŇĞåőŽãĄŹãĆŃãĄ§ãĆĄãĂĄäžëäÿŃãĄőãĆĹãĄĘãĄŁsrdfãĆŠ/robot_description_semanticsãĄńèĺ■åőŽãĄŹãĆŃå£ËèęĄãĄŇãĄĆãĆŁãĄ¿ãĄŹãĂĆ

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euslispãĄŃãĆL'moveit_msgs/DisplayRobotStateãĆŠçŤ§æĽŘãĄŹãĆŃéŰćæŢřãĄĺãĄŮãĄęangle-vector-to-displayrobot-state.lãĄńãĄęæŔŘä¿ŻãĄŢãĆŃãĄęãĄĎãĄ¿ãĄŹãĂĆ ãĄŞãĆŃãĆŠçŤĺãĄĎãĆŃãĄĺãĂĄäžëäÿŃãĄőãĆĹãĄĘãĄńãĄŮãĄęrvizäÿŁã

3.1.1 æşĺæĎŔçĆź

rvizãĄğRobotStateãĆŠè£¡åŁäãĄŹãĆŃåL'■ãĄńrobot_description_stateãĄŃèĺ■åőŽãĄŢãĆŃãĄęãĄĎãĆŃå£ËèęĄãĄŃãĄ
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3.2 camera_info_publisher

`camera_info_publisher` provides camera info topics to an image or pointcloud without camera info.

3.2.1 Parameters

- `~yaml_filename` (String, default: ``)

  Path to yaml file which has camera info information.

- `~frame_id` (String, default: `camera`)

  Frame id of camera info.

- `~parent_frame_id_` (Bool, default: `base_link`)

  Frame id of interactive marker.

- `~sync_pointcloud` (String, default: `false`)

  Synchronize camera info to pointcloud. If both `~sync_pointcloud` and `~sync_image` are not specified, camera info is published at a static rate.

- `~sync_image` (String, default: `false`)

  Synchronize camera info to image.

- `~static_rate` (Double, default: `30.0`)

  Static rate at which camera info is published. If both `~sync_pointcloud` and `~sync_image` are not specified, camera info is published at a static rate.

- `~width` (Double, default: `640`)

  With of published camera info. This parameter is enabled when `~yaml_filename` is not speficied. This parameter can be changed by dynamic reconfigure.

- `~height` (Double, default: `480`)

  Height of published camera info. This parameter is enabled when `~yaml_filename` is not speficied. This parameter can be changed by dynamic reconfigure.

- `~f` (Double, default: `525`)

  F of published camera_info. This parameter is enabled when `~yaml_filename` is not speficied. This parameter can be changed by dynamic reconfigure.

3.2.2 Subscribing Topics

- `~input` (`sensor_msgs/Image` or `sensor_msgs/Pointcloud2`)

  Image or pointcloud whose camera info is published.

3.2.3 Publishing Topics

- `~camera_info` (`sensor_msgs/CameraInfo`)

  Camera info which has the same timestamp as the input topic.

3.2.4 Sample

3.3 marker_6dof

`marker_6dof` provides interactive marker to control a marker of primitive shape or mesh shape.

3.3.1 Parameters

- `~object_type` (String, default: `sphere`)

  Type of object shape. cube, sphere, line, and mesh are available.

- `~frame_id` (String, default: `/map`)

  Frame id of marker.

- `~publish_tf` (Bool, default: `False`)

  Tf of marker pose is published if true.

- ~tf_frame (String, default: object)

  frame id of published tf. This value is used only when ~publish_tf is true.

- ~tf_duration (Double, default: 0.1)

  Time interval of published tf. This value is used only when ~publish_tf is true.

- ~publish_pose_periodically (Bool, default: False)

  Pose of marker is published periodically if true. Pose topic is published only when marker is moved via Rviz if false.

- ~object_x (Double, default: 1.0)
- ~object_y (Double, default: 1.0)
- ~object_z (Double, default: 1.0)

  X, Y, Z scale of object.

- ~object_r (Double, default: 1.0)
- ~object_g (Double, default: 1.0)
- ~object_b (Double, default: 1.0)
- ~object_a (Double, default: 1.0)

  Red, Green, Blue and Alpha value of object.

- ~initial_x (Double, default: 0.0)
- ~initial_y (Double, default: 0.0)
- ~initial_z (Double, default: 0.0)

  Initial X, Y, Z position of marker.

- ~initial_orientation (Vector of Double, default: [0.0, 0.0, 0.0, 1.0])

  Initial orientation of marker described in quaternion.

3.3.2 Subscribing Topics

- ~feedback (visualization_msgs/InteractiveMarkerFeedback)
- ~move_marker (geometry_msgs/PoseStamped)

  You can control markers through topics above.

3.3.3 Publishing Topics

- ~update (visualization_msgs/InteractiveMarkerUpdate)
- ~update_full (visualization_msgs/InteractiveMarkerInit)

  Current marker state

- ~pose (geometry_msgs/PoseStamped)

  Pose of marker. You can select publishing policy via ~publish_pose_periodically.

- /tf (tf2_msgs/TFMessage)

  Tf of marker pose. Available only when ~publish_tf is true.

3.3.4 Sample

3.4 polygon_marker

`polygon_marker` is a simple code to provide interactive marker to select one polygon out of multiple polygons represented in `jsk_recognition_msgs/PolygonArray`.

3.4.1 Subscribing Topics

- `~polygon_array` (`jsk_recognition_msgs/PolygonArray`)

  Input polygons

3.4.2 Publishing Topics

- `~selected_index` (`jsk_recognition_msgs/Int32Stamped`)

  Selected index of the polygon.

- `~selected_polygon` (`geometry_msgs/PolygonStamped`)

  Selected polygon as `geometry_msgs/PolygonStamped`

- `~selected_polygon_array` (`jsk_recognition_msgs/PolygonArray`)

  Selected polygon as `jsk_recognition_msgs/PolygonArray`.

3.5 transformable_markers_client.py

`transformable_markers_client.py` has features below:

- Insert markers to `transformable_server_sample`
- Auto save of user interaction of the markers
- Publish topics of reusable msgs after conversion from the markers (ex. BOX -> BoundingBox)

3.5.1 Parameters

- `~config_file` (String, requried)

  Config file to insert markers, and auto save the interaction. The format is like below:

- `~config_auto_save` (Bool, default: True)

  Enable the feature to save the config automatically.

3.5.2 Required ROS name

- `~server`

  Node name of `transformable_server_sample` server.

3.5.3 Publishing Topics

- `~output/boxes` (`jsk_recognition_msgs/BoundingBoxArray`)

  Converted boxes from marker: BOX -> BoundingBox.

3.5.4 Sample

3.6 transformable_server_sample

`transformable` provides interactive marker to control some object models.

3.6.1 Parameters

- `~server_name`

  Name of interactive server.

- `~use_parent_and_child` (default: `false`)

  Flag for using `ParentAndChildInteractiveServer`.

  If true, you can use associate markers like below:

If `parent_topic_name==empty`, it uses self server, and only 1 hierarchy is supported.

- `~display_interactive_manipulator` (Bool, default: `true`)

  Flat to show the 6dof interactive manipulator for all objects.

- `~display_interactive_manipulator_only_selected` (Bool, default: `false`)

  Flag to show the 6dof interactive manipulator only for the selected object. This flag does nothing if `~display_interactive_manipulator` is `false`.

- `~display_description_only_selected` (Bool, default: `false`)

  Flag to show the description only for the selected object.

3.6.2 Usage

then, in different terminal You can insert box marker by this command

You can insert model by this command

3.6.3 Topics

You can control markers through topics below (Please Read msg Structure by rosmsg show or some other) (The default topic name is /simple_marker, server name is the same)

- /simple_marker/set_color
- /simple_marker/feedback [visualization_msgs/InteractiveMarkerFeedback]
- /simple_marker/set_radius
- /simple_marker/set_control_relative_pose
- /simple_marker/add_pose_relative [geometry_msgs::Pose]
- /simple_marker/set_z
- /simple_marker/set_x
- /simple_marker/set_y
- /simple_marker/add_pose [geometry_msgs::Pose]
- /simple_marker/set_control_pose [geometry_msgs::PoseStamped]

- /simple_marker/set_pose [geometry_msgs::PoseStamped]

You can get marker info by topics below

- /simple_marker/marker_dimensions [jsk_interactive_marker/MarkerDimensions]
- /simple_marker/pose [geometry_msgs/PoseStamped]
- /simple_marker/focus_object_marker_name [std_msgs/String]
- /simple_marker/pose_with_name [jsk_interactive_marker/PoseStampedWithName]
- /simple_marker/focus_marker_name_text [jsk_rviz_plugins/OverlayText]
- /tf [tf2_msgs/TFMessage] (with marker name, tf is published)
- /simple_marker/focus_marker_pose_text [jsk_rviz_plugins/OverlayText]

3.6.4 Services

You can control markers through topics below

- /simple_marker/request_marker_operate -> for inserting marker
- /simple_marker/set_focus
- /simple_marker/set_color
- /simple_marker/set_control_pose
- /simple_marker/set_parameters
- /simple_marker/set_pose
- /simple_marker/set_dimensions
- /simple_marker/set_parent_marker
- /simple_marker/hide

You can get marker info through topics below

- /simple_marker/get_control_pose
- /simple_marker/get_color
- /simple_marker/get_focus
- /simple_marker/get_dimensions
- /simple_marker/get_type
- /simple_marker/get_pose
- /simple_marker/get_existence

3.7 urdf_model_marker

`urdf_model_marker` provides interactive marker to control robot model.

3.7.1 Parameters

- `~server_name`

  Name of nteractive server.

- `~use_dynamic_tf` (default: `true`)

  Use `dynamic_tf_publisher` if it is true.

- `~model_config`

  Collection of parameters.

  - `name`
  - `description`
  - `scale`
  - `pose`
  - `offset`

- use_visible_color
- frame-id
- registration
- fixed_link
- model
- use_robot_description
- model_param
- robot
- mode
- initial_joint_state
  - name
  - position
- display

3.7.2 Sample

Chapter 4

Tips about visualization

4.1 Record rviz

4.1.1 kazam

You can use kazam to record desktop movie easily.

```
```

4.1.2 glc

You can use glc to record OpenGL rendering. glc is the best way to record OpenGL application because it can record movie efficiently. glc record OpenGL rendering to a special file called `.glc` and you can convert the `.glc` into several movie format. It is also good for irtviewer.

Install

You can install glc via ppa package. (see this tutorial)

```
```

Capture

You can use glc as wrap command like:

```
```

If you want to use it in launch file, use `launch-prefix` attribute:

```
```

You need to type `Shift + F8` to start and stop capturing. (see this tutorial for detail)

Convert to movie

You can use `glc_encode.sh` under `jsk_tools`.