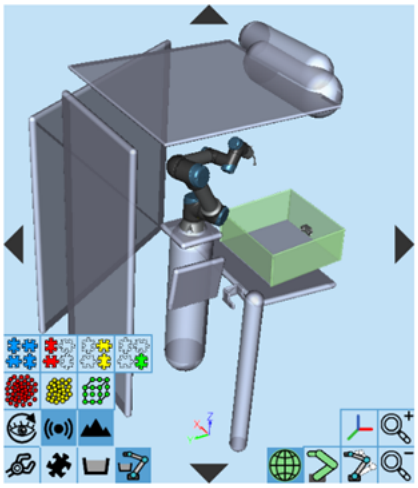
UNIVERSAL ROBOTS Support

ACTINAV VIEWER

ActiNav Viewer is the main interface for programming ActiNav, and for debugging your program.

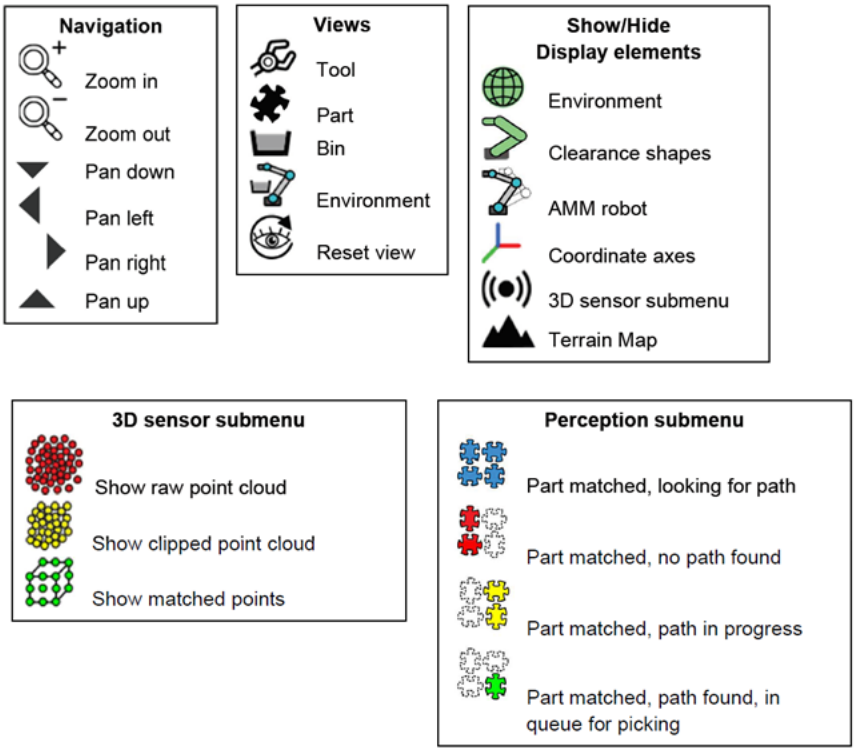
Last modified on Feb 24, 2022



ActiNav Viewer includes a 3D virtual representation of your workcell and how you have described the physical world to the ActiNav software.

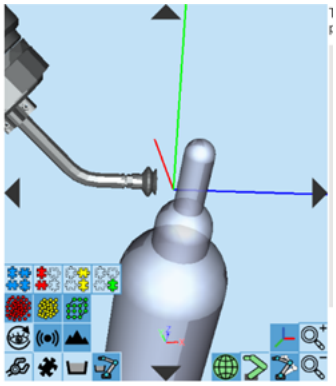
You can always access ActiNav Viewer in the top right of your teach pendant under the UR+ Button.

1. ICONS



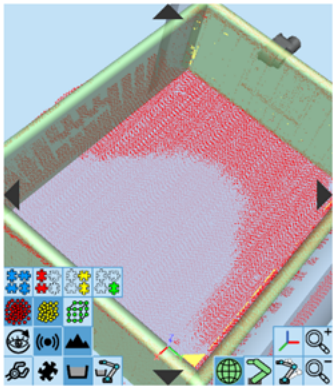
2. USING THE ACTINAV VIEWER FOR VALIDATION AND DEBUG

Testing Clearance Shapes in the Environment



To ensure that the environment model that you taught to ActiNav matches the physical world, you can freedrive your robot through your environment. By touching your TCP to various obstacles in your environment, and then comparing to the ActiNav Viewer, you can verify that the clearance shapes match reality.

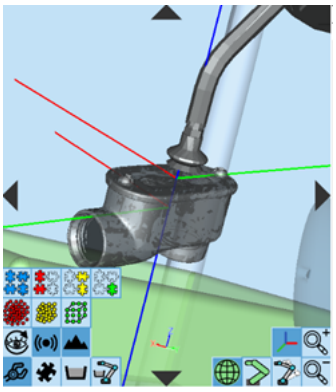
Testing the Clipping in the Bin



For best operation, the entire contents of the bin must be visible to the 3D sensor, but the bin walls or floor need to be “clipped out” of the point cloud. This prevents mis-identifying any part of the bin as a portion of a part in the bin.

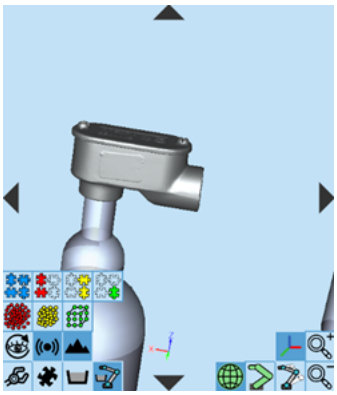
After scanning an empty bin, display the red (raw) and yellow (clipped) points alternately. If the bin walls and floor are displayed in the yellow points, adjust the clipping offsets in the Bin tab on the ActiNav Installation page.

Testing Picks



When programming a Pick rule, zoom in on the picked part as it is held by the end effector. By turning on the Coordinate Axes, the axes of both the part and the TCP are visible. Comparing this to the coordinates displayed in the Pick rule page, you can confirm the part is being picked as expected. You can also adjust the numerical coordinates to line up the part and the TCP better.

Testing Places



When programming a Place rule, zoom in on the Place target and the part-relative place position. For each Place rule, confirm that there are no collisions:

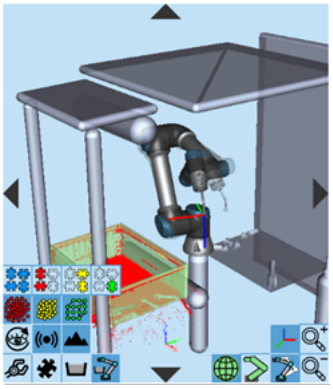
- At pre-place: No collisions between the part + tool combination, and the environment or place target.

- At place and post-place: No collisions between the tool and the environment or place target. The part may touch the environment or place target during and after place.

Pay special attention to post-place when Pick rotations around the TCP z-axis are permitted: the tool retracts from the place position along the TCP Z-axis, but the robot could be in any pose that the rotation around the z-axis allows, not just the pose used during teaching the Place.

The clearance shapes or the place coordinates can be adjusted to avoid collisions.

Viewing the AMM Robot



The AMM Robot shows ActiNav's autonomous motion planning in action, as possible paths are explored. Display the AMM Robot as the robot enters and exits the bin to see if a fully validated path is being executed.