



# What's the **difference** between **Movelt** and **Movelt Studio**?

Movelt is a popular open source framework in the ROS ecosystem that contains many advanced algorithms for robot arm motion planning, control, grasping, and computer vision. Movelt Studio is a developer tool and SDK that makes using Movelt much easier to use, more reliable to ship to production, and able to handle more advanced and unstructured environments.

Both of these products are developed and maintained by PickNik Robotics, but we believe building with Movelt Studio will save you from hiring 4+ engineers over the entire lifecycle of your robotics application. We've built the tooling that allows you to focus on building your end product and serving your customers. We like to give the analogy of Movelt Studio is to Movelt as GitHub is to Git.

	<b>Movelt</b>	<b>Movelt Studio</b>
Motion and Task Planning	✓	✓
Kinematics	✓	✓
Collision Checking and Grasping Algorithms	✓	✓
Dynamics Parameterization, Smoothing, and Controls Algorithms	✓	✓
Trajectory Visualization	✓	✓
Extensible and Customizable	✓	✓
<b>Production Deployment</b>		
Warranties and SLA	✗	✓
Support	✗	✓
Cross Platform, Browser Based	✗	✓
Overlay Docker Management	✗	✓
Optional Cloud Integration	✗	✓
<b>Model Based Design</b>		
Behavior Tree Integration	✗	✓
Pre-Built Behavior Library for Motion Control	✗	✓
Easy to Define Error Recovery and Fallback Behaviors	✗	✓
Visual Behavior Tree Editor and Real-time Visualizer	✗	✓
Browser-Based Visual Debugging and Introspection	✗	✓
<b>Manual Control and Teach Pendant-like Functionality</b>		
Advanced Teleoperation and Recovery	✗	✓
Human-in-the-Loop Applications	✗	✓
Waypoint Based Planning and Editing	✗	✓
<b>Pick and Place Solution Template</b>		
Bin Picking Reference Application	✗	✓
ML Based Object Segmentation	✗	✓
3D Grasp Generation	✗	✓
Online Admittance Control Tuning	✗	✓
Trajectory Constraint Builder	✗	✓
Hand to Eye Calibration	✗	✓
Pick Metric Statistics	✗	✓
<b>Visual Servoing</b>		
Real-time Tracking of AR Tags	✗	✓
Real-time Tracking Based on ML	✗	✓