



trinity

DYNAMIC ROBOT TRAJECTORY GENERATION BASED ON INFORMATION FROM
3D CAMERA

www.trinityrobotics.eu

Purpose of the module

- Module provides a flexible and adaptive way to create robot trajectories dynamically based on point cloud data created automatically with 3D-camera.
- System is divided into hardware and software
- Module software is based on AutoMAPPS simulation software

Hardware

- Workstation PC
- Intel Realsense D435 camera
- Robot compatible with AutoMAPPPS



Software

- Windows 10 OS
- AutoMAPPPS
- AutoMAPPPS BinPicking and CellController modules
- Intel Realsense SDK (OS install)
- YoloV5

Preparation steps

- Physical location and installation of device
 - Obstacle free installation is required
- Interfacing camera
 - Interfacing and configuring camera
- Interfacing robot
 - Interfacing and configuring robot

Environmental requirements

- Module was developed for industrial robot but can be utilized for cobots
- 3D camera is not immune to dust, fog, or smoke. These will interfere with detection performance
- Stabilized ambient lighting conditions preferred
- Operating environment temperatures according to manufacturer guidelines

Integration

- Module offers a flexible and adaptive way of generating robot trajectories for human-robot collaboration based on information from 3D-camera
- Module can be utilized for creating robot trajectories dynamically for processes such as painting, sandblasting and pressure washing.
- Utilizing module for assembly tasks is also possible

The background is a dark navy blue. On the left side, there are two abstract, rounded rectangular shapes. The top one has a blue-to-purple gradient, and the bottom one has an orange-to-purple gradient. On the right side, there is a larger abstract shape with a green-to-blue gradient. In the center, the word "trinity" is written in a white, lowercase, sans-serif font.

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