Modular Educational Robot

Pilot Sheet

RobMoSys defines a platform of assets and services to help robotics industry to improve their software/system engineering practice. Join us to work together to create this ecosystem and to demonstrate your own success story with real world cases in line with our industrial pilots.

Description

The pilot [1] is about educational application in public environment as schools or educational institutes. The main aim of the pilot is to supply a new robotics platform that enables teachers and students to perform and design several robotics applications with different levels of complexity.

Expected Benefits

The pilot is intended for open call 2 contributors to showcase the flexibility and modularity of the system via composition of software components in order to build a complete running application in an easier and faster way respect to standard methodologies.

The pilot combines the SmartMDSD Toolchain and the existing software infrastructure of the e.DO robot addressing the RobMosys approach in this new robotics platform and enable teachers and students on performing and designing complex robotics applications. The objectives are to enable :

o Developers to easily design new educational applications
o Students to develop their own functionalities
o Users to extend the robot capabilities with new hardware
o Users to easily integrate the robot with an user interface

Scenario Examples

The pilot case will be based on the open architecture of e.DO platform, a new robot developed for educational purpose that will use a ROS node to connect the Smartsoft environment with the robotics framework.

Different uses-cases can be taken into account Developing customized software functionalites on different levels:

o Basic coding (scratch programming) using task composition
o Emulation of industrial lines to speed up the integration.
o Implementation and test of advanced control algorithm
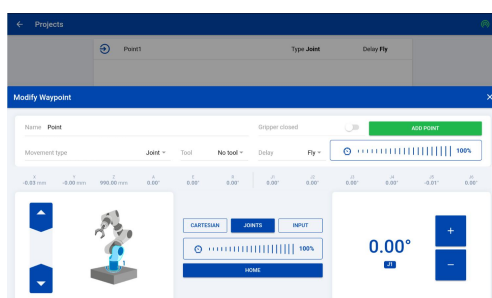
Pilot Resources

The pilot is currently located in COMAU plant in Grugliasco (Italy). The pilot can be easily repeated or moved to other locations due to the easy integration and installation of e.DO platform.

The available skeleton for the pilot is based on the following components and features:

o e.DO robot platform with open source control logic (based on Raspberry Pi running Raspbian Jessie)
o ROS node for e.DO (Kinetic Kame distribution)
o First integration of e.DO platform with SmartMDSD toolchain IDE
o First set of basic building blocks and models for pick and place application

Get involved in the Second RobMoSys Open Call!

Further information at: www.robmosys.eu