

Making Robotic Research Collaboration Simple: Generic Robot Software Framework Interfacing

A plethora of different robotic hardware platforms exist today, but they do not share a common software framework due to various practical reasons: different applications, different requirements, different operating systems or just closed-source software. However, most robots share Ethernet as a common communication interface on which different network middlewares allow inter-process communication. These middlewares are incompatible to each other, but usually generate code for interfaces and data types for various programming languages from an Interface Definition Language (IDL), which often share a similar feature set.

Interfacing such robot software frameworks allows robotic researchers to easily integrate their code into other systems and boost in this way collaboration, to which the European Research Project TERRINet is dedicated. Furthermore, interfacing also builds the basis for robot collaboration since it opens communication between different robotic platforms.



Communication between different robots requires interfacing of the employed robot software frameworks.

The goal of this project is to develop a generic software bridge between the robot software frameworks ArmarX and ROS. Up to today there only exist specific software bridges tailored to controlling one specific set of interfaces. This should be generalized by developing a translation between the IDLs and by developing the mitigating software components that manage the communication between these two software frameworks.

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