Title: "Hammer: Robot Programming Interface for Common People"

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Abstract

This video shows the main features of Hammer, a tablet-based end-user interface for industrial robot programming, in a real environment: a robotic cell created for the Hephestos European project. Hammer is an Android application that makes easier to program tasks for industrial robots like polishing, milling or grinding. It is based on the Scratch programming language, but specifically design and created for Android OS. It is a visual programming concept that allows non-skilled operators to create programs. The application allows to monitor the tasks while it is being executed by overlapping real time information through augmented reality. The application includes a teach pendant screen that can be customized according to the operator needs at every moment. The application is designed for online programming and reprogramming; easy use of learn-by-demonstration methods; easy connection with the robot control and sensors systems; and safety-system integration. It aims to be intuitive, easy to use, and simple. The application has four main parts: customized teach pendant, robot programming IDE and simulator, manual-guidance interface and augmented-reality-based-monitoring system.

Keywords: Industrial Robots; Human-Centered Robotics; Intelligent and Flexible Manufacturing

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