

Simulink Block Library for LEGO NXT

Abstract

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July 30, 2014

The goal of this work is to create a support for the LEGO NXT platform in Simulink development environment. Such support of the target platform already exists, but it suffers from several disadvantages. At first it is provided exclusively for Windows operating systems, and the implementation is closed, therefore neither extensible nor customizable. The main premise of this project is the support of Linux operating systems. The project is also opened to ensure the extensibility and customizability. The model-driven development of systems for the LEGO NXT platform using this project comprises the model testing in a simulation and code generation in Simulink environment by using its standard tools, and deployment of completed programs to target devices. The systems generated with the help of this project are categorized as real-time systems.