Chair for Integrated Systems
TUM Department of Electrical and Computer Engineering
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Forschungspraxis

Feature Improvements for an MPSoC Demonstrator System

Enabled by ever decreasing structure sizes, modern System on Chips (SoC) integrate a large amount of different processing elements, making them Multi-Processor System on Chips (MPSoC). These processing elements require a communication infrastructure to exchange data with each other and with shared resources such as memory and I/O ports. The limited scalability of bus-based solutions has led to a paradigm shift towards Network on Chips (NoC) which allow for multiple data streams between different nodes to be exchanged in parallel.
To demonstrate the abilities of a hybrid NoC with protection switching for critical traffic, an MPSoC demonstrator system was developed at LIS.

Goal:

The goal of this work is to implement and integrate various improvements to the existing demonstrator system—particularly the GUI and the software backend—in order to improve performance, stability, and enable new features.

Prerequisites

To successfully complete this project, you should already have the following skills and experiences:

- Good Python programming skills and knowledge in OOP
- At least basic Javascript programming skills
- Basic knowledge of embedded systems architecture
- Self-motivated and structured work style

Learning Objectives:

By completing this project, you will be able to:

- Comfortably develop applications on different layers of the software stack
- Adopt software to interface with and utilize hardware modules
- Document your work in form of a scientific report and a presentation

Advisors

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