PADERBORN UNIVERSITY

Computer Science Department
Computer Engineering Group
Prof. Dr. Marco Platzner

Master‘s Thesis

FreeRTOS on a MicroBlaze Soft-Core Processor with Hardware Accelerators

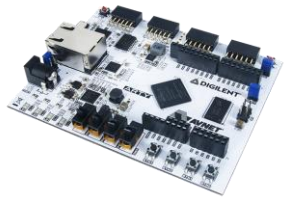
The goal of this thesis is to extend a pre-existing freeRTOS-based ReconOS implementation into a Hardware-Software-Codesign on a Xilinx FPGA platform. A MicroBlaze soft-processor is used for running the freeRTOS real-time OS. The additional use of the ReconOS system allows the management and migration of threads across the hardware-software boundary.
The result of this work should be a compact design that demonstrates a possible use case. The performance will be evaluated by categories as for example throughput, power or size.

Type of project

- Development of a system design on a Xilinx FPGA
- Implementing and evaluating a demo application

Prerequisites

- C / C++ for freeRTOS and ReconOS Software
- VHDL / C++ (HLS) for Hardware



freeRTOS

reconOS
Operating System for Reconfigurable Computing

Supervisor

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