

Open Thesis / Project: Driver Development for RTOS

Motivation & Summary

Real-time operating systems often use external peripherals (e.g., ADC, SD-cards). In order to enable proper usage within the OS, complex drivers and a driver management structure is necessary.

This proposed work aims at having a generic driver management system within MCSmartOS, supporting several different peripheral structures for a microcontroller (e.g. MSP430, RISC-V). The structure needs to support access via design patterns, mutual exclusion and resource sharing concepts.

Used System Structure

- MCSmartOS running on either:
 - MSP430 MCU or
 - RISC-V-based MCU

Thesis Type

- Bachelor's Thesis
- also scalable to:
- Master's Project
 - Master's Thesis

Student Target Groups

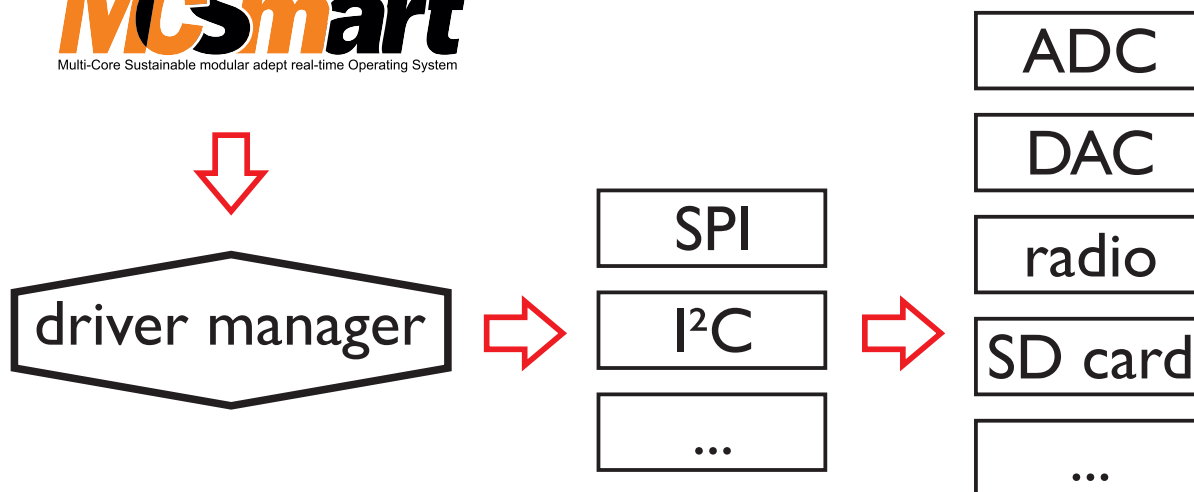
- Information and Computer Engineering (ICE)
- Electrical Engineering (EE)
- Computer Science (CS)

Goals and Tasks

- Design a generic driver management system
- Include drivers for several external peripherals

Recommended Prior Knowledge

- C/C++
- Real-time operating systems



Contact & Information

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