# Abstract

Nowadays, in the development of a car, many electronic control units (ECUs) and communication buses have to be interoperable. Designing such a system is a serious design challenge that has been addressed by various standards such as CAN and FlaxRay rails. One solution for this challenge is to create a software layer that supports application software portability, provides a modelling language for standard description of application software running on ECUs, and provides transparent communication between individual software components. The specification of these tasks was the purpose of the AUTOSAR consortium, which created the AUTOSAR standard.

The purpose of my thesis was to create an SPI handler/driver module that meets the requirements of the AUTOSAR architecture and can function in such a system.

In my thesis, I will first describe the concepts of the operation of the SPI interface and the functioning of the interface. I then present the general structure of the AUTOSAR-based system, which includes the SPI handler/driver moduls in detail.

In the rest of my paper, first I present the programming model of the microcontroller of my choice. After that, I present the implemented features based on the structure of the handler/driver I have created.