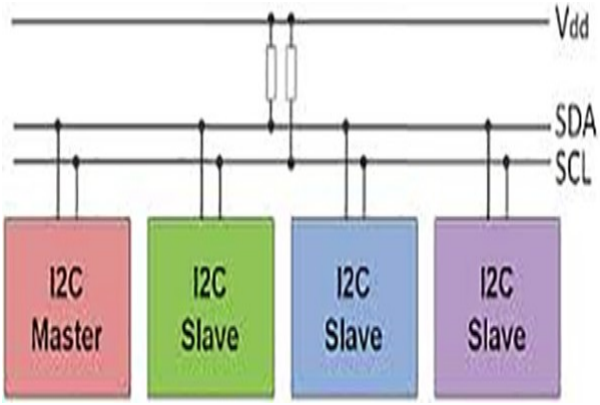
EMBEDDED PERIPHERALS I2C And SPI LINUX DEVICE DRIVER

PREREQUISITE : Character Device Driver and Beaglebone Porting

I2C Protocol and Beaglebone Platform specific I2C Device Driver

- I2C Protocol Overview
- I2C-Bus Configuration
- I2C Operating modes
- I2C Master Transmitter mode
- I2C Master Receiver mode
- START & STOP Conditions
- Decoding and Understanding the I2C registers for Beaglebone target platform

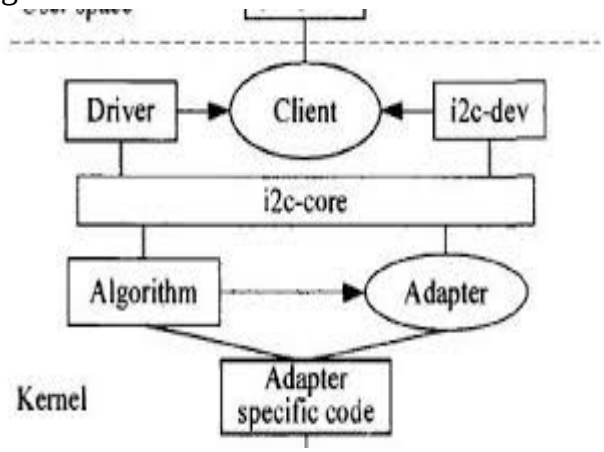


Hands-on Programming

- Writing a framework independent low level I2C driver
- Enhancing the low level I2C driver to interface with EEPROM

The Linux I2C subsystem and Linux I2C Framework

- Linux I2C Framework – I2C Adapter, Client and Algorithm
- Understanding the Interconnection between the different Framework components
- Understanding the Adapter and Client registration and probe flow
- Understanding and Decoding the I2C Serial EEPROM

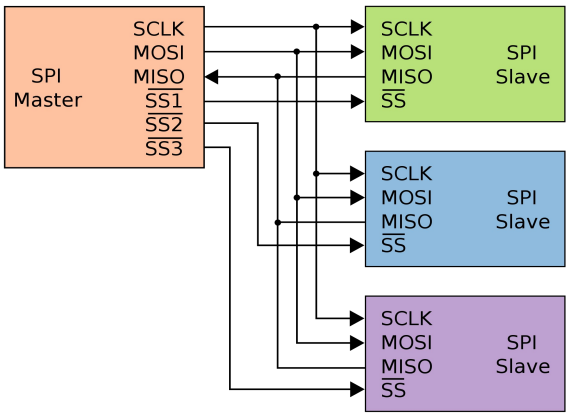


Hands-on Programming

- Writing a dummy I2C Adapter and Client driver
- Integrating the low level driver with I2C framework
- Integrating the Client and Adapter with Device tree framework
- Integrating the low level driver with I2C Framework using DTB
- Writing a I2C Client driver for peripherals such as EEPROM

SPI Protocol and Beaglebone Platform Specific SPI Devicce Driver

- SPI Protocol Overview
- SPI Data transfer format
- SPI Data to clock phase relationship
- SPI Master operation
- SPI Slave operation
- Understanding the SPI registers for Beaglebone target platform
- Understanding and Interfacing the SPI Serial to ADC Peripheral Device

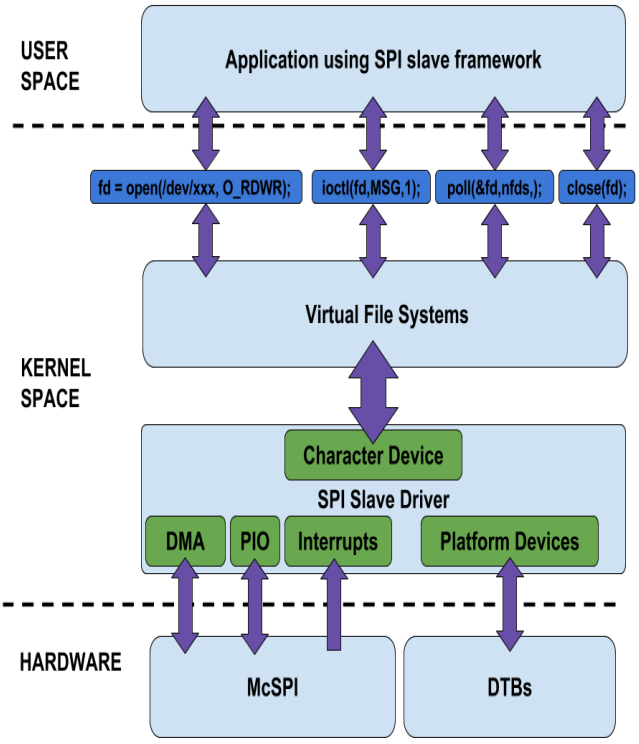


EMBEDDED PERIPHERALS I2C And SPI LINUX DEVICE DRIVER

PREREQUISITE : Character Device Driver and Beaglebone Porting

Linux SPI Framework and SPI Subsystem

- Understanding the Linux SPI Framework
- SPI Controller and Client Driver
- Understanding the Controller and Client driver registration and probe flow
- Understanding the data flow for SPI framework



Hands-on Programming

- Writing a dummy SPI Controller and Client driver
- Interfacing with the SPI based ADC
- Integrating the low level driver with I2C Framework using DTB
- Writing a Platform specific low level SPI driver
- Writing a dummy Controller and Client driver
- Integrating the low level driver with SPI Framework
- Interfacing with external peripheral ADC

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