

**“Weekend Workshop on Embedded Peripheral Interfacing Drivers”**  
**by Pradeep Tewani**

Day 1

+ **Session 1: Platform specific I<sup>2</sup>C Driver**

- I<sup>2</sup>C Protocol Overview
- Understanding the I<sup>2</sup>C registers for target platform
- Writing a framework independent low level I<sup>2</sup>C driver
- Enhancing the low level I<sup>2</sup>C driver to interface with EEPROM

+ **Session 2: Linux I<sup>2</sup>C Framework**

- Understanding the Linux I<sup>2</sup>C Framework – I<sup>2</sup>C Adapter, Client and Algorithm
- Understanding the Interconnection between the different Framework components
- Understanding the Adapter and Client registration and probe flow
- Writing a dummy I<sup>2</sup>C Adapter and Client driver
- Integrating the low level driver with I<sup>2</sup>C framework
- Integrating the Client and Adapter with Device tree framework
- Writing a I<sup>2</sup>C Client driver for peripherals such as EEPROM

Day 2

+ **Session 3: Platform Specific SPI Driver**

- SPI Protocol Overview
- Understanding the SPI registers for target platform
- Writing a framework independent low level SPI driver

+ **Session 4: Linux SPI Framework**

- 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
- Writing a dummy SPI Controller and Client driver
- Interfacing with the SPI based ADC

+ **Wrap Up**

- Conclusion
- What Next?

**Caution: All sessions are highly interactive & hands-on with Beagle Bone Black.**

## Hands-On Details

### + **I<sup>2</sup>C Driver**

- Writing a Platform specific low level I<sup>2</sup>C driver
- Enhancing the driver to interface with I<sup>2</sup>C EEPROM
- Writing a dummy Adapter and Client driver
- Integrating the low level driver with I<sup>2</sup>C Framework using DTB

### + **SPI Driver**

- *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*