"Weekend Workshop on Linux SPI & UART Drivers" by **Pradeep Tewani**

Day 1

+ Session 1: Platform Specific SPI Driver

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

+ Session 2: 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 Master & Client driver
- Interfacing with SPI based ADC
- Understanding the Linux DMA Engine
- Enhancing the driver to use the DMA

Day 2

+ Session 3: Platform Specific UART Driver

- UART Protocol Overview
- Understanding the UART registers for target platform
- Writing a framework independent low level UART Driver

+ Session 4: Linux TTY Framework

- Understanding the Linux TTY Framework
- Understanding the data flow for TTY Framework
- Registering the UART Driver with TTY Framework
- Writing a dummy UART driver
- Integrating the platform specific UART driver with TTY Framework

+ Wrap Up

- Conclusion
- What Next?

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

Hands-On Details

+ *SPI Drivers*

- Writing a platform specific low level SPI driver
- Writing a dummy controller and adapter driver
- Integrating the low level driver with SPI Framework
- Interfacing with external peripheral such as *ADC*
- Using the DMA for efficient data transfer

+ *UART Drivers*

- Writing a platform specific low level UART driver
- Writing a dummy UART driver
- Integrating the UART driver with TTY Framework