

“Weekend Workshop on Embedded C & Firmware Development” by Anil Pugalia

Day 1

+ **Session 1: Embedded C Development**

- BBB for Embedded C
- Cross Compilation
- Linker & its Tweaks

+ **Session 2: Hardware Programming**

- General Purpose I/Os
- Debug Interface over Serial
- Timer Management
- Interrupt Management

Day 2

+ **Session 3: External Interfacing**

- Hardware Protocols: I²C, ...
- Direct Register Programming

+ **Session 4: Firmware Development**

- Embedded Application Development
- Learnings to Application

+ **Wrap Up**

- Conclusion
- What Next?

Caution: All sessions are highly interactive & hands-on with hardware

Hands-On Details

+ **Embedded C Development**

- Setting up the embedded C development environment
- Compiling Embedded C programs
- Writing Linker Scripts
- Executing Embedded C programs

+ **Hardware Programming**

- Blinking LEDs
- Setting up the Serial Debug Interface
- Implementing a Timer Use Case
- Interrupt based Timer Implementation

+ **I²C Device Programming**

- Protocol & the Registers
- Accessing an I²C EEPROM

+ **Firmware Development**

- Design an Interactive Embedded App
- Implement the Interactive Embedded App