"Weekend Workshop on Linux USB Drivers" by **Anil Pugalia**

Day 1

+ *Session 1: Character Drivers Refresher*

- Quick Revision
- Registration & the Cleanups
- Linux Device Model & File Operations

+ *Session 2: The USB Framework*

- Types of USB Device Drivers
- USB Subsystem & Verticals
- USB Protocol & Device Layout
- USB Core & Hot Plug n Play
- USB Driver Registration & Cleanup
- USB Device Registration
- URB & its Functionalities
- USB Transfer Wrappers

Day 2

+ *Session 3: LDDK as a USB 2 Serial Device*

- Exchanging the Interrupt Messages
- Integrating with the Character vertical
- Blocking vs Non-Blocking System Calls

+ *Session 4: LDDK as a USB Memory Device*

- Programming the Control Endpoint Zero
- Exchanging the Interrupt Messages
- Understanding the maximum packet size

+ *Session 5: LDDK as a USB I/O Device*

- Programming the Control Endpoint Zero
- Getting down to the hardware of AVR uC

+ *Session 6: Wrap Up*

- Conclusion
- What Next?

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

Hands-On Details

+ *Recap of Character Drivers*

- Character Driver Template
- File operations Revision

+ *LDDK as a USB Device*

- Detection of a USB device
- Auto-probing of a USB device
- Controlling the PGM LED

+ *LDDK as a USB 2 Serial Device*

- USB data transfer through interrupt endpoints
- Playing with reads & writes

+ *LDDK as a USB Memory Device*

- Control operations for memory of LDDK
- USB data transfer through interrupt endpoints
- Taming the maximum packet size

+ *LDDK as a USB I/O Device*

- Control operations for I/O of LDDK
- I/O Extensions to the PC