

DEPARTMENT of ELECTRONICS and COMMUNICATION

Workshop on Pre and Post Silicon Bring up and System

Workshop Date: 28th May 2025 Training Duration: 1 Day (10 AM – 5 PM) Workshop Topic: Workshop on Pre and Post Silicon Bring up and System Validation Emulation. Number of participants: 45 Trainer: Mr. Mahesh M Devanagiri

Summary of the One-Day Workshop

Pre and Post Silicon Bring up and System Validation Emulation

Tools and Frameworks Covered

Workshop Exposure

- Core ARM and x86 Architecture
- Buses Amba AXI, AHB and APB
- Languages Embedded C, ARM Assembly, and Cross Compilation and Makefile creation
- Bootloaders uBoot, Grub and BIOS
- OS Linux, Android and vxWorks
- Peripheral Protocols
 - Low Speed UART, GPIO, I2C, SPI, and CAN
 - High Speed USB, Ethernet, PCIe and DDR
- Debuggers JTAG, TAP, GDB, Trace32
- Bare Metal Linux Device Driver Development Exposure
- FPGA Emulation Environment Exposure



- Pre and Post Silicon Validation Exposure
- Board Bring-ups, Board Diagnostic, POST (Power On Self Test), BIST (Built In Self Test) Exposure
- Hands on development experience with
 - Device Driver Development for low speed peripherals UART, GPIO, I2C, SPI
 - Tests creation using Embedded C, ARM Assembly, and Cross Compilation and make filé creation.
 - SoC Regression Scripts development using TLC, python, and Perl scripts.
 - Device Driver Development for Storage Protocols NOR/NAND Flash controller for SDCard and eMMC flash memory.
- Bootloaders Porting uBoot loader for FPGA boards Refer below link.
- Linux Internals Exposure in Linux commands like gvim, gvimdiff, etc.
- Hands-on experience using GDB JTAG interface, debugging code, putting break-point, and mem/register dump.
- Pre Silicon Validation and Exposure FPGA setup with GDB debugger.
- Post Silicon Validation and Exposure BSP Kit with GDB debugger.
- Q & A Session.



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NEW HORIZON

Department of Electronics and Communication Engineering

Workshop

Pre and Post Silicon Bring-up, and System Validation Emulation Flow

- 📅 28th May 2025
- 10:00 AM 1:00 PM
- 4th Semester Students
- 2 C 103

Faculty Coordinator

Mr. T V S Adinarayana Senior Assistant Professor - ECE Convenor Dr. Aravinda K Professor and HoD - ECE Mr. Mahesh M Devagiri Director and Co-Founder Nyxess India Pvt. Ltd.











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Conclusion and Gratitude

Over the course of a one-day workshop, participants gained valuable insights into System-on-Chip (SoC), validation, and emulation. Through interactive demonstrations, attendees developed hands-on experience in emulation techniques. The workshop effectively equipped them with essential skills and knowledge for application in the VLSI domain, paving the way for future innovation and exploration. Mr. Mahesh M Devanagiri expressed heartfelt gratitude to New Horizon College for facilitating the successful event. The Head of Department, Dr. Aravinda K, gathered student feedback and also felicitated the resource person in appreciation of their contribution.

Faculty Coordinator

HoD

