



Gyana Ranjan Barik

Embedded Firmware Developer

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📍 Hyderabad

Career Objective

To work in a firm with a professional work driven environment where I can utilize and apply my knowledge, skills which would enable me as a fresh graduate to grow while fulfilling organizational goals.

Experience Summary

03/2023 – Present

Hyderabad

Embedded software Developer

Mempage Technologies Pvt Ltd

Education Qualifications

2018

B.Tech

Biju Patnaik University of technology

Skills Set

Language

C, Embedded C

Tools

Iperf, GCC, GDB, Make file, Keil, putty, tera term, Wireshark, GIT, JIRA, GitHub.

Protocols

I2C, SPI, UART, CAN, IPC, Socket Programming (TCP/IP)

OS

Windows, Linux Internals (Process management, Multi-Threading, Thread synchronization (Mutex and Semaphore),

Hardware

Microcontroller 8051, 8052, 8086. GV7011.

Project Details

Home Plug Green PHY Power Line Communication

Home Plug Green PHY technology is a communication standard used for power line communication (PLC).

Roles & Responsibilities:

- Designing and implementing firmware to control and manage power line communication within the devices using C language.

- Test individual firmware components such as timers, interrupts, SPI, UART, and ISR to ensure they function correctly.
- Flash the firmware image to GV MCU to check the working functionality of MCU peripherals and resolve the code bugs with debugging techniques using Keil uVision and print the data on serial terminal (putty & TeraTerm) using UART communication.
- Conduct end-to-end testing to verify the entire system's performance and behaviour under various conditions.

Smart Street Lighting System

Develop software for embedded systems, considering constraints like limited resources (memory, processing power). A smart street lighting system with GSM/GPRS connectivity allows for cloud-based control and monitoring of street lights.

Roles & Responsibilities:

- Develop the Firmware device drivers and configurations for GSM/GPRS modules and other relevant components.
- Developed the UART Peripheral device drivers for ARM Cortex to facilitate seamless communication with the GSM/GPRS module and HPI. energy meter.
- Enabling communication between the cloud and the SSL system to transmit electrical parameters, such as amps and kWh, from the HPI. energy meter to the cloud for energy- saving analysis and to control lights by timing/cloud.
- Implemented various operational modes, including scheduled on/off, cloud-based control, and high/low voltage safety tripping, to ensure continuous reliable performance and energy- saving. Executed shell scripting to support these modes and optimize system efficiency.

★ Professional Snapshot

-3 years of experience in Software development using C programming language.

- Working experience on microcontroller peripherals like GPIO, ADC, DAC, UART, SPI, I2C and understanding how to manage interrupts effectively.
- Knowledge on V model and agile methodology.
- Develop robust unit test frameworks tailored to the specific requirements of dGPU and APU products.
- Expertise in debugging the issues and finding the root cause.
- Experience on Operating System Internals-Task creation, task scheduling, inter task synchronization and multi-tasking/threading on Linux
- Having knowledge to prepare documents like HLD, test case, release note.
- Domain specific knowledge: Wireless (Wi-Fi and Bluetooth), Networking and Embedded systems.

★ Trainings & Certifications

2014 – 2015 Bhubaneswar	Advance Diploma in Machine Maintenance and Automation from CTTC (Central ToolRoom Training Centre)
01/2019 – 01/2020 Bangalore	Advanced Embedded Training course from Vector India Pvt Ltd