Harishgoud B

E-mail:- harishgoudbollapelly@gmail.com
Mobile No: -7382382258

Professional Summary

- Having around 6 years of experience in Embedded firmware Development and BIOS/UEFI.
- Experience on ARM 32-bit Microcontrollers.
- Experience in IoT connectivity.
- Experience on interfacing Modbus devices.
- Experience in on-chip connectivity/interfacing SPI, I2C and UART.
- Experience in connectivity/interfacing different kinds of modules like Wi-Fi, Ethernet, Sensors, BLE, GPS, GPRS.
- Experience in WHLK and RAS, IP Enablement, IIO Verification and validation.
- Experience on SCADA setup and DNP3 protocol.
- Good knowledge on development boards like Beaglebone black. Raspberry Pi3, Matrix, Arduino mega/uno, dsPicDem 2, NRF52Dk, STM32F4.
- Good knowledge on Zephyr (RTOS) Operating System.
- Good understanding over Linux Internals.
- Good debugging skills (GDB & KGDB).
- Knowledge on Flask, sqlite3 and HTML pages.

Professional Experience

- Worked for *Burndy Technology & Global Business Services Private* as a Senior Engineer II from *July-2023* to *January 2024*.
- Worked for *American Megatrends International India Private Limited* as a Senior System software engineer from *July-2021* to *April 2023*.
- Worked for *SemiConsoul Technologies Pvt Ltd* as a Firmware Engineer from *Nov-2016* to *July-2020*.

Skill Set

Languages	: C, C++, Embedded c, Python scripts.
Protocols	: UART, I2C, SPI, Modbus (RS232, RS485), MQTT,DNP3, TCP & UDP,PCIE.
Operating Systems	: Linux and Windows, Zephyr.
Tools	: GNU toolchain, Yocto.
Other tools	: Arduino IDE, Eclipse, Vim, Visual Studio code.
Environment	: Simics, PythonSV,Cscript and Sim-cloud
Version control tools	: GIT

Qualification

- Bachelor of Technology (B. Tech) | ECE |JNTU Hyderabad University |68.25% | 2014

Projects

Project #7 FTU
Skills: - C.
Description: -

The FTU is a purpose-built RTU specifically designed for the FlexMo motor operator. It facilitates the transmission of all available data to a SCADA Control station. Using the DNP3 protocol, it communicates with the SCADA system and translates commands into FlexMo motor operator instructions to send and retrieve data from the FlexMo controller.

Responsibilities: -
- identified the MAC update issue in FTU and fixed it.
- Implemented stm32f4 custom bootloader.
- Worked on SCADA Setup and DNP3 protocols verification.

Project #6 GLK-ILK

Skills: - C.
Description: -

Gemini Lake (GLK) is the name of the core for Intel's generation of system on chip serving as a successor to Apollo Lake. These low-power chips primarily targeted towards entry level embedded devices, low-cost laptops and desktops, and all-in-one PCs as well as IoTs. Gemini Lake chips are manufactured on a 14 nm process and are based on the Goldmont Plus microarchitecture.

Responsibilities: -
- Bug fixes, code changes as per the customer Requirement in Secure boot.
- Worked on Coverity issues and resolved the build errors of porting changes.
- Worked on USB3.0 Porting and mapping.
- Verified and Validated WHLK test cases.

Project #5 GNRD and GRR Emulation.

Skills: - C, Python.
Environment: -Simics

Description: -

These are the Intel Server platforms. Mainly I was worked on Emulation activates on Simics. Simics is used extensively for presilicon and postsilicon software development, testing, and system integration at Intel and by Intel's Customers and partners.

Responsibilities: -
- Created NVME's in Simics scripts and validated PCIE ports and bifurcation.
- Worked UBIOS Generation, execution and debugging.
- Worked RAS validations like, DIMM's, Patrols Scrub, eDPC, Full/Partial mirroring, PICE/Memory Error injection
- IP enablement and validation -> CPM, HQM, TIP, NTB, VMD, CXL
- Validated above functionalities with CScript and PythonSv in Windows and Simcloud.

Project #4 COUNT DOWN/UP DISPLAY

Skills: - C.
Environment: -Zephyr RTOS

Description: -

A count up/down timer generates a sequence of backward and then upward counting to indicate the time remaining before an event is scheduled to occur. Here our system continuously displays the remaining time to launch a satellite. Start, stop and setting are the three modes provided to this system.

Responsibilities: -
- o Implemented ENC424J600 Driver code in the Zephyr Environment on the top of nrf52.
- o Worked on multicast Coding and Tested the system With Robot Framework.
- o Fixed some Bugs in the zephyr Os Ethernet stack.
- o Included UDP protocol in application level to broadcast messages.

Project #3 SPIGWAY

Skills: - C, C++,LDD
T
Environment: -Linux & yocto

Description: -

SPIGWay is an IOT Gateway which acts as an interfacing bridge between the BLE based tags and the cloud. It collects the data from the BLE devices and processes the data to the possible extent and sends it to the cloud platform. It is equipped with environmental sensors to monitor the environmental aspects of the remote location where it is installed.

Responsibilities: -
- o Worked on implementing the serialization between Nordic Nrf52 and Am3358 using BLE drivers.
- o Worked on GPIO drivers for receive switch interrupts and update the emergency indication to other central devices.
- o Changed few pins configuration in device tree.
- o Developed centralization code part in Linux Environment and implemented multithreads, SocketFd IPC mechanism, synchronization locks,Automation scripts and SSH tunnelling.
- o Resolved the booting issues of the SPIGway board and Worked on Image flashing on to AM3358.
- o Worked on the Sensor part and Tested sensors in different conditions.
- o Created CI pipeline for YOCTO build.

Project #2 Energy Management System-RS485 & RS232

Target Chipset: - ATMEGA2560, ESP8266
Skills: - Embedded C.
Description: -

Static Energy management System is a system to operate electric utilities, to monitor, control and optimize the performance of electrical meters. This device collects data from energy meters and updates it to the cloud, where energy consumption is monitored.

Responsibilities: -
- o Interfacing peripheral UART, SPI and GPIOs.
- o Integrating functions for storing the data into EEPROM Memory.
- o Worked on AT commands to push data through GPRS to cloud.,
- o Implemented Modbus and MQTT related parts of the software.
- o Worked on Esp, Ethernet shield and GSM module to connect to the network.

Project #1   NTP Server & NTP Client

Target Chipset: - AM3358/9 & ATMEGA2560
Skills: - Embedded C, HTML, flask(python).
Environment: -Linux

Description: -

     Network Time Protocol (NTP) is a protocol used to synchronize computer clock times in a network. It belongs to and is one of the oldest parts of the TCP/IP protocol suite. This project is mainly to provide accurate time, location and direction of a server. This server acts as a stratum 1 time server. Captures GPS data, applies the algorithm and syncs up with RTC and system time. For Every request from the client, it receives and validates the time stamps and provides the accurate timestamps of the system.

Responsibilities: -

- o Syncs the system clock and RTC from GPS with 1 PPS.
- o Interfacing peripheral for UART to communicate with GPS and I2C to get magnetic sensor data.
- o Created HTML page for Configuration and display of data on UI. Implemented Command line interface and through ethernet configuration protocols.
- o Added code functionality on NTP-client for seven segments to display day of the year, hour, minutes, seconds.

Personal Data:

Father Name	:	Dasha goud B
Date of Birth	:	08-01-1993
Address	:	Nizamabad, Telangana.

Declaration:
     I hereby declare that the above-mentioned details are true to the best of my knowledge and belief.

Place:
Date: Harish goud B.