

Vamshi Bondala



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PROFESSIONAL SYNOPSIS:

- Hands-on experience in embedded linux porting on AM3358 processor made of ARM cortex A8 architecture.
- Hands-on experience in embedded linux device driver development.
- Good understanding of GPIO, I2C framework in kernel space.
- Hands-on experience in board brings up activities and Board support package in u-boot source code and Device tree source.
- Having debugging experience with GDB, KDB, KGDB, strace & Crash-dump analysis.
- Good experience in implementation of embedded device driver test cases using APIs.
- Hands-on experience on source code version control tool Git.
- Having good exposure to C programming, Shell scripting and python.
- Build custom image using yocto project on Data Acquisition System

SKILLSET:

- Programming languages : C, Embedded C, Shell Scripting, Python.
- Operating systems: Linux.
- Debugging Techniques: GDB, KDB, KGDB
- SOC: AM335X.
- Communication Protocols: I2C, UART.

QUALIFICATION:

- B.Tech in Electronics & Communication Engineering. in **Vaageswari college of engineering** (2014-2018)

EXPERIENCE:

- From Dec, 2022 to Aug, 2023 completed the internship as Embedded Software Engineer in Kernel Masters
- From March, 2021 to Dec, 2022 worked as Software Developer in Cognine Technologies

PROJECTS

Project 1 Main Control Panel Validation

H/W: TISitara (AM3358), Accelerometer, Temperature sensor, RTC, EEPROM, GPIO s/w.

Platform : Linux.

Build System: GCC ARM cross compiler, GNU Make file.

Description:

Main control panel is advanced version of gateway to monitoring device parameters and send to cloud server. Implemented automatic scripts for main panel to setup build environment. Debug main control panel issues daily basis.

Responsibilities:

- To interface RTC timer & collect data.
- Enable Mux configuration for GPIO in boot-loader source & testing via /sys/class entry.
- Enable I2C communication between SOC & peripherals in Kernel source.

Project 2 : GATEWAY - RTC Tester API for Application level usage

H/W: TISitara (AM3358), Accelerometer, Temperature sensor, RTC, EEPROM, GPIO s/w.

Platform: Linux

Languages and Tools : C, Makefile, gcc, ctags

Description:

We have designed and developed an API that works as an interface between the application and the Real-time Clock (RTC) Driver. The application programmer can easily use this API and implement a testing application, using the documentation, to test the various functionalities like: Read/ modify RTC time

Responsibilities:

- RTC Test cases implemented using python.
- Development of the RTC Driver API.
- Documentation of every functionality of the API, so that the Application Programmer can easily understand and use it.

Project 3: Data Acquisition System for Pharmaceutical

A temperature data logger, also known as the temperature monitor is an instrument that autonomously records the temperature over a definite period of time. It automatically collects, monitors, and stores the information so that it can be reported on a later date. Knowledge of temperature course during a certain time is needed in scientific, medical and industrial applications.

The proposed design implemented system consists of a LM35 Temperate sensor, DS1307 (RTC), AT2407 EEPROM that can be operated by the AM3358 SoC. Sensors along with EEPROM and RTC have been successfully interfaced to the microcontroller. So that EEPROM is successfully storing the logged data with the time and date tag. The sensor data has been displayed on monochrome 16x2 LCD display.

Roles & Responsibilities:

- Aim of project is to interface the peripherals with AM3358 SOC.
- Application of the project is when switch is pressed it takes inputs from Accelerometer, Temperature sensor & time stamp from RTC and to write them to EEPROM.