Douglas Nappier

McKinney, TX
-Email me on Indeed: http://www.indeed.com/r/Douglas-Nappier/ab6204b09b726512

Firmware developer with experience in low-level embedded programming in multiple languages including C/C++ with a heavy emphasis in development for ARM processors. Previous project work includes software development for the automotive, health care,
IoT and music industries, including multiple consumer products. Experienced in the implementation of embedded Linux, embedded
Android and Linux device drivers, the Yocto Project, and skilled in Python development.

Work Experience

Line 6, Embedded Systems Engineer

Go Wireless
August 2017 to Present

● Leading the embedded linux distro management in The Yocto Project for the new platform based on the I.MX8M plus.
● Performed hardware bringup on the embedded linux platform for the new platform including custom DSPs, mipi display ICs, and touchscreen IC kernel drivers.
● Implemented a hardware virtualization layer to expedite application development on a desktop environment
● Implemented the updater for updating applications or whole partitions
● Led the firmware team to bring Pod Go and Pod Go Wireless to market on the LPC4350 Arm M4
● Architected the USB APIs for the M4 to allow for the secure transfer and storage of customer purchased assets
● Implemented cross platform support for the DSP APIs
● Developed Manufacturing test suite for boards coming off of assembly line.

Firmware Engineer

Ilumi Solutions
February 2016 to August 2017

● Developed a Wifi to BLE Mesh gateway using OpenWRT embedded Linux on a Qualcom 4531 chipset
● Wrote the protocol to increase the mesh size from 50 individual devices in a mesh to 250 devices per gateway.
● Built a BLE API for a digitally addressable LED strip to build out custom effects
● Added trace hop and mutli-hop acknowledgments to our connection based BLE mesh
● Developed a Python library to allow ilumi smart bulb owners to control their bulbs from a Raspberry Pi
● Led the firmware team to the completion of the new generation of smart bulbs, digital led strip, and mesh gateway

Embedded Systems Engineer

Paragon Innovations
May 2012 to February 2016

● Engineered a touchscreen driver for the Linux kernel running in an Android system

● Implemented a bootloader to handle booting from multiple memory locations on an ARM M4
● Integrated Android into custom hardware for the I.MX6 with custom hardware for RFID, Barcode, and various other forms of input. Involved Linux kernel drivers through extending the Android API
● Embedded firmware development for various OBD-II automotive protocols including J1979 and CAN bus to be relayed to vehicles via TCP/IP on FreeRTOS
● Implemented CAN and UART interfaces for a FPGA with VHDL

Education

Bachelor of Science in Electronics Engineering Technology
Texas A&M University, Dwight Look College of Engineering