

RAJALINGAM SRINIVASAN

Contact

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Profile

Rajalینگam S with 2 years of experience in C, basics of Bluetooth Classic, WLAN and BSP for Linux Based Systems.

Skills

- Experience in using Linux tools and command Line.
- Experience in C Programming.
- Experience in Linux System Programming & Inter Process Communication.
- Knowledge in Network Socket Programming.
- Knowledge in usage of CheckPatch static analysis tool.
- Experience in OpenWrt based OS.
- Experience in Makefile & Linux Shell Script.
- Experience in using Git and Gitlab.
- Knowledge in Networking.
- Knowledge in Embedded Protocols such as SPI, I2C, UART & CAN/CAN-FD.

Experience

Embedded Software Engineer

Zilogic Systems Pvt.Ltd., Chennai, India

June 2023 - May 2023 Present

PrplOS

PrplOS is an open source carrier-grade operating system for router. It's maintained by a prpl foundation community. It standardize intra device communication with a common API and data model. This project involves study and understand the PrplOs and integrated it into Qualcomm Development Boards such as RDP433, RDP441 & Marina.

Developed & Integrated:

- Developed and integrated br-lan helper program by using ambiorix framework.
- Integrated CBS package for wifi.

Analysed & Bug Fixed:

Analysed and bug fixed in PWHM, Firewall, DHCPv4 and Usermanagement.

Configured and validated:

- TR181 & TR069 device data models
- Webui
- Multicasting
- PPPOE
- CBS Features
- nl80211-wifi stats

Documentation works:

- L0 Testing Document for Auto Configuration Server(ACS)/TR069.
- L0 Testing Document for WebUI.

Knowledge Occured:

- Knowledge in Ambiorix Framework & OpenWrt Makefiles.
- Knowledge in WiFi configuration files such as hostapd & wpa-supPLICANT.
- Knowledge in Booting Process.

OpenWiFi

OpenWiFi is an open source enterprise-grade operating system for router it comes under OpenLAN project. It maintained by Telecom Infra Project(TIP) Community. It also includes cloud controller SDK.

Integraged:

- Add support for QCA based wifi chipset called QCN9274.
- Integraded WiFi firmware & regulatory database.

Analysed & Bug Fixed:

- Analysed and bug fixed in MAC80211 script & kernel configuration file then bring up WiFi.

Configured & Validated:

- On-Boarded device and cloud for config device specific parameters through cloud.

- Configured and analysed device specific parameters through cloud controller.

Knowledge Occured:

- Knowledge in Ucentral Management System.
- Knowledge in certificate based authentication.

Bluetooth Testing Tools

The purpose of the tool is to test various infotainment profiles like PBAP and HFP without having to use a mobile phone. The tool is based on ESP32 running the Bluedroid bluetooth stack. The ESP32 will be loaded with various firmware files each containing a Bluetooth profile implementation, that can be controlled through the serial port.

Designed and tested a Raspberry Pi-based infotainment system running Android 15 OS with Bluetooth profile support HFP and PBAP using the Linux BlueZ stack. Configured a Linux PC as a Bluetooth server to simulate hands-free calling (HFP) and contact synchronization (PBAP).

- Study of Bluetooth.
- Study of PBAP and HFP profiles.
- Firmware prototyping and testing with infotainment system.
- Bluetooth log analysis using Wireshark

Skill Improvement Training

- Knowledge in Linux shell command basics.
- Knowledge in Git command-line usage.
- Knowledge in usage of Emacs text editor.
- Understanding the basic concept of C and practiced it while developing the games like Tic-Tac-Toe, Hangman, Master Mind, Guess The Number and Arithmetic Quiz.
- Understanding the concept of stack and developed a Basic Calculator.
- Understanding the concept of IPC and developed a tiny shell and systeminfo daemon using C with Linux System Programming.

Education

Erode Sengunthar Engineering College, Perundurai.

Completed Bachelor of Computer Science Engineering in March 2023, with 7.82 CGPA.

C P Vidya Mandir Matriculation Higher Secondary School, Kumbakonam.

Completed HSC in March 2019, with 59.17%

C P Vidya Mandir Matriculation Higher Secondary School, Kumbakonam.

Completed SSLC in March 2017, with 86.8%