曾琪騰 Chi Teng Tseng

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I'm Chi-Teng, with a decade of experience in embedded systems development, focusing on protocol and functional feature implementation. In the past two years, I worked independently as a tech lead and have worked for product software release and have provided technical mentorship for PLC networking and SoC software. I'm passionate and have strong knowledge of the SDK (software development kit) of SoC, concept behind compiler toolchain and building scripts/tools to users.

Experience

Senior Software Engineer   **Feb 2016 – Apr 2023**

Vango Technologies, Inc.

- **G3PLC**, *Tech lead*. G3-PLC (Power Line Communication) and G3-hybird (PLC + sub-Ghz radio) are specifically designed to meet the growing communication demands of smart grids and IoT applications.
  - Participated the implementation of a protocol stack form scratch.
  - Designed and implemented the function and flow of remote firmware upgrade.
  - Designed and implemented a range of commands on SoC for debugging, remote control and host monitoring. Additionally, I used these commands along with a embedded linux to build a web GUI utilities to users and FAEs. (Glib + C HTTPd + SQLite + Apache).
  - Developed a series of packet manipulation tools (including parsing, crafting, replaying and analyzing) using Scapy.
  - Implemented several strategies drawn from research publications and brainstorming sessions with colleagues to enhance routing performance during field trials and actual deployments. A typical power meter network is typical 300-500 nodes and 3-5 levels.
  - Participated the design and maintenance of the software development kit.
  - Streamlined the workflow, introducing gitlab service and docker build.
  - Successfully implemented the latest release of G3PLC and obtained the certification.

Software Engineer   **Sep 2012 – Sep 2015**

HON HAI PRECISION IND Co., Ltd.

- **Wireless access point ODM**
  - Features implemented and maintained the GUI and firmware of Home Gateway, WiFi AccessPoint/Extender on Linux platforms.
  - Maintained features: IPv4/IPv6 dual stack QoS, NAT, Firewall, TR069, SNMP to enable remote management, DLNA to enable sharing of digital media between cameras, printers, and storages.
  - Supported certification acquiring on ODM products, including IPv6 Ready Logo, Wi-Fi CERTIFIED , Dynamic Frequency Selection Testing & Certification (FCC/CE/JP), DLNA Certification.
- US&TW Patent: Electronic device and method for establishing wireless connection (US-10154033B2, TWI606739B)

Skills

Linux programing (network, device driver, makefile…)	**Good**
Constraint devices programing (bootloader, baremetal, FreeRTOS…)	**Good**
Mesh/share media network (G.9903, 802.15.4, 802.11, ofdm, NS3…)	**Good**
Software engineering (API design, SDK design, Toolchain, OOP…)	**Decent**
UI design/Web (RESTful API, Ajax, html/css/java script…)	**Satisfactory**
Documentation (markdown, MS word…)	**Satisfactory**
DevOps (docker, gitlab runner, buildbot…)	**Satisfactory**
	(Quality)

Term-Time Experience

- Pitch Recognition And Singer Rating
  - Implementing different pitch recognition methods and assigned scores based on the built-in statistical methods.
- High Dynamic Ranger Imaging
  - This is a final project of digital image processing. I implement the method proposed by Debevec to generate HDRI and experimented with various tone mapping techniques.

- Analyzed Networking Of First Person Shooter Game
  - This is a project based on Queke Engine which is open source. It focused on discussing the pros and cons of different multiplayer mode techniques and analyzing server side.
- Video Stabilization System On Driving Recorder
  - Utilized various video stabilization techniques, including global motion compensation, morphing, and the Hough Transform.

Education

NATIONAL CENTRAL UNIVERSITY | *Taiwan*   **Sep 2006 – Jun 2012**
- B.S. and M.S. in Department of Communication Engineering
- Master Thesis: Inter Frame Transcoding for H.264 to HEVC
- Research Area: Video/Image compression, Digital Image Processing