

Stephan Hennion

Senior Software Engineer with leadership, development and architecture experience across the entire modern stack, currently leading a team focused on development in the Embedded Linux space

Cell: 570-216-2143
resume@stephanj.com
www.stephanj.com
sjhennion.github.io

SKILLS:

Current Languages: C++ 17, Python, bash, GDScript, Swift, Obj-C, C, Java, PostgreSQL

Frameworks/APIs: CATCH C++ Test Library, iOS SDK, Godot, MicroPython

Hardware: SAMA5, Telit LE910CX, JTAG, Nordic nRF52, Raspberry Pi Zero, Arduino

Platforms/Tools: Mac OSX, Linux, Windows, CLI, git, Buildroot, VSCode, Xcode, VIM, Godot, Blender, KiCad, Jira, Splunk, Dynatrace, AT/Hayes, Google Cloud Platform (GCP), Harness

WORK EXPERIENCE:

ADT

Firmware Team Lead
(October 2023 – Present)

- Ownership of team responsible for continued firmware development on primary gateway product currently installed in ~50k homes nationwide, with current growth rates at 1k+ units installed per day
- Negotiate with broader engineering and product organizations around feature enhancement and maintenance priorities
- Consult with hardware engineering team and outside firms on future product development, including but not limited to component and SDK selection and first stage evaluation board testing
- Oversee application development, as well as continued work on Buildroot driven Linux kernel customization, and CI/CD release infrastructure pipelines split between GCP and Harness
- Maintain greater than 99.7% firmware update success on quarterly release schedule
- Continuously reduce installed cellular data usage via software enhancements, correcting issues with units in the field, and directing customer outreach after identifying in-home WiFi issues, with current overall cost reduction over \$30k per month
- Continue responsibilities as an Individual Contributor, primarily on Network Connection/Cellular components, as well as investigating issues with hardware in the field

Senior Firmware Engineer
(June 2020 – Present)

- Second member of team working on a clean sheet Embedded Linux application for a Home Security Gateway, with deep involvement in overall development and architectural decisions around management of external low power radio devices, redundant connections, low power operation, and other various embedded deployment concerns
- Responsible for integration of Telit LE910C1 module with new mainboard, including but not limited to initial EVB testing, design and implementation of C++ management application, overseeing third party communication and progress, as well as technical aspects of the telecomm certification processes
- Debugged hardware in the field with a mix of bash and Python scripting, custom tooling for analysis on hardware, as well as cross referencing back end logging in Splunk and Dynatrace
- Grew fully remote team to over 15 engineers across four product teams, reviewing resumes and video screenings, performing dozens of interviews annually, mentoring and onboarding

new recruits, as well as constantly working on documentation and integration processes
- Focused on nearly 100% test coverage via an extensive suite of unit and integration test cases

Senior iOS Developer (May 2019 – June 2020) - Rewrote legacy components in pursuit of Obj-C to Swift conversion, as well as phasing out of deprecated or unsupported libraries

- Developed internal AutoLayout based library for efficient integration of app facelift, leveraged by entire iOS team

- Integrated primary iOS app with third party BLE hardware, including reverse engineering of undocumented data packet and service/characteristic profile, as well as developing internal tooling for stress testing the hardware and assisting other teams with their BLE integration and debugging

Saucon Technologies
Senior Software Engineer

(March 2011 – May 2019)

- Solo developed and maintained extensive iOS app portfolio, with apps supporting real-time transportation schedule mapping, onboard video, and proprietary hardware integration via BLE

- Back-end enhancement and support in a stack utilizing Java Spring, PostgreSQL, and MQTT via RabbitMQ

- Firmware development in C on custom hardware utilizing Nordic nRF5* series SoCs

INDEPENDENT PROJECTS:

- Designed, implemented, and released *Chromovis*, a puzzle game for the iOS

- Designed an LED control board that integrates a Raspberry Pi Zero and PCA9865 Servo Controller in KiCad, for use in a bespoke arcade game setup

- Experimentation with Arduino and MIDI control of instruments, including modular synthesizer panels built out of discrete components

- Experience with Godot, Blender, and the broader game development pipeline

RESEARCH:

Akshaye Dhawan, Neal Shukla, Cassandra Chapman, Stephan Hennion, “*Fault-Tolerant Clustering in Dense Wireless Sensor Networks*”, In 2nd International Workshop on Advances in Networking and Computing (**WANC'11**), Osaka, Japan, November 2011

EDUCATION:

Syracuse University,
M.S. in Computer Science Dec 2020
3.9 GPA

Ursinus College,
B.S. in Computer Science and Mathematics May 2010