Embedded Linux Platform Engineer – IoT / Smart Hub

The company is developing its own **Linux-based platform for smart hubs and IoT devices SMHUB-OS** - an example of device running that platform is here:

https://smlight.tech/global/smhub.
The system combines an embedded Linux core, backend services, and a web interface (frontend), providing centralized management of device networks, network configuration, radio modules, and integrations.
The architecture supports **network stacks (Ethernet, Wi-Fi, 4G/LTE), OTA updates, and app installations** (such as Node-RED, Zigbee2MQTT, etc.), as well as work with **peripheral modules** (IR transmitter and receiver, audio subsystem, buzzer, addressable LED strips, SD card, USB, UART/I2C buses, and others) and in future - cloud sync/control system.

We are looking for an **engineer** to participate in the **development and maintenance of the SMHUB-OS core system, backend logic, and integration with the frontend (React/WebSocket).**

What will you do

- Develop and maintain a **Linux platform for embedded devices (RISC-V SoC)**
- Integrate system modules (**Ethernet, Wi-Fi, 4G/LTE, radio modules, GPIO, USB, Wi-Fi, IR transmitter/receiver, UART, I2C**, etc.)
- Configure **U-Boot, rootfs**, and partition logic (**RAUC, read-only rootfs, user data**)
- Develop **backend services (Python / FastAPI, possibly C/C++)** for managing configuration, telemetry, and device status
- Integrate system services (**NetworkManager, ModemManager, WireGuard, systemd, MQTT**)
- Interact with the **frontend via WebSocket JSON API** (a dedicated frontend engineer works on this part)
- Build a **secure architecture** with privilege separation between the web interface and system services
- Implement and maintain **OTA update and system recovery mechanisms**
- Debug **drivers, startup scripts, and interfaces (UART, I²C, SPI, USB)**
- Prepare **technical documentation** and participate in system architecture design

Technologies used

- **Linux kernel, U-Boot**
- **Python (FastAPI), Bash, systemd**
- **SQLite / JSON** for configurations
- **RAUC / OTA updates**
- Collaboration with **ReactJS frontend**
- Additional experience with **Zigbee2MQTT, Node-RED, Matterbridge, Z-WaveJS** is a plus

Requirements

- Experience with **Embedded Linux / SBC (Single Board Computers, RISC-V architecture preferrable)**
- Understanding of **Linux kernel, drivers, bootloaders, and device tree**
- Experience building **backend services (FastAPI)**
- Knowledge of **network stacks** (Ethernet, Wi-Fi, LTE, VPN)
- Ability to analyze **system logs** (dmesg, journalctl, strace)
- Understanding of **system security and privilege separation** principles
- Experience integrating **frontend via WebSocket or REST API**
- **Self-organization, attention to architecture and stability**
- **English proficiency** for communication with the engineering team
- Preferably, experience in **IoT / Smart Home / Automation**

Please submit your application by this link: https://forms.gle/9L749uaUPRCLeP2n6

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