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Mattijs Korpershoek

Embedded Android/Linux software engineer

Summary

I am a software developer passionate in technologies since I was young. Since 2014, I have been working on Android Wear platform development for wearables and delivered the award-winning Tag Heuer Connected watches.

Technical skills

Android

- Platform development
- Hardware bring-up
- New product enabling
- Product development
- System debugging
- Knowledge from linux kernel to apps (java)

Languages

- C
- C++
- Git
- Python
- Java
- Bash

Other

- Linux kernel & userspace
- Embedded systems
- Operating systems
- Software development
- Manufacturing support
- Spacemacs

Key accomplishments

Audio software stack

I was the audio software stack owner on Android Wear based products. I have developed and debugged several places in the software stack including DSP firmware, Linux kernel drivers, Audio HALs and apps (java).

Custom Android ROM for production line

Traveled two weeks to China for pre-mass production, on-site troubleshooting and support. Designed and implemented Intel wearable Manufacturing OS (based on Android), for hardware testing on the production line.

Platform bring-up

Traveled one week to the Bay Area for a hard-ware bring-up. Audio stack (with codec, speakers, four microphones) was up in two days and had three more days to make the camera work.

Multiple products

I worked on several Intel based Android Wear products such as Fossil Q Founder, Tag Heuer Connected 46, Tag Heuer Connected Modular 45 and New Balance RunIQ.

Work history

Intel New Device Group

Android platorm engineer, *CELAD*, Santa Clara, USA. **Feb, 2017 – Current**

- Android platform engineer on Android Wear products with Intel inside
- Active during entire product lifecycle from the early schematics to the end-user software releases.
- Several roles including platform developer, system debugger, and factory line support.
- Technical skills:
  - Android/Linux device drivers (ASoC), intel platform drivers
  - Android frameworks: audio HALs, other HALs, Treble
  - Android apps: mainly debugging, no development.
  - Production line support, system debugging, hardware bring-ups
  - Linux, C, C++, Java, Git, Python, XML, Bash, Android build system

Android platform engineer, *CELAD*, France. **Sept, 2014 – Jan, 2017**

- Android platform engineer on Android Wear products with Intel inside
- Implemented Android Audio stack (HAL, linux machine driver (ASoC)) for digital microphone (voice recognition)
- Developed a low-power bluetooth audio playback architecture (A2DP)
- Designed a custom Android ROM used for mass production testing and quality screening in the factory.
- Technical skills:
  - Android/Linux device drivers (ASoC) and DSP Firmware
  - Android frameworks: audio HAL, AudioFlinger, AudioPolicy
  - Production line support, system debugging, hardware bring-ups
  - Linux, C, C++, Git, Python, XML, Bash, Android build system

Internships

Android Audio developer, *CELAD*, France. **Apr, 2014 – Aug, 2014**

- Open-sourced the Parameter-Framework, a major component of Intel's Android Audio HAL
- Component is now part of Android AOSP (/external/parameter-framework/)
- Extended audio stack on Intel phone reference platforms (dual sim)
- Technical skills:
  - Linux, C, C++ Git, XML, markdown, Android platform

Windows developer, *24green*, The Netherlands. **May, 2013 – Aug, 2013**

- Developed a web (REST) API which handles climate control functions in green-houses.
- Created apps to illustrate the API.
- Technical skills:
  - C#, Windows XP embedded
  - javascript, html, CSS, java

Linux kernel developer, *IRIT*, France. **Apr, 2012 – Jul, 2012**

- Linux kernel development around performance counters and other hardware metrics
- Modules developed used by research lab for experiments on CPU frequency (power savings)
- Real world testing on a French research grid computing network, Grid'5000
- Technical skills:
  - Linux kernel, device drivers, C, GNU make, Bash

Education

Paul Sabatier University, *Toulouse, France*, CAMSI (Informatics, Systems and Machine Architecture Concepts), Master's degree. **2009 – 2014**

- rank 1/18 (Valedictorian)
- overall score $> 85\%$