Jianhua Qu

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Technical skills

•Work flow

Vim, for networked devices, ssh and either git, rsync or syncthing depending on the need.

•Languages

Programming— C, C++, Java, ARM-Asm
Scripting— Python, Bash, Makefile, SQL
Markup— LaTeX, HTML, CSS, Markdown

•My Special

TEE skills— [1] ARM Trustzone knowledge; Secure OS development experience;
Android skills— Android Application/Framework development experience;

General skills

•Languages

can speak— Chinese, English, Korean
can read— Chinese, English

Job Experience

•March 2008~Present, Samsung

Jan 2014~Present— Beijing Samsung Communications Technology Research Co.,Ltd
Back to Beijing China, I am mainly responsible for 2 applications development.

- **passwordless payment feature**— As everyone knows, Alipay and WeChat are the giant android application in China. To support Alipay and Wechat using biometrics such as fingerprint to do passwordless payment, we develop a middleware to support Alipay and WeChat using biometrics technology on Samsung devices. Also, we use TEE technology to persist user sensitive data and RSA key-pair.

  Those features run in 3 chipset vendor: Qualcomm, Samsung Exynos and MediaTek;

  There are 2 passwordless payment stardards from Alipay and Tencent respectively as below:

  1 IIFAA[2] (International Internet Finance Authentication Alliance)

  2 SOTER[3] is a biometric standard as well as a platform held by Tencent.

[1] TEE: Trusted Execution Enviornment
[2] IFAA: http://ifaa.org.cn/
[3] SOTER github: https://github.com/Tencent/soter

- **GlobalRoaming** It commercialized on Samsung devices since 2015, now, it has been transfer to another team; This application would be used when users go abroad to access the local data service from local telecom vendor. We saved IMSI profile data from telecom vendor into TEE side, as well, we implemented USIM related specifications of 3GPP to communicate to MS. During this project, we refered to or implemented ISO7816-4, ETSI TS 131-102/121, ETSI TS 135 208.

  Also, we used cryptography alogrithm, such as RSA, AES, to exchange cipher key and encrypt/decrypt data/cipher.

  Those features run in 3 chipset vendor: Qualcomm, Samsung Exynos and MediaTek;

Jan 2012˜Dec 2013— Samsung electronics Korea Headquarter
Joined the Global Mobility to move to Headquarter in Suwon Korea;

- During this two years working in Korea, worked with Korean colleague to develop **Secure OS**[4] based on Samsung Chipset Exynos. This was my first time known about TEE(Trusted Execution Envirnment). And, we complied with GlobalPlatform [5] specification to implement Secure OS.

March 2008˜Dec 2012— Beijing Samsung Communications Technology Research Co.,Ltd

- Android Application developer since 2010
- SAP(Samsung Application Platform) Application developer, this was deprecated feature phone platform

•July 2006˜March 2008

TechFaith (NASDAQ: CNTF)— Linux driver developer

Education

•M.A(Mechanical Manufacture and Automation Major)

September 2003˜July 2006— China Agricultrue Univerity(`https://www.cau.edu.cn/`)

•B.A(Mechanical Design Manufacture and Automation Major)

September 1999˜July 2003— HeBei Agricultrue Univerity(`http://www.hebau.edu.cn/`)

[4]Secure OS: works in the secure mode of ARM with trustzone supported
[5]GlobalPlatform: https://globalplatform.org/