ZhenXing Su

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Educational Background

2007.08 - 2010.07 **Master**, *Institute of Metal Research, Chinese Academy of Sciences*, ShenYang, Chemical Physics

2003.08 - 2007.07 **Bachelor**, *YanTai university*, YanTai, Applied Physics

Working Experience

2021.07 - now **Etteplan Beijing**, *ABB outsource*, Beijing

Position
- *Mobile app engineer*

Responsibily
- *ABB's Drivetune Mobile App dev including Android & iOS*
- *JS modules embeded inside ABB's Drivetuen App*
- *Azure DevOps Pipeline maintain & dev*

2021.06 - 2021.07 **LIEPT**, ZiBo, ShanDong

Position
- *Mobile app engineer*

2020.11 - 2021.07 **Independent developer**

Interest
- *OpenGL, Metal, WebGL, Vulkan*

2017.11 - 2020.10 **Ringcentral Co., Ltd.**, *mobile department*, XiaMen

Position
- *Android app engineer*

Responsibily
- *Integrated WebRTC client to our IM product*
- *WebRTC Meeting Product Development*

2016.08 - 2017.11 **Intel Co., Ltd. & Mcafee Co., Ltd.**, *Mobile Security department*, ShenZhen

Position	○ *Android app engineer*
Responsibily	○ *Mcafee Antivirus App Development*
Note	○ *Mcafee became independent from Intel security department on 04/2017*

2014.04 - 2016.04 **Iboxpay Co., Ltd.**, *Software department*, ShenZhen

Position	○ *Android app engineer*
Responsibily	○ *IBoxpay mobile POS product development*

2010.04 - 2014.04 **Topwise Co., Ltd.**, *Software department*, ShenZhen

Position	○ *Android framework engineer*
Department	○ 2010.04 - 2012.01, *Topwise3g Co., Ltd.* ○ 2012.02 - 2012.08, *Topwise Co., Ltd.* ○ 2012.08 - 2013.08, *Free Developer*, Resignation ○ 2013.09 - 2014.04, *Topwise3g Co., Ltd.*
Responsibily	○ *Android System HAL layer development* ○ *Marvell, Spreadtrum, Qualcomm, Allwinner Android platform Development*

Programming Skills

Azure	Azure Administrator Associate credly badges
AWS	AWS Certified Solutions Architect - Associate credly badges
Android NDK	jbig android
github	https://github.com/suzp1984
Languages	Kotlin, Java, Rust, C/C++, Swift, Emacs Lisp, Python, Javascript, Shell, LaTeX
OS	Android, Linux, Mac OS X
Editor	Emacs, Android Studio, VS Code

Job Expectation & Self Evaluation

- I look forward to works in Rust, C/C++ as main programming language.
- I look forward to works in GPU programming field.
- I look forward to participating in a pioneering and cutting edge project.

Projects experience

ABB Drivetune

2021.08 - now **ABB Drivetune App**

Description:
- Android, iOS, hybrid dev.
- Android NDK, iOS C++.
- Vue.
- Javascript, TypeScript.
- Azure DevOps.

Learn Metal

2021.02 - 2021.06 **Personal Project**
Metal

Description:
- Learn and practise Metal API and implement the rendering samples of LearnOpenGL. SouceCode: LearnMetal which includes the Phong lighting model, 3D Model rendering, offscreen framebuffer rendering, Deferred Shading, PBR.
- fix and refactor GPUImage3 which is a GPU-accelerated video and image processing library using Metal.

Video Meeting Project

2019.01 - 2020.03 **Software Engineer**, *Ringcentral XiaMen Co., Ltd.*, XiaMen
C++,Mac OS, Android Development.

Description:
- Video Meeting Project is a Video Meeting System that deployed to traditional Meeting Rooms and let the remote conference don't limit to geography restriction and traditional voice call. It includes a controller side which always an app running in a pad, and the host side, which always a PC side, responsible to display the videos. The Controller can control the meeting and video.

Achievement:
- Improve the controller side and host side connection by implement a websocket connection between them throught LAN. Encrypt this connection by generate X509 cert everytime before they connected.
- LAN network service discovery, which named network serice discovery in Android, and named Bonjour, also known as zero-configuration networking in IOS and Mac OS. Those feature can be leveraged to let controller and host discover each other. This solution was abondoned for some reason, but I like this one.
- Collect Mac OS hardware info and display them to an overflow window at Mac OS.
- Android side Controller app implementation.

TTF Font icon Unit Test

2018.06 - 2018.07 **Android App Engineer**, *Ringcentral XiaMen Co., Ltd.*, XiaMen
Android App Development.

Description:
- Use Font Icon to replace the traditional PNG or SVG resources was a normal solution to reduce App size and improve performance, whether in Web App Dev and Mobile App. But the Font Icon was not friendly to manage when zipping many fonts together, there is hard to detect bugs when designer pack the wrong graph fonts or disordered them by mistake.

Achievement:
- By hacking to the inside of a TTF file, and read the target graph font's drawing cmd buffer, and generate its hash value as fingerprint and recording to our app's resources, then compare this recording whenever the developer get the TTF file from the designer. This would fill the gap between designer and developer, provide the possibility to wrote a Unit Test for a TTF font file.
- Wrote a TTF Unit Test for Android project to make sure the TTF file would be always provide the corrent graph.
- Wrote a gradle plugin to reset the needed graph font's fingerprint.
- Check the target graph font's visual image by running a JavaFX app from a gradle plugin command.
- Get a report of the unused graph fonts stored in a TTF file.
- Get a report of the duplicated graph fonts that stored in a TTF file.
- Get a report of incorrect graph fonts by compare the previous TTF file graph font's fingerprint.

RingCentral Video Project

2017.12 - 2018.12 **Android App Engineer**, *Ringcentral XiaMen Co., Ltd.*, XiaMen
WebRTC Android Client Development.

Description:
- RingCentral App was an IM product with VoIP and Video Chat feature. It chose the SFU solution to implement its Video chat feature, which include the SFU media server, Mobile Signal layer, Native meta data layer, App UI presenter layer.

Achievement:
- Implement UI presenter layer.
- Implement the most UI features at the earlier stage, include a sliding panel layout, which is my favorite one, because it already being abandoned, I open source to this github repo Advanced Sliding Panel
- The WebRTC SDK was being implemented quite differently in android and IOS/Mac, which results in the video rendering solution chosen by those platforms that should be quite different. But I didn't has the opportunity to digger deepr into this field, I prepared enought knownlege about OpenGL and would like to make a breakthrought if I get the opportunity.
- Read WebRTC source code including its architecture, ICE implementation, and another ICE alternative implementations like libjuice and libnice, RTP protocal details. Research SFU media server implementation, mediasoup.

Intel Security Mobile App Project

2016.08 - 2017.07 **Android App Engineer**, *Intel Co., Ltd. & Mcafee China*, ShenZhen
Mcafee Antivirus App development.

Description:
- Android Mobile App UI development.

Achievement:
- Use self developed SVG file in the UI developement to reduce the apk size.
- Develop the UI animation by following the Android material design principle.
- Develop the Wifi protection module to detect ARP spoofing attack.

IBoxPay's CashBox Android App Project

2014.07 - 2015.05 **Android App Engineer**, *IBoxPay Co., Ltd.*, ShenZhen
redesign and refactor the CashBox App project.

Description:
- CashBox App is IboxPay's core project, which consists of the mobile client side app, the backend side trading system, and an intelligent terminal hardware. This is what we called the mobile POS, a box hardware must be connected to the mobile side CashBox app, which acts as a middleware between the terminal box and the backend trading system. The customer swipes his bank card in that little portable hardware, then he can pay the bill to the merchants.
- The intelligent terminals can be classified into its connection channel types, there are at least three types of channels such as Audio jack, Bluetooth Classic, Bluetooth Low Energy and UART serial port.

Achievement:
- I rewrote the code according to the Object-Oriented Principal, decoupled the code by introduced an isolated android module project which can be reused in another project.
- I make the development process sustainable and the code is readable by wrote the software design document, wrote necessary unit-test and also maintenance a coding style document.
- The highlighted part of that code is the hardware connection channel part, I introduced a Connection interface, all the connection types, including Audio Jack and Bluetooth, were just implementations of that interface, then, when another project works on a new terminal with UART custom connection channel, what it did is just implement a new Connection interface.
- I porting the JBIG codec to Java environment by using the JNI method. JBIG codec is an efficient lossless compression algorithm for single color depth space picture. The Opensourced demo for Android App was Jbig-Android

Jobs at Software Architecture Team of IBoxPay

2015.07 - 2016.03 **Software Developer**, *IBoxPay Co., Ltd.*, ShenZhen

Description:
- Android App Architecture research.
- Git and Gitlab Training.
- Apache and Nginx journal report analysis.
- Nginx Lua module develop(OpenResty).

Achievement:
- Abandon the outdated centralized version control system, SVN, use the advanced distributed version control system Git, the company also start to use the popular on-line coding review and authority control web app, Gitlab.
- Practise Android MVP/MVC architecture
- An OpenResty Lua Application which check whether a http request's validate by check its Servlet Session.

Bluetooth Low Energy Project

2013.10 - 2014.03 **Software Developer**, *Topwise3g Co., Ltd.*, Shenzhen

Description:
- Research and analysis Bluetooth Low Energy application at Broadcom's BLE board.

Achievement:
- Open Sourced Light-BLE project, which can be used to debug and analysis the peripheral BLE device during development.

Factory autotest toolkit for SpreadTrum's Android platform

2012.05 - 2012.07 **Software Developer**, *Topwise Co., Ltd.*, Shenzhen

Description:
- The factory auto running test toolkit is running in an autotest machine which checks the newly produced PCB board.

Achievement:
- check out the faulty PCB board at the early stage in the factory, then promote the rate of qualified PCB board out of the factory.

Android Rom Development

2010.05 - 2012.08 **Software Developer**, *Topwise3g & Topwise Co., Ltd.*, Shenzhen

Description:
- Android framework and System Developer from version 1.6 to 4.3, My duties include integration Makefile development and HAL layer development.

Achievement:
- develop and maintain the integration and build shell script to support the android system release - Bash shell coding.
- develop and porting the Bluetooth & Wifi module to multi-hardware platform.
- develop and porting Android's HAL layter to multi-hardware - C coding.