ChangSeok Oh

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Summary

Open source enthusiast & hacker specializing in web domain and linux based system. WebKit committer and GNOME foundation member. More than 9 years experience at major players in the relevant industry and academy. Interested in opportunities related with web technology, computer graphics and linux system stack.

Education

08/2017 - present	**Georgia Tech in Atlanta, GA, U.S.A.** Ph.D. Student majoring in Computer Science at SSLab
03/2000 - 06/2008	**Ajou University in Suwon, South Korea** B.S. in Digital Media (intensive major course) B.S. in Information and Computer Engineering (second major) GPA : 3.62 / 4.5

Research Interests

Web, System, Security, Computer graphics, Open source

Experience

06/2016 - 07/2017	**Research associate at School of Computer Science, Georgia Tech.** As a research scientist, I contributed to research projects in which Georgia Tech partakes for national interests.
1.	Building continuous resource monitoring system to detect low-volume DDoS attacks. The low-volume DDoS attack is an attack using small volume of malicious traffics crafted to exploit a flow in systems and causing a target system to exhaust resources without being noticed. In this project, I have built a strategy and a monitoring system to defeat such attacks. The monitoring system is implemented in linux kernel and continuously watches resources such as cpu, memory usage necessary to process each incoming packet. Unlike other solutions (e.g., cgroup), the new system gathers resource information centered on a requested data and measures them even in interrupts.
08/2012 - 03/2016	**Software engineer at Collabora Ltd.** Collabora Ltd. is an UK based software consultancy specializing in delivering the benefits of open source to the commercial world. As a software engineer in web domain, I had gotten involved in many interesting projects based on WebKit and Chromium/Blink.
1.	WebKitClutter port for Apertis Apertis is an IVI system based on linux, driven by Bosch. It has open-sourced in public. For the project, I had been giving my efforts on shifting existing features and APIs to WebKit2 multi-process based architecture. Also, improving performance by using OpenGL and multi-threading architecture are my major contributions. (link, patches)
2.	GNOME Web (a.k.a Epiphany) for Raspbian This project aimed to bring full browser experience to Raspberry Pi users using Raspbian, the default OS for Raspberry Pi and one of Debian variation. At that time, I gave my efforts on improving performance for playing html5 video and scrolling. Plus, I developed some new features such as Disk Image Cache and Memory Pressure Handler based on linux cgroup memory resource controller. (link)

3. | SDK 2.5, 3.0 and 4.0 for Smart TV Alliance
Smart TV Alliance is an union of TV manufacturers and developers. They provide a SDK including an IDE and an Emulator compliant with each specifications for app developers to test their apps. In this project, I covered most of all webkit changes to meet each requirements of SDK 2.5-4.0.

07/2008 - 08/2012 | **Assistant Software engineer at SAMSUNG Electronics.**
SAMSUNG Electronics is a well known manufacturer of electronics components and consumer electronics. I joined in Software Platform Team, DMC R&D Center and performed several research projects. Some of them already went in public as products.

1. | WebKitEFL port for TIZEN
I contributed WebGL implementation and hardware acceleration via OpenGL ES to the project. This was an initial effort to add OpenGL ES backend to the WebKit Project.

2. | Full browser for SAMSUNG Smart TV 2010
This project was for bringing full browser experience to SAMSUNG Smart TV series released in 2010. My role was build/ integration and implementing UI by using html, css and javascript.

3. | Maple, in-house web engine for SAMSUNG connected TVs and all-in-one printers.
Maple was an in-house web engine though, it adopted the SpiderMonkey as javascript interpreter from the Mozilla Gecko engine. I ported the TraceMonkey, a new javascript engine of Gecko into the project.

07/2007 - 06/2008 | **Intern at SAMSUNG Software Membership.**
Two small projects were performed. They were very experimental and related with computer graphics. Also, I developed a 3D train racing game by using DirectX on MS Windows during this period. (video)

Open Source Projects

04/2013 - present | **Committer at WebKit**
I have contributed WebGL enhancement, hardware acceleration through OpenGL/ES, layout bugfixes, memory pressure handler for linux platform and WebKitGTK+ port features such as JPEG-XR decoder, customizable widgets and threaded compositor enhancement. (patches)

10/2013 - present | **Member at GNOME foundation**
I am a GNOME foundation member because of my contribution to WebKitGTK+. Also, I've translated GNOME Web (a.k.a Epiphany) to Korean and its help document since 2014. (patches)

01/2015 - present | **Contributor at Chromium/Blink**
Currently I do not have an official title at this project. But I have been keeping endeavors to get a committership. I have 30 landed patches so far. Especially I am the author of 'font-size-adjust' support, a css property. (patches)

Presentations

12/07/2014 | **Web Engines Hackfest 2014 in A Coruña, Spain**
Raspberry Pi Browser by changseok & kov (slides)

09/29/2014 | **DEVIEW 2014 in Seoul, South Korea**
Lessons from developing a web browser for Raspberry Pi (slides, video)

04/25/2014 | **Jeju University in Jeju, South Korea**
Introduction to GNOME (slides)

10/27/2013	**DevOn 2013 in Seoul, South Korea** GNOME & You (slides)

Patents

05/25/2011	**Web page management method and apparatus and storage medium thereof** US 20110296323
05/20/2011	**Method of re-searching webpage and apparatus and storage medium therefor** US 20110289110
10/15/2010	**Interface method and display device** US 20110093606
10/15/2010	**Interface method and display device** US 20110090165

Grants

12/2013 - 11/2014	Open Frontier (₩3,000,000 and ₩300,000 per month)

Languages

English	IELTS for UKVI 6.5 in overall (Listening : 6.5, Reading : 6.5, Writing : 5.5, Speaking 6.5) TOEFL 84 (Listening : 18, Reading : 25, Writing : 22, Speaking 19)
Korean	Native

References

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