CONSULTANT PROFILE

13-12-2013

#222

Software Developer. Year of birth 1982
Speciality: Embedded Linux

Work experience

2010 – 2013 Aalborg University
PhD Student

2009 – 2010 Aalborg University
Research Assistant / Software Engineer

Competences

Tools

- Linux (Kernel and application level)
- Vim, Emacs
- GNU toolchain (gcc, binutils, gdb, make, autoconf, automake, libtool, …)
- CMake
- Git, SVN, CVS
- LaTeX, Markdown
- KVM, VirtualBox, VMWare

Programming languages

- C, C++
- Python, sh/bash
- Java, R

Technologies

- Linux application level software management and porting
- Linux OS
- Windows (2003 server, XP, Win 7)
- Mobile Phone Programming: Maemo/Linux
- BSD (FreeBSD, OpenBSD)
- Build systems
- 802.11a/b/g/n/p
- Bluetooth
- Ethernet
- Internet Protocol
- SIP
- TCP

Methodologies

- V-Model
- OOA/OOD

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Education

2010 – 2013 Aalborg University
PhD, Wireless Communication - Generation and Use of Wireless Network Performance Maps

2004 – 2009 Aalborg University
M.Sc.E.E, Networks and Distributed Systems

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Project references

2010 – 2013 PhD

Generation and Use of Wireless Network Performance Maps

The PhD project investigates how network performance measurements combined with localization information can be used to generate maps of actual network performance. It is also investigated how such performance maps can be used to enhance network based application performance.

I developed a full framework to generate and use network performance maps in Python, and combined these maps with the network simulator OMNeT++ to investigate the performance of different network applications with/without performance map knowledge. The available OMNeT++ simulations models was extended significantly to allow the use of performance maps as, which is achieved with C++ programming.

2009 – 2010 EU Project

Open Pervasive Environments for migratory iNteractive services
http://ict-open.eu/

The project investigated how future network based applications could developed to allow seamless migration between devices. This would allow a user to continue using an application even when forced to switch device e.g. from laptop to phone.

I developed a prototype of the full migration framework with an example application (audio streaming) that could be migrated between end-user devices with affecting the servers offering the service. A special network proxy was used to hide the client devices changes from the application servers. The prototype was completely developed in Java using XML-RPC for device to device communication.

Spring 2009 Master Thesis

Evaluating Retransmission as Technique to Improve Streaming of TV Audio on a Wireless Network

The project investigated how retransmission of network packets could be used to recover from packet loss in a live audio streaming scenario with strict real-time requirements using 802.11/WLAN as communication network.

I developed a prototype solution to demonstrate the challenges in live audio streaming on a 802.11 network using Linux laptops, network traffic generators and open source streaming components. Retransmission was applied at different levels of the network stack and the performance was analyzed in depth.

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Competences (continued)

Technologies

- Ethernet
- VLAN
- WLAN
- TCP/IP
- HTTP
- FTP
- DHCP
- Qt

Environments

- Linux
- FreeBSD
- Windows
- Emacs, Vim
- Eclipse

Languages

- Danish – native
- English – fluent
- German – basic

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