CURRICULUM VITAE

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Introduction

"My name is Lauri Jakku, I'm an Finnish engineer. I have strong linux background, who have some international experience as well, and is now actively seeking work to be done via my own company, that would give new problems for me to solve.

My ability to adapt situations and to learn quickly new things has always somehow played a part in my work. I have done a lot of things that I haven't really got a grasp, but the eagerness to learn and 'if you can imagine it, you can do it'-attitude has helped to make some quite unique software and solutions to a given problems. "

About me

I was born in Oulu, way back, and lived almost my whole life in Oulu, Finland. Now days I am engineer, whom has graduated from Vaasa's Polytechnic in the summer of 2005. Before I have coded for money, I used to code for hobby, I still do, but not nearly as much.

I am fully specialized to the embedded devices. My strengths include very strong linux-background, and quite good learning curve and ability to figure out how stuff works.

My thesis was to build a home-firewall-setup, which is maintained only by web-interface. One of the required key functions of the firewall was to be able to do low-level packet filtering using plain-text. The firewall can handle multiple user accounts and each has own access rights, as normal *nix setup would have, and all of those can be controlled alone from the web-interface.

I have worked with x86-, some PowerPC-, and ARM-platforms, mostly with ARM. The work has included porting working programs to another platform, creating kernel modules for devices for use in Linux-based solutions and helping creation and integration of real time device interface implementations.

One demo-project involved QTopia 4.3.3 and iPAQ 3630 where I compiled the Opie for iPAQ using BitBake. The purpose of the multi-platform project was to create multi- platform QT/4- software, and I was responsible for the iPAQ part of the project.

My main motivation is to know that many people use the things that I have made, even if the people do not really know that. Deeper the change, the more people will use it, and the more satisfaction I get from it.

I like to design new ways to do things, and sometimes create very simple but highly scalable solutions for it.

I've done coding for living since 2005, and counting, in which I've learned that I can master any skill that is needed, with some time.

I usually become the 'go to guy' in long projects. And I'll always help when requested, maybe that's why I become the 'go to guy'.

Education

Engineer (Bachelor of Electronics and Information technology), Vaasa Polytechnic, 2005
Laboratorian (undergraduate), Oulu vocational school, 1998
Internet-course, Pohjois-Pohjanmaa vocational school, 1996

Languages

Finnish, Native
English, fluent
Swedish, Poor
German, Weak (Currently learning)

Knowledge

Environments
- Linux: Debian, Redhat, Ubuntu, OpenSUSE
  - Apache, Sendmail, DHCP, MYSQL, DNS -server maintenance & setup on home and professional network
  - Scratchbox & BitBake
- Windows
  - Normal office use
  - ExeedOnDemand
  - Proprietary flashing tools
- OS/2, BeOS and Solaris 7 (Installed as hobby, and used for a bit)

Platforms / Libraries
- GLib & GTK, Strong knowledge
- POSIX-threads, Somewhat deep knowledge
- Android, Intermediate knowledge
- QT4, Basic knowledge, though hack-ported one version for iPAQ.
- ZMQ communication library, Good knowledge

Protocols & related
- TCP/IP, 2 year
- 3G-protocols & infrastructure, basics
- Bluetooth, 1 year
- Misc protocols: 1-Wire, I2C, about 6 years

Programming languages
- C, 25 years
  - Almost all experience on ANSI C (90%), but almost always the target was mobile or some embedded device.
- Java, 3 years
  - Made an extension for Eclipse (Scratchbox project importing tool).
- Assembly, 1 year, quite long a go
  - Interrupt handler for ARM-processor based embedded device which had to do context switching to RTOS-code and back.
- Unix shell scripts, 18 years
  - Multiple misc-, automation- and tool-scripting.
- Perl, 3 years, quite long ago
  - Multiple misc-parsers and tools.

- PHP, 5 years
  - Thesis: The UI of my firewall controlling software was done in PHP, and Discussion alerter.
- C++, 1,5 year
  - Used templates to generate semi-static code for the compiler.
- Python, 6 year
    - Made Robot Framework output analyzer that spots what has happened between outputs, with user defined custom hook to be ran when anomalies found (bug fixed, or found)
- Go(lang), 1 year.
    - Ported my own Python scripts to Go.
- Dart/Flutter, 2 years.
    - Created sites with Dart & Flutter
      - https://energypihi.paxsudos.fi
      - https://diarykartta.paxsudos.fi
      - https://tiesaakartta.paxsudos.fi

Development tools
- Rational Rose, MS Project, MS Office and Open Office etc.
- Compilers and tools. (bitbake, gcc, automake, make etc.)
- Version control software: Synergy, SVN & GIT
- Eclipse and multiple other IDE's (Creation of the Laika-plugin for Eclipse)
- Hudson & Jenkins

Other SW areas
- UI SW, 7 years
- Hardware simulation and creation with KiCAD and TinkerCAD (in progress to learn to use them)
- Linux-network administrator, 2 year
- Client-Server SW, 7 years
- Linux kernel coding, 12 years
- U-boot coding, 9 years
- Yocto hacking (BSP), 9 years
- Certified Scrum Master

Employment history

Paxsudos IT, CEO, 7/2020 – Now
- Light business as a side business while working for Bittium (until 04/2024).
- See more from https://paxsudos.fi or https://paxsudos.com

Elektrobit Wireless Oy / Bittium Wireless Oy, Senior Software Engineer, 1/2012 – 04/2024
- Updating and implementing middleware layer solutions ie. communicating directly with given HW, doing linux-kernel-modules/-interfaces, hunting bugs in lower layers and updating existing SW for new hardware etc.
- BSP work with Yocto
- Played a part in production testing of deliveries and in fixing found problems.
- 7. - 8.11.2012 Completed successfully Scrum master training

Tieto Deutschland GmbH, System SW Engineer, 07/2011 – 12/2011
- 07/2011 - 12/2011: Updating Java-based software update packaging tool.
- 8.9. - 9.9.2011: Communication training
- 12.9.2011: FIDO Training
- 13.9.2011: CBM Training

Nokia Oyj, Senior SW Developer, 12/2008 – 02/2011

- Low-level graphics (GDI) implementation & bug-fixing for S40-series: Provide means for upper levels to draw (blit) buffers in specific manner.
  - Used alpha-blending algorithms described in SIGGRAPH'84 publication 'Compositing Digital Images' by Thomas Porter & Tom Duf to convert the existing blitters to output correctly.
  - Converted the existing calculations to use four calculation macros which were build with semi-object oriented structure in mind, thus made the code less error prone.
  - Source and target formats varied from 1BIT BW to 32BIT ARGB, depth conversions done within the blit.
  - Bit of Hudson maintenance work

TietoEnator Oy, Senior SW Designer, 3/2006 – 11/2008
- Pre-integrator for Maemo, Pre-Integrator, 07/2008 – 10/2008, Pre-integrator of flashable images for Maemo-based devices.
- Qt Ramp Up, Senior SW Developer,01/2008 – 03/2008, (Internal-project) Created port of QT 4.3.3 for the iPAQ 3630 using bitbake compile-environment and skeleton of the demo-software. The project-plan was to create cross-compilable QT/4-software for multiple platforms (iPAQ (Opie) & N800 (Maemo)).
- Linux MDN Car, Senior SW Developer,09/2007 – 01/2008, (Internal-project) Client-Server implementation done with two N800 to control RC-car and on-board-camera movements. Camera SW can do basic pixel-overlaying to the video stream.
- Baikonur (Videocenter), Senior SW Developer, 07/2006 – 09/2007, VOD- and live television stream client application for N800. Dbus signaling for controlling live-video streams.
- Linux KH Mobiili, Senior SW Developer, 03/2006 - 07/2006, Participation of mobile homecare-client software development used with N770. Software was multithreaded GTK-application, with internal tasking functionality and general soap-XML-parser (with support of multiple different datasets).

Nomovok Ltd, SW Designer, 02/2005 – 2/2006
- The Calendar, Head SW Developer, 05/2005 - 02/2006, Port existing PIM-application (x86, gnome-calendar) to a ARM-based smart-phone and find solutions to unfulfilled dependencies.
- Multiple projects, SW Developer, 02/2005 - 05/2005, Fixing bugs from existing software and in some cases almost completely redesign them.

Wapice Ltd, Wireless applications/SW Designer 11/2000 – 11/2004
- LWIP-stack integration to work with uC/OS, SW developer, 10/2002 - 12/2002, Customized uC/OS for industrial embedded device to provide TCP/IP-support with LWIP-stack.
- Documented existing Java software with Rational Rose
- Network administrator, tasks included firewall maintaining, mail server setup, DMZ-configurations, physical switch installation etc.

Vaasan Ammattioppilaitos, Summer trainee 06/2000 – 07/2000
- Generic duties.

Vaasan Ammattikorkeakoulu, Student/SW Designer 02/2000 – 04/2000
- Web-server coding for school.

Anttila/Oulu, Warehouse assistant 07/1998 – 08/1998
- Generic warehouse work: Pricing, hanging clothes to racks etc.

Oulun Jakelutoimisto, Deliverer 06/1998 – 07/1998
- Delivered newspapers to few parts of Oulu.

Oulun Yliopisto/Sähkötekniikan osasto, Office Assistant 07/1997 – 07/1997
- Generic lab-assistant work and helped to put linux on some old simulation controller computer, which needed to use dos-emulator to run the controlling software.

Oulun Yliopisto/Mikroeletroniikan laboratorio, Trainee 06/1997 – 06/1997
- Generic lab-assistant work at Laboratory of Microelectronics..

Anttila/Oulu, Warehouse assistant 07/1995 – 07/1995

- Generic warehouse assistant work.

Foto Keränen, General duties 06/1994 – 08/1994
- Helped to sort and remove films from the paper containers for further development