

Shachar Shemesh

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A highly experienced developer with working on several platforms, including over 12 years programming for the Linux environment, seeking employment as a software architect or a team leader.

Skills

Operating Systems and Programming Environments

- Linux - Thorough understanding of all layers of the OS. Creating a BSP, writing drivers, creating images for embedded systems, writing daemons, TCP/IP services and GUI (QT, WxWidgets, X11 and OpenGL).
- Android – Thorough understanding of the core OS constructs, including experience performing modifications at core APIs, both Java and JNI.
- Microsoft WIN32 API

Programming Languages

- C, C++ – Very highly skilled
- Perl, Python, PHP, Java, BASIC, Visual BASIC – highly skilled
- Build environments: GNU Make, autotools
- HTML, CSS, Javascript, jQuery
- Bourne shell, sed and the other unix command line tools.
- Assembly at different levels: Intel 80x86 series, Motorola 68000, 6502, ARM, PowerPC

Management Experience

- Managed up to three employees as CEO of a small start-up.
- Managed a team of 10 as part of an embedded Linux project.
- Worked with Agile, Scrum and Extreme programming.

Spoken Languages

Fluent Hebrew and English, both at mother-tongue level - speaking, reading and writing.

Professional Experience

Oct 2011 – Present – LiveU Ltd. - Senior Programmer

<http://liveu.tv>

The company produces devices for uplink video streaming over cellular networks. Among my accomplishments:

- Porting the Linux based product to a new hardware platform. This included:
 - Platform bring up.
 - Replacing the video encoder.
 - Setting up the GUI/Video preview transparency (OpenGL, X11, XVideo and QT)
 - Creating an encrypted distribution/upgrade mechanism.
 - One Linux kernel bug solved (merged into version 3.6).
- Developing the WiFi support for the product based on wpa_supplicant.
- Upgrading the development environment:
 - Streamlining new workstation installations through the standard Ubuntu mechanisms.
 - Introducing parallel build into the system
 - Detecting bottlenecks and defining the minimum developer workstation hardware specs.

Feb 2003 – Sep 2011 – Lingnu Open Source Consulting Ltd. – Founder and CEO.

The company gave consulting and integration services in migrating technologies and infrastructures to open source technologies. Projects personally carried out as part of Lingnu include:

- Android related development:
 - Internationalization (i18n) and localization support (l10n) for several phones sold in Israel, including the HTC Magic, several Samsung phones (including the Galaxy S2) and several Huawei phones.
 - Written and delivered a one day course on Android low level interfaces and design.
 - Build environment
 - Hardware interfaces
 - Debugging techniques
- Linux related development:
 - Cross platform GUI development using wxWidgets
 - Management and development of complete Linux based embedded platforms
 - Managed group of 10 developers.
 - Managed the entire software side of a complex setup backbone wireless modem solution.
 - Created Net-SNMP based agents for remote control of embedded device.

- Created an XML based configuration management with backup and restore abilities
- Developed a from-scratch distribution with no-fail two-banks software upgrade support.
- Created a version control backed build systems, including for the aeronautics industry to handle FAA requirements.
- Developing a set of drivers and other BSP related activities for a new ARM based platforms
- Continued work on the Wine project.
 - Adding support for wine of the "epoll" interface for better performance
 - Implementation of the "UNICOWS" Windows DLL
 - Adapting wine for running proprietary 3rd party applications
- Development of several open source projects, among which:
 - [Rsyncrypto](#) - rsync friendly encryption. Winner of 2007 "[Les Trophées du Libre](#)" award in the security category.
 - [Safewrite](#) – a library for easy reliable atomic configuration updates.
 - [Fakeroot-ng](#) – ptrace based syscall interceptor and modifier, fooling applications into thinking they are running as root.
 - [BidiEdit](#) - A reference implementation for a new version of the SI-5194 standard – bidirectional text editing.
 - [NetChat](#) - wire speed generic TCP protocol testing tool
 - [Privbind](#) – a tool that allows non-privileged applications to bind to low TCP ports.

Nov 2000 - Jan 2003 – Check Point Software Technologies – Team Leader and Project Manager

- In charge of product security
 - Improved attack resilience of both computers protected by Check Point's products, and of the products themselves.
 - Company wide security focal point on all code security issues.
 - Performed code audits, design reviews and gave seminars on secure programming.
- Project manager for "SmartDefense" - Lead the project's design and development, from the initial concept up to the release of the product, including coordinating the work of 8 programmers from 4 different groups.
- Feature Owner
 - SYNDefender – TCP SYN attack protection. Complete revision in order to adapt to Check Point's "NG" line of products, and for the enhancement of performance and connectivity.
 - Sequence Verifier – Allows Firewall-1 to track the TCP state machine and drop invalid packets. Complete design and implementation.
 - Stateless Verifications – complete design and implementation.

Education

1996 - 1999 - B.A. Summa Cum Laude in Computer Sciences - Israel Institute of Technology (91.6 average)

Specialized in encryption and Internet protocols.

Laboratory of Computer Communication and Networking - Wrote a project comparing performance of variants of the HTTP protocol (project is available [here](#)).

1991 - 1992 - Studies for a B.A. in Electronics Engineering - Tel Aviv University

Studies were part of the "Academic Reserve" program of the IDF.

Non-Profit Activities

2003 - Present - “[Hamakor](#)” - co-founder and former board member

"[Hamakor](#)" is an Israeli non-profit organization for open source and free software. Activities included representing the organization in the Knesset during the deliberation over the revised copyright law.

2010 - Present - [Standardization committee 2109](#) - Hebrew in computerized systems

Active member in The Standards Institution of Israel's standardization committee dealing with bidirectional texts and other issues pertaining to working Hebrew in computerized systems.

2011 – Present - “Digital Rights Movement” - Founding member

An NGO seeking to combat the erosion of privacy due to enhanced use of technology. See [article in TheMarker](#) (in Hebrew)

2002 - 2006 - Open source project “[Wine](#)” - developer

The [Wine](#) project is a free software project that aims to re-implement the Win32 API. This allows, among other things, to run MS-Windows applications on other environments, including Linux. Most of the project is written in C, and uses Win32, as well as Posix, APIs.

My main contributions:

- Hebrew and Arabic support - Partial implementation of Unicode's BiDi algorithm.
- Installation programs support - Primary maintainer of wineboot. This is a part of Wine that handles the boot time operations performed by Windows.