1. Goal

I'm interested in software development jobs for **Linux** either in the usual or in less mainstream languages.

2. Personal Information

Name	Endrődi, Ádám
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Nationality	Hungarian
Education	master of engineering in information technology, graduated at the University of Pannonia, Hungary comprehensive background in mathematics
Specialization	networking, security, X11, development tools
Language skills	advanced level English
LinkedIn profile	http://www.linkedin.com/pub/adam-endrodi/65/10/34

3. Strengths

- life cycle- and process-wide understanding of software engineering
- >10 years of C, C++, Perl, Linux, and Unix generally
- experience in a variety of domains of information technology
- high level scripting and automation
- testing, tracing, profiling, debugging
- emphasis on quality, reliability and maintainability

4. In a Nutshell

Experience

- Unix systems programming
- kernel programming
- network programming
- information security
- safe and secure coding
- secure system administration
- database administration
- creating development tools
- developing parsers/interpreters
- understanding of the C toolchain & dynamic linkage
- tracing, profiling, automated testing
- constrained environments
- portability
- concurrency and reentrancy
- interprocess communication
- virtual computing
- scientific research
- writing accurate yet readable technical documentation

Keywords

- C, C++, assembly, ELF, yacc, TEX
- Perl, Perl XS, Python, Python-C
- regexps, advanced shell scripting
- SQL, PostgreSQL, SQLite
- glib, Qt, X11, D-BUS, SSL, PKI
- gcc, gdb, autotools, Debian packaging
- XML, web services, genetic algorithms
- scrum, git, Subversion, Bugzilla
- IPv4, SCTP, routing, firewalls, ssh
- DNS, LDAP, HTTP, FTP, SIP, mailing

5. Past Projects

For four years I worked onsite at Nokia Corp.'s R&D facilities in Helsinki, Finland, on the middleware of the resource-constrained environment of the Linux-based Nokia N900 and N9 smartphones. After that I joined BalaBit IT Security as 3rd level support engineer, where I responded to customer problems about the products of the company (application level proxies and auditing software) and **fixing bugs** in them.

Currently I work at Nokia Solutions and Networks as a senior software engineer. My ongoing project is developing the DIAMETER load balancer on Linux for the Open Telecommunication Application Server (Open TAS). I've also written a key part of the deployment automation software.

Project name: `mcompositor` 2010 Sept – 2011 Sept

Description: Development of the composition and window manager of N9 (Harmattan program). This software is responsible for the user-interaction of the top-level UI elements, and also coordinates between the different applications and background services. Its performance and reliability is critical in the device's user experience. It is written in **C++** with the **Qt** toolkit and **OpenGL** backend, and the development was managed via **scrum**. It has **automated functional tests** written in **Python**.

Duties: feature enhancements, user-interaction improvements, debugging internal problems, debugging software interaction problems, optimization, refactoring. For a while I was responsible for releasing the software for system integration, ensuring that outstanding issues are fixed in the release. I also worked with the **Toolkit** and **Graphical adaptation** teams when necessity arose.

Project name: `hildon-desktop` 2008 Sept – 2010 Aug

Description: This was the predecessor of `mcompositor`, developed for the N900 (Fremantle program). It used different technologies (written in **C** and **Clutter**, the high-level **OpenGL** library), and had more sub-components, many of which I was involved with too (eg. SDL).

Duties: I wrote the **task switcher**, implemented the **portrait mode**, worked on the desktop notifications and on the visual transitions of GUI elements. I maintained a friendly and bidirectional contact with our UI designers. During both this and the `mcompositor` projects I wrote many **automated tests** for specific, hard to reproduce bugs which helped their resolution. I also created many other **development tools**, which were useful in generic bug reproduction, bugfixing and in profiling.

Project name: Media Applications Framework (MAFW) 2007 Aug – 2008 Aug

Description: Middleware for multimedia applications on the N900. It provided an abstraction layer between the application and the various content and metadata sources (eg. local file system) and playback devices (eg. **UPnP** or **gstreamer**). It was written in **C** and was based on **GObject**. For extensibility it used plugins, and for testability it had **Python bindings**.

Duties: **reviewed** the predecessor Multimedia Application's as well as MAFW's pilot implementation and **compiled a report** of questions and suggestions, conducted the **security threat analysis** of MAFW, worked on the **Python modules**, on the **D-BUS message passing** layer, and on the **SQLite** access functions. Also I introduced **continuous integration** into the project with a heavily tailored **buildbot** installation.

Project name: `MenuGene` 2004 – 2009

Description: Computer aided nutrition counseling system for experts and for the laymen. This was a research project at the University of Pannonia, and extended to other academic institutions.

Duties: As the main software developer, I wrote the foundation libraries including the **genetic algorithm solver** engine, and the service programs in **C++**. In addition I created user interfaces and **development tools** in **C**, **Perl** and **PHP**. Initially the program was developed for **Linux**, and later I ported the service to **Windows**. I also redesigned the data store's **SQL** schema and migrated it from Oracle to **PostgreSQL**.

Project name: `qbot` 2005 – 2007

Description: Automated testing and student evaluation service for a course on computer networking at the University of Pannonia. The students uploaded their C programs, which the service executed in a `qemu` **virtual machine**, and were **stress-tested** with **randomized**, **fuzzy** input, to which the test program had to behave as specified in the assignment. The service had a web interface through which teachers could supervise everyone's activity, students could manage their uploads and observe the interaction between theirs and the test program.

Duties: I designed and implemented the system from the ground up mostly in **Perl** and **Perl XS**, and wrote many assignments (each of which requiring a different tester program).

Project name: system administration at the Central Student's Hostel of the Univ. of Pannonia 2003 – 2005

Description: The Hostel's computer network was comprised of several servers, hundreds of client machines and dozens of interconnecting devices. It offered **shell**, **www**, **ftp**, **mail** access and spam filtering services to the

students, and functioned as a **gateway** to the University network and to the Internet. All services acquired the user information from a central **LDAP** directory. Special emphasis was put on **security**, **availability** and **reliability**.
Duties: Together with my colleague we thoroughly redesigned the entire outdated infrastructure we had inherited to meet our quality criteria, and after that we monitored and maintained it 7/24. My most remarkable individual project was the completely reworked and **integrated registration and gate-keeper system**, which we used at the receptions and as an administrator's console.

Project name: Information security in the face of Internet attacks 2002 – 2003
Description: Government-supported project of the Budapest University of Technology and Economics (BME) to assess the then-widespread threats of the Internet based on collected sensor data (eg. firewall logs) and to analyse their potential impact.
Duties: I wrote the programs which **created surveys** of the collected data and provided **consultancy on technical matters** helping revealing significant findings in the study.

6. Personal Properties

- appreciates order and tidiness
- holds code reliability high
- respects fellows' code and decisions
- always tests before deployment
- thinks ahead
- patient & emphatic
- disciplined & determined
- doesn't like giving up
- willing to learn
- motivated by fun

7. Personal Interests

I'm interested in experimental psychology, social issues and especially in the gender problem.

8. Code Repositories

- http://github.com/enadam (personal repository of own projects)
- http://meego.gitorious.org/meegotouch/meegotouch-compositor
- http://maemo.gitorious.org/fremantle-hildon-desktop/hildon-desktop

9. Employers and Contractors

- Nokia Solutions and Networks (http://nsn.com)
- BalaBit IT Security, the producer of `syslog-ng` and the `Zorp` firewall (http://balabit.com)
- Collabora Ltd., the Open Source company (http://www.collabora.com)
- Nokia Corp., Maemo Software and Meego Devices
- Blum Software Engineering LLC (http://www.blumsoft.eu/en)
- Department of Electrical Engineering and Information Systems, University of Pannonia, Hungary (http://virt.uni-pannon.hu/index.php/in-english)
- Department of Measurement and Information Systems, Budapest University of Technology and Economics, Hungary (http://www.mit.bme.hu/eng)

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