

1. Goal

I'm interested in full-time employment in **Linux** environment as a software engineer developing in **C** and **C++**.

2. Personal Information

Name	Endrődi, Ádám
Phone	+36XX XXXX XXX
E-mail	XXX@XXXX.hu
Nationality	Hungarian
Education	master of engineering in information technology, graduated at the University of Pannonia, Hungary
Specialization	telecommunication
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
- 11 years of Perl, 9 of C++, 10+ of C, Unix and specifically Linux
- 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

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

Keywords

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|---|---|
| • C, C++, assembly, ELF, yacc, T _E X | • gcc, gdb, autotools, Debian packaging |
| • Perl, Perl XS, Python, Python-C | • XML, web services, genetic algorithms |
| • regexps, advanced shell scripting | • scrum, git, Subversion, Bugzilla |
| • SQL, PostgreSQL, SQLite | • IPv4, SCTP, routing, firewalls, ssh |
| • glib, Qt, X11, D-BUS, SSL, PKI | • 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 level-3 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'm employed at Nokia Solutions and Networks as a senior software engineer. My ongoing project is building a **DIAMETER** (successor of the **RADIUS** protocol) load balancer on Linux for the Nokia NVS.

Project name: mcomposer

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 **mcomposer**, 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 **mcomposer** 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

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|--|--------------------------|
| • appreciates order and tidiness | • patient |
| • prizes code reliability high | • empathic |
| • respects his fellows' code and decisions | • willing to learn |
| • thinks ahead | • doesn't like giving up |
| • always tests before deployment | • 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 producers 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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