

Aleix Conchillo Flaqué
September 21st 1976
Married

Santa Apol·lònia, 7, 1
08401 Granollers (Spain)
+34 636 29 21 80
aconchillo@gmail.com
<http://hacks-galore.org/aleix/>

Curriculum Vitæ

Education

2001 Master's degree in Computer Science. Universitat Autònoma de Barcelona.

Professional Experience

Since Jul 05 Software Engineer, Institute of Space Sciences ([ICE-CSIC/IEEC](#))

I am part of the software team of the LISA Test Package project (within ESA's [LISA Pathfinder](#)), a payload developed by the European scientific community. My main goal is to develop the embedded software for the Data Management Unit which is in charge of handling the scientific information from the spacecraft. I am also in charge of software releases and software configuration management. I have written the coding standards and I have also been involved in the software requirements and architecture and other technical notes such as the schedulability analysis. Moreover, I designed and built the needed software infrastructure (build tools, nightly builds, moinmoin wiki, bugzilla, mercurial...).

I have also helped the QA team developing tools to ease the testing of the software (see *BitPacket* in page 2).

Technologies: A 64 Kbytes non real-time kernel has been written from scratch to bootstrap the DMU, including an interrupt manager, a non-preemptive scheduler and [MIL-STD-1553](#) drivers. The main application, optimized for an [ERC32](#) 12 MHz processor and 2 Mbytes of memory, has hard real-time constraints and requires a real-time operating system ([RTEMS](#)). Both applications have been written mostly in C and a bit of SPARC assembly. The software infrastructure (build tools, nightly builds and other scripts) is written in Python.

Introduction to Real-Time Operating Systems with RTEMS. Jun 2010: I gave a small seminar introducing Real-Time Operating Systems by means of RTEMS ([slides](#)).

RTEMS Open Class. Oct 2005: I assisted to a one week RTEMS class about general RTOS concepts and RTEMS internals given by [Joel Sherill](#).

Feb 04 – Jun 05 Software Security Responsible, [Allianz Seguros](#)

I was the software security responsible for all the software developed in Allianz. I was in charge of writing coding and software security guidelines, as well as developing prototypes that allowed the testing of new security requirements. I also created an initial PKI and developed in-house software security tools for data analysis and data encryption.

The PKI was built around Microsoft technologies. The analysis and encryption tools were developed using C, Python, Perl and Java.

Jul 01 – Feb 04 Co-founder and Software Engineer, [Scytl](#) Secure Electronic Voting

I was one of the fourth initial founders of the start-up, focused on secure electronic voting systems. My initial goal was to build all the company infrastructure as well as developing the initial e-voting prototypes. After that, I was part of the development team of the main distributed system for electronic voting. We developed a patented electronic voting system with a client-server multi-threaded architecture. The system was developed following well-known software engineering methodologies and also with a very demanding quality assurance process.

Professional Experience (continued)

Technologies: The system was built upon public key cryptography following the founder's Ph.D. thesis, that was later patented. The inter-process and network communications followed the architectural patterns used by the [ACE](#) libraries. The software was written in C++, Perl and Java and it was also portable to various platforms (GNU/Linux, FreeBSD and Windows).

May 00 – Mar 01

Software Engineer, [iSOCO](#)

I participated in the development of the Spanish [Fnac](#)'s electronic shop, creating client-server applications for multimedia content management and publishing automation. I also participated in smaller projects developing Servlets and JSP pages for e-commerce applications.

Technologies: The desktop application to publish content to the Fnac's web site was developed using Delphi and the server was developed in Java.

Sep 99 – May 00

Programmer, [Pradinsa](#)

I substituted the main, and only, developer of an in-house ERP system that supported clients, invoices, budgets, custom statistics, product labels and more. After improving the system performance and adding some features, I had to implement a simple system to share information between multiple factories via modem communications.

Technologies: The system was developed using Microsoft Visual FoxPro and SQL Server.

Academic Experience

Feb 06 – Jan 08

Consultant professor, Universitat Oberta de Catalunya ([UOC](#))

I worked as a consultant teacher in the Cryptography course of the Computer Engineering degree in this Internet-based university. The course mainly included cryptography history, symmetric and asymmetric key cryptography as well as PKI theory and applicability.

Sep 01 – Sep 04

Assistant professor, Universitat Autònoma de Barcelona ([UAB](#))

I gave practical classes of a Computer Networks course of the Computer Engineering degree. This included Java RMI programming, mobile agents, a Trivial FTP RFC implementation and practical network protocols understanding.

Non-professional Experience

During my spare time I try to learn more about computers and programming languages. Since I discovered the free software movement I have tried, whenever time is left, to focus my knowledge in writing free software applications.

BitPacket

[BitPacket](#) is a Python module to parse and build bit field structures in an easy object-oriented way.

mkprom-erc32

[mkprom-erc32](#) is a tool to create boot-images for RTEMS ERC32 based applications. Normally, applications are built to run from RAM. This tool compresses an application and creates a PROM image so it can load and execute this compressed application into RAM.

Mercurial

I have done minor contributions to the [Mercurial](#) project, such as the [GNU arch](#) to Mercurial conversion and the [Deps extension](#).

neon

I wrote the initial [GNU TLS](#) support of the [neon](#) HTTP and WebDAV client library.

Non-professional Experience (continued)

- playground** [playground](#) is a [GNOME](#) panel applet that lets you control basic functions of audio players. playground has a plug-in infrastructure so multiple audio players can be supported. It is also localized to various languages.
- SCEW** The aim of [SCEW](#) (Simple C Expat Wrapper) is to provide an easy interface around the XML [Expat](#) parser. It provides functions to load and access XML elements avoiding Expat internals. It also lets you access to the internal Expat parser, so one can still have all the functionality that Expat library provides. SCEW also incorporates functions to create and handle XML trees.
- WePS** [WePS](#) (Web Package Surfer) is a PHP-based package management system that lets you browse, search and administrate a set of files contained in packages that are classified by (possibly nested) categories. WePS is particularly useful for maintaining a repository of downloaded files.
- demoscene** During the college years, my friends and I formed a [demoscene](#) group called [Anaconda](#). We were part of the spanish scene and presented our [productions](#) (real-time rendered graphics), even winning some awards, at various parties (mostly at [Euskal party](#)).
- blog** Whenever I have some free time and some interesting technical experience to write about, I post an article to my [blog](#).

Other Interests

- Languages** I have always found interesting to learn other languages. In the last few years I have been learning French and I would like to start with German again.
- **Catalan and Spanish:** mother tongue
 - **English:** well written and spoken
 - **French:** basic written and spoken
 - **German:** very basic
- Travelling** I really enjoy travelling and learning from other cultures. In the last four years I have visited Mexico, Japan, Egypt, Morocco, United States and some European countries.