

CARLOS ABALDE RAMIRO

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Personal details

Name	Carlos Abalde Ramiro
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Education

10/2001-06/2003 **Computer Science Department / University of A Coruña** A Coruña (ES)

- Diploma de Estudios Avanzados (**Master thesis**, 2-years) awarded "Matrícula de Honor" (top marks).

10/1996-10/2001 **Faculty of Informatics / University of A Coruña** A Coruña (ES)

- Ingeniero en Informática (**Computer Science engineer**, 5-years University degree)
- Degree project: "*Design and Implementation of a Real, Secure and Scalable Internet Payment System*", awarded "Matrícula de Honor" (top marks) and transferred for its study to ebusiness-on.net (Cologne, DE).

Job experience

05/2009-today **Tuenti Technologies S.L.** Madrid (ES)
Backend engineer

- Tuenti (<http://www.tuenti.com>) is **the most trafficked website in Spain**, and the country's leading private social platform. Based in Madrid, Tuenti has rapidly grown in three years with millions of active daily users and was one of the most searched terms in 2008 in Google's annual zeitgeist.
- **General responsibilities:** (1) Design, implement and maintain data layer of Tuenti and its services, including validation, storage and access (PHP + MySQL); (2) Apply new data management techniques to support site growth; (3) Optimize application performance, with respect to CPU utilization, network traffic, data storage size, response time, and concurrency; (4) Write and maintain tests of the data access logic, and documentation for code and tests; and (5) Analyze and identify bottlenecks in system performance; and (6) Debug issues based on user reports.
- **Main tasks:** implementation (Erlang/OTP) & deployment of the XMPP-based (XEP-0124) web instant messaging backend (largest jabber deployment in Spain).

01/2009-04/2009 **MADS Group / Faculty of Informatics / University of A Coruña** A Coruña (ES)
Software engineer

- Design and implementation of the prototype of ADVERTISE: **distributed control system (Erlang/OTP) for the insertion and personalization of ads** in iTV, TDT & web systems in real-time.
- Development of **80% of the backend system**: distributed message bus, event managers and logging.

06/2008-04/2009 **dot2code Technologies S.L.** A Coruña (ES)
IT consultancy

- **Analysis & design of the web platform**, focusing on **scalability issues** (Ruby on Rails + memcached + MySQL + DB sharding).

09/2005-04/2009	Faculty of Informatics / University of A Coruña <i>Assistant teacher</i>	A Coruña (ES)
	<ul style="list-style-type: none"> • Information Systems Design (4th term course). Part of the software engineering meta-course focused on high quality engineering practices mainly based on GoF design patterns. • Director of several final-degree projects focused on Erlang/OTP, Ruby on Rails, J2ME & P2P technologies. 	
10/2002-12/2004	MADS group / Faculty of Informatics / University of A Coruña <i>Technical director/software engineer of the ARMISTICE project</i>	A Coruña (ES)
	<ul style="list-style-type: none"> • ARMISTICE: <i>Advanced Risk Management Information System: Tracking Insurances, Claims and Exposures</i> (http://www.madsgroup.org/armistice). • Analysis, design and implementation of the system, based on a distributed declarative (Erlang/OTP) backend connected with a Java/Swing based lightweight client using XML-RPC. • Deployed in Inditex (Spanish textile multinational) since early 2005. 	
03/2002-08/2003	MADS group / Faculty of Informatics / University of A Coruña <i>Analyst in the e-MINDER project</i>	A Coruña (ES)
	<ul style="list-style-type: none"> • European Union's Fifth RTD Framework Programme Project IST-2000-28403, e-MIDER: <i>Electronic Commerce Leveraging Network for Developing European Regions</i> (http://www.e-negociogalicia.com). • Development of teaching resources (e-commerce basics, security, logistics, marketing, etc.) 	
11/2001-12/2001	MADS group / Faculty of Informatics / University of A Coruña <i>Software engineer in the VoDKA project</i>	A Coruña (ES)
	<ul style="list-style-type: none"> • VoDKA: <i>Video on Demand Kernel Architecture</i> (http://www.madsgroup.org/vodka). • Development and improvement of the storage, caching and streaming layers of the streaming server. • The system is commercialized, extended and deployed by the group spin-off LambdaStream (http://www.lambdastream.com) since early 2005. 	

Specific skills

- Strong knowledge of the distributed functional paradigm, the programming language Erlang and the Open Telecom Platform (OTP) developed by Ericsson.
- Skilled in modern software engineering tools: UML, design patterns, version control systems (CVS, Subversion, Mercurial), etc.
- Skilled in GNU/Linux system administration (Debian GNU/Linux user since 1997): network services, firewalls (IPtables), virtualization (UML, KVM, etc.), CMSs (Drupal, Moodle, WordPress), DBMSs (MySQL, PostgreSQL), etc.
- Skilled in XMPP technologies. Strong knowledge of the ejabberd server implementation.
- Skilled in key-value storages/caches (memcached, CouchDB, etc.).
- Design and development of applications with functional kernel and client/server architecture. Distributed and parallel programming (Erlang/OTP).
- Several programming languages (imperative and functional). Mainly Erlang/OTP, Java, C, C++, Perl, PHP, Ruby, Python and Bash scripting.
- Web standards and technologies: HTML, CSS, JavaScript, XML, SQL, RoR, JSP, CORBA, XML-RPC, etc.
- TCP/IP and application-level protocols and standards such as HTTP and WebDAV.
- Strong knowledge of decentralized and structured P2P technologies (DHTs), included Erlang/OTP implementations of several P2P protocols.
- Familiar with the development and terminology of video on demand (VoD) and digital television (DVB) scenarios.

Languages

	spoken	read	written
Spanish	native	native	native
Galician	native	native	native
English ^(1,2)	near fluent	fluent	good
Portuguese	-	basic	-

(1) First Certificate in English (FCE). Cambridge University. 06/2004. Now preparing the Certificate in Advanced English (CAE).

(2) Three months visiting the University of West of England (Bristol, UK). 23/09/2004-23/12/2004.

Other knowledge and skills

- Speaking in public: international conferences (8 since late 2002), university teaching (5 courses since 2004) and other technical and non-technical courses (> 15 courses on GNU/Linux & e-commerce).
- Cryptography concepts and working knowledge developing a distributed secure payment system.
- Familiar with the development and terminology of risk management systems (RMIS).
- Member of the technical program committee of the "International Conference on Internet and Web Applications and Services" (ICIW'09), *chairman* at the "International Conference on Computer Aided Systems Theory" (Eurocast'05) and reviewer of several scientific articles.
- Visits to the University of West of England (Bristol, UK, 3 months) and to the Swedish Institute of Computer Science (Stockholm, Sweden, 2 weeks).

Publications

As a researcher in the MADS group, I have published several technical papers (> 20) in **international conferences and magazines** (since late 2002) and one chapter in the book "Handbook of Research on P2P and Grid Systems for Service-Oriented Computing" (pending publication). A full list can be found at <http://carlosabalde.com/MADS/staff/carlos/publications>. The main topics are,

- Distributed functional architectures: a payment gateway, a video on-demand streaming server (VoDKA), a risk management system (ARMISTICE) and a low cost distributed file system (CheapTB).
- P2P content distribution networks, overlay networks, distributed hash tables and resource discovery.
- Erlang/OTP based systems. Functional programming and design patterns.

Projects collaborations

As a researcher in the MADS group, I have collaborated in several **public and private funded research projects** (> 20 since late 2001). A full list can be found at <http://www.madsgroup.org/web/projects>.

Personal projects

I'm the main developer of EMC (Erlang MemCached Client). EMC is an open source and simple wrapper of the memcached library 'libmemcached' created by TangentOrg. EMC provides an Erlang/OTP API to allow the connection to memcached servers from Erlang applications. The full description and source code of EMC can be found at <http://code.google.com/p/erlangmc>.