

Jan Čurn - Curriculum Vitae

Personal Information

First name	Jan
Last name	Čurn
Postal address	Distributed Systems Group, School of Computer Science and Statistics, Trinity College Dublin, Dublin 2, Ireland
Email	jan.curn@gmail.com
WWW	http://www.curn.info
Telephone	+353 877 953 262 (Ireland) +420 775 253 782 (Czech Republic)
Born	1983, Prague, Czech Republic
Nationality	Czech
Marital status	single
Hobbies	football, ski, SCUBA diving, traveling, music, sailing, bowling
Research interests	distributed systems, intelligent transportation systems, robotics
Languages	Czech native, English very good (TOEFL iBT 103 points out of 120), German quite good



Education

2001 – 2007	Magistr (Master of Science equivalent) in Computer Science from the Department of Software Engineering, Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic. Graduated from Distributed systems, Operating systems and Object oriented and component systems (http://www.mff.cuni.cz/)
1994 – 2001	Budějovická Grammar School, Prague, Czech Republic. Leaving exams in Mathematics, Physics, Czech language and German language (http://www.gybu.cz/)

Positions

2008 – present	Ph.D. student, Distributed Systems Group, School of Computer Science and Statistics, Trinity College Dublin, Ireland (http://www.scss.tcd.ie/)
2006 – 2008	Software developer and consultant at DHI Water, Health and Environment, Prague, Czech Republic (http://www.dhigroup.com/)
2002 – 2005	Software developer and project manager at Institute of Chemical Technology, Prague, Czech Republic (http://www.vscht.cz/)

Selected Projects

- 2009 - present **VirtualRig™ Studio**
A desktop application for adding realistic motion blur effect to pictures, especially useful for a professional car photography. I am a development leader of this product, which is being developed in Java 6. See <http://www.virtualrig-studio.com/> for details.
- 2008 **Oracle Partner Hub**
Oracle Partner Hub is a comprehensive web portal, which covers existing Oracle Partner Studio and two brand new applications – Partner Academy and ISV Migration Center. These applications offer a list of Oracle’s courses, seminars and services, provide interactive search, content management, service registration system etc. The portal is entirely developed in Oracle Application Express (APEX) and PL/SQL.
- 2008 **Oracle Partner Studio**
Web portal for Oracle Partner Studio project, including content management system, discussion forum, multiple languages support, news, companies/users registration and administration, service booking and approval mechanisms, email messaging etc. The system is entirely developed in Oracle Application Express (APEX) and PL/SQL.
- 2008 **Oracle Agencies Platform**
Agencies Platform is a web-based application run by Oracle Czech, used for management of company profiles and contacts, to support agents’ phone surveys with set of questions, including automatic profile flagging, exports and reporting functionality. The system represents a full-featured solution enabling customization of profile properties, agencies management, user management etc. I developed the application using PHP, MySQL, JavaScript and CSS. The system is used by several third party agencies to profile companies in countries across the Central and Eastern Europe.
- 2006 – present **YA-RPC**
YA-RPC is a next generation framework for building high-performance distributed applications in C# and Java. In comparison to classical remote procedure call systems, YA-RPC offers unique performance, and provides features like callbacks, encryption, compression, asymmetrical serialization, intelligent threading and much more. All the information is available at <http://www.yarpc.org>.
- 2006 – 2007 **Distributed OpenMI**
OpenMI is a European standard for linkage of water and environmental computational models, supported by the European

Commission under the Fifth Framework Programme. Distributed OpenMI extends the standard with a possibility to link models running on different computers, using their network sub-system, and provides advanced features like caching, piggybacking and direct model linkage to achieve high performance of distributed computations. I designed and developed the system in C# during my Master's Thesis. The text of the thesis may be downloaded from <http://www.curn.info>.

2004 – 2008

Najednommiste.cz

A public web site providing unique service for searching web pages with used car offers. In one place, a user may find most of the offers present in the Czech internet. Internally, the system utilizes full-text web crawler and a bunch of unique document analysis algorithms. I was the project manager, overall system architect and developer of various components of the system, including the document analyzer. The system is written in C#, ASP.NET, JavaScript and CSS, and runs upon MSSQL database.

2006 – 2008

SCI ER

SCI ER is an international project supported by European Commission, which will develop an integrated system of sensors, networking and computing infrastructure to provide the authorities and public with early warning in fire and flood emergency situations. This project combines several state-of-art technologies, e.g. wireless network of vision sensors, GRID computing infrastructure, multiple-future fire model, advanced 1D flood model... In this project I designed and developed the software components responsible for flood simulations, using J2EE and C#. More information about the project is available at <http://www.scier.eu>.

2006 – 2007

POP

A web-based application for evaluation of chemical and ecological quality of water bodies in Czech Republic based on sensor measurements, as requested by European Water Framework Directive. It manages sensor measurements and limits, performs computations and offers a GIS environment to visualize the results. The application was developed in C#, ASP.NET and JavaScript upon Oracle 10g database, and is currently deployed in Vltava, Labe and Ohře national river basin management companies. I designed and developed the web front-end of the system, and integrated the system with legacy applications.

2007 – 2010

QPipe

A desktop application for evaluation of hydrometric measurements. The application provides tools for generation and modeling of pipe profiles and for computation of water flow characteristics. I

designed and developed the entire application in C#.

- 2006 **ChemLookup®**
Web service for staying up-to-date with chemical legislation for most European countries, carried on by Denmark Toxicology Centre. I designed and developed whole solution using C#, ASP.NET, JavaScript and CSS. The application is available at <http://chemlookup.dhigroup.com>.
- 2006 **DPG EdgeFrame™ Helpdesk**
A comprehensive web-based helpdesk application managing complete workflow of corporate incidents, designed for middle and large businesses. I designed overall system architecture and developed core components of the system in C# and ASP.NET. More information about the application may be found at <http://www.edgeframe.cz>.
- 2006 **Mike Flood Watch**
The large system for real-time flood forecasting, decision support, real-time optimization of dams and reservoirs and water quality forecasting. The system is a combination of many components, e.g. computation servers, ESRI ArcGIS extension for desktop computers, web front-end application and ArcSDE database server. Many national authorities have installed this system world-wide. I participated in development of various components of the system, e.g. the simulation job scheduling engine. For more information look at <http://www.dhigroup.com/>.
- 2006 **Microsoft SQL Server backup-cycle management software**
The system for backup management for number of databases, deployed in high-load environment. The client was Getronics Czech Republic; the system has been successfully deployed in PPF, a.s. I development various components of the software.
- 2005 **OmiEd**
Front-end application for OpenMI – the standard for linkage of computational models in domain of water and environment. I designed and developed this desktop application in C#; and it is now a part of the standard's official release. The software is available as open-source at <http://www.openmi.org>.
- 2005 – 2009 **Mike Urban**
Mike Urban is a fully-integrated GIS based application for modeling of water distribution and sewer systems, based on ESRI's GIS technology. I participated in the development of various components of the system, typically using C# and C++. For more information about the product look at <http://www.dhigroup.com/>.

- 2005 **CumakFS**
An experimental implementation of ext2-like file system for Linux developed as a loadable kernel module in C. I was one of the three participants of this college project, responsible for several components of the system including the physical storage layer.
- 2004 **Central information system at Institute of Chemical Technology**
A web-based information system for the Institute of Chemical Technology in Prague. The system comprises several applications, e.g. attendance monitor, material safety data sheets (MSDS) search tool, chemicals exchange service ...etc in a single web front-end. I designed the integration environment and also developed a number of the applications in C#, ASP.NET, JavaScript and CSS.
- 2003 – 2004 **Eye**
A research tool for 3D reconstruction (i.e. transformation of 2D images to 3D model) using automatic camera calibration and manual identification of corresponding points. I designed the numeric solution and developed a working application. A research of automatic processes replacing human assistance was also part of my work.
- 2003 – 2004 **MIPS R4000 Memory Manager**
The implementation of memory manager for experimental operating system developed as a university project in MIPS R4000 assembly language and C. I designed and implemented high-performance physical memory allocator, supporting variable block sizes and working with logarithmical asymptotic complexity and small memory overheads.
- 2003 – 2005 **Identity integration system at Institute of Chemical Technology**
A system to synchronize user accounts between various legacy systems deployed in a large organization (~1000 employees, ~4000 students). The system integrates Active Directory, student and employee databases, identity-card system and other systems. I designed and implemented the whole solution.
- 2004, 2008 **Lipnicka.cz**
A web presentation and on-line sales catalog for a house construction company developed using PHP, CSS and MySQL. The presentation is available at <http://www.lipnicka.cz>.

International Activities

- 2007 Talk about Distributed OpenMI at 2nd OpenMI-Life and Association Workshops "Integrated Modelling for Integrated Water

	Management", Centre for Ecology and Hydrology, Wallingford, United Kingdom
2006	Development of Mike Flood Watch, 5 weeks, DHI Water & Environment, Hørsholm, Denmark
2005	Talk about migration of Hydrog rainfall-runoff model at OpenMI Dissemination Workshop, Munich, Germany
2005	Development of OmiEd application, 1 week, DHI Water & Environment, Hørsholm, Denmark
2001	Intensive German language course, 3 weeks, Friedländer-Schule Berlin, Germany

Practical Experiences

Languages	C#, ASP.NET, Java/J2EE, JSP, C/C++, SQL, T-SQL, PL/SQL, HTML, JavaScript, PHP, XML+XSLT+XSD, UML, Pascal (Delphi), Prolog, Haskell, x86 assembler, MIPS R4000 assembler, bash, Visual Basic, ...
Database systems	Microsoft SQL Server, Oracle, MySQL, Microsoft Access
IDEs	Microsoft Visual Studio, Eclipse, NetBeans, Borland Delphi, Borland C++ Builder, Enterprise Architect
Operating systems	Microsoft Windows family, various Linux distributions
Web servers	IIS, Apache, Tomcat
Distribution tech.	SOAP, .NET Remoting, CORBA, DCOM, XML-RPC, YA-RPC
Source controls	CVS, SVN, Seapine Surround, Microsoft SourceSafe
Office	Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Microsoft Access, Microsoft Publisher, ...
Miscellaneous	ESRI ArcGIS, Autodesk MapGuide, Active Directory, DHI MIKE series, Oracle Application Express (APEX), PTV VISSIM, Drupal, Zen Cart, ...