Stephen Crane

Home Address
Dublin, IRELAND
+353-86-8058514
jscrane@gmail.com
http://www.maths.tcd.ie/~jscrane

Personal information

Born in Dublin, IRELAND, May 1965.

Written and spoken proficiency in French and German.

Broad general interest in languages, etymology and philosophy.

Profile

Over twenty years' programming experience, the last nine with Java.

Strong academic background with a focus on development with, and of, distributed programming environments and middleware.

Long history of contribution to free software.

Several years' experience with agile methodologies (e.g., XP, test driven development) and associated Java infrastructure.

Degrees

Ph.D. (Computer Science, University of London, 1997) My thesis *Dynamic Binding for Distributed Systems*, described a formal model of distributed interaction and an implementation of this model in which: program structure and algorithm are disjoint; interactions between program components are not constrained to any one style; and communication protocols supporting distributed interaction are unlimited and extensible. The system used to demonstrate these ideas was written in C++, its demonstration application was bound to it using tcl/tk and a protocol monitoring application was written in Java.

M.Sc. (Computer Science, University of Dublin, 1989) This degree was obtained by research into the design and implementation of a recovery manager for an object-oriented distributed kernel. The ultimate aim was to provide as great a degree of failure transparency to the end user as possible, while minimising the inevitable performance degradation associated with continuity mechanisms.

B.A./B.A.I. (University of Dublin, 1987) My primary degree consisted of two years of general engineering courses followed by two years of specialisation in Computer Engineering. In the final examination I obtained the top first in Computer Engineering. Of particular interest are:

- B.A.I. project. This final-year project involved the implementation of a subset of the Token Bus (ISO-8802.4) MAC sublayer as software layered over an existing 3 Mbps ethernet on a network of SUN-1 targets. Ethernet drivers were written in C and the CSMA/CD characteristic verified. Subsequently a working demonstration of deterministic access time versus ethernet's non-determinism was completed.
- Microprocessor systems' project. As part of the practical work for this course, groups of students were required to design, commission and test a 68008-based microprocessor system and write a monitor program for it.

A transcript of results is available on request.

Experience

06/07–09/08 Java Consultant, Friends First Life Assurance Co., Dublin, IRELAND
Built a Webapp allowing online loan applications, using Java, Spring Framework (MVC, Webflow), Hibernate, Web-Services, FitNesse, jUnit and Mock Objects. Set-up and administered its development and deployment servers (Weblogic 10 on Red Hat Enterprise Linux). Helped modernise a larger project's build-time and runtime environments, moving it from Weblogic 8 to 10 and Java 1.4 to Java 5.

01/07–06/07 Independent Java Consultant, Rococo Software, Dublin, IRELAND
Helped implement updated Java standard APIs for Bluetooth and produced a proof-of-concept implementation over D-Bus on Linux.

04/06–10/06 Java Consultant, Zuhlke Engineering, London, U.K.
Researched and developed a regression-testing framework for Web-Services, using Java, XSLT, jpcap and jUnit.

01/06–04/06 J2EE Consultant, Friends First Life Assurance Co., Dublin, IRELAND
Performed high-level redesign of legacy, two-tier internal system (written in VB and C++) for integration as a web-service into wider J2EE-based intranet, and helped implement it, using Struts, Tiles, Tomcat, Axis and Eclipse.

8/01–10/05 Senior/Principal Engineer, Rococo Software, Dublin, IRELAND
JavaME, Bluetooth:

- Helped JSR-82 committee to produce Java APIs for Bluetooth and worked on Rococo's implementation, *Impronto*.
- Cowrote Impronto Simulator providing JSR-82 APIs in a JavaSE environment without Bluetooth hardware.
- Implemented `javax.obex` package for Impronto.
- Ported Impronto to Ericsson Bluetooth stack and Sun's KVM.
- Ported Impronto to Linux's BlueZ stack on Intel and Sharp Zaurus (see *Dr Dobb's Journal*, July 2005); maintainer of BlueZ-SDP package, contributor of many bug-fixes and improvements to BlueZ, `http://www.bluez.org`.
- Designed and implemented lightweight RMI mechanism for J2ME (see *Tech Monthly* publication below).
- Integrated Impronto Simulator with Aplix's JBlend and Esmertec's JBed (proprietary embedded VMs) and worked with both clients to ensure the results passed the TCK.
- Implemented OBEX over IrDA for Linux and Windows.

JavaSE/JavaEE:

- Built internal licence-generation webapp with Struts, Tomcat, JDBC.
- Designed and implemented the back-end of *Mobile Frontier*, providing persistence services and business logic to mobile clients, using XML-RPC and Hibernate.
- Worked on various JavaEE/Parlay applications using Struts, Spring, Hibernate, JBoss, Weblogic.

Experience

4/01–8/01 Contract programmer, sys-admin, Weblink, Dublin, IRELAND
Helped build a recruitment site, using Apache, Tomcat and MySQL, `http://www.cmcareers.com`. It was developed on Linux using Ant, JUnit and CVS, deployed to Mac OSX. Systems work involved moving older Rhapsody-based Mac OS webservers to OSX and managing the deployment of the recruitment site.

6/00–4/01 Senior Java Developer, Oniva Ltd., Dublin, IRELAND
Helped design and implement large B2B J2EE application (BEA Weblogic talking to an Oracle database on Solaris); the high-level design used the UML while the low-level design and the implementation used XP. My role was mainly in the back-end, on the controller servlet and the session- and entity beans, although I also managed the system deployment. When this project ended, in January 2001, was employed in a research role with other members of the core services group, and began prototyping a generative approach to GUI development using the Xerces XML parser and Java reflection to build a set of bean instances from XML descriptions. Administered the company's Unix systems, including the Internet gateway (FreeBSD), the CVS server and development workstations (Linux).

6/00 Java Programmer, Quokka Inc., Le Mans, FRANCE
Contracted to Quokka Inc. to create an applet for graphical web-casting of live telemetry data (acceleration, velocity and track position) from General Motors' cars during the 24-hour race. Codesigned a server-applet protocol which allowed us to debug the telemetry server during the race.

7/98–5/00 Senior Software Developer, Flexicom Ltd., Dublin, IRELAND
Implemented multi-protocol (APACS30, ISO8583, MDC) credit-card authorisation system; co-designed acquiring package for major merchant-processing organisations; evangelised Java, including instruction of other developers; designed Internet payments' gateway and implemented a bespoke applet/servlet pair to perform online credit-card processing.

4/00 Java Programmer, Weblink, Dublin, IRELAND
Wrote the JSP and Java-beans portion of a company extranet for Novell Ireland. This was deployed on IBM WebSphere and communicated with an Oracle database at the back-end.

5/97–7/98 Research Assistant, City University, London, UK.
Employed by the EPSRC-funded KENDRA project — addressing multimedia resource discovery and delivery over the Internet. See also: `http://www.soi.cs.city.ac.uk/homes/jsc/`. During this time I also contributed various bugfixes to the Kaffe project.

5/93–5/97 Research Associate, Imperial College, London, UK.
Co-designed and implemented REGIS, a configurable open distributed system. Implemented a C++ tasking library, the message transport layer and a hierarchical white-pages name service. Responsible for releasing system versions to students and a number of users world-wide. Primary focus was dynamic configuration management. As part of teaching duties, oversaw students' coursework which used REGIS, including lecturing them about it. Also during this time, I consulted to Sedgwick Energy Ltd. implementing their *loss assessment model* for industrial plant in Windows 3.1x, and later Windows 95.

Experience

10/92–4/93	C-Programmer, Access Softek, Berkeley, CALIFORNIA. Implementation of OLE-1 client and server and OLE-2 client published on Microsoft developer CD-ROM. Contributed OLE chapter to *Mastering Windows NT* (Sybex 1994). Technical support and network management.
8/90–10/92	Research Associate, Imperial College, London, UK. Employed by the Esprit-funded Rex project investigating reconfigurable and extensible parallel and distributed systems. Personal responsibilities were the runtime and message transport system, a threads library (released under the 'GPL'), the extensions to C++ for this environment, the management of software releases to project partners and porting the resulting system from Sun-3s and Sun-4s to DecStations and PCs running 386BSD.
9/89–5/90	C-Programmer, Access Softek, Berkeley, CALIFORNIA. During a year in California, I was employed by a small software house specialising in applications for Microsoft Windows. I designed a rewrite of their popular file manager, *Prompt* and headed its implementation team.
8/87–8/89	Research Student, Trinity College Dublin, IRELAND. Before deciding on an M.Sc. project, I was employed as part of the Dumps project to investigate multiprocessing in a distributed system.
6/86–8/86	Research Assistant (Summer employment)
6/85–9/85	Battelle Institut, Frankfurt am Main, GERMANY. Writing graphics utilities in FORTRAN and PDP-11 assembler.

Publications

S. Crane. Higher-level Abstractions over JABWT with PRMI. *Tech Monthly*, September 2003.

J. A. McCann *et al.* Kendra: adaptive Internet system. *Journal of Systems and Software*, 55(1):3–17, December 2000.

J. A. McCann, S. Crane. Component DBMS Architecture for Nomadic Computing. In *Proceedings of the 16th British National Conference on Databases: Advances in Databases*, Springer-Verlag, London, UK, 1998.

S. Crane, N. Dulay. A Configurable Protocol Architecture for CORBA Environments. In *Proceedings of the Third International Symposium on Autonomous Decentralised Systems*, Berlin, Germany, April 1997.

S. Crane. A Framework for Distributed Interaction. Presented at the *International Workshop on Development and Evolution of Software Architectures for Product Families*, Madrid, Spain, November 1996.

N. Pryce, S. Crane. A Uniform Approach to Communication and Configuration in Distributed Systems. In *Proceedings of the Third International Conference on Configurable Distributed Systems*, Annapolis, Maryland, USA, May 1996.

S. Crane, J. Magee, N. Pryce. Design Patterns for Binding in Distributed Systems. *Presented at the Workshop on Design Patterns for Concurrent, Parallel and Distributed Object-Oriented Systems* at OOPSLA-95, Austin, Texas, USA, October 1995.

S. Crane *et al.* Configuration Management for Distributed Software Services. In *Integrated Network Management IV: Proceedings of the Fourth International Symposium on Integrated Network Management*, editors: Sethi, Raynaud and Faure-Vincent. Chapman and Hall, Santa Barbara, 1995.

S. Crane and K. Twidle. Constructing Distributed Unix utilities in Regis. In *Proceedings of the Second International Conference on Configurable Distributed Systems,* Pittsburgh, PA., March 1994.

K. Twidle *et al.* Configuring Heterogeneous Open Systems. In C. Petrie, editor, *Enterprise Integration Modelling: Proceedings of the First International Conference,* MIT Press 1992.

S. Crane and N. Dulay. Constructing multi-user applications in Rex. In *Proceedings of COMPEURO '92*, May 1992. IEEE Computer Society.

J. Kramer *et al.* An Introduction to Distributed Programming in Rex. In *Proceedings of ESPRIT '91*, pages 207–221. Brussels, November 1991.

S. Crane, B. Tangney and J. Moreau. Enforcing Determinism in a CSMA/CD Local-Area Network. *Microprocessing and Microprogramming, The Euromicro Journal*, 26(3):205–212, October 1989.

B. Tangney, S. Crane, *et al.* Primitives for Coarse-Grained Parallelism in an Object-Oriented Language. In Proceedings of the BISL CONPAR Conference, pages 314–321, September 1988. British Computer Society.

B. Tangney, S. Crane, *et al.* Multiprocessors and Multiprocessing in a Distributed System. In *Proceedings of the IEEE Workshop on Distributed Computing in the 90s*, pages 139–146, September 1988. IEEE.

Honours

1987 *Collen prize* from T.C.D. for final-year project.
1987 *Alexander prize* from T.C.D. for performance in Degree examination.
1985 Elected *Foundation Scholar* of T.C.D.
1984 *Backhouse prize* from T.C.D. for first place in J.F. Engineering.
1983 First Prize *Duggan Award* for mathematics from Belvedere College.
1982 First Prize *Memory Ireland* computer competition.