

David Chisnall

Contact and Personal Details

Address: 56A Gower Road	Citizenship: British
Sketty	Date of Birth: 15 June 1982
Swansea	Gender: Male
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Experience

- Currently working as a freelance writer.
- Seven months employed by Swansea University researching the history of programming languages.
- *The Definitive Guide to the Xen Hypervisor*, published by Prentice Hall in the autumn of 2007 (ISBN: 013234971X). Written during 2007.
- Freelance journalism, published by Ping Wales¹ and InformIT, with a total of around 100 published articles and a regular column on InformIT.
- Ad-hoc work for Mark Sobell writing sections of *A Practical Guide to Red Hat Linux* and performing technical reviews of other books for Pearson Education (2004-2006).
- Participated in a Knowledge Transfer Project (KTP) with a local company while a Research Assistant (Sept-Dec 2003) and during PhD study.
- 10 weeks vacation employment with QinetiQ (www.qinetiq.com) writing software as part of a team (Summer 2001). Security clearance lapsed 2002.
- Joint head of the RAF division of the school, and gained experience organising a group of approximately 100 cadets, including giving lectures and planning and implementing leadership exercises. (1998-2000)

Education

2004 - 2007 University of Wales, Swansea - Studying for a PhD. in Computer Science. Thesis submitted June 2007, Viva held December 2007.

2000 - 2003 University of Wales Swansea - BSc. in Computer Science with first class honours.

1989 - 2000 Exeter School:

4 'A' Levels: Mathematics [B], Physics [B], Chemistry [C], Politics [C].

11 GCSEs: Mathematics [A*], Physics [A*], Religious Studies [A*], Biology [A], Chemistry [A], History [A], Information Technology [A], English [A], English Literature [A], French [A], German [B].

Skills

Familiarity of a wide range of programming models and languages including declarative languages (e.g. Prolog), dynamic and static object oriented languages (e.g. Smalltalk and Objective-C, Java and C++). An understanding of concurrent programming experience using CSP-derived languages such as Erlang and Termite, as well as π -calculus extensions to Haskell.

Experience teaching the implementation of a number of operating systems, including most open source UNIX variants, especially the BSD family. Conducted a technical review of Amit Singh's work on the OS X kernel (XNU) internals.

Founding member of the Étoilé Project, which aims to develop a desktop and post-desktop environment for *NIX platforms. Contributed over 10,000 lines of code as of June 2007, mostly under a 3-clause BSD license. Original contributions and code currently maintained include:

¹Ping Wales no longer exists. Copies of articles published by them are available on request.

- XMPP library and associated instant messaging and collaboration application.
- Extensions to the Objective-C language, including implementations of Futures², prototypes and mixins.
- A replacement for the GNU Objective-C runtime with better support for other languages.
- Serialisation code for arbitrary Objective-C objects (to be integrated into CoreObject).
- The CoreObject³ framework, to be used as a replacement for a filesystem by the Étoilé (in development).
- Compositing Manager, with a focus on usability.
- Smalltalk compiler producing code binary-compatible with Objective-C

Developed long-range collaboration skills through Étoilé, as contributors are scattered over two continents, building on skills gained as a result of working with Mark Sobell and again when developing academic collaborations with INRIA Lille.

Also a contributor to the LLVM compiler infrastructure project from the University of Illinois, Urbana-Champaign. Contributed code related to Objective-C code generation for the “clang” C-family language front end.

Achievements

- 2008** Had submitted code accepted by the LLVM project, including the initial implementation of code generation for the Objective-C project.
- 2007 and 2008** Selected to mentor a student in the Google Summer of Code for two years.
- 2006** Invited to write a book on Xen by Prentice Hall.
- 2005** Created and ran a seminar series for postgraduate students to give talks to their peers, helping develop presentation skills and broaden the knowledge of those studying in the department.
- 2004** Involved with the founding of the Étoilé Free Software project. Still an active contributor.
- 2004** Elected postgraduate staff-student representative.
- 2002** Ran advisory service helping students with programming problems.
- 2002** Coordinated groups through both phases of system requirements analysis for the MSN Student Finance web site ⁴
- 2002** Re-elected Treasurer of Swansea University Computer Society.
- 2001** Co-opted to the Student Union finance committee
- 2001** Elected President of the University Dark Ages Re-enactment Society
- 2001** Elected President of the University Choral Society.
- 2001** Elected Treasurer of Swansea University Computer Society.
- 2000** Elected First Year Computer Science Staff / Student Representative.
- 2000** Silver Certificate in the UK Physics Olympiad.
- 2000** Took part in a choral society production of Mozart’s Requiem.
- 1999** Gliding Scholarship. Promotion to Flight Sergeant (CCF).
- 1998 - 1999** Technical director of a young enterprise company, which won the IOD ‘Most Entrepreneurial Board of Directors’ award. Credit achieved in YE exam.
- 1998** Took part in RAF shooting competition as part of a team of four. Finished third nationally.
- 1998** Represented school in winning team of four for Exeter Mathematical Challenge.
- 1997** Represented school in the Exeter Mathematical Challenge team of four. Came second on tie breaker.
- 1997** Silver Certificate in UK Senior Mathematics Challenge, Gold in UK Intermediate Mathematics Challenge.

²A construct for implicit parallelism.

³For more information, see the following two blog postings:

<http://www.etoile-project.org/etoile/blog/2007/07/road-to-coreobject-part-1.html>

<http://www.etoile-project.org/etoile/blog/2007/07/road-to-coreobject-part-2-why-bother.html>

⁴<http://www.money.msn.co.uk/Student>

Publications

An up-to-date list of publications is available from <http://www.cs.swan.ac.uk/~csdavec>

Peer-Reviewed Conference Papers

K. W. Brodlie, J. Brooke, M. Chen, D. Chisnall, C. J. Hughes, Nigel W. John, M. W. Jones, M. Riding, N. Roard, M. Turner, and J. D. Wood. Adaptive infrastructure for visual computing. In *Theory and Practice of Computer Graphics*, pages 147–156, 2007.

*David Chisnall and Min Chen. The making of SimEAC. In *International Conference on Autonomic Computing*, pages 301–302, 2006.

*David Chisnall, Min Chen, and Charles Hansen. Knowledge-based out-of-core algorithms for data management in visualization. In *EuroVis*, pages 107 – 114, 2006.

Mark Riding, Jason Wood, Ken Brodlie, John Brooke, Min Chen, David Chisnall, Chris Hughes, Nigel W. John, Mark W. Jones, and Nicolas Roard. e-viz: Towards an integrated framework for high performance visualization. In *Proceedings of the UK e-Science All Hands Meeting*, pages 1026–1032, 2005.

Peer-Reviewed Journal Papers

Ken Brodlie, John Brooke, Min Chen, David Chisnall, Ade Fewings, Chris Hughes, Nigel W. John, Mark W. Jones, Mark Riding, and Nicolas Roard. Visual supercomputing - technologies, applications and challenges. In *Computer Graphics Forum* (24):217–245, 2005.

*David Chisnall, Min Chen, and Charles Hansen. Ray-driven dynamic working set rendering. In *The Visual Computer*, 23(3):167–179, March, 2007.

*David Chisnall. A Modern Objective-C Runtime. In *The Journal of Object Technology*, 8(1):221–240, January–February, 2009.

Other Publications

*David Chisnall. The Definitive Guide to the Xen Hypervisor. *Prentice Hall*, ISBN 013234971X, November 2007

*David Chisnall. Cocoa Programming, Second Edition. *Prentice Hall*, ISBN 0-321-439663-4, Summer 2009

*David Chisnall. Updating Objective-C. Technical Report *CSR14-2008*, Swansea University, 2008