

CURRICULUM VITAE: PAUL TOWNEND

NATIONALITY British
DATE OF BIRTH 8th December 1978
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RECENT POSITIONS

- 2002 – PRESENT I am currently a Research Officer in the School of Computing at the University of Leeds, working on the “Modelling and Simulation for e-social Science” (MoSeS) project. Specifically, my job entails the development of an infrastructure to support e-social science experiments, through the use of service-based technologies. In addition to this, I am also a part-time PhD student in Computer Science (expected to complete within 6 months). My thesis is entitled “Topological Aware Fault Tolerance in Service-oriented Architectures”. As part of my work, I have developed a fault tolerance library that allows multi-version systems to be easily created in a service-oriented architecture, through the use of dynamic ultra-late binding. By using the technique of provenance to acquire topological awareness of a service’s workflow, highly tuned weighting algorithms can be applied during the voting process, leading to increased dependability through a reduction in the likelihood of common-mode failures occurring.
- 2000 – 2002 I completed a research MSc. at the University of Durham, which involved the implementation of an automated fault injection system which derived detailed empirical data about the dependability gains offered by a subject multi-version fault-tolerant system.

EDUCATION AND QUALIFICATIONS

- 2002** UNIVERSITY OF DURHAM
MSc. Computer Science (by Research)
- 2000** UNIVERSITY OF DURHAM
BSc. (Hons) Computer Science, class 2(ii)
- 1997** QUEEN ELIZABETH GRAMMAR SCHOOL, WAKEFIELD
A-Levels: Computing (A), Economics (A), General Studies (A), History (B)
S-Levels: Economics (Merit), History (Merit)

RESEARCH INTERESTS

I am a computer scientist, specialising in the fields of Dependable Systems and Service-Oriented Architectures. My primary research interests are software fault-tolerance, Grid and Web Service technologies, and software fault injection.

SKILLS AND EXPERIENCE

MIDDLEWARE	I have experience with installing and developing service-based applications on a number of middleware applications, including the Globus Toolkit, Apache Tomcat/Axis, IBM Websphere, and SRB.
OPERATING SYSTEMS	I am familiar with, and have experience of installing, a number of operating systems, including GNU/Linux, Microsoft Windows 95/98/NT/2000/XP, and Sun Solaris.
PRESENTATIONS	I have given presentations at a variety of international conferences and workshops, in addition to a large number of smaller events.
PROGRAMMING	I am proficient in several programming languages, including C, C++, Java, Visual Basic, and PHP. I demonstrated Java to undergraduates on a Programming and Data Structures Course at the University of Durham for 4 years.
TEAMWORK	I have a large amount of experience with working as part of a team, and have been an active member of the University of Durham (and now University of Leeds) Distributed Systems and Services Group for 5 years. I am also an active member of both the University of Leeds and University of Newcastle Grid groups.

RECENT PUBLICATIONS

- 2005** P. Townend, P. Groth, J. Xu, "*A Provenance-aware Fault Tolerance Approach for Web Services*", IEEE Int. Symposium on Object-Oriented Real-Time Computing, Seattle, May 2005
- 2004** P. Townend and J. Xu, "*Replication-based Fault Tolerance in a Grid Environment*", in Proceedings of U.K. e-Science 3rd All-Hands Meeting, Sept., 2004, Nottingham, ISBN 1-904425-21-6
- 2003** P. Townend and J. Xu, "*Fault Tolerance within a Grid Environment*", in Proceedings of U.K. e-Science 2nd All Hands Meeting, 2nd - 4th Sept. 2003, Nottingham, ISBN 1-904425-11-9
- 2002** P. Townend, J. Xu, M. Munro, "*Building Embedded Fault Tolerant Systems for Critical Applications: An Experimental Study*", in Design and Analysis of Distributed Embedded Systems, Kluwer Academic Publishers, Montreal, August 2002
- P. Townend, J. Xu, "*Assessing Multi-Version Systems Through Fault-Injection*", in Proc. of the 7th IEEE Int. Workshop on Object-Oriented Real-Time Dependable Systems, San Diego, January 2002

REFERENCES AVAILABLE ON REQUEST