

JESSE BLUM

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RESEARCH INTERESTS

My research interests focus on how computing and networking services may be composed to change our lives and provide social benefits to people in their homes, agencies, and decision-making bodies. I have particular interests in care technologies, web services, and ubiquitous networks. I am a skilled software developer with experience in a variety of languages, and I have professional experience, for instance having authored a number of technical and development specification documents.

I have been actively involved in a number of research projects. As a current researcher on the Waiter Project, I am keen on engaging the public and showing them the potential of pervasive and ubiquitous computing. As a student on the PAM project, I researched sensor network infrastructure and programming architecture to support in-home mental-health activity signature monitoring. I have also worked as a research assistant with the DAMES project, assessing metadata standards that can be used to describe the social science data and integrate/develop tools that can use the metadata. My undergraduate dissertation research involved developing and investigating a grid services system to distribute computing strategies and increase environmental science policy research calculation performance. The project delivered higher throughput processing of GIS problems, and provided mechanisms for collaborative, multidisciplinary access to data and analytical results.

EDUCATION

2007 – Present

PhD Research

The University of Stirling

I am investigating undesirable patterns of communication and computation that can arise in ad hoc sensor networks and strategies to discover and resolve them at run-time. I expect to submit my thesis by the end of July, 2011.

2006 – 2007

BSc (Hons) Software Systems Engineering (First Class)

The University of Stirling

Modules included: Concurrent and Distributed Systems, Software Engineering, Web Services, Communications and Networking, Multimedia and Human-Computer Interaction

In addition I was a Council member of Stirling University Students' Association, Class representative to the Staff Student Subject Sub Committee Active, and an active member of the University's Debate Society

2000 – 2002

Diploma in Game Development Applied Programming

Center for Digital Imaging and Sound Vancouver, BC Canada

Subjects studied included: Software Engineering, Interactive multimedia authoring, Mathematics for gaming applications, Design specification

1993 – 1996

Diploma - Virtual High Learning Community Vancouver, BC Canada

I attended this innovative learning community focused on the natural development of skills and creativity. Learning and research activities included co-writing and published a report on the educational experience for the Canadian Federal Government, co-producing and edited the VillageQuest Eco-Community documentary and preparing and presenting a number of multimedia presentations.

TEACHING/ADMINISTRATION/RESEARCH EXPERIENCE

- Oct. 2010 – Present
P/T Researcher- EPSRC funded project (EP/H047395/1): "Waiter there really is a computer in my soup and it's telephoning me!": Revealing invisible computers (Waiter) project, *The University of Stirling, Dept of Comp Sci and Maths*
My duties and responsibilities have included researching and describing various technologies, script writing to teach computing science concepts to a wide audience in an entertaining and engaging manner, requirements analysis including qualitative data analysis of data collected from a public meeting about the direction of the show, software application development (mobile and PC), and website design and maintenance.
- Oct. 2007 – Oct. 2010
P/T Research Assistant - EPSRC funded "Personalised Ambient Monitoring (PAM)" project, *The University of Stirling, Dept of Comp Sci and Maths*
My main role was to design and develop the networking infrastructure to support home and mobile based sensor monitoring for psychological ambulatory assessment.
- Feb 2008 – Aug 2009 and Nov 2010 – Apr 2011
P/T Research Assistant - ESRC funded "Data Management Through e-Social Science (DAMES)" project, *The University of Stirling, Dept of Comp Sci and Maths*
My main role was to research and develop tools supporting social science metadata including an XQuery-based search tool for social science data.
- 2007 – Present (P/T)
P/T Demonstrator/Tutor/Lecturer - *The University of Stirling, Dept of Comp Sci and Mathematics*
I have taught at the undergraduate and masters levels. Subjects included: Software Engineering, Concurrent and Distributed Systems, Programming Language Paradigms, Communications and Networks, Principles and Practice of Programming, and Foundations of Information Technology
- 2006 – 2008 (P/T)
Freelance Technical Author & Consultant - *Vizibility Ltd, Scotland*
Produced software manuals for designers and publishers using the Webpowersoftware content management system and online shop builder
- 2004 – 2006
Web Support Analyst & Trainer - *Vizibility Ltd, Scotland*
Conducted more than 20 client training sessions on system administration data analysis
- 2001 (P/T)
P/T Teaching Assistant - *Center for Digital Imaging and Sound, Vancouver, BC*
Coached students learning the fundamentals of C++, marked assignments, acted as lab facility assistant
- 1998
Research Assistant - *Sheltair Scientific, Vancouver, BC Canada*
Collected and organized data for engineering guidelines in Santa Monica, CA
- 1996 – 1997
Manager - *Wondertree Foundation for Natural Learning, Vancouver, BC Canada*
Developed and lead a six month ecological- sustainability related training project for 18-24 year olds

SOFTWARE DEVELOPMENT EMPLOYMENT HISTORY

- 2004 – 2006
Web-Support Analyst & Trainer - *Vizibility Ltd, Scotland*
Wide assortment of responsibilities including business & technical analysis, website marketing strategy development, ASP.net software quality assurance, technical training and frontline customer support
- 2003 – 2004
Software Developer - *Web Broadcast Media, Scotland*
Software system development and testing of a rich media broadcast solution in which call centre customers enjoy full human interaction. Technologies used included: C, ASP, MS SQL Server, MS IIS
- 2003
Software Programmer - *G2G3 Propulsion Ltd, Scotland*
Software planning and prototyping of a game-based software learning solution. Prototypes developed using MS Visual Studio and C#.