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Profile

Highly experienced researcher, innovator & implementer in computer systems, applications & human-computer interaction. Expert in distributed, mobile & pervasive computing. Excellent skills in developing new interaction ideas; leader in developing the ecosystem for them to flourish in. Published widely in conferences, journals and textbook; proven communicator in arts, media, business & technology sectors. Team leader, architect & developer for mobile (J2ME, Symbian C++, WinCE), client (C, Java, Javascript), server (J2EE, LAMP, Perl) & kernel (C, assembler).

Career objective is to apply this expertise to maximum impact by developing, proving & deploying compelling new types of technology for widespread use.

Highlights

Mobile codes. Brought Publicis, Nokia and others together to kick-start the development of marketing-driven standards for barcodes read by camera phones: a key step for widespread adoption and thus a global commercial ecosystem. Delivered value proposition for HP through development of a mobile client and services, plus public trials with the BBC and News International.

Cityware. Lead Security, Privacy & Trust work package in this £1m EPSRC project between HP, U. Bath & others. Advanced state of the art in urban computing research methodologies, measuring mass mobile usage phenomena; led development of protection against urban phishing attacks.

Cooltown. Wrote highly cited publications on this seminal pervasive computing project, including own work on context-dependent information services, to gain premier research status for HP. Architect & developer for pioneering context-aware electronic guidebooks, at San Francisco's Exploratorium.

Mushroom. Won EPSRC grants & led research into groupware for professionals with stringent data integrity & security requirements. Architect, developer, ethnographer. (Queen Mary, London)

Equus. Architect & chief developer for this OS kernel & adaptation run-time for shared multiprocessors, which won VC funding. Precursor to cloud computing concept. (U. Westminster, Zebra Parallel)

Career Summary

1999-present **Senior Researcher, Hewlett-Packard Labs, Palo Alto 1999-2003 & Bristol 2003-present**

Researcher and thought-leader in mobile and pervasive computing systems, security and human factors. I develop innovative prototypes, design and run experiments, and investigate user behaviour in relation to technology, all working in teams. Internal expert and industry leader and collaborator in mobile (bar)code ecosystem development (see Industrial Consortia and Standards, below). Visiting professor at the University of Bath.

1990-1999 **Senior Lecturer, Department of Computer Science, Queen Mary, University of London**

Principal Investigator, architect & development team leader on three EPSRC-funded research projects, in total £400k. Led research and development on object-oriented middleware, secure support for remotely collaborating clinicians' shared data, and distributed multimedia middleware.

1988-1989 **Principal Software Engineer, Zebra Parallel Ltd**

Software architect and team leader. This venture capital-funded start-up was formed to productise and market Equus, the parallel processing environment from my PhD work.

1984-1988 **Research Fellow, Polytechnic of Central London (now U. Westminster)**

Distributed operating systems research. Kernel development project manager & architect.

1981-1984 **Teacher, Collingwood School, London; Instructor, Notting Dale Information Technology Centre**

Academic Qualifications

2007-present Visiting Professor, Computer Science Department, University of Bath

1985-1990 PhD Reconfiguring Distributed Computations, University of Westminster

1977-1980 BA (Hons.) Mathematics (2.1). University of Cambridge, St. John's College

Industrial Consortia & Standards

2008-present **Member & editor, Mobile Codes group, Open Mobile Alliance**

Developing standards for barcodes read by camera phones.

2007-present **Co-chair & co-founder, Mobile Codes Consortium (www.mobilecodes.org)**

Initiated standards development for barcodes read by camera phones, with Publicis & Nokia.

Publications (see list on page 3)

Key impact: "People, Places and Things: Web Presence for the Real World" (about 80 citations); *Distributed Systems—Concepts and Design* (textbook soon to be in its 5th edition).

Six papers in Ubicomp, the premier conference on Ubiquitous Computing.

Three papers in *IEEE Pervasive Computing*, one of the top publications in the field.

Two papers in the International WWW Conference, the premier venue for papers on the web.

Patents

Three patents granted, 17 others filed

U.S. 7,370,200 Validation for Secure Device Association

U.S. 7,243,233 System and Method for Secure Communication Between Electronic Devices

U.S. 6,550,685 Method and Apparatus Utilizing Visually Distinctive Barcodes

Awards, Press

Two 2005 Royal Television Society Technology Awards (Technology in Content Delivery) for Coast Mobile Interactive, a joint project with the BBC in support of major TV series *Coast*.

Quoted about camera phones and 2D Barcodes in *Financial Times* (Feb 26, 2007), *New York Times* (April 1, 2007), *Toronto Globe and Mail* (Sep 7, 2007), and *Welt am Sonntag* (Sep 16, 2007).

Research Community

Editorial

Associate Editor in Chief *IEEE Pervasive Computing* since 2002. *Int'l Journal of Security and Networks* special issue on Secure Spontaneous Interaction (2009). Special issues of *IEEE Pervasive Computing* (Ubiquitous System Software, Emerging Economies, Urban Computing, Environmental Sustainability; in-progress: Labelling the World, Connected Youth)

Keynote Talks

Conferences: SACSIS 2003 (premier Japanese Systems conference), HUC 2000. Workshops: Context-Aware Pervasive Communities (Pervasive 2008); Security for Spontaneous Interaction (UbiComp 2007), Software Engineering issues of Ubiquitous Computing (2006).

Invited Talks, Panellist

UbiComp 2009, ICPS 2009; I3A Conference 2008; Art, Lifestyle and Globalisation, Tate Modern 2007; IET Wireless Sensor Networks Conference 2006; Parliamentary Office of Science and Technology Pervasive Computing Inquiry 2005; Third UK-UbiNet Workshop 2005; Mobile HCI 2004.

Workshop Organisation

WMCSA 2002 (general chair). Workshop coordinator: Crowd Computer Interaction (CHI 2009), UbiPhysics (UbiComp 2005), Ubiapp (Pervasive 2005), Spontaneous Interaction (UbiComp 2002).

Programme Committees

Globicomp, Internet of Things, UbiComp, MobiSys, Pervasive, PerSec, Mobile Data Management.

Personal Interests

I sing in a community choir, Junction 3 Chorus, and write songs for voice and guitar. Associate board member and editor of Magma poetry magazine (www.magmapoetry.com). Creative writing.

References

Available on request.

Publications 2002-Present

1. Tim Kindberg, James Mitchell, Jim Grimmett, Chris Bevan, Eamonn O'Neill (2009). "Authenticating public wireless networks with physical evidence". In *proc. SecPriWiMob 2009* (IEEE).
2. Tim Kindberg, Eamonn O'Neill, Chris Bevan, James Mitchell, Jim Grimmett, Dawn Woodgate (2009). "Authenticating Ubiquitous Services: a Study of Wireless Hotspot Access". To appear in *proc. Ubicomp 2009*.
3. "White Paper on Mobile Codes" (2008), "Mobile Codes Requirements" (2009). Open Mobile Alliance. I was a key contributor to both documents.
4. Tim Kindberg, Eamonn O'Neill, Chris Bevan, Vassilis Kostakos, Danaë Stanton Fraser, Tim Jay (2008). "Measuring Trust in Wi-Fi Hotspots". *Proc. CHI 2008*.
5. John Collomosse and Tim Kindberg (2008). "Screen codes: Visual Hyperlinks for Displays". *Proc. HotMobile 2008*.
6. John Collomosse and Tim Kindberg (2007). "Screen codes: efficient data transfer from video displays to mobile devices". One-page abstract in *proc. 4th European Conference on Visual Media Production (CVMP 2007)*.
7. Kenton O'Hara and Tim Kindberg (2007). Understanding user engagement with barcoded signs in the 'Coast' location-based experience. *Journal of Location Based Services*, Vol. 1, No. 4, pp. 256-273.
8. Tim Kindberg and Tim Jones (2007). "Merolyn the Phone: a study of Bluetooth naming practices". *Proc. Ubicomp 2007*.
9. Kenton O'Hara, Tim Kindberg, Maxine Glancy, Lucian Baptista, Byju Sukumaran, Gil Kahana, Julie Rowbotham. (2007). "Collecting and sharing location-based content on mobile phones in a zoo visitor experience". Special edition of Computer Supported Cooperative Work journal on leisure technologies, *CSCW Journal*, 16 (1-2).
10. Eamonn O'Neill, Vassilis Kostakos, Tim Kindberg, Ava Fatah gen. Schiek, Alan Penn, Danaë Stanton Fraser and Tim Jones (2006). "Instrumenting the city: developing methods for observing and understanding the digital cityscape". *Proc. Ubicomp 2006*. Note: I led and designed much of the experimentation described here.
11. George Coulouris, Jean Dollimore and Tim Kindberg (2005). *Distributed Systems: Concepts and Design* (4th edition). Post-/graduate textbook soon to be in fifth edition, translated into seven languages. Wrote a third of its 950 pages.
12. Tim Kindberg and Sandro Hawke (2005). "RFC 4151 - The tag URI Scheme". Note: this is widely used for globally unique identifiers, e.g. for Google Atom news feed items.
13. Tim Kindberg, Mirjana Spasojevic, Rowanne Fleck, and Abigail Sellen (2005). "The Ubiquitous Camera: an In-depth Study of Camera Phone Use". *IEEE Pervasive Computing*, Apr-Jun 2005 4(2), pp. 42-50.
14. Tim Kindberg, Mirjana Spasojevic, Rowanne Fleck and Abigail Sellen (2005). "I Saw This and Thought of You: Some Social Uses of Camera Phones". Short paper in *proc. CHI 2005*.
15. Tim Kindberg, Abi Sellen and Erik Geelhoed (2004). "Security and Trust in Mobile Interactions: A Study of Users' Perceptions and Reasoning". *Proc. Ubicomp 2004*, Nottingham, Oct.
16. Tim Kindberg & Kan Zhang (2003). "Secure Spontaneous Device Association". *Proc. Ubicomp 2003*.
17. Tim Kindberg & Kan Zhang (2003). "Validating and Securing Spontaneous Associations between Wireless Devices". *Proc. 6th Information Security Conference (ISC'03)*, Bristol, Oct.
18. John Barton, Tim Kindberg, Hui Dai, Nissanka B. Priyantha and Fahd Al-bin-ali (2003). "Sensor-enhanced Mobile Web Clients: an XForms Approach". *Proc. Twelfth International World Wide Web Conference*, Budapest, May.
19. Tim Kindberg, John Barton, Jeff Morgan, Gene Becker, Ilja Bedner, Debbie Caswell, Phillipe Debaty, Gita Gopal, Marcos Frid, Venky Krishnan, Howard Morris, Celine Pering, John Schettino, Bill Serra, and M. Spasojevic (2002). "People, Places, Things: Web Presence for the Real World". *MONET* vol. 7, no. 5, Oct. Also in *Proc. WMCSA 2000*.
20. Margaret Fleck, Marcos Frid, Tim Kindberg, Eamonn O'Brian-Strain, Rakhi Rajani, Mirjana Spasojevic (2002). "Rememberer: A Tool for Capturing Museum Visits". *Proc. Ubicomp 2002*, Sep.
21. Kan Zhang and Tim Kindberg (2002). "An Authorization Infrastructure for Nomadic Computing". *Proc. SACMAT*, Jun.
22. Tim Kindberg, Kan Zhang and Narendar Shankar (2002). "Context authentication using constrained channels". *Proc. WMCSA*, June 2002.
23. Tim Kindberg (2002). "Implementing Physical Hyperlinks using Ubiquitous Identifier Resolution". *Proc. 11th International World Wide Web Conference*, May.
24. Margaret Fleck, Marcos Frid, Tim Kindberg, Mirjana Spasojevic, Eamonn O'Brian-Strain, Rakhi Rajani (2002). "From Informing to Remembering: Deploying a Ubiquitous System in an Interactive Science Museum". *IEEE Pervasive Computing*, Apr-Jun.
25. Tim Kindberg and Armando Fox (2002). "System Software for Ubiquitous Computing". *IEEE Pervasive Computing*, vol. 1, no. 1, Jan-Mar, pp. 70-81.