

Dr. Dominique Guinard

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PERSONAL DATA

- **First-name:** Dominique **Last-name:** Guinard **Nationality:** Swiss
- **Address:** Zurich, Switzerland
- **Languages:** French (first language), English (fluent), German (good)
- **Specialization:** Enterprise service oriented and Web-inspired architectures for the Internet/Web of Things

PROFESSIONAL EXPERIENCE

- Evrythng Ltd. 2011 - Present
 - **Chief Technology Officer (CTO) and Co-Founder** of Evrythng Ltd. (London, Zurich), a Web of Things company specialized in creating and managing active digital identities for everyday objects.
- SAP AG. 2007 - 2011 (4 years)
 - **Associate researcher** (50%) for SAP Research Zurich. Working on building service architectures (Java EE, WS-* and REST) and prototypes to facilitate the communication between embedded devices (sensors, machines, RFID) and IT backend systems (e.g., SAP ERP/MII/Netweaver, Business Object).
- Auto-ID Labs, MIT 2010 - 2011 (6 months)
 - **Visiting researcher** working a virtualized appliance and a RESTful Web framework for the Fosstrak open-source RFID software platform implementing the EPC Network standards.
- Mobile Experience Lab, Media Lab, MIT 2010 - 2010 (2 month)
 - Worked on implementing an Android-based mobile application for monitoring water usage.
- Information Management Group, ETH Zurich 2007 - 2008 (1.5 years)
 - **Associate researcher** developing mobile applications for the Internet of Things for Nokia Research, Helsinki.
- Software Engineering Group, University of Fribourg 2005 - 2007 (2 years)
 - **External scientific collaborator** (20%) working the implementation and open-sourcing of a Java EE RFID-based [assets tracking framework](#).
- Pervasive and Artificial Intelligence Research Group, University of Fribourg 2005 - 2006 (1 year)
 - **Teaching assistant** (20%) for the Operating and Distributed Systems Laboratory.

- Ecole Club 2002 - 2006 (4 years)
 - **Professional trainer** (20%) for Web development (HTML, Javascript, PHP) at the [Ecole Club](#).
- GMIPSoft.com 1997 - 2006 (9 years)
 - **Co-founder, developer and manager** of GMIPSoft, a student organization active in the domain of computer services for small to mid-sized companies (merged with [JEF](#) in 2006).
- Sun Microsystems 2005 (4 months)
 - **Trainee** at the “Client Solutions, Software Practice“. Working on the design and implementation of a virtualized Java EE portal for the banking business.
- Spoker 1999 - 2004 (5 years)
 - **Co-founder and developer** of Spoker, a company providing one of the early online platform for selling second-hand sport articles (closed in 2004).
- Dartfish 1998 - 1999 (1 year)
 - **Web developer** for [Dartfish](#), a company specialized video imaging technologies.

EDUCATION

- **ETH (Eidgenossische Technische Hochschule), Zurich, Switzerland**
 2007 - 2011 (4 years), **Research Assistant**
[Ph.D. Thesis](#) at the Institute for Pervasive Computing, Distributed Systems Group with Prof. Friedemann Mattern. Design and implementation of the Web of Things architecture which aims at creating a service platform to support lightweight application development (e.g., energy monitoring and assets tracking, smart buildings/cities) on top heterogeneous networked device (e.g., sensor networks, mobile phones, tagged objects, etc.).
- **MIT (Massachusetts Institute of technology), Cambridge, USA**
 2010 - 2011 (7 months), **Visiting researcher**
 MIT Laboratory for Manufacturing and Productivity, with Prof. Sarma Sanjay. Working on using cloud computing and Web architectures towards a service oriented architecture to facilitate the deployment and implementation of lightweight (e.g., mobile) applications using RFID and sensor networks.
- **Lancaster University, UK**
 2006 - 2007 (8 months), **Visiting graduate student**, GPA: 6/6
 Embedded Interactive Systems Group, with Prof. Hans Gellersen. [Master Thesis](#): design, implementation and evaluation of an architecture using wireless sensor networks to enable mobile spatial interactions with real-world services.
- **University of Fribourg and Bern, Switzerland**
 2005-2007 (1.5 years), **M.Sc. in computer science** GPA: 5.7/6
 Specialization in ubiquitous/pervasive computing and software engineering.
- **University of Fribourg, Switzerland**
 2002-2005 (3 years), **B.Sc. in computer science, minor in business administration** GPA: 5.5/6
[Bachelor Thesis](#) with Sun Microsystems: architecture and implementation of a Java EE scalable indoor assets tracking framework using the RFID standards (EPCGlobal).

PRACTICAL SKILLS

Java Enterprise (EJB, JPA, JMS, JAX-RS, etc.), Application Server technologies (Glassfish, SAP Netweaver, Grizzly, Tomcat, etc.), Cloud technologies (Google App Engine, Amazon EC2), Mobile Frameworks (Android, Java Mobile, Mobile Web, Sencha, etc.), Web Service technologies (WS-*, REST, DPWS), Web languages (HTML5, JavaScript, PHP), Web UI frameworks (JSF, Google Web Toolkit, etc.), SQL, SAP software stack, Virtualization Technologies (VMware), IDEs (Netbeans, Eclipse), Linux, Windows.

AWARDS and INTERESTS

- 2012: ETH Medal for an outstanding [Ph.D. Thesis](#).
- 2008: [Jade Nature Energy Award](#) for the "Energie Visible" open-source project
- 2007: Best Swiss Master Thesis ([ETH Fritz Kutter Award](#)) for "RelateGateways: Mobile Spatial Interaction with Pervasive Services"
- 2006: Scholarship for a Master Thesis abroad from the Hasler Foundation
- 1999 and 2000: Semi-finalist of the [Oracle Think Quest](#) International Web Award
- Founder of [FRIBOT](#), biggest national competition for Java based autonomous robots
- Contributor of open-source projects ([Fosstrak](#), [EnergieVisible](#), etc.)
- Co-organizer of the first [Web of Things Workshops](#) series (WoT 2010/11/12, UrbanIoT 2010)
- Other interests: mixing electronic music, hiking, skiing, cooking, and traveling

PUBLICATIONS

- [1] L. de Souza, P. Spiess, D. Guinard, M. Köhler, S. Karnouskos, and D. Savio. Socrates: A web service based shop floor integration infrastructure. In Christian Floerkemeier, Marc Langheinrich, Elgar Fleisch, Friedemann Mattern, and Sanjay E. Sarma, editors, *Proc. of the Internet of Things Conference (IoT '08)*, LNCS, pages 50–67, Zurich, Switzerland, March 2008. Springer Berlin Heidelberg.
- [2] Bruno Dumas, Denis Lalanne, Dominique Guinard, Reto Koenig, and Rolf Ingold. Strengths and weaknesses of software architectures for the rapid creation of tangible and multimodal interfaces. In *Proc. of the 2nd international conference on Tangible and Embedded Interaction (TEI '08)*, March 2008.
- [3] Carl Fischer, Hans Gellersen, Dominique Guinard, Matt Oppenheim, and Sara Streng. RelateGateways: Using Spatial Context to Identify and Interact with Pervasive Services. In Gerd Kortuem, Urs Bischoff, Joe Finney, Mark Lowton, Rene Mayrhofer, Utz Roedig, and Vasughi Sundramoorthy, editors, *Adjunct proceedings of the 9th International Conference on Ubiquitous Computing (UbiComp)*, 2007.
- [4] Patrik Fuhrer and Dominique Guinard. Building a Smart Hospital using RFID Technologies. In *Proc. of the European Conference on eHealth (ECEH)*, Fribourg, Switzerland, October 2006.
- [5] Hans Gellersen, Carl Fischer, and Dominique Guinard. Supporting device discovery and spontaneous interaction with spatial references. *Journal of Personal and Ubiquitous Computing (PUC)*, 2009.
- [6] Dominique Guinard. Mashing up your web-enabled home. In *Proc. of the 10th International conference on Current trends in Web Engineering (ICWE '10)*, pages 442–446, Vienna, Austria, July 2010. Springer-Verlag.
- [7] Dominique Guinard, Oliver Baecker, and Florian Michahelles. Supporting a mobile lost and found community. In *Proc. of the 10th international conference on Human Computer Interaction with mobile devices and services (Mobile HCI '08)*, pages 407–410. ACM, September 2008.
- [8] Dominique Guinard, Oliver Baecker, Patrik Spiess, Stamatis Karnouskos, Moritz Koehler, Luciana Moreira Sa De Souza, Domnic Savio, and Mihai Vlad Trifa. On-demand provisioning of services running on embedded devices, Patent, 2010.
- [9] Dominique Guinard, Mathias Fischer, and Vlad Trifa. Sharing using social networks in a composable web of things. In *Proc. of the First IEEE International Workshop on the Web of Things (WoT 2010)*, pages 702–707, Mannheim, Germany, March 2010. IEEE.
- [10] Dominique Guinard, Christian Floerkemeier, and Sanjay Sarma. Cloud Computing, REST and Mashups to Simplify RFID Application Development and Deployment. In *Proc. of the 2nd International Workshop on the Web of Things (WoT 2011)*, San Fransisco, USA, June 2011. ACM.
- [11] Dominique Guinard, Mathias Mueller, and Jacques Pasquier. Giving RFID a REST: Building a Web-Enabled EPCIS. In *Proc. of the International conference on the Internet of Things (IoT '10)*, LNCS, Tokyo, Japan, November 2010. Springer Berlin / Heidelberg.
- [12] Dominique Guinard, Mathias Mueller, and Vlad Trifa. *RESTifying Real-World Systems: a Practical Case Study in RFID*, chapter 16. Springer, August 2011.
- [13] Dominique Guinard and Vlad Trifa. Towards the web of things: Web mashups for embedded devices. In *Proc. of the Second Workshop on Mashups, Enterprise Mashups and Lightweight Composition on the Web (MEM '09)*, WWW '09, Madrid, Spain, April 2009. ACM.
- [14] Dominique Guinard, Vlad Trifa, Stamatis Karnouskos, Patrik Spiess, and Domnic Savio. Interacting with the SOA-Based Internet of Things: Discovery, Query, Selection, and On-Demand Provisioning of Web Services. *IEEE Transactions on Services Computing*, 3(3):223–235, February 2010.

- [15] Dominique Guinard, Vlad Trifa, Friedemann Mattern, and Erik Wilde. From the Internet of Things to the Web of Things: Resource-oriented Architecture and Best Practices. In Dieter Uckelmann, Mark Harrison, and Florian Michahelles, editors, *Architecting the Internet of Things*, pages 97–129. Springer Berlin Heidelberg, Berlin, Heidelberg, 2011.
- [16] Dominique Guinard, Vlad Trifa, Thomas Pham, and Olivier Liechti. Towards physical mashups in the web of things. In *Proc. of the 6th International Conference on Networked Sensing Systems (INSS '09)*, pages 1–4, Pittsburgh, USA, June 2009. IEEE.
- [17] Dominique Guinard, Vlad Trifa, Patrik Spiess, Bettina Dober, and Stamatis Karnouskos. Discovery and On-Demand Provisioning of Real-World Web Services. In *Proc. of the IEEE International Conference on Web Services (ICWS '09)*, Los Angeles, California, USA, July 2009.
- [18] Dominique Guinard, Vlad Trifa, and Erik Wilde. A Resource Oriented Architecture for the Web of Things. In *Proc. of the 2nd International Conference on the Internet of Things (IoT 2010)*, LNCS, Tokyo, Japan, November 2010. Springer Berlin / Heidelberg.
- [19] Dominique Guinard, Felix von Reischach, and Florian Michahelles. MobileIoT Toolkit: Connecting the EPC Network to MobilePhones. In *Proceedings of Mobile Interaction with the Real World (MIRW '08)*, Amsterdam, Netherlands, September 2008. The University of Oldenburg.
- [20] Dominique Guinard, Markus Weiss, and Vlad Trifa. Are you energy-efficient? sense it on the web. In *Adjunct Proc. of the International Conference on Pervasive Computing (Pervasive '09)*, Nara, Japan, May 2009. Springer.
- [21] S Karnouskos, D Savio, P Spiess, D Guinard, V Trifa, and O Baecker. Real-world Service Interaction with Enterprise Systems in Dynamic Manufacturing Environments. In Lyes Benyoucef and Bernard Grabot, editors, *Artificial Intelligence Techniques for Networked Manufacturing Enterprises Management*, Springer Series in Advanced Manufacturing, pages 423–457. Springer London, 2010.
- [22] Stamatis Karnouskos, Dominique Guinard, Domnic Savio, Patrik Spiess, Oliver Baecker, Vlad Trifa, and Luciana Moreira Sa de Souza. Towards the Real-Time Enterprise: Service-based Integration of Heterogeneous SOA-ready Industrial Devices with Enterprise Applications. In *Proc. of the 13th IFAC Symposium on Information Control Problems in Manufacturing (INCOM)*, Moscow, Russia, June 2009.
- [23] Mathias Kovatsch, Markus Weiss, and Dominique Guinard. Embedding internet technology for home automation. In *Emerging Technologies and Factory Automation (ETFA), 2010 IEEE Conference on*, pages 1–8, Bilbao, Spain, September 2010. IEEE.
- [24] Simon Mayer and Dominique Guinard. An Extensible Discovery Service for Smart Things. In *Proc. of the 2nd International Workshop on the Web of Things (WoT 2011)*, San Fransisco, USA, June 2011. ACM.
- [25] Antonio Pintas, Davide Carboni, and Andrea Piras. The Anatomy of a Large Scale Social Web for Internet Enabled Objects. In Dominique Guinard, Vlad Trifa, and Erik Wilde, editors, *Proc. of the 2nd International Workshop on the Web of Things (WoT 2011)*, San Fransisco, USA, 2011. ACM.
- [26] Patrik Spiess, Stamatis Karnouskos, Dominique Guinard, Domnic Savio, Oliver Baecker, Luciana Moreira Sa de Souza, and Vlad Trifa. SOA-based Integration of the Internet of Things in Enterprise Services. In *Proc of the IEEE International Conference on Web Services (ICWS 2009)*, Los Angeles, California, USA, July 2009.
- [27] Vlad Trifa, Dominique Guinard, Philipp Bolliger, and Samuel Wieland. Design of a Web-based distributed location-aware infrastructure for mobile devices. In *Proc. of the First International Workshop on the Web of Things (WoT 2010)*, pages 714–719, Mannheim, Germany, March 2010. IEEE.
- [28] Vlad Trifa, Dominique Guinard, Vlatko Davidovski, Andreas Kamilaris, and Ivan Delchev. Web-based Messaging Mechanisms for Open and Scalable Distributed Sensing Applications. In *Proceedings the International Conference on Web Engineering (ICWE 2010)*, Vienna, Austria, July 2010.
- [29] Vlad Trifa, Dominique Guinard, and Simon Mayer. *Leveraging the Web to Build a Distributed Location-aware Infrastructure for the Real World*, chapter 17. Springer, August 2011.

- [30] Vlad Trifa, Samuel Wieland, Dominique Guinard, and T.M. Bohnert. Design and implementation of a gateway for web-based interaction and management of embedded devices. In *Proceedings of the 2nd International Workshop on Sensor Network Engineering (IWSNE 09)*, Marina del Rey, CA, USA, June 2009.
- [31] Felix von Reischach, Dominique Guinard, Florian Michahelles, and Elgar Fleisch. A mobile product recommendation system interacting with tagged products. In *Proc. of PerCom 2009 (IEEE International Conference on Pervasive Computing and Communications)*, Galveston, Texas, USA, March 2009.
- [32] Felix Von Reischach, Florian Michahelles, Dominique Guinard, Robert Adelman, Elgar Fleisch, and A. Schmidt. An evaluation of product identification techniques for mobile phones. In *Proc. of the Conference in Human-Computer Interaction (INTERACT 2009)*, pages 804–816, Uppsala, August 2009. Springer.
- [33] Markus Weiss and Dominique Guinard. Increasing energy awareness through web-enabled power outlets. In *Proceedings of the 9th International Conference on Mobile and Ubiquitous Multimedia*, page 20, Limassol, Cyprus, December 2010. ACM.
- [34] Markus Weiss, Dominique Guinard, T. Staake, and Wolf Roediger. eMeter: An interactive energy monitor. In *Adjunct Proc. of the International Conference on Ubiquitous Computing (UbiComp 2009)*, Orlando, Florida, USA, September 2009.