

Marcos Serrano

Assistant Professor in Human-Computer Interaction

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Born 05.08.1981 in Madrid, Spain

Research

My research initially focused on the design of interactive systems and more specifically on the rapid prototyping of multimodal interfaces. I proposed both the conceptual models and the software tools for exploring the design space of interactive applications. More recently my research is dedicated to designing novel interaction techniques in the field of mobile and ubiquitous computing. My most recent projects cover interaction with head-mounted displays, mobile 3D interfaces and public displays.

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| Since 2013 | Assistant Professor, ELIPSE group, IRIT Lab, University of Toulouse, France. |
| 2012-2013 | Post-Doctoral Research Fellow at HCI Lab (with Pourang Irani), University of Manitoba, Winnipeg, Canada. |
| 2011-2012 | Post-Doctoral Research Fellow at Telecom ParisTech (with Eric Lecolinet and Yves Guiard). Visualization and Advanced Interfaces (VIA) Team, Paris, France. |
| 2007–2010 | PhD, University of Grenoble, Engineering Human-Computer Interaction (EHCI) research group, Grenoble Laboratory of Informatics (LIG). Title : Input Multimodal Interaction : Design and Prototyping . Supervisor: Laurence Nigay. |
| 2006-2009 | Workpackage leader in european project OpenInterface, dedicated to multimodal interaction (FP6-35182, www.oi-project.org). |

Research-related activities

Paper Chair	Paper co-chair of MobileHCI 2016.
Committee	Poster chair of MobileHCI 2015; Workshop chair of IHM'14 and IHM'15
PC Member	ACM CHI 2017, ACM PerDIS 2017, ACM MUM 2016, ACM MobileHCI 2015, ACM IHM 2015, ACM MobileHCI 2014, ACM IHM 2014
Reviewer	CHI'16, UIST'16, DIS'16, IJHCI'16, CHI'15, IWC'15, Interact'15, TEI'15, IJHCI'15, ITS'15, UIST'15, EICS'14, DIS'14, UIST'14, ITS'14, CHI'14, CHI'13, UIST'13, IUT'13, MobileHCI'13, CHI'12, AVI'12, IWC'12, EICS'12, IHM'11, ICMI'09, JMUI'09, AVI'08
Invited expert	Natural Sciences and Engineering Research Council of Canada (NSERC, Canada); Agenzia Nazionale per la Valutazione del sistema Universitario e della Ricerca (AN-VUR , Italy).
Awards	Special recognition for reviewing: CHI 2016, UIST 2015
Organizations	Member of AFIHM committee (2013-2017), Member of Research Committee of IUT of Tarbes (2016-present), Member of IUT Research Council of Toulouse (2016-present)
2006-2009	Workpackage leader in european project OpenInterface, dedicated to multimodal interaction (FP6-35182, www.oi-project.org).

PhD supervision

Gary Perelman	PhD title: Advanced interaction for the fluid manipulation of big data. Start: September 2015. Co-supervised with Emmanuel Dubois and Celia Picard.
Houssein Saidi	PhD title: Design and evaluation of multidisplay techniques for multidimensional data. Start: September 2015. Co-supervised with Emmanuel Dubois.
Sandra Bardot	PhD title: Design and evaluation of wearables interaction techniques for visually impaired users. Start: September 2015. Co-supervised with Christophe Jouffrais.

Seminars

- April 2016 I IHM group, LIG, Grenoble.
- May 2014 Forum sur l'Interaction Tactile 2014 (FITG), Lille.
- May 2010 Forum sur l'Interaction Tactile 2010 (FITG), Lille.
- May 2008 Rencontres Jeunes Chercheurs en Interaction Homme-Machine (RJC-IHM'08), Cap d'Agde, France.
- July 2007 Workshop eNTERFACE'07 for young european researchers (4 weeks), Istanbul, Turkey.
- July 2006 Workshop eNTERFACE'06 for young european researchers (4 weeks), Dubrovnik, Croatia.

Organization

- June 2015 Organization of Junior HCI Researchers Meeting (Rencontres Jeunes Chercheurs en IHM), Ile d'Oleron, France.
- June 2009 Organization of digital art festival Play In, interactive installations in the streets of Grenoble, France.
- November 2008 Responsible of LIG demonstration during Science Day (Fête de la Science), Grenoble, France.
- July 2008 Organization of a multimodal design workshop during international conference DSV-IS'08, Kingston, Canada.

IxDdesign

- In June 2010, after my PhD defense, I founded We Interactive People, an interaction design agency offering design and prototyping services for interactive media creation. I led this project for one year (June 2010 - Sept. 2011), before returning to research activities at Telecom ParisTech. The agency still runs and is composed of several interaction designers and developers.
- June 2011 Presentation of "Augmented Window", tactile augmented reality-based interaction
Public interactive installation, at Futur en Seine 2011
Georges Pompidou Center, Paris.

- June 2011 Presentation of "Discontrol Party", large-group tracking-based interaction
Public interactive installation, at Futur en Seine 2011
La Gaieté Lyrique, Paris.
- 2010-2011 Design of novel tactile public displays for HiLabs (INRIA research start-up).
- June 2010 Creation of We Interactive People agency.

Publications

- PhD** Marcos Serrano. *Interaction multimodale en entrée: Conception et Prototypage*. PhD thesis, Université de Grenoble, Juin 2010.

International refereed conference papers

Marcos Serrano, Anne Roudaut, and Pourang Irani. Visual composition of graphical elements on non-rectangular displays. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, CHI '17, page (to appear), New York, NY, USA, 2017. ACM.

Houssein Saidi, Marcos Serrano, Pourang Irani, and Emmanuel Dubois. Tdome: A touch-enabled 6dof interactive device for multi-display environments. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, CHI '17, page (to appear), New York, NY, USA, 2017. ACM.

Sandra Bardot, Marcos Serrano, Bernard Oriola, and Christophe Jouffrais. Identifying how visually impaired people explore raised-line diagrams to improve the design of touch interfaces. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, CHI '17, page (to appear), New York, NY, USA, 2017. ACM.

Marcos Serrano, Anne Roudaut, and Pourang Irani. Investigating text legibility on non-rectangular displays. In *Proceedings of the 34rd Annual ACM Conference on Human Factors in Computing Systems*, CHI '16, pages 498–508, New York, NY, USA, 2016. ACM.

Julie Ducasse, Marc Macé, Marcos Serrano, and Christophe Jouffrais. Tangible reels: Construction and exploration of tangible maps by visually impaired users. In *Proceedings of the 34rd Annual ACM Conference on Human Fac-*

tors in Computing Systems, CHI '16, pages 2186–2197, New York, NY, USA, 2016. ACM.

Gary Perelman, Marcos Serrano, Mathieu Raynal, Celia Picard, Mustapha Derras, and Emmanuel Dubois. Deco: A design space for device composition. In *Proceedings of the ACM SIGCHI Conference on Designing Interactive Systems (DIS)*, DIS '16, pages 435–446, New York, NY, USA, 2016. ACM.

Houssein Saidi, Marcos Serrano, and Emmanuel Dubois. Investigating the effects of splitting detailed views in overview+detail interfaces. In *Proceedings of the 18th International Conference on Human-Computer Interaction with Mobile Devices and Services*, MobileHCI '16, pages 180–184, New York, NY, USA, 2016. ACM.

Sandra Bardot, Marcos Serrano, and Christophe Jouffrais. From tactile to virtual: Using a smartwatch to improve spatial map exploration for visually impaired users. In *Proceedings of the 18th International Conference on Human-Computer Interaction with Mobile Devices and Services*, MobileHCI '16, pages 100–111, New York, NY, USA, 2016. ACM.

Marcos Serrano, Barrett Ens, Xing-Dong Yang, and Pourang Irani. Gluey: Developing a head-worn display interface to unify the interaction experience in distributed display environments. In *Proceedings of the 17th International Conference on Human-Computer Interaction with Mobile Devices and Services*, MobileHCI '15, pages 161–171, New York, NY, USA, 2015. ACM.

Gary Perelman, Marcos Serrano, Mathieu Raynal, Celia Picard, Mustapha Derras, and Emmanuel Dubois. The roly-poly mouse: Designing a rolling input device unifying 2d and 3d interaction. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*, CHI '15, pages 327–336, New York, NY, USA, 2015. ACM.

Marcos Serrano, Dale Hildebrandt, Sriram Subramanian, and Pourang Irani. Identifying suitable projection parameters and display configurations for mobile true-3d displays. In *Proceedings of the 16th International Conference on Human-computer Interaction with Mobile Devices & Services*, MobileHCI '14, pages 135–143, New York, NY, USA, 2014. ACM.

Louis-Pierre Bergé, Marcos Serrano, Gary Perelman, and Emmanuel Dubois. Exploring smartphone-based interaction with overview+detail interfaces on 3d public displays. In *Proceedings of the 16th International Conference on Human-computer Interaction with Mobile Devices & Services*, MobileHCI '14, pages 125–134, New York, NY, USA, 2014. ACM.

Marcos Serrano, Barrett M. Ens, and Pourang P. Irani. Exploring the use of hand-to-face input for interacting with head-worn displays. In *Proceedings of the 32Nd Annual ACM Conference on Human Factors in Computing Systems*, CHI '14, pages 3181–3190, New York, NY, USA, 2014. ACM.

Marcos Serrano, Eric Lecolinet, and Yves Guiard. Bezel-tap gestures: Quick activation of commands from sleep mode on tablets. In *CHI '13 : Proceedings of the 2013 international conference on Human factors in Computing systems*, 2013.

Sarah Fdili Alaoui, Baptiste Caramiaux, Marcos Serrano, and Frédéric Bevilacqua. Movement qualities as interaction modality. In *Proceedings of the Designing Interactive Systems Conference*, DIS '12, pages 761–769, New York, NY, USA, 2012. ACM.

Marcos Serrano and Laurence Nigay. Temporal aspects of care-based multimodal fusion: from a fusion mechanism to composition components and woz components. In *ICMI-MLMI '09: Proceedings of the 2009 international conference on Multimodal interfaces*, pages 177–184, New York, NY, USA, 2009. ACM.

International refereed journal articles

Marcos Serrano and Laurence Nigay. A wizard of oz component-based approach for rapidly prototyping and testing input multimodal interfaces. *Journal on Multimodal User Interfaces*, Springer Publ., 3(3):215–225, 2010.

Alexandre Benoît, Laurent Bonnaud, Alice Caplier, Yannick Damousis, Frédéric Jourde, Jean-Yves L. Lawson, Laurence Nigay, Marcos Serrano, and Dimitrios Tzoradas. Multimodal signal processing and interaction for a driving simulator : component-based architecture. *Journal on Multimodal User Interface*, Springer Publ., 1(1):49–58, 2007.

Book chapters

Laurence Nigay, Jullien Bouchet, David Juras, Benoit Mansoux, Michael Ortega, Marcos Serrano, and Lionel Lawson. *Software Engineering for Multimodal Interactive Systems*, chapter 9, pages 201–218. D. Tzovaras (ed.), Lecture Notes in Electrical Engineering, Springer-Verlag, Berlin, 2007. Springer, 2008.

C Coutrix, D Cunin, M Okura, and M Serrano. *De part et d'autre de l'interface : les continuités esthétiques et scientifiques*. Editions l'Harmattan, 2012.

National refereed conference papers

Marcos Serrano and Laurence Nigay. Openwizard: une approche pour la création et l'évaluation rapide de prototypes multimodaux. In *IHM '09: Proceedings of the 21st International Conference on Association Francophone d'Interaction Homme-Machine*, pages 101–109, New York, NY, USA, 2009. ACM.

Marcos Serrano, David Juras, Michael Ortega, and Laurence Nigay. OIDE : un outil pour la conception et le développement d'interfaces multimodales. In *May 28-30, 2008*, pages 91–92, Saint-Malo, France, May 28-30, 2008 4èmes journées Francophones Mobilité et Ubiquité (UbiMob'08).

Demonstrations

S. Fdili Alaoui, B. Caramiaux, and M. Serrano, “From dance to touch: movement qualities for interaction design,” in *Proceedings of the 2011 annual conference extended abstracts on Human factors in computing systems*, CHI EA '11, (New York, NY, USA), pp. 1465–1470, ACM, 2011.

M. Serrano, L. Nigay, J.-Y. L. Lawson, A. Ramsay, R. Murray-Smith, and S. Deneff, “The openinterface framework: a tool for multimodal interaction,” in *CHI '08: CHI '08 extended abstracts on Human factors in computing systems*, (New York, NY, USA), pp. 3501–3506, ACM, 2008.

D. Juras, L. Nigay, M. Ortega, and M. Serrano, “Multimodal slideshow: demonstration of the openinterface interaction development environment,” in *IMCI '08: Proceedings of the 10th international conference on Multimodal interfaces*, (New York, NY, USA), pp. 193–194, ACM, 2008.

P. Gray, A. Ramsay, and M. Serrano, “A demonstration of the openinterface interaction development environment,” in *Adjunct Proceedings of UIST'07*, pp. 39–40, ACM Press, 2007.

Reports

A. Benoît, L. Bonnaud, A. Caplier, Y. Damousis, F. Jourde, J.-Y. L. Lawson, L. Nigay, M. Serrano, and D. Tzoradas, “Multimodal signal processing and interaction for a driving simulator : component-based architecture,” *Journal on Multimodal User Interface, Springer Publ.*, vol. 1, no. 1, pp. 49–58, 2007.

Education

2007–2010

Phd in Computer Science, Engineering Human-Computer Interaction (EHCI) research group, Grenoble Laboratory of Informatics (LIG), University of Grenoble.

Input Multimodal Interaction : Design and Prototyping

	Supervisor: Laurence Nigay. June 30, 2010.
2009-2011	Research student at the Superior National School for Applied Arts of Paris (Ensad), Relational Devices and Interactive Installations program (Drii), Paris, France.
2005-2006	Master 2 Research Intelligence, Interaction, Information University Joseph Fourier, Grenoble, France
2003-2005	Master 2 at Superior National School of Applied Mathematics and Computer Science of Grenoble (ENSIMAG), Specialty Images and Virtual Reality, Double diploma european exchange program, Grenoble, France. ENSIMAG engineer diploma, delivered in June 2005.
2003-2004	Master 2 at ENSIMAG, Specialty Networks and distributed systems, Grenoble, France. European exchange program ERASMUS.
1999-2005	Computer-science engineer, Polytechnic University of Madrid (UPM), Madrid, Spain. Engineer diploma delivered in June 2005.
June 1999	Scientific school diploma, Good distinction. French College of Madrid, Spain.
Pedagogy	My teaching activities concern design methods and programming techniques for human-computer interaction. It is mainly delivered to computer-science and interaction design students.
Keywords	Java, C++, JavaSwing, Web (HTML, CSS, JS), PHP, Databases, Graphical Interfaces
Present	Assistant Professor at Multimedia Department, Technical Institute (IUT) of Tarbes, France.
Jan-Feb 2012	Human-Computer Interaction (9h) ENSTA ParisTech, Paris, France.
Nov-Dec 2011	C++ Programming Workshop (6h) Telecom ParisTech, Paris, France.
Oct-Nov 2011	Processing Programming (8h)

- Mains d'Oeuvres, Paris, France.
- Sept-Dec 2011 Java Programming Workshop (9h)
Telecom ParisTech, Paris, France.
- Sept-Dec 2011 Java Programming (6h)
Telecom ParisTech, Paris, France.
- Feb-June 2011 Supervision of design students project (24h), gestural interaction in urban context
Strate College, Paris, France.
- Feb-June 2011 Processing Programming (8h)
Mains d'Oeuvres, Paris, France.
- Feb-June 2011 Graphical Interface Programming (50h)
IUT d'Orsay, Paris South University, France.
- Oct-Dec 2010 Workshop (30h) on interaction design and prototyping
Ensad, Paris, France.

Toulouse, France, January 2017