

Gilles Bailly

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Research Interest

My research is in the area of human-computer interaction, with a primary interest in novel interaction techniques and gestural interaction. My methodology is a mix of theory, design and evaluation. I attack the real problem of command selection in different contexts such as PC, multi-touch surfaces, mobile devices, Interactive television or public displays.

During my Ph.D. thesis, I designed, implemented and evaluated six novel menu techniques and proposed a design space to capitalize on existing menu techniques.

Formation

- 2011 - 2012 **Post-doc researcher**, Deutsche Telekom Laboratories and TU Berlin, Berlin, Germany
- 2009 - 2011 **Post-doc researcher**, Telecom ParisTech, Paris, France
- 2005 - 2009 **Ph.D in Computer Science**, University Joseph Fourier, Grenoble I, France
Title: Menu Techniques: Characterization, Design and Evaluation.
Advisor: Laurence Nigay and Eric Lecolinet
- 2004 - 2005 **Master 2 (MSc)**, University Joseph Fourier, Grenoble I, France (with honors)
Intelligence, Interaction, Information
- 2004 - 2005 **Magister (MSc)**, University Joseph Fourier, Grenoble I, France (with honors)
- 2002 - 2005 **Ingeneer School (Grande Ecole)**, Polytech' Grenoble, France (with honors)

Awards

- 2011 - **Humboldt Fellowship** for postdoctoral researchers in Germany
- 2005 - 2008 **Allocation MENRT**, Scholarship of the French Ministry of National Education, Research and Technology for a three-year doctoral program

Publications

Refereed Papers in International Journals (2)

1. Thierry-Mieg N., **Bailly G.**(2012)
Design and Evaluation of Finger-Count interaction: Combining Multi-touch gestures and Menus
International Journal of Human-Computer Studies (IJHCS).Special Issue on „Development, Evaluation

and Deployment of Multi-touch systems. **Révision mineure.**
25 pages.

2. Thierry-Mieg N., **Bailly G.**(2008)
Interpool: Interpreting Smart-Pooling Results.
Bioinformatics. 24(5) p. 696-703.

Refereed Papers in International Conference Proceedings: Long papers (10)

1. **Bailly G.**, Mueller, J., Rohs, M. Wigdor, D. Kratz, S. (2012)
ShoeSense: A New Perspective on Gestural Interaction and Wearable Applications.
In Proceedings of the 30th international Conference on Human Factors in Computing Systems. ACM CHI'12. 10 pages.
à paraître. Taux d'acceptation: 23%. 363/1577
2. Ten Koppel, M., **Bailly G.**, Mueller, J., Walter, R. (2012)
Chained Displays: Configurations of Public Displays can be used to influence Actor-, Audience-, and Passer-By Behavior .
In Proceedings of the 30th international Conference on Human Factors in Computing Systems. ACM CHI'12. 10 pages.
à paraître. Taux d'acceptation: 23%. 363/1577
3. Mueller, J., Walter, R., **Bailly G.**, Nischt, M., Alt, F. (2012)
Looking Glass: A Field Study on Noticing Interactivity of Shop Windows.
In Proceedings of the 30th international Conference on Human Factors in Computing Systems. ACM CHI'12. 10 pages.
à paraître. Taux d'acceptation: 23%. 363/1577
4. **Bailly G.**, Vo D., Lecolinet E., Guiard Y. (2011)
Gesture-Aware Remote Controls: Guidelines and Interaction Techniques.
In Proceedings of the 13th international conference on multimodal interfaces (ICMI '11). ACM, New York, NY, USA, 263-270.
Taux d'acceptation: 39%. 47/120
5. **Bailly G.**, Walter R., Mueller J., Ning T. and Lecolinet E. (2011)
Comparing Free Hand Menu Techniques for Distant Displays using Linear, Marking and Finger-Count Menus.
In Proceedings of the 13th IFIP TC 13 international conference on Human-computer interaction - Volume Part II (INTERACT'11), Pedro Campos, Nuno Nunes, Nicholas Graham, Joaquim Jorge, and Philippe Palanque (Eds.), Vol. Part II. Springer-Verlag, Berlin, Heidelberg), 248-262
Taux d'acceptation: 27.6%, 111/402.
6. Viard A., **Bailly G.**, Lecolinet E., Fritsch E. (2011)
Augmenting Quantum-GIS For Collaborative And Interactive Tabletops.
Advances in Cartography and GIScience, Vol. 1. Lecture Notes in Geoinformation and Cartography, 2011, Part 3, 293-307
7. Franconne J., **Bailly G.**, Nigay, L., Lecolinet E. (2010)
Wavelet Menus on Handheld Devices: Stacking Metaphor for Novice Mode and Eyes-Free Selection for Expert Mode.
Proceedings of the International Conference on Advanced Visual Interfaces, ACM AVI'10, 173-180.
Taux d'acceptation: 20%, 27/133

8. * **Bailly G.**, Lecolinet E., Nigay L. (2008)
Flower Menus: A New Type of Marking Menus with Large Menu Breadth, Within Groups and Efficient Expert Mode Memorization.
 Conference Proceedings of AVI'08, Advanced Visual Interfaces, Napoli, Italy, 28-30 may 2008, ACM Press, pp. 15-22.
 Taux d'acceptation : 27%, 32/117. Cité 23 fois (Google Scholar).
9. * **Bailly G.**, Lecolinet E., Nigay L. (2007)
Wave Menus: Improving the Novice Mode of Hierarchical Marking Menus.
 Conference Proceedings of INTERACT'07, International Conference on Human-Computer Interaction, Springer LNCS (Lecture Notes in Computer Science 4662, Rio de Janeiro, Brazil, 10-14 September, 2007, pp. 475-488.
 Taux d'acceptation : 33%
10. * **Bailly G.**, Auber D., Nigay L. (2006)
From Visualization to Manipulation of RNA Secondary and Tertiary structures.
 Conference Proceedings of IV'06, Conference on Information Visualization, London, UK, 4-6 July 2006, pp. 107-116.

Refereed Papers in International Conference Proceedings: short papers (6)

1. * **Bailly G.**, Lecolinet E., Guiard Y. (2010)
Finger-Count & Radial-Stroke Shortcuts: Two Techniques for Augmenting Linear Menus
 In Proceedings of the 28th international Conference on Human Factors in Computing Systems (Atlanta, Georgia, USA, April 10 - 15, 2010). CHI '10. ACM, New York, NY, 591-594.
 Taux d'acceptation: 22%, 302/1346
2. Roudaut A., **Bailly G.**, Lecolinet E. and Nigay L. (2009)
Leaf Menus: Linear Menus with Stroke Shortcuts for Small Handheld Devices.
 Conference Proceedings of Interact'09, Human-Computer Interaction, Uppsala, Sweden, August 26-28, IEEE, 616-619.
3. Muhammad T., **Bailly G.**, Guiard Y., Lecolinet E. (2009)
TactiPod: Tactile Assistance for Selecting List Favorites with a Bifocal Absolute and Relative Presentation.
 In the proceedings of 13th annual conference on Human Computer Interaction, ChiNL'09, Leiden, The Netherlands, June 11th, 2009.
4. Muhammad T., **Bailly G.**, Lecolinet E. (2008)
TactiMote: A Tactile Remote Control for Navigating in Long Lists.
 Conference Proceedings of the 10th International Conference on Multimodal interfaces, ICMI'08, Chania, Crete, Greece, October 20-22, 2008, ACM Press, pp. 298-299.
5. Muhammad T., **Bailly G.**, Lecolinet E. (2008)
Exploring the Impulsion and Vibration Effects of Tactile Patterns.
 Conference Proceedings of the 22th BCS HCI'08, Human Computer Interaction. Liverpool, September 1-5, 2008, ACM Press, pp. 237-240.
6. Muhammad T., **Bailly G.**, Lecolinet E. (2007)
ARemote: A tangible interface for selecting TV channels.
 Conference Proceedings of the 17th Annual Conference on Artificial Reality and Telexistence, ICAT'07, IEEE, Springer, Esbjerg, Denmark, 23-28 november 2007, ACM Press, pp. 298-299.

Refereed Papers in national Conference Proceedings: Long paper (3)

1. Vo D., **Bailly G.**, Lecolinet E., Guiard Y. (2011)
Un espace de caracterisation de la telecommande dans le contexte de la television interactive (Design space of remote controls in the context of Interactive television).
 In 23rd French Speaking Conference on Human-Computer Interaction (IHM '11). ACM, New York, NY, USA, Article 17 , 8 pages.
2. * **Bailly G.**, Lecolinet E., Nigay L. (2007)
Quinze Ans de Recherche sur les Menus : Critères et Propriétés des Techniques de Menus (15 years of research on menus: criteria and properties of menu techniques).
 Conférence IHM 2007, 19ème Conférence francophone sur l'Interaction Homme-Machine, Paris 13-15 novembre 2007, ACM Press. pp.119-126.
3. * **Bailly G.**, Nigay L., Auber D. (2005)
2M : un Espace de Conception pour l'interaction Bi-Manuelle (2M: a Design Space for Two-Handed interaction).
 Actes des 2èmes Journées Francophone : Mobilité et Ubiquité, Ubimob'05, Grenoble, France, 31 mai-3 juin 2005, ACM Press, pp. 177-184.

Refereed Papers in national Conference Proceedings: Short paper (4)

1. Perrault S., **Bailly G.**, Guiard Y., Lecolinet E. (2011)
Promesses et contraintes de la joaillerie numerique interactive : Un apercu de l'etat de l'art .
 In 23rd French Speaking Conference on Human-Computer Interaction (IHM '11). ACM, New York, NY, USA, , Article 14 , 4 pages.
2. Franconne J., **Bailly G.**, Nigay L., Lecolinet E. (2009)
Wavelet menus : une adaptation des Wave menus sur dispositifs mobiles (Wavelet menus: Adapting Marking menus to Mobile Devices).
 Conférence IHM'09 on Association Francophone D'interaction Homme-Machine (Grenoble, France, October 13 - 16, 2009), ACM Press, 367-370.
3. **Bailly G.**, Roudaut A., Lecolinet E., Nigay L. (2008)
Menus Leaf : Enrichir les menus linéaires par des gestes.
 Conférence IHM 2008, 20ème Conférence francophone sur l'Interaction Homme-Machine, Metz 2-5 septembre 2008, ACM Press. pp. 169-172.
4. * **Bailly G.**, Demeure A., Lecolinet E., Nigay L. (2008)
Multi-Touch Menu (MTM).
 Conférence IHM 2008, 20ème Conférence francophone sur l'Interaction Homme-Machine, Metz 2-5 septembre 2008, ACM Press. pp. 165-168.

Demonstrations (2)

1. * Franconne J., **Bailly G.**, Nigay L., Lecolinet E. (2009)
Wavelet Menus: A Stacking Metaphor for Adapting Marking menus to Mobile Devices.
In Proceedings of the 11th international Conference on Human-Computer interaction with Mobile Devices and Services (Bonn, Germany, September 15 - 18, 2009). MobileHCI '09, 1-4.
2. * **Bailly G.**, Nigay L., Auber D. (2006)
NAVRNA: visualization - exploration - editing of RNA.
Conference Proceedings of AVI'06, Advanced Visual Interfaces, Venezia, Italy, 23-26 may 2006, ACM Press, pp. 504-507.

Workshops (1)

1. Ning T., Müller J., Walter R., **Bailly G.**, Wacharamanotham C., Alt F., Brochers, J. (2011)
No Need to Stop: Menu Techniques for Passing by Public Displays.
In Proceedings of the CHI workshop (Vancouver, Canada, , 2011). CHI'11, (à paraître).

Others (3)

1. **Bailly G.**(2009)
Techniques de menus : Caractérisation, Conception et Evaluation.
Ph.D. thesis of the University Joseph Fourier.
2. * **Bailly G.**(2007)
Techniques de menus : Description, Conception, Evaluation (Menu Techniques: Characterization, Design and Evaluation).
Doctoral consortium at IHM'07, pp. 217-220.
3. * **Bailly G.**, Lecolinet E., Nigay L. (2006)
Critères et Propriétés des Techniques de Menus (Criteria and Properties of menu techniques).
Rencontre Jeunes Chercheurs RJC'06.

Research activities

AFIHM

2007-2011 I was on the board of the french Association of human-computer interaction

Program Committee membership and Volunteering

1. Program committee member at ACM mobileHCI'11
2. Program committee member at ACM IHM'11
3. Student volunteer at IHM'09
4. Student volunteer at Ubimob'06

Reviewing

1. Journal ACM Transactions on Computer-Human Interaction (ToCHI), 2010, 2011.
2. ACM Conference on Human Factors in Computing Systems (CHI), 2008, 2010, 2011, 2012.
3. ACM Conference on Advanced Visualization Interface (AVI), 2010.
4. ACM Conference on Engineering Interactive Computing Systems (EICS), 2010.
5. IFIP TC13 Conference on Human-Computer Interaction (Interact), 2009, 2011.
6. ACM Conférence francophone sur l'Interaction Homme-Machine (IHM), 2007, 2008, 2009, 2010, 2011.

Teaching

("L" are lectures, "AL" are applied lectures)

Intitulé	Place	Level	Year	Hours
Advanced topics in Human-Computer Interaction	TU Berlin	Master	2010-2011	7h L
GUI programming with Qt	ENSTA	Master	2007-2008 2008-2009 2009-2010	2h30 L; 5h30 AL 2h L; 3h AL 2h30 L; 5h30 AL
C++	Telecom-ParisTech	Master	2005-2006 2006-2007 2007-2008	21h AL 21h AL 37h30 AL
Student project	Telecom-ParisTech	Master	2005-2006 2006-2007 2007-2008 2008-2009	20h AL 20h AL 20h AL 20h AL
GUI programming with Java Swing	Telecom-ParisTech Univ. Paris 6	Master	2005-2006 2006-2007 2007-2008 2008-2009	6h AL 6h AL 6h AL 1h30 AL
Java	Telecom-ParisTech	Licence	2006-2007 2007-2008	7h30 AL 10h30 AL
Micro-project	Telecom-ParisTech	Licence	2006-2007	12h AL