# Alessandra Melonio, Ph.D. – Curriculum Vitæ

Date: August 28, 2017

Faculty of Computer Science
Free University of Bozen-Bolzano

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DATE OF BIRTH: June 14th, 1985

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Nationality: Italian

Address: Via Marconi 17C, 39100 Bolzano

#### Main Interests

- Human Centred Computing: Interaction Design and User Experience (UX).

- Game design and Gamification of learning
- Gamified Tangible Smart Solutions
- Participatory Design
- Technology Enhanced Learning

#### Current Position

Since January 2016 Alessandra Melonio is  $Research\ Assistant$  at the Faculty of Computer Science of the Free University of Bozen-Bolzano.

# EDUCATION AND RESEARCH CAREER

1 Jan 2016 - 30 Jun 2017

Research Assistant at the Faculty of Computer Science at the Free University of Bozen-Bolzano, working on the topics: interaction design and gamified smart solutions

Apr 29, 2016

**Ph.D. in Computer Science** at the Faculty of Computer Science of the Free University of Bozen-Bolzano.

Title of the thesis: Participatory Game Design and Children.

Advisor: Prof. Gabriella Dodero Co-Advisor: Dr. Rosella Gennari

Ph.D. Cycle: XXVIII Final Mark: Excellent

Evaluation of the thesis: The commission was particularly impressed by the management of the complexity of the problem in an interdisciplinary setting that required significant independence of the researcher, requiring her to align to different work styles and contexts, also resulting in an impressive gain of knowledge and experience.

Jan 2013 - April 2016

**Ph.D. Student** at the Faculty of Computer Science of the Free University of Bozen-Bolzano, where she won one out of eight positions in a public competition.

Jan - Dec 2012

Research Assistant at the Faculty of Computer Science of the Free University of Bozen-Bolzano, working on the topic: Visual diagrammatic representation for temporal relations in stories (Project DARE, financed by the BZ province); requirements and guidelines for designing game for deaf children (FP7 TERENCE project).

 ${\tt Jan~19,~2011~Master~Degree~in~Computer~Science~and~Automation~En-}$ 

gineering with full honors at the department of Information Engineering, Computer Science and Mathematics University of

L'Aquila, Italy.

Title of the thesis: "Interazione naturale con dispositivi di nuova generazione".

Supervisor: Prof. Laura Tarantino (University of L'Aquila).

Final Mark: 110/110

Sept 21, 2006 Bachelor degree in Computer Science and Automation

Engineering with full honors at the department of Information Engineering, Computer Science and Mathematics University

of L'Aquila, Italy.

Title: "Architettura peer to peer: analisi di protocolli e implemen-

tazione open source in ambiente Linux."

Supervisor: Dr. Matteo Frigioni (University of L'Aquila).

### EXPERTISE

# • HCI and Interacton Design

- Interaction design
- Design of smart solutions for learning/educational purposes
- Game design for children
- Gamification of Learning

# • User Centred Design and Evaluation

- User research and usability analysis
- Measuring UX
- Usability testing
- Evaluation services

#### • Project Management

- Planning, resources and team management
- Problem solving and performance management
- Definition and analyses of requirements

## TECHNICAL SKILLS

### • Programming

- Java, C++
- HTML5, CSS

# • Databases

- SQL, Oracle, MySQL

#### • Operating Systems

- Windows
- OS X
- Linux/Unix

#### • Graphic

- Adobe Creative Suite: Photohop, Illustrator, InDesign
- Sketch, SketchUP, SolidWork
- JustInMind, Axure

### LANGUAGE SKILLS

- Italian Mother Tongue
- English First Certificate in English (FCE)

Reading skills: full professional proficiency
Writing skills: full professional proficiency
Verbal skills: full professional proficiency

#### • Spanish

Reading skills: level B2
Writing skills: level B2
Verbal skills: level B2

#### Participation to Projects

Alessandra Melonio worked in the following projects:

• GOST. (Central Research Committee: Call for Project Proposals 2015 Free University of Bozen - Bolzano; financed through the first peer-reviewed and competitive call by the "Commissione di Ricerca" of UniBZ (CRC). The project is in collaboration with the Multimedia Lab across the Senses, with Head Prof. F. Pavani, of Cognitive Science Department of Trento University.)

Date and term: June 2016, 18 months

DESCRIPTION: "Gamified Objects for Speech-Therapy" project is on designing gamified objects for stimulating fundamental hearing abilities that are limited in individuals using hearing-aids or cochlear implants.

Contribution: Alessandra Melonio has a leading position in the coordination of the project work. Additionally, she i) design and lead the field studies (mixed methods research designs), ii) developed and designed prototypes, iii) lead and supervised its implementation,

• GAPH. (Central Research Committee: Call for Project Proposals 2015 Free University of Bozen - Bolzano).

Date and term: May 2016, 18 months

DESCRIPTION: GaPH aims at being an interdisciplinary exploratory project for gamifying children's natural environment with educational purposes.

Contribution: Alessandra Melonio has a leading position in the coordination of the project work. Additionally, she i) design and lead the empirical studies, ii) developed and designed prototypes, lead and supervised their implementation

• DARE. (Provincia of Bozen-Bolzano funded project) http://www.inf.unibz.it/dare./ DATE AND TERM: start date: 01/07/2012, 24 months.

DESCRIPTION: Dare is a project focusing on picto-diagrammatic representations for young children. Specifically the project aims at analysing what visual metaphors children would adopt for interpreting stories.

Contribution: Alessandra Melonio contributed in: i) User needs and requirements; ii) Contextual analyses iii) Evaluation with deaf and hearing children, and quantitative and qualitative analyses iv) Dissemination events

• TERENCE (Fp7 EU funded project)

http://www.terenceproject.eu/)

Date and Term: start date: 20/3/2009, 36 months.

DESCRIPTION: TERENCE is a three year project for the design and development of the first Adaptive Learning System (ALS) for poor comprehenders, hearing and deaf, and for their educators. TERENCE aims at offering innovative usability and evaluation guidelines, pedagogical models, AI technologies, and an ALS for reasoning about stories, in Italian and in English

Contribution: Alessandra Melonio contributed in the following working packages:

i) WP1: Context of Use and User Requirements, specifically Alessandra Melonio collaborated in identifying user classes and specifying user needs and usability goals. ii) WP4: Design and Implementation of the Reasoning Module. In particular, Alessandra Melonio collaborated at the deliverable related to the state of the art and design of novel intelligent feedback. It reports on the design of the game prototypes of the first year of the TERENCE project; the state of the art of automated reasoning for the annotations and the games. Alessandra Melonio contributed in designing the smart games to be developed. iii) WP7: Evaluation. Alessandra Melonio collaborated in design end executing expert based evaluation and field studies with children at primary schools.

#### SMART SOLUTIONS DEVELOPMENT

Alessandra Melonio lead the design and development of the following prototypes:

GAPH TRAY

Alessandra Melonio lead and supervised the development of the GAPH smart tray. The GAPH tray is a tangible smart solutions with the aim of informing canteen users about their eating choices, and the effects of choices on their diet. It was developed through a design process that stepped through firstly alternative design mockups and then interactive prototypes. Alessandra Melonio lead and designed step by step the design process and the evaluation phases with the related data analyses. She supervised the work performed by one collaborator working on the implementation.

References: publication IC2

TurnTalk

Alessandra Melonio lead and supervised the development of the Turn Talk, a table top device Arduino based. Turn Talk is a smart tangible solution with the aim of scaffolding of balanced conversations in groups of children. Alessandra Melonio designed the tangible objects, described the requirements and the technologies to use, as well as supervised step by step the work performed by the PhD student working on the implementation and the development.

References: publication IC3

Compass

Alessandra Melonio lead and supervised the development of Compass, a tangible interactive object, enhanced with embedded micro-electronics components, for supporting group conversation in presence of deaf, hard-of-hearing and hearing children. Alessandra Melonio supervised step by step the work performed by a PhD student working on the Compass implementation and its prototyping.

GACoCo

Alessandra Melonio lead and supervised the design and development of several tangible smart objects related to a 3 years doctoral project GACOCO executed in 4 primary schools. Specifically the object served for gamifying the learning context (e.g, wooden progression map endowed with technologies, control box for groups of children.)

References: PhD Thesis Melonio  $\mathbf{T}\mathbf{H}$ 

Gamified Map

Alessandra Melonio lead and supervised the design of a smart gamified map created for gamifying the university contexts for children. In particular, the map served as a contextual map for the dissemination activity at university.

References: publication IC12

Alessandra Melonio has supervised the research activity of the following collaborators:

2016-NOW Mehdi, Ph.D. Student at the Faculty of computer science.

The supervision concerns the development of smart solutions related to the GOST project. Alessandra Melonio leads and supervises the development and implementation of smart solutions for primary school children. She defined the UX methodology to use, the functionalities to be implemented as well as the technologies to

2016-now

Guerriero Raimato, Collaborating as Research Assistant (AR) at the Free University of Bozen-Bolzano. The supervision concerns the development of smart solutions related to the GAPH project. Alessandra Melonio leads and supervises the prototyping and development of a smart trays for learning healthy nutrition habits.

2014-2016

Santina Torello. Collaborating as Research Assistant (AR) at the Free University of Bozen-Bolzano. Alessandra Melonio supervised the activity of Santina Torello in the execution of empirical field study related to the GaCoCo project (Gamified Co-Design with Cooperative Learning). Alessandra Melonio designed and supervised the empirical field study executed in educational contexts (mainly schools) concerning gamification and game design with and for children.

2014-2015

Alex Tomasi. Collaborating as Research Assistant (AR) at the Free University of Bozen-Bolzano. Alessandra Melonio lead and supervised the implementation of gamified smart solutions. She designed the prototypes and defined the functionalities to be implemented, the technologies to use as well as the interaction.

### Organization of Events

Alessandra Melonio was involved in the organization of the following events:

May 2017 **Junior Uni 2017** Alessandra Melonio worked at the organization of the "Lab of Interaction Design and Making with Micro-electronics for Primary Schools", held in Bolzano.

June 2015

Gamified Children University Alessandra Melonio worked at the planning and organization of "Gamified children university": dissemination activities related to computer science for engaging children in a gamified university context. Faculty of Computer Science, Free University of Bozen-Bolzano.

FROM 2012 то 2015

Junior Uni Alessandra Melonio worked at the planning and organization of junior Uni activities: computer sicence laboratories for children on behalf of the Faculty of Computer Science

Alessandra Melonio was involved in the organization of the following workshop and seminars:

18th November 2016 End-User participating in design and making Seminar at the Free University of Bozen-Bolzano. Exploring diverse views on enduser participatory in design and making: new frontiers and chal-

user participatory in design and making: new frontiers and challenges for fabLAB, making and design, from different perspectives. External speakers: Netta Livari, University of Oulu; Enrico Vezzetti e Andrea Luigi Guerra, Polytechnic of Turin. Held in Bolzano, at the faculty of Computer Science

28TH SEPT 2015 Workshop PALX PaLX: Player and Learner eXperience: can we design for both? workshop, co-located in the CHItaly conference

(11th Biannual Conference on Italian SIGCHI Chapter (CHItaly 2015), Page 2015.

2015), Rome.

14TH FEBRUARY 2015 TEL@FUB 2014 Seminar on new methodologies and approach

for co-designing and interaction design. Co-Design laboratories for teachers focussing on participatory design and cooperative learning  $\,$ 

approach. Held at the Faculty of Computer Science,

 $20\mbox{TH}$  June 2013  $\,$  TEL@FUB 2013 Seminar on Technology Enhanced Learning at

School: A workshop and a round table where computer science and education experts get together at the Faculty of Computer Science of the Free University of Bozen-Bolzano and share their views about

technology enhanced learning initiatives at school.

12TH OCTOBER 2015 Game design with Children Seminar on game design children.

External speaker: Christiane Moser, Center for Human-Computer Interaction, University of Salzburg. Held in Bolzano, at the faculty

of Computer Science.

### TALKS AND INVITED TALKS

Alessandra Melonio gave the following talks:

SEPTEMBER 2017 Design of IoT Tangibles for Primary Schools. CHItaly '17

Proceedings of the 12th Biannual Conference on Italian SIGCHI

Chapter. 19-20 September 2017. Cagliari, Italy.

October 2016 Is Participatory Game Design Effective Over Time? Let'

s Assess its Products. International Conference on Advanced

Information System Engineering, ITAIS 2016. Verona, Italy.

September 2015 From Game Design with Children to Game Development

with University Students: What Issues Come Up?. 11th Biannual Conference on Italian SIGCHI Chapter; 29 September

2015, Roma

OCTOBER 2014 Gamified co-design with cooperative learning at school.

11th Biannual Conference on Italian SIGCHI Chapter; CHIPLAY

2014; 19-22 October 2014, Toronto

APRIL 2014 Gamified co-design with cooperative learning at school.

The ACM CHI Conference on Human Factors in Computing Sys-

tems; April 2014, Toronto

September 2013 Gamify your Field Studies for Learning about Your Learn-

ers. 3rd International Workshop on Evidence Based and User cen-

tred Technology Enhanced Learning; September 16th 2013, Trento.

September 2013 Game-based Co-design of Games for Learning with Children and Teachers: Research Goals and a Study. 10th Biannual Conference on Italian SIGCHI Chapter; September 2013, Trento.

May 2013 How to Design Games for Deaf Children: Evidence-based Guidelines. International Workshop on evidenced-based Technology Enhanced Learning. May 22nd-24th 2013, Salamanca, Spain.

March 2012 Visual representations of narratives for Poor comprehenders. International Workshop on evidenced-based Technology Enhanced Learning. March 29th 2012, Salamanca, Spain.

# TEACHING ACTIVITY

A.Y. 2017 Invited lecturer for the master "Perfezionamento in tecnologie per la didattica: dispositivi e diversita", Department of Information Engineering and Computer Science, University of Trento.

Number of hours: 5. Number of students: 20.

A.Y. 2017 **Invited lecturer** for the course "Interaction Design and UX evaluation" at the DIPFABLAB winter school, Local branch of Politencoino of Torino, Verres.

Number of hours: 12. Number of students: 10.

A.Y. 2012–2013 **Contract lecturer** for the course "Seminar in human machine interaction" at the Master in Computer Science, Free University of Bolzen-Bolzano.

Number of hours: 12. Number of students: 30.

# ATTENDED SCHOOLS

Alessandra Melonio attended the following Schools:

DIPFABLAB
2016: International Sorbonne Universites Winter School—Design of

Innovative Products in Fablab (Verres (IT); Compiegne (FR).

February 1st - 6th, 15th - 20th 2016.

FRONT-TEL Advanced Summer School on Frontiers on Technology En-

2012: hanced Learning. Rome, Italy. July 7th - 10th, 2012.

Bolzano, August 28, 2017.

Alessandra Melonio

The undersigned declares that the information contained in the curriculum vitae is true. The undersigned gives her permission for the personal details that she has supplied to be processed as per Italian legislative decree 196/2003 for any procedures that are connected to this selection procedure and any contracts that may be drawn up as a consequence.

# LIST OF PUBLICATIONS

All the publications of Alessandra Melonio can be found at http://www.inf.unibz.it/~melonio/

#### Ph.D. Thesis

TH ThesisPhD A. Melonio. Participatory Game Design and Children

PhD thesis, Free University of Bozen-Bolzano, Research Doctorate in Computer Science, April 29th, 2016. Available at:

http://www.inf.unibz.it/~melonio/publications/phdthesis.pdf

#### **International Journals**

- IJ1 Brondino M., Dodero G., Gennari R., Melonio A., Raccanello D and Torello, S. Children's Emotions and Quality of Products in Participatory Game Design. In International Journal of Human-Computer Studies, 101, 45–61. DOI:10.1016/j.ijhcs.2017.01.006. 2017
- IJ2 Gennari R., Melonio A., and Torello, S. From Gamified Probes to Gamified Tangibles for Cooperative Learning: A Case Study. Special Issue of the International Journal of Multimedia Tools and Applications, Springer, IF = 1.346. Guest editors: M. De Marsico and D. Fogli. DOI: 10.1007/s11042-016-3543-7. 2016.
- IJ3 Di Mascio, T., Gennari, R. and Melonio, A. and Tarantino, L. and Vittorini, P. Supporting Children in Mastering Temporal Relations of Stories: the TERENCE Learning Approach. In Special Issue of the International Journal of Distance Education Technologies (IJDET) on Visual Aspects in Technology Enhanced Learning, Vol.14(1). IF= 0,918DOI: 10.4018/IJDET.2016010103
- IJ4 Brondino, M., Dodero, G., Gennari, R., Melonio, A., Raccanello, D., and Torello, S. (2014). Achievement Emotions and Peer Acceptance Get Together in Game Design at School. ADCAIJ: Advances In Distributed Computing And Artificial Intelligence Journal, 3(4), 1-12. DOI:10.14201/ADCAIJ201434112.
- IJ5 Di Mascio, T., Gennari, R., Melonio, A. and Vittorini, P. Designing Games for Deaf Children: First Guidelines. In International Journal of Technology Enhanced Learning (IJ-TEL), Vol. 5, Nos. 3/4, pp. 223–239, Inderscience Enterprise Ltd., 2013.

# International Conferences and Lecture Notes

- IC1 Rosella Gennari, Alessandra Melonio, Mehdi Rizvi and Andrea Bonani. Design of IoT Tangibles for Primary Schools. In Proc. of the 12th Biannual Conference on Italian SIGCHI Chapter. Cagliari, Italy.
- IC2 Rosella Gennari, Alessandra Melonio and Mehdi Rizvi. The Participatory Design Process of Tangibles for Children's Socio-Emotional Learning. In proc of IS-EUD 2017, LNCS 10303, pp. 1–16, 2017.
- IC3 Vincenzo Del Fatto, Rosella Gennari, Alessandra Melonio and Guerriero Raimato. The Design of a Smart Tray with its Canteen Users: a Field Study. In proc. of the 7th International Conference in Methodologies and Intelligent System for Technology Enhanced Learning (mis4TEL 2017). Porto, Portugal.
- IC4 Alessandra Melonio and Rizvi Mehdi. The Design of TurnTalk for The Scaffolding of Balanced Conversations in Groups of Children. In proc. of 1st International Symposium on Emerging Technologies for Education, At Rome, Volume: LNCS, Springer
- IC5 Alessandra Melonio. Is Participatory Game Design Effective Over Time? Let's Assess its Products. In proc. of the 3th conference of the Italian Chapter of AIS. ITAIS 2016. Verona, Italy.

- IC6 Dodero G., Melonio A. Guidelines for Participatory Design of Digital Games in Primary School. 6th International Conference in Methodologies and intelligent Systems for Techhnology Enhanced Learning (MIS4TEL'16). Spain, Sevilla, June 2016.
- IC7 Rosella Gennari and Alessandra Melonio. A Three-Year Long Journey Across the Fields of Participatory Game Design. In Proc. of Fourth International Workshop on Cultures of Participation in the Digital Age CoPDA 2016. Gothenburg (Sweden), October 23, 2016 (published at http://ceur-ws.org).
- IC8 Dodero G., Gennari R., Melonio A., and Torello, S. "There Is No Rose Without A Thorn": An Assessment of a Game Design Experience for Children. In Proceedings of the 11th Biannual Conference on Italian SIGCHI Chapter (CHItaly 2015). ACM, New York, NY, USA, 10-17.
- IC9 Corral, L., Fronza, I., Gennari, R. and Melonio, A. From Game Design with Children to Game Development with University Students: What Issues Come Up?. In Proceedings of the 11th Biannual Conference on Italian SIGCHI Chapter (CHItaly 2015). ACM, New York, NY, USA, 30-33.
- IC10 Dodero G., Brondino, M., Gennari R., Melonio A., Pasini, M., Raccanello, D. and Torello, S. Emotions and Inclusion in Co-Design at School: Let's Measure Them!. In Proceeding of the Methodologies and Intelligent Systems for Technology Enhanced Learning. Volume 374 of the series Advances in Intelligent Systems and Computing pp 1-8. Salamanca, Spain, June 2015.
- IC11 Dodero G., Gennari R., Melonio A., and Torello, S. Towards tangible gamified co-design at school: two studies in primary schools. In Proceedings of the first ACM SIGCHI annual symposium on Computer-human interaction in play (CHI PLAY '14). ACM, New York, NY, USA, 77-86.
- IC12 Melonio A. Gamified co-design with cooperative learning at school. In Proceedings of the first ACM SIGCHI annual symposium on Computer-human interaction in play (CHI PLAY '14). ACM, New York, NY, USA, 295-298.
- IC13 Del Fatto, V. G. Dodero, R. Gennari, A. Melonio, Montali, M., Razniewski, Torello,S., Wang, X. and Zini, F. Gamified children universities: an exploratory study. In Proceedings of the first ACM SIGCHI annual symposium on Computer-human interaction in play (CHI PLAY '14). ACM, New York, NY, USA, 409-410.
- IC14 Dodero G., Gennari R., Melonio A., and Torello, S. A Lean Experience of Game Fabrication: From School to University and Back. In Technical Proc. of the FabLabs in Educational Context Workshop, part of Fablearn Europe 2014, co-located with IDC 2014.
- IC15 Dodero G., Gennari R., Melonio A., and Torello, S. Gamified co-design with cooperative learning. In CHI '14 Extended Abstracts on Human Factors in Computing Systems (CHI EA '14). Acceptance rate: 37.5%. ACM, New York, NY, USA, 707-718.
- IC16 Di Mascio, T., Gennari, R. and Melonio, A. Gamify your Field Studies for Learning about Your Learners. In Proc. of 3rd International Workshop on Evidence Based and User centred Technology Enhanced Learning. September 2013. Springer, 135-142
- IC17 Di Mascio, T., Gennari, R., Melonio, A. and Vittorini, P. Play and Learn about Your Learners to Early Form your TEL Design. In Technology-enhanced Formative Assessment Workshop (TEFA). September 2013.
- IC18 Melonio A.. Game-based Co-design of Games for Learning with Children and Teachers: Research Goals and a Study. In Proceedings of the CHItaly 2013 Doctoral Consortium co-located with the 10th International Conference of the Italian SIGCHI Chapter (CHItaly 2013), Trento, Italy, September 16, 2013. http://ceur-ws.org/Vol-1065/paper3.pdf
- IC19 Melonio, A. and Gennari, R. How to Design Games for Deaf Children: Evidence-based Guidelines. In proceedings of 2nd International Workshop on Evidence-based Technology Enhanced Learning (Salamanca, Spain, May 2013), Vol. 218 (Advances in Intelligent Systems and Computing). Springer, pp 83-92.

- IC20 Cecilia, M.R., Di Mascio, T. and Melonio, A. The 1st Release of the TERENCE Learner GUI: the User-based Usability Evaluation. In proceedings of 2nd International Workshop on Evidence-based Technology Enhanced Learning (Salamanca, Spain, May 2013), vol. 218 (Advances in Intelligent Systems and Computing). Springer, 1-8.
- IC21 Di Mascio T, Gennari R, Melonio A, Vittorini P. The User Classes Building Process in a TEL project. In proceedings of International Workshop on evidenced-based Technology Enhanced Learning (Salamanca, March 28-30 2012), vol. 152, (Advances in Intelligent Systems and Computing). Springer. 107-114.
- IC22 Alrifai, M., Di Mascio T, Gennari R, Melonio A, Vittorini P. and De la Prieta, F. The Learners' User Classes in the TERENCE Adaptive Learning System. In proceedings of Advanced Learning Technologies (ICALT), 2012 IEEE 12th International Conference on , vol., no., pp.572-576, 4-6 July 2012.
- IC23 Di Mascio, T., Gennari, R., Melonio, A., Vittorini, P. Visual representations of narratives for Poor comprehenders. In proceedings of the International Workshop on evidenced-based Technology Enhanced Learning. (Salamanca, March 28-30 2012). Vol. 152, (Advances in Intelligent and Soft Computing). Sringer, pp. 91-98.
- IC24 Melonio, A., Tarantino, L. and Di Mascio, T. Towards ICT support for elderly displaced people: looking for natural gestures. In proceedings of the 8th Conference of the Italian Chapter of AIS conference (ITAIS 2011, Rome) (Information Systems: Crossroads for Organization, Management, Accounting and Engineering). Springer, 135-143.

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