Final Program

9-14 July 2017
Vancouver Convention Centre
Vancouver, Canada

HCI 2017
International
19th International Conference on Human - Computer Interaction

Thematic areas
HCI: Human-Computer Interaction
HIMI: Human Interface and the Management of Information

Affiliated conferences
EPCE: 14th International Conference on
Engineering Psychology and Cognitive Ergonomics

UAHCI: 11th International Conference on
Universal Access in Human-Computer Interaction

VAMR: 9th International Conference on
Virtual, Augmented and Mixed Reality

CCD: 9th International Conference on
Cross-Cultural Design

SCSM: 9th International Conference on
Social Computing and Social Media

AC: 11th International Conference on
Augmented Cognition

DHM: 8th International Conference on
Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management

DUXU: 6th International Conference on
Design, User Experience and Usability

DAPI: 5th International Conference on
Distributed, Ambient and Pervasive Interactions

HAS: 5th International Conference on
Human Aspects of Information Security, Privacy and Trust

HCIBGO: 4th International Conference on
HCI in Business, Government and Organizations

LCT: 4th International Conference on
Learning and Collaboration Technologies

ITAP: 3rd International Conference on
Human Aspects of IT for the Aged Population

http://2017.hci.international/

HCI 2017
INTERNATIONAL

Program On-line

2017.hci.international/program

VENUE MAP AT BACK PAGE

Under the auspices of 15 distinguished international boards of 377 Members from 42 countries

**Conference Founder,
General Chair Emeritus and
Scientific Advisor**
Gavriel Salvendy
Purdue University, USA
Tsinghua University, P.R. China
and University of Central Florida, USA

General Chair
Constantine Stephanidis
University of Crete and ICS-FORTH, Greece
Email: *general_chair@hcii2017.org*

Conference Administration
Email: *administration@hcii2017.org*

Program Administration
Email: *program@hcii2017.org*

Registration Administration
Email: *registration@hcii2017.org*

Student Volunteer Administration
Email: *sv@hcii2017.org*

**Communications Chair,
Exhibition Chair,
HCI International News Editor**
Abbas Moallem
Charles W. Davidson College of Engineering
San Jose State University, USA
Email: *news@hcii2017.org*

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Conference at a Glance

Conference Registration – Secretariat

Conference Registration will take place at the Conference Secretariat, located at **BALLROOM LOBBY**, during the following hours:

Saturday, 8 July	**16:00 - 18:00**
Sunday, 9 July	**08:00 - 17:30**
Monday, 10 July	**08:00 - 17:30**
Tuesday, 11 July	**08:00 - 17:30**
Wednesday, 12 July	**07:30 - 18:00**
Thursday, 13 July	**07:30 - 18:00**
Friday, 14 July	**07:30 - 18:00**

Conference Evaluation

Your opinion and comments are very important for the improvement and future planning of the conference. We kindly ask you to spend a few minutes to fill-in the on-line anonymous survey through the link:

https://www.surveymonkey.com/r/HCII2017

or scan the QR-Code on the left

The survey will be available until 6 September 2017

PROGRAM

Sunday 9 July 2017	08:30 - 17:30	Tutorials Day 1	*- page 13*
Monday 10 July 2017	08:30 - 17:30	Tutorials Day 2	*- page 13*
Tuesday 11 July 2017	08:30 - 17:30	Tutorials Day 3	*- page 13*
	18:00	Opening Plenary Session - Room: **BALLROOM A** Keynote Speech *- page 5* **"The New ABCs of Research: Grand Challenges for HCI"** by: **Ben Shneiderman** Professor: Computer Science, UMIACS - Founding Director: HCI Lab (1983-2000) Affiliate Professor: Institute for Systems Research - Affiliate Professor: College of Information Studies - Maryland's iSchool, University of Maryland, USA	
	19:45	Conference Reception	*- page 8*
Wednesday 12 July 2017	08:00 - 18:00	Parallel paper presentations, Day 1 Poster presentations, Day 1 Exhibition, Day 1	*- page 20* *- page 80* *- page 10*
	16:00 - 18:00	Mentoring Session - I for PhD students offered by Ben Shneiderman (closed session)	*- page 5*
Thursday 13 July 2017	08:00 - 18:00	Parallel paper presentations, Day 2 Poster presentations, Day 2 Exhibition, Day 2	*- page 40* *- page 80* *- page 10*
	16:00 - 18:00	Mentoring Session - II for PhD students offered by Ben Shneiderman (closed session)	*- page 5*
Friday 14 July 2017	08:00 - 18:00	Parallel paper presentations, Day 3 Poster presentations, Day 3 Exhibition, Day 3	*- page 60* *- page 80* *- page 10*

HCI International 2017 - Welcome Note

Gavriel Salvendy
Conference Founder,
General Chair Emeritus
and Scientific Advisor

Dear Colleague,
It is with great honor and pleasure that I welcome you to HCI International 2017, the 19th International Conference on Human-Computer Interaction, held in Vancouver, Canada, 9 - 14 July, incorporating 15 Affiliated Conferences / Thematic Areas:

- HCI: Human-Computer Interaction Thematic Area
- HIMI: Human Interface and the Management of Information Thematic Area
- EPCE: 14th International Conference on Engineering Psychology and Cognitive Ergonomics
- UAHCI: 11th International Conference on Universal Access in Human-Computer Interaction
- VAMR: 9th International Conference on Virtual, Augmented and Mixed Reality
- CCD: 9th International Conference on Cross-Cultural Design
- SCSM: 9th International Conference on Social Computing and Social Media
- AC: 11th International Conference on Augmented Cognition
- DHM: 8th International Conference on Digital Human Modeling & Applications in Health, Safety, Ergonomics & Risk Management
- DUXU: 6th International Conference on Design, User Experience and Usability
- DAPI: 5th International Conference on Distributed, Ambient and Pervasive Interactions
- HAS: 5th International Conference on Human Aspects of Information Security, Privacy and Trust
- HCIBGO: 4th International Conference on HCI in Business, Government and Organizations
- LCT: 4th International Conference on Learning and Collaboration Technologies
- ITAP: 3th International Conference on Human Aspects of IT for the Aged Population

Constantine Stephanidis
General Chair HCII 2017

HCI International is the worldwide renowned international forum for the dissemination and exchange of up-to-date scientific information on theoretical, generic and applied areas of Human-Computer Interaction.

Like its predecessor conferences, HCI International 2017 (HCII 2017) promises to be an unforgettable cluster of high quality international scientific events, and an ideal occasion to come to contact with the rapidly evolving ICT market in the world. HCII 2017 and the Affiliated Conferences/Thematic Areas explore a wide variety of new hot topics which reflect and contribute to a paradigm shift towards ubiquitous interaction, intelligent environments and interactive technologies supporting virtually any aspect of human life and activities in a global and social perspective.

The 30-volume Conference Proceedings are published by Springer in the Lecture Notes in Computer Science (LNCS), Lecture Notes in Artificial Intelligence (LNAI) and Communications in Computer and Information Science (CCIS) series, and are available on-line through the SpringerLink Digital Library (http://www.springer.com/lncs and http://www.springer.com/series/7899), readily accessible by all subscribing libraries around the world. All volumes of the Proceedings in PDF format are also included in a USB Drive provided in your registration bag. They are also available for sale from Springer in soft cover print format.

An impressive number of about 1800 individuals from 70 countries are participating in this truly international in scope event, where the work of the world's foremost leaders in the field is presented.

We are privileged that Dr. Ben Shneiderman, a Distinguished University Professor in the Department of Computer Science, Founding Director (1983-2000) of the Human-Computer Interaction Laboratory, and a Member of the UM Institute for Advanced Computer Studies (UMIACS) at the University of Maryland, USA, has joined us as the keynote speaker at the opening plenary session.

HCII 2017 Keynote Speaker and worldwide renowned HCI pioneer, Ben Shneiderman, has enthusiastically accepted the conference invitation to hold two Mentoring Sessions for small groups of PhD students during the Conference. Prof. Shneiderman will discuss how to achieve high impact results for your research, based on the ideas in his book "The New ABCs of Research: Achieving Breakthrough Collaborations".

Sixteen awards will be conferred during the opening plenary session. The awards, in the form of a plaque and a certificate, will be presented to the author(s) of the Best Paper of each Affiliated Conference/Thematic Area, and of the Best Poster Extended Abstract.

I would like to thank each and every one of you for your valuable contribution towards the success of this Conference, and to wish you a professionally rewarding and socially enjoyable stay in Vancouver.

Constantine Stephanidis

HCI International 2018

The 20th International Conference on Human-Computer Interaction, HCI International 2018, will be held jointly with the affiliated conferences in Las Vegas, NV, USA, at Caesars Palace, 15–20 July 2018.

It will cover a broad spectrum of themes related to Human-Computer Interaction, including theoretical issues, methods, tools, processes, and case studies in HCI design, as well as novel interaction techniques, interfaces, and applications.

The program will feature, among others: pre-conference half-day tutorials, parallel sessions, poster presentations, an opening plenary session with a keynote address, and an exhibition. The proceedings will be published by Springer.

General Chair: Constantine Stephanidis
University of Crete and ICS-FORTH Heraklion, Crete, Greece
Email: general_chair@hcii2018.org

http://2018.hci.international

Opening Plenary Session

Tuesday, **11 July 2017** | **18:00**

Room: **BALLROOM A**

The New ABCs of Research: Grand Challenges for HCI

Ben Shneiderman

Professor: Computer Science, UMIACS
Founding Director: Human Computer
Interaction Lab (1983-2000)
Affiliate Professor: Institute for
Systems Research
Affiliate Professor: College of Information
Studies - Maryland's iSchool
University of Maryland, USA

ben@cs.umd.edu

Abstract

Solving the immense problems of the 21st century will require ambitious research teams that are skilled at producing practical solutions and foundational theories simultaneously – that is the **ABC Principle: Applied & Basic Combined**. Then these research teams can deliver high-impact outcomes by applying the **SED Principle: Blend Science, Engineering and Design Thinking**, which encourages use of the methods from all three disciplines. These guiding principles (ABC & SED) could drive HCI research to become the key transformational discipline for the 21st century by accelerating discovery and innovation.

Oxford University Press:
http://ukcatalogue.oup.com/product/9780198758839.do

Book website:
http://www.cs.umd.edu/hcil/newabcs

Ben Shneiderman
Biographical Sketch

Ben Shneiderman is a Distinguished University Professor in the Department of Computer Science, Founding Director (1983-2000) of the Human-Computer Interaction Laboratory, and a Member of the UM Institute for Advanced Computer Studies (UMIACS) at the University of Maryland. He is a Fellow of the AAAS, ACM, IEEE, and NAI, and a Member of the National Academy of Engineering, in recognition of his pioneering contributions to human-computer interaction and information visualization.

His contributions include the direct manipulation concept, clickable highlighted web-links, touchscreen keyboards, dynamic query sliders for Spotfire, development of treemaps, novel network visualizations for NodeXL, and temporal event sequence analysis for electronic health records.

Ben Shneiderman is the author or co-author of influential books such as Designing the User Interface: Strategies for Effective Human-Computer Interaction (6th ed., 2016), Readings in Information Visualization: Using Vision to Think, Leonardo's Laptop and Analyzing Social Media Networks with NodeXL.

Mentoring Sessions for PhD students offered by Professor Ben Shneiderman at HCII2017 (closed sessions)

HCII 2017 Keynote Speaker and worldwide renowned HCI pioneer Ben Shneiderman, Distinguished University Professor in the Department of Computer Science, University of Maryland, USA, has enthusiastically accepted the conference invitation to hold two Mentoring Sessions for small groups of PhD students at HCII2017 in Vancouver, Canada. Following an open call to all HCII 2017 registered students and an application process, two closed sessions have been scheduled during the conference.

Prof. Shneiderman will discuss how to achieve high impact results for your research, based on the ideas in his book: The New ABCs of Research: Achieving Breakthrough Collaborations.

International Program Boards

Human Aspects of IT for the Aged Population

Program Chairs:
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Sören Preibusch, UK
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Cross-Cultural Design

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Program Chairs:
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Hashim Iqbal Chunpir, Germany
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Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management

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Jose San Martin, Spain
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Marjorie A. Zielke, USA

General Information

Conference Reception

The Conference Reception will take place at 19:45 (right after the Opening Plenary Session) at **BALLROOM FOYER** on Tuesday, 11 July 2017.

All Conference participants and accompanying persons, who carry an HCI International 2017 badge, will be permitted entrance.

Extra Conference Reception Tickets will be available from the Conference Secretariat until Tuesday, 11 July 2017, 17:30 hrs.

Important note: You must be of legal drinking age to drink alcohol. Please be ready to provide your ID upon request.

Internet Park

PCs with Internet connectivity will be provided in the Internet Park. Participants carrying their own portable equipment can use the available slots provided to connect their equipment or through the available WiFi network. The Internet Park is open during the following hours:

Internet Park Timetable		Location
Sunday, 9 July to Friday, 14 July	**09:00 - 17:00**	**BALLROOM LOBBY**

Awards

For each of the Affiliated Conferences / Thematic Areas of HCI International 2017 the Best Paper has been selected to receive an award in the form of a plaque and a certificate in a brief ceremony during the Opening Plenary Session. The Best Poster extended abstract will also receive an award.

Conference location

The Vancouver Convention Center will be the conference venue. Located on Vancouver's waterfront with a dramatic mountain backdrop, the award-winning Vancouver Convention Centre offers one of the most beautiful settings in the world and convenient access to all the major visitor amenities in the downtown core. As British Columbia's flagship convention centre, the facility hosts more than 500 events and welcomes hundreds of thousands of attendees each year, while generating significant economic activity for the province.

Cradled amid skyscraping mountains and sparkling ocean, scenic Vancouver is one of the world's premier meeting and convention destinations. World-renowned cuisine, luxury hotels and unique venues – including the two time winner of "World's Best Convention Centre" – all add up to an unforgettable conference experience. Visitors experience a modern, cosmopolitan city that blends culture and landscape.

With so much to experience in Vancouver, you will be well-entertained during your conference off time. Galleries and public exhibits for art enthusiasts, historical sites and districts for history buffs, and scenic hiking trails and botanical gardens for nature lovers are just a small sampling of the city's diverse attractions.

Vancouver is bursting with iconic experiences that characterize this multifaceted city. Any of these must-sees will kick-start your Vancouver sightseeing – and you're sure to stumble upon plenty of other Vancouver treasures along the way.

Coffee and Lunch Breaks

Coffee Breaks			Lunch Breaks
10:30 – 11:00	15:30 – 16:00	**Sunday, 9 July**	12:30 – 14:00
10:30 – 11:00	15:30 – 16:00	**Monday, 10 July**	12:30 – 14:00
10:30 – 11:00	15:30 – 16:00	**Tuesday, 11 July**	12:30 – 14:00
10:00 – 10:30	15:30 – 16:00	**Wednesday, 12 July**	12:30 – 13:30
10:00 – 10:30	15:30 – 16:00	**Thursday, 13 July**	12:30 – 13:30
10:00 – 10:30	15:30 – 16:00	**Friday, 14 July**	12:30 – 13:30
Offered by HCII2017 Conference.			Participants are kindly asked to make their **own arrangements** for lunch, during the above breaks.

Options for lunch

Within two blocks there are more than 40 different casual and fast food outlets. In fact, under the roof of the Vancouver Convention Centre there are 9, with another 14 in a Food Court directly connected to it, while the Center itself operates two seven-day-a-week cafes; one in the West building and one in the East.

Participants are kindly asked to make their **own arrangements** for lunch, during lunch breaks.

Information for Presenters

Paper Presentations

Papers will be allocated approximately 15 minutes for presentation, with an additional 2-3 minutes for questions and answers following each talk. Session Chairs will introduce the speakers and will moderate the discussion.

Each presentation room will be equipped with a laptop computer and a projector (16:9 aspect ratio), connected with a VGA cable, for PowerPoint presentations. The available software may also allow for other types of presentations, such as embedded videos.

Hardware specifications of laptops:

- Processor Intel Core i7 Quad Core 2.7GHz
- RAM 16GB
- Hard Drive Capacity 500GB - 200GB available to user
- DVD-R/RW drive
- Wireless Network ac/a/b/g/n
- Graphics NVIDIA Quadro K4100M w/4GB
- USB 3.0 and 2.0

Software available on laptops (all in English language):

- Windows 7 64bit
- Microsoft Office 2013
- Microsoft .NET Framework 4.5
- Microsoft Silverlight
- Adobe Flash Player v24
- Adobe Reader DC
- Internet Explorer 11
- DirectX 11

The laptop will be also connected to external speakers together with a microphone for sound output. A wireless Powerpoint remote will be also available.

Presenters who wish to run **specialized software** need to bring their own laptop and any necessary adapter to connect to the **VGA cable**. Prior to their session, they should inform the session chair and test that their computer and adapter works with the projector in the room.

Presenters that would like to use their **Apple Mac** computer for their presentation must bring their own adapter to connect to the VGA cable or their own cable. Prior to their session, they should inform the session chair and test that their computer and adapter works with the projector in the room.

Wireless internet connection will be available in the presentation rooms.

Poster Presentations

The poster area will be located together with the Exhibition and the Coffee break area at **Ballrooms B, C & D**.

The poster presentations will be mounted on double sided poster boards with landscape orientation. Each poster presentation will be assigned one side of the board.

The usable area of each board is:

- Length: 91 inches (2,31 meters)
- Height: 45 inches (1,14 meters)

The height of each board is 78 inches (1,98 meters)

Posters Timetable		
Display set-up	**Wednesday, 12 July**	09:00 - 12:00
Opening Hours	**Wednesday, 12 July** **Thursday, 13 July** **Friday, 14 July**	09:00 - 17:00 09:00 - 17:00 09:00 - 16:30
Display dismantle	**Friday, 14 July**	16:30 - 18:30

Presenters can mount multiple single sheets of paper, larger posters, pictures, or any printed materials on the boards with push pins which will be available on site. Boards are also Velcro compatible.

Authors of posters are kindly asked to make themselves available during the days of the Conference to present their work and answer questions about their poster to Conference participants. It is up to the presenters to arrange the date(s) and time(s) they will be available. They may wish to indicate on the poster board when they will be available to provide brief presentations and answer questions about their poster to Conference participants.

Display Boards and Tables

Display boards and tables are available at the Secretariat area for:

- participants who wish to share or distribute promotional material
- announcements of the Conference Organizers

Smoking Policy

HCI International 2017 is a smoke-free Conference. There are easily accessible outdoor areas at the Convention Center where smoking is permitted.

Mobile Phone Courtesy

HCI International 2017 requests that all mobile phones, pagers and other equipment with audible alarms be turned off in all sessions as a courtesy to the presenters and to the other attendees.

HCI International NEWS

HCI International News is a newsletter about Human-Computer Interaction topics, the HCI International Conference Series, and more. The newsletter is distributed through a mailing list and is also available on-line at: http://www.hci.international/news

Subscribe to HCI International News:
https://email.hci.international/lists/?p=subscribe

or scan the QR-Code on the left

Conference Exhibition

The Exhibition of HCI International 2017 is hosted in the **BALLROOM B-C-D** of The Vancouver Convention Centre.

Entrance to the Exhibition is free of charge for all Conference participants.

Timetable		
Display set-up	Tuesday, 11 July	10:00 - 17:00
Opening Hours	Wednesday, 12 July	09:00 - 17:00
	Thursday, 13 July	09:00 - 17:00
	Friday, 14 July	09:00 - 16:30
Display dismantle	Friday, 14 July	16:30 - 18:30

BALLROOM B-C-D

Poster Area

ENTRANCE

Conference Refreshment Breaks

Exhibition

FOOD & BEVERAGE

W

M

1 2 3 4 5 6 7 8 9 10 11 12 13

14 15 16 17 18 19 20
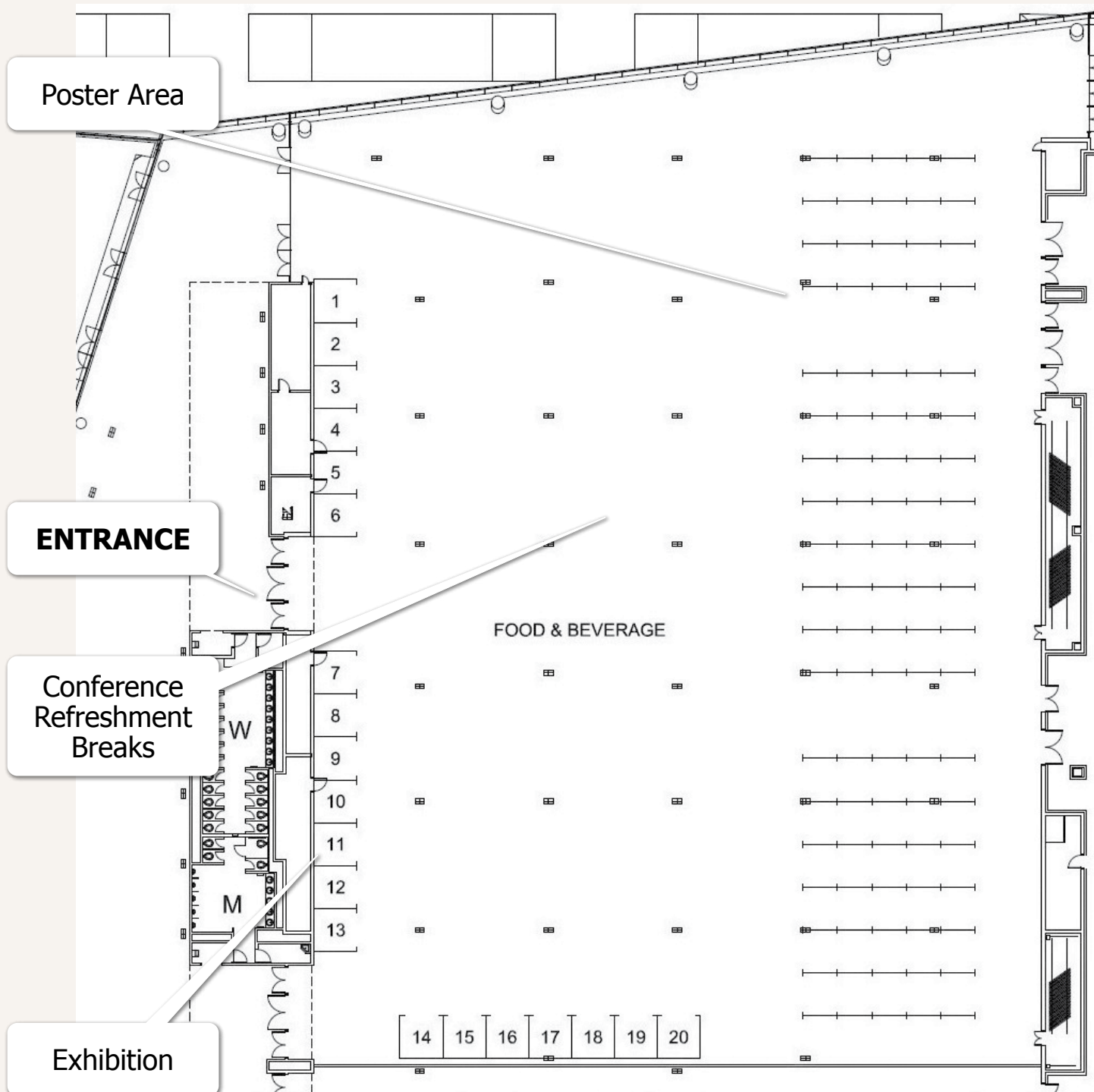
EXHIBITION

List of Exhibitors

BIOPAC Systems Inc.

Booth
6

www.biopac.com

g-tec medical engineering GmbH

Booth
7

www.gtec.at

Brain Vision Solutions & Brain Products GmbH

Booth
2

www.brainproducts.com

Justinmind

Booth
16

www.justinmind.com

Smart Eye

Booth
17

www.smarteye.se

SR Research Ltd.

Booth
11

www.sr-research.com

Taylor & Francis Group - Journals

Booths
14

www.crcpress.com

Spinger

Booths
8-9-10

www.springer.com

CRC Press, Taylor & Francis Group

Booths
3-4-5

www.crcpress.com

FORTH-ICS

Booth
19

www.ics.forth.gr

Booth
20

HCI International 2018

2018.hci.international

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Conference Authors are entitled to purchase for personal use printed copies directly from Springer at a discount of 40% on the list price.

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HCI International 2017 Proceedings Volumes List

Volume	LNCS/LNAI/CCIS	Title - Conference Name	Editor(s)	ISBN
1	LNCS 10271	Human-Computer Interaction: User Interface Design, Development and Multimodality (Part I)	M. Kurosu	978-3-319-58070-8
2	LNCS 10272	Human-Computer Interaction: Interaction contexts (Part II)	M. Kurosu	978-3-319-58076-0
3	LNCS 10273	Human Interface and the Management of Information: Information, Knowledge and Interaction Design (Part I)	S. Yamamoto	978-3-319-58520-8
4	LNCS 10274	Human Interface and the Management of Information: Supporting Learning, Decision-Making and Collaboration (Part II)	S. Yamamoto	978-3-319-58523-9
5	LNAI 10275	Engineering Psychology and Cognitive Ergonomics: Performance, Emotion and Situation Awareness (Part I)	D. Harris	978-3-319-58471-3
6	LNAI 10276	Engineering Psychology and Cognitive Ergonomics: Cognition and Design (Part II)	D. Harris	978-3-319-58474-4
7	LNCS 10277	Universal Access in Human-Computer Interaction: Design and Development Approaches and Methods (Part I)	M. Antona; C. Stephanidis	978-3-319-58705-9
8	LNCS 10278	Universal Access in Human-Computer Interaction: Designing Novel Interactions (Part II)	M. Antona; C. Stephanidis	978-3-319-58702-8
9	LNCS 10279	Universal Access in Human-Computer Interaction: Human and Technological Environments (Part III)	M. Antona; C. Stephanidis	978-3-319-58699-1
10	LNCS 10280	Virtual, Augmented and Mixed Reality	S. Lackey; J. Y.C. Chen	978-3-319-57986-3
11	LNCS 10281	Cross-Cultural Design	P.L. P. Rau	978-3-319-57930-6
12	LNCS 10282	Social Computing and Social Media: Human Behavior (Part I)	G. Meiselwitz	978-3-319-58558-1
13	LNCS 10283	Social Computing and Social Media: Applications and Analytics (Part II)	G. Meiselwitz	978-3-319-58561-1
14	LNAI 10284	Augmented Cognition: Neurocognition and Machine Learning (Part I)	D. Schmorrow; C. Fidopiastis	978-3-319-58627-4
15	LNAI 10285	Augmented Cognition: Enhancing Cognition and Behavior in Complex Human Environments (Part II)	D. Schmorrow; C. Fidopiastis	978-3-319-58624-3
16	LNCS 10286	Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management: Ergonomics and Design (Part I)	V. Duffy	978-3-319-58462-1
17	LNCS 10287	Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management: Health and Safety (Part II)	V. Duffy	978-3-319-58465-2
18	LNCS 10288	Design, User Experience, and Usability: Theory, Methodology and Management (Part I)	A. Marcus; W. Wang	978-3-319-58633-5
19	LNCS 10289	Design, User Experience, and Usability: Designing Pleasurable Experiences (Part II)	A. Marcus; W. Wang	978-3-319-58636-6
20	LNCS 10290	Design, User Experience, and Usability: Understanding Users and Contexts (Part III)	A. Marcus; W. Wang	978-3-319-58639-7
21	LNCS 10291	Distributed, Ambient and Pervasive Interactions	N. Streitz; P. Markopoulos	978-3-319-58696-0
22	LNCS 10292	Human Aspects of Information Security, Privacy and Trust	T. Tryfonas	978-3-319-58459-1
23	LNCS 10293	HCI in Business, Government and Organizations: Interacting with Information Systems (Part I)	F. F. Nah; C. Tan	978-3-319-58480-5
24	LNCS 10294	HCI in Business, Government and Organizations: Supporting Business (Part II)	F. F. Nah; C. Tan	978-3-319-58483-6
25	LNCS 10295	Learning and Collaboration Technologies: Novel Learning Ecosystems (Part I)	P. Zaphiris; A. Ioannou	978-3-319-58508-6
26	LNCS 10296	Learning and Collaboration Technologies: Technology in Education (Part II)	P. Zaphiris; A. Ioannou	978-3-319-58514-7
27	LNCS 10297	Human Aspects of IT for the Aged Population: Aging, Design and User Experience (Part I)	J. Zhou; G. Salvendy	978-3-319-58529-1
28	LNCS 10298	Human Aspects of IT for the Aged Population: Applications, Services and Contexts (Part II)	J. Zhou; G. Salvendy	978-3-319-58535-2
29	CCIS 713	HCI International 2017 Posters Proceedings - Part I	C. Stephanidis	978-3-319-58749-3
30	CCIS 714	HCI International 2017 Posters Proceedings - Part II	C. Stephanidis	978-3-319-58752-3

Tutorials

or scan the QR-Code

	Sunday, 9 July 2016	Room	Time	
T01	**HCI/UX in Science-Fiction Movies/TV: What can We Learn from the Past 100 Years of the Future?** Aaron Marcus	202	08:30 – 12:30	*Morning*
T02	**Design for Social Change** Panayiotis Zaphiris, Antigoni Parmaxi, Andreas Papallas	203	08:30 – 12:30	
T03	**How to Design User-Friendly Dashboards?** Abbas Moallem	204	08:30 – 12:30	
T20	**Theory and Practice of Digital Storytelling for Older Adults** David Kaufman, Simone Hausknecht **(NEW DATE AND TIME)**	205	08:30 – 12:30	
T04	**Cross-Cultural HCI/User-Experience Design: What are Differences and Similarities of User Preferences and Expectations, including China?** Aaron Marcus	202	13:30 – 17:30	*Afternoon*
T05	**Designing for Operational Environments: Interactive Training using Multimodal Technologies** Eileen Smith, Patricia Bockelman, Michael Carney, Cali M. Fidopiastis	203	13:30 – 17:30	
T06	**Designing Digital Technology for an Aging Population** Jeff Johnson, Kate Finn	204	13:30 – 17:30	

	Monday, 10 July 2016	Room	Time	
T07	**Mobile Persuasion Design+UX: How can Information Design plus Persuasion Design Change Behavior?** Aaron Marcus	202	08:30 – 12:30	*Morning*
T08	**How to Conduct Software Testing with Users** Anna Wichansky	205	08:30 – 12:30	
T09	**Your Toolbox for Co-creative Design: Practical Skills for Design Research** Panayiotis Zaphiris, Antigoni Parmaxi, Andreas Papallas	203	08:30 – 12:30	
T10	**Human Computer Interaction and Cyber-Security** Abbas Moallem	204	08:30 – 12:30	
T11	**User Interaction with Intelligent Systems** Martin Maguire	202	13:30 – 17:30	*Afternoon*
T12	**Research Methods for Eye Tracking in User Experience Design** Jennifer Romano Bergstrom, Andrew Schall	203	13:30 – 17:30	
T13	**Standardized Usability Questionnaires** James Lewis	204	13:30 – 17:30	
T14	**Speech-based Interaction: Myths, Challenges and Opportunities** Cosmin Munteanu, Gerald Penn	205	13:30 – 17:30	

	Tuesday, 11 July 2016	Room	Time	
T15	**Supersmart Storyselling: How Best to Inform and Persuade in Short "Elevator Pitch" Presentations?** Aaron Marcus	202	08:30 – 12:30	*Morning*
T16	**Hands-On Software Usability Testing Lab and Advanced Methods** Anna Wichansky	205	08:30 – 12:30	
T17	**Social Media Analysis for the Masses: Extracting and Analyzing Data from Facebook, Twitter, and Co.** Margeret Hall	203	08:30 – 12:30	
T18	**IBM Design Thinking Workshop** Camillo Sassano, Kevin L. Schultz	204	08:30 – 12:30	
T19	**Introducing Lean-er UX: Getting the benefits of lean, with techniques your manager will actually let you use** Everett McKay	202	13:30 – 17:30	*Afternoon*
T21	**Designing User Interfaces and Interactive Solutions for Wearable Technologies** Vivian Genaro Motti	203	13:30 – 17:30	
T22	**Interacting with Visualizations: A Cognitive Activity, Task, and Action Framework** Kamran Sedig, Paul Parsons	204	13:30 – 17:30	

Coffee Breaks:
10:30 - 11:00
and
15:30 - 16:00

Room: 201

Parallel Sessions Overview

Wednesday, 12 July 2017 — Morning

Thematic Area	session code	Session Title (08:00 – 10:00 *(page 20 - 24)*)	session code	Session Title (10:30 – 12:30 *(page 25 - 29)*)
HCI	S001	Systems Safety and Human Factors *ROOM: 213*	S021	Sustainable HCI/UX Research & Practice for Improved Social Innovation *ROOM: 213*
	S002	HCI & Transportation *ROOM: 212*	S022	Experience of Quality in Interaction *ROOM: 212*
HIMI	S003	Services Oriented Interactions *ROOM: 202*	S023	User-oriented technologies and services *ROOM: 202*
EPCE	S004	Aviation Safety and Human Factors - I *ROOM: 112*	S024	Aviation Safety and Human Factors - II *ROOM: 112*
UAHCI	S005	Smartphones and Elder Adults: Applications and Design Approaches *ROOM: 209*	S025	Fostering Deaf/hearing Communication through Avatar Technology *ROOM: 209*
	S006	Digital Artifacts for Education and Universal Access - I *ROOM: 208*	S026	Digital Artifacts for Education and Universal Access - II *ROOM: 208*
VAMR			S027	Present and Future Trends of Virtual and Augmented Reality *ROOM: 204*
CCD	S007	Cross Culture in Social Design - I *ROOM: 207*	S028	Cross Culture in Social Design - II *ROOM: 207*
SCSM	S008	Making Social Media Meaningful *ROOM: 107 & 108*	S029	Impacts of Social Media and Virtual Worlds : Education, Training and Online Interaction *ROOM: 107 & 108*
AC	S009	Neural markers of attention *ROOM: 203*	S030	Adaptive Instructional Science & Technology *ROOM: 203*
DHM	S010	Digital human modeling and simulation in product and workplace design & evaluation *ROOM: 204*	S031	Utilizing Traditional Wisdom and Technologies for Quality Care *ROOM: 116*
	S011	Human Factors and User Experience Design *ROOM: 117*	S032	Human Factors in Information Visualization and Decision Support Systems *ROOM: 117*
DUXU	S012	Usability and User Experience in Design *ROOM: 120*	S033	Speculative, critical Wearables *ROOM: 120*
	S013	New Approaches of Research on User Experience Design *ROOM: 118*	S034	Designing and Measuring Novel User Experiences *ROOM: 118*
	S014	Developments in DUXU: Contributions for the Context of Technological Environments *ROOM: 119*	S035	Designing and Evaluating User Experience (UX) in Interactive Systems *ROOM: 119*
DAPI	S015	Social Internet of Things *ROOM: 115*	S036	Interactive Digital Media *ROOM: 115*
	S016	Creative and Cognitive Processes in Design *ROOM: 116*		
HAS	S017	Designing cyber security for people *ROOM: 111*	S037	Modelling for user behaviour: towards a formal understanding of user errors in secure systems *ROOM: 111*
HCIBGO	S018	HCI in Business and Organizations - I *ROOM: 205*	S038	HCI in Business and Organizations - II *ROOM: 205*
LCT	S019	Learning Analytics for Secondary and Higher Education *ROOM: 206*	S039	Digital competence and its effect on learning *ROOM: 206*
ITAP	S020	Intergenerational Use of New Media *ROOM: 105 & 106*	S040	New media in the everyday life of older people *ROOM: 105 & 106*

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Sessions DAY 1

Wednesday, 12 July 2017 — Afternoon

Thematic Area	session code	13:30 – 15:30 (page 30 - 34) Session Title	session code	16:00 – 18:00 (page 35 - 39) Session Title
HCI	S041	Models, patterns and tools for designing situation- and context-aware interactive systems ROOM: 212	S061	Learning by Action: Enhancing Learning Through Bodily Movement ROOM: 212
	S042	User Interface Evaluation Methods and Practice ROOM: 213	S062	User Interface Development ROOM: 213
HIMI	S043	Relationality Design and Relationality-oriented Systems - I ROOM: 202	S064	Multisensory wearable displays ROOM: 202
	S044	Data, semantics and interaction ROOM: 204	S065	Relationality Design and Relationality-oriented Systems - II ROOM: 209
EPCE	S045	Psychological Effects of System Latency ROOM: 101	S066	PANEL: HCI Challenges and Opportunities in Autonomous Driving ROOM: 112
UAHCI	S046	Universal Access: state of the science and state of the technology ROOM: 209	S067	Recent developments in interactive technologies supporting universal accessibility ROOM: 208
	S047	Digital Artifacts for Education and Universal Access - III ROOM: 208		
VAMR	S048	Agent Transparency for Human-Autonomy Teaming Effectiveness ROOM: 116	S068	Interactive Creation in Virtual Environments ROOM: 111
CCD	S049	Experience and Service Design in Different Cultures - I ROOM: 207	S069	Experience and Service Design in Different Cultures - II ROOM: 207
SCSM	S050	Customer eXperience and Behavior ROOM: 107 & 108	S070	HCI Research ROOM: 116
AC	S051	Applications of Augmented Cognition ROOM: 203	S071	Advances in Augmented Cognition ROOM: 203
DHM	S052	Strategy Optimization through Machine Learning ROOM: 117	S072	OMOTENASHI ROOM: 204
DUXU	S053	Creative Interaction: Cross-disciplinary HCI toward Convergence ROOM: 119	S073	Designing with and for users on the autism spectrum ROOM: 119
	S054	Design and application for medical navigation and simulation ROOM: 120	S074	Ergonomics in Design ROOM: 118
	S055	UX in the Digital Age ROOM: 118	S075	The User Experience in the Design of Health and Safety Information ROOM: 120
DAPI	S056	Pervasive and Civic Computing ROOM: 115	S076	Playful and Humorous Interactions in Smart Environments ROOM: 115
HAS	S057	Models, Techniques, and Analysis of Human Centric Systems ROOM: 111		
HCIBGO	S058	Human Computer Interaction in Electronic Commerce, Mobile Commerce and Online Marketing ROOM: 205	S077	HCI in Occupational Health ROOM: 205
LCT	S059	Electronic learning in everyday life ROOM: 206	S078	User Experience and Educational Technology ROOM: 206
ITAP	S060	ICT for Aging ROOM: 105 & 106	S079	Smart User Interface for All ROOM: 117
			S080	Digital Gaming Among Older Populations ROOM: 105 & 106

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Parallel Sessions Overview

Thursday, **13 July 2017** — Morning

Thematic Area	**08:00 – 10:00** *(page 40 - 44)*		**10:30 – 12:30** *(page 45 - 49)*	
	session code	Session Title	session code	Session Title
HCI	S081	Human Aspects of Information Systems *ROOM: 212*	S101	Socio-Cultural and Linguistic Aspects in Human-Computer *ROOM: 212*
HIMI	S082	Embodied Interaction and Communication *ROOM: 202*	S102	Tactile and Haptic Interaction *ROOM: 202*
EPCE	S083	Human factors and ergonomics in safety-critical systems - I *ROOM: 112*	S103	Human factors and ergonomics in safety-critical systems - II *ROOM: 112*
UAHCI	S084	Universal Access: Product, Process or Panacea *ROOM: 208*	S104	Sensors and Mobile Applications for Human – Computer Interaction *ROOM: 208*
	S085	ICT in Health and in Active Ageing *ROOM: 209*	S105	Cutting Edge in Information Display and Its Applications *ROOM: 209*
	S086	Quantified Self & Personal Informatics *ROOM: 213*		
VAMR			S106	Health and Well-being in VAMR *ROOM: 120*
CCD	S087	Contemporary Issues Impacting Global Aging and Technology in the 21st Century *ROOM: 207*	S107	Design for Human Cities and Social Innovation *ROOM: 207*
SCSM	S088	Visual Analytics and Information Visualization in Social Computing *ROOM: 107 & 108*	S108	Evaluating and Using Social Media *ROOM: 107 & 108*
			S109	PANEL: How Two Billion Smartphone Users Can Save Species and More! *ROOM: 116*
AC	S089	Augmented Cognition through Immersive User Experiences *ROOM: 203*	S110	Applications of low cost eye tracking *ROOM: 203*
	S090	BCIs for Movement Rehabilitation and Consciousness Assessment *ROOM: 116*	S111	Confluence of Arts and BCIs *ROOM: 204*
DHM	S091	Smart Service System Design *ROOM: 204*	S112	Motion analysis of medical art *ROOM: 117*
DUXU	S092	New Ways of Interactions towards Smart Living, Working, and Transporting - I *ROOM: 119*	S113	New Ways of Interactions towards Smart Living, Working, and Transporting - II *ROOM: 118*
	S093	DUXU in the Software Development Lifecycle *ROOM: 120*	S114	User Experience and Design Methods - II *ROOM: 119*
	S094	User Experience and Design Methods - I *ROOM: 118*		
DAPI			S115	Interaction in Ubiquitous Augmented and Virtual Reality *ROOM: 115*
HAS	S095	Advances in Human Aspects of Cyber Security *ROOM: 111*	S116	Multidisciplinary approaches to cloud crime *ROOM: 111*
HCIBGO	S096	Intelligent Data Analytics for Decision Support *ROOM: 117*	S117	Integrating User Diversity in HCI for Business, Goverment and Organizations - Motives, Methods and Beyond *ROOM: 205*
	S097	HCI in social media and social computing *ROOM: 205*		
LCT	S098	Emerging interactive systems for education I *ROOM: 115*	S118	Applying Mental Models to Design for Learning *ROOM: 213*
	S099	The Future of Inverted Classes and MOOCs: Theory, Experience and Supporting Technology *ROOM: 206*	S119	Emerging interactive systems for education II *ROOM: 206*
ITAP	S100	E-care services for independent living: adoption, design, evaluation *ROOM: 105 & 106*	S120	Strategies to serve the tails of the tails - Personalized Access *ROOM: 105 & 106*

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Sessions DAY 2

Thursday, **13 July 2017**

Afternoon

Thematic Area	session code	**13:30 – 15:30** *(page 50 - 54)* Session Title	session code	**16:00 – 18:00** *(page 55 - 59)* Session Title
HCI	S121	HCI Beyond the Screen *ROOM: 212*	S141	Communication Enhancement *ROOM: 212*
HIMI	S122	Human-centered Systems, Services and Applications *ROOM: 202*	S143	Improvement in Learning and Educational Environments using ICT *ROOM: 202*
	S123	Visualization Methods, Techniques and Applications *ROOM: 213*	S144	Evidence Based Design and UX for Design Process *ROOM: 115*
EPCE	S124	Control of Autonomous Systems: The Human Element *ROOM: 112*	S145	Human-Autonomy Teaming in Manned/Unmanned Vehicles *ROOM: 112*
UAHCI	S125	Information Access for Individuals who are Blind or Visually Impaired *ROOM: 208*	S146	Technology for Inclusion and Participation *ROOM: 208*
	S126	New developments in developing HMI for Inclusive and adaptive design in multimodal interfaces *ROOM: 209*	S147	Design Access in Ergonomics and Interaction *ROOM: 209*
VAMR	S127	Evaluating the User Experience in Virtual and Augmented Environments *ROOM: 116*	S148	Enhancing Multimodal Interface Design and Implementation for Training Applications *ROOM: 116*
CCD	S128	Cross-cultural design methods and practice *ROOM: 207*	S149	Interacting with the smart environment *ROOM: 207*
SCSM	S129	Building Social Media Communities *ROOM: 107 & 108*	S150	Elucidation of the User's Behavior by the Data Analysis *ROOM: 111*
AC	S130	Cognition in Social Media *ROOM: 203*	S151	Assessments for Augmented Cognition Applications *ROOM: 203*
	S131	Mechanisms to quantify the relationship between physiological and cognitive markers *ROOM: 117*		
DHM	S132	Digital Human Modeling and its application in industry *ROOM: 204*	S152	Digital Healthcare *ROOM: 204*
DUXU	S133	Design, User Experience and Usability in Tourism and Hospitality *ROOM: 118*	S153	Motivation and Persuasion through Information Design and Visual Storytelling *ROOM: 119*
	S134	UX Driven Innovations in China - I (Education and Finance Domain) *ROOM: 120*	S154	UX Driven Innovations in China - II (Media, Education, Internet Safety Domain) *ROOM: 118*
	S135	Healthy Interactions *ROOM: 119*		
DAPI	S136	Living in Smart Environments *ROOM: 115*		
HAS	S137	Human Behaviour in Security and Privacy *ROOM: 111*		
HCIBGO	S138	PANEL: Challenges in HCI in Practice *ROOM: 205*	S155	Analytics-Driven Design *ROOM: 205*
			S156	3D/VR web applications and Gamification in business *ROOM: 213*
LCT	S139	Emerging interactive systems for education III *ROOM: 206*	S157	Emerging interactive systems for education IV *ROOM: 206*
ITAP	S140	To capture the diverse needs of technology among elderly *ROOM: 105 & 106*	S158	Aging and Technology Acceptance *ROOM: 105 & 106*
			S159	Design the Affordances for the Ageing Society *ROOM: 117*

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Parallel Sessions Overview

Friday, 14 July 2017 — Morning

Thematic Area	session code	08:00 – 10:00 *(page 60 - 64)* Session Title	session code	10:30 – 12:30 *(page 65 - 69)* Session Title	
HCI	S160	Affective aspect in human-computer interaction *ROOM: 212*	S180	Technology acceptance, trust and ethics *ROOM: 212*	
	S161	Novel User Interfaces in Everyday Contexts of Use - I *ROOM: 213*	S181	Novel User Interfaces in Everyday Contexts of Use - II *ROOM: 213*	
HIMI	S162	User behavior and modeling *ROOM: 202*	S182	VR2.0 and Digital Museum *ROOM: 202*	
EPCE	S163	Vision in HCI *ROOM: 112*	S183	Mental Workload and Performance *ROOM: 112*	
UAHCI	S164	Innovative Product Design and Development: Smart Products and Services *ROOM: 208*	S184	Novel uses of interaction logs *ROOM: 208*	
	S165	Accessibility and Software Design for All *ROOM: 209*	S185	Design for Cognitive Disabilities *ROOM: 209*	
VAMR			S186	Developing Novel Virtual Environments *ROOM: 116*	
CCD	S166	Human error and safety *ROOM: 207*	S187	DesignX, Acting into Complexity *ROOM: 207*	
SCSM	S167	Sentiment Analysis in Social Media *ROOM: 107 & 108*	S188	Experiences in Social Media *ROOM: 107 & 108*	
AC	S168	Visual cognition in the loop: Advancing theory and applications through use-inspired research *ROOM: 203*	S189	Toward Practical Affective Brain-Computer Interfaces *ROOM: 203*	
	S169	Real-time Cognitive and Emotional State Detection via Neuroscientific, Psychophysics and Biometric Methods *ROOM: 117*			
DHM	S170	Human Modeling for Quality Care - I *ROOM: 204*	S190	Human Modeling for Quality Care - II *ROOM: 204*	
DUXU	S171	Creativity in DUXU *ROOM: 118*	S191	Addressing Context-of-Use in Mobile and Wearable Computing *ROOM: 120*	
	S172	User Experience, affordances and innovation *ROOM: 119*	S192	Design Method for Creating Meaningful Human-Product Interaction *ROOM: 118*	
	S173	HCI for Sustainability *ROOM: 120*	S193	Information Design and UX *ROOM: 119*	
DAPI	S174	Design, Development and Evaluation of Smart Environments *ROOM: 115*	S194	Interacting with the Internet of Things *ROOM: 115*	
HAS	S175	Mobile Security *ROOM: 111*	S195	Usable Security Approaches and Studies *ROOM: 111*	
HCIBGO	S176	Addressing HCI Needs in the Government Sector *ROOM: 205*	S196	Impact of context and location on HCI *ROOM: 117*	
			S197	HCI in Tourism and Hospitality Consumptive Experiences *ROOM: 205*	
LCT	S177	Social Computing for Social Change *ROOM: 206*	S198	Supporting collaborative learning, teaching and knowledge exchange *ROOM: 206*	
	S178	Beyond the Classroom *ROOM: 116*			
ITAP	S179	Perception and Emotional Factors in Product Design *ROOM: 105 & 106*	S199	Elderly in E-Commerce and IT applications *ROOM: 105 & 106*	

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Friday, **14 July 2017** — Afternoon

Thematic Area	session code	**13:30 – 15:30** *(page 70 - 74)* Session Title	session code	**16:00 – 18:00** *(page 75 - 78)* Session Title	
HCI	S200	Games and Playing Experience Design *ROOM: 212*	S219	Design methods and techniques *ROOM: 212*	
	S201	Gesture and movement-based interaction *ROOM: 213*	S220	Touch-based and Haptic Interaction *ROOM: 213*	
HIMI	S202	The Potential for Virtual Reality in Cognitive Rehabilitation and Assessment for early dementia, and MCI *ROOM: 202*	S221	Information Architectures and Infrastructures *ROOM: 202*	
	S203	Expert Systems and Decision-Making Support *ROOM: 205*	S222	Information Design *ROOM: 117*	
	S204	Service Management *ROOM: 116*			
EPCE	S205	Cognition in Aviation, Space and the Military *ROOM: 112*	S223	Stress, Anxiety and Emotions *ROOM: 111*	
			S224	Psychology and Neuropsychology in HCI *ROOM: 112*	
UAHCI	S206	Non Visual Interaction *ROOM: 208*	S225	Alternative Input techniques and Multimodal Interaction *ROOM: 120*	
	S207	Universal Access and Design for All Practice *ROOM: 209*			
VAMR	S208	Virtual Instruction and Training *ROOM: 117*			
CCD	S209	Smart new system development *ROOM: 207*			
SCSM	S210	Interaction Design in Collaborative and Learning Environments *ROOM: 107 & 108*	S226	Micro-blogging and Social Systems *ROOM: 107 & 108*	
AC	S211	Advances in Interactive Machine Learning for Human-Machine Systems *ROOM: 203*	S227	Transitioning lab paradigms to the real world *ROOM: 115*	
DHM	S212	Advanced Applications of Intelligent Systems *ROOM: 204*			
DUXU	S213	DUXU for Science and Culture *ROOM: 119*	S228	Quality of Service in IT *ROOM: 118*	
	S214	DUXU for Graphical and Touch-based User Interfaces *ROOM: 118*			
DAPI	S215	Natural Interaction *ROOM: 115*			
HAS	S216	Designing and Developing Security and Privacy *ROOM: 111*			
HCIBGO			S229	Digital Enablement in Business, Government and Organizations *ROOM: 119*	
LCT	S217	Smart Technologies for Learning Programming, Robotics and Engineering *ROOM: 206*			
ITAP	S218	Everyday life technologies for the Elderly *ROOM: 105 & 106*	S230	Senior Cloud for Active Aging *ROOM: 105 & 106*	
			S231	Ambient Assisted Living *ROOM: 116*	

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WEDNESDAY 8:00 - 10:00

HCI S001

Human-Computer Interaction

Systems Safety and Human Factors

Chair(s): Hiroshi Ujita, *Japan*.

Room: **213**

Requirement on Personnel and Organization for Safety and Security Improvement by Accident and Error Model
Hiroshi Ujita, *Japan*.

Establish Security Psychology -- How to Educate and Training for End users --
Katsuya Uchida, *Japan*.

Changes That Count
Takashi Torizuka, Yushi Fujita, *Japan*.

Effects of Human Connection in Social Drone and Perceived Safety
HwaYeon Kong, *Korea*; Frank Biocca, *United States*; TaeYang Lee, Kihyuk Park, Jeonghoon Rhee, *Korea*.

Vocational Training of IT-professionals – Coping with Future Demands
Henrik Schwarz, Stephanie Conein, *Germany*.

S002

HCI & Transportation

Chair(s): Heidi Krömker, *Germany*.

Room: **212**

Derivation of Mobility Services through the Usage-centered Development Approach
Sigmund Schimanski, *Germany*.

Agenda Planning – Design Guidelines for Holistic mobility planning
Tobias Wienken, Heidi Krömker, Sebastian Spundflasch, *Germany*.

Development of Sightseeing Support System with Emphasis on Scenery and Detours in Strolls
Junko Itou, Takaya Mori, Jun Munemori, *Japan*.

Bus Runner: Using Contextual Cues for Procedural Generation of Game Content on Public Transport
Alexander Baldwin, Jeanette Eriksson, Carl Magnus Olsson, *Sweden*.

NFC-enabled e-Ticketing in Public Transport – Aims, Approaches and First Results of the OPTIMOS Project
Ulrike Stopka, Gertraud Schäfer, Andreas Kreisel, *Germany*.

Development of a Concept for Evaluation User Acceptance and Requirements for NFC Based e-Ticketing in Public Transport
Gertraud Schäfer, Andreas Kreisel, Denise Rummler, Ulrike Stopka, *Germany*.

HIMI S003

Human Interface and the Management of Information

Services Oriented Interactions

Chair(s): Hirohiko Mori, *Japan*.

Room: **202**

Effect on Postural Sway of the Invasion to Preferable Interpersonal Distance
Yosuke Kinoe, Saki Tatsuka, *Japan*.

A Support System for Vitalizing Brainstorming with Related Images
Hidetsugu Suto, Shuichi Miyo, *Japan*.

Investigation of Learning Process with TUI and GUI
Natsumi Sei, Makoto Oka, Hirohiko Mori, *Japan*.

Proposal of Educational Curriculum of Creating Hazard Map with Tablet-Type Device for Schoolchildren
Daisuke Shirai, Makoto Oka, Sakae Yamamoto, Hirohiko Mori, *Japan*.

Proposal of interaction used umbrella for smartphone
Sohichiro Mori, Makoto Oka, *Japan*.

EPCE S004

Engineering Psychology and Cognitive Ergonomics

Aviation Safety and Human Factors - I

Chair(s): Wen-Chin Li, *United Kingdom*; Ruishan Sun, *P.R. China*.

Room: **112**

The Future Flight Deck
Don Harris, *United Kingdom*.

Multi-modal Interaction between Pilots and Avionic Systems on-board Large Commercial Aircraft
Jason Gauci, Matthew Xuereb, Alan Muscat, David Zammit-Mangion, *Malta*.

A Landing Operation Performance Evaluation System based on Flight Data
Lei Wang, Yong Ren, Hui Sun, Chuanting Dong, *P.R. China*.

The Evaluation of Pilot's First Fixation and Response Time to Different Design of Alerting Messages
Wen-Chin Li, *United Kingdom*; Jiaqi Cao, *P.R. China*; Jr-Hung Lin, *Taiwan*; Graham Braithwaite, Matt Greaves, *United Kingdom*.

Factors Influencing Cargo Pilots' Fatigue
Ruishan Sun, Zi-Li Chen, Guang-xia Huang-fu, Guang-fu Ma, Di Wu, Zhen Liu, *P.R. China*.

Universal Access in Human-Computer Interaction

UAHCI S005

Smartphones and Elder Adults: Applications and Design Approaches

Chair(s): Stefan Carmien, *United Kingdom*.

Room: **209**

Older people's use of tablets and smartphones: a review of research
Helen Petrie, Jenny S. Darzentas, *United Kingdom*.

The Usability and Acceptability of Tablet Computers for Older People in Thailand and the United Kingdom
Maneerut Chatrangsan, Helen Petrie, *United Kingdom*.

Young Computer Scientists' Perceptions of Older Users of Smartphones and Related Technologies
Helen Petrie, *United Kingdom*.

User Evaluation of an App for Liquid Monitoring by Older Adults
Zaidatol Haslinda Abdullah Sani, Helen Petrie, *United Kingdom*.

Obtaining Experiential Data on Assistive Technology Device Abandonment
Helen Petrie, Stefan Carmien, Andrew Lewis, *United Kingdom*.

S006

Digital Artifacts for Education and Universal Access - I

Chair(s): Tania Lima, Rodrigo Bonacin, Marcelo De Paiva Guimarães, *Brazil*.

Room: **208**

A bridge to cognition through intelligent games
Carla V.M. Marques, Carlo E.T. Oliveira, Claudia L.R. Motta, *Brazil*.

Considerations for designing educational software for different technological devices and pedagogical approaches
Paulo Alexandre Bressan, Thiago Henrique Dos Reis, Artur Justiniano Roberto Jr., Marcelo De Paiva Guimarães, *Brazil*.

A Visuospatial Memory Game for the Elderly Using Gestural Interface
André Luiz Satoshi Kawamoto, Valeria Farinazzo Martins, *Brazil*.

Geomorphology Classroom Practices Using Augmented Reality
André Luiz Satoshi Kawamoto, Maristela Denise Moresco Mezzomo, *Brazil*.

Wearable Life: a Wrist-Worn Application to Assist Students in Special Education
Hui Zheng, Vivian Genaro *United States*.

QUIMIVOX MOBILE: Assistive Tool to teach Mendeleev Table
Alex Santos De Oliveira, Bruno Merlin, Heleno Fülber, João Elias Vidueira Ferreira, Tatiana Nazaré de Carvalho Artur Barros, *Brazil*.

Cross-Cultural Design

CCD S007

Cross Culture in Social Design - I

Chair(s): Rungtai Lin, Po-Hsien Lin, *Taiwan*.

Room: **207**

Applying the Story of The Dream of the Butterfly in Creative Design
Mo-Li Yeh, Fo Guang Chun-Ming Lien, Yi-Fang Kao, *Taiwan*.

Transforming Traditional Paper Cutting into LINE Stickers
Tzu- Chiang Chang, Shu Hui Huang, *Taiwan*.

A Study of Communication in Turning "Poetry" into "Painting"
Ya-Juan Gao, Li-Yu Chen, Sandy Lee, Rungtai Lin, *Taiwan*; Yi-Ge Jin, *P.R. China*.

Western vs. Eastern: A Reflective Research on the Development of Chinese Animation
Wen Ting Fang, Po-Hsien Lin, Rungtai Lin, *Taiwan*.

The Interdisciplinary Collaboration of Innovational Design
Shu-Huei Wang, Shyh-Huei Hwang, Ming-Shean Wang, *Taiwan*.

Interpretation of Space: from Images to Vocabulary
Li-Yu Chen, Ya-Juan Gao, Wun-Cong Yen, Ching-hui Huang, *Taiwan*.

Transforming Concepts of a Taiwanese Twin Cup into Social Design Activities
Ning-Hsien Yang, *Taiwan*.

Social Computing and Social Media

SCSM S008

Making Social Media Meaningful

Chair(s): Christian Scheiner, *Germany*.

Room: **107 & 108**

Promoting Technological Innovations: Towards an Integration of Traditional and Social Media Communication Channels
Timm F. Wagner, *Germany*.

From Bowling to Pinball: Understanding how Social Media changes the generation of value for consumers and companies
Marc Oliver Opresnik, *Germany*.

For Those about to Rock - Social Media Best Practices from Wacken Open Air
Christian Scheiner, Nick Hüper, *Germany*.

An Analysis of Online Discussion Platforms for Academic Deliberation Support
Fabrício Matheus Gonçalves, Emanuel Felipe Duarte, Julio Cesar Dos Reis, M. Cecilia C. Baranauskas, *Brazil*.

WEDNESDAY 8:00 - 10:00

AC — S009

Augmented Cognition

Neural markers of attention

Chair(s): Henk J. Haarmann, *United States*.

Room: 203

Neural Dynamics of Spontaneous Thought: An Electroencephalographic Study
Manesh Girn, Caitlin Mills, Eric Laycock, *Canada*; Melissa Ellamil, *Germany*; Lawrence Ward, Kalina Christoff, *Canada*.

Using portable EEG to assess human visual attention
Olave Krigolson, Chad Williams, Francisco Colino, *Canada*.

Testing the Specificity of EEG Neurofeedback Training on First- and Second-Order Measures of Attention
Eddy Davelaar, *United Kingdom*.

Attentional Trade-offs under Resource Scarcity
Jiaying Zhao, Brandon Tomm, *Canada*.

Multimodal Neural Interfaces for Augmenting Human Cognition
William Tyler, *United States*.

Characteristic Alpha Reflects Predictive Anticipatory Activity (PAA) in an Auditory-Visual Task
Julia Mossbridge, *United States*.

DHM — S010

Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management

Digital human modeling and simulation in product and workplace design & evaluation

Chair(s): Shuping Xiong, Korea; Yan Luximon, *Hong Kong*.

Room: 204

Review on 3D scanners for head and face modeling
Parth Shah, Yan Luximon, *Hong Kong*.

Development of an Enhanced Musculoskeletal Model for Simulating Lumbar Spine Loading During Manual Lifting Tasks
Xin Yue Zhu, Hyun Kyung Kim, Yanxin Zhang, *New Zealand*.

Comparison of rarefication techniques for foot simulation using subject specific three-dimensional anthropometry data
Liuxing Tsao, Liang MA, *P.R. China*.

Introduction of the Anthropometry in the Early Design of a Nuclear Main Control Room
PShengyuan Yan, Jean Luc Habiyaremye, *P.R. China*.

S011

Human Factors and User Experience Design

Chair(s): Qing-Xing Qu, Vincent G. Duffy, *United States*.

Room: 117

Object-Oriented User Interface Customization: Reduce Complexity and Improve Usability and Adaptation
Le Zhang, Qing-Xing Qu, Wen-Yu Chao, Vincent G. Duffy, *United States*.

Age and Computer Skill Level Difference in Aging-Centered Design: A Case Study of a Social Type Website
Wen-Yu Chao, Qing-Xing Qu, Le Zhang, Vincent G. Duffy, *United States*.

Interactive design of digital car dashboard interfaces
Rui Li, *P.R. China*; Qing-Xing Qu, *United States*; Zhangping Lu, *P.R. China*.

Color Affects the Usability of Smart Phone Icon for the Elderly
Chunfa Sha, Rui Li, Kai Chang, *P.R. China*.

DUXU — S012

Design, User Experience, and Usability

Usability and User Experience in Design

Chair(s): Francisco Rebelo, Arminda Guerra Lopes, *Portugal*.

Room:120

Mobile Phone - Offers Exchanged as Cultural Practice
Arminda Guerra Lopes, *Portugal*.

Designing User Experiences of Novel Technologies
Masayuki Ihara, Takayuki Adachi, Hiroshi Watanabe, *Japan*.

Developmental Process of Interface Design Evaluations
Lucila Mercado Colin, Alejandro Rodea Chávez, *Mexico*.

U-index: an Eye-Tracking-tested Checklist on Webpage Aesthetics for University Web Spaces in Russia and the USA
Svetlana Bodrunova, Alexander Yakunin, *Russia*.

Using Prototyping in Authentic Learning of Human-centred Design of Mobile Apps
Ghislain Maurice Norbert Isabwe, Helen Mula Apondi Olum, Maren Schelbred Thormodsæter, *Norway*.

DUXU S013

New Approaches of Research on User Experience Design

Chair(s): Liqun Zhang, *P.R. China*; Yingjie Victor Chen, *United States*.

Room: **118**

Research on Image Emotional Semantic Retrieval Mechanism Based on Cognitive Quantification Model
Tian Liang, Liqun Zhang, Min Xie, *P.R. China*.

A Quantitative Study of Emotional Experience of 'Daqi' Based on Cognitive Integration
Min Xie, Liqun Zhang, Tian Liang, *P.R. China*.

A Quality Table-Based Method for Sentiment Expression Word Identification in Japanese
Shujiro Miyakawa, Fumiaki Saitoh, Syohei Ishizu, *Japan*.

Explore the Categories on different Emotional Branding Experience for optimising the Brand Design Process
Amic Ho, *Hong Kong*.

Research on the Effect of Visual Conventions on Perception and Inference
Ningyue Peng, Chengqi Xue, Haiyan Wang, Yafeng Niu, *P.R. China*; Yingjie Victor Chen, *United States*.

S014

Developments in DUXU: Contributions for the Context of Technological Environments

Chair(s): Freddy Paz, *Peru*.

Room: **119**

Developing an ATM Interface Using User-Centered Design Techniques
Arturo Moquillaza, *Peru*; Edward Molina, Edilson Noguera, Leidi Enriquez, Adrian Muñoz, *Colombia*; Freddy Paz, *Peru*; Cesar Collazos, *Colombia*.

EMOVLE: An interface Design Guide: Through the design of Emotive Virtual Learning Environments
Angela Patricia Villareal Freire, Andrés Aguirre, Cesar Collazos, *Colombia*.

A Systematic Review of User Experience Evaluation Methods in Information Driven Websites
Ana Cecilia Ten, Freddy Paz, *Peru*.

DAPI S015

Social Internet of Things

Chair(s): Jun Hu, Eindhoven *Netherlands*.

Room: **115**

Service Design Strategy for Social Internet of Things in China
Jiajia Chen, *P.R. China*.

The Study and Application of Smart Art Community Service with "ESPSAS" Internet of Things Platform
Jheng-Chun Yang, Su-Chu Hsu, *Taiwan*.

A Preliminary Study of Smart Seat Cushion Design
Shijian Luo, Yun Wang, Yan Gong, Ge Shu, Na Xiong, *P.R. China*.

Design of Internet Rehabilitation Service System with Individual Assessment Data for Autistic Children
Lie Zhang, Guobin Wang, Jiarui Wu, Wei Wang, *P.R. China*.

Development and Evaluation of a Non-Obtrusive Patient Monitoring System with Smart Patient Beds
Ruben Van Dijk, *Netherlands*; Weifeng Liang, Biyong Zhang, *P.R. China*; Jun Hu, *Netherlands*.

Design for Social Innovation supported by Social Based Technologies
Teresa Franqueira, Gonçalo Gomes, *Portugal*.

S016

Creative and Cognitive Processes in Design

Chair(s): Rachel Zuanon, *Brazil*.

Room: **116**

Emergence in Game Design: Theoretical Aspects and Project's Potentialities
Nivia Ferreira, Priscila Trovo, Sergio Nesteriuk, *Brazil*

The foundation of the SEE BEYOND method: Fashion Design and Neuroeducation applied to the teaching of the project methodology to students with congenital and acquired blindness
Geraldo Lima Junior, Rachel Zuanon, *Brazil*

Interaction/Cognition in Design: The Red Bull Station's Classroom case study
Priscila Trovo, Adriana Valli, Nivia Ferreira, Agda Carvalho, *Brazil*

Building Tools for Creative Data Exploration: a Comparative Overview of Data-driven Design and User-Centered Design
Sara Diamond, Steve Szigeti, Ana Jofre, *Canada*

Brain Design Co-evolution: the potential of design elements to improve short-term memories as an strategy to postpone the symptoms of Alzheimer disease.
Rachel Zuanon, *Brazil*

WEDNESDAY   8:00 - 10:00

HAS   S017

Human Aspects of Information Security, Privacy and Trust

Designing cyber security for people

Chair(s): Lynne Coventry, *United Kingdom*.

Room: **111**

Walking the line: the everyday security ties that bind
Lizzie Coles-Kemp, *United Kingdom*; René Rydhof Hansen, *Denmark*.

Radicalisation, the Internet and Cybersecurity: Opportunities and Challenges for HCI
Joanne Hinds, Adam Joinson, *United Kingdom*.

The Design of Messages to Improve Cybersecurity Incident Reporting
Pam Briggs, *United Kingdom*; Debora Jeske, *Ireland*; Lynne Coventry, *United Kingdom*.

"No Good Reason to Remove Features" Expert Users Value Useful Apps over Secure Ones
Steve Dodier-Lazaro, Ingolf Becker, Jens Krinke, M. Angela Sasse, *United Kingdom*.

Visualization Technologies of Information Security Support System using Haptic Devices
Manabu Ishihara, Taiki Kanayama, *Japan*.

HCIBGO   S018

HCI in Business, Government and Organizations

HCI in Business and Organizations - I

Chair(s): Fiona Fui-Hoon Nah, *United States*.

Room: **205**

Enhancing IS User Empowerment and Problem-solving Behavior through Training and Prompting
Brenda Eschenbrenner, *United States*.

Internet Use and Happiness: A Longitudinal Analysis
Richard H. Hall, *United States*.

Dueling for Trust in the Online Fantasy Sports Industry: Fame, Fortune, and Pride For the Winners
Craig Claybaugh, Peter Haried, Langtao Chen, Nathan W. Twyman, *United States*.

Explore the business model of MOOCs
Yuan Long, *United States*.

Effect of Timing and Source of Online Product Recommendations: an Eye-Tracking Study
Yani Shi, *P.R. China*; Qing Zeng, Fiona Fui-Hoon Nah, *United States*; Chuan-Hoo Tan, *Singapore*; Choon Ling Sia, *Hong Kong*; Keng Siau, *United States*; Jiaqi Yan, *P.R. China*.

How Can Emails from Different Types of Leaders Influence Employees?
Eric Brangier, Laura Dovero, *France*.

LCT   S019

Learning and Collaboration Technologies

Learning Analytics for Secondary and Higher Education

Chair(s): Martin Ebner, Markus Ebner, *Austria*.

Room: **206**

Learning Analytics and Its Paternalistic Influences
Kyle M.L. Jones, *United States*.

Dashboard for Actionable Feedback on Learning Skills: Scalability and Usefulness
Tom Broos, Laurie Peeters, Katrien Verbert, Carolien Van Soom, Greet Langie, Tinne De Laet, *Belgium*.

Development of a dashboard for Learning Analytics in Higher Education
Philipp Leitner, Martin Ebner, *Austria*.

Learning Analytics and spelling acquisition in German – proof of concept
Markus Ebner, Konstanze Edtstadler, Martin Ebner, *Austria*.

Mixing and matching learning design and learning analytics
Quan Nguyen, Bart Rienties, Lisette Toetenel, *United Kingdom*.

ITAP   S020

Human Aspects of IT for the Aged Population

Intergenerational Use of New Media

Chair(s): Eugene Loos, *Netherlands*.

Room: **105 & 106**

My grandpa and I "gotta catch 'em all." A research design on intergenerational gaming focusing on Pokémon Go
Francesca Comunello, Simone Mulargia, *Italy*.

Pass the Control(ler): Shifting of Power in Families through Intergenerational Gaming
Sanela Osmanovic, Loretta L. Pecchioni, *United States*.

Social Interaction between Older Adults (80+) and Younger People during Intergenerational Digital Gameplay
Fan Zhang, Robyn Schell, David Kaufman, Glaucia Salgado, Julija Jeremic, *Canada*.

Intergenerational Techno-Creative Activities in a Library Fablab
Margarida Romero, Benjamin Lille, *Canada*.

My Interests, my Activities: Learning from an Intergenerational Comparison of Smartwatch Use
Mireia Fernández-Ardèvol, Andrea Rosales, *Spain*.

The Positive and Negative Impact of an Intergenerational Digital Technology Education Programme on Younger People's Perceptions of Older Adults
Lisbeth Drury, Ania Bobrowicz, Lindsey Cameron, Dominic Abrams, *United Kingdom*.

HCI   S021

Human-Computer Interaction

Sustainable HCI/UX Research & Practice for Improved Social Innovation

Chair(s): Kaveh Bazargan, *Iran*.

Room: **213**

Measuring and Evaluating the User Experience Strategy Maturity of Spatial Web-based Projects: A Case Study of Tehran Web-based Map
Kaveh Bazargan, Ali Rezaeian, Hamid Reza Hafeznia, *Iran*.

Appeals of Product Pictures on the Product Detail Page - The Effect of Mental Imagery
Chu-Ting Lee, Man-Ying Wang, *Taiwan*.

Multi-method Approach to Identify Acceptance-Relevant Characteristics of Renewable Energy Infrastructure
Barbara Sophie Zaunbrecher, Martina Ziefle, *Germany*.

Haptic User Experience Based on User Preference
Hoon Sik Yoo, So Yon Jeong, Da Young Ju, *Korea*.

How do hybrid electric vehicle drivers acquire ecodriving strategy knowledge?
Thomas Franke, Matthias G. Arend, *Germany*; Neville A. Stanton, *United Kingdom*.

S022

Experience of Quality in Interaction

Chair(s): Stefano Federici, *Italy*; Simone Borsci, *United Kingdom*; Maria Laura Mele, *Italy*.

Room: **212**

Refining Supervisory Control Capability for Target User Populations
Robert Wray, Randolph Jones, Charles Newton, Ben Bachelor, *United States*.

Features and Quality of a Mobile Application Employed in a Speech-Language Therapy
Tihomir Orehovački, Dijana Plantak Vukovac, Zlatko Stapić, Tatjana Novosel-Herceg, *Croatia*.

Using Spatio-Temporal Saliency to Predict Subjective Video Quality: A New High-Speed Objective Assessment Metric
Maria Laura Mele, Damon Millar, Christiaan Erik Rijnders, *Italy*.

Exploring Predictors of Mobile Device Proficiency among Older Adults
Kimberly Champagne, Walter R. Boot, *United States*.

Usability Matters - User Experiences of Visually Impaired Older Adults
Miroslav Sili, Matthias Gira, Christopher Mayer, *Austria*.

The Experiential Utility: How Behavioural Economics can Help HCI to Define Quality
Stefano Bussolon, *Italy*.

HIMI   S023

Human Interface and the Management of Information

User-oriented technologies and services

Chair(s): Hiroyuki Miki, *Japan*.

Room: **202**

Relationship between Users' Operational Characteristics and User Interfaces: Study of the Multi-Function Printer
Hiroko Akatsu, Naotsune Hosono, Yasuyoshi Onoue, Sachika Hitomi, Hiroyuki Miki, *Japan*.

A Study on Automatic Generation of Comic Strips from a Scenario
Shigeyoshi Iizuka, *Japan*.

Making Social Media Activity Analytics Intelligible for Oneself and for Others: a "Boundary Object" Approach to Dashboard Design
François Lambotte, *Belgium*.

White Crane Dance-Transforming woodcut print and folk dance into animation art
Jia-Ming Day, Su-Chu Hsu, Chun-Chien Chen, *Taiwan*.

Effectiveness Research of Safety Signs in Coal Mines Based on Eye Movement Experiment
Shui-Cheng Tian, Lu Hui, Hong-xia Li, *P.R. China*.

An AR Application for Wheat Breeders
Kaitlyn Becker, Frederic Parke, Bruce Gooch, *United States*.

EPCE   S024

Engineering Psychology and Cognitive Ergonomics

Aviation Safety and Human Factors - II

Chair(s): Wen-Chin Li, *United Kingdom*; Lei Wang, *P.R. China*.

Room: **112**

Assessing Human Computer Interaction of Operating Remotely Piloted Aircraft Systems (RPAS) in Attitude (ATTI) Mode
Pete McCarthy, *United Kingdom*; Guan Kiat Teo, *Singapore*.

Controller Intervention Degree Evaluation of Intersection in Terminal Airspace
Yannan Qi, Xinglong Wang, Xingjian Zhang, *P.R. China*.

The Investigation of Human-Computer Interaction on the Multiple Remote Tower Operations
Peter Kearney, I *Ireland*; Wen-Chin Li, Graham Braithwaite, Matt Greaves, *United Kingdom*.

An Integrated Approach of Human Oriented Interactions with complexity
Cedric Bach, Viviane Perret, Guillaume Calvet, *France*.

Research on analysis and promotion of professional adaptability of air traffic controllers based on the difference of state from Trait
Jingqian Li, Bei Wang, Ning Zhao, Yong Wang, Biyong Zhang, Sheng Xu, *P.R. China*.

Dynamic Measurement of Pilot Situation Awareness
Xu Wu, Chuanyan Feng, Xiaoru Wanyan, Yu Tian, Shoupeng Huang, *P.R. China*.

WEDNESDAY   10:30 - 12:30

WEDNESDAY 10:30 - 12:30

UAHCI S025

Universal Access in Human-Computer Interaction

Fostering Deaf/hearing Communication through Avatar Technology

Chair(s): Rosalee Wolfe, *United States;* Eleni Efthimiou, Stavroula-Evita Fotinea, *Greece.*

Room: **209**

An Improved Framework for Layering Linguistic Processes in Sign Language Generation: Why There Should Never Be a "Brows" Tier
John McDonald, Rosalee Wolfe, Sarah Johnson, Souad Baowidan, Robyn Moncrief, Natalie Guo, *United States.*

Evaluation of Animated Swiss German Sign Language Fingerspelling Sequences and Signs
Sarah Ebling, *Switzerland*; Sarah Johnson, Rosalee Wolfe, Robyn Moncrief, John McDonald, Souad Baowidan, *United States*; Tobias Haug, Sandra Sidler-Miserez, Katja Tissi, *Switzerland.*

Synthesizing Sign Language by Connecting Linguistically Structured Descriptions to a Multi-track Animation System
Michael Filhol, *France*; John McDonald, Rosalee Wolfe, *United States.*

Sign Search and Sign Synthesis Made Easy to End User; the Paradigm of Building a SL Oriented Interface for Accessing and Managing Educational Content
Eleni Efthimiou, Stavroula-Evita Fotinea, Panos Kakoulidis, Theodore Goulas, Athansia-Lida Dimou, Anna Vacalopoulou, *Greece.*

Coarticulation Analysis for Sign Language Synthesis
Lucie Naert, Caroline Larboulette, Sylvie Gibet, *France.*

Investigation of Feature Elements and Performance Improvement for Sign Language Recognition by Hidden Markov Model
Tatsunori Ozawa, Hirotoshi Shibata, Hiromitsu Nishimura, Hiroshi Tanaka, *Japan.*

S026

Digital Artifacts for Education and Universal Access - II

Chair(s): Tania Lima, Rodrigo Bonacin, Marcelo De Paiva Guimarães, *Brazil.*

Room: **208**

Participatory Design of Technology for Inclusive Education: a Case Study
Leonara De Medeiros Braz, Eliane De Souza Ramos, Maria Luisa Pozzebom Benedetti, Heiko Hornung, *Brazil.*

Read it aloud to me
Sergio Celaschi, Mauricio Sol Castro, Sidney Pinto Da Cunha, *Brazil.*

Evaluation of an automatic essay correction system used as an assessment tool
Sérgio A. A. Freitas, Edna D. Canedo, Cristovao L. Frinhani, Mauricio F. Vidotti, Márcia C. Silva, *Brazil.*

WebAR: a web-augmented reality-based authoring tool with Experience API support for educational applications
André Barone Rodrigues, Diego Colombo Dias, Valeria Farinazzo Martins, Paulo Alexandre Bressan, Marcelo De Paiva Guimarães, *Brazil.*

The Use of Computational Artifacts to Support Deaf Learning: an approach based on the direct way methodology
Marta Angélica Montiel Ferreira, Juliana Bueno, Rodrigo Bonacin, Laura Sánchez Gárcia, *Brazil.*

Towards Automatic Recognition of Sign Language Gestures using Kinect 2.0
Dmitry Ryumin, Alexey A. Karpov, *Russia.*

VAMR S027

Virtual, Augmented and Mixed Reality

Present and Future Trends of Virtual and Augmented Reality

Chair(s): Jorge Martín Gutiérrez, *Spain.*

Room: **204**

A Proposal for the Selection of Eye-tracking Metrics for the Implementation of Adaptive Gameplay in Virtual Reality based Games
José L. Soler-Dominguez, *Spain;* Jorge D. Camba, *United States;* Manuel Contero, Mariano Alcañiz, *Spain.*

A Virtual Reality Tool applied to improve the Effects on Chronic Diseases - Case: Emotional Effects on T2DM
Leticia Neira-Tovar, *Mexico;* Ivan Castilla Rodriguez, *Spain.*

Methodology for the Estimation of Effort for a Project of Virtual Reality - A case study: Ennui
Francisco Torres-Guerrero, Leticia Neira-Tovar, Ignacio Martinez Garcia, *Mexico.*

VIGOR: Virtual Interaction with Gravitational Waves to Observe Relativity
Midori Kitagawa, Michael Kesden, Ngoc Tran, Thulasi Sivampillai Velayudam, Mary Urquhart, Roger Malina, *United States.*

An Augmented Reality/Internet of Things prototype for just-in-time astronaut training
John A. Karasinski, Richard Joyce, Colleen Carroll, Jack Gale, Steven Hillenius, *United States.*

Mixed Library - Bridging Real and Virtual Libraries
Denis Gracanin, Andrew Ciambrone, Reza Tasooji, Mohamed Handosa, *United States.*

CCD S028

Cross-Cultural Design

Cross Culture in Social Design - II

Chair(s): Po-Hsien Lin, Rungtai Lin, *Taiwan.*

Room: **207**

A Pilot Study of Communication Matrix for Evaluating Artworks
Rungtai Lin, *Taiwan*; Fengde Qian, Jun Wu, *P.R. China;* Wen Ting Fang, *Taiwan*; Yi-Ge Jin, *P.R. China.*

Implementation of Service Design on Innovation Development of Traditional Handicraft: A Case Study of Yongchun Lacquered Basket
Yan Wu, Li-Yu Chen, *Taiwan*; Lei Ren, *P.R. China.*

Integration and Innovation: Learning by Exchanging Views - A Report of the Cross-Cultural Design Workshop for Stone Craving
Po-Hsien Lin, Ya-Juan Gao, *Taiwan*; Taihua Lan, Xiaoge Wang, *P.R. China.*

A Study on Signage Design and Synesthesia in Senior Residences
Miao-Hsien Chuang, Tong-Fang Ni, Jui-Ping Ma, *Taiwan.*

Sewing for Life: The development of sewing machine in the tune of women life experience in Taiwan
Ju-Joan Wong, Hsiao-Hua Chen, *Taiwan.*

The Design Thinking leading to Different Levels of Change: Example of the Togo Village in Southern Taiwan
Cecile Ching-yi Wu, *Taiwan.*

SCSM   S029

Social Computing and Social Media

Impacts of Social Media and Virtual Worlds : Education, Training and Online Interaction

Chair(s): James Braman, Yuanqiong (Kathy) Wang, Giovanni Vincenti, *United States.*

Room: **107 & 108**

Examining the Legal Consequences of Improper Use of Social Media Sites in the Workplace
Alfreda Dudley, Davian Johnson, *United States.*

Memorializing the Deceased using Virtual Worlds: A Preliminary Study
James Braman, Alfreda Dudley, Giovanni Vincenti, *United States.*

BLE-Based Children's Social Behavior Analysis System for Crime Prevention
Shuta Nakamae, Shumpei Kataoka, Can Tang, Yue Pu, Simona Vasilache, Satoshi Saga, Buntarou Shizuki, Shin Takahashi, *Japan.*

Creating and Supporting Virtual Communities: a City that Happens on a Facebook Group
Andre O. Bueno, Junia C. Anacleto, *Brazil.*

Toward a Supporting System of Communication Skill: The Influence of Functional Roles of Participants in Group Discussion
Qi Zhang, Hung-Hsuan Huang, Seiya Kimura, Shogo Okada, Tokyo Yuki Hayashi, Yutaka Takase, Yukiko Nakano, Naoki Ohta, Kazuhiro Kuwabara, *Japan.*

AC   S030

Augmented Cognition

Adaptive Instructional Science & Technology

Chair(s): Robert A. Sottilare, *United States.*

Room: **203**

Using Mobile Technology to Generate Learning Content for an Intelligent Tutoring System
Rodney Long, Jennifer Riley, Christina Padron, *United States.*

Modeling training efficiency in GIFT
Gregory Goodwin, James Niehaus, Jong Kim, *United States.*

Recommendations for use of Adaptive Tutoring Systems in the Classroom and in Educational Research
Anne Sinatra, Scott Ososky, Robert A. Sottilare, Jason Moss, *United States.*

Adaptive Training across Simulations in Support of a Crawl-Walk-Run Model of Interaction
Benjamin Goldberg, Fleet Davis, Jennifer Riley, Michael Boyce, *United States.*

A Cognitive Modeling Approach – Does Tactical Breathing in a Psychomotor Task Influence Skill Development during Adaptive Instruction?
Jong Kim, Christopher Dancy, Benjamin Goldberg, Robert A. Sottilare, *United States.*

Defining Complexity in the Authoring Process for Adaptive Instruction
Robert A. Sottilare, Scott Ososky, *United States.*

DHM   S031

Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management

Utilizing Traditional Wisdom and Technologies for Quality Care

Noriyuki Kida, *Japan.*

Room: **116**

A Study of Utilizing Communication Robots for Teaching Preschoolers a Good Manner
Hiroyoshi Fukuta, Noriaki Kuwahara, Kazunari Morimoto, *Japan.*

A Study of Bed-leaving Prediction by Using a Pressure-sensitive Sensor
Kengo Wada, Aya Mineharu, Noriaki Kuwahara, Kazunari Morimoto, *Japan.*

Investigation of Quantification of the Suitable Photos for Conversation Assistance for Elderly and Youth
Miyuki Iwamoto, Noriaki Kuwahara, Kazunari Morimoto, *Japan.*

Development of the quantitative gait evaluation system using Kinect
Masaru Ogiri, Noriyuki Kida, Hiroyuki Hamada, *Japan.*

Conversion of JPG Image into DICOM Image Format with One Click Tagging
Olakunle Oladiran, Judy Gichoya, Saptarshi Purkayastha, *United States.*

S032

Human Factors in Information Visualization and Decision Support Systems

Chair(s): André Calero Valdez, *Germany.*

Room: **117**

Watch out! User-centered Feedback Design for a V2X-Smartphone App
Teresa Schmidt, Ralf Philipsen, Dzenan Dzafic, Martina Ziefle, *Germany.*

Design of a Robotic Workmate
Sarah Luisa Müller, Stefan Schröder, Sabina Jeschke, Anja Richert, *Germany.*

FlowChart Tool for Decision Making in Interdisciplinary Research Cooperation
Ulrich Jansen, Wolfgang Schulz, *Germany.*

That's so meta! Usability of a Hypergraph-based Discussion Model
Felix Dietze, André Calero Valdez, Johannes Karoff, Christoph Greven, Ulrik Schroeder, Martina Ziefle, *Germany.*

User-driven Semantic Classification for the Analysis of Abstract Health and Visualization Tasks
Sabine Theis, Peter Rasche, Christina Bröhl, Matthias Wille, Alexander Mertens, *Germany.*

User Groups and Different Levels of Control in Recommender Systems
Christine Mendez, Vlatko Lukarov, Christoph Greven, André Calero Valdez, Felix Dietze, Ulrik Schroeder, Martina Ziefle, *Germany.*

Measuring Insight Into Multi-dimensional Data from a Combination of a Scatterplot Matrix and a HyperSlice Visualization
André Calero Valdez, Sascha Gebhardt, Torsten W. Kuhlen, Martina Ziefle, *Germany.*

WEDNESDAY   10:30 - 12:30

WEDNESDAY   10:30 - 12:30

Design, User Experience, and Usability

DUXU   S033

Speculative, critical Wearables

Chair(s): Patricia Flanagan, *Australia*.

Room: **120**

Digital Humanities and Techno-Animism in Wearables: A Case-study-based Collaborative Design Framework for Digitally-Ensouled Jewellery
Doros Polydorou, *United Kingdom*; Kening Zhu, *Hong Kong*; Alexis Karkotis, *Cyprus*.

Wearable Rhythms: Materials in Play
Amy Winters, *United Kingdom*.

The Grayman Project
Darien Lovell, *Australia*.

Critical and Speculative Wearables: boundary objects
Patricia Flanagan, *Australia*.

Wearables Design: Epistemic Cultures and Laboratory Performances
Valerie Lamontagne, *Canada*.

User Oriented Design Speculation and Implications for an Arm-Worn Wearable Device for Table-Top Role-Playing Games
Oguz Turan Buruk, Oguzhan Ozcan, *Turkey*.

S034

Designing and Measuring Novel User Experiences

Chair(s): Kerem Rizvanoglu, *Turkey*.

Room: **118**

Coffee Cup Reading as An Inspiration for Looking into Augmented Mugs in Social Interaction
Ahmet Borutecene, Idil Bostan, Gulben Sanli, Caglar Genc, Tilbe Goksun, Oguzhan Ozcan, *Turkey*.

Programming a Robotic Toy with a Block Coding Application: A Usability Study with Non-Programmer Adults
Muhammet Ramoglu, Caglar Genc, Kerem Rizvanoglu, *Turkey*.

The Use of Neurometric and Biometric Research Methods in Understanding the User Experience during Product Search of First-Time Buyers in E-Commerce
Tuna Çakar, Kerem Rizvanoglu, Özgürol Öztürk, Deniz Zengin Çelik, İrfan Gürvardar, *Turkey*.

User experience of e-commerce platforms for different gender: Turkish Case
Özgürol Öztürk, *Turkey*.

"deBallution" - A Prototype of Interactive Artwork based on Cultural Heritage
Je-ho Oh, So-young Kim, *Korea*; Yun Tae Nam, *Australia;* Chung-kon Shi, *Korea*.

Effect of Playing Factors and Playing History on Game Flow and Companionship Levels for Online Pets
Elena Carolina Li, Ding-Bang Luh, *Taiwan*.

S035

Designing and Evaluating User Experience (UX) in Interactive Systems

Chair(s): Claudia Zapata, *Peru*.

Room: **119**

A Conceptual Model for Educational Game Authoring: a Showcase in Math Games
Johan Baldeón, *Peru*; Anna Puig, Inmaculada Rodríguez, Cristian Muriel, Leandro Zardain, *Spain*.

Improving the Usability in a Video Game through Continuous Usability Evaluations
Corrado Daly, Claudia Zapata, Freddy Paz, *Peru*.

UCD and Agile Methodology in the Development of a Cultural Heritage Platform
Eduardo Merino, Claudia Zapata, María del Carmen Aguilar, *Peru*.

Designing Game Controllers in a Mobile Device
Leonardo Torok, Mateus Pelegrino, Daniela Trevisan, Anselmo Montenegro, Esteban Clua, *Brazil*.

Usability Testing as a Complement of Heuristic Evaluation: A Case Study
Braulio Murillo, Silvia Vargas, Arturo Moquillaza, Luis Fernandez, Freddy Paz, *Peru*.

Application of the Semiotic Inspection Method: A Case Study in Web Domain
Freddy Paz, Freddy Asrael Paz, Luis Collantes, Manuel Sánchez, José Antonio Pow-Sang, *Peru*.

Distributed, Ambient and Pervasive Interactions

DAPI   S036

Interactive Digital Media

Chair(s): Jun Hu, *Netherlands*.

Room: **115**

Intelligent Painting Based on Social Internet of Things
Zhiyong Fu, Jia Lin, Zhi Li, Wenjia Du, Jieye Zhang, Shuxiong Ye, *P.R. China*.

Experience Design of Social Interaction for Generation Y based on Tangible Interaction
Yan Shi, Yuhui Guo, Zheng Gong, Bing Yang, Leijing Zhou, *P.R. China*.

The Construction of Art in Virtual Reality and its Education
Jin Sheng, *P.R. China*.

Augmented Reality Games for Learning: A Literature Review
Jingya Li, Erik Van der Spek, Loe Feijs, *Netherlands*; Feng Wang, *P.R. China*; Jun Hu, *Netherlands*.

HAS S037

Human Aspects of Information Security, Privacy and Trust

Modelling for user behaviour: towards a formal understanding of user errors in secure systems

Chair(s): Dana Polatin-Reuben, Jason R.C. Nurse, *United Kingdom*.

Room: **111**

Modelling Trust and Trust-Building among IT-Security Professionals - How do practitioners find out whom to work with?
Laurin B. Weissinger, *United Kingdom*.

An Assessment of the Security and Transparency Procedural Components of the Estonian Internet Voting System
Jason R.C. Nurse, Ioannis Agrafiotis, Arnau Erola, Maria Bada, Taylor Roberts, Meredydd Williams, Michael Goldsmith, Sadie Creese, *United Kingdom*.

Secure Peripherals in a Converged Mobile Environment
Jaco Du Toit, Ian Ellefsen, *South Africa*.

Formal Modeling and Analysis with Humans in Infrastructures for IoT Health Care Systems
Florian Kammüller, *United Kingdom*.

Dear Password, I Know You Too Well - A Congenial Call for Ubiquitous Authentication
Frans F. Blauw, *South Africa*.

Behavioural Profiling in Cyber-Social Systems
Jason Perno, *United States;* Christian Probst, *Denmark*.

HCIBGO S038

HCI in Business, Government and Organizations

HCI in Business and Organizations - II

Chair(s): Fiona Fui-Hoon Nah, Keng Siau, *United States*.

Room: **205**

Communication in Co-Innovation Networks: A Moderated Mediation Model of Social Affordances, Social Experience, and Desire for Learning
Kaveh Abhari, Bo Sophia Xiao, Elizabeth Davidson, *United States*.

Are You Willing to See Doctors on Mobile Devices? A Content Analysis of User Reviews of Virtual Consultation Apps
Vania Yuxi Shi, Sherrie Komiak, Paul Komiak, *Canada*.

A Review on Neuropsychophysiological Correlates of Flow
Fiona Fui-Hoon Nah, Tejaswini Yelamanchili, Keng Siau, *United States*.

Information Visualizations Used to Avoid the Problem of Overfitting in Supervised Machine Learning
Robbie T. Nakatsu, *United States*.

Consumers' Trust in Price-Forecasting Recommendation Agents
Eran Rubin, Young Anna Argyris, *United States;* Izak Benbasat, *Canada*.

A Transaction Cost Equilibrium Analysis on Overlap between Emergency Response Task Groups
Yun-feng Wang, *P.R. China*.

LCT S039

Learning and Collaboration Technologies

Digital competence and its effect on learning

Chair(s): Margus Pedaste, *Estonia*.

Room: **206**

Integration of Estonian Higher Education Information Technology Students and its Effect on Graduation-Related Self-Efficacy
Külli Kori, Margus Pedaste, Olev Must, *Estonia*.

Attitudes towards mobile devices in Estonian basic education: using the framework of the UTAUT model
Liina Adov, Olev Must, Margus Pedaste, *Estonia*.

ITAP S040

Human Aspects of IT for the Aged Population

New media in the everyday life of older people

Chair(s): Eugene Loos, *Netherlands*.

Room: **105 & 106**

Everyday Life Interactions of Women 60+ with ICTs: Creations of Meaning and Negotiations of Identity
Barbara Ratzenböck, *Austria*.

Visual Representations of Digital Connectivity in Everyday Life
Wendy Martin, Katy Pilcher, *United Kingdom*.

From Noticing to Suspecting: The Initial Stages in the Information Behaviour of Informal Caregivers of People with Dementia
Ágústa Pálsdóttir, *Iceland*.

Digital Storytelling and Dementia
Elly Park, Hollis Owens, David Kaufman, Lili Liu, *Canada*.

The STAGE Project: Tailored Cultural Entertainment for Older Adults via Streaming Technology
Luigi Biocca, Nicolò Paraciani, Francesca Picenni, Giovanni Caruso, Marco Padula, Riccardo Chiariglione, *Italy*; Agnieszka Kowalska, *Poland*; Monica Florea, *Italy*; Ilias Kapouranis, *Cyprus*.

Research on New Media Usage Behaviors, Influencing Factors and Social Contact Mode of the Elderly
Minggang Yang, MIngliang Dou, Yinan Han, *P.R. China*.

WEDNESDAY 10:30 - 12:30

HCI   S041

Human-Computer Interaction

Models, patterns and tools for designing situation and context-aware interactive systems

Chair(s): Christian Märtin, Peter Forbrig, *Germany*.

Room: **212**

Overcoming the Innovator's Dilemma in Disruptive Process Innovation through Subject Orientation
Albert Fleischmann, Werner Schmidt, *Germany*; Christian Stary, *Austria*.

Practical Aspects of Pattern-supported Model-driven User Interface Generation
Jürgen Engel, Christian Märtin, Peter Forbrig, *Germany*.

Model Based Dialogue Control for Smartwatches
Rainer Lutze, Klemens Waldhör, *Germany*.

Situation-awareness In Action: An Intelligent Online Learning Platform (IOLP)
Jasser Jasser, Hua Ming, Mohamed A. Zohdy, *United States*.

SitAdapt: An Architecture for Situation-aware Runtime Adaptation of Interactive Systems
Christian Herdin, Christian Märtin, Peter Forbrig, *Germany*.

Adapting User Interface Models by Transformations Based on UI Patterns
Mathias Kühn, Peter Forbrig, *Germany*.

S042

User Interface Evaluation Methods and Practice

Chair(s): Michael D. Johnson, *United States*.

Room: **213**

An Exploratory Study on the Predictive Capacity of Heuristic Evaluation in Visualization Applications
Beatriz Sousa Santos, Samuel Silva, Beatriz Quintino Ferreira, Paulo Dias, *Portugal*.

Methods for Evaluation of Tooltips
Helene Isaksen, Mari Iversen, Jens Kaasbøll, *Norway*; Chipo Kanjo, *Malawi*.

Persuasive Argumentation and Emotions: an Empirical Evaluation with Users
Mohamed S. Benlamine, *Canada*; Serena Villata, *France*; Ramla Ghali, Claude Frasson, *Canada*; Fabien Gandon, Elena Cabrio, *France*.

An Analysis of CAD Modeling Procedure Data Collection Using Synchronous and Retrospective Think Aloud Techniques
Michael D. Johnson, Karl Ye, *United States*.

HIMI   S043

Human Interface and the Management of Information

Relationality Design and Relationality-oriented Systems - I

Chair(s): Katsunori Shimohara, *Japan*.

Room: **202**

Analyzing the Daily Meeting of Day Care Staffs who Personalized Occupational Therapy Program in Response to a Care-receiver's Pleasure
Chika Oshima, Yumiko Ishii, Kimie Machishima, Hitomi Abe, Naohito Hosoi, Koichi Nakayama, *Japan*.

Sharing Indirect Biofeedback Information for Mutual Acceptance
Madoka Takahara, Fangwei Huang, Ivan Tanev, Katsunori Shimohara, *Japan*.

Does the Visualization of the Local Problem bring Altruism?
Yurika Shiozu, Koya Kimura, Katsunori Shimohara, Katsuhiko Yonezaki, *Japan*.

Analysis of Location Information Gathered through Residents' Smartphones Toward Visualization of Communication in Local Community
Koya Kimura, Yurika Shiozu, Ivan Tanev, Katsunori Shimohara, *Japan*.

Designing the Learning Goal Space for Human toward Acquiring a Creative Learning Skill
Takato Okudo, Keiki Takadama, Tomohiro Yamaguchi, *Japan*.

Towards Adaptive Aircraft Landing Order with Aircraft Routes Partially Fixed by Air Traffic controllers as Human Intervention
Akinori Murata, Hiroyuki Sato, Keiki Takadama, *Japan*.

S044

Data, semantics and interaction

Chair(s): Yumi Asahi, *Japan*.

Room: **204**

Analysis to the Customer of the EC Site User
Takeshi Shiraishi, Yumi Asahi, *Japan*.

Analysis of the Consumption Action Behavior that Considered a Season
Saya Yamada, Yumi Asahi, *Japan*.

Purchasing Customer Data from a New Sales Market
Kenta Nakajima, Hideyuki Mizobuchi, Yumi Asahi, *Japan*.

Identifying Root Cause and Derived Effects in Causal Relationships
Juhee Bae, Tove Helldin, Maria Riveiro, *Sweden*.

Research on the Design Method of Extracting Optimal Kansei Vocabulary
Xinhui Kang, Minggang Yang, Yixiang Wu, Haozhou Yuan, *P.R. China*.

EPCE   S045

Engineering Psychology and Cognitive Ergonomics

Psychological Effects of System Latency

Chair(s): Thomas Franke, Josef Krems, *Germany*.

Room: **112**

System Latency Guidelines Then and Now – is Zero Latency Really Considered Necessary?
Christiane Attig, Nadine Rauh, Thomas Franke, Josef Krems, *Germany*.

Are 100 milliseconds fast enough? Characterizing latency perception thresholds in mouse-based interaction
Valentin Forch, Thomas Franke, Nadine Rauh, Josef Krems, *Germany*.

Latency and digital musical instruments: effects on performance and perceived instrument quality
Robert Jack, Tony Stockman, Andrew McPherson, *United Kingdom*.

UAHCI   S046

Universal Access in Human-Computer Interaction

Universal Access: state of the science and state of the technology

Chair(s): Gisela Susanne Bahr, *United States*; Laura Burzagli, *Italy*.

Room: **209**

Universal Design in Ambient Intelligent Environments
Laura Burzagli, Pier Luigi Emiliani, *Italy*.

Robotic Assistants for Universal Access
Simeon Keates, Peter Kyberd, *United Kingdom*.

A Generic Framework for Creating Customized Tactile User Interfaces
Francis Zinke, Elnaz Mazandarani, Marlene Karlapp, Ulrike Lucke, *Germany*.

Towards Tangible and Distributed UI for Cognitively Impaired People
Ruzalin Galiev, Dominik Rupprecht, Birgit Bomsdorf, *Germany*.

The Privacy, Security and Discoverability of Data on Wearable Health Devices: Fitness or Folly?
Vishakha Kumari, Sara Anne Hook, *United States*.

S047

Digital Artifacts for Education and Universal Access - III

Chair(s): Tania Lima, Rodrigo Bonacin, Marcelo De Paiva Guimarães, *Brazil*.

Room: **208**

On Capitalizing on Augmented Reality to Impart Solid Geometry Concepts: An Experimental Study
Bruno Alves, Diego Colombo Dias, Simone de S. Borges, Vinicius H.S. Durelli, Paulo Alexandre Bressan, Valeria Farinazzo Martins, Marcelo De Paiva Guimarães, *Brazil*.

Universal Design to a Learning Environment-Object Adding Network as Condition and Data Visualization as Framework to Provide Universal Access
Izabel P. Meister, Felipe Vieira Pacheco, Eduardo Eiji Ono, Suelen Carolyne Polese De Magalhaes, Tiago Paes De Lira, Margeci Leal De Freitas Alves, Vanessa Itacaramby Pardim, João Luis Gaspar, Marco Antonio Pinheiro Diogenes Júnior, Daniel Gongora, Valéria Gomes Bastos, Marcelo Da Silva Franco, *Brazil*.

Ergonomic Evaluation of the Portal of the Repository in the Health Area of UNIFESP: Proposal of Specifications and Ergonomic Recommendations for its Interface
Wilma Honorio dos Santos, Luciano Gamez, Felipe Mancini, *Brazil*.

Usability Evaluation of Multimodal Games for Learners Who Are Blind: Practices, Challenges, and Criteria
Ticianne G.R. Darin, Rossana M.C. Andrade, *Brazil*; Jaime Sánchez, *Chile*.

VAMR   S048

Virtual, Augmented and Mixed Reality

Agent Transparency for Human-Autonomy Teaming Effectiveness

Chair(s): Jessie Y.C. Chen, *United States*.

Room: **116**

Squad-Level Soldier-Robot Dynamics: Exploring Future Concepts Involving Intelligent Autonomous Robots
Rodger Pettitt, Linda R. Elliott, Clifford C. Swiecicki, *United States*.

Visual Communication with UAS: Recognizing Gestures from an Airborne Platform
Alexander Schelle, Peter Stütz, *Germany*.

ADVICE: Decision Support for Complex Geospatial Decision Making Tasks
Harvey S. Smallman, Cory A. Rieth, *United States*.

Multisensory Displays as Facilitators of Transparency and Trust
J. Christopher Brill, Ben D. Lawson, Angus Rupert, *United States*.

Dispelling the Gorilla Arm Syndrome: The Viability of Prolonged Gesture Interactions
Jeffrey T. Hansberger, Chao Peng, Shannon L. Mathis, Vaidyanath Areyur Shanthakumar, Sarah C. Meacham, Lizhou Cao, Victoria R. Blakely, *United States*.

Development of a Mobile Tool for Dismounted Squad Team Performance Observations
Lisa Townsend, Joan Johnston, Bill Ross, Laura Milham, Dawn Riddle, Henry Phillips, Brandon Woodhouse, *United States*.

WEDNESDAY   13:30 - 15:30

CCD   S049

Cross-Cultural Design

Experience and Service Design in Different Cultures - I

Chair(s): Hao Tan, *P.R. China*.

Room: **207**

A First Speculation on Cultural Experiments as Design Research Methods
Francesca Valsecchi, Roberta Tassi, *Italy*; Elena Kilina, *Brazil*.

The Integration of Personal and Public Transportation in Creating Seamless Experience
Qiao Liang, Miaosen Gong, Linghao Zhang, Anran Qin, *P.R. China*.

Research on Car Gesture Interaction Design Based on the Line Design
Jing Chunhui, Jing Zhang, *P.R. China*.

Designing a Cross-Cultural Interactive Music Box through Meaning Construction
Yongmeng Wu, Nick Bryan-Kinns, *United Kingdom*; Wei Wang, *P.R. China*; Jennifer G. Sheridan, *Canada*; Xiang Xu, *P.R. China*.

Research on The Service Design of The Museum Visiting
Yanyun Wang, JunJie Chu, *P.R. China*.

Consistency of Use Flow Improving User Experience of Service-Oriented Websites
Canqun He, Xu Yang, Zhengsheng Li, Zhangyu Ji, Jiaojiao Wang, Shuya Ni, *P.R. China*.

SCSM   S050

Social Computing and Social Media

Customer eXperience and Behavior

Chair(s): Virginica Rusu, *Chile*.

Room: **107 & 108**

Online Travel Agencies as Social Media: Analyzing Customers' Opinions
Virginica Rusu, Cristian Rusu, Daniel Guzmán, Silvana Roncagliolo, Daniela Quiñones, *Chile*.

Social media and elderly people: research trends
Mayela Coto, Fulvio Lizano, Sonia Mora, Jenniffer Fuentes, *Costa Rica*.

Analyzing user experience through web opinion mining
Silvana Aciar, Gabriela Aciar, *Argentina*.

Understanding the Gift-Sending Interaction on Live-Streaming Video Websites
Zhenhui Zhu, Zhi Yang, Yafei Dai, *P.R. China*.

World of Streaming: Motivation and Gratification on Twitch
Daniel Gros, Brigitta Wanner, Anna Hackenholt, Piotr Zawadzki, Kathrin Knautz, *Germany*.

Can the success of mobile games be attributed to following mobile game heuristics?
Reham Alhaidary, Shatha Altammami, *Saudi Arabia*.

AC   S051

Augmented Cognition

Applications of Augmented Cognition

Chair(s): Martha E. Crosby, Randall K. Minas, Jan Stelovsky, *United States*.

Room: **203**

Smart Watch Potential to Support Augmented Cognition for Health-Related Decision Making
Blaine Reeder, Paul Cook, Paula Meek, Mustafa Ozkaynak, *United States*.

Investigation of Breath Counting, Abdominal Breathing and Physiological Responses in Relation to Cognitive Load
Hubert Brumback, *United States*.

Augmented Cognition for Continuous Authentication
Nancy Mogire, Michael-Brian Ogawa, Brent Auernheimer, Martha E. Crosby, *United States*.

Text Simplification and Pupillometry: An Exploratory Study
Mina Shojaeizadeh, Soussan Djamasbi, Ping Chen, John Rochford, *United States*.

Investigating Eye Movements in Natural Language and C++ Source Code - A Replication Experiment
Patrick Peachock, Nicholas Iovino, Bonita Sharif, *United States*.

Neurophysiological impact of software design processes on software developers
Randall K. Minas, Rick Kazman, *United States*; Ewan Tempero, *New Zealand*.

DHM   S052

Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management

Strategy Optimization through Machine Learning

Chair(s): Fuhua Lin, *Canada*.

Room: **117**

Using EEG Data Analytics to Measure Meditation
Hong Lin, Yuezhe Li, *United States*.

Capacity Allocation in a Service System: Parametric and Data-Driven Approaches
Liping Liang, Guanliang Xiao, Hengqing Ye, *Hong Kong*.

Combinatorial Auction based Mechanism Design for Course Offering Determination
Anton Vassiliev, Fuhua Lin, M. Ali Akber Dewan, *Canada*.

Enhance the Use of Medical Wearables through Meaningful Data Analytics
Kurt Reifferscheid, Xiaokun Zhang, *Canada*.

Classification of Artery and Vein in Retinal Fundus Images Based on the Context-Dependent Features
Yang Yan, *P.R. China*; Dunwei Wen, M. Ali Akber Dewan, *Canada*; Wen-Bo Huang, *P.R. China*.

ECG Identification Based on PCA-RPROP
Jinrun Yu, Yujuan Si, Xin Liu, *P.R. China*; Dunwei Wen, *Canada*; Tengfei Luo, Liuqi Lang, *P.R. China*.

Usability Evaluation Plan for Online Annotation and Student Clustering System — A Tunisian University Case
Miao-Han Chang, *Canada*; Rita Kuo, *United States*; Fathi Essalmi, *Tunisia*; Maiga Chang, Vive Kumar, *Canada*; Hsu-Yang Kung, *Taiwan*.

Design, User Experience, and Usability

DUXU S053

Creative Interaction: Cross-disciplinary HCI toward Convergence

Chair(s): Kun Lee, *Korea*.

Room: 119

Model-Based HCI System Development Methodology
Kyung Won Cha, Chang-Beom Choi, *Korea*.

Automatic Information Loss Detection and Color Compensation for the Color blind
Sung Soo Hwang, *Korea*.

A Suggestion to Improve User-Friendliness Based on Monitoring Computer User's Emotions
Keum-Young Sung, *Korea*.

Laser Intensity Data Visualization for Laser Physics
Jee Ho Song, Han Sol Shin, Tae Jun Yu, Kun Lee, *Korea*.

Service Design for Inter Floor Noise Problem: Using a Floor Noise Reduction Device Technology and Network System in Apartment Complex
Jae Sun Yi, Seona Kim, Hahyeon Sung, *Korea*.

Service Design for Improving Adolescents' Cyber Language Habit
Jae Sun Yi, Chanmi Jeon, Yeji Yu, *Korea*.

S054

Design and application for medical navigation and simulation

Chair(s): Katsuhiko Onishi, Japan.

Room: 120

Augmented Reality Navigation System for Robot-Assisted Laparoscopic Partial Nephrectomy
Atsushi Sengiku, Masanao Koeda, Atsuro Sawada, Jin Kono, Naoki Terada, Toshinari Yamasaki, Kiminori Mizushino, Takahiro Kunii, Katsuhiko Onishi, Hiroshi Noborio, Osamu Ogawa, *Japan*.

Development of a Surgical Knife Attachment with Proximity Indicators
Daiki Yano, Masanao Koeda, Katsuhiko Onishi, Hiroshi Noborio, *Japan*.

Algorithm Experimental Evaluation for an Occluded Liver with/without Shadow-Less Lamps and Invisible Light Filter in a Surgical Room
Hiroshi Noborio, Kaoru Watanabe, Masahiro Yagi, Shunsuke Ohira, Katsunori Tachibana, *Japan*.

A New Organ-Following Algorithm Based on Depth-Depth Matching and Simulated Annealing, and its Experimental Evaluation
Kaoru Watanabe, Shogo Yoshida, Daiki Yano, Masanao Koeda, Hiroshi Noborio, *Japan*.

Capturing a Surgical Area using Multiple Depth Cameras Mounted on a Robotic Mechanical System
Masahiro Nonaka, Kaoru Watanabe, Hiroshi Noborio, Masatoshi Kayaki, Kiminori Mizushino, *Japan*.

A Study of Guidance Method for AR Laparoscopic Surgery Navigation System
Katsuhiko Onishi, Yohei Miki, Keishi Okuda, Masanao Koeda, Hiroshi Noborio, *Japan*.

S055

UX in the Digital Age

Chair(s): Sarah J. Swierenga, Fuad Abujarad, Phillip Deaton, *United States*.

Room: 118

Understanding Voting Barriers to Access for Americans with Low Literacy Skills
Kathryn Summers, Jonathan Langford, Caitlin Rinn, Joel Stevenson, Emily Rhodes, Jaime Lee, Rachel Sherard, *United States*.

Teleconsultation Process for Physicians working with ASD Patients: Insights from a Usability Evaluation
Jennifer Ismirle, Hannah Klautke, Sarah J. Swierenga, Lauren O'Connell, *United States*.

Challenges to Patient Experience: Documenting Evidence-Based Practice in the Family Health Center
Dawn Opel, William Hart-Davidson, *United States*.

The Role of UX in Government Systems Expansion
Fuad Abujarad, Ian O'Bara, Sarah J. Swierenga, Eric D. Raile, *United States*.

The International Effect of The Convention on Rights of Persons with Disabilities on Access in Society and Information
Leo Baldiga, Jacob Gattuso, Sophia Baker, Holly Gruber, Phillip Deaton, *United States*.

SmartPA: An Electronic Solution for Secure Prior Authorization Processing
Ramandeep Kaur, Patricia Morreale, Marvin Andujar, *United States*.

Distributed, Ambient and Pervasive Interactions

DAPI S056

Pervasive and Civic Computing

Chair(s): Shin'ichi Konomi, *Japan*.

Room: 115

Civic Tech and Ambient Data in the Public Realm: Challenges and Opportunities for Learning Cities and Smart Cities
H. Patricia McKenna, *Canada*.

A Smart City Application for Sharing Up-to-date Road Surface Conditions Detected from Crowdsourced Data
Kenro Aihara, Piao Bin, Hajime Imura, Atsuhiro Takasu, Yuzuru Tanaka, *Japan*.

Real-time Visualization of the Degree of Indoor Congestion with Smartphone-based Participatory Sensing
Tomoya Kitazato, Kyoichi Ito, Keisuke Umezawa, Masaki Ito, Kaoru Sezaki, *Japan*.

Building a Platform Society towards Sustainability based on Internet-of-Things
Hina Akasaki, Fumiko Ishizawa, Mizuki Sakamoto, Tatsuo Nakajima, *Japan*.

Flyer Mapping in Art Museums: Acquiring Implicit Feedback Using Physical Objects
Tomoyo Sasao, Shin'ichi Konomi, *Japan*.

Radioactive Soundscape project
Hiroki Kobayashi, Hiromi Kudo, *Japan*.

WEDNESDAY 13:30 - 15:30

WEDNESDAY 13:30 - 15:30

HAS S057
Human Aspects of Information Security, Privacy and Trust

Models, Techniques, and Analysis of Human Centric Systems
Chair(s): Florian Kammüller, *United Kingdom*.

Room: **111**

Information Security, Privacy, and Trust in Social Robotic Assistants for Older Adults
Thomas Given-Wilson, Axel Legay, Fabrizio Biondi, Sean Sedwards, *France*.

Sharing Information with Web Services - A Mental Model Approach in the Context of Optional Information
Oksana Kulyk, Benjamin Maximilian Reinheimer, *Germany*; Melanie Volkamer, *Sweden*.

System Dynamics Approach to Malicious Insider Cyber-Threat Modelling and Analysis
Tesleem Fagade, Theodoros Spyridopoulos, Nabeel Albishry, Theo Tryfonas, *United Kingdom*.

A User-Centered Model for Usable Security and Privacy
Denis Feth, Andreas Maier, Svenja Polst, *Germany*.

Application of Work Domain Analysis for Cybersecurity
Hao Wang, Nathan Lau, Ryan Gerdes, *United States*.

Developing Usable Interface for Internet of Things (IoT) Security Analysis Software
Seokjun Hong, Youngsun Kim, Gerard J. Kim, *Korea*.

HCIBGO S058
HCI in Business, Government and Organizations

Human Computer Interaction in Electronic Commerce, Mobile Commerce and Online Marketing
Chair(s): Andreas Auinger, Harald Kindermann, *Austria*.

Room: **205**

Eye-Tracking Analysis of Gender-Specific Online Information Research and Buying Behavior
Silvia Zaharia, Daniela Kauke, Ella Hartung, *Germany*.

Acceptance of Personalization in Omnichannel Retailing
Werner Wetzlinger, Andreas Auinger, Harald Kindermann, Wolfgang Schönberger, *Austria*.

Context Sensitive Digital Marketing - A Conceptual Framework Based on the Service Dominant Logic Approach
Konrad Zerr, Rudolf Albert, Anja Forster, *Germany*.

Priming and Context Effects of Banner Ads on Consumer Based Brand Equity: A Pilot Study
Harald Kindermann, *Austria*.

Gamification in E-Commerce: A Survey based on the Octalysis Framework
Jovana Karac, Martin Stabauer, *Austria*.

A Comparison of Attention Estimation Techniques in a Public Display Scenario
Wolfgang Narzt, *Austria*.

LCT S059
Learning and Collaboration Technologies

Electronic learning in everyday life
Chair(s): Nicholas H. Müller, *Germany*.

Room: **206**

Analytical Steps for the Validation of a Natural User Interface
Madlen Wuttke, Sabine Völkel, Peter Ohler, Nicholas H. Müller, *Germany*.

E-Learning supported martial-arts-training
Armin Vahidi, Nicholas H. Müller, *Germany*.

Different Students – Different Ways: Challenges of Integrating Non-traditional Students in Higher Education and How Electronic Learning Can Support Inclusion
Verena Jahn, Linda Heise, André Schneider, Susanne Günther, Hochschule Mittweida, *Germany*.

Preschool learning with a fingertip. Concept of tablet based training program to support emergent literacy and mathematical skills
Sabine Völkel, Madlen Wuttke, Peter Ohler, *Germany*.

Gamifying The Eating Experience: An Interactive Companion for Children's Nutrition Education and Behavior
Erin Lew, Jevrin Alviando, EunSook Kwon, Jorge D. Camba, *United States*.

ITAP S060
Human Aspects of IT for the Aged Population

ICT for Aging
Chair(s): Martina Ziefle, *Germany*.

Room: **105 & 106**

How Do Users Interact With Mobile Devices? An Analysis of Handheld Positions for Different Technology Generations
Christina Bröhl, Alexander Mertens, Martina Ziefle, *Germany*.

Online Privacy Perceptions of Older Adults
Eva Maria Zeissig, Chantal Lidynia, Luisa Vervier, Andera Gadeib, Martina Ziefle, *Germany*.

Participatory Human-Centered Design of a Feedback Mechanism within the Historytelling System
Torben Volkmann, Michael Sengpiel, Nicole Jochems, *Germany*.

Domestic Robots for Homecare: a Technology Acceptance Perspective
Martina Ziefle, André Calero Valdez, *Germany*.

'Industrie 4.0' and an Aging Workforce – A Discussion from a Psychological and a Managerial Perspective
Matthias Schinner, André Calero Valdez, Elisabeth Noll, Anne Kathrin Schaar, Peter Letmathe, Martina Ziefle, *Germany*.

HCI   S061

Human-Computer Interaction

Learning by Action: Enhancing Learning Through Bodily Movement

Chair(s): Hiroshi Kato, *Japan*.

Room: **212**

Thoughts on Effective Learning Procedure for Tangible Learning Environment Based on Embodied Design
Hideaki Kuzuoka, Ryo Kimura, Yuki Tashiro, Yoshihiko Kubota, Hideyuki Suzuki, Hiroshi Kato, Naomi Yamashita, *Japan*.

Plugramming: a Tangible Programming Tool for Children's Collaborative Learning
Tomohito Yashiro, Yasushi Harada, Kazushi Mukaiyama, *Japan*.

Development of a Tangible Learning System that Supports Role-Play Simulation and Reflection by Playing Puppet Shows
Hiroshi Sasaki, Toshio Mochizuki, Takehiro Wakimoto, Ryoya Hirayama, Sadahide Yoshida, Kouki Miyawaki, Hitoki Mabuchi, Karin Nakaya, Hiroto Suzuki, Natsumi Yuuki, Ayaka Matsushima, Ryutaro Kawakami, Yoshihiko Kubota, Hideyuki Suzuki, Hideo Funaoi, Hiroshi Kato, *Japan*.

Acquiring Disaster Prevention Knowledge from Fieldwork Activities in a Region
Hisashi Hatakeyama, Masahiro Nagai, Masao Murota, *Japan*.

Learning by Tangible Learning System in Science Class
Yusuke Morita, Norio Setozaki, *Japan*.

Exploiting Bodily Movement to Regulate Collaborative Learning by Designing a Tablet-Based CSCL System
Hideyuki Suzuki, Hideo Funaoi, Yoshihiko Kubota, *Japan*.

Toward Interest Estimation from Head Motion using Wearable Sensors: a Case Study in Story Time for Children
Ayumi Ohnishi, Kaoru Saito, Tsutomu Terada, Masahiko Tsukamoto, *Japan*.

S062

User Interface Development

Chair(s): Farid Shirazi, *Canada*.

Room: **213**

Integration of a Template System into Model-Based User Interface Development Workflows
Christopher Martin, Annerose Braune, *Germany*.

Endpoint Fusing Method for Axonometric Drawing of Online Freehand Sketched Polyhedrons
Shuxia Wang, Qian Zhang, Shouxia Wang, Mantun Gao, Xiaoke Jing, Xiaoming Hui, *P.R. China*.

Time-Aware Recommender Systems: A Systematic Mapping
Eduardo José De Borba, Isabela Gasparini, Daniel Lichtnow, *Brazil*.

Cloud Computing Security and Privacy: An Empirical Study
Farid Shirazi, Adnan Seddighi, Amna Iqbal, *Canada*.

HIMI   S064

Human Interface and the Management of Information

Multisensory wearable displays

Chair(s): Linda R. Elliott, *United States*.

Room: **202**

Feasibility of Wearable Fitness Trackers for Adapting Multimodal Communication
Daniel Barber, Austin Carter, Jonathan Harris, Lauren Reinerman-Jones, *United States*.

The Vibropixels: a Scalable Wireless Tactile Display System
Ian Hattwick, Ivan Franco, Marcelo M. Wanderley, *Canada*.

Considerations for Using Fitness Trackers in Psychophysiology Research
Lauren Reinerman-Jones, Jonathan Harris, Andrew Watson, *United States*.

Functional Balance and Goal-directed Eye-hand Coordination after Exogenous or Endogenous Visual-vestibular Perturbation: Current Findings and Recommendations for Portable or Ambulatory Applications
Ben D. Lawson, Amanda M. Kelley, Bethany Ranes, J. Christopher Brill, Lana S. Milam, *United States*.

An Intuitive Wearable Concept for Robotic Control
Lisa Baraniecki, Gina Hartnett, Linda R. Elliott, Rodger Pettitt, Jack Vice, Kenyon Riddle, *United States*.

Wearable Multi-sensory Displays for Increasing Situation Awareness and System Transparency
J. Christopher Brill, Ben D. Lawson, Angus Rupert, *United States*.

S065

Relationality Design and Relationality-oriented Systems-II

Chair(s): Katsunori Shimohara, *Japan*.

Room: **209**

A System Description Model with Fuzzy Boundaries
Tetsuya Maeshiro, Yuri Ozawa, *Japan*; Midori Maeshiro, *Brazil*.

The effects of group size in the furniture assembly task
Noriko Suzuki, Mayuka Imashiro, Mamiko Sakata, Michiya Yamamoto, *Japan*.

A Personal Relationship Analyzing Tool based on Psychodrama Methodologies
Hidetsugu Suto, Jun Maeda, Patchanee Patitad, *Japan*.

Understanding Parental Management of Information Regarding their Children
Theresa Matthews, Jinjuan Heidi Feng, *United States*.

Towards User Interfaces for Semantic Storytelling
Julian Moreno Schneider, Peter Bourgonje, Georg Rehm, *Germany*.

WEDNESDAY   16:00 - 18:00

WEDNESDAY 16:00 - 18:00

EPCE S066

Engineering Psychology and Cognitive Ergonomics

PANEL: HCI Challenges and Opportunities in Autonomous Driving

Chair(s): Kyeong-ah Kate Jeong, Ignacio Alvarez, Francesco Biondi, *United States.*

Room: **112**

The Human Element in Autonomous Vehicles
Jerone Dunbar, Juan E. Gilbert, *United States.*

Autonomous driving: Insights from human-machine cooperation models
YJordan Navarro, *France.*

The transition to fully autonomous vehicles and the human's role
Linda Boyle, *United States.*

Partial-autonomous frenzy: driving a level-2 vehicle on the open road
Francesco Biondi, Rachel Goethe, Joel Cooper, David Strayer, *United States.*

Forthcoming challenges for driver-vehicle interfaces in conditional automation
John G. Gaspar, *United States.*

Human-Automation Interaction in Autonomous Vehicles
Bruce N. Walker, *United States.*

Cognitive Considerations in Auditory User Interfaces: Neuroergonomic Evaluation of Synthetic Speech Comprehension
Adrian Curtin, Hasan Ayaz, *United States.*

UAHCI S067

Universal Access in Human-Computer Interaction

Recent developments in interactive technologies supporting universal accessibility

Chair(s): Frode Eika Sandnes, *Norway.*

Room: **208**

Head-Mounted Augmented Reality Displays on the Cheap: A DIY Approach to Sketching and Prototyping Low-Vision Assistive Technologies
Frode Eika Sandnes, Evelyn Eika, *Norway.*

Developing Heuristics for Evaluating the Accessibility of Digital Library Interfaces
Mexhid Ferati, Wondwossen Beyene, *Norway.*

A case for Adaptation to Enhance Usability and Accessibility of Library Resource Discovery Tools
Wondwossen Beyene, Mexhid Ferati, *Norway.*

FittsFace: Exploring Navigation and Selection Methods for Facial Tracking
Justin Cuaresma, Scott MacKenzie, *Canada.*

Identifying the Usability Factors of Mid-Air Hand Gestures for 3D Virtual Model Manipulation
Li-Chieh Chen, Yun-Maw Cheng, Po Ying Chu, *Taiwan*; Frode Eika Sandnes, *Norway.*

A review of interactive technologies supporting universal design practice
Emilene Zitkus, *Brazil.*

VAMR S068

Virtual, Augmented and Mixed Reality

Interactive Creation in Virtual Environments

Chair(s): Peter A. Smith, *United States.*

Room: **111**

Using Commercial Virtual Reality games to prototype serious games and applications
Peter A. Smith, *United States.*

User-generated accessibility in virtual world games
Don Merritt, *United States.*

SuperJam: Participatory Design for Accessible Games
Emily K. Johnson, Peter A. Smith, Matt Dombrowski, Ryan Buyssens, *United States.*

Remote Touch: Humanizing Social Interactions in Technology through Multimodal Interfaces
Alexia Mandeville, David Birnbaum, Chad Sampanes, *United States.*

Leveraging a Virtual Environment to Prepare for School Shootings
Tami Griffith, Jennie Ablanedo, Tabitha Dwyer, *United States.*

A Real-time Professional Photographing Guiding System through Image Composition Analysis
Meng-Luen Wu, Chin-Shyurng Fahn, *Taiwan.*

CCD S069

Cross-Cultural Design

Experience and Service Design in Different Cultures-II

Chair(s): Hao Tan, *P.R. China.*

Room: **207**

Design for Meaningful Materials Experience: A Case Study about Designing Materials with Rice and Sea-Salt
Liang Yin, Ziyu Zhou, *Italy*; Hang Cheng, *P.R. China.*

The Item-based Fashion Matching Experience in Online Platform Service Design: A Case Study from Chinese Customers
Hao Tan, Wei Li, Zhengyu Tan, Shijing Fang, Shihui Xu, *P.R. China.*

A User Experience Study for Watching Delay Interrupted Video in the Context of Mobile Network
Hao Tan, Jiahao Sun, Bin Wang, Qiyong Zhao, MBB Lab, Wei Li, Zhengyu Tan, *P.R. China.*

Research on the Design of Bicycle Service System in Colleges and Universities Based on Contact Mining
YYiqian Zhao, Yajun Li, *P.R. China.*

Collaborative Service for Cross-Geographical Design Context: The case of Sino-Italian Digital Platform
Chenhan Jiang, Yongqi Lou, *P.R. China.*

PARALLEL SESSIONS

SCSM S070

Social Computing and Social Media

HCI Research
Chair(s): Scott McCoy, Eleanor Loiacono, *United States*.

Room: **116**

The Impact of Texting Interruptions on Task Performance
Scott McCoy, Eleanor Loiacono, Shiya Cao, *United States*.

WhatsApp
Cristóbal Fernández Robin, *Chile*; Scott McCoy, *United States*; Diego Yáñez, *Chile*.

The Influence of Privacy, Trust, and National Culture on Internet Transactions
Jon Heales, Sophie Cockcroft, Van-Hau Trieu, *Australia*.

Video Blogs: A Qualitative and Quantitative Inquiry of Recall and Willingness to Share
Purvi Shah, Eleanor Loiacono, Huimin Ren, *United States*.

e-Voting in America: Current Realities and Future Directions
Nathan Johnson, Brian Jones, Kyle Clendenon, *United States*.

Getting Interrupted? Design Support Strategies for Learning Success in M-Learning Applications
Upasna Bhandari, Klarissa Chang, *Singapore*.

AC S071

Augmented Cognition

Advances in Augmented Cognition
Chair(s): Øyvind Jøsok, Benjamin J. Knox, *Norway*.

Room: **203**

Dynamic Task Sharing within Human-UxS Teams: Computational Situation Awareness
Scott Grigsby, Jacob Crossman, Ben Purman, Rich Frederiksen, Dylan D. Schmorrow, *United States*.

Personalizing Training to Acquire and Sustain Competence through Use of a Cognitive Model
Tiffany Jastrzembski, Matthew M. Walsh, Michael Krusmark, Suzan Kardong-Edgren, Marilyn Oermann, Karey Dufour, Teresa Millwater, Kevin Gluck, Glenn Gunzelmann, Jack Harris, Dimitrios Stefanidis, *United States*.

Cognitive Augmentation Metrics Using Representational Information Theory
Ron Fulbright, *United States*.

Toward an Open Data Repository and Meta-analysis of Cognitive Data using fNIRS Studies of Emotion
Sarah Bratt, *United States*.

Macrocognition applied to The Hybrid Space: Team Environment, Functions and Processes in Cyber Operations
Øyvind Jøsok, Benjamin J. Knox, Kirsi Helkala, Kyle Wilson, Stefan Sütterlin, Ricardo Lugo, Terje Ødegaard, *Norway*.

My Brain is out of the Loop: a Neuroergonomic Approach of OOTL Phenomenon
Bruno Berberian, Jonas Gouraud, Bertille Somon, Aisha Sahai, Kevin Le Goff, *France*.

DHM S072

Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management

OMOTENASHI
Chair(s): Tomoko Ota, *Japan*.

Room: **204**

Appropriateness and impression evaluation of Japanese seated bow
Tomoya Takeda, Noriyuki Kida, Tadayuki Hara, *Japan*.

Evaluation of Japanese bowing of non-experts by experts
Tomoya Takeda, Kazuaki Yamashiro, Xiaodan Lu, Shodai Kawakatsu, Tomoko Ota, *Japan*.

Bowing style in Japanese famous TV program
Asuka Takenaka, Xiaodan Lu, Yasuyo Takenaka, Yuki Miyamoto, Tomoko Ota, *Japan*.

Study of the effects of the Japanese tea ceremony will give the peace of mind of guests
Tomoko Ota, Tomoya Takeda, Xiaodan Lu, Noriyuki Kida, Tadayuki Hara, Akihiko Goto, *Japan*.

Motion analysis of the tea whisk concerning the way of tea
Akihiko Goto, Soutatsu Kanazawa, Tomoko Ota, Yuka Takai, Hiroyuki Hamada, *Japan*.

Quantification of Elegant Motion for Receptionist Android Robot
Makoto Ikawa, Etsuko Ueda, Akishige Yuguchi, Gustavo Alfonso Garcia Ricardez, Ming Ding, Jun Takamatsu, Tsukasa Ogasawara, *Japan*.

A Study on the Odor in "Omotenashi", Japanese Hospitality
Harumi Nakagawa, Noriaki Kuwahara, *Japan*.

DUXU S073

Design, User Experience, and Usability

Designing with and for users on the autism spectrum
Chair(s): Marc Fabri, *United Kingdom*; Debra Satterfield, *United States*.

Room: **119**

TEA Band: An Interactive System to Aid Students with Autism Improve their Social Interactions
Fernanda Bonnin, Victor Gonzalez, *Mexico*.

Let's Play (While Far Away)! Using Technology to Mediate Remote Playdates for Children with Autism
Annuska Zolyomi, Ankitha Bharadwaj, Jaime Snyder, *United States*.

User Participatory Methods for Inclusive Design and Research in Autism: A Case Study In Teaching UX Design
Debra Satterfield, *United States*; Marc Fabri, *United Kingdom*.

Technology as an Extension of the Self: Socialising through Technology for Young People with Autism
Lye Ee Ng, *Australia*.

Connecting through Kinect: Designing and Evaluating a Collaborative Game with and for Autistic Individuals
Kristen Gillespie, Gabriel Goldstein, David Shane Smith, Ariana Riccio, Michael Kholodovsky, Cali Merendino, Stanislav Leskov, Rayan Arab, Hassan Elsherbini, Pavel Asanov, Deborah Sturm, *United States*.

WEDNESDAY   16:00 - 18:00

DAY1 DAY2 DAY3

DUXU S074

Ergonomics in Design
Chair(s): Marcelo Márcio Soares, *Brazil*.

Room: **118**

A Comparative Usability Analysis of Virtual Reality Goggles
Ana Carol Pontes de França, Danilo Fernandes Vitorino, Aline De Oliveira Neves, Cristiane Nunes De Lima, Marcelo Márcio Soares, *Brazil*.

A Natural Interaction VR Environment for Surgical Instrumentation Training
Adalberto Lopes, Antonio Harger, Felipe Borba Breyer, Judith Kelner, *Brazil*.

Simplified Thermal Comfort Evaluation on Public Busses for Performance Optimization
Guilherme Valle Loures Brandão, Wilian Daniel Henriques Do Amaral, Caio Augusto Rabite De Almeida, José Alberto Barroso Castañon, *Brazil*.

Engagement in a Virtual Reality Game with Gesture Hand Interface. An Empirical Evaluation of User Engagement Scale (UES)
Irma C. Landa-Avila, Maria-Luisa Cruz, *Mexico*.

The Importance of Specific Usability Guidelines for Robot User Interfaces
Julia Ramos Campana, Manuela Quaresma, *Brazil*.

The Labor Judicial Expert from Sergipe State, Brazil and Propositions of Use of Tools Ergonomic in the Sustenance of Causal Connections in Disturbances Bone-muscle
Marcos Andre Santos Guedes, Maria Goretti Fernandes, Marcelo Márcio Soares, *Brazil*.

S075

The User Experience in the Design of Health and Safety Information
Chair(s): Judith A. Moldenhauer, Claudine Jaenichen, *United States*.

Room: **120**

Visual Standards for Southern California Tsunami Evacuation Information: Applications of Information Design in Disaster Risk Management
Claudine Jaenichen, Steve Schandler, *United States*.

Technical to Teachable: The Flint Water Crisis and the Design of Instructions for Assembling Water Sampling Kits
Audrey Zarb, Shawn McElmurry, Judith A. Moldenhauer, *United States*.

Towards Establishing Design Principles for Balancing Usability and Maintaining Cognitive Abilities
Gayathri Balasubramanian, Hyowon Lee, King Wang Poon, Wee-Kiat Lim, Wai Keet Yong, *Singapore*.

Feasibility of Utilizing E-Mental Health with Mobile APP Interface for Social Support Enhencement: a Conceptional Solution for Postpartum Depression in Taiwan
Wen-Ko Chiou, Chun-Ying Kao, Liang-Ming Lo, Ding-Hau Huang, Ming-Hsu Wang, Bi-Hui Chen, *Taiwan*.

Bringing Content Understanding into Usability Testing in Complex Application Domains—a Case Study in eHealth
Simon Bruntse Andersen, Claire Kirchert Rasmussen, Erik Frøkjær, *Denmark*.

DAPI S076
Distributed, Ambient and Pervasive Interactions

Playful and Humorous Interactions in Smart Environments
Chair(s): Anton Nijholt, *Netherlands*.

Room: **115**

Making Fun of Failures Computationally
Alessandro Valitutti, *Italy*.

Modelling Playful User Interfaces for Hybrid Games
Anna Priscilla De Albuquerque, Felipe Borba Breyer, Judith Kelner, *Brazil*.

Virtual Reality Games, Therapeutic Play and Digital Healing
Matt Dombrowski, Jaime Dombrowski, *United States*.

I Read The News Today, Oh Boy: Making Metaphors Topical, Timely and Humorously Personal
Tony Veale, Hanyang Chen, Guofu Li, *Ireland*.

Visualizing Incongruity and Resolution: Visual Data Mining Strategies for Modeling Sequential Humor Containing Shifts Of Interpretation
Andrew Smigaj, Boris Kovalerchuk, *United States*.

Mobile Augmented Games in Playable Cities: Humorous Interaction with Pokemon Go
Marvin Andujar, *United States*; Anton Nijholt, Netherlands; Juan E. Gilbert, *United States*.

Humor as an Ostensive Challenge that Displays Mind-reading Ability
Gary McKeown, *United Kingdom*.

HCIBGO S077
HCI in Business, Government and Organizations

HCI in Occupational Health
Chair(s): Michael Bretschneider-Hagemes, *Germany*.

Room: **205**

Smartglasses used by Forklift Operators: Digital Accident Hazard or Efficient Work Equipment? A Pilot Study
Michael Bretschneider-Hagemes, Benno Gross, *Germany*.

Cognitive Load by Context-Sensitive Information Provision using Binocular Smart Glasses in an Industrial Setting
Jan Terhoeven, Sascha Wischniewski, *Germany*.

Usage and Physiological Effects of Dynamic Office Workstations - a Field Pilot Study
Vera Schellewald, Jens Kleinert, Rolf Ellegast, *Germany*.

The Relevance of Failure to Ensure Safety in Human-Robot Cooperation in Work Environments
Diego Compagna, *Germany*.

Modifications of Driver Attention Post-Distraction: a Detection Response Task Study
Oliver Winzer, Antonia S. Conti, *Germany*; Cristina Olaverri-Monreal, *Austria*; Klaus Bengler, *Germany*.

Evaluation of the Usage of Support Vector Machines for People Detection for a Collision Warning System on a Forklift
Armin Lang, Willibald A. Günthner, *Germany*.

Development of an Online Checklist for the Assessment of Alarm Systems and Alarm Management in Process Control
Martina Bockelmann, Peter Nickel, Friedhelm Nachreiner, *Germany*.

Learning and Collaboration Technologies

LCT   S078

User Experience and Educational Technology

Chair(s): Evangelos Kapros, *Ireland*.

Room: **206**

The Quality of MOOCs: How to Improve the Design of Open Education and Online Courses for Learners?
Christian M. Stracke, *Netherlands*.

Learning together with CSCL Tools in the Classroom
Reuma De-Groot, *Israel*.

A Model for Collaboration in Virtual Worlds bringing together Cultures in Conflict
Elaine Hoter, *Israel*.

CodeAdventure: An Adventure Game for Computer Science Education
Panayiotis Andreou, George Nicou, Irene Polycarpou, *Cyprus*; Panagiotis Germanakos, *Germany*; Nearchos Paspallis, *Cyprus*.

A Guidance and Evaluation Approach for mHealth Education Applications
Tareq Aljaber, Neil Gordon, *United Kingdom*.

E-safety in Web 2.0 learning environments: a research synthesis and implications for researchers and practitioners
Antigoni Parmaxi, Kostantinos Papadamou, Michael Sirivianos, Cyprus; Makis Stamatelatos, *Greece*.

Human Aspects of IT for the Aged Population

ITAP   S079

Smart User Interface for All

Chair(s): Wang-Chin Tsai, *Taiwan*.

Room: **117**

A Study of Usability on Internet Map website
Kuang-Chih Lo, Wang-Chin Tsai, *Taiwan*.

Investigation into the Discrepancies Between Writing on Paper and Writing on a Touchscreen Device
Yu-Chen Hsieh, Ke Jia Hung, Hsuan Lin, *Taiwan*.

Usability Evaluation on User Interface of Electronic Wheelchair
Cheng-Min Tsai, Chih-Kuan Lin, Sing Li, Wang-Chin Tsai, *Taiwan*.

Shape Design and Exploration of 2D and 3D Graphical Icons
Hsuan Lin, Yu-Chen Hsieh, Wei Lin, *Taiwan*.

A Conceptual Design for a Smart Photo Album Catered to the Elderly
Hui-Jiun Hu, Pei-Fen Wu, Wang-Chin Tsai, *Taiwan*.

Acoustical Evaluation of Soundscape in Urban Spaces along Traffic Corridor
Wei Lin, Hwa Wei-Hwa Chiang, Hsuan Lin, Yi-Run Chen, *Taiwan*.

S080

Digital Gaming Among Older Populations

Chair(s): Julie A. Brown, *United States;* Eugene Loos, *Netherlands*.

Room: **105 & 106**

A Mature Kind of Fun? Exploring Silver Gamers' Motivation to Play Casual Games – Results from a Large-Scale Online Survey
Daniel Possler, Christoph Klimmt, Daniela Schlütz, Jonas Walkenbach, *Germany*.

Socioemotional Benefits of Digital Games for Older Adults
David Kaufman, *Canada*.

Digital Gaming Perceptions Among Older Adult Non-Gamers
Julie A. Brown, *United States*.

Exergaming: Meaningful Play for Older Adults?
Eugene Loos, *Netherlands*.

Employing a User-Centered Design Process to Create a Multiplayer Online Escape Game for Older Adults
Fan Zhang, Amir Doroudian, David Kaufman, Simone Hausknecht, Julija Jeremic, Hollis Owens, *Canada*.

WEDNESDAY 16:00 - 18:00

HCI S081

Human-Computer Interaction

Human Aspects of Information Systems

Chair(s): Fan Zhao, *United States.*

Room: **212**

Assessing Organization-System Fit in ERP Selection Procedures – A Literature Review
Marcus Fischer, David Heim, Marion Hösselbarth, Axel Winkelmann, *Germany.*

How Cloud Computing is Addressed for Software Development in Computer Science Education
Dahai Guo, Anna Koufakou, *United States.*

Enough or Too Much in EMR Training and Education?
Joshua Tabner, Fan Zhao, Nick Pavel, Kevin Kincaid, Connor Murphy, *United States.*

Can Online Games Survive Longer?
Yuchen Gui, Eugene Hoyt, Fan Zhao, *United States.*

Change management of ERP usage
Zhaopeng Meng, *P.R. China;* Fan Zhao, *United States.*

DTMi – a New Interface for Informed Navigation
Tamara Babaian, Ren Zhang, Wendy Lucas, *United States.*

HIMI S082

Human Interface and the Management of Information

Embodied Interaction and Communication

Chair(s): Tomio Watanabe, *Japan.*

Room: **202**

A Speech-Driven Embodied Communication System Based on an Eye Gaze Model in Interaction-Activated Communication
Yoshihiro Sejima, Koki Ono, Tomio Watanabe, *Japan.*

Image-based active control for AEM function of ARM-COMS
Teruaki Ito, Tomio Watanabe, *Japan.*

Design of Hand Contact Improvisation Interface Supporting Co-creative Embodied Expression
Takuto Takahashi, Takumi Soma, Yoshiyuki Miwa, Hiroko Nishi, *Japan.*

Development of a Communication Robot for Forwarding a User's Presence to a Partner During Video Communication
Michiya Yamamoto, Saizo Aoyagi, Satoshi Fukumori, Tomio Watanabe, *Japan.*

EPCE S083

Engineering Psychology and Cognitive Ergonomics

Human factors and ergonomics in safety-critical systems - I

Chair(s): Qin Gao, *P.R. China.*

Room: **112**

Can Fixation Frequency be used to Assess Pilots' Mental Workload during Taxiing?
Xiaoyan Zhang, Hongjun Xue, Xingda Qu, Tao Li, *P.R. China.*

Effects of Key Size, Gap and the Location of Key Characters on the Usability of Touchscreen Devices in Input Tasks
Da Tao, Qiugu Chen, Juan Yuan, Shuang Liu, Xiaoyan Zhang, Xingda Qu, P.R. China.

Clustering of In-vehicle User Decision-making Characteristics Based on Density Peak
Qing Xue, Qian Zhang, Xuan Han, Jia Hao, *P.R. China.*

The Effects of Task Complexity and Spatial Ability on Teleoperation Performance
Dan Pan, Yijing Zhang, Zhizhong Li, *P.R. China.*

Design and Evaluation of an Abstract Auxiliary Display for Operating Procedures in Advanced NPP Control Rooms
Yahui Ma, Xiang Jiang, Qin Gao, Haitao Lian, Qiuyu Wang, *P.R. China.*

UAHCI S084

Universal Access in Human-Computer Interaction

Universal Access: Product, Process or Panacea

Chair(s): Jon A. Sanford, *United States.*

Room: **208**

Achieving Universal Design: One if by Product Two if by Process and Three if by Panacea
Jon A. Sanford, *United States.*

Usability of Mobile Consumer Applications for Individuals Aging with Multiple Sclerosis
Ljilja Ruzic, Jon A. Sanford, *United States.*

Assess User Needs for Time-related Information to Design an Airport Guide System
Yulin Elaine Liu, Jon A. Sanford, *United States.*

Universally Accessible mHealth Apps for Older Adults: Towards increasing adoption and sustained engagement
Christina Harrington, Ljilja Ruzic, Jon A. Sanford, *United States.*

Universal Design of Mobile Apps: Making Weather Information Accessible
Bruce N. Walker, Brianna J. Tomlinson, Jonathan H. Schuett, *United States.*

A Systematic Approach to Support Conceptual Design of Inclusive Products
Silvia Ceccacci, Luca Giraldi, Maura Mengoni, *Italy.*

UAHCI S085

ICT in Health and in Active Ageing

Chair(s): João Barroso, *Portugal;* Leontios Hadjileontiadis, *Greece.*

Room: **209**

Low Cost Smart Homes for Elders
Gabriel Ferreira, Paulo Penicheiro, Ruben Bernardo, Luís Mendes, João Barroso, António Pereira, *Portugal.*

Designing Autonomous Systems Interactions with Elderly People
Arsénio Reis, Isabel Barroso, Maria João Monteiro, Salik Khanal, Vitor Rodrigues, Vitor Filipe, Hugo Paredes, João Barroso, *Portugal.*

On capturing older adults' smartphone keyboard interaction as a means for behavioral change under emotional stimuli within i-PROGNOSIS framework
Stelios Hadjidimitriou, Dimitrios Iakovakis, Vasileios Charisis, *Greece;* Sofia B. Dias, José A. Diniz, *Portugal;* Julien Mercier, *Canada.*

Design of Geographic Information Systems to Promote Accessibility and Universal Access
Hugo Fernandes, Ricardo Teixeira, Bruno Daniel, Cristina Alves, Arsénio Reis, Hugo Paredes, Vitor Filipe, João Barroso, *Portugal.*

Using intelligent personal assistants to strengthen the elderlies' social bonds - A preliminary evaluation of Amazon Alexa, Google Assistant, Microsoft Cortana, and Apple Siri
Arsénio Reis, Dennis Paulino, Hugo Paredes, João Barroso, *Portugal.*

SmartGym: An Anticipatory System to Detect Body Compliance During Rehabilitative Exercise
Arash Tadayon, Ramesh Tadayon, Troy McDaniel, Sethuraman Panchanathan, *United States.*

S086

Quantified Self & Personal Informatics

Chair(s): Alessandro Marcengo, Federica Cena, Amon Rapp, *Italy.*

Room: **213**

Tracing Personal Data Using Comics
Andreas Schreiber, Regina Struminski, *Germany.*

Mindfulness and asynchronous neurofeedback: coping with mind wandering
Alessandro Marcengo, Emanuela Sabena, Angelo Crea, *Italy.*

Hearables in Hearing Care: Discovering Usage Patterns Through IoT Devices
Benjamin Johansen, Yannis Paul Raymond Flet-Berliac, Maciej Jan Korzepa, Per Sandholm, Niels Henrik Pontoppidan, Michael Kai Petersen, Jakob Eg Larsen, *Denmark.*

Data Design for Wellness and Sustainability
Flavio Montagner, Barbara Stabellini, Andrea Di Salvo, Paolo Marco Tamborrini, Alessandro Marcengo, Marina Geymonat, *Italy.*

Impressive Picture Selection from Wearable Camera toward Pleasurable Recall of Group Activities
Eriko Kinoshita, Kaori Fujinami, *Japan.*

Introducing Wearables in the Kitchen: an Assessment of User Acceptance in Younger and Older Adults
Valeria Orso, Giovanni Nascimben, Francesca Gullà, Roberto Menghi, Silvia Ceccacci, Lorenzo Cavalieri, Michele Germani, Anna Spagnolli, Luciano Gamberini, *Italy.*

Reconciling Cognitive Reappraisal and Body Awareness in a Digital Mindfulness Experience
Ralph Vacca, *United States.*

CCD S087

Cross-Cultural Design

Contemporary Issues Impacting Global Aging and Technology in the 21st Century

Chair(s): Pei-Lee Teh, *Malaysia.*

Room: **207**

Busting the Myth of Older Adults and Technology: An In-depth Examination of three Outliers
Robert Beringer, *Canada.*

The Role of Socially Assistive Robots in Elderly Wellbeing: A Systematic Review
Reza Kachouie, Sima Sedighadeli, Amin B. Abkenar, *Australia.*

Teaching Older Adults to Use Gerontechnology Applications through Instruction Videos: Human-Element Considerations
Pei-Lee Teh, *Malaysia;* Chee Wei Phang, *P.R. China;* Pervaiz K. Ahmed, Soon-Nyean Cheong, Wen-Jiun Yap, *Malaysia;* Qi Ma, Alan H.S. Chan, *Hong Kong.*

Independent Bathing for Older Adults: The Conceptualization of the iMagic-BOX Portable Walk-in Bathtub
Chew Kien Ming, Jeffery Yeow Teh Thiry, *Malaysia.*

Design to Improve Medication Adherence for the Elderly in China
Long Liu, Chu Wang, Qian Zhou, Ziying Yao, *P.R. China.*

A Critique on Participatory Design in Developmental Context: A Case Study
Ulemba Hirom, Shyama V S, Pankaj Doke, Sylvan Lobo, Sujit Devkar, Nikita Pandey, *India.*

SCSM S088

Social Computing and Social Media

Visual Analytics and Information Visualization in Social Computing

Chair(s): Areej Al-Wabil, *Saudi Arabia.*

Room: **107 & 108**

How Visual Analytics Unlock Insights into Traffic Incidents in Urban Areas
Abdullah Alomar, Najat Alrashed, Isra Alturaiki, Hotham Altwaijry, *Saudi Arabia.*

The Collective Impression of Saudis' Perceptions of Entertainment
Noura Alomar, Alaa Alhumaisan, *Saudi Arabia.*

SparQs: Visual Analytics for Sparking Creativity in Social Media Exploration
Nan-Chen Chen, Michael Brooks, Rafal Kocielnik, Sungsoo (Ray) Hong, Jeff Smith, Sanny Lin, Zening Qu, Cecilia Aragon, *United States.*

Visual Exploration of Urban Data: A Study of Riyadh Taxi Data
Aljohara Alfayez, Salma Aldawood, *Saudi Arabia.*

The Rise of Hackathon-led Innovation in the MENA Region: Visualizing Spatial and Temporal Dynamics of Time-Bounded Events
Sitah Almishari, Nora Salamah, Maram Alwan, Nada Alkhalifa, Areej Al-Wabil, *Saudi Arabia.*

Visual Exploration Patterns in Information Visualizations: Insights from Eye Tracking
Jumana Almahmoud, Saleh Albaeik, Tarfah Alrashed, Almaha Almalki, *Saudi Arabia.*

THURSDAY   8:00 - 10:00

AC   S089

Augmented Cognition

Augmented Cognition through Immersive User Experiences

Chair(s): Christian Wagner, Ayoung Suh, *Hong Kong*.

Room: **203**

Flow Experience in AR Application: Perceived Reality and Perceived Naturalness
Hansol Lee, Sangmi Chai, *Korea*.

Understanding the Success of Pokémon Go: Impact of Immersion on Players' Continuance Intention
Lili Liu, Christian Wagner, Ayoung Suh, *Hong Kong*.

Adapting Human-Computer-Interaction of Attentive Smart Glasses to the Trade-Off Conflict in Purchase Decisions: An Experiment in a Virtual Supermarket
Jella Pfeiffer, Thies Pfeiffer, Anke Greif-Winzrieth, *Germany;* Martin Meissner, *Denmark;* Patrick Renner, Christof Weinhardt, *Germany*.

Developing a High Speed Craft Route Monitor window
Odd Sveinung Hareide, Frode Voll Mjelde, Oeystein Glomsvoll, Runar Ostnes, *Norway*.

S090

BCIs for Movement Rehabilitation and Consciousness Assessment

Chair(s): Brendan Z. Allison, Vivek Prabhakaran, *United States;* Jing Jin, *P.R. China;* Günter Edlinger, Austria; Ning Jiang, *Canada;* Natalie Mrachacz-Kersting, *Denmark*.

Room: **116**

Differences in Motor Imagery Activity between the Paretic and non-Paretic Hands in Stroke Patients using an EEG BCI
Zhaoyang Qiu, Shugeng Chen, *P.R. China;* Brendan Z. Allison, *United States;* Jie Jia, Xingyu Wang, Jing Jin, *P.R. China*.

Influence of Spontaneous rhythm on Movement-related Cortical Potential - a Preliminary Neurofeedback Study
Lin Yao, Mei Lin Chen, *Canada;* Xinjun Sheng, *P.R. China;* Natalie Mrachacz-Kersting, *Denmark;* XiangYang Zhu, *P.R. China;* Dario Farina, *United Kingdom;* Ning Jiang, *Canada*.

Tactile Stimulation Training to Enhance MRCP Detection in Chronic Stroke Patients
Natalie Mrachacz-Kersting, Susan Aliakbaryhosseinabadi, Martin Pedersen, *Denmark;* Ning Jiang, *Canada;* Dario Farina, *United Kingdom*.

Machine Learning-Based Prediction of Changes in Behavioral Outcomes Using Functional Connectivity and Clinical Measures in Brain-Computer Interface Stroke Rehabilitation
Rosaleena Mohanty, Anita Sinha, Alexander Remsik, Janerra Allen, Veena Nair, Kristin Caldera, Justin Sattin, Dorothy Edwards, Justin Williams, Vivek Prabhakaran, *United States*.

Validation of a Brain-Computer Interface (BCI) System Designed for Patients with Disorders of Consciousness (DOC): Regular and Sham Testing with Healthy Participants
Brendan Z. Allison, *United States;* Woosang Cho, Rupert Ortner, Alexander Heilinger, Günter Edlinger, Christoph Guger, *Austria*.

DHM   S091

Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management

Smart Service System Design

Chair(s): Vincent G. Duffy, *United States*.

Room: **204**

Driving Process' Analysis and HUD design based on Conditional Autonomous Traffic Safety
Jian-min Wang, Lu-lu Qian, Yu-jia Wang, *P.R. China*.

Design and Evaluation of a Human-like Puppet as an Input Device for Ergonomic Simulation
David Wiegmann, Holger Brüggemann, Andreas Rausch, *Germany*.

An Overview of Open Source Software Systems for Smart Development of Virtual Environments
Daniele Regazzoni, Caterina Rizzi, Andrea Vitali, *Italy*.

Research on Pressure Comfort of Sofa Based on Body Pressure Distribution and Subjective Experience
Hui-min Hu, Yanlong Yao, Ling Luo, Linghua Ran, Chaoyi Zhao, Xin Zhang, Rui Wang, *P.R. China*.

APSEN: Pre-Screening Tool for Sleep Apnea in a Home Environment
Varun Kanal, Maher Abujelala, Srujana Gattupalli, Vassilis Athitsos, Fillia Makedon, *United States*.

Evaluation of Functionality and Usability on Diabetes Mobile Applications: A Systematic Literature Review
Qing Ye, Suzanne A. Boren, Uzma Khan, Min Soon Kim, *United States*.

DUXU   S092

Design, User Experience, and Usability

New Ways of Interactions towards Smart Living, Working, and Transporting - I

Chair(s): Wei Liu, *P.R. China*.

Room: **119**

Reflection on Exploring and Designing Generation Y Interaction Qualities
Wei Liu, *P.R. China*.

Research on the Cognitive Evaluation Method of Subway Signs Design in the Aging Society
Jian Liu, Jian Dai, Yanrui Qu, Zhenwei You, Xiaochun Wang, Junfeng Cui, *P.R. China*.

The Interaction Design of Mobile Apps for Chinese Early Education
Qiong Peng, *Netherlands*.

Innovation Design in Personal Center Interface of Mobile Application
Xin Xin, Wei Zhou, Mengfan Li, Haozhi Wang, Han Xu, Yuwei Fan, Weizheng Ma, Di Zhu, *P.R. China*.

Research on the Form Design of Mini Car in Perceptual Consumption Times
Xinhui Kang, Minggang Yang, Weiwei Yang, Yixiang Wu, *P.R. China*.

How the Inhabited Space Helps Consumers Customize Good Products
Liang Zhou, Kanliang Wang, *P.R. China*.

DUXU S093

DUXU in the Software Development Lifecycle

Chair(s): Jay Brewer, *United States.*

Room: **120**

Converging Data with Design within Agile and Continuous Delivery Environments
Jay Brewer, *United States;* Ger Joyce, *United Kingdom;* Saurabh Dutta, *United States.*

A Human-Centered Perspective on Software Quality: Acceptance Criteria for Work 4.0
Holger Fischer, Michael Engler, Stefan Sauer, *Germany.*

Building a Team to Champion User-Centered Design within an Agile process
Eleonora Ibragimova, Leanda Verboom, Nick Mueller, *Netherlands.*

Integrating Participatory and Interaction Design of an Authoring Tool for Learning Objects Involving a Multidisciplinary Team
André Luiz De Brandão Damasceno, Carlos De Salles Soares Neto, Simone Diniz Junqueira Barbosa, *Brazil.*

S094

User Experience and Design Methods - I

Chair(s): Jan Conrad, *Germany.*

Room: **118**

User Experience: A plural structure varying according to interaction types and social support
Jan Van der Linden, *Belgium;* Franck Amadieu, *France;* Cécile Van de Leemput, *Belgium.*

The UX Metrics Table: A missing Artifact
Dieter Wallach, Jan Conrad, *Germany;* Toni Steimle, *Switzerland.*

Design-Based Evidence Collection and Evidence-Based Design (DEED) Model
Caitlyn McColeman, Robin C. A. Barrett, Mark Blair, *Canada.*

Four Biases in Interface Design Interactions
Alamir Novin, Eric Meyers, *Canada.*

The Influence of Task-oriented Human-Machine Interface Design on Usability Objectives
Julia Czerniak, Christopher Brandl, Alexander Mertens, *Germany.*

Guiding Human Behavior through Alternate Reality Experience
Fumiko Ishizawa, Tatsuo Nakajima, *Japan.*

Usability Modeling of Academic Search User Interface
Tsangyao Chen, Melissa Gross, *United States.*

HAS S095

Human Aspects of Information Security, Privacy and Trust

Advances in Human Aspects of Cyber Security

Chair(s): Panagiotis Andriotis, *United Kingdom.*

Room: **111**

A Comparative Study of Android Users' Privacy Preferences under the Runtime Permission Model
Panagiotis Andriotis, Shancang Li, Theodoros Spyridopoulos, Gianluca Stringhini, *United Kingdom.*

Using Human Factor Approaches to an Organisation's Bring Your Own Device scheme
Jodie Ward, Huseyin Dogan, Edward Apeh, Alexios Mylonas, Vasilis Katos, *United Kingdom.*

When Eye-tracking Meets Cognitive Modeling: Applications to Cyber Security Systems
Haiyue Yuan, Shujun Li, Patrice Rusconi, Nouf Aljaffan, *United Kingdom.*

The impact of changing technology on international cybersecurity curricula
Huw Read, *United States;* Iain Sutherland, *Norway;* Konstantinos Xynos, *United Arab Emirates;* Tom Drange, Ernst Sundt, *Norway.*

PSV (Password Security Visualizer): From Password Checking to User Education
Nouf Aljaffan, Haiyue Yuan, Shujun Li, *United Kingdom.*

Privacy Decision-Making in the Digital Era: A Game Theoretic Review
Kalliopi Anastasopoulou, Spyros Kokolakis, Greece; Panagiotis Andriotis, *United Kingdom.*

HCIBGO S096

HCI in Business, Government and Organizations

Intelligent Data Analytics for Decision Support

Chair(s): I-Chin Wu, *Taiwan.*

Room: **117**

Analyzing Load Profiles of Electricity Consumption by a Time Series Data Mining Framework
I-Chin Wu, Tzu-Li Chen, Yen-Ming Chen, Tzu-Chi Liu, Yi-An Chen, *Taiwan.*

Not All Books in the User Profile are Created Equal: Measuring the Preference "Representativeness" of Books in aNobii Online Bookshelves
Muh-Chyun Tang, Tzu-Kun Hsiao, I-An Ou, *Taiwan.*

How to Get More Endorsements? Predicting Facebook Likes Using Post Content and User Engagement
Wei-Fan Chen, Yi-Pei Chen, Lun-Wei Ku, *Taiwan.*

An Analysis for Difficult Tasks in e-Learning Course Design
Ling-Ling Lai, Shu-Ying Lin, *Taiwan.*

Extracting Important Knowledge from Multiple Markets Using Transfer Learning
Tokuhiro Kujiraoka, Fumiaki Saitoh, Syohei Ishizu, *Japan.*

Evaluation of Total Quality Management using CSR Company Reports
Shu Ochikubo, Fumiaki Saitoh, Syohei Ishizu, *Japan.*

THURSDAY   8:00 - 10:00

HCIBGO S097

HCI in social media and social computing

Chair(s): Deliang Wang, *Singapore.*

Room: **205**

Finger Extension and Flexion: How Does The Trackpad Orientation Influence Product Evaluation in Social Media?
Wei Cui, Deliang Wang, *Singapore.*

Social Presence and Dishonesty: Perceptions from Security Guards
Susan Siebenaler, Andrea Szymkowiak, Paul Robertson, Graham Johnson, Jan Law, *United Kingdom.*

Sharing Economy versus Access Economy: A Critical Reflection on Social Interaction between Peers
Sophie Altrock, Ayoung Suh, *Hong Kong.*

Encouraging the Participation in Mobile Collaborative Consumption Using Gamification Design
Yicheng Zhang, Chee Wei Phang, Shun Cai, Chenghong Zhang, *P.R. China.*

Participation in Collaborative Consumption - A Value Co-creation Perspective
Shun Cai, Chee Wei Phang, Xiao Pang, Yicheng Zhang, *P.R. China.*

Embedding the Social Features into E-learning System: A Review
Yingying Ying, Qiqi Jiang, Hongwei Wang, *P.R. China.*

LCT S098

Learning and Collaboration Technologies

Emerging interactive systems for education I

Chair(s): David Fonseca, *Spain.*

Room: **115**

Gesture Deviation in Interactive Communication – A Cross Cultural Study of Indian Case Examples
Ravi Mokashi Punekar, Sarath Paliyath, *India.*

Design and Development of Intelligent Learning Companion for Primary School Students based on the Tour of Well-known Scenic Spots in Beijing
Yujun Wang, Haotian Ma, Chengyu Li, Feng-Kuang Chiang, *P.R. China.*

Outdoor Studying System Using Bluetooth Low Energy Beacon - to Feel Cultural Sites-
Yuku Hiramatsu, Fumihiro Sato, Atsushi Ito, Hiroyuki Hatano, Mie Sato, Yu Watanabe, Akira Sasaki, *Japan.*

Using Augmented reality interactive system to support Digital Electronics Learning
Poonpong Boonbrahm, Charlee Kaewrat, Salin Boonbrahm, *Thailand.*

"Beyond EFL Writing Anxiety": Tapping into the Individual Emotionality of Proficient EFL Writers through Semi-Structured Analysis and Wearable Sensing Technology
Luciana Lew, Tiffany Y. Tang, *P.R. China.*

"Thinking in Pictures?" Performance of Chinese Children with Autism on Math Learning through Eye-Tracking Technology
Pinata Winoto, Tiffany Y. Tang, Zeqian Huang, Piao Chen, *P.R. China.*

S099

The Future of Inverted Classes and MOOCs: Theory, Experience and Supporting Technology

Chair(s): Jan Stelovsky, Dan Suthers, Martha E. Crosby, *United States.*

Room: **206**

Security Beyond Secrecy: Practical Strategies to Address Emerging Cybersecurity Paradoxes through Professional and Stakeholder Education and Co-Management Architectures Designed to Cultivate Community-Situated, Non-Technical Structures of Group Synthetic Intelligence (aka "Neighborhood Watch")
Scott David, Barbara Endicott-Popovsky, *United States.*

Gamification Methods in Higher Education
Lila A. Loos, Martha E. Crosby, *United States.*

Flip-Flop "Learning by Teaching" methodology: Support Technology and Next Steps
Jan Stelovsky, *United States.*

Nellodee 2.0: A Quantified Self Reading App for Tracking Reading Goals
Sanghyun Yoo, Jonatan Lemos, Ed Finn, *United States.*

ITAP S100

Human Aspects of IT for the Aged Population

E-care services for independent living: adoption, design, evaluation

Chair(s): Andraž Petrovčič, Vesna Dolničar, *Slovenia.*

Room: **105 & 106**

How to Guide the Use of Technology for Ageing-in-Place? An Evidence Based Educational Module
Eveline J.M. Wouters, Marianne Nieboer, Kirsten Nieboer, Marijke Moonen, Sebastiaan T.M. Peek, Anne-Mie Sponselee, Joost Van Hoof, Claire Van der Voort, Katrien Luijkx, *Netherlands.*

Technology and Service Usage among Family Caregivers
Chaiwoo Lee, Carley Ward, Dana Ellis, Samantha Brady, Lisa D'Ambrosio, Joseph F. Coughlin, *United States.*

Co-creation Methods: Informing Technology Solutions for Older Adults
Lupin Battersby, Mei Lan Fang, Sarah Canham, *Canada;* Judith Sixsmith, *United Kingdom;* Sylvain Moreno, Andrew Sixsmith, *Canada.*

Understanding Acceptance Factors for Using E-Care Systems and Devices: Insights from a Mixed-Method Intervention Study in Slovenia
Vesna Dolničar, Andraž Petrovčič, Mojca Šetinc, Igor Košir, Matic Kavčič, *Slovenia.*

Adaptation of the Model for Assessment of Telemedicine (MAST) for IoT Telemedicine Services
George E Dafoulas, Georgios Pierris, *Greece;* Santiago Martinez, *Norway;* Lise Kvistgaard Jensen, Kristian Kidholm, *Denmark.*

Distributed User Interfaces for Poppelreuters and Raven visual tests
Pedro Cruz Caballero, Amilcar Meneses Viveros, Erika Hernández Rubio, Oscar Zamora Arévalo, *Mexico.*

HCI   S101

Human-Computer Interaction

Socio-Cultural and Linguistic Aspects in Human-Computer Interaction

Chair(s): Christina Alexandris, *Greece.*

Room: **212**

Generalized Reference - Referring with and without Language by Matching, Pointer, or Address
Roland Hausser, *Germany.*

Implementing a Platform for Complex Information Processing from Written and Spoken Journalistic Data
Christina Alexandris, Konstantinos Mylonakis, Stefanos Tassis, Marios Nottas, George Cambourakis, *Greece.*

Controlling Interaction in Multilingual Conversation Revisited: A Perspective for Services and Interviews in Mandarin Chinese
Jiali Du, *P.R. China;* Christina Alexandris, Dimitrios Mourouzidis, Vasilios Floros, Antonios Iliakis, *Greece.*

Human vs. Computer Performance in Voice-Based Recognition of Interpersonal Stance
Daniel Formolo, Tibor Bosse, *Netherlands.*

Human Computer Interaction Research through the Lens of a Bibliometric Analysis
Konstantinos Koumaditis, Tajammal Hussain, *Denmark.*

HIMI   S102

Human Interface and the Management of Information

Tactile and Haptic Interaction

Chair(s): Kentaro Kotani, Daiji Kobayashi, *Japan.*

Room: **202**

Research on High Fidelity Haptic Interface Based on Biofeedback
Katsuhito Akahane, *Japan;* Makoto Sato, *Jersey.*

Effective Voice-Based Vibration Patterns for Tactile Interfaces
Daiji Kobayashi, Shun Washio, *Japan.*

JoyKey: One-handed Hardware Keyboard with 4x3 Grid Slide Keys
Ryosuke Takada, Buntarou Shizuki, Shin Takahashi, *Japan.*

EPCE   S103

Engineering Psychology and Cognitive Ergonomics

Human factors and ergonomics in safety-critical systems - II

Chair(s): Qin Gao, *P.R. China.*

Room: **112**

A Method to Estimate Operator's Mental Workload in Multiple Information Presentation Environment of Agricultural Vehicles
Xiaoping Jin, Bowen Zheng, Yeqing Pei, Haoyang Li, *P.R. China.*

Team Situation Awareness: A Review of Definitions and Conceptual Models
Manrong She, Zhizhong Li, *P.R. China.*

Integrated design of system display and procedural display in advanced NPP control rooms
Yiran Ma, Qin Gao, Fei Song, Yufan Wang, *P.R. China.*

Research on User Mental Model Acquisition Based on Multi-Dimensional Data Collaborative Analysis in Product Service System Innovation Process
Jinhua Dou, Jingyan Qin, *P.R. China.*

A review of alarm system design in NPP main control rooms
Xiaojun Wu, Zhizhong Li, *P.R. China.*

Integrated Information Visualization and Usability of User Interfaces for Safety-Critical Contexts
Sonja Th. Kwee-Meier, Marion Wiessmann, Alexander Mertens, *Germany.*

UAHCI   S104   continues

Universal Access in Human-Computer Interaction

Sensors and Mobile Applications for Human – Computer Interaction

Chair(s): João M.F. Rodrigues, Pedro J.S. Cardoso, *Portugal.*

Room: **208**

Marketing Intelligence Automation – an approach associated with tourism in order to obtain economic benefits for a region
Celia Ramos, Nelson Matos, Carlos Sousa, Marisol Correia, Pedro Cascada, Portugal.

The application of dynamic analysis to hand gestures
Toshiya Naka, *Japan.*

Interpretable feature maps for robot attention
Kasim Terzic, United Kingdom; J.M. Hans Du Buf, *Portugal.*

An Object Visit Recommender Supported in Multiple Visitors and Museums
Pedro J.S. Cardoso, João M.F. Rodrigues, João A.R. Pereira, João D.P. Sardo, *Portugal.*

Adaptive Card Design UI Implementation for an Augmented Reality Museum Application
João M.F. Rodrigues, João A.R. Pereira, João D.P. Sardo, Marco A.G. De Freitas, Pedro J.S. Cardoso, Miguel Gomes, Paulo Bica, *Portugal.*

Video Summarization for Expression Analysis of Motor Vehicle Operators
Albert C. Cruz, Alex Rinaldi, *United States.*

THURSDAY   10:30 - 12:30

UAHCI   S105

Cutting Edge in Information Display and Its Applications

Chair(s): Hiroki Takada, *Japan*.

Room: **209**

Chatbot and dialogue demonstration with a humanoid robot in the lecture class
Shu Matsuura, Riki Ishimura, *Japan*.

Measuring visual acuity using VR head mounted display
Sina Fateh, *United States*.

Evaluation of Cerebral Blood Flow While Viewing 3D Video Clips
Masumi Takada, Keisuke Tateyama, Fumiya Kinoshita, Hiroki Takada, *Japan*.

Effect of difference in information between vision and vestibular labyrinth on a human body
Akihiro Sugiura, Kunihiko Tanaka, Hiroki Takada, Masaru Miyao, *Japan*.

Temporal Evolution in Potential Functions While Peripheral Viewing Video Clips with/without Backgrounds
Masaru Miyao, Hiroki Takada, Akihiro Sugiura, Fumiya Kinoshita, Masumi Takada, Hiromu Ishio, *Japan*.

Colors Similarity Computation for User Interface Adaptation
Ricardo Jose De Araujo, Julio Cesar Dos Reis, Rodrigo Bonacin, *Brazil*.

VAMR   S106

Virtual, Augmented and Mixed Reality

Health and Well-being in VAMR

Chair(s): Jessie Y.C. Chen, *United States*.

Room: **120**

Simulation Sickness Related to Virtual Reality Driving Simulation
Quinate Chioma Ihemedu-Steinke, Stanislava Rangelova, Michael Weber, Rainer Erbach, Gerrit Meixner, Nicola Marsden, *Germany*.

VR Rio 360: the Challenges of Motion Sickness in VR Environments
Paulo Carvalho, Taynah Miyagawa, Francimar Maciel, Paulo Melo, *Brazil*.

Decreasing Physical Burden using the Following Effect and a Superimposed Navigation System
Yuji Makimura, Hiroki Yoshimura, Masashi Nishiyama, Yoshio Iwai, *Japan*.

The Pulse Breath Water System: Exploring Breathing as an Embodied Interaction for Enhancing the Affective Potential of Virtual Reality
Mirjana Prpa, Kıvanç Tatar, Bernhard E. Riecke, Philippe Pasquier, *Canada*.

Breath Chair: Reduce Fear and Anxiety by Simulating Breathing Movements
Shunsuke Yanaka, Takayuki Kosaka, *Japan*.

CCD   S107

Cross-Cultural Design

Design for Human Cities and Social Innovation

Chair(s): Zhiyong Fu, *P.R. China*.

Room: **207**

SDIV: Service-Defined Intelligent Vehicle Towards the 2020 Urban Mobility
Bo Zhou, Xiaohua Sun, Binhui Zhang, *P.R. China*.

Research and Application of Service Design Thoughts in Subway Advertisement Design
Xing Fang, Yangshuo Zheng, Heng Liu, Yongzhen Zou, Xiaoqin Cao, *P.R. China*.

Designing Architectural Space Using Service System Design Approach
Jintian Shi, Xiaohua Sun, *P.R. China*.

Discussion on the dynamic construction of urban public space with interactive public art
Ping Zhou, Zhiyong Fu, *P.R. China*.

Design for Neighborhood Amateur Cultural Club -- A Community Regeneration Practice in Qinglong Hutong
Zhiyong Fu, Xue He, *P.R. China*.

Web Content Analysis on Power Distance Cultural Presence in E-Government Portal Design
Wan Adilah Wan Adnan, Nor Laila Md Noor, Fauzi Mohd Saman, Farez Mahmood, *Malaysia*.

SCSM   S108

Social Computing and Social Media

Evaluating and Using Social Media

Chair(s): Cristian Rusu, *Chile*.

Room: **107 & 108**

Intent Classification of Social Media Texts with Machine Learning for Customer Service Improvement
Sebastian Perez-Vera, Rodrigo Alfaro, Héctor Allende-Cid, *Chile*.

Why Social Media Is an Achilles Heel? A Multi-Dimensional Perspective on Engaged Consumers and Entrepreneurs
Adela Coman, Ana-Maria Grigore, Oana Simona Caraman Hudea, *Romania*.

What Happens when Evaluating Social Media's Usability?
Virginica Rusu, Cristian Rusu, Daniela Quiñones, Silvana Roncagliolo, *Chile*; Cesar Collazos, *Colombia*.

Design of Digital Literacy Environments Based-on Interactive Learning Services
Jaime Munoz Arteaga, José Eder Guzmán Mendoza, Fco. Javier Álvarez Rodríguez, René Santaolaya Salgado, *Mexico*.

Assessing Symptoms of Excessive SNS Usage Based on User Behavior and Emotion: Analysis of Data Obtained By SNS APIs
Ploypailin Intapong, *Japan*; Saromporn Charoenpit, Tiranee Achalakul, *Thailand*; Michiko Ohkura, *Japan*.

PARALLEL SESSIONS

SCSM S109

How Two Billion Smartphone Users Can Save Species and More!

Chair(s): Jennifer J. Preece, *United States.*

Room: **116**

How Two Billion Smartphone Users Can Save Species and More!
Jennifer J. Preece, *United States.*

British Columbia Stories
Yvonne Coady, *Canada.*

The Case of Thoreau's Field Notes: How CrowdCurio Helps to Advance Science and Citizen Science
Edith Law, *Canada.*

The promise, and limitation, and promise of HCI in field-based citizen science
Julia A. Parrish, *United States.*

Improving the quality of citizen science data through sharing from smartphones to online environments
Yurong He, *United States.*

AC S110

Universal Access in Human-Computer Interaction

Applications of low cost eye tracking

Chair(s): Joseph Coyne, *United States.*

Room: **203**

The analysis and prediction of eye gaze when viewing statistical graphs
Andre Harrison, Mark Livingston, Derek Brock, Jonathan Decker, Dennis Perzanowski, Christopher Van Dolson, Joseph Mathews, Alexander Lulushi, Adrienne Raglin, *United States.*

Performance evaluation of the Gazepoint GP3 eye tracking device based on pupil dilation
Pujitha Mannaru, Balakumar Balasingam, Krishna Pattipati, Ciara Sibley, Joseph Coyne, *United States.*

Pupil Dilation and Task Adaptation
Cyrus Foroughi, Joseph Coyne, Ciara Sibley, Tatana Olson, Cory Moclaire, Noelle Brown, *United States.*

Assessing workload with low cost eye tracking during a supervisory control task
Joseph Coyne, Ciara Sibley, Sarah Sherwood, Cyrus Foroughi, Tatana Olson, Eric Vorm, *United States.*

Practical Considerations for Low-Cost Eye Tracking: An Analysis of Data Loss and Presentation of a Solution
Ciara Sibley, Cyrus Foroughi, Tatana Olson, Cory Moclaire, Joseph Coyne, *United States.*

Interactive Image Segmentation Method of Eye Movement Data and EEG Data
Jiacai Zhang, Song Liu, Jialiang LI, *P.R. China.*

S111

Confluence of Arts and BCIs

Chair(s): Brendan Z. Allison, *United States;* Anton Nijholt, *Netherlands;* Günter Edlinger, *Austria;* Loic Botrel, *Germany.*

Room: **204**

NeuroSnap: Expressing User's Affective State with Facial Filters
Ryan Lieblein, Camille Hunter, Sarah Garcia, Marvin Andujar, Chris Crawford, Juan E. Gilbert, *United States.*

Wheels within wheels: brain-computer interfaces as tools for artistic practice as research
Andrés Aparicio, Rodrigo Cádiz, *Chile.*

Using Brain Painting at home for 5 years: stability of the P300 during prolonged BCI usage by two end-users with ALS
Loic Botrel, Elisa Mira Holz, Andrea Kübler, *Germany.*

A Brain-Computer Interface Based on Abstract Visual and Auditory Imagery: Evidence for an Effect of Artistic Training
Kiret Dhindsa, Dean Carcone, Suzanna Becker, *Canada.*

Music imagery for brain-computer interface control
Mei Lin Chen, Lin Yao, Ning Jiang, Canada.

DHM S112

Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management

Motion analysis of medical art

Chair(s): Akihiko Goto, *Japan.*

Room: **117**

Eye Movement Differences between Novices and Expert Surgeons in Laparoscopic Surgery Simulator
Hisanori Shiomi, Kazuaki Yamashiro, Kouichirou Murakami, Hiroyuki Ohta, Tomoko Ota, Yuki Miyamoto, Yuka Takai, Akihiko Goto, Hiroyuki Hamada, Masaji Tani, *Japan.*

The structure of clinical judgment making based on nurse's visual observation
Shizuko Hayashi, *Japan.*

The Motion Analysis of Transferring from Bed to Wheelchair Conducted in the Nursing Field with Focusing on the Body Pressure Distribution
Hiromi Nakagawa, Kazuyuki Mori, Koshiro Takahashi, Kazuaki Yamashiro, Yoichiro Ogura, Akihiko Goto, *Japan.*

Comparative Analysis of Wheelchair Transfer Movements between Nurse and Care Worker
Yasuko Kitajima, Yuka Takai, Kazuaki Yamashiro, Yoichiro Ogura, Akihiko Goto, *Japan.*

Application and Effect of Media Therapy to the Recreational Activities at Group Homes Reduction of Spiritual Pain of Elderly People with Dementia
Teruko Doi, Noriaki Kuwahara, *Japan.*

THURSDAY   10:30 - 12:30

DUXU   S113

Design, User Experience, and Usability

New Ways of Interactions towards Smart Living, Working, and Transporting - II

Chair(s): Wei Liu, *P.R. China.*

Room: **118**

Establishing China's First UX Master Program from a Applied Psychology Perspective
Shuping Sun, Limei Teng, *P.R. China.*

Research on Interactive Prototype Design and Experience Method Based on Open Source
Yanrui Qu, Yanhong Jia, Tong Qu, Zhaoyu Chen, Heng Li, Wanqing Li, *P.R. China.*

Prototype-Centric Explorative Interaction Design Approach in the Case of Office Energy Coaches Projects
Tomasz Jaskiewicz, Aadjan Van der Helm, *Netherlands;* Wei Liu, *P.R. China.*

Fire in the Kitchen: The Campfire Experience that Led to Innovation in Human Product Interaction
Marlen Promann, *Estonia.*

Taiwanese People's Wayfinding Persona and Tool Preferences
Chih-Wei Joy Lo, Chia-Ning Liao, I-Ping Chen, *Taiwan;* Tsuei-Ju (Tracy) Hsieh, *P.R. China.*

Participatory Design in the Development of a Smart Pedestrian Mobility Device for Urban Spaces
Wiktoria Wilkowska, Katrin Arning, Martina Ziefle, *Germany.*

S114

User Experience and Design Methods - II

Chair(s): Joon-Suk Lee, *United States.*

Room: **119**

Design of Digital Products in the Future: A Study of Interaction Design Students and Their Perceptions on Design Issues
Hanne Sørum, *Norway.*

Processless Design Extended
Joon-Suk Lee, *United States.*

The Role of Narrative Transportation Experience in Design Communication
Qiong Peng, Jean-Bernard Martens, *Netherlands.*

Digitization of the Design Thinking Process Solving Problems with Geographically Dispersed Teams
Christoph Lattemann, Dominik Siemon, David Dorawa, Beke Redlich, *Germany.*

Is a Holistic Criteria-Based Approach Possible in User Experience? Study of the Classification of 58 Criteria Linked to UX.
Josefina Isabel Gil Urrutia, Eric Brangier, Laurent Cessat, *France.*

Discounted prototyping of virtual reality solutions for science education
Ghislain Maurice Norbert Isabwe, Margrethe Synnøve Moxnes, Marie Ristesund, *Norway.*

DAPI   S115

Distributed, Ambient and Pervasive Interactions

Interaction in Ubiquitous Augmented and Virtual Reality

Chair(s): Woontack Woo, Jeongmin Yu, *Korea;* Sin-Hwa Kang, *United States.*

Room: **115**

Wearable AR Platform for K-Culture Time Machine
Eunseok Kim, Jungi Kim, Kihong Kim, Seungmo Hong, Jongwon Lee, Noh-young Park, Hyerim Park, Hayun Kim, Jungwha Kim, Woontack Woo, *Korea.*

Guidance Method to Allow a User Free Exploration with a Photorealistic View in 3D Reconstructed Virtual Environments
Sho Iwasaki, Takuji Narumi, Tomohiro Tanikawa, Michitaka Hirose, *Japan.*

Social Impact of Enhanced Gaze Presentation Using Head Mounted Projection
David M. Krum, Sin-Hwa Kang, Thai Phan, Lauren Cairco Dukes, Mark Bolas, *United States.*

Geometry-aware Interactive AR Authoring using a Smartphone in a Wearable AR Environment
Jeongmin Yu, Jinwoo Jeon, Jinwoo Park, Gabyong Park, Hyung-il Kim, Woontack Woo, *Korea.*

Players' Experience of an Augmented Reality Game, Pokémon Go: Inspirations and Implications for Designing Pervasive Health Gamified Applications
Xin Tong, Ankit Gupta, Diane Gromala, Chris Shaw, *Canada.*

HAS   S116

Human Aspects of Information Security, Privacy and Trust

Multidisciplinary approaches to cloud crime

Chair(s): Pam Briggs, *United Kingdom.*

Room: **111**

Identifying Changes in the Cybersecurity Threat Landscape using the LDA-Web Topic Modelling Data Search Engine
Noura Al-Moubayed, David S. Wall, Stephen McGough, *United Kingdom.*

Social Scientific Perspectives on Cloud Cybercrime
Christopher Lawless, *United Kingdom.*

Towards a Conceptualisation of Cloud (Cyber) Crime
David S. Wall, *United Kingdom.*

How might Crime-Scripts be used to Support the Understanding and Policing of Cloud Crime?
Steve Warren, Gavin Oxburgh, Pam Briggs, David S. Wall, *United Kingdom.*

Are the Current System Engineering Practices Sufficient to Meet Cyber Crime?
Ahto Buldas, Märt Saarepera, *Estonia.*

HCIBGO S117

HCI in Business, Government and Organizations

Integrating User Diversity in HCI for Business, Goverment and Organizations - Motives, Methods and Beyond

Chair(s): Philipp Brauner, *Germany*.

Room: **205**

Towards Accepted Smart Interactive Textiles - The interdisciplinary project INTUITEX
Philipp Brauner, Julia Van Heek, Anne Kathrin Schaar, Martina Ziefle, Nur Al-huda Hamdan, Lukas Ossmann, *Germany*; Florian Heller, *Belgium*; Jan Borchers, Klaus Scheulen, Thomas Gries, Hannah Kraft, Hannes Fromm, Marina Franke, Christian Wentz, Manfred Wagner, Manuel Dicke, Christian Möllering, Franz Adenau, *Germany*.

How Correct and Defect Decision Support Systems Influence Trust, Compliance, and Performance in Supply Chain and Quality Management: A Behavioral Study Using Business Simulation Games
Philipp Brauner, André Calero Valdez, Ralf Philipsen, Martina Ziefle, *Germany*.

Consumer involvement in NPD different stages
Yanmin Xue, Menghui Huang, *P.R. China*.

Impact of Mobile IT Consumerization on Organizations – An Empirical Study on the Adoption of BYOD Practices
Christian Meske, Stefan Stieglitz, Tobias Brockmann, Björn Ross, *Germany*.

The Adoption of Physiological Measures as an Evaluation Tool in UX
Vanessa Georges, Francois Courtemanche, Sylvain Senecal, Pierre-Majorique Léger, Lennart Nacke, Romain Pourchon, *Canada*.

LCT S118

Learning and Collaboration Technologies

Applying Mental Models to Design for Learning

Chair(s): Aleshia Hayes, *United States*.

Room: **213**

Strategic Design: Breaking Mental Models Initiates Learning in Video Games
Jay Dee Johns III, *United States*.

Using Mental Models to Design for Learning: Lessons from Game Development
Aleshia Hayes, *United States*.

Pedagogical Voice in an E-learning System: Content Expert Versus Content Novice
Lincoln Sedlacek, Victor Kostyuk, Matthew Labrum, Kevin Mulqueeny, Georgina Petronella, Maisie Wiltshire-Gordon, United States.

Training exploration in theory of mind
Nirit Gavish, Doron Faran, Mark Berman, *Israel*.

Monitoring Cognitive Workload in Online Videos Learning Through an EEG-based Brain-Computer Interface
Yun Zhou, Tao Xu, Yanping Cai, Xiaojun Wu, Bei Dong, *P.R. China*.

S119

Emerging interactive systems for education II

Chair(s): Francisco J. García Peñalvo, *Spain*.

Room: **206**

Integrated Learning Environment for blended oriented course: 3-year feedback on a skill-oriented hybrid strategy
Walter Nuninger, *France*.

Designing a Peer Feedback Mobile Application as a Professional Development Tool
Evangelos Kapros, Mirjam Neelen, Eddie Walsh, *Ireland*.

Higher education disruption through IoT and Big Data: A conceptual approach
Fernando Moreira, Maria João Ferreira, Abílio Cardoso, *Portugal*.

Augmentative and Alternative Communication in the Literacy Teaching for Deaf Children
Sandra Cano, Cesar Collazos, Leandro Florez Aristizabal, *Colombia*; Fernando Moreira, *Portugal*.

Exploring the Determinants Affecting the Adoption of Social Web Applications Used in Massive Online Open Courses
Tihomir Orehovački, Snježana Babić, *Croatia*.

Measuring Usability of the Mobile Learning App for the Children
Zahid Hussain, Pakistan; Wolfgang Slany, Austria; Wajid H. Rizvi, Adeel Riaz, Umair Ramzan, *Pakistan*.

ITAP S120

Human Aspects of IT for the Aged Population

Strategies to serve the tails of the tails - Personalized Access

Chair(s): Gregg C. Vanderheiden, *United States*.

Room: **105 & 106**

Personalized Access for People with Severe Motor Disabilities - AsTeRICS, FlipMouse and the 2-Level Personalization Software Engineering Method
Chris Veigl, Martin Deinhofer, Benjamin Aigner, Klaus Miesenberger, *Austria*.

Towards Accessible Automatically Generated Interfaces Part 1: An Input Model that Bridges the Needs of Users & Product Functionality
J. Bern Jordan, Gregg C. Vanderheiden, *United States*.

Towards Accessible Automatically Generated Interfaces Part 2: Study with Model-Based Self-Voicing Interfaces
J. Bern Jordan, Gregg C. Vanderheiden, *United States*.

Harvesting Assistive Technology Vocabularies: Methods and Results from a Pilot Study
Yao Ding, J. Bern Jordan, Gregg C. Vanderheiden, *United States*.

Movement Analysis for Improving Older Adults' Performances in HCI: Preliminary Analysis of Movements of the Users' Wrists during Tactile Interaction
Lilian Genaro Motti Ader, Nadine Vigouroux, Philippe Gorce, *France*.

The Effects of the Transparency of the Guiding Diagrams on the Phone Interface for the Elderly
Shuo-Fang Liu, Po Yen Lin, Ming-Hong Wang, *Taiwan*.

THURSDAY 10:30 - 12:30

THURSDAY   13:30 - 15:30

HCI   S121

Human-Computer Interaction

HCI Beyond the Screen

Chair(s): Tess Bailie, *United States;* Bob-Antoine Menelas, *Canada.*

Room: **212**

Software as a Medium for Understanding Human Behavior
Joshua Poore, Emily Vincent, Laura Mariano, *United States.*

Z-force Cubic Interface
Jung Huh, Hoon Sik Yoo, Da Young Ju, *Korea.*

When Technology Supports Urban Mobility: Improvements for Mobile Applications Based on an UX Evaluation
Rodrigo L.A. Almeida, Lana B. Mesquita, Rainara M. Carvalho, Rossana M.C. Andrade, *Brazil.*

Towards the Use of a Serious Game to Learn to Identify the Location of a 3D Sound in the Virtual Environment
Sabrine Boukhris, Bob-Antoine Menelas, *Canada.*

User Requirement Analysis for Display User Experience in Smart Car
Hoon Sik Yoo, Da Young Ju, *Korea.*

HIMI   S122

Human Interface and the Management of Information

Human-centered Systems, Services and Applications

Chair(s): Ryosuke Saga, *Japan.*

Room: **202**

Vector Representation of Words for Plagiarism Detection Based on String Matching
Kensuke Baba, Tetsuya Nakatoh, Toshiro Minami, *Japan.*

Analysis of the quality of academic papers by the words in abstracts
Tetsuya Nakatoh, Kenta Nagatani, Toshiro Minami, Sachio Hirokawa, Takeshi Nanri, Miho Funamori, *Japan.*

Map Uncertainty Reduction for a Team of Autonomous Drones using Simulated Annealing and Bayesian Optimization
Jordan Henrio, Tomoharu Nakashima, *Japan.*

A New Approach to Telecommunications Network Design - Automated and Data Driven
Fabion Kauker, Chris Forbes, Matthew Blair, *Australia;* Danny Huffman, *United States.*

On Source Code Completion Assistants and the Need of a Context-Aware Approach
Fábio Villamarin Arrebola, Plinio Thomaz Aquino Junior, *Brazil.*

Predictive Algorithm for Converting Linear Strings to General Mathematical Formulae
Tetsuo Fukui, Shizuka Shirai, *Japan.*

S123

Visualization Methods, Techniques and Applications

Chair(s): Wendy Lucas, *United States.*

Room: **213**

Development Environment of Embeddable Information-Visualization Methods
Takao Ito, Kazuo Misue, *Japan.*

Management of Inconsistencies in Domain-Spanning Models - An Interactive Visualization Approach
Stefan Feldmann, Florian Hauer, Dorothea Pantförder, Frieder Pankratz, Gudrun Klinker, Birgit Vogel-Heuser, *Germany.*

Sorting Visual Complexity and Intelligibility of Information Visualization Forms
Mingran Li, Wenjie Wu, Yingjie Victor Chen, United States; Yafeng Niu, Chengqi Xue, *P.R. China.*

Data Visualization for Network Access Rules of Critical Infrastructure
An-Byeong Chae, Jeong-Han Yun, Sin-Kyu Kim, Kang-In Seo, Sung-Woo Kim, *Korea.*

Visual and IR-based target detection from Unmanned Aerial Vehicle
Patrik Lif, Fredrik Näsström, Gustav Tolt, Johan Hedström, Jonas Allvar, *Sweden.*

EPCE   S124

Engineering Psychology and Cognitive Ergonomics

Control of Autonomous Systems: The Human Element

Chair(s): Michael J. Barnes, Eric Holder, *United States.*

Room: **112**

Natural, Multi-modal Interfaces for Unmanned Systems
Glenn Taylor, *United States.*

Use of Graphic Imagery as a Mean of Communication between Operators and Unmanned Systems in C3Fire tasks
Tal Oron-gilad, Ilit Oppenheim, *Israel.*

Evaluation of Interface Modality for Control of Multiple Unmanned Vehicles
Gloria L. Calhoun, Heath A. Ruff, Kyle J. Behymer, Clayton D. Rothwell, *United States.*

A field study of multimodal alerts for an autonomous threat detection system
Erin T. Solovey, Pallavi Powale, Mary L. Cummings, *United States.*

Authority Pathway: Intelligent Adaptive Automation for a UAS Ground Control Station
Derek McColl, Kevin Heffner, Simon Banbury, Mario Charron, Robert Arrabito, Ming Hou, *Canada.*

Human-Swarm Interaction as Shared Control: Achieving flexible fault-tolerant systems
Jacob W. Crandall, Nathan Anderson, Chace Ashcraft, John Grosh, Jonah Henderson, Joshua McClellan, Aedesh Neupane, Michael Goodrich, *United States.*

UAHCI S125

Universal Access in Human-Computer Interaction

Information Access for Individuals who are Blind or Visually Impaired

Chair(s): Dianne T.V. Pawluk, *United States.*

Room: **208**

Providing Dynamic Access To Electronic Tactile Diagrams
Tyler Ferro, Dianne T.V. Pawluk, *United States.*

Designing Interfaces to Make Information More Tangible for Visually Impaired People
Ikuko Eguchi Yairi, *Japan.*

"DIY" Prototyping of Teaching Materials for Visually Impaired Children: Usage and Satisfaction of Professionals
Stephanie Giraud, Philippe Truillet, Veronique Gaildrat, Christophe Jouffrais, *France.*

Non-Visual Web Browsing: Beyond Web Accessibility
IV Ramakrishnan, Vikas Ashok, Syed Masum Billah, *United States.*

The 3D Printing of Tactile Maps for Persons with Visual Impairment
Roman Rener, *Slovenia.*

BrailleTap: Developing a Calculator Based on Braille Using Tap Gestures
Mrim Alnfiai, Srinivas Sampalli, *Canada.*

S126

New developments in developing HMI for Inclusive and adaptive design in multimodal interfaces

Chair(s): Patrick M. Langdon, *United Kingdom.*

Room: **209**

Now you see it, now you don't: Understanding User Interface Visibility
Ian Michael Hosking, P. John Clarkson, *United Kingdom.*

Tactile Acoustic Devices: the effect on drowsiness during prolonged attentional tasks
Patrick M. Langdon, Maria Karam, *United Kingdom.*

Exploring Summative Depictions of Older User Experiences Learning and Adopting New Technologies
Mike Bradley, Ian Michael Hosking, Patrick M. Langdon, P. John Clarkson, *United Kingdom.*

Visual Capabilities: What Do Graphic Designers Want To See?
Katie Cornish, Joy Goodman-Deane, P. John Clarkson, *United Kingdom.*

Design of a Multisensory Stimulus Delivery System for Investigating Response Trajectories in Infancy
Dayi Bian, Zhaobo Zheng, Amy Swanson, Amy Weitlauf, Zachary Warren, Nilanjan Sarkar, *United States.*

Accessibility challenges of hybrid mobile applications
Mark McKay, *Canada.*

VAMR S127

Virtual, Augmented and Mixed Reality

Evaluating the User Experience in Virtual and Augmented Environments

Chair(s): Carsten Wittenberg, *Germany.*

Room: **116**

Evaluating Factors Affecting Virtual Reality Display
Lisa Rebenitsch, Charles Owen, *United States.*

Decoding the User Experience in Mobile Virtual Reality Narratives
Biswajit Sarker, *Sweden.*

An Exploratory Comparison of the Visual Quality of Virtual Reality Systems Based on Device-Independent Testsets
Robert Manthey, Marc Ritter, Manuel Heinzig, Danny Kowerko, *Germany.*

An Online User Analysis Regarding the Usage of Mobile Augmented and Virtual Reality Devices in the Field of Robotics
Micha Bläss, Carsten Wittenberg, *Germany.*

Contrasting Instructional Strategies Suited to a Detection Task: Examining Differences in Subjective Workload
Crystal S. Maraj, Jonathan Hurter, William Aubrey, Elizabeth Wolfe, Irwin Hudson, *United States.*

CCD S128

Cross-Cultural Design

Cross-cultural design methods and practice

Chair(s): Zhe Chen, *P.R. China.*

Room: **207**

Exploration on Education Practice Based on Employment and Entrepreneurship in Higher Institutes of China
Jing Li, Lin Ma, Xin Wu, Zhe Chen, *P.R. China.*

Exploring factors influencing knowledge sharing of international students at Chinese University
Zhe Chen, Shunong Deng, Adila Mamtimin, Jiaxin Chang, Feng Liu, Lin Ma, *P.R. China.*

Family, Friends, and Cultural Connectedness: A Comparison between WeChat and Facebook User Motivation, Experience and NPS among Chinese People Living Overseas
Chunhui Xie, Jagannadha Sri Harsha Putrevu, Chelsea Linder, *United States.*

Design Factors Affect User Experience for Different Cultural Populations
Sauman Chu, *United States.*

THURSDAY   13:30 - 15:30

Social Computing and Social Media

SCSM   S129

Building Social Media Communities

Chair(s): Hoang Nguyen, *Singapore.*

Room: **107 & 108**

A Twitter analysis of an integrated E-activism campaign. #FeesMustFall: A South African case study
Abraham G. Van der Vyver, *South Africa.*

Unified Structured Framework for mHealth Analytics: Building an Open and Collaborative Community
Hoang Nguyen, Danny Chiang Choon Poo, *Singapore.*

What People do on Yik Yak: Analyzing Anonymous Microblogging User Behaviors
Joon-Suk Lee, Seungwon Yang, Amanda L. Munson, Lusene Donzo, *United States.*

Do members share knowledge in Facebook Knowledge Groups?
Li-Ting Huang, Ming-Yang Lu, *Taiwan.*

Improving engagement metrics in an open collaboration community through notification: an online field experiment
Ana Paula O. Bertholdo, Claudia De O. Melo, Artur S. Rozestraten, *Brazil.*

Augmented Cognition

AC   S130

Cognition in Social Media

Chair(s): Monte Hancock, *United States.*

Room: **203**

Some Syntax-Only Text Feature Extraction and Analysis Methods for Social Media Data
Monte Hancock, Charles Li, Shakeel Rajwani, Payton Brown, Olivia Hancock, Corinne Lee, Yaniv Savir, Nicolas Nuon, Francesca Michaels, *United States.*

Content Feature Extraction in the Context of Social Media Behavior
Shai Neumann, Charles Li, *United States;* Chloe Lo, *Hong Kong;* Corinne Lee, Shakeel Rajwani, Suraj Sood, Buttons Foster, Toni Hadgis, Yaniv Savir, Frankie Michaels, Alexis-Walid Ahmed, Nikki Bernobic, *United States;* Markus Hollander, *Germany.*

Using the Hash Tag Histogram and Social Kinematics for Semantic Clustering in Social Media
Monte Hancock, *United States;* Chloe Lo, *Hong Kong;* Shakeel Rajwani, Shai Neumann, Dale Franklin, Esnet Gros Negre, Tracy Hollis, Steven Knight, Vikram Tutupalli, Vineet Chintamaneni, Sheila Daniels, Brian Gabak, Venkata Undavalli, Payton Brown, Olivia Hancock, *United States.*

Classifying Tweets Using User Account Information
John Khoury, Charles Li, *United States;* Chloe Lo, *Hong Kong;* Corinne Lee, Shakeel Rajwani, David Woolfolk, Alexis-Walid Ahmed, Loredana Crusov, *United States;* Arnold Pérez-Goicochea, *Germany;* Christopher Romero, Rob French, Vasco Ribeiro, *United States.*

Facial Expression Recognition from Still Images
Bilge Süheyla Akkoca Gazioğlu, Muhittin Gökmen, *Turkey.*

S131

Mechanisms to quantify the relationship between physiological and cognitive markers

Chair(s): Glory Emmanuel Aviña, Kristin Divis, *United States.*

Room: **117**

Rim-to-Rim Wearables At the Canyon for Health (R2R WATCH): Experimental Design and Methodology
Glory Emmanuel Aviña, Robert Abbott, Cliff Anderson-Bergman, Catherine Branda, Kristin Divis, Lucie Jelinkova, Victoria Newton, Emily Pearce, Jon Femling, *United States.*

Rim-to-Rim Wearables At The Canyon for Health (R2R WATCH): Correlation of Clinical Markers of Stress with Physiological COTS Data
Lucie Jelinkova, Emily Pearce, Christopher Bossart, Risa Garcia, Jon Femling, *United States.*

Analysis of Social Interaction Narratives in Unaffected Siblings of Children with ASD through Latent Dirichlet Allocation
Victoria Newton, Isabel Solis, Glory Emmanuel Aviña, Jonathan T. McClain, Cynthia King, Kristina T. Rewin Ciesielski, *United States.*

Multiple Human EEG Synchronous Analysis in Group Interaction-Prediction Model for Group Involvement and Individual Leadership
Jiacai Zhang, Zixiong Zhou, *P.R. China.*

Multidimensional Real-Time Assessment of User State and Performance to Trigger Dynamic System Adaptation
Jessica Schwarz, Sven Fuchs, *Germany.*

Towards a Dynamic Selection and Configuration of Adaptation Strategies in Augmented Cognition
Sven Fuchs, Jessica Schwarz, *Germany.*

Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management

DHM   S132

Digital Human Modeling and its application in industry

Chair(s): Jianwei Niu, Liang MA, *P.R. China.*

Room: **204**

Muscle Fatigue Analysis using OpenSim
Jing Chang, Damien Chablat, Fouad Bennis, *France;* Liang MA, *P.R. China.*

EEG Features Extraction and Classification of Rifle Shooters in the Aiming Period
Liwei Zhang, Qianxiang Zhou, Zhongqi Liu, Yu Wang, *P.R. China.*

Analysis and modeling of Fatigue during Weight-bearing Walking
Zhongqi Liu, Ruiming Zhang, Qianxiang Zhou, *P.R. China.*

Anthropometric Measurement of the Head of Chinese Children
Linghua Ran, Xin Zhang, Taijie Liu, *P.R. China.*

Safety does not happen by accident, can gaming help improve occupational health and safety in organizations?
Cameron Chodan, Pejman Mirza-Babaei, Karthik Sankaranarayanan, *Canada.*

Safety Performance Evaluation Model for Airline Flying Fleets
Yijie Sun, Min Luo, Yanqiu Chen, Changhua Sun, *P.R. China.*

DUXU S133

Design, User Experience and Usability in Tourism and Hospitality

Chair(s): Lorenzo Cantoni, *Switzerland.*

Room: **118**

Design, User Experience, and Usability

Cultural calibration: technology design for tourism websites
Emanuele Mele, Switzerland; Erkki Sutinen, *Finland.*

A LifeLike Experience to Train User Requirements Elicitation Skills
Silvia De Ascaniis, Lorenzo Cantoni, *Switzerland;* Erkki Sutinen, Robert Talling, *Finland.*

Optimizing user interface design and interaction paths for a destination management information system
Dimitri Keil, *Sweden;* Wolfram Höpken, *Germany;* Matthias Fuchs, Maria Lexhagen, *Sweden.*

Teenagers' Destination Website Navigation. A Comparison among Eye-Tracking, Web Analytics, and Self-Declared Investigation
Edoardo Cantoni, Elena Marchiori, Lorenzo Cantoni, *Switzerland.*

Perception of Source Credibility within Touristic Virtual Communities: A Cross-Generational Examination
Aleksander Groth, Giulietta Constantini, Stephan Schlögl, *Austria.*

Gender differences in tourism website usability: an empirical study
Zhao Huang, Liu Yuan, *P.R. China.*

S134

UX Driven Innovations in China - I (Education and Finance Domain)

Chair(s): Wentao Wang, *P.R. China.*

Room: **120**

Reassurance Experience Design for "Financial Planning Users"
Yang Zhang, Pengbo Zhu, P.R. China.

Comfortable Subjective Duration and User Experience of Face Recognition
Tingting Gan, Chengqiang Yi, *P.R. China.*

Knowledge Graph Design: A Way to Promote User Experience for Online Education
Wentao Wang, Qi Feng, *P.R. China.*

Internet Product Design is the Whole Design around the "Product Strategy"
Chao Liu, *P.R. China.*

Research on "4D" evaluation system Construction for information interaction design
Yangshuo Zheng, Yongzhen Zou, *P.R. China.*

S135

Healthy Interactions

Chair(s): Caylee Raber, *Canada.*

Room: **119**

Insights from Deploying Interactive Alcohol Based Rub Dispensers on a Medical Teaching Unit
Greg Hallihan, *Canada.*

Designing Networked Objects
Haig Armen, *Canada.*

Better Days, Better Nights: A Sleep-Wake Behaviours App for Parents of Children with Neurodevelopmental Conditions
Caylee Raber, *Canada.*

Teedo A Tablet Connecting Elders and Their Trusted Helpers
Nina T. Chen, *Canada.*

Visual Communication
Dina Smallman, *Canada.*

Letting Users Lead: Understanding Medication Management and Medication Adherence through Design Methods
Morgan Price, *Canada.*

DAPI S136

Living in Smart Environments

Chair(s): George Margetis, *Greece.*

Room: **115**

Distributed, Ambient and Pervasive Interactions

Ambient Information Design to Amplify Connections between New Empty Nest Parents and Their Children
Zhenyu Cheryl Qian, Yue Ma, Yingjie Victor Chen, *United States;* Yafeng Niu, Chengqi Xue, *P.R. China.*

Human-Sensing: Low Resolution Thermal Array Sensor Data Classification of Location-Based Postures
Bruno Pontes, Marcio Cunha, Rafael Pinho, Hugo Fuks, *Brazil.*

Individuals' Motivations to Adopt Smart Technologies for Tourism- Discrepancy between Initial and Post Adoption
Yongda LI, *Hong Kong.*

THURSDAY 13:30 - 15:30

THURSDAY 13:30 - 15:30

HAS S137

Human Aspects of Information Security, Privacy and Trust

Human Behaviour in Security and Privacy

Chair(s): Lynsay Shepherd, *United Kingdom*.

Room: **111**

"If it's urgent or it is stopping me from doing something, then I might just go straight at it": a study into Home Data Security Decisions
Norbert Nthala, Ivan Flechais, *United Kingdom.*

Assessing The Impact of Affective Feedback On End- User Security Awareness
Lynsay Shepherd, Jacqueline Archibald, Robert Ian Ferguson, *United Kingdom.*

"If it wasn't secure, they would not use it in the movies" - Security Perceptions and User Acceptance of Authentication Technologies
Verena Zimmermann, Nina Gerber, *Germany.*

It's not all about the money: Self-efficacy and Motivation in Defensive and Offensive Cyber Security Professionals
Duncan Hodges, Oliver Buckley, *United Kingdom.*

Sharing or Non-sharing Credentials: a Study of what Motivates People to be Malicious Insiders
Koichi Niihara, Michihiro Yamada, Hiroaki Kikuchi, *Japan.*

HCIBGO S138

HCI in Business, Government and Organizations

PANEL: Challenges in HCI in Practice

Chair(s): Dean Knudson, *United States*.

Room: **205**

User driven design: How IBM Design has embraced HCI principles to drive business success
Ty Tyner, *United States.*

The evolution of SAP User Interfaces and Resulting Possibilities
Sascha Seegebarth, Frank Bachmann, *Germany.*

A Haptic Virtual Reality Midwifery Training Aid – When Visuo-Audio Virtual Reality are out Touch
Ben Horan, *Australia.*

Human Factors in Health Care
Edward Halpern, *United States.*

How design at Microsoft has evolved over time
Kevin Honeyman, *United States.*

LCT S139

Learning and Collaboration Technologies

Emerging interactive systems for education III

Chair(s): Francisco J. García Peñalvo, *Spain.*

Room: **206**

Training Socially Responsible Engineers by Developing Accessible Video Games
Rafael Molina-Carmona, Rosana Satorre-Cuerda, Carlos Villagrá-Arnedo, Patricia Compañ-Rosique, *Spain.*

Subliminal Learning. What do Games Teach us?
Vicente A. Quesada Mora, Francisco J. Gallego-Durán, Rafael Molina-Carmona, Faraón Llorens-Largo, *Spain.*

Immersive Visualization Technologies to Facilitate Multidisciplinary Design Education
Jorge D. Camba, *United States;* José L. Soler-Dominguez, Manuel Contero, *Spain.*

The Use of a New Visual Language as a Supporting Resource for People with Intellectual Disabilities
Francisco Rodríguez-Sedano, Miguel A. Conde-González, Camino Fernández-Llamas, Gonzalo Estebán-Costales, *Spain.*

Data Analysis of Coaching and Advising in Undergraduate Students - An Analytic Approach
David Fonseca, Jose Antonio Montero, Mariluz Guenaga, Iratxe Mentxaka, *Spain.*

Acoustic Filter - New virtual reality audio format pretends to enhance immersive experience
Josep Llorca, Ernest Redondo, Francesc Valls, David Fonseca, Sergi Villagrasa, *Spain.*

Make World, a collaborative platform to develop computational thinking and STEAM
Mariluz Guenaga, Iratxe Mentxaka, Pablo Garaizar, Andoni Eguiluz, Sergi Villagrasa, Isidro Navarro, *Spain.*

ITAP S140

Human Aspects of IT for the Aged Population

To capture the diverse needs of technology among elderly

Chair(s): Marie Sjölinder, *Sweden.*

Room: **105 & 106**

Technology Experience Café — Enabling Technology-Driven Social Innovation for an Ageing Society
Johannes Tröger, *Germany;* João Mariano, Sibila Marques, Joana Mendonça, *Portugal;* Andrey Girenko, Jan Alexandersson, *Germany;* Bernard Stree, *France;* Michele Lamanna, Maurizio Lorenzatto, *Italy;* Louise Pierrel Mikkelsen, Uffe Bundgård-Jørgensen, *Denmark.*

Using Care Professionals as Proxies in the Design Process of Welfare Technology – Perspectives from Municipality Care
Marie Sjölinder, Isabella Scandurra, Anneli Avatare Nou, Ella Kolkowska, *Sweden.*

To Capture the Diverse Needs of Welfare Technology Stakeholders – Evaluation of a Value Matrix
Ella Kolkowska, Anneli Avatare Nou, Marie Sjölinder, Isabella Scandurra, *Sweden.*

Factors in fraudulent e-mails that deceive elderly people
Jean-Robert Nino, Gustav Enström, Alan Davidson, *Sweden.*

A Pyramid Model of Inclusive Design to Get Outdoors for China's Ageing People
Guoying Lu, Ting Zhang, *P.R. China.*

HCI   S141
Human-Computer Interaction

Communication Enhancement

Chair(s): Tomohito Yamamoto, *Japan.*

Room: **212**

Notification System to Encourage a User to Refrain from Using Smartphone before Going to Bed
Kazuyoshi Murata, Kouhei Shigematsu, Yu Shibuya, *Japan.*

Effect of Animated and Non-animated Pictograms for a Non-lingual Disaster Management Application
Luis Ernesto Dominguez Rios, Tomoko Izumi, Takayoshi Kitamura, Yoshio Nakatani, *Japan.*

Posture Analysis and Evaluation for Modeling in Elderly Adults
Yumiko Muto, Makoto Sugou, Kaede Tsumurai, Honami Ito, Yuichiro Hosono, Takeshi Muto, *Japan.*

Relationship between Worker Interruptibility and Work Transitions Detected by Smartphone
Kyohei Komuro, Yuichiro Fujimoto, Kinya Fujita, *Japan.*

System for Measuring Teacher–Student Communication in the Classroom using Smartphone Accelerometer Sensors
Naoyoshi Harada, Masatoshi Kimura, Tomohito Yamamoto, Yoshihiro Miyake, *Japan.*

A Study on Extracting Attractive Regions from One-point Perspective Paintings
Ryoma Matsuo, Haruka Sugimoto, Mamiko Sakata, Michiya Yamamoto, *Japan.*

HIMI   S143
Human Interface and the Management of Information

Improvement in Learning and Educational Environments using ICT

Chair(s): Takahito Tomoto, Takako Akakura, *Japan.*

Room: **202**

How we Improve Sense of Beauty? - Kansei Improvement Process and its Support System -
Tomoko Kojiri, Yoshihiro Adachi, *Japan.*

Development of a Seminar Management System: Evaluation of Support Functions for Improvement of Presentation Skills
Yusuke Kometani, Keizo Nagaoka, *Japan.*

Report on Practice of a Learning Support System for Reading Program Code Exercise
Takahito Tomoto, Takako Akakura, *Japan.*

Development and a Practical Use of Monitoring Tool of Understanding of Learners in Class Exercise
Yusuke Hayashi, Mitsutaka Murotsu, Sho Yamamoto, Tsukasa Hirashima, *Japan.*

Evaluation of the Function that Detects the Difference of Learner's Model from the Correct Model in a Model-Building Learning Environment
Tomoya Horiguchi, Tetsuhiro Masuda, *Japan.*

A Problem-Solving Process Model for Learning Intellectual Property Law Using Logic Expression: Application from a Proposition to a Predicate Logic
Takako Akakura, Takahito Tomoto, Koichiro Kato, *Japan.*

S144

Evidence Based Design and UX for Design Process

Chair(s): Keiko Kasamatsu, Takeo Ainoya, *Japan.*

Room: **115**

A Design Process of Simple-Shaped Communication Robot
Yuki Takei, Naoyuki Takesue, Keiko Kasamatsu, Takeo Ainoya, Toru Irie, Kenichi Kimura, Masaki Kanayama, *Japan.*

Study on Indoor Light Environment and Appearance
Fuko Ohura, Keiko Kasamatsu, Takeo Ainoya, Akio Tomita, *Japan.*

Proposal for a Design Process Method using VR and a Physical Model
Tetsuhito Yamauchi, Takeo Ainoya, Keiko Kasamatsu, Ryuta Motegi, *Japan.*

Research on the Relationships between Shape of Button and Operation Feeling
Hanhui Li, Keiko Kasamatsu, Takeo Ainoya, Ryuta Motegi, *Japan.*

3D Drafting System based on Shape Analysis of Super Deformed Characters
Ryuta Motegi, Kazuki Sato, Yoshihisa Kanematsu, Naoya Tsuruta, Koji Mikami, Kunio Kondo, *Japan.*

A Study of Interaction Interface Design of Digital Contents on Hand-Held Intelligent Products
Ming-Chyuan Lin, Yi-Hsien Lin, Shuo-Fang Liu, Ming-Hong Wang, *Taiwan.*

EPCE   S145
Engineering Psychology and Cognitive Ergonomics

Human-Autonomy Teaming in Manned/Unmanned Vehicles

Chair(s): Axel Schulte, *Germany.*

Room: **112**

Implementation of a Responsive Human Automation Interaction Concept for Task-Based-Guidance Systems
Georg Rudnick, Axel Schulte, *Germany.*

Model-driven Payload Sensor Operation Assistance for a Transport Helicopter Crew in Manned-Unmanned Teaming Missions: Assistance Realization, Modelling and Experimental Evaluation of Mental Workload
Christian Ruf, Peter Stütz, *Germany.*

Multi-UAV based Helicopter Landing Zone Reconnaissance - Information Level Fusion and Decision Support
Marc Schmitt, Peter Stütz, *Germany.*

Design and Evaluation of a Mixed-Initiative Planner for Multi-Vehicle Missions
Fabian Schmitt, Gunar Roth, Axel Schulte, *Germany.*

Automated Online Determination of Pilot Activity under Uncertainty by Using Evidential Reasoning
Fabian Honecker, Axel Schulte, *Germany.*

THURSDAY   16:00 - 18:00

THURSDAY   16:00 - 18:00

Universal Access in Human-Computer Interaction

UAHCI   S146

Technology for Inclusion and Participation

Chair(s): Ingo K. Bosse, Christoph Kaletka, *Germany.*

Room: **208**

Inclusion through Digital Social Innovations: Modelling an Ecosystem of Drivers and Barriers
Jennifer Eckhardt, Christoph Kaletka, Bastian Pelka, *Germany*

Media Use of Persons with Disabilities
Anne Haage, Ingo K. Bosse, Germany

Game-based speech rehabilitation for people with Parkinson's disease
Juliane Mühlhaus, Hendrike Frieg, Kerstin Bilda, Ute Ritterfeld, *Germany.*

Applying Movie and Multimedia to the Inclusive Learning and Teaching in Germany: Problems and Solutions
Ingo K. Bosse, Annette Pola, *Germany.*

Achieving End User Acceptance: Building Blocks for an Evidence-based User-centered Framework for Health Technology Development and Assessment
Matthias Hastall, Christoph Dockweiler, Juliane Mühlhaus, *Germany.*

Technology, participation and dementia - interdisciplinary perspectives on the care network
André Posenau, *Germany.*

S147

Design Access in Ergonomics and Interaction

Chair(s): Fong-Gong Wu, *Taiwan.*

Room: **209**

Study on the Application of Computer Stimulation to Foldable Wheelchairs
Yu-Ting Lin, Fong-Gong Wu, I-Jen Sung, *Taiwan.*

Design and Usability Evaluation of Speech Rehabilitation APP Interface for Patients with Parkinson's Disease
Hsin-Chang Lo, Shih-Tsang Tang, Wan-Li Wei, Ching-Chang Chuang, *Taiwan.*

The Relationship between the Parents' Feeding Practices and Children's Eating Behavior
Jo-Han Chang, Ssu-Min Chang, *Taiwan.*

Employing Personalized Shortcut Options and Group Recommending Options for Improving the Usability of User Interface of Hospital Self-service Registration Kiosks
T. K. Philip Hwang, Ssu-Ming Wu, Guan-Jun Ding, Ting-Huan Ko, Ying-Chia Huang, *Taiwan.*

Young female consumers' perceptions and purchase intentions towards character economy
Cheih-Ying Chen, *Taiwan.*

Fire Warning System by Using GPS Monitoring and Quadcopters
Jei-Chen Hsieh, *Taiwan.*

Design of an Innovative Assisting Device for Knee Osteoarthritis
Fong-Gong Wu, Hsien-Chi Kuo, *Taiwan.*

Virtual, Augmented and Mixed Reality

VAMR   S148

Enhancing Multimodal Interface Design and Implementation for Training Applications

Chair(s): Crystal S. Maraj, *United States.*

Room: **116**

Assessing the Relationship between Type of Head Movement and Simulator Sickness using an Immersive Virtual Reality Head Mounted Display: A Pilot Study
Stephen R. Serge, Gino Fragomeni, *United States.*

VoTrE: A Vocational Training and Evaluation System to Compare Training Approaches for the Workplace
Ashwin Ramesh Babu, Akilesh Rajavenkatanarayanan, Maher Abujelala, Fillia Makedon, *United States.*

Evaluation of a Low Cost EMG Sensor as a Modality for use in Virtual Reality Applications
Shawn N. Gieser, Varun Kanal, Fillia Makedon, *United States.*

Intelligent Virtual Environment using Artificial Neural Networks
Sandra Mateus, John Branch, *Colombia.*

Performance and User Preference of Various Functions for Mapping Hand Position to Movement Velocity in a Virtual Environment
Weizhi Nai, *P.R. China;* David Rempel, *United States;* Yue Liu, *P.R. China;* Alan Barr, Carisa Harris-Adamson, *United States;* Yongtian Wang, *P.R. China.*

Understanding where to Project Information on the Desk for Supporting Work with Paper and Pen
Mai Tokiwa, Kaori Fujinami, *Japan.*

Cross-Cultural Design

CCD   S149

Interacting with the smart environment

Chair(s): Pei-Luen Patrick Rau, *P.R. China.*

Room: **207**

A Preliminary Study on the Learning Assessment in Massive Open Online Courses
Quan Yuan, Qin Gao, Yue Chen, *P.R. China.*

Do Consumption Values and Environmental Awareness Impact on Green Consumption in China?
Lebohang Sekhokoane, Nan Qie, Pei-Luen Patrick Rau, *P.R. China.*

Understanding Users' Acceptance of Money Gifting in a Social Game
Hanjing Huang, Pei-Luen Patrick Rau, P.R. China.

A Pilot Study of Mining the Differences in Patterns of Customer Review Text Between US and China AppStore
Lisha Li, Liang MA, Pei-Luen Patrick Rau, Qin Gao, *P.R. China.*

The Role of Trust with Car-Sharing Services in the Sharing Economy in China: From the Consumers' Perspective
Shang Gao, *Sweden;* Jia Jing, Hong Guo, *P.R. China.*

Evaluating the Use of LINE Software to Support Interaction during an American Travel Course in Japan
Dave Berque, Hiroko Chiba, *United States.*

PARALLEL SESSIONS

SCSM   S150

Social Computing and Social Media

Elucidation of the User's Behavior by the Data Analysis

Chair(s): Kohei Otake, Takashi Namatame, *Japan.*

Room: **111**

Analysis of the Characteristics of Repeat Customer in a Golf EC site
Yusuke Sato, Kohei Otake, Takashi Namatame, *Japan.*

Valuation of customer and purchase behavior of a supermarket chain using ID-POS and store causal data
Syun Usami, Kohei Otake, Takashi Namatame, *Japan.*

Analysis of Cancellation Factors Based on the Characteristics of Golf Courses in Reservation Sites
Naoya Saijo, Kohei Otake, Takashi Namatame, *Japan.*

Analysis of trade area for retail industry store using consumer purchase record
Sachiko Iwasaki, Ko Hashimoto, Kohei Otake, Takashi Namatame, *Japan.*

Consumer's Indecisive Purchase Behavior on an EC site
Husam Bukhary, *Japan.*

Understanding Gendered Spaces Using Social Media Data
Aljohara Alfayez, Zeyad Awwad, *Saudi Arabia;* Cortni Kerr, *United States;* Najat Alrashed, *Saudi Arabia;* Sarah Williams, *United States;* Areej Al-Wabil, *Saudi Arabia.*

AC   S151

Augmented Cognition

Assessments for Augmented Cognition Applications

Chair(s): Lauren Reinerman-Jones, *United States.*

Room: **203**

A Conceptual Assessment Model (CAM) for Operationalizing Constructs in Technology-Augmented Assessments
Mark E. Riecken, Clayton W. Burford, Grace Teo, Joseph McDonnell, Lauren Reinerman-Jones, Kara Orvis, *United States.*

A Review of Personnel Selection Approaches for the Skill of Decision Making
Irwin Hudson, Lauren Reinerman-Jones, Grace Teo, *United States.*

Assessing Motivation to Individualize Reinforcement and Reinforcers for an Intelligent Tutor
Elizabeth Lameier, Lauren Reinerman-Jones, Michael Boyce, Beth Biddle, *United States.*

Using Assessment to Provide Application in Human Factors Engineering to USMA Cadets
Michael Boyce, Charles Rowan, Devonte Baity, Michael Yoshino, *United States.*

DHM   S152

Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management

Digital Healthcare

Chair(s): Nicole Jochems, *Germany.*

Room: **204**

Effective visualization of long term health data to support behavior change
Corinna A. Christmann, Gregor Zolynski, Alexandra Hoffmann, Gabriele Bleser, *Germany.*

Software Requirements Engineering in Digital Healthcare: A Case Study of the Diagnosis and Monitoring of Autism Spectrum Disorders in Children in the UK's National Health Service
Catherine Tryfona, Tom Crick, Ana Calderon, Simon Thorne, *United Kingdom.*

Construction of Deformable Trunk Atlas of Chinese Human Based on Multiple PET/CT Images: Preliminary Results
Hongkai Wang, Xiaobang Sun, Li Huo, Xin Tang, Changjian Liu, *P.R. China.*

Evaluation Methods to Support Health Information Systems Development: a Framework Supported in Literature and Practical Experience
Leonor Teixeira, Beatriz Sousa Santos, Vasco Saavedra, Carlos Ferreira, *Portugal.*

Emergency Usability Lab - Concept to evaluate the usability of healthcare systems in emergencies
Peter Rasche, Alexander Mertens, Christopher M. Schlick, *Germany.*

DUXU   S153

Design, User Experience, and Usability

Motivation and Persuasion through Information Design and Visual Storytelling

Chair(s): Tingyi S. Lin, *Taiwan.*

Room: **119**

Applying Working Memory Theory to Redesign a Mobile Application User Interface: Take a Handicraft Self-learning Page as an Example
Jun Xu, Sicong Liu, Xiaozhen Fu, *P.R. China.*

The Categorization of Document for Design Thinking
Tingyi S. Lin, Min-Zhe Yi, *Taiwan.*

Research on the style of product shape based on NURBS curve
Zhangfan Shen, Chengqi Xue, Jing Zhang, Haiyan Wang, *P.R. China.*

Beyond Hedonic Enjoyment: Conceptualizing Eudaimonic Motivation for Personal Informatics Technology Usage
Ayoung Suh, Christy Cheung, *Hong Kong.*

Mix and Match: Designing an Installation for Music Festivals Aiming to Increase Social Sustainability
Vlad-Doru Epure, Beatrix Ivicsics, István Kovács, Louise Skjoldborg Lessel, Nikolaj Schlüter Nielsen, Jakob Ranum, Evangelia Triantafyllou, *Denmark.*

THURSDAY   16:00 - 18:00

DUXU   S154

UX Driven Innovations in China - II (Media, Education, Internet Safety Domain)

Chair(s): Wentao Wang, *P.R. China.*

Room: **118**

Breaking through the Traditional Form of News Communication - User Experience Design of Live Broadcast
Xueting Xie, *P.R. China.*

Disappearing Boundary
Wai Ping Chan, *P.R. China.*

Research on Online Education Products Designed for Chinese Young Women's Interest Development
Xuan Li, Jingya Zhang, Qijun Chen, Nan Wang, Yi Yang, *P.R. China.*

User operational design thinking
Peipei Cai, *P.R. China.*

Thinking in Interdisciplinary Design Teams Based on Workshop
Ying Hu, Ying Li, Xing Du, *P.R. China.*

HCIBGO   S155

HCI in Business, Government and Organizations

Analytics-Driven Design

Chair(s): Chee Wee Tan, *Denmark.*

Room: **205**

The Duality of Envy in Online Social Information Consuption: An Exploratory Study
Yi Wu, *P.R. China;* Ben C.F. Choi, Annie Tran, *Australia.*

Driving under Voluntary and Involuntary Distraction: An Empirical Study of Compensatory Behaviors
Yuhan Shi, Ronggang Zhou, P.R. China.

Numbers Speak where Words Fail: Exploring the Effect of Online Consumer Reviews on Consumer Decision Making
Fei Liu, *Denmark.*

The Effects of Online Review Message Appeal and Online Review Source Across two Product Types on Review Credibility, Product Attitude, and Purchase Intention
Ardion Beldad, Fitria Avicenna, Sjoerd De Vries, *Netherlands.*

Review-based Screening Interface for Improving Users' Decision Process in E-commerce
Dongning Yan, *P.R. China;* Li Chen, *Hong Kong.*

S156

3D/VR web applications and Gamification in business

Chair(s): Jie Yu, *P.R. China.*

Room: **213**

Virtual World Versus Real World : an Economic Study of the Cyber Games Participation
Qingliang Fan, Xin Fu, Shun Cai, *P.R. China.*

Learning as Adventure: An App Designed with Gamification Elements to Facilitate Language Learning
Leijing Zhou, Jie Yu, Chun'an Liao, Yan Shi, *P.R. China.*

Is Augmented Reality Leading to More Risky Behaviors? An Experiment with Pokémon Go
Romain Pourchon, Pierre-Majorique Léger, Elise Labonte-LeMoyne, Sylvain Senecal, Francois Bellavance, Marc Fredette, Francois Courtemanche, *Canada.*

A Theoretical Model of Incorporating Gamification Design into On-Line Marketing
Hsiu Ching (Laura) Hsieh, Chiao Yu Hwang, *Taiwan.*

LCT   S157

Learning and Collaboration Technologies

Emerging interactive systems for education IV

Chair(s): David Fonseca, *Spain.*

Room: **206**

Interaction design principles in WYRED platform
Francisco J. García Peñalvo, Jorge Durán-Escudero, *Spain.*

ECoLab: A Cooperative System to Improve Training Processes
Angel Fidalgo-Blanco, María Luisa Sein-Echaluce, Francisco J. García Peñalvo, *Spain.*

Improving success/ completion ratio in large surveys: a proposal based on usability and engagement
Juan Cruz-Benito, Roberto Therón, Francisco J. García Peñalvo, José Carlos Sánchez-Prieto, Andrea Vázquez-Ingelmo, Martín Martín-González, Jorge M. Martínez, *Spain.*

Can we apply learning analytics tools in Challenge Based Learning contexts?
Miguel Ángel Conde, Francisco J. García Peñalvo, Angel Fidalgo-Blanco, María Luisa Sein-Echaluce, *Spain.*

A metamodel proposal for developing learning ecosystems
Alicia García-Holgado, Francisco J. García Peñalvo, *Spain.*

Adaptive and cooperative model of knowledge management in MOOCs
María Luisa Sein-Echaluce, Angel Fidalgo-Blanco, Francisco J. García Peñalvo, *Spain.*

Human Aspects of IT for the Aged Population

ITAP   S158

Aging and Technology Acceptance

Chair(s): Jia Zhou, *P.R. China.*

Room: **105 & 106**

Age Differences in Acceptance of Self-Driving Cars: A Survey of Perceptions and Attitudes
Chaiwoo Lee, Carley Ward, Martina Raue, Lisa D'Ambrosio, Joseph F. Coughlin, *United States.*

How to Enhance Intergenerational Communication? The Influence of Family Orientation and Generation when Using Social Robots as an Intermediary
Fan Mo, Jia Zhou, Shuping Yi, *P.R. China.*

A Pilot Interface Evaluation Combined with Three-dimensional Holography Concept for the Older Adults
Wang-Chin Tsai, Cheng-Min Tsai, Hui-Jiun Hu, Kuang-Chih Lo, *Taiwan.*

Mobile Technology Adoption Among Older People - An Exploratory Study in the UK
Jing Pan, *P.R. China;* Nick Bryan-Kinns, *United Kingdom;* Hua Dong, *P.R. China.*

The Influence of Mental Model Similarity on User Performance: Comparing Older and Younger Adults
Bingjun Xie, Jia Zhou, *P.R. China.*

Privacy, Data Security, and the Acceptance of AAL-Systems – a User-Specific Perspective
Julia Van Heek, Simon Himmel, Martina Ziefle, *Germany.*

S159

Design the Affordances for the Ageing Society

Chair(s): Yuxiang Zhao, *P.R. China.*

Room: **117**

Exploring the Elders' Information Needs on Home-based Care: A Community Service Perspective
Zhizheng Zhang, Yajun Li, *P.R. China.*

Research on Age-Adaptive Design of Information Interaction Based on Physiological Characteristics of the Aged
Ming Zhou, Yajun Li, *P.R. China.*

Gamification on Senior Citizen's Information Technology Learning: The Mediator Role of Intrinsic Motivation
Kai Sun, Lingyun Qiu, Meiyun Zuo, *P.R. China.*

A study on the Older Adults' information behaviors in China
Mei Bai, *P.R. China.*

Examining the Factors Influencing Elders' Knowledge Sharing Behavior in Virtual Communities
Xuanhui Zhang, Xiaokang Song, *P.R. China.*

HCI   S160

Human-Computer Interaction

Affective aspect in human-computer interaction

Chair(s): Michiko Ohkura, *Japan*.

Room: **212**

The Gender Difference of Impression Evaluation of Visual Images among Young People
Ayako Hashizume, Masaaki Kurosu, *Japan*.

A Proposal of Model of Kawaii Feelings for Spoon Designs
Tipporn Laohakangvalvit, *Japan;* Tiranee Achalakul, *Thailand;* Michiko Ohkura, *Japan*.

Experimental Evaluation of Immersive Feeling in VR System with HMD
Yoshiki Koinuma, Kazuki Miyamoto, Michiko Ohkura, *Japan*.

Usability Evaluation of Newly Developed Three-Dimensional Input Device for Drone Operation
Michiko Ohkura, Hiroya Sano, Yuya Mochiyoshi, *Japan*.

How to Model Value-Creating Communication – Collaboration Process as an Example –
Yuri Hamada, Hiroko Shoji, *Japan*.

Affective Smile and Interaction - Smile is a Function of Interaction
Hisao Shiizuka, *Japan*.

S161

Novel User Interfaces in Everyday Contexts of Use - I

Chair(s): Chantal Natalie Van der Wal, *Netherlands*.

Room: **213**

MagicPad HD: the Spatial User Interface
Leith K.Y. Chan, Henry Y.K. Lau, *Hong Kong*.

Research on Foreground Color Adaptive System of Aircraft Head-Up Display Based on the Background Real-Time Changes
Yu Hu, Chengqi Xue, Haiyan Wang, Lei Zhou, *P.R. China*.

"Human Chef" to "Computer Chef": Culinary Interactions Framework for Understanding HCI in the Food Industry
So Yeon Park, Sohyeong Kim, Larry Leifer, *United States*.

Inducing Fear: Cardboard Virtual Reality and 2D Video
Chantal Natalie Van der Wal, Annabella Hermans, Tibor Bosse, *Netherlands*.

HIMI   S162

Human Interface and the Management of Information

User behavior and modeling

Chair(s): Shin'ichi Fukuzumi, *Japan*.

Room: **202**

How to find a recipe for success of popular smart phone applications
Jun Ito, Shin'ichi Fukuzumi, Nobuyuki Watanabe, Masao Ohmi, *Japan*.

The User-Product Ontology: a New Approach to Define an Ontological Model to Manage Product Searching Based on User Needs
Francesca Gullà, Lorenzo Cavalieri, Silvia Ceccacci, Alessandra Papetti, Michele Germani, *Italy*.

User Context in a Decision Support Systems for Stock Market
Percy Soares Machado, Nayat Sanchez-Pi, Vera Maria B. Werneck, *Brazil*.

The Participatory Sensing Platform Driven by UGC for the Evaluation of Living Quality in the City
Yang Ting Shen, Yi Shiang Shiu, Wei Kuang Liu, Pei Wen Lu, *Taiwan*.

Influence of "Feel Appetite" by Food Image
Shin'ichi Fukuzumi, Nobuyuki Watanabe, Keiko Kasamatsu, Hiroaki Kiso, Hideo Jingu, *Japan*.

EPCE   S163

Engineering Psychology and Cognitive Ergonomics

Vision in HCI

Chair(s): To be announced.

Room: **112**

Design and Evaluation of an Assistive Window for Soft Keyboards of Tablet PCs that Reduces Visual Attention Shifts
Bomyeong Kim, Kyungdoh Kim, Jinho Ahn, *Korea;* Robert W. Proctor, *United States*.

"Smooth" or "Intermittent"? The Necessity of Halt in the Dynamic Visualization due to the Features of Working Memory
Xiaozhou Zhou, Chengqi Xue, An Li, Yafeng Niu, Jing Zhang, *P.R. China*.

The study of presentation characteristics of the warning information and its influence on user's cognitive process based on eye tracking
Yun Lin, Chengqi Xue, QI Guo, Jing Zhang, Ningyue Peng, Yafeng Niu, *P.R. China*.

The Evaluation of Remote Tower Visual Assistance System in Preparation of Two Design Concepts
Maik Friedrich, *Germany;* Stefan Pichelmann, *Switzerland;* Anne Papenfuß, Jörn Jakobi, *Germany*.

UAHCI S164

Universal Access in Human-Computer Interaction

Innovative Product Design and Development: Smart Products and Services

Chair(s): Kevin C. Tseng, Yu-Ling Hsu, *Taiwan.*

Room: **208**

How Augmented Reality Technology Consolidates the SMB Ecosystem of the Tourism Industry in Taiwan
Ya-Hui Chan, Jung-Yu Lin, Yu-Hsiu Wang, I-Ying Lu, Yueh-Hsin Hsu, *Taiwan.*

Analytics Solution for Omni-channel Merchandising
Chieh-Yu Liao, Chia-Chi Wu, Yu-Ling Hsu, Yi-Chun Chen, *Taiwan.*

A Systematic Review on the Potential Application of Virtual Reality within User Pre-Occupancy Evaluation
Kevin C. Tseng, Do Thi Ngoc Giau, Po-Hsin Huang, *Taiwan.*

Exploring Location-Based Augmented Reality Experience in Museums
Tsai-Hsuan Tsai, Ching-Yen Shen, Zhi-Sheng Lin, Huei-Ru Liu, Wen-Ko Chiou, *Taiwan.*

Lived experiences and technology in the design of urban nature parks for accessibility
Tiiu Poldma, Helene Carbonneau, Sylvie Miaux, Barbara Mazer, Guylaine Le Dorze, Alexandra Gilbert, Zakia Hammouni, Abdulkader El-khatib, *Canada.*

S165

Accessibility and Software Design for All

Chair(s): Hugo Paredes, *Portugal;* Simone Bacelar Leal Ferreira, *Brazil.*

Room: **209**

Rethinking Audio Visualizations: Towards Better Visual Search in Audio Editing Interfaces
Evelyn Eika, Frode Eika Sandnes, *Norway.*

MyAutoIconPlat: an automatic platform for icons creation
Tânia Rocha, Paulo Pinheiro, Jorge Santos, António Marques, Hugo Paredes, João Barroso, *Portugal.*

Game Accessibility Evaluation Methods: a literature survey
Renata Pontin De Mattos Fortes, Andre De Lima Salgado, Flávia De Souza Santos, Leandro Agostini do Amaral, Elias Adriano Nogueira da Silva, *Brazil.*

Supporting Accessibility in Higher Education Information Systems: a 2016 Update
Arsénio Reis, Paulo Martins, Jorge Borges, André Sousa, Tânia Rocha, João Barroso, *Portugal.*

Camera Canvas: Photo Editing and Sharing App for People with Disabilities
Trung Ngo, Christopher Kwan, John Magee, *United States.*

Accessible Tourism for Deaf People in Poland: the SITur and SITex Programs as Proposals for Accessible Urban Information
Alina Zajadacz, Przemysław Szmal, *Poland.*

CCD S166

Cross-Cultural Design

Human error and safety

Chair(s): Hua Qin, *P.R. China.*

Room: **207**

The User's Performance Study for Different Layouts of Car's Dashboards
Linghua Ran, Xin Zhang, Hui-min Hu, Chaoyi Zhao, Taijie Liu, *P.R. China.*

Driver's information needs in automated driving
Huining Xing, Hua Qin, Jianwei Niu, *P.R. China.*

Investigating the Comprehension of Public Symbols for Wayfinding in Transit Hubs in China
Dadi An, *P.R. China;* Edwin H.W. Chan, *Hong Kong.*

SCSM S167

Social Computing and Social Media

Sentiment Analysis in Social Media

Chair(s): Sarah Alhumoud, Areeb Alowisheq, Nora AlTwairesh, *Saudi Arabia.*

Room: **107 & 108**

Sentiment Analysis on Arabic Tweets: Challenges to Dissecting the Language
Malak Abdullah, Mirsad Hadzikadic, *United States.*

Investigating the Relationship between Trust and Sentiment Agreement in Arab Twitter Users
Areeb Alowisheq, Nora Alrajebah, Asma Alrumikhani, Ghadeer Al-Shamrani, Maha Shaabi, Muneera Al-Nufaisi, Ahad Alnasser, Sarah Alhumoud, *Saudi Arabia.*

Sentiment Analysis For Micro-blogging Platforms in Arabic
Eshrag Refaee, *Saudi Arabia.*

A Review on Corpus Annotation for Arabic Sentiment Analysis
Latifah AlMuqren, *United Kingdom;* Arwa Alzammam, *United States;* Shahad Alotaibi, *Saudi Arabia;* Alexandra Cristea, *United Kingdom;* Sarah Alhumoud, *Saudi Arabia.*

AraSenTi-Lexicon: A Different Approach
Hadeel Alnegheimish, Jowharah Alshobaili, Nora Al-Mansour, Rawan Bin Shiha, Nora AlTwairesh, Sarah Alhumoud, *Saudi Arabia.*

FRIDAY 8:00 - 10:00

AC   S168
Augmented Cognition

Visual cognition in the loop: Advancing theory and applications through use-inspired research
Chair(s): Laura E. Matzen, *United States.*

Room: **203**

Patterns of Attention: How Data Visualizations are Read
Laura E. Matzen, Michael J. Haass, Kristin Divis, Mallory Stites, *United States.*

Geometry and Gesture-based Features from Saccadic Eye-Movement as a Biometric in Radiology
Folami Alamudun, Tracy Hammond, Hong-Jun Yoon, Georgia Tourassi, *United States.*

Comparing capacity coefficient and dual task assessment of visual multitasking workload
Leslie M. Blaha, *United States.*

Eye Tracking for Dynamic, User-Driven Workflows
Laura McNamara, Kristin Divis, J. Daniel Morrow, David Perkins, *United States.*

S169

Real-time Cognitive and Emotional State Detection via Neuroscientific, Psychophysics and Biometric Methods
Chair(s): Tuna Çakar, *Turkey*.

Room: **117**

Investigating Brain Dynamics in Industrial Environment – Integrating Mobile EEG and Kinect for Cognitive State Detection of a Worker
Pavle Mijovic, Milos Milovanovic, Ivan Gligorijevic, Vanja Kovic, Ivana Zivanovic-Macuzic, Bogdan Mijovic, *Serbia and Montenegro.*

Towards Technologically Assisted Mindfulness Meditation Practice in Older Adults: an Analysis of Difficulties Faced and Design Suggestions for Neurofeedback
Simon Cook, Ronald M. Baecker, Cosmin Munteanu, Andrew Walker, *Canada.*

Investigating the role of biofeedback and haptic stimulation in mobile paced breathing tools
Antoinette Bumatay, Jinsil Hwaryoung Seo, *United States.*

DHM   S170
Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management

Human Modeling for Quality Care - I
Chair(s): Noriaki Kuwahara, *Japan.*

Room: **204**

Delivering Personalized Information to Individuals in Super Smart Society
Kentaro Noda, Yoshihiro Wada, Sachio Saiki, Masahide Nakamura, Kiyoshi Yasuda, *Japan.*

Capturing Activities of Daily Living for Elderly at Home based on Environment Change and Speech Dialog
Kazunari Tamamizu, Seiji Sakakibara, Sachio Saiki, Masahide Nakamura, Kiyoshi Yasuda, *Japan.*

Generating Personalized Dialogue Towards Daily Counseling System for Home Dementia Care
Seiji Sakakibara, Sachio Saiki, Masahide Nakamura, Kiyoshi Yasuda, *Japan.*

A tactile expression mechanism using pneumatic actuator array for notication from wearable robots
Hirotake Yamazoe, Tomoko Yonezawa, *Japan.*

Haptic interaction design for physical contact between a wearable robot and the user
Tomoko Yonezawa, Hirotake Yamazoe, *Japan.*

Patella Shape Extraction from 3-D Point Cloud Data for Personalized Knee Brace
Hyungan Oh, Jinwook Kim, *Korea.*

DUXU   S171
Design, User Experience, and Usability

Creativity in DUXU
Chair(s): Virginia Tiradentes Souto, *Brazil.*

Room: **118**

Collaborative System for Generative Design: Manipulating Parameters, Generating Alternatives
Luisa Paraguai, Heloisa Candello, Paulo Costa, *Brazil.*

Game Worlds and Creativity: the Challenges of Procedural Content Generation
Rafael Pereira de Araujo, Virginia Tiradentes Souto, *Brazil.*

The Challenges Found in the Access to Digital Information by People with Visual Impairment
Karolina Vieira da Silva Bastos, Ivette Kafure Muñoz, *Brazil.*

Creativity in Digital Design: differences from print-based graphic design
Virginia Tiradentes Souto, *Brazil.*

DUXU S172 — S173

User Experience, affordances and innovation

Chair(s): Adriano Bernardo Renzi, *Brazil.*

Room: **119**

UX Heuristics for Cross-Channel Interactive Scenarios
Adriano Bernardo Renzi, *Brazil.*

Pervasive Information Architecture and Media Ecosystem: a Brazilian Video on Demand User Experience
Luiz Agner, Barbara Jane Necyk, Adriano Bernardo Renzi, *Brazil.*

Experience, Usability and Sense of Things
Axel Sande, Adriano Bernardo Renzi, Silvia Schnaider, *Brazil.*

The Shape of Challenge: Using affordance design to create challenge within games
Michael Brandse, *Japan.*

Analysis of Users' Mental Model and Expectations from Usability and Information Design Point of View in e-Contracts: a Case of Hotel Reservation
Renata Zappelli Marzullo, André Ribeiro Oliveira, Adriano Bernardo Renzi, *Brazil.*

Melissa's Concept Store: Physical Environment for Experience
Stella Hermida, Adriano Bernardo Renzi, *Brazil.*

HCI for Sustainability

Chair(s): Beth Karlin, Angela Sanguinetti, *United States.*

Room: **120**

Energy UX: Leveraging Multiple Methods to See the Big Picture
Beth Karlin, Sena Koleva, Jason Kaufman, Angela Sanguinetti, *United States;* Rebecca Ford, *United Kingdom;* Colin Chan, *Canada.*

EcoTrips: Leveraging Co-benefits and Metaphorical Metrics in a Mobile App to Promote Walking and Biking for Short Trips
Hannah Park, Angela Sanguinetti, Gabriel Castillo Cortes, *United States.*

Electric Vehicle Explorer: Educating and Persuading Consumers with an Online Vehicle Energy Cost Calculator
Angela Sanguinetti, Kiernan Salmon, Michael Nicholas, Gil Tal, Matthew Favetti, *United States.*

GreenFLY: Adding Carbon to the Equation in Online Flight Searches
Angela Sanguinetti, Andrew Kwon, Yitong Li, Vishal Chakraborty, Suhaila Sikand, Otavio Tarelho, Ying Chen, Nina Amenta, *United States.*

Modeling a systematic-innovation approach for green product design
Yao-Tsung Ko, Meng-Cong Zheng, Chi-Hung Lo, *Taiwan.*

User Experience Evaluation for User Interface Redesign: A Case Study on a Bike Sharing Application
Jonas Forte, Ticianne G.R. Darin, *Brazil.*

DAPI S174

Distributed, Ambient and Pervasive Interactions

Design, Development and Evaluation of Smart Environments

Chair(s): Sara Diamond, *Canada.*

Room: **115**

Heuristics to Evaluate the Usability of Ubiquitous Systems
Larissa C. Rocha, Rossana M.C. Andrade, Andréia L. Sampaio, Valéria Lelli, *Brazil.*

'Wizard of Oz' Study for Controlling Living Room Lighting
Jo Olsen, Jeremy Spaulding, *United States.*

MIDAS-M: A Software Framework for Supporting Multimodal Interaction on Heterogeneous Interaction Devices for Cloud Applications
Myunghee Lee, Gerard J. Kim, Jeonghyun Baek, *Korea.*

Knowledge-based Approach to Modeling Urban Dynamics
Sonja Gievska, *United States;* Petre Lameski, *Former Yugoslav Republic of Macedonia.*

HAS S175

Human Aspects of Information Security, Privacy and Trust

Mobile Security

Chair(s): Duncan Hodges, *United Kingdom.*

Room: **111**

Detection and Auto-protection of Cache File Privacy Leakage for Mobile Social Networking Applications in Android
Hui Li, Wenling Liu, Bin Wang, Wen Zhang, *P.R. China.*

Keystroke Inference using Smartphone Kinematics
Oliver Buckley, Duncan Hodges, Melissa Hadgkiss, Sarah Morris, *United Kingdom.*

Android App Permission and Users' Adoption: A Case Study of Mental Health Application
Hsiao-Ying Huang, Masooda Bashir, *United States.*

Mobile Online Proficiency and Mobile Internet Use - Findings from Finland
Titiana-Petra Ertiö, Pekka Räsänen, *Finland.*

A Privacy-Driven Data Management Model for Smart Personal Assistants
Danilo Nogueira, Cristiano Maciel, José Viterbo, Daniel Vecchiato, *Brazil.*

FRIDAY 8:00 - 10:00

HCIBGO   S176

HCI in Business, Government and Organizations

Addressing HCI Needs in the Government Sector

Chair(s): Austin R. Silva, *United States.*

Room: **205**

Advanced Nuclear Interface Modeling Environment (ANIME): A Tool for Developing Human-Computer Interfaces for Experimental Process Control Systems
Ronald L. Boring, Roger Lew, Thomas Ulrich, *United States.*

Project Management Implications and Implementation Roadmap of Human Readiness Levels
Victoria Newton, Alexander Greenberg, Judi See, *United States.*

Implementing Digital Parliament Innovative Concepts for Citizens and Policy Makers
Fotios Fitsilis, Dimitris Koryzis, Vasilios Svolopoulos, Dimitris Spiliotopoulos, *Greece.*

Contract Visualisation: Sketches for Generic Interfaces
Lei Shi, Daniela Alina Plewe, *Singapore.*

LCT   S177

Learning and Collaboration Technologies

Social Computing for Social Change

Chair(s): Andri Ioannou, Antigoni Parmaxi, Panayiotis Zaphiris, *Cyprus.*

Room: **206**

Using Phenomenography to Understand Cultural Values in Facebook
Leantros Kyriakoullis, Panayiotis Zaphiris, *Cyprus.*

discuss: Embedding Dialog-Based Discussions into Websites
Christian Meter, Tobias Krauthoff, Martin Mauve, *Germany.*

On the Potential of Using Virtual Reality for Teacher Education
Kalliopi Evangelia Stavroulia, Andreas Lanitis, *Cyprus.*

Peacemaking Affordances of Shareable Interfaces: A provocative Essay on Using Technology for Social Change
Andri Ioannou, Chrystalla Antoniou, *Cyprus.*

Improving Concepts of E-Learning by Using ERP Systems for an Interactive Knowledge Diffusion
David Heim, Marcus Fischer, Axel Winkelmann, *Germany.*

S178

Beyond the Classroom

Chair(s): Arianit Kurti, *Sweden.*

Room: **116**

Exploring the Impact of Social Learning Networks in M-Learning: A Case Study in a University Environment
Fisnik Dalipi, *Sweden;* Florim Idrizi, *Former Yugoslav Republic of Macedonia;* Arianit Kurti, Sweden.

An Analysis of the Note-Taking Function of the Audience Response System
Toshikazu Iitaka, *Japan.*

Girls in Robot Class_ Smart Textiles Interactive Tool-kits to enhance the Participatory of Women in Technology
Aqua Chuan-Yu Chen, Yu-Cheng Lin, *Taiwan.*

Connectivist, Context-Aware Communication Channels - Peer-Finding Algorithm for Distributed Learning Networks
Ingolf Waßmann, *Germany;* Ebram Sherif, *Egypt.*

Measuring user engagement in mobile classroom response system: A case study
Tek Yong Lim, Chia Ying Khor, Yin Bee Oon, *Malaysia.*

Brain Tagging: a BCI and HCI Tagging System to evaluate the Learning Contents
Yang Ting Shen, Pei Wen Lu, Xin Mao Chen, *Taiwan.*

ITAP   S179

Human Aspects of IT for the Aged Population

Perception and Emotional Factors in Product Design

Chair(s): Yong Gu Ji, *Korea.*

Room: **105 & 106**

Emotions in Material Surfaces for Product Design
Donghwan Kim, Yun Jae Lee, Jiwon Kim, Hyerin Park, Min Hee Shin, Ji Hyun Lim, Choeun Kim, Taezoon Park, Wonil Hwang, *Korea.*

Users' Affective Response to Furniture Design Based on Public Openness
Yein Jo, JeeBin Yim, Hyeonsu Park, Younah Kang, *Korea.*

A Sensory Emotion Data System for Designing Information Appliances
Yan Jin, Long Xu, Sangwon Lee, *Korea.*

Representing Meaning in User Experience by Visualizing Empirical Data
Eui Chul Jung, EunJeong Kim, *Korea.*

Development of a User Experience Evaluation Framework for Wearable Devices
Young Woo Kim, Sol Hee Yoon, Hwan Hwangbo, Yong Gu Ji, *Korea.*

Auditory User Interface Guideline for Emotional User Experience
Hoon Sik Yoo, Da Young Ju, *Korea.*

Human-Computer Interaction

HCI   S180

Technology acceptance, trust and ethics

Chair(s): Chaiwoo Lee, *United States*.

Room: **212**

Fashion and Technology: Implications for the Social Acceptability of a Wearable Device
Kaitlyn Ouverson, Norene Kelly, Stephen B. Gilbert, *United States*.

Research on Discussion of Gender Difference in Preference for Smart Watches Based on Fuzzy Analytic Hierarchy Process
Tianxiong Wang, Feng Shan, *P.R. China*.

Acceptance of Automated Driving Across Generations: The Role of Risk and Benefit Perception, Knowledge, and Trust
Carley Ward, Martina Raue, Chaiwoo Lee, Lisa D'Ambrosio, Joseph F. Coughlin, *United States*.

The Interplay between Human and Machine Agency
J. Brian Pickering, Vegard Engen, Paul Walland, *United Kingdom*.

Brain-Computer interfaces: Agency and the Transition from Ethics to Politics
Andreas Wolkenstein, *Germany*.

S181

Novel User Interfaces in Everyday Contexts of Use - II

Chair(s): Dieter Wallach, *Germany*.

Room: **213**

Scratchpad: Lightweight Data Capture Tool to Support Mission Planning
Erika Von Kelsch, Stephanie Kane, Chris Muller, Chris Hogan, *United States*.

Game of Drones: How to Control a UAV?
Jan Conrad, Dieter Wallach, Fabian Kalweit, Patrick Lindel, Stefan Templin, *Germany*.

Gathering and Applying Guidelines for Mobile Robot Design for Urban Search and Rescue Application
Ekaterina Stepanova, Markus Von der Heyde, Alexandra Kitson, Thecla Schiphorst, Bernhard E. Riecke, *Canada*.

Human Interface and the Management of Information

HIMI   S182

VR2.0 and Digital Museum

Chair(s): Michitaka Hirose, *Japan*.

Room: **202**

Attention Sharing in a Virtual Environment Attracts Others
Takuji Narumi, Yuta Sakakibara, Tomohiro Tanikawa, Michitaka Hirose, *Japan*.

Basic study on connecting AR and VR for digital exhibition with mobile devices
Taiju Aoki, Takuji Narumi, Tomohiro Tanikawa, Michitaka Hirose, *Japan*.

Factors and Influences of Body Ownership over Virtual Hands
Nami Ogawa, Takuji Narumi, Michitaka Hirose, *Japan*.

A new experience presentation in VR2.0
Yasushi Ikei, Tomohiro Amemiya, Koichi Hirota, Michiteru Kitazaki, *Japan*.

Reminiscent Window: On-site AR exhibition system for regional community revitalization by archiving and sharing regional cultural resources
Tomohiro Tanikawa, Junichi Nakano, Shohei Osawa, Takuji Narumi, Michitaka Hirose, *Japan*.

Godzilla meets 'F' museum: Case Study of Hand-on Museum Event with Augmented Reality Technology
Ryoko Ueoka, Kenta Iwasa, *Japan*.

Engineering Psychology and Cognitive Ergonomics

EPCE   S183

Mental Workload and Performance

Chair(s): Shan Fu, *P.R. China*.

Room: **112**

An Analysis of Pilot's Workload Evaluation Based on Time Pressure and Effort
Wenmeng Liu, Yanyu Lu, Dan Huang, Shan Fu, *P.R. China*.

Modeling of Performance Biases Induced by the Variance of Information Presentation to the Operator
Sen Tian, Dan Huang, Lin Wang, Shan Fu, *P.R. China*.

Driver's multi-attribute task battery performance and attentional switch cost are correlated with speeding behavior in simulated driving
Jie Zhang, Mengnuo Dai, Feng Du, *P.R. China*.

An Evaluation of New Console Technology – Large Display – in Process Control Display
Benjamin Noah, Jingwen Li, Ling Rothrock, *United States*.

MINIMA Project: Detecting and Mitigating the Negative Impact of Automation
Bruno Berberian, *France;* Oliver Ohneiser, *Germany;* Francesca De Crescenzio, Fabio Babiloni, Gianluca Di Flumeri, *Italy;* Andreas Hasselberg, *Germany*.

FRIDAY 10:30 - 12:30

FRIDAY 10:30 - 12:30

Universal Access in Human-Computer Interaction

UAHCI S184

Novel uses of interaction logs

Chair(s): Vagner Figueredo De Santana, *Brazil*.

Room: **208**

Abstraction levels as support for UX design of user's interaction logs
Juliana Jansen Ferreira, Vinícius Segura, Ana Fucs, Rogério De Paula, Renato F.G. Cerqueira, *Brazil*.

Interaction behind the scenes: Exploring knowledge and user intent in interactive decision-making processes
Rafael R.M. Brandão, Marcio F. Moreno, Renato F.G. Cerqueira, *Brazil*.

A Software to Capture Mental Models
Hashim Iqbal Chunpir, Thomas Ludwig, *Germany*.

S185

Design for Cognitive Disabilities

Chair(s): Samuel Silva, *Portugal*.

Room: **209**

Design of a Tablet Game to Assess the Hand Movement in Children with Autism
Huan Zhao, Amy Swanson, Amy Weitlauf, Zachary Warren, Nilanjan Sarkar, *United States*.

"The Sum of All Our Feelings!": Sentimental Analysis on Chinese Autism Sites
Tiffany Y. Tang, *P.R. China;* Relic Yongfu Wang, *United States;* Carl Guanxing Chen, *P.R. China*.

"Tell Your Day": Developing Multimodal Interaction Applications for Children with ASD
Diogo Vieira, Ana Leal, Nuno Almeida, Samuel Silva, António Teixeira, *Portugal*.

A Highly Customizable Parent-Child Word-Learning Mobile Game for Chinese Children with Autism
Pinata Winoto, Vince Lineng Cao, Esther Mingyue Tang, *P.R. China*.

Impact of Cognitive Learning Disorders on Accessing Online Resources
Alexander Cadzow, *United Kingdom*.

Designing for children using the RtD and HCD Approaches
Thais Castro, David Lima, *Brazil*.

Virtual, Augmented and Mixed Reality

VAMR S186

Developing Novel Virtual Environments

Chair(s): Angelos Barmpoutis, *United States*.

Room: **116**

Analytical Mapping of Linear Walk from Infinite Virtual Space to Finite Real Space
Angelos Barmpoutis, *United States*.

Leaning-Based 360° Interfaces: Investigating Virtual Reality Navigation Interfaces with Leaning-Based-Translation and Full-Rotation
Abraham M. Hashemian, Bernhard E. Riecke, *Canada*.

Curved Plates Positioning and Flexible Brackets Control in Virtual Shipbuilding Simulation
Cheng Huanchong, Fan Xiumin, Zhu Minghua, Gu Yan, Du Jiwang, *P.R. China*.

Digital Map Table VR: Bringing an Interactive System to Virtual Reality
Gunnar Strentzsch, Florian Van de Camp, Rainer Stiefelhagen, *Germany*.

Playing Both Sides - Analyzing Live-Action-Role-Play as a Method for Simulating Complex Technical Interactions
Marcel Schmittchen, *Germany*.

Vitty: Virtual Touch Typing Interface with added Finger Buttons
YongJae Lee, Gerard J. Kim, *Korea*.

Cross-Cultural Design

CCD S187

DesignX, Acting into Complexity

Chair(s): Yongqi Lou, *P.R. China*.

Room: **207**

Designing to Support Community Gardens by Going Beyond Community Gardens
Xiaolan Wang, Ron Wakkary, *Canada*.

Design for Learning through Play - An Exploratory Study on Chinese Perspective
Maria Luce Lupetti, *Italy;* Yuan Yao, Jing Gao, Haipeng Mi, *P.R. China;* Claudio Germak, *Italy*.

What is a System?: A Lesson Learned from the Emerging Practice of DesignX
Jin Ma, *P.R. China*.

PARALLEL SESSIONS

DAY1 DAY2 **DAY3**

SCSM S188

Social Computing and Social Media

Experiences in Social Media

Chair(s): Daniela Quiñones, Silvana Roncagliolo, *Chile.*

Room: **107 & 108**

Automatic Tweets Classication under an Intelligent Agents Framework
Sebastián Rodríguez, Rodrigo Alfaro, Héctor Allende-Cid, Claudio Cubillos, *Chile.*

On User eXperience in Virtual Museums
Cristian Rusu, Virginia Zaraza Rusu, Patricia Muñoz, Virginica Rusu, Silvana Roncagliolo, Daniela Quiñones, *Chile.*

From GreedEx to GreedEx Tab v2.0: Tool for Learning Greedy Algorithms on iPad following CIAM Mobile methodology
Yoel Arroyo, Manuel Ortega Cordovilla, Miguel A. Redondo, Ana I. Molina, María del Carmen Lacave, Manuel Ortega Cantero, *Spain.*

Research on the Social Experience of Mobile Internet Products
Tian Lei, Sijia Zhang, *P.R. China.*

ADMemento: A Prototype of Activity Reminder and Assessment Tools for Patients with Alzheimer's Disease
Sarah Alhassan, Wafa Alrajhi, Amal Alhassan, Alreem Almuhrij, *Saudi Arabia.*

Investigating Arab DHH Usage of YouTube Videos Using Latent Variables in an Acceptance Technology Model
Lamia Abdul Aziz Bin Husainan, Hanan Ali AL-Shehri, Muna Al-Razgan, *Saudi Arabia.*

AC S189

Augmented Cognition

Toward Practical Affective Brain-Computer Interfaces

Chair(s): Yuan-Pin Lin, *Taiwan;* Tzyy-Ping Jung, *United States.*

Room: **203**

An Affordable Bio-Sensing and Activity Tagging Platform for HCI Research
Siddharth Siddharth, Aashish Patel, Tzyy-Ping Jung, Terrence Sejnowski, *United States.*

Deep Transfer Learning for Cross-Subject and Cross-Experiment Prediction of Image Rapid Serial Visual Presentation Events from EEG Data
Mehdi Hajinoroozi, Zijing Mao, *United States;* Yuan-Pin Lin, *Taiwan;* Yufei Huang, *United States.*

Digital Interface Brain Computer Interaction Method based on Icon Control
Yafeng Niu, Chengqi Xue, Haiyan Wang, Wenzhe Tang, Xinyu Zhang, Tao Jin, *P.R. China;* Yingjie Victor Chen, *United States.*

The investigation of hemodynamic signals of prefrontal and motor cortex using functional Near-Infrared Spectroscopy for multiple class brain-computer interface
Xuejun Jiao, Yong Cao, Jin Jiang, Chunhui Wang, *P.R. China.*

An Experimental Study on Usability of Brain-Computer Interaction Technology in Human Spaceflight
Shanguang Chen, Jin Jiang, Jiabei Tang, Xuejun Jiao, Hongzhi Qi, Yong Cao, Chunhui Wang, Dong Ming, *P.R. China.*

DHM S190

Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management

Human Modeling for Quality Care - II

Chair(s): Noriaki Kuwahara, *Japan.*

Room: **204**

A Study of Photographs as Communication Content for Intergenerational Conversation Support System
Xiaochun Zhou, Miyuki Iwamoto, Noriaki Kuwahara, Kazunari Morimoto, *Japan.*

The effects of the robot patient's patient-likeness on nursing students
Mitsuhiro Nakamura, Yasuko Kitajima, Jun Ota, Taiki Ogata, *Japan;* Zhifeng Huang, *P.R. China;* Chingszu Lin, Noriaki Kuwahara, Jukai Maeda, Masako Kanai-Pak, *Japan.*

Tacit process for obtaining nursing skills: Focusing on nurse's sense of patients close to death
Jukai Maeda, Yasuko Kitajima, Masako Yamashita, Yuki Tsuji, *Japan.*

Abductive cognitive support for (semantic) dementia persons
Akinori Abe, *Japan.*

F0 Feature Analysis of Communication between Elderly Individuals for Health Assessment
Yumi Wakita, Shunpei Matsumoto, *Japan.*

Developing a Rapid Assessment Method to Estimate Berg Balance Scale Score of Elderly People
Chih-Sheng Chang, Wei-Lun Chen, *Taiwan.*

DUXU S191   continues

Design, User Experience, and Usability

Addressing Context-of-Use in Mobile and Wearable Computing

Chair(s): Ger Joyce, *United Kingdom.*

Room: **120**

The Smartwatch in Multi-device Interaction
Donald McMillan, *Sweden.*

Mobile Application Usability Heuristics: Decoupling Context-of-Use
Ger Joyce, Mariana Lilley, Trevor Barker, Amanda Jefferies, *United Kingdom.*

Addressing Mobile Usability and Elderly Users: validating contextualized heuristics
Andre De Lima Salgado, Leandro Agostini do Amaral, Renata Pontin De Mattos Fortes, Marcos Hortes Nisihara Chagas, *Brazil;* Ger Joyce, *United Kingdom.*

What Drives Perceived Usability in Mobile Web Design: Classical or Expressive Aesthetics?
Kiemute Oyibo, Julita Vassileva, *Canada.*

ErgoMobile: A Software to Support Usability Evaluations in Mobile Devices Using Observation Techniques
Thiago Adriano Coleti, Leticia da Silva Souza, Marcelo Morandini, *Brazil;* Suzie Allard, *United States;* Pedro Luiz Pizzigatti Correa, *Brazil.*

FRIDAY 10:30 - 12:30

DUXU   S192

Design Method for Creating Meaningful Human-Product Interaction

Chair(s): Yi Ji, *P.R. China;* Abbas Moallem, *United States.*

Room: **118**

The Application of Multi-view and Multi-task Learning for On-board Interaction Design Based on Visual Selection
Bin Jiang, Jianghui Ma, Di Zhou, P.R. China.

Constructing Cognitive Pattern in Design Thinking Based on Complementary Perspective
Xiaoxian Wang, *P.R. China.*

Research on the Experience Design of Chinese knowledge sharing in the information age
Wenkui Jin, Renke He, Xinxin Sun, *P.R. China.*

Research on the design of Nanjing Museum cultural and creative product from the perspective of Experience
Xinxin Sun, Wenkui Jin, Chao Li, *P.R. China.*

The Effects of Website White Space on University Students
Yu-Chun Liu, Chih-Hsiang Ko, *Taiwan.*

S193

Information Design and UX

Chair(s): Carla Galvão Spinillo, Luciane Maria Fadel, *Brazil.*

Room: **119**

Information Behaviour in Design; A Conceptual Framework
Farnaz Nickpour, *United Kingdom.*

The Open University of the Unified Health System in Brazil (UNA-SUS/UFMA): Identification and Hierarchization of Problems in Distance Learning Courses
Carla Galvão Spinillo, Stephania Padovani, Kelli Smythe, Juliana Bueno, Ana Emilia Figueiredo de Oliveira, *Brazil.*

ViVid: A Video Feature Visualization Engine
Jianyu Fan, Philippe Pasquier, *Canada;* Luciane Maria Fadel, *Brazil;* Jim Bizzocchi, *Canada.*

Shaping the Experience of a Cognitive Investment Adviser
Heloisa Candello, Claudio Pinhanez, *Brazil;* David Millen, *United States;* Bruna Daniele Andrade, *Brazil.*

Visual and Interactive Concerns for VR Applications: a Case Study
Francimar Maciel, Alvaro Lourenço, Paulo Carvalho, Paulo Melo, *Brazil.*

Exploring the Interaction Between Visual Flux and Users on Mobile Devices
Shih-Wen Hsiao, Yi-Cheng Tsao, *Taiwan.*

DAPI   S194

Distributed, Ambient and Pervasive Interactions

Interacting with the Internet of Things

Chair(s): Rossana M.C. Andrade, *Brazil.*

Room: **115**

What changes from Ubiquitous Computing to Internet of Things in Interaction Evaluation?
Rossana M.C. Andrade, Rainara M. Carvalho, Italo Linhares De Araujo, *Brazil;* Kathia M. Oliveira, *France;* Marcio E.F. Maia, *Brazil.*

Usability Evaluation and Redesign of an IoE Portal
Lucia Satiko Nomiso, Eduardo Hideki Tanaka, Daniel Augusto Guerra Da Costa, *Brazil.*

A Service Infrastructure for Human-Centered IoT-based Smart Built Environments
Denis Gracanin, Mohamed Handosa, *United States;* Hicham G. Elmongui, *Egypt.*

Evaluating an IoT Application using Software Measures
Rainara M. Carvalho, Rossana M.C. Andrade, Jefferson Barbosa, Adyson M. Maia, Belmondo A. Junior, Paulo A. Aguilar, Carla I.M. Bezerra, *Brazil;* Kathia M. Oliveira, *France.*

HAS   S195

Human Aspects of Information Security, Privacy and Trust

Usable Security Approaches and Studies

Chair(s): Stewart Kowalski, *Norway.*

Room: **111**

A Case Study: Heartbleed Vulnerability Management and Swedish Municipalities
Shao-Fang Wen, Stewart Kowalski, *Norway.*

Law Infringements in Social Live Streaming Services
Franziska Zimmer, Kaja J. Fietkiewicz, Wolfgang G. Stock, *Germany.*

Exploring Consumers' Attitudes of Smart TV Related Privacy Risks
Marco Ghiglieri, *Germany;* Melanie Volkamer, *Sweden;* Karen Renaud, *United Kingdom.*

Overcoming fear of the threat model
Scott Cadzow, *United Kingdom.*

Usable Security Management for Network Access Rules of Critical Infrastructure
Jeong-Han Yun, SeungOh Choi, WoonYon Kim, Hwasun Kang, Sung-Woo Kim, *Korea.*

PARALLEL SESSIONS

HCIBGO S196

HCI in Business, Government and Organizations

Impact of context and location on HCI

Chair(s): Norman Shaw, *Canada.*

Room: **117**

Understanding Color Risk Appropriateness: Influence of Color on a User's Decision to Comply with the IT Security Policy—Evidence from the U.S. and India
Mario Silic, Mato Njavro, *Switzerland;* Goran Oblakovic, *Croatia.*

Mobile Shopping should be Useful, Convenient and Fun!
Norman Shaw, Ksenia Sergueeva, *Canada.*

Factors Influencing Acceptance and Continued Use of mHealth apps
Hanna Woldeyohannes, Ojelanki Ngwenyama, *Canada.*

Improving Healthcare with Wearables: Overcoming the Barriers to Adoption
Ksenia Sergueeva, Norman Shaw, *Canada.*

S197

HCI in Tourism and Hospitality Consumptive Experiences

Chair(s): Xinran Lehto, Li Miao, *United States.*

Room: **205**

The Joint Effect of Machine Voice and Self-efficacy on Consumer Responses to SST Failures
Alei "Aileen" Fan, Luorong "Laurie" Wu, Anna S. Mattila, *United States.*

Infusion of Smartphone Technologies in Hospitality Service Experience
Lei Nie, Li Miao, *United States.*

The influence of previous travelers' adventure experience on future travelers' risky travel intention in the network information sharing era
Caifen Jiang, *P.R. China;* Li Miao, Hailin Qu, *United States.*

Mobile Web Strategy for Cultural Heritage Tourism: a Study on Italian Opera Houses
Luisa Mich, Roberto Peretta, *Italy.*

LCT S198

Learning and Collaboration Technologies

Supporting collaborative learning, teaching and knowledge exchange

Chair(s): Claudia Picardi, *Italy.*

Room: **206**

Lessons Learned from Evaluating an Authoring Tool for Learning Objects
André Luiz De Brandão Damasceno, Carlos De Salles Soares Neto, Simone Diniz Junqueira Barbosa, *Brazil.*

The Development of a Mediation Artifact for Representing Teaching Practices: a Study Connecting the Areas of Design and Learning Design
Patrícia B. Scherer Bassani, Igor Escalante Casenote, Eduardo Guilherme Albrecht, Diego Mergener, *Brazil.*

Personal and Shared Perspectives on Knowledge Maps in Learning Environments
Anna Goy, Giovanna Petrone, Claudia Picardi, *Italy.*

Manipulation of Mathematical Expressions in Collaborative Environments
Marco Pollanen, Sohee Kang, Bruce Cater, *Canada.*

The Evaluation on the Usability of Digital Storytelling Teaching System in Teaching
Pei-Fen Wu, Hui-Jiun Hu, Feng-Chu Wu, Kuang-Yi Fan, *Taiwan.*

The Influence of Trust on User Interactions in e-Transaction Platforms: The Context of a Developing Country
Godfrey Kingsley, Sonia Sousa, Abiodun Ogunyemi, *Estonia.*

ITAP S199

Human Aspects of IT for the Aged Population

Elderly in E-Commerce and IT applications

Chair(s): Jiunn-Woei Lian, *Taiwan.*

Room: **105 & 106**

Understanding Middle-Aged and Elderly Taiwanese People's Acceptance of the Personal Health Information System for Self-Health Management
Pi-Jung Hsieh, Hui-Min Lai, Hsuan-Chi Ku, Wen-Tsung Ku, *Taiwan.*

Reopening the Black Box of Career Age and Research Performance
Chien Hsiang Liao, *Taiwan.*

The Study of Teaching the Smartphone Using in Taiwan's Elderly Population — a Case Study in Learners of the Senior Citizens Academy in a City of Taiwan
Ming-Wei Wang, *Taiwan.*

Understanding the Motivations of Online Community Users - A Comparison between Younger and Older People
Jiunn-Woei Lian, *Taiwan.*

Novel Functional Technologies for Age-friendly E-commerce
Xiaohai Tian, Lei Meng, Siyuan Liu, Zhiqi Shen, Eng Siong Chng, Cyril Leung, Frank Guan, Chunyan Miao, *Singapore.*

FRIDAY   13:30 - 15:30

Human-Computer Interaction

HCI   S200

Games and Playing Experience Design

Chair(s): Xiaowen Fang, *United States.*

Room: **212**

Bringing Game Design Models to Life
Sandeep Athavale, Vasundhara Agrawal, *India.*

Multi-screen and Multi-device Game Development
Paulo S. Mendez, J. C. Silva, Jose Luis Silva, *Portugal.*

Sources of Computer Game Enjoyment: Card Sorting to Develop a New Model
Owen Schaffer, Xiaowen Fang, *United States.*

A Case Study for Enhancing Mobile Games' Immersion in Terms of User Interface Design
Xiaoneng Jin, Jing Guan, *P.R. China.*

Examining Enjoyment in Gamifying Physical Exercise and a Healthy Diet
Khasfariyati Razikin, Dion Hoe-Lian Goh, Chei Sian Lee, *Singapore.*

Who is with You? Integrating a Play Experience into Online Video Watching via Danmaku Technology
Lili Liu, Ayoung Suh, Christian Wagner, *Hong Kong.*

S201

Gesture and movement-based interaction

Chair(s): David Rempel, *United States.*

Room: **213**

A Widely Applicable Real-time Mono/Binocular Eye Tracking System Using a High Frame-Rate Digital Camera
Keiji Matsuda, Takeshi Nagami, Yasuko Sugase, Aya Takemura, Kenji Kawano, *Japan.*

Bigger (Gesture) Isn't Always Better
David Novick, Ivan Gris, Adriana Camacho, Alex Rayon, Timothy Gonzalez, *United States.*

Emotion Evaluation through Body Movements Based on Silhouette Extraction
Hong Yuan, Bo Wang, Li Wang, Muxun Xu, *P.R. China.*

Design of Hand Gestures for Manipulating Objects in Virtual Reality
Wanhong Lin, *P.R. China;* Lear Du, Carisa Harris-Adamson, Alan Barr, David Rempel, *United States.*

The Research of Wearable Device User Fatigue Based on Gesture Interaction
Wen-jun Hou, Chun-jing Wu, Xiao-lin Chen, *P.R. China.*

Gesture-based Interactions in Video Games with the Leap Motion Controller
Johanna Pirker, Matthias Pojer, Andreas Holzinger, Christian Gütl, *Austria.*

Human Interface and the Management of Information

HIMI   S202

The Potential for Virtual Reality in Cognitive Rehabilitation and Assessment for early dementia, and MCI

Chair(s): Takehiko Yamaguchi, *Japan.*

Room: **202**

Using Virtual Reality to Assess the Elderly: The Impact of Human-Computer Interfaces on Cognition
Frédéric Banville, Jean-François Couture, *Canada;* Eulalie Verhulst, Jeremy Besnard, Paul Richard, Philippe Allain, *France.*

Navigation Patterns in Ederly during Multitasking in Virtual Environnment
Eulalie Verhulst, *France;* Frédéric Banville, *Canada;* Paul Richard, *France;* Sabrina Tabet, Claudia Lussier, Édith Massicotte, *Canada;* Philippe Allain, *France.*

Generating Rules of Action Transition in Errors in Daily Activities from a Virtual Reality-based Training Data
Niken Prasasti Martono, Keisuke Abe, Takehiko Yamaguchi, Hayato Ohwada, *Japan;* Tania Giovannetti, *United States.*

Discovering Rules of Subtle Deficits Indicating Mild Cognitive Impairment Using Inductive Logic Programming
Keisuke Abe, Niken Prasasti Martono, Takehiko Yamaguchi, Hayato Ohwada, *Japan;* Tania Giovannetti, *United States.*

Wearable Computing Support for Objective Assessment of Function in Older Adults
Theodore Hauser, James Klein, Philip Coulomb, Sarah Lehman, *United States;* Takehiko Yamaguchi, *Japan;* Tania Giovannetti, Chiu C. Tan, *United States.*

Characterization of Mild Cognitive Impairment Focusing on Screen Contact Data in Virtual Reality-based IADL
Yuki Kubota, Takehiko Yamaguchi, Tetsuya Harada, *Japan;* Tania Giovannetti, *United States.*

S203

Expert Systems and Decision-Making Support

Chair(s): Bruce Gooch, *United States.*

Room: **205**

An Interactive Diagnostic Application for Food Crop Irrigation
Nicolas Bain, Nithya Rajan, Bruce Gooch, *United States.*

Introducing a Decision Making Framework to Help Users Detect, Evaluate, Assess, and Recommend (DEAR) Action within Complex Sociotechnical Environments
Ryan A. Kirk, Dave A. Kirk, *United States.*

A Comparison of two Cockpit Color Concepts under Mesopic lighting using a CRT Task
Martin Götze, Antonia S. Conti, Klaus Bengler, *Germany.*

HIMI S204

Service Management

Chair(s): Georg Rehm, *Germany.*

Room: **116**

Giving IT Services a Theoretical Backing
Alexander Teubner, Christian Remfert, *Germany.*

Developing a Common Understanding of IT Services – The Case of a German University
Christian Remfert, *Germany.*

Designing User Interfaces for Curation Technologies
Georg Rehm, Jing He, Julian Moreno Schneider, Jan Nehring, Joachim Quantz, *Germany.*

Expanding Scientific Community Reach Based on Web Access Data
Vagner Figueredo De Santana, Leandro Marega Ferreira Otani, *Brazil.*

EPCE S205

Engineering Psychology and Cognitive Ergonomics

Cognition in Aviation, Space and the Military

Chair(s): Xiaoyan Zhang, *P.R. China.*

Room: **112**

Study on the Astronaut Error Criteria of a Manually Controlled Rendezvous and Docking Operation
Jiayi Cai, Weifen Huang, Jie Li, Wang Liu, Haipeng Jing, Dong Chen, Yanlei Wang, Xiang Zhang, *P.R. China.*

A Study for Human-Machine Interface Design of Spacecraft Display & Control Device based on EyeTracking Experiments
QI Guo, Chengqi Xue, Yun Lin, Yafeng Niu, Mo Chen, *P.R. China.*

An Approach for Assessing the Usability of Cockpit Display System
Hongjun Xue, Tao Li, Xiaoyan Zhang, *P.R. China.*

UI-Design and Evaluation for Human-Robot-Teaming in Infantry Platoons
Martin Westhoven, Christian Lassen, Irmtrud Trautwein, Thomas Remmersmann, Bernd Brüggemann, *Germany.*

UAHCI 206

Universal Access in Human-Computer Interaction

Non Visual Interaction

Chair(s): Mike Wald, *Thailand.*

Room: **208**

Mobile Audio Games Accessibility Evaluation for Users Who Are Blind
Maria C.C. Araújo, Agebson Façanha, Ticianne G.R. Darin, *Brazil;* Jaime Sánchez, *Chile;* Rossana M.C. Andrade, Windson Viana, *Brazil.*

Technology Enhanced Accessible Interactions for Visually Impaired Thai People
Kewalin Angkananon, Mike Wald, *Thailand.*

Evaluating Vibrotactile Recognition Ability of Geometric Shapes by Using a Smart Phone
Ray F. Lin, *Taiwan.*

Identifying Sound Cues of the Outdoor Environment by Blind People to Represent Landmarks on Audio-Tactile Maps
Nazatul Naquiah Abd Hamid, Wan Adilah Wan Adnan, Fariza Hanis Abdul Razak, *Malaysia.*

Outdoor Wayfinding and Navigation for People Who Are Blind: Accessing the Built Environment
Robert Wall Emerson, *United States.*

S207

Universal Access and Design for All Practice

Chair(s): Silvia Rodríguez Vázquez, *Ireland.*

Room: **209**

Usability of University Websites: A Systematic Review
Zehra Yerlikaya, Pinar Onay Durdu, *Turkey.*

Bringing Accessibility into the Multilingual Web Production Chain: Perceptions from the Localization Industry
Silvia Rodríguez Vázquez, Sharon O'Brien, *Ireland.*

Universal Design Approaches among Norwegian Experts
Miriam Eileen Nes Begnum, *Norway.*

A Conceptual Framework for Integrating Inclusive Design into Design Education
Ting Zhang, Guoying Lu, Yiyun Wu, *P.R. China.*

Inclusive Design Thinking for Accessible Signage in Urban Parks in Taiwan
Ko-Chiu Wu, Hsuan Wang, *Taiwan.*

FRIDAY 13:30 - 15:30

FRIDAY   13:30 - 15:30

VAMR S208

Virtual, Augmented and Mixed Reality

Virtual Instruction and Training

Chair(s): Rafael Radkowski, *United States*.

Room: **117**

Effects of Instruction Methods on User Experience in Virtual Reality Serious Games
Lal Bozgeyikli, Andrew Raij, Srinivas Katkoori, Redwan Alqasemi, *United States*.

Optimizing Performance Outcomes for Emergency Management Personnel through Simulation based Training applications
Ronald W. Tarr, *United States*.

Virtual Reality for Training Diagnostic Skills in Anorexia Nervosa - A Usability Assessment
José Gutierrez Maldonado, Antonio Andres-Pueyo, Adolfo Jarne, Antoni Talarn, Marta Ferrer, Joseba Achotegui, *Spain*.

HoloLens for Assembly Assistance - a Focus Group Report
Rafael Radkowski, Jarid Ingebrand, *United States*.

Do You See What I See? Situational Awareness in Two-handed Virtual Laparoscopic Surgery Training
Areej Al-Wabil, Nada Almohaimeed, *Saudi Arabia*.

CCD S209

Cross-Cultural Design

Smart new system development

Chair(s): Ziyang Li, *P.R. China*; Man-Ying Wang, *Taiwan*.

Room: **207**

Breakout: Design and Evaluation of a Serious Game for Health Employing Intel RealSense
Jimmy Chhor, Yun Gong, Pei-Luen Patrick Rau, *P.R. China*.

DanMOOC: Enhancing content and social interaction in MOOCs with synchronized commenting
Yue Chen, Qin Gao, Quan Yuan, *P.R. China*.

Instructional Design and Teaching Effectiveness of SPOCs in Chinese Higher Education
Ka-Hin Lai, Lili Dong, Pei-Luen Patrick Rau, *P.R. China*.

A New Method for OTAs to Analyze and Predict Users' Online Behavior Patterns and Preferences
Rui Kang, Pei-Luen Patrick Rau, *P.R. China*.

The Impact of Chinese Traditional Cultural on the Gesture and User Experience in Mobile Interaction Design
Ren Long, Xu Liu, Tian Lei, Xue Chen, Ziliang Jin, *P.R. China*.

Waterfall flow vs. fixed grid webpage layout design – The effects depend on the Zhong-Yong thinking style
Man-Ying Wang, Da-Lun Tang, *Taiwan*.

SCSM S210

Social Computing and Social Media

Interaction Design in Collaborative and Learning Environments

Chair(s): Habib M. Fardoun, *Saudi Arabia*; Jose A. Gallud, *Spain*.

Room: **107 & 108**

Social Networks Serendipity for Educational Learning by Surprise from Big and Small Data Analysis
Niki Lambropoulos, *United Kingdom*; Habib M. Fardoun, Daniyal M. Alghazzawi, *Saudi Arabia*.

Chat-based application to support CSCL activities
Ricardo Tesoriero, *Spain*; Habib M. Fardoun, *Saudi Arabia*; Hachem Awada, *Lebanon*.

An MDA Approach to Develop Language-Learning Activities
Gabriel Sebastián, Ricardo Tesoriero, Jose A. Gallud, S*pain*; Habib M. Fardoun, *Saudi Arabia*.

Collaboration increase through monitoring and evaluation mechanisms of the collaborative learning process
Vanessa Agredo Delgado, Cesar Collazos, *Colombia*; Habib M. Fardoun, *Saudi Arabia*; Nehme Safa, *Lebanon*.

User Experiences Around Sentiment Analyses, Facilitating Workplace Learning
Christian Voigt, Barbara Kieslinger, Teresa Schäfer, *Austria*.

AC S211

Augmented Cognition

Advances in Interactive Machine Learning for Human-Machine Systems

Chair(s): Leslie M. Blaha, Robert J. Jasper, Mark Costa, *United States*.

Room: **203**

CHISSL: A Human-Machine Collaboration Space for Unsupervised Learning
Dustin Arendt, Caner Komurlu, Leslie M. Blaha, *United States*.

Interface Metaphors for Interactive Machine Learning
Robert J. Jasper, Leslie M. Blaha, *United States*.

The Impact of Streaming Data on Sensemaking with Mixed-Initiative Visual Analytics
Nick Cramer, Grant Nakamura, Alex Endert, *United States*.

Detecting Mislabeled Data using Supervised Machine Learning Techniques
Mannes Poel, *Netherlands*.

Establishing ground truth on pyschophysiological models for training machine learning algorithms: Options for ground truth proxies
Keith Brawner, Michael Boyce, *United States*.

Grounded Approach for Understanding Changes in Human Emotional States in Real Time using Psychophysiological Sensory Apparatuses
Ryan A. Kirk, *United States*.

DHM   S212

Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management

Advanced Applications of Intelligent Systems

Chair(s): Renran Tian, *United States*.

Room: **204**

Autonomous robotic system for pipeline integrity inspection
John Costa, Gavin DeAngelis, Daniel Lane, Chris Snyder, *United States;* Abdelmagid Hammuda, Khalifa Al-Khalifa, *Qatar;* Elsayed Elsayed, Kang Li, *United States.*

A Universal 3D Gait Planning Based on Comprehensive Motion Constraints
Qiang Yi, Renran Tian, *United States;* Ken Chen, *P.R. China.*

Deciphering Workers' Safety Attitudes by Sensing Gait Patterns
Cenfei Sun, Changbum R. Ahn, Kanghyeok Yang, Terry Stentz, Hyunsoo Kim, *United States.*

Towards a Clinical Support System for the Early Diagnosis of Sepsis
Tove Helldin, Anna-Karin Pernestig, Diana Tilevik, *Sweden.*

Compare the Receiver Operating Characteristic (ROC) and Linear Discriminant Analysis (LDA) for Acromegaly Detection by Three-Dimensional Facial Measurements
Ming-Hsu Wang, Bi-Hui Chen, Wen-Ko Chiou, *Taiwan.*

Mobile-Application based Cognitive Behavior Therapy (CBT) for Identifying and Managing Depression and Anxiety
Siva Abhishek Addepally, Saptarshi Purkayastha, *United States.*

DUXU   S213

Design, User Experience, and Usability

DUXU for Science and Culture

Chair(s): Hashim Iqbal Chunpir, Dominik Rudolph, *Germany*.

Room: **119**

IT Governance for Cyber-Physical Systems: The Case of Industry 4.0
Maximilian Savtschenko, Frederik Schulte, Stefan Voß, *Germany.*

A Requirements Engineering Process for User Centered IT Services – Gathering Service Requirements for the University of the Future
Dominik Rudolph, Anne Thoring, Christian Remfert, Raimund Vogl, *Germany.*

Case Study: Building UX Design into Citizen Science Applications
Brian Traynor, Tracy Lee, Danah Duke, *Canada.*

An Exploratory Case Study into Curatorial Intervention Within the Context of HCI
Deborah Turnbull Tillman, Jorge Forseck, Mari Velonaki, *Australia.*

S214

DUXU for Graphical and Touch-based User Interfaces

Chair(s): Hans-Peter Hutter, *Switzerland.*

Room: **118**

Comparison of Circle and Dodecagon Clock Designs for Visualizing 24-hour cyclical data
Chen Guo, Shuang Wei, Mingran Li, Zhenyu Cheryl Qian, Yingjie Victor Chen, *United States.*

Design of Tooltips for Data Fields: A Field Experiment of Logging Use of Tooltips and Data Correctness
Helene Isaksen, Mari Iversen, Jens Kaasbøll, *Norway;* Chipo Kanjo, *Malawi.*

The Effect of Video Loading Symbol on Waiting Time Perception
Woojoo Kim, Shuping Xiong, *Korea.*

An interactive behavior-based hierarchical design method for form hints
Cao Huai, Zhou Qi, *P.R. China.*

The Study of Factors Affecting Minimum Center Distance of Mobile Touch Screen
Hong Ji, Jingqin He, Hong Sun, Jie Yin, *P.R. China.*

Look at My Face: A New Home Screen User Interface
Young Hoon Oh, Da Young Ju, *Korea.*

DAPI   S215

Distributed, Ambient and Pervasive Interactions

Natural Interaction

Chair(s): To be announced.

Room: **115**

Propositions for a Mid-Air Interactions System using Leap-Motion for a Collaborative Omnidirectional Immersive Environment
Robin Vivian, *France.*

Freehand Gesture-based 3D Manipulation Methods for Interaction with Large Displays
Paulo Dias, João Cardoso, Beatriz Quintino Ferreira, Carlos Ferreira, Beatriz Sousa Santos, *Portugal.*

It Made More Sense: Comparison of User-elicited On-Skin Touch and Freehand Gesture Sets
Hayati Havlucu, Mehmet Yarkin Ergin, Idil Bostan, Oguz Turan Buruk, Tilbe Goksun, Oguzhan Ozcan, *Turkey.*

Breath Is to Be Perceived - Breathing Signal Sharing Involved in Remote Emotional Communication
Xiaotian Sun, Kiyoshi Tomimatsu, *Japan.*

FRIDAY 13:30 - 15:30

FRIDAY   13:30 - 15:30

HAS   S216

Human Aspects of Information Security, Privacy and Trust

Designing and Developing Security and Privacy

Chair(s): Kai-Uwe Loser, *Germany.*

Room: **111**

Integrating a Practice Perspective to Privacy by Design
Christopher Lentzsch, Kai-Uwe Loser, *Germany;* Martin Degeling, *United States;* Alexander Nolte, *Germany.*

Live Gaze-Based Authorization and Gaming System
Quan Wang, *United States;* Lelai Deng, Hao Cheng, Hualei Fan, Xiaoping Du, Qinghong Yang, *P.R. China.*

Sharing the 'Real Me' – How Usage Motivation and Personality Relate to Privacy Protection Behavior on Facebook
Nina Gerber, Paul Gerber, Maria Hernando, *Germany.*

LCT   S217

Learning and Collaboration Technologies

Smart Technologies for Learning Programming, Robotics and Engineering

Chair(s): Mike Brayshaw, *United Kingdom.*

Room: **206**

An AI System for Coaching Novice Programmers
Gilbert Cruz, Jacob Jones, Megan Morrow, Andres Gonzalez, Bruce Gooch, *United States.*

Fairy Houses: A Creative Engineering Experience
Andres Gonzalez, Robert Fowler, Harrison Froeschke, Sabra Leong, Bruce Gooch, *United States.*

Designing Tools that allows Children in the Early Childhood to Program Robots
Kryscia Ramírez-Benavides, Gustavo Lopez, Luis A. Guerrero, *Costa Rica.*

Affective Walkthroughs and Heuristics: Evaluating Minecraft Hour of Code
Reza GhasemAghaei, Ali Arya, Robert Biddle, *Canada.*

Collaborative Agent Provision of Learner Needs using Ontology Based Semantic Technology
Mike Brayshaw, *United Kingdom;* Julius Nganji, *Canada;* Neil Gordon, *United Kingdom.*

ITAP   S218

Human Aspects of IT for the Aged Population

Everyday life technologies for the Elderly

Chair(s): Charles Wallace, *United States.*

Room: **105 & 106**

A Field Experiment on Capabilities Involved in Mobile Navigation Task
Qingchuan Li, Yan Luximon, *Hong Kong.*

Eliciting Best Practices in Digital Literacy Tutoring: A Cognitive Task Analysis Approach
Kelly S. Steelman, Kay L. Tislar, Leo C. Ureel II, Charles Wallace, *United States.*

Exploring Storytelling for Digital Memorialization
Grace Ataguba, Samantha Penrice, John Shearer, *United Kingdom.*

A Study on Interactive Explanation Boards Design and Evaluation for Active Aging Ecotourism
Li-Shu Lu, *Taiwan.*

Playful Method for Seniors to Embrace Information Technology
Jeanette Eriksson, *Sweden.*

HCI — S219

Human-Computer Interaction

Design methods and techniques

Chair(s): Martin Maguire, *United Kingdom.*

Room: **212**

The Design Process to Healthcare Applications: Guidelines Mapping to Integrate User´s Contexts and Abilities
Janaina Cintra Abib, Junia C. Anacleto, *Brazil.*

Failures Supporting the Evolutionary Design in the Wild of Interactive Systems for Public Spaces
Vinicius Ferreira, Junia C. Anacleto, Andre O. Bueno, *Brazil.*

Audiovisual Design and the Convergence between HCI and Audience Studies
Valdecir Becker, Daniel Gambaro, Thais Saraiva Ramos, *Brazil.*

A POMDP Design Framework for Decision Making in Assistive Robots
Ioannis Kostavelis, Dimitrios Giakoumis, Sotiris Malassiotis, Dimitrios Tzovaras, *Greece.*

Guidelines for a University Short Course on Human-Computer Interaction
Martin Maguire, *United Kingdom.*

S220

Touch-based and Haptic Interaction

Chair(s): To be announced.

Room: **213**

Predictive Model for Group Selection Performance on Touch Devices
Per Bjerre, Allan Christensen, Andreas K. Pedersen, Simon A. Pedersen, *Denmark;* Wolfgang Stuerzlinger, *Canada;* Rasmus Stenholt, *Denmark.*

Vouch-T : Multimodal Text Input for Mobile Devices Using Voice and Touch
Minyoung Lee, Gerard J. Kim, *Korea.*

Meyboard: A QWERTY-based Soft Keyboard for Touch-typing on Tablets
Yuki Kuno, Buntarou Shizuki, *Japan.*

Three-finger-tap Methods for Navigation in 3D Scenes on Tablet
Hongyu Wang, Takeshi Umezawa, Noritaka Osawa, *Japan.*

The Social Nature of Programming: Children and Fluency
M. Cecilia C. Baranauskas, Marleny Luque Carbajal, *Brazil.*

HIMI — S221

Human Interface and the Management of Information

Information Architectures and Infrastructures

Chair(s): Rico A.R. Picone, *United States.*

Room: **202**

The Fuzzification of an Information Architecture for Information Integration
Rico A.R. Picone, Jotham Lentz, Bryan Powell, *United States.*

A New Information Theory-based Serendipitous Algorithm Design
Xiaosong Zhou, Zhan Xu, Xu Sun, Qingfeng Wang, *P.R. China.*

Research on Information Architecture Design of Online Creative Space
Yajie Wang, Yangshuo Zheng, Xing Fang, *P.R. China.*

Designing a Predictive Coding System for Electronic Discovery
Dhivya Soundarajan, Sara Anne Hook, *United States.*

User Experience (UX) of a Big Data Infrastructure
Hashim Iqbal Chunpir, *Germany;* Dean Williams, *United States;* Thomas Ludwig, *Germany.*

Infrastructure for Research Data Management as a Cross-University Project
Thomas Eifert, Ulrich Schilling, Hans-Jörg Bauer, Florian Krämer, Ania Lopez, *Germany.*

S222

Information Design

Chair(s): George Margetis, *Greece.*

Room: **117**

Extending an Association Map to Handle Large Data Sets
Tamara Babaian, Wendy Lucas, Alina Chircu, Noreen Power, *United States.*

UX Design of a Big Data Visualization Application Supporting Gesture-Based Interaction with a Large Display
Stavroula Ntoa, Chryssi Birliraki, Giannis Drossis, George Margetis, Ilia Adami, Constantine Stephanidis, *Greece.*

The Emotional Superiority of Effecter Affordances
Zhaohui Huang, Ziliang Jin, Xu Liu, *P.R. China.*

Points of Interest Density based Zooming Interface for Map Exploration on Smart Glass
Doyeon Kim, Daeil Seo, Byounghyun Yoo, Heedong Ko, *Korea.*

Improve neighborhood map design by using Kano's model
Bo Yuan, Chuanyu Zou, Yongquan Chen, *P.R. China.*

FRIDAY 16:00 - 18:00

FRIDAY 16:00 - 18:00

Engineering Psychology and Cognitive Ergonomics

EPCE S223

Stress, Anxiety and Emotions

Chair(s): To be announced.

Room: **111**

Stressor Load and Stress Resilience: A New Perspective for Occupational Stress
Lijing Wang, Yanlong Wang, Yingchun Chen, Dayong Dong, Wenjun Dong, *P.R. China.*

On-time measurement of subjective anxiety of a passenger in an autonomous vehicle: Gradually changing sounds decreases anxiety of passenger
Akitoshi Tomita, Etsuko T. Harada, Satoshi Ando, Kozue Miyashiro, Maito Ohmori, Hiroaki Yano, *Japan.*

Greater Heart Rate Responses to Acute Stress is Correlated with Worse Performance of Visual Search in Special Police Cadets
Xiaofang Sun, Yi Yuan, Zhuxi Yao, Kan Zhang, Jianhui Wu, *P.R. China.*

Decision-Making for Adaptive Digital Escape Route Signage Competing with Environmental Cues: Cognitive Tunneling in High-Stress Evacuation Situations
Sonja Th. Kwee-Meier, Wolfgang Kabuss, Alexander Mertens, Christopher M. Schlick, *Germany.*

Investigating the Influence of Emotion in Air Traffic Controller Tasks: Pretest Evaluation
Martina Truschzinski, Georg Valtin, Nicholas H. Müller, *Germany.*

S224

Psychology and Neuropsychology in HCI

Chair(s): Hong-xia Li, *P.R. China.*

Room: **112**

Dynamic Changes of ERPs in Gestaltzerfall Phenomena: Analysis Using Multi-Data Selecting and Averaging Method
Mariko Funada, Tadashi Funada, Yoshihide Igarashi, *Japan.*

Factors Research on EEG signal Analysis of the Willingness of Error Reporting
Hong-xia Li, Nan Zhou, *P.R. China.*

Understanding the Relations between Self-Concept and Causal Attributions regarding Computer Use
Adelka Niels, Monique Janneck, *Germany.*

Cognitive Task Analysis for Interface Designs to Assist Medical Engineers in Hemodialysis Machine Troubleshooting
Yoshitaka Maeda, Satoshi Suzuki, Akinori Komatsubara, *Japan.*

Universal Access in Human-Computer Interaction

UAHCI S225

Alternative Input techniques and Multimodal Interaction

Chair(s): John Magee, *United States.*

Room: **120**

HAIL Gmail: Email with Hierarchical Adaptive Interface Layout
Prithu Dasgupta, John Magee, *United States.*

AR Based User Interface for Driving Electric Wheelchairs
Shigeyuki Ishida, Munehiro Takimoto, Yasushi Kambayashi, *Japan.*

Camera Mouse : Dwell vs. Computer Vision-Based Intentional Click Activation
Rafael Zuniga, John Magee, *United States.*

A Scheme for Multimodal Component Recommendation
Natacsha Ordones Raposo, Thais Castro, Alberto Castro, *Brazil.*

Personalizing HMI Elements in ADAS using ontology meta-models and rule based reasoning
Yannis Lilis, Emmanouil Zidianakis, Nikolaos Partarakis, Margherita Antona, Constantine Stephanidis, *Greece.*

Social Computing and Social Media

SCSM S226

Micro-blogging and Social Systems

Chair(s): Ardion Beldad, *Netherlands.*

Room: **107 & 108**

Inter-country Differences in Breaking News Coverage via Microblogging: Reporting on Terrorist Attacks in Europe from the USA, Germany and UK
Kaja J. Fietkiewicz, Aylin Ilhan, *Germany.*

Investigating the polarity of user postings in a Social System
Afonso M. S. Lima, Paloma B. S. Silva, Livia A. Cruz, Marilia S. Mendes, *Brazil.*

Do Social Bots (still) act different to Humans? – Comparing Metrics of Social Bots with those of Humans
Stefan Stieglitz, Florian Brachten, Davina Berthelé, Mira Schlaus, Chrissoula Venetopoulou, Daniel Veutgen, *Germany.*

PARALLEL SESSIONS

AC   S227

Augmented Cognition

Transitioning lab paradigms to the real world

Chair(s): Susan Stevens-Adams, Ronald L. Boring, *United States*.

Room: **115**

A Comparison of an Attention Acknowledgement Measure and Eye Tracking: Application of the As Low As Reasonable Assessment (ALARA) Discount Usability Principle for Control System Studies
Thomas Ulrich, Ronald L. Boring, Steffen Werner, Roger Lew, *United States*.

Nuclear Reactor Crew Evaluation of a Computerized Operator Support System HMI for Chemical and Volume Control System
Roger Lew, Thomas Ulrich, Ronald L. Boring, *United States*.

Moving Vigilance out of the Laboratory: Dynamic Scenarios for UAS Operator Vigilance Training
Tarah Daly, Jennifer Murphy, Katlin Anglin, James Szalma, Max Acree, Carla Landsberg, Laticia Bowens, *United States*.

Brain-Computer Interfaces (BCI) based 3D Computer-Aided Design (CAD): to Improve the Efficiency of 3D Modeling for New Users
Yu-Chun Huang, Kuan-Lin Chen, *Taiwan*.

DUXU   S228

Design, User Experience, and Usability

Quality of Service in IT

Chair(s): Hashim Iqbal Chunpir, *Germany;* Ricardo Coser Mergulhão, *Brazil*.

Room: **118**

Customer interactions in online brand communities for branding
Nick Hajli, *United Kingdom.*

Consumer e-commerce adoption from a social commerce perspective
Mina Tajvidi, Nick Hajli, *United Kingdom.*

Towards Designing Mobile Banking User Interfaces for Novice Users
Victor Ndako Adama, Ibrahim Shehi Shehu, Solomon Adelowo Adepoju, Rasheed Gbenga Jimoh, *Nigeria.*

New Mobile Service Development Process
Hans-Peter Hutter, Andreas Ahlenstorf, *Switzerland.*

Do Car Drivers Really Need Mobile Parking Payment? A Critical Evaluation of the Smart Service apparkB in Barcelona
Aylin Ilhan, Kaja J. Fietkiewicz, Wolfgang G. Stock, *Germany.*

HCIBGO   S229

HCI in Business, Government and Organizations

Digital Enablement in Business, Government and Organizations

Chair(s): Chuan-Hoo Tan, *Singapore;* Cheng Yi, *P.R. China;* Ben C.F. Choi, *Australia.*

Room: **119**

Context-Awareness and Mobile HCI: Implications, Challenges and Opportunities
Xiangang Qin, Chee Wee Tan, Torkil Clemmensen, *Denmark.*

Optimize the Coupon Face Value for Online Sellers
Peng Wang, Rong Du, Yumeng Miao, Zongming Zhang, *P.R. China.*

Employing Relation Visualizations to Enhance the Shopping Experience on a Used Car Trading Platform
Jianxin Chen, P.R. China; Dongqing Zhang, Yingjie Victor Chen, Zhenyu Cheryl Qian, *United States.*

Discuss Attractive Factor of E-scooter with Miryoku Engineering and Fuzzy Kano Model
Jianxin Cheng, Yixiang Wu, Le Xi, *P.R. China.*

ITAP   S230

Human Aspects of IT for the Aged Population

Senior Cloud for Active Aging

Chair(s): Masatomo Kobayashi, *Japan.*

Room: **105 & 106**

Facilitating Remote Communication between Senior Communities with Telepresence Robots
Atsushi Hiyama, Akihiro Kosugi, Kentarou Fukuda, Masatomo Kobayashi, Michitaka Hirose, *Japan.*

Change in the Relationship between the Elderly and Information Support Robot System Living Together
Misato Nihei, Yuko Nishiura, Ikuko Mamiya, Hiroaki Kojima, Ken Sadohara, Shinichi Ohnaka, Minoru Kamata, Takenobu Inoue, *Japan.*

Towards Extracting Recruiters' Tacit Knowledge based on Interactions with a Job Matching System
Kaoru Shinkawa, Kenichi Saito, Masatomo Kobayashi, Atsushi Hiyama, *Japan.*

Touchscreen gesture interaction in skilled and novice seniors
Takahiro Miura, *Japan.*

Elderly Using Innovative Gesture Design of Satisfaction Performance
Shuo-Fang Liu, Ming-Hong Wang, *Taiwan.*

FRIDAY 16:00 - 18:00

Human Aspects of IT for the Aged Population

ITAP   S231

Ambient Assisted Living

Chair(s): To be announced.

Room: **116**

Addressing Issues of Need, Adaptability, User Acceptability and Ethics in the Participatory Design of new Technology Enabling Wellness, Independence and Dignity for Seniors Living in Residential Homes
Joan Cahill, Sean McLoughlin, Michael O Connor, Melissa Stolberg, Sean Wetherall, *Ireland.*

Fall Detection based on Skeleton Data
Tao Xu, Yun Zhou, *P.R. China.*

Sensor-Driven Detection of Social Isolation in Community-Dwelling Elderly
Nadee Goonawardene, XiaoPing Toh, Hwee Pink Tan, *Singapore.*

Silent Speech Interaction for Ambient Assisted Living Scenarios
António Teixeira, Nuno Vitor, João Freitas, Samuel Silva, *Portugal.*

Analysis and Study on the Furniture Used by the Aging Population Based on the Quality of Sleep
Bin Jiang, Hui Niu, Di Zhou, *P.R. China.*

User Experience Design Research of New Types of Home Appliances Based on the Analysis of the Learning Curve of the Elderly
Bin Jiang, Lili Tian, Di Zhou, *P.R. China.*

PARALLEL SESSIONS

001. **Improving Patient Satisfaction Using a Video-Based Patient Education Platform**
Katharine Adams, Alexander Walker, Eileen Searson, John Yosaitis, Rita Owens, Lowell Satler, *United States*

002. **Instructional Information System for the Introduction of Data Journalism Techniques Based on User Centered Design Methodology**
Belén Alazañez Cortés, Zayra Monserrat Miranda Aguirre, Jocelyn Lizbeth Molina Barradas, Erick Monroy Cuevas, Rocio Abascal Mena, Rodrigo Gómez García, Román Esqueda Atayde, *Mexico*

003. **Developing and Evaluating a Thai Website Accessibility Checker**
Kewalin Angkananon, Mike Wald, Piyabud Ploadaksorn, *Thailand*

004. **Usability Tool to Support the Development Process of e-Commerce Website**
Thaiana Anjos, Leila Gontijo, *Brazil*

005. **Analysis of Paradoxical Phenomenon Caused by Presenting Thermal Stimulation on Three Spots**
Keisuke Arai, Satoshi Hashiguchi, Fumihisa Shibata, Asako Kimura, *Japan*

006. **Driver's modeling with system identification algorithm to aim reducing drowsiness**
Hirotoshi Asano, Kiwamu Goto, Tota Mizuno, *Japan*

007. **Assessing Personality Differences in Human-technology Interaction: An Overview of Key Self-report Scales to Predict Successful Interaction**
Christiane Attig, Daniel Wessel, Thomas Franke, *Germany*

008. **Japanese Sign Language Recognition based on three Elements of Sign using Kinect v2 Sensor**
Shohei Awata, Shinji Sako, Tadashi Kitamura, *Japan*

009. **Exploring the Building Blocks of Personas for Children with Autism Spectrum Disorders**
Ayşe Naciye Çelebi Yılmaz, *Italy*

010. **Hacking the Body 2.0: Ethics in Wearable Tech, Etextiles Design and Data Collection in Performance**
Camille Baker, *United Kingdom;* Kate Sicchio, *United States*

011. **Wearables and User Interface Design: Impacts On Belief In Free Will**
Denise Baker, *United States*

012. **Mobile App for a GPS-based Location-specific Communication System: "Ninja Messenger"**
Riya Banerjee, Yugo Takeuchi, *Japan*

013. **Mass Customized Knowledge Management: A project for Adequate and Dynamic Knowledge Transfer for Small and Medium Enterprises**
Michael Becker, Stephan Klingner, Julia Friedrich, Frederik Kramer, Martin Schneider, Klaus-Peter Fähnrich, *Germany*

014. **Factors of Cybersickness**
Patricia Bockelman, Deanna Lingum, *United States*

015. **Implicit Evaluation of User's Expertise in Scientific Domains**
Alessandro Bonifacio, Claudio Biancalana, Fabio Gasparetti, Alessandro Micarelli, Giuseppe Sansonetti, *Italy*

016. **Intuitive Real-time Multidimensional Diagnostic Ultrasound Image Optimization Technology**
Giampaolo Borreani, Carlo Biagini, Roberto Pesce, Luca Bombino, Leonardo Forzoni, *Italy*

017. **Stress measurement and inducement in experiments with low cost flight simulator for testing of general aviation pilots**
Ondrej Bruna, Tomáš Levora, Jan Holub, *Czech Republic*

018. **Design for Indoor Navigation: CROSSFLOW for Multiple**

BALLROOM B, C, D

Simultaneous Pedestrians in Public Spaces
Han Cao, *P.R. China*

019. **Application of Human - Computer Interaction Interface in Game Design**
Jing Cao, Ying Cao, *P.R. China*

020. **Whale Tracking: Software System for the Acquisition, Management and Processing of Data on the Blue Whale at Offshore**
Blanca E. Carvajal-Gámez, Diane Gendron, Manuel Alejandro Díaz, *Mexico*

021. **Exploring of the barrier-free design for visual impairment in Graphical User Interface Design**
Yilin Chai, Ying Cao, *P.R. China*

022. **Developing A Health-Enabling Service System Combining Wearable Device and Personal Health Records for Older Adults**
Kuei-Ling Belinda Chen, Peisan Lee, *Taiwan*

023. **Research on the Experiential Communication of Digital Humanities and Information Visualization: A Case Study of Iconography Measurement**
Zhigang Chen, Jing Ma, *P.R. China*

024. **Gaze Behavior and Emotion of Crane Operators for Different Visual Support System**
Jouh Yeong Chew, Koichi Ohtomi, Hiromasa Suzuki, *Japan*

025. **A Study on the Differences Among M3D, S3D and HMD for Students with Different Degrees of Spatial Ability in Design Education**
Po Ying Chu, Li-Chieh Chen, Hsiao-Wen Kung, Shih-Jen Su, *Taiwan*

026. **Optimal Design of the Front Face of Minicars Based on Analytic Hierarchy Process**
Wenjie Deng, Xinhui Kang, Congru Zhang, *P.R. China*

027. **Design for Inclusion. From Teaching Experiences to Social Changes**
Giuseppe Di Bucchianico, *Italy*

028. **An Analysis and Evaluation Procedure in Civil Aircraft Flight Deck Design**
Dayong Dong, Baofeng Li, Haiyan Liu, Wenjun Dong, Hongtao Liu, Zhefeng Jin, *P.R. China*

029. **A Visualization System for Traffic Violations Using H2O Random Forests**
Chyi-Ren Dow, Zhe-Rong Lin, Kuan-Chieh Wang, *Taiwan*

030. **Immersive 3D environment for data centre monitoring based on gesture based interaction**
Giannis Drossis, Chryssi Birliraki, George Margetis, Constantine Stephanidis, *Greece*

031. **Mirrored Perception Cognition Action Model in an Interactive Surgery Assist System**
Jiachun Du, Thomas Van Rooij, Jean-Bernard Martens, *Netherlands*

032. **Investigation on Driving Habits of Chinese Truck Driver**
Junmin Du, Hui Lu, Weiyu Sun, Xin Zhang, Hui-min Hu, Yang Liu, *P.R. China*

033. **Breaking News Commentary: Users' Reactions to Terrorist Attacks in English-speaking Twittersphere**
Kaja J. Fietkiewicz, Aylin Ilhan, *Germany*

034. **Interactive Evolutionary Computation Using Multiple Users' Gaze Information**
Minatsu Fujisaki, Hiroshi Takenouchi, Masataka Tokumaru, *Japan*

035. **Proposal for the "Cariño Index": A New Coordination Index Based on Weather Conditions**
Akari Fujiwara, Katsuhiko Ogawa, *Japan*

036. **Proposal of Internet Radio Walking around Street While Listening to Voice of Virtual Idols**
Shiori Furuta, Katsuhiko Ogawa, *Japan*

037. Creating an Environment for Millennials
Bruce Gooch, Nicolas Bain, Taylor Day, *United States*

038. Flexible Virtual Environments: gamifying immersive learning
Neil Gordon, Mike Brayshaw, *United Kingdom*

039. Does Negative News Travel Fast? Exploring the Effect of News Sentiment on Interactive Spiral
Jie Gu, Jing Tian, Xiaolun Wang, Hong Ling, *P.R. China*

040. Interaction modalities for augmented reality in tablets for older adults
Ana Georgina Guerrero Huerta, Erika Hernández Rubio, Amilcar Meneses Viveros, *Mexico*

041. FitViz: A Personal Informatics Tool for Self-Management of Rheumatoid Arthritis
Ankit Gupta, Xin Tong, Chris Shaw, Linda Li, Lynne Feehan, *Canada*

042. A Crowdsourcing-based Social Platform to Increase a Community's Sustainability and Well-being
Kota Gushima, Mizuki Sakamoto, Tatsuo Nakajima, *Japan*

043. Effects of Short Exposure to a Simulation in a Head-Mounted Device and the Individual Differences Issue
David Hartnagel, Marine Taffou, Patrick M.B. Sandor, *France*

044. Projection Simulator to Support Design Development of Spherical Immersive Display
Wataru Hashimoto, Yasuharu Mizutani, Satoshi Nishiguchi, *Japan*

045. Effects of Electrode Configuration on Pattern Recognition based Finger Movement Classification
Jiayuan He, *Canada*; XiangYang Zhu, *P.R. China*; Ning Jiang, *Canada*

046. The Effect of Emotion in an Ultimatum Game: The Bio-Feedback Evidence
Yifan He, Tiffany Y. Tang, *P.R. China*

047. Immersive Virtual Experience: an effort to increase the interest for reading on first-time readers
Luis Hernandez-Zavaleta, Jaime Espinoza-Martinez, Diana Moron-Gonzalez, Alba Nuñez-Reyes, Carlos Rivero-Moreno, Octavio Mercado-Gonzalez, Alejandra Osorio-Olave, *Mexico*

048. ElectAR, an augmented reality app for diagram recognition
Abián Hernández Mesa, M. Peña Fabiani Bendicho, Jorge Martín Gutiérrez, *Spain*

049. Prompting — a feature of general relevance in HCI-supported task workflows
Thomas Herrmann, Jan Nierhoff, *Germany*

050. Interaction with Three Dimensional Objects on Diverse Input and Output Devices: A Survey
Adrian Heinrich Hoppe, Florian Van de Camp, Rainer Stiefelhagen, *Germany*

051. A Quantitative Investigation of the Voluntary Reports of Air Transportation Industry in Taiwan
Yu-Lin Hsiao, *Taiwan*

052. Research on Human Acceptability of Household Environment Temperature Fluctuation
Hui-min Hu, Rui Wang, Chaoyi Zhao, Hong Luo, AIxian Li, Li Ding, Yifen Qiu, *P.R. China*

053. Analyzing Users' Search Patterns to Explore Topic Knowledge from Aggregated Search Results
Yen-Chun Huang, Yu-Ping Ho, I-Chin Wu, *Taiwan*

054. A Portable and User Friendly REM Sleep Detection System Based on Differential Movement of Eyeball Using Optical Sensors
Chi Yeon Hwang, Geun Do Park, Hyang Jun Jeong, In Gyu Park, Yun Joong Kim, Hyeo-Il Ma, Unjoo Lee, *Korea*

BALLROOM B, C, D

055. **Use of Vibration for Touch Pen to Provide the Feel of Writing on Paper**
Makio Ishihara, Ayaka Imato, Yukio Ishihara, *Japan*

056. **Correcting Distortion of Views into Spherical Tank in Aquarium**
Yukio Ishihara, Makio Ishihara, *Japan*

057. **Estimation of Floor Reaction Force during Walking Using Physical Inertial Force by Wireless Motion Sensor**
Atsushi Isshiki, Yoshio Inoue, Kyoko Shibata, Motomichi Sonobe, *Japan*

058. **Study on Affective Evaluation of VR System using ECGs: Evaluation of Feelings of Excitement while playing Summer Lesson**
Kodai Ito, Michiko Ohkura, *Japan*

059. **Formulation of Diagnostic Expertise in Oral Health Care and its Application to Clinical Education**
Kyoko Ito, Haruki Sao, Takashi Nagamatsu, Junko Nagata, *Japan*; Kenji Takada, *Singapore*

060. **Chat support system to recall past conversational topics using tags**
Junko Itou, Rina Tanaka, Jun Munemori, *Japan*

061. **Transportation CMF Design Strategy Based on Regional Culture**
Bin Jiang, Bin Geng, *P.R. China*

062. **Explore the Differences Between Iphone7 Camera Interaction and User Habits**
Bin Jiang, Tongtong Liu, *P.R. China*

063. **Enhancement of ANN-based Offline Hand Written Character Recognition Using Gradient and Geometric Feature Extraction Techniques**
Y. A. Joarder, Paresh Chandra Barman, Md Zahidul Islam, *Bangladesh*

064. **Collection of Example Sentences for Non-task-oriented Dialog Using a Spoken Dialog System and Comparison with Hand-crafted DB**
Yukiko Kageyama, Yuya Chiba, Takashi Nose, Akinori Ito, *Japan*

065. **Development and Evaluation of an E-picture Book System Using Multi-Directional Scrolling and Illustrations with Visual Guidance**
Negar Kaghazchi, Azusa Yoshii, Sachiko Kodama, Masakatsu Kaneko, *Japan*

066. **Design of Tangible Programming Environment for Smartphones**
Yasushi Kambayashi, Kenshi Furukawa, Munehiro Takimoto, *Japan*

067. **Continuous Affect Rating in Cartesian Space of Pleasure and Arousal Scale by Joystick without Visual Feedback**
Mitsuhiko Karashima, Hiromi Nishiguchi, *Japan*

068. **Personalized Accessible Wayfinding and Navigation Services for Wheelchair Users**
Hassan A. Karimi, Jonathan Pearlman, *United States*

069. **Attention Value of Motion Graphics on Digital Signages**
Tsubasa Kato, Nahomi Maki, *Japan*

070. **Usability Methods and Evaluation Criteria for Published Clinical Guidelines on the Web: A Systematic Literature Review**
Soudabeh Khodambashi, Øystein Nytrø, *Norway*

071. **Simulation and Experimental Study of Seafarer's Mental Workload Assessment**
Hongtae Kim, Jun-Hyuk Jang, Seung-bin Oh, Heajung Chang, *Korea*

072. **Development of Educational Application Using Standard Movement Code-based on Human Behavior**
Hyung-Sook Kim, Chan-Ik Park, David O'Sullivan, Jeesun Lee, *Korea*

073. **Development of Gesture Recognition-Based Educational Dance Game for Children with Intellectual Disability**

Hyung-Sook Kim, Yong Hyun Park, Sung Hee Hong, Jung Hwan Hwang, *Korea*

074. Development of Content for an ICT Screening Program based on the Emotional and Behavioral Disorder Questionnaire
Hyung-Sook Kim, Chan-Ik Park, David O'Sullivan, Jeesun Lee, *Korea*

075. Motion Recognition Interactive Game Activity for Early Childhood
Hyung-Sook Kim, Seong-Hee Chung, *Korea*

076. A Study on VR Sickness Prediction of HMD Contents Using Machine Learning Technique
Jae-Beom Kim, Changhoon Park, *Korea*

077. An Analysis of Usage and Attitude for Mobile Video Services in Korea
Min-Jeong Kim, *Korea*

078. A Serious Game to Teach Computing Concepts
Devorah Kletenik, Florencia Salinas, Chava Shulman, Claudia Bergeron, Deborah Sturm, *United States*

079. Towards a Cognitive Agility Index: The Role of Metacognition in Human Computer Interaction
Benjamin J. Knox, Ricardo Lugo, Øyvind Jøsok, Kirsi Helkala, Stefan Sutterlin, *Norway*

080. Classification of Synchronous Non-Parallel Shuffling Walk for Humanoid Robot
Masanao Koeda, Daiki Sugimoto, Etsuko Ueda, *Japan*

081. I am ok, the material's not: A Transactional Analysis of Information Security Education Material for Swedish Elementary School Students
Stewart Kowalski, *Norway;* Tina Andersson, Sabina Windahl, *Sweden*

082. The 60 Seconds Guestbook — An Auditory Place Media for Guesthouse Residents
Chia-Lung Lee, Katsuhiko Ogawa, *Japan*

083. Physically-based Clay Art Rendering with HMD VR
Donghwe Lee, Hyunmin Choi, Seongah Chin, *Korea*

084. Case Representation of Daily Routine Data through the Function Behavior Structure (FBS) Framework
Injung Lee, Taeha Yi, Jimin Rhim, *Korea;* Amartuvshin Narangerel, *Mongolia;* Danial Shafiei Karaji, *Iran;* Ji-Hyun Lee, *Korea*

085. The Assessment Tool for User Perceived Interactivity from ACG Website Interactivity on Imagination
Juihsiang Lee, *Taiwan*

086. Development of a Human-Seat Cushion Finite Element Model for Sitting Comfort Analysis
Xianxue Li, Li Ding, Xianchao Ma, Baofeng Li, Haiyan Liu, *P.R. China*

087. Humanizing the Machine: Basic Communication for Unskilled Operators
Robert Lightfoot, Bruce Gooch, Robert Fowler, *United States*

088. Feasibility of Integrated GNSS/OBD-II/ IMU as a Prerequisite for Virtual Reality
J. H. Lim, K. H. Choi, W. Yoo, L. Kim, Y. Lee, Hyung Keun Lee, *Korea*

089. Design of auditory interface for the older adult in learning healthcare knowledge: Effects of narration, earcons and sound orientation
Dyi-Yih Michael Lin, Yuan-Ju Hung, Hsuan-Chu Lin, *Taiwan*

090. The Rise and Proliferation of Live-streaming in China: Insights and Lessons
Jinglan Lin, Zhicong Lu, *Canada*

091. Improvement the user experience of data-entry activities on tablets outside the office setting — the evidences from muscular activation and task performance
Ming-I Lin, *Taiwan*

BALLROOM B, C, D

092. **Assessment of the Working Chair using Affects the Whole Service Process in B Ultrasonic Examination**
Xinxiong Liu, Daojun Qian, Lei Wu, Jie Xu, *P.R. China*

093. **Investigation of Smartphone Use While Walking and its Influences on One's Behavior among Pedestrians in Taiwan**
Jun-Ming Lu, Yi-Chin Lo, *Taiwan*

094. **Psychophysiological and Intraoperative AEPs and SEPs Monitoring for Perception, Attention and Cognition**
Sergey Lytaev, Mikhail Aleksandrov, Aleksei Ulitin, *Russia*

095. **Shortening Selection Time using Plural Cursor in Multi-Display Environment and Its Preliminary Evaluation**
Yuki Mako, Makio Ishihara, *Japan*

096. **The Interaction of Casual Users with Digital Collections of Visual Art - An Exploratory Study of the WikiArt Website**
Lucia Marengo, Gyorgy Fazekas, Anastasios Tombros, *United Kingdom*

097. **Creating a playful digital catalogue system using technology-enhanced physical objects**
George Margetis, Dimitris Grammenos, George Paparoulis, Constantine Stephanidis, *Greece*

098. **Automatic classification of eye blinks and eye movements for an input interface using eye motion**
Shogo Matsuno, Masatoshi Tanaka, Keisuke Yoshida, Kota Akehi, Naoaki Itakura, Tota Mizuno, Kazuyuki Mito, *Japan*

099. **Study on Characteristics of Hand Gesture Pointing Operation versus Mouse Pointing Operation: A Comparison of Velocity Waves of Operation Time between Mouse Pointing and Hand Gesture Pointing with Two kinds of Control-Display Ratio**
Shuhei Matsuyama, Mitsuhiko Karashima, *Japan*

100. **Finding 3D CAD data production methods that work for people with visual impairments**
Kazunori Minatani, *Japan*

101. **A pen gesture-based editing system for online handwritten objects on a pen computer**
Hidetoshi Miyao, Keisuke Nakamura, Shinya Nakazawa, Minoru Maruyama, *Japan*

102. **Development of device for measurement of skin potential by grasping of the device**
Tota Mizuno, Shogo Matsuno, Kota Akehi, Kazuyuki Mito, Naoaki Itakura, Hirotoshi Asano, *Japan*

103. **Investigation of Facial Region Extraction Algorithm Focusing on Temperature Distribution Characteristics of Facial Thermal Images**
Tomoyuki Murata, Shogo Matsuno, Kazuyuki Mito, Naoaki Itakura, Tota Mizuno, *Japan*

104. **An Analysis of Students' Learning Behaviors Using Variable-speed Playback Functionality on Online Educational Platforms**
Toru Nagahama, Yusuke Morita, *Japan*

105. **From Spectator to Co-Creator for Hybrid Social Space: A New Taxonomy For Participatory Social Interaction and Co-Creation**
Yun Tae Nam, *Australia*; Je-ho Oh, *Korea*

106. **Combining Sentimental and Content Analysis for Recognizing and Interpreting Human Affects**
Stefanie Niklander, Gustavo Niklander, *Chile*

107. **Emotional Computing and Discourse Analysis: A Case Study about Brexit in Twitter**
Stefanie Niklander, *Chile*

108. **Change in Subjective Evaluation of Weight by the Proteus Effect**
Kengo Obana, Dai Hasegawa, Hiroshi Sakuta, *Japan*

109. **AnywhereTouch : Finger Tracking Method on Arbitrary Surface using Nailed-Mounted IMU for Mobile HMD**
Ju Young Oh, Jun Lee, Joong Ho Lee, Ji-Hyung Park, *Korea*

110. **Indoor Navigation Aid System Using No Positioning Technique for Visually Impaired People**
Yeonju Oh, Wei-Liang Kao, Byung-Cheol Min, *United States*

111. **Automatic quantification of the veracity of suicidal ideation in counseling transcripts**
Omar Oseguera, Alex Rinaldi, Jo Ann Tuazon, Albert C. Cruz, *United States*

112. **Interactive image search system based on multimodal analogy**
Kosuke Ota, Keiichiro Shirai, Hidetoshi Miyao, Minoru Maruyama, *Japan*

113. **Collaborative Learning Support System for Programming Education Using Gamification**
Kohei Otake, Tomofumi Uetake, *Japan*

114. **Making Implicit Knowledge Explicit – Acquisition of Plant Staff's Mental Models as a Basis for Developing a Decision Support System**
Dorothea Pantförder, Julia Schaupp, Birgit Vogel-Heuser, *Germany*

115. **Personalizing Game by Using Social Network**
Jaebum Park, Huitae Ryu, Changhoon Park, *Korea*

116. **Framework of Health Monitoring Service for the Elderly Drivers Community**
Se Jin Park, Murali Subramaniyam, Seunghee Hong, Da Mee Kim, *Korea*

117. **Evaluating NeuroSky's Single-Channel EEG Sensor for Drowsiness Detection**
Kishan Patel, Harit Shah, Malcolm Dcosta, Dvijesh Shastri, *United States*

118. **Evaluating 360-Virtual Reality for Mining Industry's Safety Training**
Shiva Pedram, Pascal Perez, Stephen Palmisano, Matthew Farrelly, *Australia*

119. **Let Our Mind Wander: Employing IT-induced Incubations to Enhance Creativity**
Xixian Peng, *Singapore;* Xinwei Wang, *New Zealand;* Hock Hai Teo, *Singapore*

120. **SmartResponse: Emergency and Non-Emergency Response for Smartphone based Indoor Localization applications**
Manoj Penmetcha, Arabinda Samantaray, Byung-Cheol Min, *United States*

121. **Human Algorithm: How Personal Reflection of Data Agents Improves Crowdsourcing Data Collection in A Smart City Planning Study**
Jue Ren, Youyang Hou, *P.R. China;* Tat Lam, *Hong Kong;* Yang Yang, *P.R. China*

122. **Hearing finds and posture in workers of the improvement of the manioc in Sergipe State, Brazil**
Teresa Raquel Ribeiro de Sena, Maria Goretti Fernandes, Marcos Andre Santos Guedes, Angelo Roberto Antoniolli, *Brazil*

123. **End-To-End Dialogue with Sentiment Analysis Features**
Alex Rinaldi, Omar Oseguera, Jo Ann Tuazon, Albert C. Cruz, *United States*

124. **Enhancing the "Oil And Petrochemistry" Course design to implement Blended Learning**
Alma Rojas-Rodríguez, Victor Del Valle-Muñoz, *Mexico*

125. **Understanding Modern Audience in Traditional Settings**
Asreen Rostami, Christoffer Cialec, Gabriel Werlinder, *Sweden*

126. Avatar Life-Review: Seniors Reminiscing Through Virtual Bodies

Semi Ryu, *United States*

127. Preliminary Survey for Multigraph Integration and Visualization Framework

Ryosuke Saga, *Japan*

128. Understanding Game Design for the Development of a Game Environment

Andre Salomao, Flavio Andalo, Milton Luiz Horn Vieira, *Brazil*

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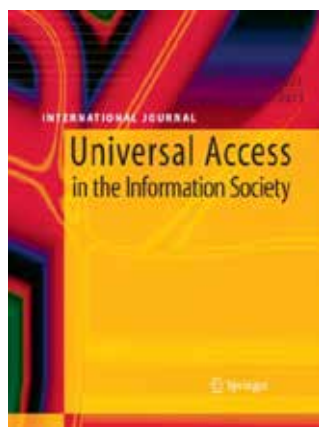
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LEVEL 1 OCEAN FOYER
BACK OF HOUSE
KITCHEN
LEVEL 1 BURRARD FOYER
SERVICE ELEVATOR
FREIGHT ELEVATOR
SERVICE ELEVATOR
LEVEL 1 BURRARD TERRACE
TO/FROM LEVEL 2

Rooms: 119, 120, 118, 121, 122, 117, 116, 115, 114, 113, 112, 111, 110, 109, 108, 107, 106, 105, 104, 103, 102, 101

BALLROOM LOBBY
BALLROOM FOYER
BACK OF HOUSE
WEST PACIFIC TERRACE
JACK POOLE PLAZA
THURLOW STREET ENTRANCE
ENTRANCE LOBBY
GRAND STAIRCASE
TO/FROM LEVEL 2
RAMP
OPEN TO EXHIBITION HALLS
SHOW OFFICE
FIRST AID
TO/FROM LEVEL 2
TO/FROM EXHIBITION LEVEL

ACCESS TO RETAIL ON BURRARD LANDING
SEAWALL PATHWAY

Level 2

LEVEL 2 OCEAN FOYER
LEVEL 2 OCEAN TERRACE

Rooms: 221, 222, 220, 223, 224, 219, 218, 217, 216, 215, 212, 213, 214, 211, 210, 209, 208, 207, 206, 205, 204, 203, 202, 201

SERVICE ELEVATOR
FREIGHT ELEVATOR
TO/FROM LEVEL 1
TO/FROM LEVEL 3
ABOVE BALLROOMS
LEVEL 2 BURRARD FOYER
SERVICE ELEVATOR
BEEHIVES
LEVEL 2 CITY FOYER
LIVING ROOF
OPEN TO LEVEL 1
TO/FROM LEVEL 1
TERRACE
LIVING ROOF
GRAND STAIRCASE
TO/FROM LEVEL 1

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