

HCI 2016

International

18th International
C o n f e r e n c e
o n H u m a n - C o m p u t e r
I n t e r a c t i o n

Thematic areas

Human-Computer Interaction

Human Interface and the Management of Information

Affiliated conferences

13th International Conference on

Engineering Psychology and Cognitive Ergonomics

10th International Conference on

Universal Access in Human-Computer Interaction

8th International Conference on

Virtual, Augmented and Mixed Reality

8th International Conference on

Cross-Cultural Design

8th International Conference on

Social Computing and Social Media

10th International Conference on

Augmented Cognition

7th International Conference on

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

5th International Conference on

Design, User Experience and Usability

4th International Conference on

Distributed, Ambient and Pervasive Interactions

4th International Conference on

Human Aspects of Information Security, Privacy and Trust

3rd International Conference on

HCI in Business, Government and Organizations

3rd International Conference on

Learning and Collaboration Technologies

2nd International Conference on

Human Aspects of IT for the Aged Population

2016.hci.international



HCI 2016
INTERNATIONAL

17 - 22 July 2016

The Westin Harbour Castle Hotel
Toronto, Canada

Final Program

Program On-line



2016.hci.international/program

Under the auspices of 15 distinguished
international boards of 391 Board Members
from 41 countries

VENUE MAP AT BACK PAGE

Table of Contents



**Conference Founder,
General Chair Emeritus and
Scientific Advisor**

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and Tsinghua University, P.R. China

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Contacts	2
Conference at a Glance	3
Welcome Note	4
Opening Plenary Session	5
International Program Boards	6
General Information	8
Conference Exhibition Plan	10
List of Exhibitors	11
Proceedings	12
Tutorials	13
Parallel Sessions Overview	
Wednesday, 20 July 2016	14 - 15
Thursday, 21 July 2016	16 - 17
Friday, 22 July 2016	18 - 19
Parallel Sessions	20
DAY1: Wednesday, 20 July 2016	
08:00 - 10:00	20 - 24
10:30 - 12:30	25 - 29
13:30 - 15:30	30 - 34
16:00 - 18:00	35 - 39
DAY2: Thursday, 21 July 2016	
08:00 - 10:00	40 - 44
10:30 - 12:30	45 - 49
13:30 - 15:30	50 - 54
16:00 - 18:00	55 - 59
DAY3: Friday, 22 July 2016	
08:00 - 10:00	60 - 64
10:30 - 12:30	65 - 69
13:30 - 15:30	70 - 74
16:00 - 18:00	75 - 78
Posters	80 - 89
Notes	79, 93
The The Westin Harbour Castle	Backpage

Conference at a Glance

Conference Registration – Secretariat

Conference Registration will take place at the Conference Secretariat, located at **HARBOUR FOYER**, during the following hours:

Saturday, 16 July	16:00 - 18:00
Sunday, 17 July	08:00 - 17:30
Monday, 18 July	08:00 - 17:30
Tuesday, 19 July	08:00 - 17:30
Wednesday, 20 July	07:30 - 18:00
Thursday, 21 July	07:30 - 18:00
Friday, 22 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/HCI2016>



or scan the QR-Code on the left

The survey will be available until 10 September 2016

PROGRAM

Sunday 17 July 2016	09:00 - 17:30	Tutorials Day 1 - <i>page 13</i>
Monday 18 July 2016	09:00 - 17:30	Tutorials Day 2 - <i>page 13</i>
	09:00 - 17:30	Tutorials Day 3 - <i>page 13</i>
Tuesday 19 July 2016	18:00 - 19:30	Opening Plenary Session - Room: METROPOLITAN BALLROOM Keynote Speech - <i>page 5</i> "Citizen Science: New Research Challenges for Human Computer Interaction (HCI)" by: Jennifer J. Preece Professor & Dean Emerita College of Information Studies University of Maryland, College Park, USA
	19:30	Conference Reception - <i>page 8</i>
Wednesday 20 July 2016	08:00 - 18:00	Parallel paper presentations, Day 1 - <i>page 20</i> Poster presentations, Day 1 - <i>page 80</i> Exhibition, Day 1 - <i>page 10</i>
Thursday 21 July 2016	08:00 - 18:00	Parallel paper presentations, Day 2 - <i>page 40</i> Poster presentations, Day 2 - <i>page 80</i> Exhibition, Day 2 - <i>page 10</i>
Friday 22 July 2016	08:00 - 18:00	Parallel paper presentations, Day 3 - <i>page 60</i> Poster presentations, Day 3 - <i>page 80</i> Exhibition, Day 3 - <i>page 10</i>



HCI International 2016 - 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 2016, the 18th International Conference on Human-Computer Interaction, held in Toronto, Canada, 17-22 July, incorporating 15 Affiliated Conferences / Thematic Areas:

- Human-Computer Interaction Thematic Area
- Human Interface and the Management of Information Thematic Area
- 13th International Conference on Engineering Psychology and Cognitive Ergonomics
- 10th International Conference on Universal Access in Human-Computer Interaction
- 8th International Conference on Virtual, Augmented and Mixed Reality
- 8th International Conference on Cross-Cultural Design
- 8th International Conference on Social Computing and Social Media
- 10th International Conference on Augmented Cognition
- 7th International Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management
- 5th International Conference on Design, User Experience and Usability
- 4th International Conference on Distributed, Ambient and Pervasive Interactions
- 4th International Conference on Human Aspects of Information Security, Privacy and Trust
- 3rd International Conference on HCI in Business, Government and Organizations
- 3rd International Conference on Learning and Collaboration Technologies
- 2nd International Conference on Human Aspects of IT for the Aged Population



Constantine Stephanidis

General Chair HCII 2016

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.

HCI International 2016 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. HCI International 2016 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 27-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>, <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 more than 1700 individuals from 64 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. Jennifer J. Preece, Professor & Dean Emerita, College of Information Studies, University of Maryland, College Park, USA, has joined us as the keynote speaker at the opening plenary session.

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 Toronto.

Constantine Stephanidis

HCI International 2017

The 19th International Conference on Human-Computer Interaction, HCI International 2017, will be held jointly with the affiliated Conferences / Thematic Areas, in Vancouver, Canada, at the Vancouver Convention Centre, 9-14 July 2017.

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 and full-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@hcii2017.org

<http://2017.hci.international>

Tuesday, 19 July 2016 | 18:00

Room: **METROPOLITAN BALLROOM**

Citizen Science: New Research Challenges for Human Computer Interaction (HCI)

Jennifer J. Preece
Professor & Dean Emerita
College of Information Studies
University of Maryland,
College Park, USA

Abstract

In this age of the anthropocene, humans have profound influence on the planet, changing the atmosphere we breathe and reshaping the earth's surface, thereby triggering species extinction at an alarming rate.

HCI's influence on every aspect of technology means that we have a responsibility to heal our planet by raising awareness and triggering action. Citizen science is a form of crowdsourcing that involves citizens in collecting and or analyzing data. This talk focuses on biodiversity citizen science and it challenges HCI researchers, practitioners, teachers, and students to lead the way in shaping a sustainable future. It includes inspirational prototypes that show how design excellence can change technology, raise awareness, and engage citizens to contribute by becoming "citizen scientists". These challenges are advancing the leading edge of HCI theory and practice and contributing to save the species with which we share our planet.



Jennifer J. Preece
Biographical Sketch

Jennifer Preece is a Fellow of the ACM SIGCHI Academy and a Professor at the College of Information Studies – Maryland's Information School, where she was Dean (2005-2015). She is co-author of the most widely-used textbook in HCI, *Interaction Design: Beyond Human Computer Interaction* (4th Edition, John Wiley & Sons, 2015). Her pioneering book *Online Communities: Designing Usability, Supporting Sociability* (2000), helped to clarify determinants of success in empathic online communities, especially in healthcare discussion groups. She is author, coauthor, or editor of seven other books including one of the first texts in HCI, *Human-Computer Interaction* (1994), as well as numerous journal and conference papers. Her heavily cited research covers online and networked communities, citizen science, informal environmental education, HCI design, data sharing, HCI education, and cross cultural participation. Professor Preece's current research focuses on biodiversity, citizen science, and informal environmental education; she is particularly interested in factors that contribute to participation, especially long-term participation in these communities. Her research is funded primarily by the USA's National Science Foundation and Yahoo.

More info: <http://ischool.umd.edu/faculty-staff/jennifer-j-preece>

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General Information

Conference Reception

The Conference Reception will take place at 19:45 (right after the Opening Plenary Session) at **FRONTENAC BALLROOM** on Tuesday, 19 July 2016.

All Conference participants and accompanying persons, who carry an HCI International 2016 badge, will be permitted entrance.

Extra Conference Reception Tickets will be available from the Conference Secretariat until Tuesday, 19 July 2016, 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, 17 July to Friday, 22 July	09:00 - 17:00
	HARBOUR FOYER

Awards

For each of the Affiliated Conferences / Thematic Areas of HCI International 2016 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 Westin Harbour Castle Hotel is located on the vibrant waterfront of Lake Ontario, just steps away from the Downtown Core via the PATH, Toronto's underground covered walkway. Revel in the season as you walk through Toronto's theatre and entertainment districts and discover delight in all the seasonal fun that the nearby Harbourfront Centre has to offer.

Toronto is one of the most cosmopolitan cities in the world; a place where international ideas intersect with Canadian culture. A centre of rare openness, warmth, energy and style, Toronto is enriched by the fusion of traditions, passions and perspectives on life of the more than 100 cultures found here. A city of contrasts, Toronto's skyline includes the CN Tower, one of the Modern Wonders of the World and glass skyscrapers juxtaposed with historic limestone facades. Miles of waterfront, boardwalks, parks and trails nestle together with urban delights like cafés, artisans' exhibits and one-of-a-kind shops.

Coffee and Lunch Breaks

Coffee Breaks			Lunch Breaks	
10:30 – 11:00	15:30 – 16:00	Sunday, 17 July	12:30 – 14:00	
10:30 – 11:00	15:30 – 16:00	Monday, 18 July	12:30 – 14:00	
10:30 – 11:00	15:30 – 16:00	Tuesday, 19 July	12:30 – 14:00	
10:00 – 10:30	15:30 – 16:00	Wednesday, 20 July	12:30 – 13:30	
10:00 – 10:30	15:30 – 16:00	Thursday, 21 July	12:30 – 13:30	
10:00 – 10:30	15:30 – 16:00	Friday, 22 July	12:30 – 13:30	
Offered by HCII2016 Conference.			Participants are kindly asked to make their own arrangements for lunch, during the above breaks. Options for lunch are available within the Hotel.	

General Information

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
- RAM 16GB
- DVD-R/RW drive
- Graphics NVIDIA Quadro 4GB
- USB 3.0 and 2.0

Software available on laptops (all in English language):

- Windows 7 Professional Service Pack 1
- Microsoft Office Professional 2010
- Microsoft .NET Framework 4.5
- Microsoft Silverlight
- Adobe Flash Player 11
- Adobe Reader XI
- Apple Quick Time
- Internet Explorer 10
- DirectX 11

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 area at the **METROPOLITAN BALLROOM**.

The posters will be mounted on poster boards (one poster per board - with landscape orientation) with push pins which will be available on site.

Presenters can mount multiple single sheets of paper, larger posters, pictures, or any printed materials on the boards.

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.

Posters Timetable

Display set-up	Wednesday, 20 July	10:00 - 12:00
Opening Hours	Wednesday, 20 July Thursday, 21 July Friday, 22 July	10:00 - 17:00 09:00 - 17:00 09:00 - 16:30
Display dismantle	Friday, 22 July	16:30 - 18:30

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 2016 is a smoke-free Conference. There are easily accessible outdoor areas at the Convention Center where smoking is permitted.

Mobile Phone Courtesy

HCI International 2016 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.

Business Center

The FedEx Business Center is located on the Lower Level of the Main Building of the hotel, providing a wide range of services. Open Monday to Friday 7:30 - 18:00, Saturday and Sunday 8:00 to 17:00.

HCI International NEWS

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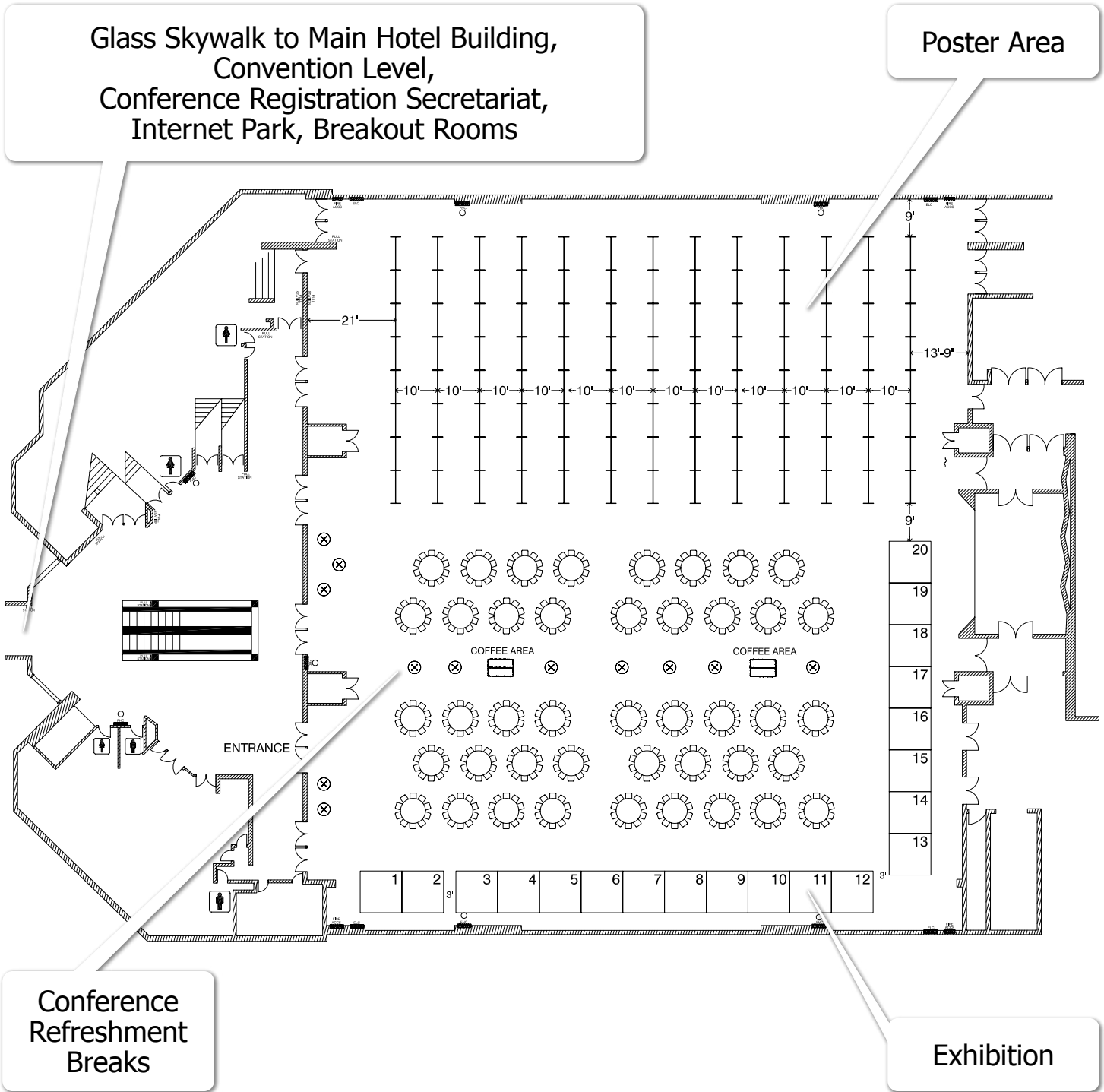
Conference Exhibition

The Exhibition of HCI International 2016 is hosted in the **METROPOLITAN BALLROOM** of The Westin Harbour Castle Hotel.

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

Timetable		
Display set-up	Wednesday, 20 July	06:00 - 10:00
Opening Hours	Wednesday, 20 July	10:00 - 17:00
	Thursday, 21 July	09:00 - 17:00
	Friday, 22 July	09:00 - 16:30
Display dismantle	Friday, 22 July	16:30 - 18:30

METROPOLITAN BALLROOM



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HCI International 2016 Proceedings Volumes List

Volume	LNCS/LNAI/CCIS	Title - Conference Name	Editor(s)	ISBN
1	LNCS 9731	Human-Computer Interaction: Theory, Design, Development and Practice (Part I)	M. Kurosu	978-3-319-39509-8
2	LNCS 9732	Human-Computer Interaction: Interaction Platforms and Techniques (Part II)	M. Kurosu	978-3-319-39515-9
3	LNCS 9733	Human-Computer Interaction: Novel User Experiences (Part III)	M. Kurosu	978-3-319-39512-8
4	LNCS 9734	Human Interface and the Management of Information: Information, Design and Interaction (Part I)	S. Yamamoto	978-3-319-40348-9
5	LNCS 9735	Human Interface and the Management of Information: Applications and Services (Part II)	S. Yamamoto	978-3-319-40396-0
6	LNAI 9736	Engineering Psychology and Cognitive Ergonomics	D. Harris	978-3-319-40029-7
7	LNCS 9737	Universal Access in Human-Computer Interaction: Methods, Techniques, and Best Practices (Part I)	M. Antona; C. Stephanidis	978-3-319-40249-9
8	LNCS 9738	Universal Access in Human-Computer Interaction: Interaction Techniques and Environments (Part II)	M. Antona; C. Stephanidis	978-3-319-40243-7
9	LNCS 9739	Universal Access in Human-Computer Interaction: Users and Context Diversity (Part III)	M. Antona; C. Stephanidis	978-3-319-40237-6
10	LNCS 9740	Virtual, Augmented and Mixed Reality	S. Lackey; R. Shumaker	978-3-319-39906-5
11	LNCS 9741	Cross-Cultural Design	P.L. P. Rau	978-3-319-40092-1
12	LNCS 9742	Social Computing and Social Media	G. Meiselwitz	978-3-319-39909-6
13	LNAI 9743	Foundations of Augmented Cognition: Neuroergonomics and Operational Neuroscience (Part I)	D. D. Schmorrow; C. M. Fidopiastis	978-3-319-39954-6
14	LNAI 9744	Foundations of Augmented Cognition: Neuroergonomics and Operational Neuroscience (Part II)	D. D. Schmorrow; C. M. Fidopiastis	978-3-319-39951-5
15	LNCS 9745	Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management	V. G. Duffy	978-3-319-40246-8
16	LNCS 9746	Design, User Experience, and Usability: Design Thinking and Methods (Part I)	A. Marcus	978-3-319-40408-0
17	LNCS 9747	Design, User Experience, and Usability: Novel User Experiences (Part II)	A. Marcus	978-3-319-40355-7
18	LNCS 9748	Design, User Experience, and Usability: Technological Contexts (Part III)	A. Marcus	978-3-319-40405-9
19	LNCS 9749	Distributed, Ambient and Pervasive Interactions	N. Streitz; P. Markopoulos	978-3-319-39861-7
20	LNCS 9750	Human Aspects of Information Security, Privacy and Trust	T. Tryfonas	978-3-319-39380-3
21	LNCS 9751	HCI in Business, Government and Organizations: eCommerce and Innovation (Part I)	F. F. Nah; C. Tan	978-3-319-39395-7
22	LNCS 9752	HCI in Business, Government and Organizations: Information Systems (Part II)	F. F. Nah; C. Tan	978-3-319-39398-8
23	LNCS 9753	Learning and Collaboration Technologies	P. Zaphiris; A. Ioannou	978-3-319-39482-4
24	LNCS 9754	Human Aspects of IT for the Aged Population: Design for Aging (Part I)	J. Zhou; G. Salvendy	978-3-319-39942-3
25	LNCS 9755	Human Aspects of IT for the Aged Population: Healthy and Active Aging (Part II)	J. Zhou; G. Salvendy	978-3-319-39948-5
26	CCIS 617	HCI International 2016 - Posters' Extended Abstracts (Part I)	C. Stephanidis	978-3-319-40547-6
27	CCIS 618	HCI International 2016 - Posters' Extended Abstracts (Part II)	C. Stephanidis	978-3-319-40541-4

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Sunday, 17 July 2016			Room	Time	
T01	Extreme Innovation: Lean UX for Mobile & Wearables Greg Nudelman	Harbour Ballroom A	09:00-12:30	Morning	
T02	Mobile Persuasion Design+UX: How can Information Design plus Persuasion Design Change Behavior? Aaron Marcus	Harbour Ballroom B	09:00-12:30		
T03	Artificial intelligence and user interaction Martin Maguire	Harbour Ballroom C	09:00-12:30		
T04	Authoring Adaptive Instruction Using the Generalized Intelligent Framework for Tutoring (GIFT) Robert Sottolare, Anne Sinatra, Benjamin S. Goldberg	Harbour Ballroom A	14:00-17:30	Afternoon	
T05	Cross-Cultural HCI/User-Experience Design: What are the Differences and Similarities of User Preferences, including China? Aaron Marcus	Harbour Ballroom B	14:00-17:30		
T06	Speech-based Interaction: Myths, Challenges, and Opportunities Cosmin Munteanu, Gerald Penn	Harbour Ballroom C	14:00-17:30		

Monday, 18 July 2016			Room	Time	
T07	Standardized Usability Questionnaires James Lewis	Harbour Ballroom A	09:00-12:30	Morning	
T08	HCI/UX in Science-Fiction Movies/TV: What can We Learn from the Past 100 Years of the Future? Aaron Marcus	Harbour Ballroom B	09:00-12:30		
T09	Modern heuristic design evaluation Everett McKay	Harbour Ballroom C	09:00-12:30		
T10	Beyond Significance Testing: Confidence Intervals and Sample Size Estimation for User Research James Lewis	Harbour Ballroom A	14:00-17:30	Afternoon	
T11	Design of Training Programs using Multiple Modalities of Technologies Eileen Smith, Ronald Tarr, Michael Carney, Cali M. Fidopiastis.	Harbour Ballroom B	14:00-17:30		
T12	Research Methods for Eye Tracking in User Experience Design Jennifer Romano Bergstrom, Andrew Schall	Harbour Ballroom C	14:00-17:30		
T13	Human Computer Interaction and Cyber-Security Abbas Moallem	Pier 5	14:00-17:30		

Tuesday, 19 July 2016			Room	Time	
T14	How to Create User Requirements for Software Anna Wichansky	Harbour Ballroom A	09:00-12:30	Morning	
T15	Mobile HCI/User-Experience Design: What Trends are Emerging Worldwide, including China? Aaron Marcus	Harbour Ballroom B	09:00-12:30		
T16	Using Kansei Engineering to design a better user experience Nigel Bevan	Pier 5	09:00-12:30		
T17	Communication and Leadership for Effective HCI Teams Lil Blume	Harbour Ballroom C	09:00-12:30		
T18	How to Test Software with Users Anna Wichansky	Pier 5	14:00-17:30	Afternoon	
T19	How to: Designing Experiments, Working with Metrics and Human Participants Gisela Susanne Bahr	Harbour Ballroom A	14:00-17:30		
T20	Brain neural computer interfaces and novel medical applications Brendan Allison, Günter Edlinger	Harbour Ballroom B	14:00-17:30		
T21	IBM Design Thinking Workshop Camillo Sassano, Kevin L. Schultz	Harbour Ballroom C	14:00-17:30		

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

Room: Pier 4

Parallel Sessions Overview

Wednesday, 20 July 2016

Morning

	08:00 – 10:00 (page 20 - 24)		10:30 – 12:30 (page 25 - 29)	
Thematic Area	session code	Session Title	session code	Session Title
HCI	S001	Human Aspects of Information Systems <i>ROOM: HARBOUR BALLROOM C</i>	S020	Experience of Quality in Interaction <i>ROOM: PIER 5</i>
			S021	New Aspects of Media-fused Interaction and Collaborative Interface Design - I <i>ROOM: HARBOUR BALLROOM C</i>
HIMI	S002	Relationality Design and Relationality-oriented Systems - I <i>ROOM: QUEENS QUAY I</i>	S022	Relationality Design and Relationality-oriented Systems - II <i>ROOM: QUEENS QUAY I</i>
EPCE	S003	Design Patterns for Human-Autonomy Teaming <i>ROOM: DOCKSIDE 6</i>	S023	Aviation Safety and Human Factors <i>ROOM: DOCKSIDE 6</i>
UAHCI	S004	Universal Access: Process, Product or Prodigy <i>ROOM: DOCKSIDE 2</i>	S024	Recent developments in Universal design of ICT-systems <i>ROOM: DOCKSIDE 2</i>
	S005	Accessibility of Documents <i>ROOM: DOCKSIDE 3</i>	S025	Eye Tracking in User Experience Research <i>ROOM: DOCKSIDE 3</i>
VAMR	S006	VR in the Wild <i>ROOM: BAY ROOM</i>	S026	Assessing the Value of Training with Advanced VE Technology <i>ROOM: BAY ROOM</i>
CCD	S007	Cultural Ergonomics beyond Culture - I <i>ROOM: QUEENS QUAY II</i>	S027	Cultural Ergonomics beyond Culture - II <i>ROOM: QUEENS QUAY II</i>
SCSM	S008	Making Social Media Meaningful <i>ROOM: PIER 7</i>	S028	Urban Analytics with Social Data <i>ROOM: PIER 7</i>
AC	S009	EEG-based Brain Computer Interfaces <i>ROOM: PIER 9</i>	S029	Applications of Augmented Cognition <i>ROOM: PIER 9</i>
	S010	Adaptive Instruction for Training and Education <i>ROOM: PIER 8</i>		
DHM	S011	Motion and Quality in Healthcare <i>ROOM: DOCKSIDE 1</i>	S030	Human Modeling for Quality Care <i>ROOM: DOCKSIDE 1</i>
DUXU	S012	Semiotics, Trends, Innovation - I <i>ROOM: HARBOUR BALLROOM A</i>	S031	User Experience (UX) in China <i>ROOM: HARBOUR BALLROOM B</i>
	S013	Visceral design <i>ROOM: HARBOUR BALLROOM B</i>	S032	Semiotics, Trends, Innovation - II <i>ROOM: HARBOUR BALLROOM A</i>
DAPI	S014	Design and Neuroscience: cognitive and projective approaches and interactions <i>ROOM: DOCKSIDE 8</i>	S033	Humor in Ambient and Pervasive Interactions <i>ROOM: PIER 8</i>
HCIBGO	S015	Digital Enablement in Business and Society <i>ROOM: DOCKSIDE 5</i>	S034	Human Computer Interaction in Electronic Commerce, Mobile Commerce and No-Line Commerce <i>ROOM: REGATTA</i>
	S016	HCI in Business and Organizations <i>ROOM: REGATTA</i>	S035	Sensing and Responding: How HCI enables Organisations to Adapt for Employees and Customers <i>ROOM: DOCKSIDE 5</i>
LCT	S017	Knowledge Society for all. New trends in Education - I <i>ROOM: DOCKSIDE 9</i>	S036	Knowledge Society for all. New trends in Education - II <i>ROOM: DOCKSIDE 9</i>
ITAP	S018	Silver Gaming <i>ROOM: MARINE</i>	S037	Human-Centered Research for Smart User Interface <i>ROOM: MARINE</i>
	S019	Keeping Seniors Moving: Technological Innovations that Promote Mobility in Older Adulthood <i>ROOM: DOCKSIDE 4</i>	S038	Technology to Support Independent Aging <i>ROOM: DOCKSIDE 4</i>

HCI Human-Computer Interaction • **HIMI** Human Interface and the Management of Information • **EPCE** Engineering Psychology and Cognitive Ergonomics • **UAHCI** Universal Access in Human-Computer Interaction • **VAMR** Virtual, Augmented and Mixed Reality • **CCD** Cross-Cultural Design • **SCSM** Social Computing and Social Media • **AC** Augmented Cognition • **DHM** Digital Human Modeling

Sessions DAY 1

Wednesday, 20 July 2016

Afternoon

13:30 – 15:30 (page 30 - 34)		16:00 – 18:00 (page 35 - 39)	
Thematic Area	session code Session Title	session code Session Title	Session Title
HCI	S039 New Human-computer Interface for Virtual Reality Devices and Their Applications <i>ROOM: PIER 7</i>	S058 HCI & Transportation <i>ROOM: HARBOUR BALLROOM C</i>	
	S040 Kansei Engineering, Today <i>ROOM: PIER 5</i>	S059 On the Integration of UCD/UX and Agile Development <i>ROOM: PIER 5</i>	
	S041 New Aspects of Media-fused Interaction and Collaborative Interface Design - II <i>HARBOUR BALLROOM C</i>	S060 Interacting with visualisations and narratives <i>ROOM: PIER 7</i>	
HIMI	S042 Service and Interaction <i>ROOM: QUEENS QUAY I</i>	S061 Visualisation methods and techniques <i>ROOM: QUEENS QUAY I</i>	
EPCE		S062 Empirical studies <i>ROOM: DOCKSIDE 6</i>	
UAHCI	S043 Cutting Edge in Information Display: Recent Advances in Ergonomic Research for the Use of 3D and Head-mounted display (HMD) <i>ROOM: DOCKSIDE 2</i>	S063 Universal Access: The Science and Engineering of Accessibility <i>ROOM: DOCKSIDE 2</i>	
	S044 Universal Access in Collaborative Learning <i>ROOM: DOCKSIDE 3</i>	S064 Inclusive and adaptive design for HMI in Aerospace, Healthcare, and Automotive <i>ROOM: DOCKSIDE 3</i>	
		S065 Developments in Haptic and Somatosensory HMI <i>ROOM: DOCKSIDE 4</i>	
VAMR	S045 The Future of Virtual, Augmented and Mixed Reality <i>ROOM: BAY ROOM</i>	S066 VAMR in design, prototyping and production <i>ROOM: BAY ROOM</i>	
CCD	S046 Cultural Ergonomics beyond Culture - III <i>ROOM: QUEENS QUAY II</i>	S067 Service Design Research based on Internet User Experience <i>ROOM: QUEENS QUAY II</i>	
AC	S047 Recent Advances in Neuroergonomics <i>ROOM: PIER 9</i>	S068 Data visualization and interaction in the age of Big Data <i>ROOM: PIER 9</i>	
DHM	S048 Human Modeling of Traditional Arts and Technologies <i>ROOM: DOCKSIDE 1</i>	S069 Science of Omotenashi: Investigating the spirit of selfless hospitality <i>ROOM: DOCKSIDE 1</i>	
DUXU	S049 Ergonomics for interactive systems <i>ROOM: HARBOUR BALLROOM A</i>	S070 New Approaches of User Experience Research <i>ROOM: HARBOUR BALLROOM A</i>	
	S050 Information Design and UX - I <i>ROOM: HARBOUR BALLROOM B</i>	S071 Information Design and UX - II <i>ROOM: HARBOUR BALLROOM B</i>	
DAPI	S051 Pervasive and Civic Computing <i>ROOM: PIER 8</i>	S072 Urban Interactions <i>ROOM: PIER 8</i>	
HAS	S052 Adaptive and Context-aware Security, Privacy and Trust <i>ROOM: DOCKSIDE 6</i>		
HCIBGO	S053 Social Commerce <i>ROOM: DOCKSIDE 5</i>	S073 HCI and Consumers' behaviour <i>ROOM: DOCKSIDE 5</i>	
	S054 HCI and Occupational Safety and Health - I <i>ROOM: REGATTA</i>	S074 HCI and Occupational Safety and Health - II <i>ROOM: REGATTA</i>	
LCT	S055 Knowledge Society for all. New trends in Education - III <i>ROOM: DOCKSIDE 9</i>	S075 Digital turn at schools - changes in leadership, teaching and learning <i>ROOM: DOCKSIDE 9</i>	
ITAP	S056 New media in the everyday life of older people - I <i>ROOM: DOCKSIDE 4</i>	S076 New media in the everyday life of older people - II <i>ROOM: MARINE</i>	
	S057 PANEL - Advanced Vehicle Technologies: The Role of Driver Experience, Perceptions, and Behavior <i>ROOM: MARINE</i>		

Parallel Sessions Overview

Thursday, 21 July 2016

Morning

		08:00 – 10:00 (page 40 - 44)	10:30 – 12:30 (page 45 - 49)
Thematic Area	session code	Session Title	session code Session Title
HCI	S077	Patterns and Models for Designing Flexible Interactive Systems <i>ROOM: HARBOUR BALLROOM C</i>	S096 Cloud Computing & Big data Analytics <i>ROOM: PIER 5</i> S097 Tangible and Haptic Interaction <i>ROOM: PIER 7</i> S098 Usability and User Experience Evaluation <i>ROOM: HARBOUR BALLROOM C</i>
HIMI	S078	System/software development and Quality <i>ROOM: QUEENS QUAY I</i>	S099 User-oriented technologies and services <i>ROOM: QUEENS QUAY I</i>
	S079	Ultra Reality and Virtual Reality <i>ROOM: QUEENS QUAY II</i>	S100 Data, semantics and interaction <i>ROOM: QUEENS QUAY II</i>
EPCE	S080	Human factors and ergonomics in safety-critical systems <i>ROOM: DOCKSIDE 6</i>	S101 Cognition in HCI <i>ROOM: DOCKSIDE 6</i>
UAHCI	S081	ICT as a means for Behavioural Modelling and Promotion of Healthy and Active Ageing <i>ROOM: DOCKSIDE 2</i>	S102 Quantified Self & Personal Informatics <i>ROOM: DOCKSIDE 2</i>
	S082	Innovative Product Design and Development: Smart Products and Services <i>ROOM: DOCKSIDE 3</i>	S103 eInclusion - systematic reviews of results, outcomes, impacts; perspectives? <i>ROOM: DOCKSIDE 3</i>
VAMR	S083	Alternative Interfaces for Digital Environments <i>ROOM: BAY ROOM</i>	S104 Keeping VEs Safe: Recommendations for the Well-being of our Users <i>ROOM: BAY ROOM</i>
CCD	S084	Design and management of safe and stress-free walking environment: considering different culture and physical condition of pedestrians <i>ROOM: DOCKSIDE 4</i>	S105 Cognition, Experience and Behavior Design for Crossing Culture <i>ROOM: DOCKSIDE 4</i>
AC	S085	Enhance Human Performance in Augmented Training Environments: Measurements and Models <i>ROOM: PIER 9</i>	S106 Closed-Loop Systems: Best Practices for Standardizing, Attribute Selection, and Modeling <i>ROOM: PIER 9</i>
	S086	Designing and Implementing Augmented Reality <i>ROOM: PIER 8</i>	
DHM	S087	Traditional Wisdom and Technologies in Industry <i>ROOM: DOCKSIDE 1</i>	S107 Focus on the Human in DHM <i>ROOM: DOCKSIDE 1</i>
DUXU	S088	Design, Ergonomics and Usability - I <i>ROOM: HARBOUR BALLROOM A</i>	S108 Design Thinking Research on Innovation and Organizational Change <i>ROOM: HARBOUR BALLROOM B</i>
	S089	Data intensive systems and DUXU <i>ROOM: HARBOUR BALLROOM B</i>	S109 Design, Ergonomics and Usability - II <i>ROOM: HARBOUR BALLROOM A</i>
DAPI	S090	3D Interaction for Ubiquitous Virtual and Augmented Reality <i>ROOM: DOCKSIDE 5</i>	S110 Interacting with Smart Objects <i>ROOM: DOCKSIDE 5</i>
HCIBGO	S091	Social Computing and Human Behaviors <i>ROOM: PIER 5</i>	S111 PANEL: HCI Testing in Laboratory or Field Settings <i>ROOM: REGATTA</i>
	S092	Identifying HCI Needs in the Government Sector <i>ROOM: REGATTA</i>	
LCT	S093	Dissecting User Experience (UX) when Users Objective is to Learn <i>ROOM: DOCKSIDE 9</i>	S112 Learning design and assessment <i>ROOM: DOCKSIDE 9</i>
ITAP	S094	E-commerce and virtual community in aging society <i>ROOM: MARINE</i>	S113 IT and elderly: communication and representations between stereotypes and reality <i>ROOM: MARINE</i>
	S095	Human Factors in an Aging Society <i>ROOM: PIER 7</i>	S114 Making a Difference to the Lives of Older Adults through Technology and Service <i>ROOM: PIER 8</i>

Sessions DAY 2

Thursday, 21 July 2016

Afternoon

	13:30 – 15:30 (page 50 - 54)		16:00 – 18:00 (page 55 - 59)	
Thematic Area	session code	Session Title	session code	Session Title
HCI	S115	Gaze and Face Recognition <i>ROOM: HARBOUR BALLROOM C</i>	S134	Mobile guidance <i>ROOM: HARBOUR BALLROOM C</i>
	S116	User Studies <i>ROOM: PIER 5</i>	S135	Multimodal and Natural Interaction <i>ROOM: PIER 5</i>
	S117	Aesthetics and visual layout design <i>ROOM: PIER 7</i>		
HIMI	S118	Design Information Usage <i>ROOM: QUEENS QUAY I</i>	S136	New Well-Being Measures in HCI <i>ROOM: QUEENS QUAY I</i>
	S119	Digital Museum <i>ROOM: QUEENS QUAY II</i>	S137	Tactile interaction <i>ROOM: QUEENS QUAY II</i>
UAHCI	S120	Sensors and Mobile Applications for Human - Computer Interaction <i>ROOM: DOCKSIDE 2</i>	S138	Design Access in Ergonomics and Interaction <i>ROOM: DOCKSIDE 2</i>
	S121	Senior Cloud for Active Aging and Work After Retirement <i>ROOM: DOCKSIDE 3</i>	S139	Technology for Inclusion and Participation (TIP) <i>ROOM: DOCKSIDE 3</i>
VAMR	S122	Critical Challenges Facing Multimodal Interface Design and Implementation <i>ROOM: BAY ROOM</i>	S140	Human-Autonomy Teaming <i>ROOM: BAY ROOM</i>
	S123	Gesture and motion-based Interaction in VAMR <i>ROOM: PIER 8</i>	S141	High-Fidelity Virtual Human Interaction: Avatar Puppeteering <i>ROOM: PIER 8</i>
CCD	S124	Culture in Health-care and Transportation <i>ROOM: DOCKSIDE 4</i>	S142	Designing the human city and social innovation <i>ROOM: DOCKSIDE 4</i>
SCSM	S125	Collaboration Support in Software Engineering Education <i>ROOM: DOCKSIDE 5</i>	S143	Users' behavior in social media <i>ROOM: DOCKSIDE 5</i>
AC	S126	Machine Learning on Cognitive Data <i>ROOM: PIER 9</i>	S144	Toward Practical Brain-Computer Interfaces in Real Life <i>ROOM: PIER 9</i>
DHM	S127	Utilizing Traditional Wisdom and Technologies for Quality Care <i>ROOM: DOCKSIDE 1</i>	S145	Future Applied Conventional Technology <i>ROOM: DOCKSIDE 1</i>
DUXU	S128	UX and Sustainability <i>ROOM: HARBOUR BALLROOM B</i>	S146	Designing for and with people on the autism spectrum <i>ROOM: HARBOUR BALLROOM A</i>
	S129	Design, Ergonomics and Usability - III <i>ROOM: HARBOUR BALLROOM A</i>	S147	Designing and Evaluating User Experience (UX) in Interactive Systems <i>ROOM: HARBOUR BALLROOM B</i>
HAS	S130	The human factor in information security <i>ROOM: DOCKSIDE 6</i>	S148	Technological advances in security <i>ROOM: DOCKSIDE 6</i>
HCIBGO	S131	User Experience in the Digital Age - I <i>ROOM: REGATTA</i>	S149	User Experience in the Digital Age - II <i>ROOM: REGATTA</i>
LCT	S132	Learning in Industry and Organizations <i>ROOM: DOCKSIDE 9</i>	S150	Frameworks for supporting technology-enhanced learning <i>ROOM: DOCKSIDE 9</i>
ITAP	S133	Aging and Technology Acceptance - I <i>ROOM: MARINE</i>	S151	Aging and Technology Acceptance - II <i>ROOM: MARINE</i>

Parallel Sessions Overview

Friday, 22 July 2016

Morning

	08:00 – 10:00 (page 60 - 64)		10:30 – 12:30 (page 65 - 69)	
Thematic Area	session code	Session Title	session code	Session Title
HCI	S152	Interaction Design Methods and Techniques <i>ROOM: PIER 5</i>	S170	Designing and evaluating mobile applications <i>ROOM: PIER 5</i>
HIMI	S153	Human-centered Systems, Services and Applications <i>ROOM: QUEENS QUAY I</i>	S171	Improvement in Learning and Educational Environments using ICT <i>ROOM: QUEENS QUAY I</i>
	S154	Embodied Interaction and Communication <i>ROOM: QUEENS QUAY II</i>	S172	Big Data and Linked Data <i>ROOM: QUEENS QUAY II</i>
EPCE	S155	Mental workload and Performance <i>ROOM: DOCKSIDE 6</i>	S173	Context awareness, emotion and collaboration <i>ROOM: DOCKSIDE 6</i>
UAHCI	S156	Diagnostic, intervention, communication and learning applications for ASD <i>ROOM: DOCKSIDE 2</i>	S174	Connected and Collaborative Health <i>ROOM: DOCKSIDE 2</i>
			S175	Design for All Methods, techniques and tools <i>ROOM: DOCKSIDE 3</i>
VAMR			S176	Where do Virtual Environments Belong? A Discussion of Application Domains <i>ROOM: BAY ROOM</i>
CCD	S157	Living in Intelligent Environment <i>ROOM: DOCKSIDE 4</i>	S177	Cross border e-commerce design <i>ROOM: DOCKSIDE 4</i>
	S158	Case studies in cross-cultural design <i>ROOM: DOCKSIDE 3</i>	S178	Design in Everyday Life <i>ROOM: DOCKSIDE 5</i>
SCSM	S159	Serendipity Engineering via Creative Context-Aware Learning in Social Media <i>ROOM: PIER 7</i>	S179	User experience in social media <i>ROOM: PIER 7</i>
AC	S160	Multimodal communication, technology, and interaction <i>ROOM: PIER 9</i>	S180	Quantifying the Human Dimension through Methodology and Technology <i>ROOM: PIER 9</i>
DHM	S161	DHM in medicine <i>ROOM: DOCKSIDE 1</i>	S181	DHM for design and ergonomics <i>ROOM: DOCKSIDE 1</i>
DUXU	S162	Future Trend & Service design in DUXU <i>ROOM: HARBOUR BALLROOM A</i>	S182	User vs. Platform Diversity in User Experience Research and Design <i>ROOM: HARBOUR BALLROOM A</i>
	S163	Women in UX <i>ROOM: HARBOUR BALLROOM B</i>	S183	Cross-Cultural Communication <i>ROOM: HARBOUR BALLROOM B</i>
	S164	Creative Interaction: Cross-disciplinary HCI toward Convergence <i>ROOM: HARBOUR BALLROOM C</i>	S184	Games and gamification <i>ROOM: HARBOUR BALLROOM C</i>
DAPI	S165	Ubiquitous and pervasive interaction <i>ROOM: PIER 8</i>		
HCIBGO	S166	Impact of context and location on HCI <i>ROOM: REGATTA</i>	S185	Smart Objects, Smart Homes, and Smart Buildings: Shaping Our Future Experience of Space <i>ROOM: REGATTA</i>
LCT	S167	Language and History Learning <i>ROOM: DOCKSIDE 9</i>	S186	Models and ontologies supporting learning adaptation and personalisation <i>ROOM: DOCKSIDE 9</i>
ITAP	S168	Transportation Accessibility and Safety for an Aging Population <i>ROOM: MARINE</i>		
	S169	Technology for elderly - sensors, devices and new contexts of usage <i>ROOM: DOCKSIDE 5</i>		

HCI Human-Computer Interaction • **HIMI** Human Interface and the Management of Information • **EPCE** Engineering Psychology and Cognitive Ergonomics • **UAHCI** Universal Access in Human-Computer Interaction • **VAMR** Virtual, Augmented and Mixed Reality • **CCD** Cross-Cultural Design • **SCSM** Social Computing and Social Media • **AC** Augmented Cognition • **DHM** Digital Human Modeling

Sessions DAY 3

Friday, 22 July 2016

Afternoon

	13:30 – 15:30 (page 70 - 74)		16:00 – 18:00 (page 75 - 78)	
Thematic Area	session code	Session Title	session code	Session Title
HCI	S187	Communication and companionship <i>ROOM: PIER 5</i>	S205	Emotional User Experience <i>ROOM: PIER 5</i>
			S206	Mobile Input <i>ROOM: PIER 7</i>
			S207	Modelling and designing complex systems <i>ROOM: PIER 8</i>
			S208	Gesture, movement-based and full body interaction <i>ROOM: DOCKSIDE 1</i>
HIMI	S188	Safety-critical applications <i>ROOM: QUEENS QUAY I</i>	S209	eScience and eResearch <i>ROOM: DOCKSIDE 5</i>
	S189	Interacting with text and images <i>ROOM: QUEENS QUAY II</i>		
EPCE	S190	Vision, Cognition and Interaction <i>ROOM: DOCKSIDE 6</i>		
UAHCI	S191	Ergonomics in Architecture <i>ROOM: DOCKSIDE 2</i>	S210	Human, Computer & Environment <i>ROOM: DOCKSIDE 2</i>
	S192	Designing User Experience for Human Diversity: Lessons from Inclusive Design and Personalization <i>ROOM: DOCKSIDE 3</i>	S211	BCI and multimodality for Universal Access <i>ROOM: DOCKSIDE 3</i>
			S212	Non visual mobile and wearable interaction <i>ROOM: DOCKSIDE 4</i>
VAMR	S193	Medical applications of VAMR <i>ROOM: BAY ROOM</i>	S213	Usability and User Experience in VAMR <i>ROOM: DOCKSIDE 9</i>
CCD	S194	Security and Usability <i>ROOM: DOCKSIDE 4</i>		
SCSM	S195	Designing and developing social media <i>ROOM: PIER 7</i>		
AC	S196	Advanced Methods for Assessment and Rehabilitation of Cognitive Abilities <i>ROOM: PIER 9</i>	S214	Toward Real Time State Assessment <i>ROOM: PIER 9</i>
DHM	S197	Advances in DHM and related applications <i>ROOM: DOCKSIDE 1</i>		
DUXU	S198	Defining and designing the UX <i>ROOM: HARBOUR BALLROOM A</i>	S215	Usability evaluation <i>ROOM: HARBOUR BALLROOM A</i>
	S199	Design and creativity methods and tools <i>ROOM: HARBOUR BALLROOM B</i>	S216	Mobile DUXU <i>ROOM: HARBOUR BALLROOM B</i>
	S200	Persuasion, behaviour change and sustainability <i>ROOM: HARBOUR BALLROOM C</i>	S217	DUXU for Natural Interaction <i>ROOM: HARBOUR BALLROOM C</i>
DAPI	S201	Designing smart living environments <i>ROOM: PIER 8</i>		
HAS	S202	Sociotechnical approaches in cyber and security human factors <i>ROOM: DOCKSIDE 5</i>		
HCIBGO	S203	Social Media for Business <i>ROOM: REGATTA</i>	S218	Digital Innovation <i>ROOM: REGATTA</i>
LCT	S204	STEM learning <i>ROOM: DOCKSIDE 9</i>		
ITAP			S219	Cyber-Physical System for Elderly Monitoring <i>ROOM: MARINE</i>



Human-Computer Interaction

HCI S001

Human Aspects of Information Systems

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

Room: **HARBOUR BALLROOM C**

Build or buy: A case study for ERP system selection in SMEs

Olga Gomez, *United States*; Patrick Wriedt, *Germany*; Fan Zhao, *United States*.

Green IS In Education Industry: A Case Study

Fan Zhao, Samuel Farmer, Jodette Alejandro, Adrian Perez Estrada, *United States*.

Challenges for the Application of Migratory User Interfaces in Industrial Process Visualizations

Lukas Baron, Annerose Braune, *Germany*.

Development of multiple device collaboration system using the built-in camera image

Kazuki Tada, Jiro Tanaka, *Japan*.

What's wrong with ERP in China?

Hang Shi, Eugene Hoyt, *United States*.

Does online game community matter?

Fan Zhao, Hang Shi, *United States*.

Human Interface and the Management of Information

HIMI S002

Relationality Design and Relationality-oriented Systems - I

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

Room: **QUEENS QUAY I**

A System Description Model without Hierarchical Structure

Tetsuya Maeshiro, *Japan*; Midori Maeshiro, *Brazil*.

The Temporal Analysis of Network for Community Activity

Yurika Shiozu, Koya Kimura, Katsunori Shimohara, *Japan*.

A mechanism to control aggressive comments in pseudonym type computer mediated communications

Hiroki Yamaguchi, Tetsuya Maeshiro, *Japan*.

Video Recommendation System that Arranges Video Clips based on Pre-defined Viewing times

Mitsuhiro Kimoto, Tomoki Nakahata, Takahiro Hirano, Takuya Nagashio, Masahiro Shiomi, Takamasa Iio, Ivan Tanev, Katsunori Shimohara, *Japan*.

Preventing Incorrect Opinion Sharing with Weighted Relationship among Agents

Rei Saito, Masaya Nakata, Hiroyuki Sato, *Japan*; Tim Kovacs, *United Kingdom*; Keiki Takadama, *Japan*.

Personalized Real-Time Sleep Stage from Past Sleep Data to Today's Sleep Estimation

Yusuke Tajima, Tomohiro Harada, Hiroyuki Sato, Keiki Takadama, *Japan*.

Engineering Psychology and Cognitive Ergonomics

EPCE S003

Design Patterns for Human-Autonomy Teaming

Chair(s): Axel Schulte, *Germany*.

Room: **DOCKSIDE 6**

Design Patterns for Human-Cognitive Agent Teaming

Axel Schulte, Diana Donath, *Germany*; Douglas S. Lange, *United States*.

Human-Autonomy Teaming Patterns in the Command and Control of Teams of Autonomous Systems

Douglas S. Lange, Robert S. Gutzwiller, *United States*.

Sub-Patterns for Human-Autonomy Teaming: Variations on a Delegation Theme

Chris Miller, *United States*.

Application of Human-Autonomy Teaming (HAT) Patterns to Reduced Crew Operations (RCO)

R. Jay Shively, Summer L. Brandt, Joel Lachter, Mike Matessa, Garrett Sadler, Henri Battiste, *United States*.

Designing a Support System to Mitigate Pilot Error while Minimizing Out-of-the-loop-effects

Nikolaus TheiBing, Axel Schulte, *Germany*.

Interaction Design Patterns for Adaptive Human-Agent-Robot Teamwork in High-Risk Domains

Mark A. Neerinx, Jurriaan Van Diggelen, Leo Van Breda, *Netherlands*.

Human-Agent Teaming for Effective Multirobot Management: Effects of Agent Transparency

Michael J. Barnes, Jessie Y.C. Chen, Julia L. Wright, Kimberly Stowers, *United States*.

Universal Access in Human-Computer Interaction

UAHCI S004

Universal Access: Process, Product or Prodigy

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

Room: **DOCKSIDE 2**

Development of Universal Design Mobile Interface Guidelines (UDMIG) for Aging Population

Ljilja Ruzic, *Serbia and Montenegro*; Seunghyun "Tina" Lee, Yilin Elaine Liu, Jon A. Sanford, *United States*.

GatePal – Universal Design for Airport Navigation to Allow Departing Travellers to Stay Informed

Yilin Elaine Liu, Christina Harrington, Sarah Melgen, Jon A. Sanford, *United States*.

Developing accessibility design guidelines for wearables: Accessibility standards for multimodal wearable devices

Jobke Wentzel, Eric Velleman, Thea Van der Geest, *Netherlands*.

3D Interaction accessible to visually impaired users: a systematic review

Erico De Souza Veriscimo, Joãõ L. Bernardes Jr., *Brazil*.

Usability, accessibility and gameplay heuristics to evaluate audiogames for users who are blind

Marcia De Borba Campos, Juliana Damasio Oliveira, *Brazil*.

UAHCI S005

Accessibility of Documents

Chair(s): Georgios Kouroupetroglou, Greece.

Room: **DOCKSIDE 3**

The improvement of cognitive maps of individuals with blindness through the use of an audio-tactile map

Konstantinos Papadopoulos, Marialena Barouti, Eleni Koustriava, Greece.

The impact of orientation and mobility aids on wayfinding of individuals with blindness: verbal description vs. audio-tactile map

Eleni Koustriava, Konstantinos Papadopoulos, Panagiotis Koukourikos, Marialena Barouti, Greece.

Multimodal Accessibility for Deaf students using interactive video, digital repository and Hybrid books

Vassilis Kourbetis, Konstantinos Boukouras, Maria Gelastopoulou, Greece.

How blind and sighted individuals perceive the typographic text-signals of a document

Georgios Kouroupetroglou, Philippos Katsoulis, Greece.

Visual Debuggers and Deaf Programmers

Marcos Devaner Do Nascimento, Francisco Carlos De Mattos Brito Oliveira, Adriano Tavares de Freitas, Lidiane Castro Silva, Brazil.

VAMR S006

VR in the Wild

Chair(s): Marjorie A. Zielke, United States.

Room: **BAY ROOM**

Full-Body Portable Virtual Reality for Personal Protective Equipment Training

James Coleman Eubanks, Veena Somareddy, Ryan P. McMahan, Alfonso A. Lopez, United States.

Virtual Environments as Communication Technologies of Faith

John F. Kay, United States.

Geometry Explorer: Facilitating Geometry Education with Virtual Reality

Chengyuan Lai, Ryan P. McMahan, Midori Kitagawa, Iolani Connolly, United States.

Immersive Journalism in VR: Four Theoretical Domains for Researching a Narrative Design Framework

Gary M. Hardee, United States.

Immersive Gatekeeper Training System for Suicide Prevention in HMD based Virtual Environments

Sinwoo Park, Changhoon Park, Korea.

Aspects of Voice Interaction on a Mobile Augmented Reality Application

Tiago Araújo, Carlos Santos, Brunelli Miranda, Nikolas Carneiro, Anderson Marques, Marcelle Mota, Nelson Neto, Bianchi Meiguins, Brazil.

Intelligent Virtual Environment Using a Methodology Oriented to Agents

Sandra Mateus, John Branch, Colombia.

CCD S007

Cultural Ergonomics beyond Culture - I

Chair(s): Rungtai Lin, Taiwan; John Kreifeldt, United States.

Room: **QUEENS QUAY II**

Design and Application of the Illustrations of Zhuangzi

MoLi Yeh, Taiwan; YuanQian Liu, P.R. China; Po-Hsien Lin, Taiwan.

Influence of Media Forms on Painting Appreciation Experiences

Si-Jing Chen, Chih-Long Lin, Sandy Lee, Yen-Yu Kang, Taiwan.

From "Idyllic" to "Living Space"—Turning "Art Work" into "Interior Design"

Ya-Juan Gao, Yun Lin, P.R. China; Li-Yu Chen, Taiwan; David Chang-Hsi Dai, United States.

The effect of the transition design of artwork to the purchasing demand --- A case study of apparel design

Chi-Ying Hung, Chun-Liang Chen, Taiwan.

From Ideality to Reality -- A Case Study of Mondrian Style

Rungtai Lin, Hui-Yueh Hsieh, Ming-Xean Sun, Taiwan; Ya-Juan Gao, P.R. China.

The Influences of Children's Temperament and their Parent-Child Reading Environment on their Preferences Regarding Parent-Child Reading

Jo-Han Chang, Tien-Ling Yeh, Taiwan.

Approaching a Chinese cultural transferring design model through analysis of culturally oriented design and its context

Wenjin Yao, Gang Lu, P.R. China.

SCSM S008

Making Social Media Meaningful

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

Room: **PIER 7**

Integrating the crowd through social media: how higher education can profit from viral mechanisms

Maximilian Rapp, Germany; Ken White, United States; Markus Rhomberg, Germany.

Cruel Intentions? - The Role of Moral Awareness, Moral Disengagement, and Regulatory Focus in the Unethical Use of Social Media by Entrepreneurs

Christian W. Scheiner, Katja Krämer, Christian V. Baccarella, Germany.

Hold the Line! The Challenge of Being a Premium Brand in the Social Media Era

Timm F. Trefzger, Christian V. Baccarella, Christian W. Scheiner, Kai-Ingo Voigt, Germany.

Unleash your Brand! Using Social Media as a Marketing Tool in Academia

Timm F. Trefzger, Dominique Dünfelder, Germany.

"Fake It or Make It" – Selfies in Corporate Social Media Campaigns

Tina Gruber-Muecke, Christiane Rau, Austria.

Social Media in User Entrepreneurship

Hari Suman Naik, Kathrin M. Mölslein, Germany.

The Influence of Technology on Romantic Relationships: Understanding Online Dating

Stephanie Tom Tong, Jeffrey T. Hancock, Richard B. Slatcher, United States.

Virtual, Augmented and Mixed Reality

Cross-Cultural Design

Social Computing and Social Media

WEDNESDAY 8:00 - 10:00



AC S009

Augmented Cognition

EEG-based Brain Computer Interfaces
Chair(s): Murat Akcakaya, Mohammad Moghadamfalahi, *United States*; Günter Edlinger, *Austria*; Anton Nijholt, *Netherlands*; Brendan Z. Allison, *United States*.

Room: **PIER 9**

Using motor imagery to control brain-computer interfaces for communication
Jonathan S. Brumberg, Jeremy D. Burnison, Kevin M. Pitt, *United States*.

An online gaze-independent BCI system used dummy face with eyes only region as stimulus
Long Chen, *P.R. China*; Brendan Z. Allison, *United States*; Yu Zhang, Xingyu Wang, Jing Jin, *P.R. China*.

Paired Associative Stimulation with Brain-Computer Interfaces: A New Paradigm for Stroke Rehabilitation
Nikolaus Sabathiel, Danut C. Irimia, *Austria*; Brendan Z. Allison, *United States*; Christoph Guger, Günter Edlinger, *Austria*.

Multi-Brain BCI: Characteristics and Social Interactions
Anton Nijholt, Mannes Poel, *Netherlands*.

Poor BCI performers still could benefit from motor imagery training
Alexander Kaplan, Anatoly Vasilyev, Sofya Liburkina, Lev Yakovlev, *Russia*.

A Kronecker Product Structured EEG Covariance Estimator for a Language Model Assisted-BCI
Paula Gonzalez-Navarro, Mohammad Moghadamfalahi, Murat Akcakaya, Deniz Erdoğmus, *United States*.

An SSVEP and Eye Tracking Hybrid BNCI: Potential beyond Communication and Control
Paul McCullagh, Chris Brennan, Gaye Lightbody, Leo Galway, Eileen Thompson, Suzanne Martin, *United Kingdom*.

S010

Adaptive Instruction for Training and Education
Chair(s): Robert A. Sottolare, *United States*.

Room: **PIER 8**

Agent-Based Practices for an Intelligent Tutoring System Architecture
Keith Brawner, Gregory Goodwin, Robert A. Sottolare, *United States*.

Practical Requirements for ITS Authoring Tools from a User Experience Perspective
Scott Ososky, *United States*.

Considerations for Immersive Learning in Intelligent Tutoring Systems
Anne M. Sinatra, *United States*.

Intelligent Tutoring gets Physical: Coaching the Physical Learner by Modeling the Physical World
Benjamin S. Goldberg, *United States*.

Elements of Adaptive Instruction for Training and Education
Robert A. Sottolare, Michael W. Boyce, *United States*.

Team Cognition as a Mechanism for Developing Collaborative and Proactive Decision Support in Remotely Piloted Aircraft Systems
Nathan J. McNeese, Nancy J. Cooke, *United States*.

DHM S011

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

Motion and Quality in Healthcare
Chair(s): Hiroyasu Miwa, *Japan*.

Room: **DOCKSIDE 1**

Improving the palatability of nursing care food using a pseudo-chewing sound generated by an EMG signal
Hiroschi Endo, Shuichi Ino, Waka Fujisaki, *Japan*.

Consideration of Conversation Support System between Elderly and Youth by Using Facial Expression Analysis
Miyuki Iwamoto, Noriaki Kuwahara, Kazunari Morimoto, *Japan*.

A Piano Lesson Method where User Plays the Piano Laying His or Her Hands on the Image of a Model Performer's Hands
Chika Oshima, Kimie Machishima, Katsuki Yamaguchi, Koichi Nakayama, *Japan*.

Development of Musculoskeletal Model to Estimate Muscle Activities during Swallowing
Takuya Hashimoto, Atsuko Murakoshi, Takahiro Kikuchi, Yukihiro Michiwaki, Takuji Koike, *Japan*.

Health Promotion Community Support for Vitality and Empathy: Visualize Quality of Motion (QoM)
Takuichi Nishimura, Zilu Liang, Satoshi Nishimura, Tomoka Nagao, Satoko Okubo, Yasuyuki Yoshida, Kazuya Imaizumi, Hisae Konosu, Hiroyasu Miwa, Kanako Nakajima, Ken Fukuda, *Japan*.

Experimental Validation of a New Dynamic Muscle Fatigue Model
Deep Seth, Damien Chablat, Sophie Sakka, Fouad Bennis, *France*.

DUXU S012

Design, User Experience, and Usability

Semiotics, Trends, Innovation - I
Chair(s): Jan Brejcha, *Czech Republic*.

Room: **HARBOUR BALLROOM A**

The Epidemiology of Innovation
Tim Stock, *United States*.

Financial Literacy in China as an Innovation Opportunity
Jan Brejcha, *Czech Republic*; Cong Wang, Xiaotong Wang, Ziwei Wang, Li Wang, Qing Xu, Cheng Yang, Liangyu Chen, Yuxuan Luo, Yijian Cheng, Shaopeng Zhang, Shuwen Liang, Xinru Liu, Huitian Miao, Bingbing Wang, Nilin Chen, Zhengjie Liu, *P.R. China*.

User-interface Supporting Learners' Motivation and Emotion: A Case For Innovation in Learning Management Systems
Hana Ovesleová, *Czech Republic*.

Use of Virtual Reality and Human-Computer Interface for Diagnostic and Treatment Purposes in Human Sexuality Research
Daniel Riha, Klára Bártová, Jakub Binter, *Czech Republic*.

Balancing Tradeoffs in the Design of an Interactive Art Installation on Surveillance and Big Data
Simone Ashby, Julian Hanna, *Portugal*; Katie Ramp, Jennifer Baranoff, *United States*.

DUXU S013

Visceral design

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

Room: **HARBOUR BALLROOM B**

The Visceral Voice: Breath and the Politics of Vocalization

Frank Millward, Heather Keens, *Australia.*

High Fives to the Avant-Garde

Kurtis Lesick, *Canada.*

Building a Soft Machine: New modes of expressive surfaces

Amy Winters, *United Kingdom.*

MUVA: a Multimodal Visceral Design Ambient Device

Robert Kivac, Sune Øllgaard Klem, Sophus Bénéé Olsen, Amalie Bækgaard Solander, Simon Dyrberg von Spreckelsen, Evangelia Triantafyllou, Georgios A. Triantafyllidis, *Denmark.*

Visceral Design: Sites of Intra-action at the Interstices of Waves and Particles

Patricia Flanagan, *Australia.*

DAPI S014

Design and Neuroscience: cognitive and projective approaches and interactions

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

Room: **DOCKSIDE 8**

Design and Sensitive Configurations: Memory and Learning Neural Circuits Correlated with the Creative Processes in Design

Leila Reinert, *Brazil.*

Body Storytelling and the Performance of Memory: Arts-Based-Research and Human Enhancement

Maria Manuela Lopes, *Brazil.*

Fashion design and tactile perception: a teaching/learning methodology to enable visually handicapped people to identify textile structures

Geraldo Coelho Lima Junior, Rachel Zuanon, *Brazil.*

Game Design and Neuroscience cooperation in the Challenge-based Immersion in mobile devices as tablets and smartphones

Rachel Zuanon, *Brazil.*

Distributed, Ambient and Pervasive Interactions

HCIBGO S015

Digital Enablement in Business and Society

Chair(s): Ben C.F. Choi, *Australia;* Cheng Yi, *P.R. China.*

Room: **DOCKSIDE 5**

The Effects of Social Structure Overlap and Profile Extensiveness on Facebook Friend Requests

LYi Wu, *P.R. China;* Ben C.F. Choi, *Australia;* Jie Yu, *P.R. China.*

Swiping vs. Scrolling in Mobile Shopping Applications

Ben C.F. Choi, Samuel N. Kirshner, *Australia;* Yi Wu, *P.R. China.*

How Does The Device Change Your Choice: A Goal-Activation Perspective

Yang Liu, Deliang Wang, *Singapore.*

Knowledge Sharing-Based Value Co-Creation between E-commerce Enterprises and Logistics Service Providers

Yumeng Miao, Rong Du, *P.R. China.*

Learning from Emerging and Mature Markets to Design Mobile P2P Payment Experiences

Masumi Matsumoto, Lucia Terrenghi, *Switzerland.*

HCI in Business, Government and Organizations

S016

HCI in Business and Organizations

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

Room: **REGATTA**

Flow and the Art of ERP Education

Craig C. Claybaugh, *United States.*

Internet Use and Happiness

Richard H. Hall, *United States.*

Information Technology Adoption: Do Performance Objectives and Incentive Structures Make a Difference?

Brenda Eschenbrenner, *United States.*

Human-Robot Interaction Modelling for Recruitment and Retention of Employees

Rajiv Khosla, Mei-Tai Chu, Khanh Nguyen, *Australia.*

As Simple as Possible and as Complex as Necessary - A Communication Kit for Geothermal Energy Projects

Johanna Kluge, Martina Ziefle, *Germany.*

Patient Engagement in the Medical Facility Waiting Room Using Gamified Healthcare Information Delivery

Raheel Hassan, Nathan W. Twyman, Fiona Fui-Hoon Nah, Keng Siau, *United States.*

Improving Online Customer Shopping Experience with Computer Vision and Machine Learning Methods

Zeun Li, Honglei Li, Ling Shao, *United Kingdom.*

WEDNESDAY 8:00 - 10:00

LCT S017

Knowledge Society for all. New trends in Education - I
Chair(s): David Fonseca, *Spain*.

Room: **DOCKSIDE 9**

Mobile Quality of Social Web Applications Designed for Collaborative Writing
Tihomir Orehovački, Snježana Babić, *Croatia*.

Learning Analytics and Spelling Acquisition in German - a first prototype
Markus Ebner, Martin Ebner, Konstanze Edtstadler, *Austria*.

Evaluating Usability of M-Learning Application in the Context of Higher Education Institute
Aijaz Ahmed Arain, Zahid Hussain, Wajid H. Rizvi, Muhammad Saleem Vighio, *Pakistan*.

Interactive Augmented Reality: A New Approach for Collaborative Learning
Poonpong Boonbrahm, Charlee Kaewrat, Salin Boonbrahm, *Thailand*.

Engaging Chinese Children with Autism to Interact with Portable Hand- and Finger-Gesture Based Applications: Experiment and Reflections
Tiffany Y. Tang, *P.R. China*; Mary Falzarano, Patricia A. Morreale, *United States*.

Creating Digital Learning Environment for Design in India - Experiences in Institutional Collaboration for Content Generation
Ravi Mokashi Punekar, Ravi Pooviah, Bibhudutta Baral, *India*.

Using Image Processing Technique for Supporting Healthcare Workers in Collaborative Works
Salin Boonbrahm, Lanjakorn Sewata, Poonpong Boonbrahm, *Thailand*.

ITAP S018

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

Room: **MARINE**

Silver Gaming: Serious Fun for Seniors?
Eugene Loos, Annemiek Zonneveld, *Netherlands*.

Family Matters: The Role of Intergenerational Gameplay in Successful Aging
Sanela Osmanovic, Loretta Pecchioni, *United States*.

The Gamification of Cognitive Training: Older Adults' Perceptions of and Attitudes toward Digital Game-Based Interventions
Walter R. Boot, Dustin Souders, Neil Charness, Kenneth Blocker, Nelson A. Roque, Thomas Vitale, *United States*.

Exploring the Next Generation of Older Gamers: Middle-Aged Gamers
Julie A. Brown, *United States*.

Scaffolding digital game design activities grouping older adults, younger adults and teens
Margarida Romero, Hubert Ouellet, *Canada*.

Combinations of modalities for the Words Learning memory test implemented on Tablets for seniors
Erika Hernández Rubio, Amilcar Meneses-Viveros, Erik Mancera-Serralde, Javier Flores-Ortiz, *Mexico*.

Gamification and Information Fusion for Rehabilitation: An Ambient Assisted Living Case Study
Javier Jiménez Aleman, Nayat Sanchez-Pi, Luis Martí, *Brazil*; José Manuel Molina López, *Spain*; Ana Cristina Bicharra Garcia, *Brazil*.

S019

Keeping Seniors Moving: Technological Innovations that Promote Mobility in Older Adulthood
Chair(s): Brenda Vrkljan, *Canada*.

Room: **DOCKSIDE 4**

Homecare innovations designed for patients and caregivers
Tara Kajaks, Tilak Dutta, *Canada*.

Naturalistic on-road observation of hand positioning of older drivers behind the wheel
Alexandra Mueller, Kyung Mun, Claire Jacek, Kinga Eliaz, Brenda Vrkljan, *Canada*.

Smart Wheelchairs for Older Adults with Cognitive Impairment in Long-term Care
Pooja Viswanathan, Genevieve Foley, Alex Mihailidis, *Canada*.

The Engagement and Safety of Older General Aviation Pilots: Emerging Immersive Technologies
Kathleen Van Benthem, Chris Herdman, *Canada*.

Exploring the link between movement strategies used by older adults when entering and exiting a vehicle and their physical mobility
Dale Leung, Alexandra Mueller, Alexander Crizzle, Tara Kajaks, Brenda Vrkljan, *Canada*.

Exploring the use of participatory methods to understand older adults' experiences of technology adoption: Findings from the Challenging Obstacles and Barriers to Assisted Living Technologies (COBALT) project
Colleen McGrath, *Canada*; Maggie Ellis, Faustina Hwang, Elizabeth Williams, Libby Archer, Sarah Harney-Levine, Dave Wright, *United Kingdom*; Arlene J. Astell, *Canada*.

HCI S020

Experience of Quality in Interaction

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

Room: **PIER 5**

Validating a Quality Perception Model for Image Compression: The Subjective Evaluation of the Cogisen's Image Compression Plug-in
 Maria Laura Mele, Damon Millar, Christiaan Erik Rijnders, *Italy*.

Designing Effective Teaching Interventions with Semantic Annotation
 Zainb Dawod, David Bell, *United Kingdom*.

User Experience (UX) of Heritage Journeys: Design Taxonomy for Quality Measurement
 Nada Nasser Al-Subhi, David Bell, Paul Lashmar, *United Kingdom*.

Identifying Relevant Dimensions for the Quality of Web Mashups: An Empirical Study
 Tihomir Orehovački, *Croatia*; Cinzia Cappiello, Maristella Matera, *Italy*.

City usability: a proposal for evaluating the perceived usability of a city on the basis of the website quality models
 Antonio Opromolla, Valentina Volpi, Roberta Grimaldi, Carlo Maria Medaglia, *Italy*.

S021

New Aspects of Media-fused Interaction and Collaborative Interface Design - I
 Chair(s): Masanori Akiyoshi, *Japan*.

Room: **HARBOUR BALLROOM C**

A Simulation System of Experience with a Disaster by Locating Memories on a Virtual Space
 Kohki Yoshida, Takayoshi Kitamura, Tomoko Izumi, Yoshio Nakatani, *Japan*.

A Method Using Collective Intelligence for Communication Activation among Elderly People Living Alone
 Hiroshi Yajima, Manabu Kurosawa, Jun Sawamoto, *Japan*.

Automatic Generation of C Source Code for Novice Programming Education
 Shimpei Matsumoto, Koki Okimoto, Tomoko Kashima, Shuichi Yamagishi, *Japan*.

Supportive Technology for Managing Relevant Information in the Medical and Nursing Care Field
 Yuya Totsuka, Hayato Oiwa, Hiroshi Yajima, *Japan*.

Communication support via a collocation dictionary
 Ryota Yaguchi, Hiroshi Yajima, *Japan*.

Exploring the Motivational Affordances of Danmaku Video Sharing Websites: Evidence from Gamification Design
 Yuxiang Zhao, Jian Tang, *P.R. China*.

Classification of Functional Meanings of non-isolated Discourse Particles in Human-Human-Interaction
 Alicia Flores Lotz, Ingo Siegert, Andreas Wendemuth, *Germany*.

HIMI S022

Relationality Design and Relationality-oriented Systems - II
 Chair(s): Katsunori Shimohara, *Japan*.

Room: **QUEENS QUAY I**

Visualization of composer relationships using implicit data graphs
 Christoph Niese, Tatiana Von Landesberger, Arjan Kuijper, *Germany*.

One Size Does Not Fit All: Applying the Right Game Concepts for the Right Persons to Encourage Non-Game Activities
 Hina Akasaki, Shoko Suzuki, Kanako Nakajima, Koko Yamabe, Mizuki Sakamoto, Todorka Alexandrova, Tatsuo Nakajima, *Japan*.

A Leader and Media Spot Estimation Method Using Location Information
 Koya Kimura, Yurika Shiozu, Ivan Tanev, Katsunori Shimohara, *Japan*.

Exploring Dance Teaching Anxiety in Japanese Schoolteachers
 Rina Yamaguchi, Haruka Shoda, Noriko Suzuki, Mamiko Sakata, *Japan*.

Creativity Comes from Interaction: Multi-modal Analyses of Three-creator Communication in Constructing a Lego Castle
 Haruka Shoda, Koshi Nishimoto, Noriko Suzuki, Mamiko Sakata, Noriko Ito, *Japan*.

Essential tips for successful collaboration -- a case study of the "Marshmallow challenge"
 Noriko Suzuki, Haruka Shoda, Mamiko Sakata, Kaori Inada, *Japan*.

Backend infrastructure supporting audio augmented reality and storytelling
 Kari Salo, Diana Giova, Tommi Mikkonen, *Finland*.

EPCE S023

Aviation Safety and Human Factors
 Chair(s): Wen-Chin Li, *United Kingdom*; Rui-shan Sun, *P.R. China*.

Room: **DOCKSIDE 6**

Trajectory Recovery System: Angle of Attack Guidance for Inflight Loss of Control
 Nicholas Kasdaglis, Tiziano Bernard, Kimberly Stowers, *United States*.

A Complex Perspective of System Situation Awareness
 Lei Wang, Yong Ren, *P.R. China*.

An Analysis of Fatigue and Its Characteristics: A Survey on Chinese Air Traffic Controller
 Le-ping Yuan, Guang-fu Ma, Rui-shan Sun, *P.R. China*.

Pilots' Latency of First Fixation and Dwell among Regions of Interest on the Flight Deck
 Hong-Fa Ho, Hui-Sheng Su, *Taiwan*; Wen-Chin Li, Chung-san Yu, Graham Braithwaite, *United Kingdom*.

A Novel Approach for Comprehensive Evaluation of Flight Deck Ergonomic Design: Delphi-Order Relation Analysis (ORA) Method and Improved Radar Chart
 Lijing Wang, Yanlong Wang, Wenjun Dong, Dayong Dong, Xiuli Shu, *P.R. China*.

The Evaluation of Pilot's Situational Awareness during Mode Changes on Flight Mode Annunciators
 Wen-Chin Li, James White, Graham Braithwaite, Matt Greaves, *United Kingdom*; Jr-Hung Lin, *Sweden*.

Scaling the Aircrew Risk-Taking Behavior in Aviation Accidents: The Moderating Role of Phase of Flight
 Muhammad Aftab Alam, *Pakistan*.

Universal Access in Human-Computer Interaction

UAHCI S024

Recent developments in Universal design of ICT-systems
 Chair(s): Frode Eika Sandnes, Norway.

Room: **DOCKSIDE 2**

Authoring WCAG2.0-Compliant Texts for the Web through Text Readability Visualization
 Evelyn Eika, Frode Eika Sandnes, Norway.

The Common Characteristics of User-Defined and Mid-Air Gestures for Rotating 3D Digital Contents
 Li-Chieh Chen, Taiwan; Yun-Maw Cheng, Bhutan; Po-Ying Chu, Taiwan; Frode Eika Sandnes, Norway.

Ontology-based Adaptive Interfaces for Colorblind Users
 Ricardo José De Araújo, Julio Cesar Dos Reis, Rodrigo Bonacin, Brazil.

Using Virtual Reality to Enhance Vision for People Who Are Blind in One Eye
 Michael Ostrander, Tony Morelli, United States.

ChartMaster: A Tool for Promoting Financial Inclusion of Novice Investors
 Hong Zou, Sambhavi Chandrashehar, Canada.

S025

Eye Tracking in User Experience Research
 Chair(s): Jennifer C. Romano Bergstrom, United States.

Room: **DOCKSIDE 3**

Unique Object Characteristics Differentially Affect Visual Attention during Viewing of Dynamic Stimuli: The Influence of Location and Luminosity
 Brooke E. Wooley, David S. March, United States.

An Overview of How Eye Tracking Is Used in Communication Research
 Nadine Bol, Sophie C. Boerman, Netherlands; Jennifer C. Romano Bergstrom, United States; Sanne Kruikemeier, Netherlands.

A pilot investigation of the association between eye-tracking patterns and self-reported reading behavior
 Erica Olmsted-Hawala, Lin Wang, Diane Willimack, Emily Stack, Sabin Lakhe, United States.

Density of gaze points within a fixation and information processing behavior
 Mina Shojaeizadeh, Soussan Djamshbi, Andrew C. Trapp, United States.

Exploring the Relationship between Eye Movements and Pupillary Response from Formative User Experience Research
 Jonathan Strohl, Joseph Luchman, James Khun, Edward Pierce, Kyle Andrews, United States.

Evaluation of the Use of Eye and Head Movements for Mouse-Like Functions by using IOM Device
 Andréia Sias Rodrigues, Vinicius Da Costa, Márcio Bender Machado, Angelica Lacerda Rocha, Joana Marini De Oliveira, Marcelo Bender Machado, Rafael Cunha Cardoso, Cleber Quadros, Tatiana Aires Tavares, Brazil.

Designing and Evaluating a Wearable Device for Accessing Gaze Signals from the Sighted
 Shi Qiu, Matthias Rauterberg, Jun Hu, Netherlands.

Virtual, Augmented and Mixed Reality

VAMR S026

Assessing the Value of Training with Advanced VE Technology
 Chair(s): Julie N. Salcedo, United States.

Room: **BAY ROOM**

Using Qualitative Data Analysis to Measure User Experience in a Serious Game for Premed Students
 Marjorie A. Zielke, Djakhangir Zakhidov, Daniel Jacob, Sean Lenox, United States.

A Holistic Evaluation of Task View Format for Training a Simulated Robot-Assisted EOD Task
 James P. Bliss, Eric T. Chancey, Alexandra B. Proaps, Peter Crane, United States.

Impact of Instructional Strategies on Workload, Stress, and Flow in Simulation-Based Training for Behavior Cue Analysis
 Julie N. Salcedo, Stephanie J. Lackey, Crystal S. Maraj, United States.

Mixed Reality Training of Military Tasks: Comparison of Two Approaches through Reactions from Subject Matter Experts
 Roberto Champney, Julie N. Salcedo, Stephanie J. Lackey, Stephen R. Serge, Michelle Sinagra, United States.

A Performance-Based Training Evaluation for an Augmented Virtuality Call for Fire Training System
 Stephen R. Serge, Julie N. Salcedo, Roberto Champney, Stephanie J. Lackey, Gino Fragomeni, United States.

Virtual Reality Based Navigation Training for Astronaut Moving in a Simulated Space Station
 Xiang Liu, Yuqing Liu, Xiuqing Zhu, Ming An, Fuchao Hu, P.R. China.

Cross-Cultural Design

CCD S027

Cultural Ergonomics beyond Culture - II
 Chair(s): Rungtai Lin, Taiwan; John Kreifeldt, United States.

Room: **QUEENS QUAY II**

From "Illustration" to "Interpretation": Using Concrete Elements to Represent Abstract Concepts in Spatial Design
 Li-Yu Chen, Taiwan; Ya-Juan Gao, P.R. China.

QUALIA into the Fashion show Case Analysis
 Shu-Hui Huang, Ming-Chw Wei, Tzu-Chiang Chang, Taiwan.

Cultural Ergonomics Beyond Culture -- The Collector as Consumer in Cultural Product Design
 John Kreifeldt, United States; Yuma Taru, Ming-Xean Sun, Rungtai Lin, Taiwan.

Thoughts on Studying Cultural Ergonomics for the Atayal Loom
 Yuma Taru, Taiwan; John Kreifeldt, United States; Ming-Xean Sun, Rungtai Lin, Taiwan.

Characterizing Intercultural Encounters in Human-Computer Interaction
 Luciana C. de C. Salgado, Clarisse Sieckenius De Souza, Catia M. D. Ferreira, Carla Faria Leitão, Brazil.

The influences of culture on user experience: a review and research guideline
 Tales Rebequi Costa Borges De Souza, João L. Bernardes Jr., Brazil.

WEDNESDAY 10:30 - 12:30

Social Computing and Social Media

SCSM S028

Urban Analytics with Social Data

Chair(s): Areej Alwabil, Sarah AlHumoud, Saudi Arabia.

Room: **PIER 7**

Arabic Sentiment Analysis Resources: A Survey

Areeb AlOwisheq, Sarah AlHumoud, Nora AlTwaresh, Tarfa AlBuhairi, Saudi Arabia.

Social Communities in Urban Mobility Systems

Tarfah Alrashed, Jumana Almahmoud, Mohamad Alrished, Sattam Alsubaiee, Manssour Alsaleh, Saudi Arabia; Carlos Sandoval Olascoaga, United States.

Towards Urban Tribes in Saudi Arabia: Social Subcultures Emerging from Urban Analytics of Social Media

Tariq Alhindi, Salma Aldawood, Jumana Almahmoud, Saudi Arabia; Carlos Sandoval, United States; Areej Alwabil, Manssour Alsaleh, Saudi Arabia; Sarah Williams, United States.

The Landscape of Social Communities for Women in STEM: A Case Study of Diversity in Saudi Arabia's Technology and Computing Fields

Ashwag Alasmari, Aseel Alhadlaq, Amany Alshawi, Salha Alzahrani, Asmaa Aldrees, Areej Alwabil, Saudi Arabia.

Urban Analytics in Crowd Management in the Context of Hajj

Lamia Alabdulkarim, Wafa Alrajhi, Ebtessam Aloboud, Saudi Arabia.

Domain-tailored multiclass classification of user reviews based on binary splits

Alexandre Lunardi, José Viterbo, Clodis Boscaroli, Flavia Bernardini, Cristiano Maciel, Brazil.

Feasibility and framing of interventions based on public support: leveraging text analytics for policymakers

Philippe J. Giabbanelli, United States; Jean Adams, United Kingdom; Venkata Sai Pillutla, United States.

Augmented Cognition

AC S029

Applications of Augmented Cognition

Chair(s): Martha E. Crosby, United States.

Room: **PIER 9**

Applying Augmented Cognition to Flip-Flop Methodology

Jan Stelovsky, Randall K. Minas, Umida Stelovska, John Wu, United States.

Text Simplification and User Experience

Soussan Djamasbi, John Rochford, Abigail DaBoll-Lavoie, Tyler Greff, Jennifer Lally, Kayla McAvoyn, United States.

How Novices Read Source Code in Introductory Courses on Programming: An Eye-Tracking Experiment

Leelakrishna Yenigalla, Vinayak Sinha, Bonita Sharif, Martha E. Crosby, United States.

Overloaded and Biased? Using augmented cognition to understand the interaction between information overload and cognitive biases

Randall K. Minas, Martha E. Crosby, United States.

Understanding Older Adults' Perceptions of In-Home Sensors Using an Obtrusiveness Framework

Blaine Reeder, Jane Chung, Jonathan Joe, Amanda Lazar, Hilaire J. Thompson, George Demiris, United States.

Adaptive Instruction for Individual Learners within the Generalized Intelligent Framework for Tutoring (GIFT)

Robert A. Sottolare, United States.

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

DHM S030

Human Modeling for Quality Care

Chair(s): Noriaki Kuwahara, Japan.

Room: **DOCKSIDE 1**

Exploring Risk-Benefit Factors of Electronic Clinical Pathways regarding Nursing Communication

Tadashi Kanehira, Taro Sugihara, Muneou Suzuki, Akio Gofuku, Kenji Araki, Japan.

Implementation and Evaluation of Interactive Memory-Aid Agent Service for People with Dementia

Seiki Tokunaga, Hiroyasu Horiuchi, Hiroki Takatsuka, Sachio Saiki, Shinsuke Matsumoto, Masahide Nakamura, Kiyoshi Yasuda, Japan.

Videophone Conversation of Two Individuals with Dementia using an Anime Agent System

Kiyoshi Yasuda, Masao Fuketa, Kazuhiro Morita, Jun-ichi Aoe, Noriaki Kuwahara, Japan.

Cognitive support for (semantic) dementia persons

Akinori Abe, Japan.

Design of Face Tracking System using Environmental Cameras and Flying Robot for Evaluation of Health Care

Veerachart Srisamosorn, Noriaki Kuwahara, Atsushi Yamashita, Taiki Ogata, Jun Ota, Japan.

Towards Person-Centered Anomaly Detection and Support System for Home Dementia Care

Kazunari Tamamizu, Seiki Tokunaga, Sachio Saiki, Shinsuke Matsumoto, Masahide Nakamura, Kiyoshi Yasuda, Japan.

DUXU S031

continues...

User Experience (UX) in China

Chair(s): Wentao Wang, P.R. China.

Room: **HARBOUR BALLROOM B**

User Experience in the Era of O2O - Service Design Revolution of the Online Education

Ruixiang Shen, P.R. China.

Validating Mobile Designs with Agile Testing in China: Based on Baidu Map for Mobile

Jia Qu, Jing Zhang, P.R. China.

User Experience Design in "Internet Plus" Era

Wentao Wang, Shiqi Liu, Yang Zhang, P.R. China.

Applying Matterology in Internet Product Design

Hongrong Luo, P.R. China.

The Utilization of Chinese Traditional Elements in Social Media Marketing of Indigenous Mobile Terminals

Li Zhang, Xin Chang, P.R. China.

User Experience Design of User Generated Content Products

Hongyuan Ma, P.R. China.

WEDNESDAY 10:30 - 12:30

DUXU S032

Semiotics, Trends, Innovation - II

Chair(s): Jan Brejcha, Czech Republic.

Room: **HARBOUR BALLROOM A**

A Study of Attributes of Affective Quality Affecting Judgment of Beauty for Simple Graphic User Interfaces
 Shih-Miao Huang, Wu-Jeng Li, Shu-Chu Tung, Taiwan.

Research on appearance design of outdoor cabinets focusing on user's emotional experience
 Le Xi, Jianxin Cheng, Junnan Ye, Wangqun Xiao, P.R. China.

The emotion and personality user perception in multi-screen interaction
 In-Chu Liao, Yi-Shin Deng, Hsiao-chen You, Taiwan.

Beyond Innovation Within the City Limits: From Vitalism to Interaction Design
 Pavel Farkas, Czech Republic.

Cuteness Design in the UX: An Initial Analysis
 Aaron Marcus, United States; Xiaojuan Ma, Hong Kong.

DAPI S033

Humor in Ambient and Pervasive Interactions

Chair(s): Anton Nijholt, Netherlands.

Room: **PIER 8**

When Worlds and Scripts Collide
 Tony Veale, Ireland.

Infusing Humor in Unexpected Events
 Alessandro Valitutti, Tony Veale, Ireland.

Towards simulation of semantic generation and detection of humorous response
 Julia M. Taylor, Vitaliy Rayz, United States.

Ambient Scripts in Humor and Beyond
 Victor Raskin, United States.

Laughter and humour as conversational mind-reading displays
 Gary McKeown, United Kingdom.

Empirical Study of Humor Support in Social Human-Robot Interaction
 Lucile Bechade, Guillaume Dubuisson Duplessis, Laurence Devillers, France.

Smart Bugs and Digital Banana Peels: Accidental Humor in Smart Environments?
 Anton Nijholt, Netherlands.

Distributed, Ambient and Pervasive Interactions

HCIBGO S034

Human Computer Interaction in Electronic Commerce, Mobile Commerce and No-Line Commerce

Chair(s): Andreas Auinger, Austria; Markus Helfert, Ireland.

Room: **REGATTA**

Converting Opinion into Knowledge: Improving User Experience and Analytics of Online Polls
 Martin Stabauer, Christian Mayrhauser, Michael Karlinger, Austria.

A Short-Term Twofold Impact on Banner Ads
 Harald Kindermann, Austria.

Designing and Evaluating Barrier-Free Travel Assistance Services
 Wolfgang Narzt, Stefan Mayerhofer, Otto Weichselbaum, Gustav Pomberger, Astrid Tarkus, Martin Schumann, Austria.

Semantic Support for Visual Data Analyses in Electronic Commerce Settings
 Jens Gulden, Germany.

The Influence of Trust Building User Interface Elements of Web Shops on E-Trust
 Andreas Auinger, Werner Wetzlinger, Liesmarie Schwarz, Austria.

Improving the Front End of Innovation: The Case of Mobile Commerce Services
 Karen Carey, Austria; Markus Helfert, Ireland.

Investigating HCI challenges for Designing Smart Environments
 Zohreh Pourzolfaghar, Markus Helfert, Ireland.

HCI in Business, Government and Organizations

S035

Sensing and Responding: How HCI enables Organisations to Adapt for Employees and Customers

Chair(s): Sue Hessey, United Kingdom.

Room: **DOCKSIDE 5**

Using Digital Infrastructures to Conceptualize Sensing and Responding in Human-Computer Interaction
 Florian Allwein, Sue Hessey, United Kingdom.

Sensing Distress - Towards a Blended Method for Detecting and Responding to Problematic Customer Experience Events
 Sue Hessey, Will Venters, United Kingdom.

Generating Competitive Intelligence Digests with a LDA-based Method: A Case of BT Intellact
 Qiang Wei, Jiaqi Wang, Guoqing Chen, Xunhua Guo, P.R. China.

Defective Still Deflective – How Correctness of Decision Support Systems Influences User's Performance in Production Environments
 Philipp Brauner, André Calero Valdez, Ralf Philipsen, Martina Ziefle, Germany.

Cognitive Benefits of a Simple Visual Metrics Architecture
 John King, Kathy Sonderer, Kevin Lynch, United States.

LCT S036

Knowledge Society for all. New trends in Education - II

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

Room: **DOCKSIDE 9**

On the Integration of Tangible Elements with Multi-Touch Surfaces for the Collaborative Creation of Concept Maps

Gustavo Salvador-Herranz, *Spain*;
Jorge D. Camba, *United States*;
Ferran Naya, Manuel Contero, *Spain*.

Evaluation of the CTMTC methodology for assessment of teamwork competence development and acquisition in Higher Education

Miguel A. Conde, Ángel Hernández-García, Francisco J. García Peñalvo, Angel Fidalgo-Blanco, Maria Luisa Sein-Echaluce, *Spain*.

Software architectures supporting Human-Computer Interaction analysis: a Literature Review

Juan Cruz-Benito, Roberto Therón, Francisco J. García Peñalvo, *Spain*.

Evaluation of the New Outdoor Study Scheme Using Mobile Phone Based on the Zeigarnik Effect

Yuko Hiramatsu, Kumiko Kanbayashi, Atsushi Ito, Fumihiko Sato, *Japan*.

ICT for Older People to Learn about ICT:

Application and Evaluation
Camino Fernández, Gonzalo Esteban, Miguel A. Conde, Francisco J. Rodríguez-Lera, *Spain*.

Microinteractions and a Gamification Framework as a Mechanism for Capturing 21st Century Skills

Evangelos Kapros, Kathy Kipp, *Ireland*.

Gender Differences in Usage Motivation for Social Networks at Work

Juliana Brell, André Calero Valdez, Anne Kathrin Schaar, Martina Ziefle, *Germany*.

ITAP S037

Human-Centered Research for Smart User Interface

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

Room: **MARINE**

The effect of screen size of mobile devices on reading efficiency

Yu-Chen Hsieh, Chien-Ting Kuo, Hsuan Lin, *Taiwan*.

A Preliminary Exploration of Technology Necessities among Elderly Living Alone

Lin-Ya Huang, Chang-Franw Lee, *Taiwan*.

A Preliminary Study on how the Icon Composition and Background of Graphical Icons Affect Users' Preference Levels

Hsuan Lin, Yu-Chen Hsieh, Wei Lin, *Taiwan*.

Eye Movements on Assessing Perceptual Image Quality

Cheng-Min Tsai, Shing-Sheng Guan, Wang-Chin Tsai, *Taiwan*.

A Study on Re-Usage of Historical Building - From the Aspect of Room Acoustic for Live House

Wei Lin, Hsuan Lin, Kung-Huang Huang, Tin-Hang Lin, *Taiwan*.

S038

Technology to Support Independent Aging

Chair(s): Sara J. Czaja, Joseph Sharit, *United States*.

Room: **DOCKSIDE 4**

Exploring the Relationship between Computer Proficiency and Computer Use over Time in the PRISM Clinical Trial

Walter R. Boot, Joseph Sharit, Sara J. Czaja, Neil Charness, Wendy A. Rogers, *United States*.

Designing a Web-Based Application to Train Aging Adults to Successfully Use Technologies Important to Independent Living

Ronald W. Berkowsky, Sara J. Czaja, Philip D. Harvey, *United States*.

The Role of Technology in Supporting Family Caregivers

Sara J. Czaja, Dolores Perdomo, Chin Chin Lee, *United States*.

A Tale of Two Divides: Technology Experiences Among Racially and Socioeconomically Diverse Older Adults

Shelia R. Cotten, Jessica Francis, Travis Kadylak, R.V. Rikard, Tim Huang, Christopher Ball, Julia DeCook, *United States*.

A Multimedia e-Learning Platform for Training Unemployed Older Adults on a Spreadsheet Application

Joseph Sharit, Jessica Taha, Peggy Gonzalez, Chin Chin Lee, Sara J. Czaja, *United States*.

HCI Challenges for Consumer-Based Aging in Place Technologies

Marjorie Skubic, Anup Mishra, Bradford Harris, Carmen Abbott, Andrew Craver, Katy Musterman, Marilyn Rantz, *United States*.

Improving User Experience and Engagement for Older Adults: A Case Study

Krysta Hedia Salera, Pejman Salehi, Neel Desai, Lia Tsotsos, Kathryn Warren-Norton, *Canada*.

HCI S039

New Human-computer Interface for Virtual Reality Devices and Their Applications

Chair(s): Tao Ma, Xinhua Xiao, United States, Daniel R. Mestre, France.

Room: **PIER 7**

From CAVE2(TM) to Mobile: Adaptation of Hearts and Minds Virtual Reality Project Interaction

Arthur Nishimoto, Daria Tsoupikova, United States; Scott Rettberg, Norway; Roderick Coover, United States.

The Contribution of a Virtual Self and Vibrotactile Feedback to Walking through Virtual Apertures

Daniel R. Mestre, Cephise Louison, Fabien Ferlay, France.

Videogame technology in Architecture Education

Francisco Valls, Ernest Redondo, David Fonseca, Pilar Garcia-Almirall, Jordi Subiros, Spain.

Virtual Reality Applications in Rehabilitation

Shi Cao, Canada.

Virtual Reality Interaction Techniques for Individuals with Autism Spectrum Disorder: Design Considerations and Preliminary Results

Evren Bozgeyikli, Lal Bozgeyikli, Andrew Rajj, Srinivas Katkoori, Redwan Alqasemi, Rajiv Dubey, United States.

S040

Kansei Engineering, Today

Chair(s): Masaaki Kurosu, Japan.

Room: **PIER 5**

UX Graph and ERM as Tools for Measuring Kansei Experience

Masaaki Kurosu, Ayako Hashizume, Yuuki Ueno, Takeshi Tomida, Hirotohi Suzuki, Japan.

From Internet Memes to Emoticon Engineering: Insights from the Baozou Comic Phenomenon in China

Xiaojuan Ma, Hong Kong.

"Kansei Engineering" as an Indigenous Research Field Originated in Japan

Ayako Hashizume, Masaaki Kurosu, Japan.

Modeling how to understand a target system: bridging the gap between software engineers and usability experts

Yukiko Tanikawa, Hideyuki Suzuki, Hiroshi Kato, Shin'ichi Fukuzumi, Etsuko Harada, Japan.

S041

New Aspects of Media-fused Interaction and Collaborative Interface Design - II

Chair(s): Masanori Akiyoshi, Japan.

Room: **HARBOUR BALLROOM C**

Influence of Personal Characteristics on Nonverbal Information for Estimating Communication Smoothness

Yumi Wakita, Yuta Yoshida, Mayu Nakamura, Japan.

Identification of Gracefulness Feature Parameters for Hand-over Motion

Etsuko Ueda, Kenichi Iida, Kentaro Takemura, Takayuki Nakamura, Masanao Koeda, Japan.

Micro-expression Recognition for Detecting Human Emotional Changes

Kazuhiko Sumi, Tomomi Ueda, Japan.

A supporting system for emergency vehicles dispatching planning under a disaster situation

Yudai Higuchi, Takayoshi Kitamura, Tomoko Izumi, Yoshio Nakatani, Japan.

Proposal for a system of mutual support among passengers trapped inside a train

Ryohei Yagi, Takayoshi Kitamura, Tomoko Izumi, Yoshio Nakatani, Japan.

Personalized Annotation for Photos with Visual Instance Search

Bao Truong, Thuyen V. Phan, Vinh-Tiep Nguyen, Minh-Triet Tran, Viet Nam.

Spatio-temporal Wardrobe Generation of Actors' Clothing in Video Content

Florian Vandecasteele, Jeroen Vervaeke, Baptist Vandersmissen, Michel De Wachter, Steven Verstockt, Belgium.

HIMI S042

Service and Interaction

Chair(s): Hirohiko Mori, Japan.

Room: **QUEENS QUAY I**

Investigation of Learning Process with TUI

Natsumi Sei, Makoto Oka, Hirohiko Mori, Japan.

Tacit skills discovery by data mining

Makoto Oka, Hirohiko Mori, Japan.

Effect of physiological and psychological conditions by aroma and color on VDT task

Takeo Ainoya, Keiko Kasamatsu, Japan.

Effectiveness of Choosing Dissonant Combination of Tones for Multivariate Data Sonification

Yukio Horiguchi, Moriyu Nakashima, Hiroaki Nakanishi, Tetsuo Sawaragi, Japan.

Knowledge Used for Information Search: A Computer Simulation Study

Miki Matsumuro, Kazuhisa Miwa, Japan.

Mel Frequency Cepstral Coefficients Based Similar Albanian Phonemes Recognition

Bertan Karahoda, Kosovo; Krenare Pireva, United Kingdom; Ali Shariq Imran, Norway.

Universal Access in Human-Computer Interaction

UAHCI S043

Cutting Edge in Information Display: Recent Advances in Ergonomic Research for the Use of 3D and Head-mounted display (HMD)
Chair(s): Hiroki Takada, Masaru Miyao, *Japan*.
Room: **DOCKSIDE 2**

Changes in Brain Blood Flow by the Use of 2D/3D Games
Masumi Takada, Yuki Mori, Fumiya Kinoshita, Hiroki Takada, *Japan*.

Automation of the Simple Test for Evaluating Hand Function Using Leap Motion Controller
Kouki Nagamune, Yosuke Uozumi, Yoshitada Sakai, *Japan*.

Relationship between feeling of presence and visually induced motion sickness while viewing stereoscopic movies
Akihiro Sugiura, Takehito Kojima, Hiroki Takada, Kunihiko Tanaka, Masaru Miyao, *Japan*.

Use of See-Through Wearable Display as an Interface for a Humanoid Robot
Shu Matsuura, *Japan*.

Measurement of Lens Focus Adjustment While Wearing a See-Through Head-Mounted Display
Ryota Kimura, Kohei Iwata, Takahiro Totani, Toshiaki Miyao, Takehito Kojima, Hiroki Takada, Hiromu Ishio, Chizue Uneme, Masaru Miyao, Masumi Takada, *Japan*.

Metamorphism of Potential Functions while peripheral Viewing 2D/3D Video Clips with/without Backgrounds
Yasuyuki Matsuura, Toshitake Miyakoshi, Fumiya Kinoshita, Masumi Takada, Akihiro Sugiura, Hiroki Takada, *Japan*.

Changes of Potential Functions while Maintaining Upright Postures after Exposure to Stereoscopic Video Clips
Fumiya Kinoshita, Kohei Iwata, Yasuyuki Matsuura, Masaru Miyao, Hiroki Takada, *Japan*.

S044

Universal Access in Collaborative Learning
Chair(s): Nirit Gavish, *Israel*.
Room: **DOCKSIDE 3**

Learning Object Design for Teaching Descriptive Geometry: A Study from the Perspective of Gamification and Accessibility
Gulherme P.G. Ferreira, Rafael Andrade, Sabrina T. Oliveira, Vania R. Ulbricht, *Brazil*.

A Tangible Interaction Platform as Concrete Support for Blind Children Literacy in Braille
Laura Sánchez García, João Hilton Sayeg de Siqueira, Juliana Bueno, Patric Galera Forcelini, *Brazil*.

Inspecting the Quality of Educational Video Artefacts Employed in Speech-Language Pathology Telerehabilitation: A Pilot Study
Dijana Plantak Vukovac, Tihomir Orehovački, Tatjana Novosel-Herceg, *Croatia*.

The effect of feedback in a computerized system of puzzle completion tasks
Nirit Gavish, Hagit Krisher, Guy Madar, *Israel*.

Voice Recognition System to Support Learning Platforms Oriented to People with Visual Disabilities
Rueben Gonzalez, Johnathan Muñoz, Julián Salazar, Néstor Duque, *Colombia*.

Encouraging the Learning of Written Language by Deaf Users: web recommendations and practices
Marta Angélica Montiel Ferreira, Juliana Bueno, Rodrigo Bonacin, *Brazil*.

Virtual, Augmented and Mixed Reality

VAMR S045

The Future of Virtual, Augmented and Mixed Reality
Chair(s): Maria Olinda Rodas, *United States*.
Room: **BAY ROOM**

New Emergency Medicine Paradigm via Augmented Telemedicine
Gregorij Kurillo, Allen Yang, Victor Shia, Aaron Bair, Ruzena Bajcsy, *United States*.

Augmented Reality for the US Air Force
Amber Gilbert, *United States*.

Virtual Humans as Centaurs: Melding Real and Virtual
William R. Swartout, *United States*.

Modeling Human Comprehension of Data Visualizations
Michael J. Haass, Andrew T. Wilson, Laura E. Matzen, Kristin M. Divis, *United States*.

Applying Virtual Reality in City Planning
Minh-Tu Nguyen, Hai-Khanh Nguyen, Khanh-Duy Vo-Lam, Xuan-Gieng Nguyen, Minh-Triet Tran, *Viet Nam*.

How to Develop Virtual Reality Applications to Improve Interaction
Cees Dingler, Remco Hilbert, *Netherlands*.

Cross-Cultural Design

CCD S046

Cultural Ergonomics beyond Culture - III
Chair(s): Rungtai Lin, Taiwan; John Kriefeldt, *United States*.
Room: **QUEENS QUAY II**

Mobile User Interaction Development for Low-Literacy Trends and Recurrent Design Problems : A Perspective from Designers in Developing Country
Efelelious G. Belay, *Ethiopia*; D. Scott McCrickard, *United States*; Solomon A. Besufekad, *Ethiopia*.

The Brazilian HCI community perspectives in Cultural aspects in HCI
Isabela Gasparini, Luciana C. de C. Salgado, Roberto Pereira, *Brazil*.

HCI within Cross-Cultural Discourses of Globally Situated Rhetorical and Etymological Interactions
Daniel G. Cabrero, *United Kingdom*; Arminda Guerra Lopes, *Portugal*; Barbara Rita Barricelli, *Italy*.

A Study of Relationship between Personality and Product Identity
Wen-Zhong Su, Po-Hsien Lin, *Taiwan*.

The Thinking Model and Design Process of Empathic Design: Cases Studies of Counter Design
Wang Shu-Huei, Ming-Shean Wang, *Taiwan*.

Use of Cultural Intelligence to Measure Influence of Online Social Networks on Cultural Adjustment
Shalinda Adikari, *Singapore*.

WEDNESDAY 13:30 - 15:30

AC S047

Recent Advances in Neuroergonomics
Chair(s): Hasan Ayaz, *United States.*

Room: **PIER 9**

Auditory Alarm Misperception in the Cockpit: An EEG Study of Inattentional Deafness
Frédéric Dehais, Raphaëlle Roy, Thibault Gateau, Sebastien Scannella, *France.*

Sensing and Assessing Cognitive Workload across Multiple Tasks
Matthias D. Ziegler, Amanda Kraft, Michael Krein, Li-Chuan Lo, Bradley Hatfield, William Casebeer, Bartlett Russell, *United States.*

Neural Correlates of Purchasing Decisions in an Ecologically Plausible Shopping Scenario with Mobile fNIR Technology
Murat Perit Çakir, Tuna Çakar, Yener Giriskan, Ari K. Demircioğlu, *Turkey.*

Real-time Monitoring of Cognitive Workload of Airline Pilots in a Flight Simulator with fNIR Optical Brain Imaging Technology
Murat Perit Çakir, Murat Vural, Süleyman Özgür Koç, Ahmet Toktaş, *Turkey.*

Developing an Optical Brain-Computer Interface for Humanoid Robot Control
Alyssa M. Batula, Jesse Mark, Youngmoo E. Kim, Hasan Ayaz, *United States.*

Evaluating Neural Correlates of Constant-Therapy Neurorehabilitation Task Battery: An fNIRS Pilot Study
Jesse Mark, Banu Onaral, Hasan Ayaz, *United States.*

Examining the Neural Correlates of Incidental Facial Emotion Encoding Within the Prefrontal Cortex Using Functional Near-Infrared Spectroscopy
Achala H. Rodrigo, Canada; Hasan Ayaz, United States; Anthony C. Ruocco, *Canada.*

DHM S048

Human Modeling of Traditional Arts and Technologies
Chair(s): Akihiko Goto, *Japan.*

Room: **DOCKSIDE 1**

Analysis of the thought process for choosing a suitable kimono for a customer by an expert
Kumiko Komizo, Noriaki Kuwahara, Kazunari Morimoto, Takashi Furukawa, *Japan.*

Changes in Perception of Induced Motion Based on Voluntary Eye Movements in an Attentional Task
Akihisa Hosoya, Hiroto Inoue, Nobuji Tetsutani, *Japan.*

Setting the Degree of Defocus for Video Images in a Monitoring System
Yukiya Horie, Nobuji Tetsutani, *Japan.*

A study of eye movement analysis for investigating learning efficiency by using a highlighter pen
Hiroki Nishimura, Kazumasa Shibata, Yuki Inazuka, Noriaki Kuwahara, *Japan.*

A Fundamental Study on Differences in Heart Rates During Creative Work and Non-creative Work
Tatsuo Nakagawa, Hiroto Inoue, Shigeomi Koshimizu, *Japan.*

Analyzing the Difference between Floral Materials Water Potential when Cut by Ikebana Experts and Inexperienced Persons
Yuki Ikenobo, Yuko Hanba, Noriaki Kuwahara, Akihiko Goto, *Japan.*

DUXU S049

Ergonomics for interactive systems
Chair(s): Francisco Rebelo, *Portugal.*

Room: **HARBOUR BALLROOM A**

Printed matter as an interactive system
Marco Neves, *Portugal.*

Evaluating Play-Personas of an educational 3D digital game for university students to learn Portuguese as a foreign Language
Roberta C.S. Salomao, Francisco Rebelo, *Portugal*; Fernando Gamboa Rodriguez, *Mexico.*

Improvement Design of the Clinical Upper Extremity Rehabilitation Product for Stroke Patients
Lan-Ling Huang, Hsi-Hsun Yang, Chang-Franw Lee, Mei-Hsiang Chen, *Taiwan.*

Design Factors for the Location and Arrangement of Control Actuators
Weiyu Sun, Junmin Du, Hui-min Hu, Xuehuan Hu, *P.R. China.*

Based on High Order Aberration Analysis of Influence Index of Vision Fatigue by Watching 3D TV
Fan Yang, Jianqi Cai, Ya Guo, Qianxiang Zhou, Zhongqi Liu, *P.R. China.*

S050

Information Design and UX - I
Chair(s): Carla Galvão Spinillo, Luciane Maria Fadel, *Brazil.*

Room: **HARBOUR BALLROOM B**

Gamification in Education through Design Thinking
Graziela de Souza Sombrio, Leonardo Enrico Schimmelpfeng, Vania R. Ulbricht, Vilma Villarrouco Santos, *Brazil.*

Information and Universal Design in Online Courses
Luciane Maria Fadel, Viviane H. Kuntz, Vania R. Ulbricht, Claudia Regina Batista, *Brazil.*

User methods and approaches to design Cognitive systems
Heloisa Candello, *Brazil.*

Accessible icons for deaf: an UX approach
Armando Cardoso Ribas, Luciane Maria Fadel, Tarcisio Vanzin, Vania R. Ulbricht, *Brazil.*

Multisensory Physical Environments for Data Representation
Patricia Search, *United States.*

Transdisciplinarity, Community-based Participatory Research, and User-based Information Design Research: The D•VERSE Group and Two Projects
Judith A. Moldenhauer, Donnie Johnson Sackey, *United States.*

Augmented Cognition

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

Design, User Experience, and Usability

Distributed, Ambient and Pervasive Interactions

DAPI S051

Pervasive and Civic Computing
Chair(s): Shin'ichi Konomi, *Japan*.

Room: **PIER 8**

Computational Community: A Procedural Approach to Guide Collective Human Behavior Towards Achieving a Flourished Society
Kota Gushima, Tatsuya Aikawa, Mizuki Sakamoto, Tatsuo Nakajima, *Japan*.

User Participatory Sensing for Disaster Detection and Mitigation in Urban Environments
Shin'ichi Konomi, Kazuki Wakasa, Masaki Ito, Kaoru Sezaki, *Japan*.

On Feasibility of Crowdsourced Mobile Sensing for Smarter City Life
Kenro Aihara, Piao Bin, Hajime Imura, Atsuhiko Takasu, Yuzuru Tanaka, *Japan*.

Live Sound System with Social Media for Remotely Conducting Wildlife Monitoring
Hill Hiroki Kobayashi, *Japan*.

The Use of Historical Information to Support Civic Crowdsourcing
Tomoyo Sasao, Shin'ichi Konomi, *Japan*.

Human Aspects of Information Security, Privacy and Trust

HAS S052

Adaptive and Context-aware Security, Privacy and Trust
Chair(s): Vasilis Katos, Lynne Coventry, *United Kingdom*.

Room: **DOCKSIDE 6**

Interactive Discovery and Retrieval of Web Resources Containing Home Made Explosive Recipes
George Kalpakis, Theodora Tsikrika, Christos Iliou, Thodoris Mironidis, Stefanos Vrochidis, *Greece*; Jonathan Middleton, Una Williamson, *Ireland*; Ioannis Kompatsiaris, *Greece*.

Information Security Application Design: Understanding Your Users
Ranjan Bhattarai, Ger Joyce, Saurabh Dutta, *United States*.

The Impact of Security Cues on User Perceived Security in E-Commerce
Samuel N. Smith, Fiona Fui-Hoon Nah, Maggie X. Cheng, *United States*.

Anonymous Authentication with a Bi-directional Identity Federation in the Cloud
Fatema Rashid, Ali Miri, *Canada*.

Implicit Authentication for Mobile Devices Using Typing Behavior
Jonathan Gurary, Ye Zhu, Nahed Alnhash, Huirong Fu, *United States*.

HCI in Business, Government and Organizations

HCIBGO S053

Social Commerce
Chair(s): Yi-Cheng Ku, Tsai-Hsin Chu, *Taiwan*.

Room: **DOCKSIDE 5**

A Structure-Behavior Coalescence Method For Human-Computer Interaction System Requirements Specification
Yu-Chen Yang, Yi-Lin Lin, William S. Chao, *Taiwan*.

How Do Consumers Behave in Social Commerce? An Investigation through Clickstream Data
Qican Gu, Qiqi Jiang, Hongwei Wang, *P.R. China*.

Website Location Strategies Review Under Hofstede's Cultural Dimensions
Qian Wang, Chih-Hung Peng, Choon Ling Sia, Yu Tong, *Hong Kong*; Yi-Cheng Ku, *Taiwan*.

Technology Diffusion through Social Networks: An Example of Technology Integrated Instruction
Tsai-Hsin Chu, Yen-Hsien Lee, Shu-Fang Kuo, *Taiwan*.

S054

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

Room: **REGATTA**

HCI in OSH -- paradigm change in OSH research and prevention policy or just old wine in new skins?
Michael Bretschneider-Hagemes, *Germany*.

Biological, Biomimetic and Sociological Aspects of Human-Robot Interaction in Work Environments
Alexandra Weidemann, Diego Compagna, Manuela Marquardt, Mirco Martens, Ivo Boblan, *Germany*.

Operator Information Acquisition in Excavators - Insights from a Field Study using Eye-Tracking
Markus Koppenborg, Michael Huelke, Peter Nickel, Andy Lungfiel, Birgit Naber, *Germany*.

Using Smart Glasses for the Inclusion of Hearing-Impaired Warehouse Workers into their Working Environment
Antti Matthias Vom Stein, Willibald A. Günthner, *Germany*.

Data Glasses for Picking Workplaces - Impact on Physical Workloads
Daniel Friemert, Rolf Ellegast, Ulrich Hartmann, *Germany*.

Distracted Driving: Scientific Basis for Risk Assessments of Driver's Workplaces
Benno Gross, Sylwia Birska, Michael Bretschneider-Hagemes, Endri Kerluku, *Germany*.

WEDNESDAY 13:30 - 15:30

LCT S055

Knowledge Society for all. New trends in Education - III

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

Room: **DOCKSIDE 9**

An Approach to Measuring the Difficulty of Learning Activities

Francisco J. Gallego-Durán, Rafael Molina-Carmona, Faraón Llorens-Largo, *Spain*.

PLMan: Towards a gamified learning system

Carlos Villagrà-Armedo, Francisco J. Gallego-Durán, Rafael Molina-Carmona, Faraón Llorens-Largo, *Spain*.

Natural Interaction and Movement Paradigms - A Comparison of Usability for a Kinect Enabled Museum Installation

Luis A. Hernández-Ibáñez, Viviana Barneche-Naya, Rocío Mihura-López, *Spain*.

Cooperative Micro Flip Teaching

Francisco J. García Peñalvo, Angel Fidalgo-Blanco, Maria Luisa Sein-Echaluze, Miguel A. Conde, *Spain*.

Learning4Work.

Designing a new Evaluation System based on Scenario Centered Curriculum Methodology: the Pre-test

David Fonseca, *Spain*; August Climent, Lluís Vicent, *Andorra*; Xavier Canaleta, *Spain*.

Mixed Method Assessment for BIM implementation in the AEC curriculum

Jose Ferrándiz, United Arab Emirates; David Fonseca, *Spain*; Abdulaziz Banawi, *Saudi Arabia*.

iMOOC Platform: Adaptive MOOCs

Maria Luisa Sein-Echaluze, Angel Fidalgo-Blanco, Francisco J. García Peñalvo, Miguel A. Conde, *Spain*.

ITAP S056

New media in the everyday life of older people - I

Chair(s): Mireia Fernández-Ardèvol, Andrea Rosales, *Spain*.

Room: **DOCKSIDE 4**

Risk and Benefit Perceptions: Resistance, Adoption and Uses of ICT among the Italian Elderly

Simone Carlo, Italy; Matteo Vergani, *Australia*.

Experiencing Computer Anxiety Later in Life: The Role of Stereotype Threat

Loredana Ivan, Ioana Schiau, *Romania*.

Older people's use and learning of new media: A case study on remote rural villages in Finnish Lapland

Päivi Rasi, Arja Kilpeläinen, *Finland*.

Designing a Smart Watch Interface for a Notification and Communication System for Nursing Homes

Haneen Ali, Huiyang Li, *United States*.

Design of Smart Watch for Old people based on the Benchmark of Consumers' Kansei Intention

He Huang, Yixiang Wu, Jianxin Cheng, Minggang Yang, *P.R. China*.

S057

PANEL - Advanced Vehicle Technologies: The Role of Driver Experience, Perceptions, and Behavior

Chair(s): Lisa J. Molnar, *United States*.

Room: **MARINE**

The human factors of automated vehicles in the context of driver age

Anuj Pradhan, Lisa J. Molnar, *United States*.

Seeing and Believing: Attitudes about Advanced Vehicle Technologies

Lisa D'Ambrosio, Dana Ellis, Richard Myrick, Beth Tracton-Bishop, Jodi Olshevski, Joseph Coughlin, *United States*.

Advanced technology in the automobile cockpit: The impact on everyday driving in later life

Brenda Vrkljan, Jessica Gish, Amanda Grenier, Benita Van Miltenburg, *Canada*.

Do Older Drivers Use Cruise Control?

Akram Alakel, Bruce Wallace, Michelle Porter, Holly Tuokko, Anita Myers, Rafik A. Goubran, Frank Knoefel, Shawn Marshall, *Canada*.

HCI S058

HCI & Transportation

Chair(s): Heidi Krömker, *Germany*.

Room: **HARBOUR BALLROOM C**

Prototype of Conversation Support System for Activating Group Conversation in the vehicle

Susumu Kono, Yohei Wakisaka, Atsushi Ikeno, *Japan*.

Service and Usability Engineering based Approach for flexible Mobility

Stephan Hörold, Robert Kummer, Bastian Sander, Cindy Mayas, Heidi Krömker, *Germany*.

Usage phases in the development of product systems exemplified by a route recommendation scheme for cyclists

Sigmund Schimanski, *Germany*.

Human Factors & Ergonomics Using Anthropometric and sEMG data in Automotive Gearshift Quality Analysis

Edson Luciano Duque, Plinio Thomaz Aquino Jr., *Brazil*.

Releasing a Traffic Light Assistance Application for Public Testing

Michael Krause, Walid Fourati, Klaus Bengler, *Germany*.

Evaluation Methods and Results for Intermodal Mobility Applications in Public Transport

Ulrike Stopka, Katrin Fischer, René Pessier, *Germany*.

Knowledge-oriented Selection of Usability Engineering Methods for Mobility Scenarios

Luise Künnemann, Stephan Hörold, Heidi Krömker, *Germany*.

S059

On the Integration of UCD/UX and Agile Development

Chair(s): Milene Selbach Silveira, Tiago Silva da Silva, *Brazil*.

Room: **PIER 5**

UserX Story: Incorporating UX Aspects into User Stories Elaboration

Joelma Choma, Luciana A.M. Zaina, Daniela Beraldo, *Brazil*.

Lean Communication-Centered Design: A Lightweight Design Process

Daniel V.C. Ferreira, Simone D. J. Barbosa, *Brazil*.

AGILUS: A Method for Integrating Usability Evaluations on Agile Software Development

Renan Cavichi de Freitas, Luiz Antonio Rodrigues Junior, Adilson Marques da Cunha, *Brazil*.

Agile and UCD Integration based on Pre-Development Usability Evaluations: An Experience Report

Jade Mendes Inacio De Carvalho, Tiago Silva da Silva, Milene Selbach Silveira, *Brazil*.

S060

Interacting with visualisations and narratives

Chair(s): Carlo Meghini, *Italy*.

Room: **PIER 7**

MEseum: Personalized Experience with Narrative Visualization for Museum Visitors

Ali Arya, Jesse Gerroir, Efetobore Mike-Ifeta, *Canada*; Andres Adolfo Navarro-Newball, *Colombia*; Edmund Prakash, *United Kingdom*.

Usability Evaluation of the Digital Library DanteSources

Valentina Bartalesi, Carlo Meghini, Daniele Metilli, Paola Andriani, *Italy*.

Contextual Presentation and Navigation of Historical Artifacts in a Digital Library Design

Joseph R. Galindo, Patricia A. Morreale, *United States*.

History Viewer: Displaying User Interaction History in Visual Analytics Applications

Vinicius C.V.B. Segura, Simone D. J. Barbosa, *Brazil*.

HIMI S061

Visualisation methods and techniques

Chair(s): Paulo Dias, *Portugal*.

Room: **QUEENS QUAY I**

MapCube: A Mobile Focus and Context Information Visualization Technique for Geographic Maps

Björn Werkmann, Matthias Hemmje, *Germany*.

Living Globe: Tridimensional interactive visualization of world demographic data

Eduardo Duarte, Pedro Bordonhos, Paulo Dias, Beatriz Sousa Santos, *Portugal*.

Investigating Cognitive Characteristics of Visualization and Insight Environments: a case study with WISE

Juliana Jansen Ferreira, Vinicius C.V.B. Segura, Renato Cerqueira, *Brazil*.

Spatial Conformity Research of Temporal order Information Presentation in Visualization Design

Xiaozhou Zhou, Chengqi Xue, Lei Zhou, Jiang Shao, Zhangfan Shen, *P.R. China*.

Subjective evaluation for 2D visualization of data from a 3D laser sensor

Patrik Lif, Gustav Tolt, Håkan Larsson, Alice Lagebrant, *Sweden*.

A graphical system for interactive creation and exploration of dynamic information visualizations

Jaqueline Zaia, João L. Bernardes Jr., *Brazil*.

A Visualization Technique using Loop Animations

Takao Ito, Kazuo Misue, *Japan*.

EPCE S062

Empirical studies

Chair(s): Jan Noyes, *United Kingdom.*

Room: **DOCKSIDE 6**

Potential of 3D audio as Human-Computer Interface in future aircraft

Christian A. Niermann, *Germany.*

Analysis of Influencing Factors of Auditory Warning Signals' Perceived Urgency and Reaction Time

Lijing Wang, Wei Guo, Xianchao Ma, Baofeng Li, *P.R. China.*

Development of an experimental setup to investigate multimodal information representation and superposition for elderly users in healthcare context

Matthias Wille, Tobias Seinsch, Rebecca Kummer, Peter Rasche, Sabine Theis, Christina Bröhl, Alexander Mertens, Christopher M. Schlick, *Germany.*

Study on the Effects of Semantic Memory on Icon Complexity in Cognitive Domain

Jing Zhang, Chengqi Xue, Zhangfan Shen, Xiaojiao Chen, Jiang Shao, Lei Zhou, Xiaozhou Zhou, *P.R. China.*

UAHCI S063

Universal Access: The Science and Engineering of Accessibility

Chair(s): Gisela Susanne Bahr, *United States.*

Room: **DOCKSIDE 2**

Is the Universal Accessibility on track?

Julio Abascal, Spain; Luis Azevedo, Portugal; Albert Cook, Canada.

A Framework for Generation of Testsets for Recent Multimedia Workflows

Robert Manthey, Steve Conrad, Marc Ritter, *Germany.*

Simplifying Accessibility Without Data Loss: An Exploratory Study on Object Preserving Keyframe Culling

Marc Ritter, Danny Kowerko, Hussein Hussein, Manuel Heinzig, Tobias Schlosser, Robert Manthey, Germany; Gisela Susanne Bahr, United States.

Three Text Entry Methods Based on Smartphone Discrete Tilting: An Empirical Evaluation

Sandi Ljubic, *Croatia.*

Design Engineering for Universal Access: Software and Cognitive Challenges in Computer Based Problem-Solving

Gisela Susanne Bahr, Stephen Wood, John Blood, *United States.*

Accessibility of Cultural Heritage Exhibits

Nikolaos Partarakis, Iosif Klironomos, Margherita Antona, George Margetis, Dimitris Grammenos, Constantine Stephanidis, *Greece.*

Group Level versus Society Level of Computing

Dipta Mahardhika, Taro Kanno, *Japan.*

S064

Inclusive and adaptive design for HMI in Aerospace, Healthcare, and Automotive

Chair(s): Patrick M. Langdon, *United Kingdom.*

Room: **DOCKSIDE 3**

Predictive Pointing from Automotive to Inclusive Design

Bashar I. Ahmad, James K. Murphy, Patrick M. Langdon, Simon J. Godsill, *United Kingdom.*

Creating Inclusive Automotive Interfaces Using Situation Awareness as a Design Philosophy

Lee Skrypchuk, Patrick M. Langdon, P. John Clarkson, Alex Mouzakis, *United Kingdom.*

An Inclusive Design Perspective on Automotive HMI Trends

Mike Bradley, Patrick M. Langdon, P. John Clarkson, *United Kingdom.*

Navigating the Workplace Environment as a Visually Impaired Person

Jimena Gomez, Patrick M. Langdon, P. John Clarkson, *United Kingdom.*

Online Engagement Detection and Task Adaptation in a Virtual Reality based Driving Simulator for Autism Intervention

Dayi Bian, Joshua Wade, Zachary Warren, Nilanjan Sarkar, *United States.*

Usability and Safety of a HUD During Powered Chair Navigation: A Pilot Study

Katie Seaborn, *Canada;* Yutaka Satoh, *Japan;* Deborah I. Fels, *Canada.*

S065

Developments in Haptic and Somatosensory HMI

Chair(s): Maria Karam, *Canada;* Patrick M. Langdon, *United Kingdom.*

Room: **DOCKSIDE 4**

Haptic Training Simulator for Pedicle Screw Insertion in Scoliosis Surgery

Maryam Moafimadani, Adam Gomes, Karl Zabjek, Reinhard Zeller, David Wang, *Canada.*

Human Performance and Cognitive Workload in Multi-Sensory Virtual Environments

Mortaja AlQassab, David Wang, *Canada.*

Design and Evaluation of an Authoring Tool and Notation System for Vibrotactile Composition

Somang Nam, Deborah I. Fels, *Canada.*

The Impact of Tactile Sensations on Virtual Reality Impairment

Mortaja AlQassab, Adam Gomes, Maria Karam, David Wang, Zhechen Du, Orion Bruckman, Richard Bustos, *Canada.*

Evaluating Somatosensory Interactions: Designing a Handheld Tactile Acoustic Device for Mobile Phones

Maria Karam, *Canada;* Patrick M. Langdon, *United Kingdom.*

Haptic Virtual Approach: Biological Effect on Touching and Viewing

Atsushi Hoshina, Yoshiko Okada, *Japan;* Irini Giannopulu, *France;* Midori Sugaya, *Japan.*

VAMR S066

VAMR in design, prototyping and production
Chair(s): Rainer Groh, *Germany*.

Room: **BAY ROOM**

Collaborative Design of Material Handling Systems Using Distributed Virtual Reality Environments
Orthodoxos Kipouridis, Moritz Roidl, Marcus Röschinger, Michael Ten Hompel, Willibald A. Günthner, *Germany*.

Interactive VR-Based Visualization for Material Flow Simulations
Jan Berssenbruegge, Joerg Stöcklein, Daniel Köchling, *Germany*.

Virtual Tailor for Garment Design
Andrea Vitali, Lorenzo D'Amico, Caterina Rizzi, *Italy*.

Low-cost Mixed Reality Simulator for Industrial Vehicle Environments
Daniel Kade, Markus Wallmyr, *Sweden*; Tobias Holstein, *Germany*; Rikard Lindell, *Sweden*; Hakan Ürey, Oğuzhan Özcan, *Turkey*.

Smart Prototyping - Improving the Evaluation of Design Concepts using Virtual Reality
Mathias Müller, Tobias Günther, Dietrich Kammer, Jan Wojdziak, Sebastian Lorenz, Rainer Groh, *Germany*.

An Interactive Augmented Reality Furniture Customization System
Tzu-Chien Young, Shana Smith, *Taiwan*.

CCD S067

Service Design Research based on Internet User Experience
Chair(s): Binbin Li, Hao Tan, *P.R. China*.

Room: **QUEENS QUAY II**

Design Study of Patient-oriented Information Service System for Ward Nurses Station by Taking Wuxi Fourth People's Hospital as a Case
Linghao Zhang, Changfu Lv, Yun Feng, Jiayu Zeng, *P.R. China*.

Service Design Strategies for Long-term Effects that Individual Moments Have on the Whole: A Case Study of "Persephone"
Muqing Niu, Linong Dai, *P.R. China*.

The Innovation Research of Takeaway O2O Based on the Concept of Service Design
Mei Yu Zhou, Pei Xu, Pei Long Liang, *P.R. China*.

Research Service Design based on Online Public Service Platform—APP Design for Mutual Learning through Sign Language Short Video
Youxin Wu, *P.R. China*; Yin Liang, *Italy*; Haiyang Sun, Jingxian Chen, Yi Liu, Jian Lin, Binbin Li, *P.R. China*.

The Emotional Experience of Inquiry Feedback Delaying in Online e-Commerce Platform Service Design: A Case Study from Chinese Customers
Hao Tan, Wei Li, Jiahao Sun, *P.R. China*.

AC S068

Data visualization and interaction in the age of Big Data
Chair(s): Susan Steves-Adams, *United States*.

Room: **PIER 9**

RevealFlow: A Process Control Visualization Framework
Ronald Laurids Boring, Thomas Ulrich, Roger Lew, *United States*.

Leveraging Interoperable Data to Improve Training Effectiveness Using the Experience API (xAPI)
Jennifer Murphy, Francis Hannigan, Michael Hruska, Ashley Medford, Gabriel Diaz, *United States*.

Interactive Visualization of Multivariate Time Series Data
Shawn Martin, Tu-Toan Quach, *United States*.

Assessment of expert interaction with multivariate time series 'big data'
Susan Stevens-Adams, Michael J. Haass, Laura E. Matzen, Saskia King, *United States*.

Exploratory Trajectory Clustering with Distance Geometry
Andrew T. Wilson, Mark D. Rintoul, Christopher G. Valicka, *United States*.

Assessment of visualization interfaces for assisting the development of multi-level cognitive maps
Hengshan Li, Richard R. Corey, Uro Giudice, Nicholas A. Giudice, *United States*.

DHM S069

Science of Omotenashi: Investigating the spirit of selfless hospitality
Chair(s): Tomoko Ota, *Japan*.

Room: **DOCKSIDE 1**

A Comparative Study of Instructing Methods regarding Japanese Bowling
Tomoya Takeda, Yuko Kamagahara, Xiaodan Lu, Noriyuki Kida, Tadayuki Hara, Tomoko Ota, *Japan*.

Eye Movement Analysis for Expert and Non-Expert in Japanese Traditional Culture of Tea Ceremony - From the View Point of Japanese Hospitality, "Omotenashi"
Tomoya Takeda, Yuki Miyamoto, Xiaodan Lu, Kayo Okuhira, Noriyuki Kida, Tomoko Ota, *Japan*.

The Perception of the Beneficiary for Japanese Bowling in Different Situations at the Reception
Tomoya Takeda, Yuko Kamagahara, Xiaodan Lu, Noriyuki Kida, Tadayuki Hara, Yoichiro Ogura, Tomoko Ota, *Japan*.

Quantitative Analysis of the Customer Satisfaction at the Dental Clinic
Yuko Kamagahara, Tomoya Takeda, *Japan*; Shanshan Jin, *P.R. China*; Xiaodan Lu, Tomoko Ota, Tadayuki Hara, Noriyuki Kida, *Japan*.

Research on the motion technique of Japanese tea ceremony
Soutatsu Kanazawa, *Japan*; Zelong Wang, *P.R. China*; Yuka Takai, Akihiko Goto, Tomoko Ota, Hiroyuki Hamada, *Japan*.

Analysis of CS survey and NPS numbers in Japanese Wedding market
Shigeyuki Takami, Nobuyuki Kitada, Tomoko Ota, *Japan*.

Virtual, Augmented and Mixed Reality

Cross-Cultural Design

Augmented Cognition

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

WEDNESDAY 16:00 - 18:00

Design, User Experience, and Usability

DUXU S070

New Approaches of User Experience Research

Chair(s): Liqun Zhang, *P.R. China*, Judith A. Moldenhauer, *United States*.

Room: **HARBOUR BALLROOM A**

Enhancing User Experience design with An Integrated Storytelling Method

Qiong Peng, Jean-Bernard Matterns, *Netherlands*.

Mining and construction of user experience content: an approach of feature analysis based on image

Di Wang, Nan Liang, Jiaming Zhong, Liqun Zhang, *P.R. China*.

The Exploration of User Knowledge Architecture based on Mining User Generated Contents – An Application Case of Photo-Sharing Website

Nan Liang, Jiaming Zhong, Di Wang, Liqun Zhang, *P.R. China*.

The Third-type Settlement: Research of Unified Urban and Rural Living Organisms and Its Interaction Design

Wei Yu, Xinyu Jiang, *P.R. China*.

S071

Information Design and UX - II

Chair(s): Carla Galvão Spinillo, Luciane Maria Fadel, *Brazil*.

Room: **HARBOUR BALLROOM B**

Information design elements in videogames: a proposed classification

Rafael Pereira de Araujo, Virginia Tiradentes Souto, *Brazil*.

Animation on how to take medicines: a study of electronic patient leaflets in Brazil

Carla Galvão Spinillo, *Brazil*.

Health Education in Brazil: Assessment of the Understandability of Icons for the e-Books Store SAITE App

Eurides Florindo De Castro Jr, Edilson Thialison Da Silva Reis, Camila Santos De Castro e Lima, Carla Galvão Spinillo, Ana Emilia Figueiredo de Oliveira, *Brazil*.

Systematic Application of Circle-Similar Shapes to Visualize Database-Homogeneity in a Big Data Environment

Verena Lechner, Karl-Heinz Weidmann, Isabella Hämmerle, *Austria*.

Distributed, Ambient and Pervasive Interactions

DAPI S072

Urban Interactions

Chair(s): Kristian Kloeckl, *United States*.

Room: **PIER 8**

Gamification and Social Dynamics: Insights from a Corporate Cycling Campaign

Matthias Wunsch, *Austria*; Agnis Stibe, *United States*; Alexandra Millonig, Stefan Seer, *Austria*; Ryan C.C. Chin, *United States*; Katja Schechtner, *Austria*.

Quantitative, Qualitative, and Historical Urban Data Visualization Tools for Professionals and Stakeholders

Cody Dunne, *United States*; Carl Skelton, Sara Diamond, Isabel Meirelles, *Canada*; Mauro Martino, *United States*.

One to Many: Opportunities to Understanding Collective Behaviors in Urban Environments Through Individual's Passively-Collected Locative Data

Anthony Vanky, Theodore Courtney, Santosh Verma, Carlo Ratti, *United States*.

An improvisation based framework for interactive urban environments

Kristian Kloeckl, *United States*.

Effects of playing mobile games while driving

Cristian Postelnicu, Octavian-Mihai Machidon, Florin Girbacia, Gheorghe-Daniel Voinea, Mihai Duguleana, *Romania*.

HCIBGO S073

HCI and Consumers' behaviour

Chair(s): Soussan Djamasbi, *United States*.

Room: **DOCKSIDE 5**

Ontology-Based Adaptive and Customizable Navigation Method in Online Retailing Websites

Chi-Lun Liu, Hsieh-Hong Huang, *Taiwan*.

Interactive e-Branding in e-Commerce Interfaces: Survey Results and Implications

Dimitrios Rigas, Hammad Akhtar Hussain, *United Kingdom*.

Multimodal Impact on Consumer Purchase Decisions: Initial Results

Dimitrios Rigas, Nazish Riaz, *United Kingdom*.

Communicating Product User Reviews and Ratings in Interfaces for e-Commerce: A Multimodal Approach

Dimitrios Rigas, Rajab Ghandour, *United Kingdom*.

The Multisensory Effects of Atmospheric Cues on Online Shopping Satisfaction

So-Jeong Kim, Dong-Hee Shin, *Korea*.

HCI in Business, Government and Organizations

WEDNESDAY 16:00 - 18:00

HCIBGO S074

HCI and Occupational Safety and Health - II

Chair(s): Michael Bretschneider-Hagemes, *Germany*.

Room: **REGATTA**

Better patient-doctor communication – a survey and focus group study

Martin Maguire, *United Kingdom*.

Degradations and consequences of ICT in occupational prevention terms as illustrated by the transport and logistics sector

Virginie Govaere, Liën Wioland, *France*.

Extending the Effective Range of Prevention through Design by OSH Applications in Virtual Reality

Peter Nickel, *Germany*.

Scoping Review on Human-Machine Interaction and Health and Safety at Work

Swantje Robelski, Sascha Wischniewski, *Germany*.

Evaluation approaches for HCI related aspects of occupational safety regulations exemplified by mobile hotel booking applications

Richard A. Bretschneider, *Germany*.

Prevalence of Mobile Phone Interaction in Workplace Meetings

Rob Bajko, Deborah I. Fels, *Canada*.

LCT S075

Learning and Collaboration Technologies

Digital turn at schools - changes in leadership, teaching and learning

Chair(s): Birgy Lorenz, *Estonia*.

Room: **DOCKSIDE 9**

Digital Turn in the Schools of Estonia: Obstacles and Solutions

Birgy Lorenz, Kaido Kikkas, Mart Laanpere, *Estonia*.

A Model to Evaluate Digital Safety Concerns in School Environment

Birgy Lorenz, Kaido Kikkas, Mart Laanpere, Edmund Laugasson, *Estonia*.

A live virtual simulator for teaching cybersecurity to information technology students

Margus Ernits, Kaido Kikkas, *Estonia*.

An Instrument for Measuring Students' Perceived Digital Competence according to the DIGCOMP Framework

Leo A. Siiman, Mario Mäeots, Margus Pedaste, Robert-Jan Simons, Äli Leijen, Miia Rannikmäe, Külli Võsu, Maarja Timm, *Estonia*.

Bridging digital divide in schools in developing countries: perceptions of teachers of free software opportunities

Edmund Laugasson, James Sunney Quaicoe, Eka Jeladze, Triinu Jesmin, *Estonia*.

Enhanced affective factors management for HEI students dropout prevention

Emmanuelle Gutiérrez y Restrepo, *Spain*; Fernando Ferreira, *Portugal*; Jesus G. Boticario, *Spain*; Elsa Marcelino-Jesus, Joao Sarraipa, Ricardo Jardim-Goncalves, *Portugal*.

Usable, Aesthetic, Sociable and Motivating Interface for Students' Online Knowledge Sharing

Prasanna Ramakrisnan, Azizah Jaafar, *Malaysia*.

ITAP S076

Human Aspects of IT for the Aged Population

New media in the everyday life of older people - II

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

Room: **MARINE**

Senior Citizens, Digital Information Seeking and use of Social Media for Healthy Lifestyle

Ágústa Pálsdóttir, *Iceland*.

Teaching Older Adults with Multiple Chronic Conditions to Use a Tablet and Patient Application for Health Management

Rony Oosterom-Calo, *United States*; Benjamin López, *Netherlands*.

Concepts, terms, and mental models: Everyday challenges to older adult social media adoption

Kelly Quinn, Renae Smith-Ray, Kristin Boulter, *United States*.

Intergenerational comparison of simultaneous Internet activities using smartphones and computers

Andrea Rosales, Mireia Fernández-Ardèvol, *Spain*.

Usability Assessment of a Virtual Fitness Platform on Smart TV for Elderly Health Promotion

Chao-Hua Wang, *Taiwan*.

Interactive, Multi-Device Visualization Supported by a Multimodal Interaction Framework: Proof of Concept

Nuno Almeida, Samuel Silva, Beatriz Sousa Santos, António Teixeira, *Portugal*.

Lowering the threshold: Reconnecting elderly users with assistive technology through tangible interfaces

Suhas Govind Joshi, Heidi Bråthen, *Norway*.

WEDNESDAY 16:00 - 18:00

Human-Computer Interaction

HCI S077

Patterns and Models for Designing Flexible Interactive Systems

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

Room: **HARBOUR BALLROOM C**

Pattern-based engineering of systems-of-systems for process execution support

Albert Fleischmann, Werner Schmidt, *Germany*; Chris Stary, *Austria*; Christian Fichtenbauer, *Belgium*.

Designing Responsive Interactive Applications by Emotion-Tracking and Pattern-based Dynamic User Interface Adaptation

Christian Märtin, Sanim Rashid, Christian Herdin, *Germany*.

A Unified Pattern Specification Formalism to Support User Interface Generation

Jürgen Engel, Christian Märtin, Peter Forbrig, *Germany*.

Task Models in practice: are there special requirements for the use in daily work?

Marius Koller, Gerrit Meixner, *Germany*.

Elaboration on Terms and Techniques for Reuse of Submodels for Task and Workflow Specifications

Peter Forbrig, Christian Märtin, *Germany*.

Can Situations Help with Reusability of Software?

Hua Ming, Carl K. Chang, *United States*.

Avoiding inaccuracies in task models

Thomas Lachaume, Patrick Girard, Laurent Guittet, Allan Fousse, *France*.

Human Interface and the Management of Information

HIMI S078

System/software development and Quality

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

Room: **QUEENS QUAY I**

Agile Human-Centred Design: A Conformance Checklist

Karsten Nebe, Snigdha Baloni, *Germany*.

Clarification of customers' "demand" in development process

Shin'ichi Fukuzumi, Yukiko Tanikawa, *Japan*.

How to support the Lay Users Evaluations of Medical Information on the Web?

Katarzyna Abramczuk, Michał Kałkol, Adam Wierzbicki, *Poland*.

S079

Ultra Reality and Virtual Reality

Chair(s): Yasushi Ikei, *Japan*.

Room: **QUEENS QUAY II**

Telepresence reliving experience and the virtual body

Yasushi Ikei, Ren Koide, Koichi Hirota, Tomohiro Amemiya, Michiteru Kitazaki, *Japan*.

Topographic surface perception modulated by pitch rotation of motion chair

Tomohiro Amemiya, Koichi Hirota, Yasushi Ikei, *Japan*.

Minimal virtual reality system for virtual walking in a real scene

Michiteru Kitazaki, Koichi Hirota, Yasushi Ikei, *Japan*.

High-Resolution Tactile Display for Lips

Yuhei Tsutsui, Koichi Hirota, Takuya Nojima, Yasushi Ikei, *Japan*.

Livelog: Sensing and inducing Japanese idol fan activities with smartphone

Tomohiro Tanikawa, Rihito Hashido, Takuji Narumi, Michitaka Hirose, *Japan*.

Diminished Agency: Attenuating a sense of agency for problem finding on personal physical performance

Sho Sakurai, Yuki Ban, Nami Ogawa, Takuji Narumi, Tomohiro Tanikawa, Michitaka Hirose, *Japan*.

Engineering Psychology and Cognitive Ergonomics

EPCE S080

Human factors and ergonomics in safety-critical systems

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

Room: **DOCKSIDE 6**

Effect of speech display on team mutual awareness and diagnosis performance

Yingzhi Zhang, Zhizhong Li, *P.R. China*.

Influence of Time Delay on Team Performance in Space Robotic Teleoperation

Mengdi Liu, Yijing Zhang, Cheng Zhu, Zhizhong Li, *P.R. China*.

The Analysis of Online News Information Credibility Assessment on Weibo Based on Analyzing Content

Quan Yuan, Qin Gao, *P.R. China*.

Conceptualizing Performance Shaping Factors in Main Control Rooms of Nuclear Power Plants: A Preliminary Study

Peng Liu, Xi Lv, Zhizhong Li, Yongping Qiu, Juntao Hu, Jiandong He, *P.R. China*.

Multitasking and interruption management in control room operator work during simulated accidents

Jari Laarni, Hannu Karvonen, Satu Pakarinen, Jari Tornainen, *Finland*.

Using a Serious Game to Illustrate Supervisory Control Technology

Robert E. Wray, Benjamin Bachelor, Charles Newton, Kyle Aron, Randolph Jones, *United States*.

UAHCI S081

ICT as a means for Behavioural Modelling and Promotion of Healthy and Active Ageing

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

Room: **DOCKSIDE 2**

On Modeling the Quality of Nutrition for Healthy Ageing using Fuzzy Cognitive Maps

Sofia B. Dias, *Portugal*; Sofia Hadjileontiadou, *Greece*; José A. Diniz, João Barroso, *Portugal*; Leontios J. Hadjileontiadis, *Greece*.

Body motion analysis for emotion recognition in serious games

Kyriaki Kaza, Athanasios Psaltis, Kiriakos Stefanidis, Konstantinos C. Apostolakis, Spyridon Thermos, Kosmas Dimitropoulos, Petros Daras, *Greece*.

Health Training Platform

Clifton Clunie, *Panama*; Virgilio Reis, Pedro Silva, Luís Mendes, Carlos Rabadão, João Barroso, António Pereira, *Portugal*.

Active and Healthy Ageing Big Dataset streaming on demand

Evdokimos I. Konstantinidis, Antonis Billis, Charalampos Bratsas, Panagiotis D. Bamidis, *Greece*.

The Development of an eBook for Teaching and Learning Mathematics

Mauro Figueiredo, Jose Bidarra, *Portugal*; Rune Bostad, *Norway*.

Developing a system for post-stroke rehabilitation: an exergames approach

Arsénio Reis, Jorge Lains, Hugo Paredes, Vitor Filipe, Catarina Abrantes, Fernando Ferreira, Romeu Mendes, Paula Amorim, João Barroso, *Portugal*.

S082

Innovative Product Design and Development: Smart Products and Services

Chair(s): Kevin C. Tseng, *Taiwan*.

Room: **DOCKSIDE 3**

A Study Exploring the Concept of Virtual Windows for the Elderly

Kevin C. Tseng, Huu-Kha Hoang, Po-Hsin Huang, *Taiwan*.

Content Analysis of Specialist Interviews during the Design of Cervical Collar Devices for Elderly Patients with Central Cord Syndrome

Wan-Ting Tsai, Kevin C. Tseng, Po-Hsin Huang, *Taiwan*.

Running on the Gatherun Cloud Platform: Using Self-determination Theory to Increase Motivation to Participate in Sporting Events

Tsai-Hsuan Tsai, Hsien-Tsung Chang, Yu-Wen Lin, Yi-Hao Hu, Chih-Wei Chen, Yi-Cheng Chen, Wei-Hung Wu, *Taiwan*.

Design of a mobile augmented reality application: an example of demonstrated usability

Tsai-Hsuan Tsai, Hsien-Tsung Chang, Ming-Chun Yu, Huan-Ting Chen, Chun-Yi Kuo, Wei-Hung Wu, *Taiwan*.

Metaphor and Storytelling in Interface Design for Virtual Reality

Andreas Kratky, *United States*.

VAMR S083

Alternative Interfaces for Digital Environments

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

Room: **BAY ROOM**

Utilizing Digital Game Environments for Training Prosthetic Use

Matt Dombrowski, Peter A. Smith, Ryan Buysens, *United States*.

Olfactory Stimuli Increase Presence during Simulated Exposure

Benson G. Munyan, Sandra M. Neer, Deborah C. Beidel, Florian Jentsch, *United States*.

The User Experience of Disney Infinity: Do Smart Toys matter?

Shelly Welch, Peter A. Smith, *United States*.

Ghost Hunter – An Augmented Reality Ghost Busting Game

Stuart Armstrong, *United Kingdom*; Kyle Morrand, *United States*.

Augmenting Reality through Wearable Devices

Peter A. Smith, *United States*.

Using iBeacons for Location-Based Tracking in Alternate Reality Games: A Pilot Study

Alexia Mandeville, Carrie Crossley, *United States*.

CCD S084

Design and management of safe and stress-free walking environment: considering different culture and physical condition of pedestrians

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

Room: **DOCKSIDE 4**

Kansei Robotics for Safe and Stress-free Livesphere – Understanding Personal Preferences from Behavior Patterns –

Takashi Sakamoto, Toru Nakata, Toshikazu Kato, *Japan*.

Young and Elderly, Normal and Pathological Gait Analysis Using Frontal View Gait Video Data Based on the Statistical Registration of Spatiotemporal Relationship

Kosuke Okusa, Toshinari Kamakura, *Japan*.

Optimized Environment Designing of Nanjing South Railway Station Based on Pedestrian Simulation

Ying Cao, Qijun Duan, Ning Zhang, *P.R. China*.

Crossing Disciplinary Borders through Studying Walkability

Stefania Bandini, Andrea Gorrini, Italy; Katsuhiro Nishinari, *Japan*.

Bridging Personal Adaptations to Urban Landscape Design

Tatsuya Shibata, *Japan*.

Co-design, Co-creation, and Co-production of Smart Mobility System

Hiroko Kudo, *Japan*.



AC S085

Augmented Cognition

Enhance Human Performance in Augmented Training Environments: Measurements and Models
Chair(s): Samantha Napier, Debra Patton, *United States*.
Room: **PIER 9**

Exploring the Hybrid Space: Theoretical Framework Applying Cognitive Science in Military Cyberspace Operations
Øyvind Jøsok, Benjamin J. Knox, Kirsi Helkala, *Norway*; Ricardo G. Lugo, *United States*; Stefan Sütterlin, *Norway*; Paul Ward, *United Kingdom*.

Training Tactical Combat Casualty Care with an Integrated Training Approach
Lisa Townsend, Laura Milham, Dawn Riddle, Henry Phillips, Joan H. Johnston, William A. Ross, *United States*.

Alternate Rubric for Performance Assessment of Infantry Soldier Skills Training
Douglas B. Maxwell, Jonathan A. Stevens, Crystal S. Maraj, *United States*.

Physiological Measures of Arousal during Soldier-Relevant Tasks Performed in a Simulated Environment
Debra Patton, Katherine Gamble, *United States*.

Using an Augmented Training Event to Collect Data for Future Modeling Purposes
Samantha Napier, Christopher Best, Debra Patton, Glenn Hodges, *United States*.

The Role of Simulation in Designing Human-Automation Systems
Christina F. Rusnock, Jayson G. Boubin, Joseph J. Giametta, Tyler J. Goodman, Anthony J. Hillesheim, Sungbin Kim, David R. Meyer, Michael E. Watson, *United States*.

Making Sense of Cognitive Performance in Small Unit Training
William A. Ross, Joan H. Johnston, Dawn Riddle, Henry Phillips, Lisa Townsend, Laura Milham, *United States*.

Measuring Stress in an Augmented Training Environment: Approaches and Applications
David L. Jones, Sara Dechmerowski, *United States*.

S086

Designing and Implementing Augmented Reality
Chair(s): Tess Bailie, *United States*.
Room: **PIER 8**

User Abilities in Detecting Vibrotactile Signals on the Feet Under Varying Attention Loads
Alison Gibson, Andrea K. Webb, Leia Stirling, *United States*.

A Systems Approach for Augmented Reality Design
Andrea K. Webb, Emily C. Vincent, Pooja Patnaik, Jana L. Schwartz, *United States*.

The Willful Marionette: Modeling Social Cognition Using Gesture-Gesture Interaction Dialogue
Mohammad Mahzoon, Mary Lou Maher, Kazjon Grace, Lilla LoCurto, Bill Outcault, *United States*.

Measuring the Effect of Tangible Interaction on Design Cognition
Mary Lou Maher, John Gero, Lina Lee, *United States*; Rongrong Yu, *Australia*; Tim Clausner, *United States*.

Implementing User-Centered Methods and Virtual Reality to Rapidly Prototype Augmented Reality Tools for Firefighters
Tess Bailie, James Martin, Zachary Aman, Ryan Brill, Alan Herman, *United States*.

DHM S087

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

Traditional Wisdom and Technologies in Industry
Chair(s): Hiroyuki Hamada, *Japan*.
Room: **DOCKSIDE 1**

Process analysis of expert and non-expert engineers in quartz glass bending process
Masamichi Suda, Toru Takahashi, Akio Hattori, Akihiko Goto, Hiroyuki Hamada, *Japan*.

The Difference in Micro-Deburring Finish Produced by Groove Cutting Method
Mitsunori Mori, Tatsuro Nagasuna, Hiroyuki Hamada, *Japan*.

An investigation on skillful techniques and quantified instructional tool on spray-up fabrication method for large-scale composite panel
Tetsuo Kikuchi, Erika Suzuki, *Japan*.

The Analysis of Polishing Process of Cold Forging Die in Axial Symmetric Form and Axial Non-Symmetric Form
Hidehito Kito, Hiroyuki Nishimoto, Akihiko Goto, Yuka Takai, Hiroyuki Hamada, *Japan*.

Difference of Proficiency in Wooden Tub Manufacturing
Shuhei Yasuda, Keisuke Ono, Ryo Takematsu, Mayuko Toyooka, Masakazu Aoshima, Takeshi Ueshiba, Hiroyuki Hamada, *Japan*.

Study on braiding skills by comparing between expert and non-experts with eye's movement measurement
Kontawat Chottikampon, Suchaline Mathurosemontri, *Thailand*; Hitoshi Marui, Porakoch Sirisuwan, Akihiko Goto, Tadashi Uozumi, Miyako Inoda, Hiroyuki Nishimoto, Hiroyuki Hamada, *Japan*.

DUXU S088

Design, User Experience, and Usability

Design, Ergonomics and Usability - I
Chair(s): Marcelo Márcio Soares, *Brazil*.
Room: **HARBOUR BALLROOM A**

Digital Game for Teaching and Learning: an analysis of usability and user experience of educational games
Rennan Raffaele, *Portugal*; Breno Carvalho, Anthony Lins, Luiz Marques, Marcelo Márcio Soares, *Brazil*.

Validation of a gamification design guide: does a gamification booklet help UX designers to be more creative?
Cathie Marache-Francisco, Eric Brangier, *France*.

Study of Usability Evaluation on Display Interface for Intelligent Electric Cooker
Yanlong Yao, Yinxia Li, Hui-min Hu, Yunhong Zhang, Siyuan Liu, *P.R. China*.

Chances for Urban Electromobility: Field Test of Intermodal Travel System and Effect on Usage Intention
Simon Himmel, Barbara S. Zaunbrecher, Martina Ziefle, Markus Beutel, *Germany*.

A Simple Method to Record Keystrokes on Mobile Phones and Other Devices for Usability Evaluations
Brian T. Lin, Paul A. Green, *United States*.



DUXU S089

Data intensive systems and DUXU
Chair(s): Hashim Iqbal Chunpir, Germany.

Room: **HARBOUR BALLROOM B**

Open Data Evolution in Information Systems Research: Considering Cases of Data-Intensive Transportation and Grid Systems
Frederik Schulte, Hashim Iqbal Chunpir, Stefan Voß, Germany.

The use of OUP elearning system in teaching English language in the preparatory year at the Univrsity of Dammam, issues and challenges
Saad Alamri, Saudi Arabia.

Usability Engineering of Agile Software Project Management Tools
Noura Alomar, Nouf Almobarak, Sarah Alkoblan, Sarah Alhozaimy, Shahad Alharbi, Saudi Arabia.

Data-Intensive Analytics for Cat Bonds by Considering Supply Chain Risks
Linda Eggert, Yingjie Fan, Stefan Voß, Germany.

DAPI S090

3D Interaction for Ubiquitous Virtual and Augmented Reality
Chair(s): Woontack Woo, Korea.

Room: **DOCKSIDE 5**

Transcendent Telepresence: Telecommunication better than Face to Face interaction
Yuki Kinoshita, Masanori Yokoyama, Keita Suzuki, Takayoshi Mochizuki, Tomohiro Yamada, Sho Sakurai, Takuji Narumi, Tomohiro Tanikawa, Michitaka Hirose, Japan.

User-independent Face Landmark Detection and Tracking for Spatial AR Interaction
Youngkyoon Jang, Eunah Jung, Sung Sil Kim, Jeongmin Yu, Woontack Woo, Korea.

A Unified Framework for Remote Collaboration using Interactive AR Authoring and Hands Tracking
Jeongmin Yu, Jin-u Jeon, Gabyong Park, Hyung-il Kim, Woontack Woo, Korea.

A Formal Model for Context-Aware Semantic Augmented Reality Systems
Tamas Matuszka, Attila Kiss, Hungary, Woontack Woo, Korea.

3-Dimensional Face from a Single Face Image with Various Expressions
Yu-Jin Hong, Gi Pyo Nam, Heeseung Choi, Junghyun Cho, Ig-Jae Kim, Korea.

The Interaction Design Research about 3D Demo Animation in Smart Home
Minggang Yang, Xiaofan Ma, P.R. China.

HCIBGO S091

Social Computing and Human Behaviors
Chair(s): Qiqi Jiang, Yuxiang Zhao, P.R. China.

Room: **PIER 5**

Evaluating Academic Answer Quality: A Pilot Study on ResearchGate Q&A
Lei Li, P.R. China; Daqing He, United States; Chengzhi Zhang, P.R. China.

A Genetic Algorithm Based Model for Chinese Phishing E-Commerce Websites Detection
Zhijun Yan, Su Liu, Tianmei Wang, Baowen Sun, Hansi Jiang, Hangzhou Yang, P.R. China.

An Agent-Based Study on the Relationship between Tiao-kuai Structure and Fragmentation Phenomenon of Crisis Governance
Yunfeng Wang, P.R. China.

"Core" Components in HCI Syllabi: Based on the Practice of CS and LIS Schools in North America
Lei Pei, P.R. China; Qiping Zhang, United States.

Why People Resist to Internet Finance: From the perspective of process virtualization theory
Zhengzheng Lin, P.R. China; Yulin Fang, Hong Kong; Liang Liang, Jun Li, P.R. China.

S092

Identifying HCI Needs in the Government Sector
Chair(s): Austin R. Silva, United States.

Room: **REGATTA**

Identification of Future Human-Computer System Needs in Army Aviation
Kathryn A. Salomon, David Boudreaux, United States.

Collaboration between Cognitive Science and Business to benefit the government sector
Glory Emmanuel Avina, United States.

Exploring Human-Technology Interaction in Layered Security Military Applications
Amanda Wachtel, Matthew Hoffman, Craig Lawton, Ann Speed, John Gauthier, Robert Kittinger, United States.

Bringing service design thinking into the public sector to create proactive and user-friendly public services
Regina Sirendi, Kuldar Taveter, Estonia.

The City as an Interface between Citizens and Public Administrations
Valentina Volpi, Antonio Opromolla, Carlo Maria Medaglia, Italy.

Gamification Aspects in the Context of Electronic Government and Education: A Case Study
Fernando Timoteo Fernandes, Plinio Thomaz Aquino Jr., Brazil.

The Role of HCI in Cross-Sector Research on Grand Challenges
Roger Lew, Nathan Lau, Ronald Laurids Boring, John Anderson, United States.

Distributed, Ambient and Pervasive Interactions

HCI in Business, Government and Organizations

LCT S093

Dissecting User Experience (UX) when Users Objective is to Learn
Chair(s): Aimilia Tzanavari, *United States*; Evangelos Kapros, *Ireland*.

Room: **DOCKSIDE 9**

Increasing the Quality of Use Case Definition through a Design Thinking Collaborative Method and an Alternative Hybrid Documentation Style
Alexandra Matz, Panagiotis Germanakos, *Germany*.

Using Mobile Learning in Formal and Non-Formal Educational Settings
Débora N.F. Barbosa, Patricia B.S. Bassani, Rosemari L. Martins, João Batista Mossmann, Jorge L.V. Barbosa, *Brazil*.

A study of gender similarity between animated pedagogical agents and young learners
Anne-Laure Kervellec, Éric Jamet, Virginie Dardier, Séverine Erhel, Gaïd Le Maner-Idrissi, Estelle Michinov, *France*.

Evaluating the usability using USE Questionnaire: Mindboard System use case
Tulio Vitor Machado Faria, Matheus Pavanelli, João L. Bernardes Jr., *Brazil*.

Heuristic Evaluation as applied for Serious Immersive Games and M-Instruction
Neil Gordon, Mike Brayshaw, Tareq Aljaber, *United Kingdom*.

Organizational Self-Determination and New Digital Self-Study Applications as Means for Developing Nuclear Power Plant Operation Training
Mikael Wahlström, Timo Kuula, *Finland*.

ITAP S094

E-commerce and virtual community in aging society
Chair(s): Jiunn-Woei Lian, *Taiwan*.

Room: **MARINE**

Acceptance of Cloud-Based Healthcare Services by Elderly Taiwanese People
Wen-Tsung Ku, Pi-Jung Hsieh, *Taiwan*.

Exploring the antecedents of technostress and compulsive mobile application usage: Personality perspectives
Kuo-Lun Hsiao, Chun-Hsiung Lee, Hsiu-Sen Chiang, Ju-Yun Wang, *Taiwan*.

Understanding Mobile SNS Usage for Aging People in China: a Perspective from Motivations, Trust and Attitude
Zhongping Zeng, Liu Liu, Ye Han, Zhaoyin Liu, *P.R. China*.

Developing BIM-enabled Facility Management Information System in Interior Design
Ju-Hung Lan, *Taiwan*.

Using Information and Communication Technologies to promote healthy aging in Costa Rica: Challenges and opportunities
Maria Dolores Castro Rojas, Ann Bygholm, Tia G.B. Hansen, *Denmark*.

S095

Human Factors in an Aging Society
Chair(s): Martina Ziefle, *Germany*.

Room: **PIER 7**

"You Can('t) Teach an Old Dog New Tricks" - Analyzing the Learnability of Manufacturing Software Systems in Older Users
Katrin Arning, Simon Himmel, Martina Ziefle, *Germany*.

Understanding Age-related Differences in Privacy-Safety Decisions: Acceptance of Crime Surveillance Technologies in Urban Environments
Julia Van Heek, Katrin Arning, Martina Ziefle, *Germany*.

Operational Assistance for Elderly People Using a Rhythm System
Hiroko Akatsu, Akinori Komatsubara, *Japan*.

Age-Differentiated Analysis of the Hand Proximity Effect by Means of Eye-Tracking
Christina Bröhl, Sabine Theis, Matthias Wille, Peter Rasche, Alexander Mertens, Christopher M. Schlick, *Germany*.

Designing Tablet Computers for the Elderly- A User-centered Design Approach
Nicole Jochems, *Germany*.

Intentions to use smart textiles in AAL home environments: comparing younger and older adults
Martina Ziefle, Philipp Brauner, Julia Van Heek, *Germany*.

Towards Characteristics of Accessibility and Usability Issues for Older People - a Brazilian Case Study
Sandra Souza Rodrigues, Renata Pontin De Mattos Fortes, Andre Pimenta Freire, *Brazil*.

Human-Computer Interaction	HCI S096	S097	S098	HIMI S099	continues...
		<p>Cloud Computing & Big data Analytics Chair(s): Farid Shirazi, <i>Canada</i>.</p> <p>Room: PIER 5</p> <hr/> <p>Multivariate Time Series ELM for Cloud Data Centre Workload Prediction Salam Ismaeel, Ali Miri, <i>Canada</i>.</p> <p>Energy-Efficient Resource Allocation for Cloud Data Centers using a Multi-Way Data Analysis Technique Raed Karim, Salam Ismaeel, Ali Miri, <i>Canada</i>.</p> <p>Cloud Security: A Virtualized VLAN (V2LAN) Implementation Farid Shirazi, Alexander Krasnov, <i>Canada</i>.</p>	<p>Tangible and Haptic Interaction Chair(s): Tony Morelli, <i>United States</i>.</p> <p>Room: PIER 7</p> <hr/> <p>ImmertableApp: Interactive and tangible learning music environment Sandra Baldassarri, Javier Marco, Clara Bonillo, Eva Cerezo, Jose Ramon Beltran, <i>Spain</i>.</p> <p>Warmth and Affection: Exploring Thermal Sensation in the Design of Parent-Child Distant Interaction Sunmin Lee, Thecla Schiphorst, <i>Canada</i>.</p> <p>Towards Enhancing Force-input interaction by Visual-Auditory Feedback as an Introduction of First Use Akemi Kobayashi, Ryosuke Aoki, Norimichi Kitagawa, Toshitaka Kimura, Youichi Takashima, Tomohiro Yamada, <i>Japan</i>.</p> <p>Haptic Relay - Including Haptic Feedback in Online Video Game Streams Tony Morelli, <i>United States</i>.</p> <p>Active-Wheel Mouse for Human-Computer Interface - Slippage-Perception Characteristics on Fingerpad Yoshihiko Nomura, Satoshi Oike, <i>Japan</i>.</p>	<p>Usability and User Experience Evaluation Chair(s): Nigel Bevan, <i>United Kingdom</i>.</p> <p>Room: HARBOUR BALLROOM C</p> <hr/> <p>New ISO Standards for Usability, Usability Reports and Usability Measures Nigel Bevan, <i>United Kingdom</i>; Jim Carter, <i>Canada</i>; Jonathan Earthy, <i>United Kingdom</i>; Thomas Geis, <i>Germany</i>; Susan Harker, <i>United Kingdom</i>.</p> <p>Development of a Usability Questionnaire for Automation System Akihiro Maehigashi, Kazuhisa Miwa, Kazuaki Kojima, Hitoshi Terai, <i>Japan</i>.</p> <p>An Analysis of a Heuristic to Assist Sociability Evaluation in Online Communities Larissa Albano Lopes, Daniela Freitas Guilhermino, Thiago Adriano Coleti, Roberto Elero Junior, Ederson Marcos Sgarbi, Guilherme Corredato Guerino, Paulo Roberto Anastacio, Carlos Eduardo Ribeiro, <i>Brazil</i>.</p> <p>Impact of Performance and Subjective Appraisal of Performance on the Assessment of Technical Systems Matthias Haase, Martin Krippel, Mathias Wahl, Swantje Ferchow, Jörg Frommer, <i>Germany</i>.</p> <p>Can I Reach that? An Affordance Based Metric of Human-Sensor-Robot System Effectiveness Taylor Murphy, Alexander M. Morison, <i>United States</i>.</p> <p>Accessing effects of various depth-cue combinations on hand control movement in a virtual environment Ray F. Lin, Huei-Yun Cheng, <i>Taiwan</i>.</p>	<p>User-oriented technologies and services Chair(s): Hiroyuki Miki, <i>Japan</i>.</p> <p>Room: QUEENS QUAY I</p> <hr/> <p>A Trial Cartooning to Promote Understanding of a Scenario Shigeyoshi Iizuka, <i>Japan</i>.</p> <p>Detecting Multitasking Work and Negative Routines from Computer Logs Hirofumi Kaburagi, Simona Vasilache, Jiro Tanaka, <i>Japan</i>.</p> <p>Using the office desk as a touch interface Hirobumi Tomita, Simona Vasilache, Jiro Tanaka, <i>Japan</i>.</p> <p>User Interface Developing Framework for Engineers Hiroyuki Miki, Kunikazu Suzuki, Tsuyoshi Suzuki, <i>Japan</i>.</p> <p>A Method for Consensus Building between Teachers and Learners in Higher Education through Co-design Process Ryota Sugino, Satoshi Mizoguchi, Koji Kimita, Keiichi Muramatsu, Tatsunori Matsui, Yoshiki Shimomura, <i>Japan</i>.</p> <p>An Advanced Web-Based Hindi Language Interface to Database Using Machine Learning Approach Zorawar Singh Virk, Mohit Dua, <i>India</i>.</p>



HIMI S100

Data, semantics and interaction

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

Room: **QUEENS QUAY II**

What kind of foreign baseball players want to get Japanese baseball team?

Hirohito Matsuka, Yumi Asahi, *Japan*.

Effect of changes in fresh vegetables prices give consumers

Ryota Morizumi, Yumi Asahi, *Japan*.

Externalization of Data Analytics Models: Toward Human-Centered Visual Analytics

Arman Didandeh, Kamran Sedig, *Canada*.

Dynamic Sampling for visual exploration of large dense-dense matrices

Philipp Roskosch, James Twellmeyer, Arjan Kuijper, *Germany*.

Interaction for Information Discovery Empowering Information Consumers

Kurt Englmeier, *Germany*; Fionn Murtagh, *United Kingdom*.

An Efficient Scheme for Candidate Solutions of Search-based Multi-objective Software Remodularization

Amarjeet Prajapati, Jitender Kumar Chhabra, *India*.

Interactive Pattern Exploration: Securely Mining Distributed Databases

Priya Chawla, Raj Bhatnagar, Chia Han, *United States*.

EPCE S101

Cognition in HCI

Chair(s): Robert E. Wray, *United States*.

Room: **DOCKSIDE 6**

EID vs UCD: A Comparative Study on User Interface Design in Complex Electronics Manufacturing Systems

Lei Wu, Juan Li, Tian Lei, Bin Li, *P.R. China*.

An Interface Analysis Method of Complex Information System by Introducing Error Factors

Xiaoli Wu, Yan Chen, Feng Zhou, *P.R. China*.

Cognitive Relevance Mechanism Analysis of DHCI Structure and Composition

Lei Zhou, Chengqi Xue, Haiyan Wang, Jing Zhang, Xiaojiao Chen, Xiaozhou Zhou, Yafeng Niu, Tao Jin, *P.R. China*.

Influence of user characteristics on coping with stress

Matthias Haase, Martin Krippel, Swantje Ferchow, Mirko Otto, Jörg Frommer, *Germany*.

An Approach to Define Design Requirements for a Hand Terminal of an Electronic Warfare System

Mehmet Turhan, *Turkey*.

Engineering Psychology and Cognitive Ergonomics

UAHCI S102

Quantified Self & Personal Informatics

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

Room: **DOCKSIDE 2**

Assessing Levels of Attention using Low Cost Eye Tracking

Per Bækgaard, Michael Kai Petersen, Jakob Eg Larsen, *Denmark*.

A Provenance Model for Quantified Self Data

Andreas Schreiber, *Germany*.

Understanding the Experience of Situated Mindfulness Through a Mobile App that Prompts Self-Reflection and Directs Non-Reactivity

Ralph Vacca, Christopher Hoadley, *United States*.

Creating a Sense of Unity: From Quantified Self to Qualitative Space

Fatemeh Moradi, Mikael Wiberg, *Sweden*.

Designing a Smart Scarf to Influence Group Members' Emotions in Ambience: Design Process and User Experience

Chen Guo, Yingjie Victor Chen, Zhenyu Cheryl Qian, Yue Ma, Hanhdung Dinh, Saikiran Anasingaraju, *United States*.

The falsified self: complexities in personal data collection

Alessandro Marcengo, Amon Rapp, Federica Cena, Marina Geymonat, *Italy*.

Universal Access in Human-Computer Interaction

S103

eInclusion - systematic reviews of results, outcomes, impacts; perspectives?

Chair(s): Hugo Paredes, *Portugal*; Ana Isabel Paraguay, *Brazil*.

Room: **DOCKSIDE 3**

Communicating panoramic 360 degree immersed experiences: a simple technique for sketching in 3D

Frode Eika Sandnes, *Norway*.

Socialization of People with Autism through Social Networks

Thais Castro, *Brazil*; Ulrike Lucke, *Germany*.

Combining NFC and 3D mapping to enhance the perception of spatial location for the blind

Tania Rocha, Hugo Fernandes, Hugo Paredes, João Barroso, *Portugal*.

A Framework for the Development of Localised Web Accessibility Guidelines for University Websites in Saudi Arabia

Asmaa Alayed, Mike Wald, E.A. Draffan, *United Kingdom*.

Methodology for Heuristic Evaluation of Web Accessibility oriented to Types of Disabilities

Anyela Orozco, Valentina Tabares, Néstor Duque, *Colombia*.

THURSDAY 10:30 - 12:30

VAMR S104

Keeping VEs Safe: Recommendations for the Well-being of our Users

Chair(s): Stephanie J. Lackey, *United States.*

Room: **BAY ROOM**

Exploring Behavioral Methods to Reduce Visually Induced Motion Sickness in Virtual Environments

Behrang Keshavarz, *Canada.*

Study of a Virtual Conference in a Mirror World with Avatars and HMD

Evelyne Lombardo, Christophe Guion, Joaquin Keller, *France.*

Lifetime and Deployment Limits for Mobile, 3D-Perceptual Applications

Yan Liu, Yun Li, Lennart Johnsson, Andrew Chien, *United States.*

Auditory and Visual Properties in the Virtual Reality Using Haptic Device

Manabu Ishihara, Takafumi Komori, *Japan.*

Depth Perception in Virtual Environment: The Effects of Immersive System and Freedom of Movement

Adrian K. T. Ng, Leith K.Y. Chan, Henry Y.K. Lau, *Hong Kong.*

Interaction Fidelity: The Uncanny Valley of Virtual Reality Interactions

Ryan P. McMahan, Chengyuan Lai, Swaroop Pal, *United States.*

CCD S105

Cognition, Experience and Behavior Design for Crossing Culture

Chair(s): Yuan-Chi Tseng, Yu-Ling Hsu, *Taiwan.*

Room: **DOCKSIDE 4**

Cross-cultural Study of Tactile Interactions in Technologically Mediated Communication

Lalita Harिताipan, Céline Mougnot, *Japan.*

Rediscover Herbal Lane-Enhancing the Tourist Experience through Mobile Applications

Fang-Wu Tung, *Taiwan;* Min Wu, *P.R. China.*

Assessing the Effects of Mobile Service Quality on Customer Satisfaction and the Continued Usage Intention of Mobile Service: A Study of Non-gaming Mobile Apps

Wei-Tsong Wang, Wen-Yin Chen, *Taiwan.*

Do you trust one's gaze?: Commonalities and differences in gaze-cueing effect between American and Japanese

Saki Takao, Atsunori Ariga, *Japan;* Yusuke Yamani, *United States.*

Design of User Interface for Elderly Care Supervision System based on Sensor Network

Yi-Chong Zeng, Yu-Ling Hsu, Te Yu Liu, Yen-Chieh Cheng, Huan-Chung Li, Grace Lin, Wen-Tsung Chang, *Taiwan.*

AC S106

Closed-Loop Systems: Best Practices for Standardizing, Attribute Selection, and Modeling

Chair(s): Lauren Reinerman-Jones, Ryan W. Wohleber, *United States.*

Room: **PIER 9**

Psychological Baseline Methods and Usage

Avonie Parchment, Ryan W. Wohleber, Lauren Reinerman-Jones, *United States.*

Theoretical versus Mathematical Approach to Modeling Psychological and Physiological Data

Lauren Reinerman-Jones, Stephanie J. Lackey, Julian Abich IV, Brandon Sollins, Irwin Hudson, *United States.*

Augmenting Robot Behaviors Using Physiological Measures of Workload State

Grace Teo, Lauren Reinerman-Jones, Gerald Matthews, Daniel Barber, Jonathan Harris, Irwin Hudson, *United States.*

Challenges Selecting Attributes for Developing Models of Physiological Data

Nelson Lerma, Lauren Reinerman-Jones, *United States.*

Considerations in Physiological Metric Selection for Online Detection of Operator State: A Case Study

Ryan W. Wohleber, Gerald Matthews, Gregory J. Funke, Jinchao Lin, *United States.*

DHM S107

Focus on the Human in DHM

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

Room: **DOCKSIDE 1**

Designing for STEM Faculty: The Use of Personas for Evaluating and Improving Design

Mihaela Vorvoreanu, Krishna Madhavan, Kanrawi Kitkhachonkunlaphat, Liang Zhao, *United States.*

Physicians' code of conduct and further requirements for a productive patient physician relationship exemplified in the area of orthognathic surgery

Luisa Vervier, Martina Ziefle, *Germany.*

Modern human-robot interaction in smart services and value co-creation

Vincent G. Duffy, *United States.*

AtHoCare: An Intelligent Elder Care at Home System

Tao Xu, Yun Zhou, Zhe Ma, *P.R. China.*

MEDEDUC: An Educational Medical Serious Game

Vitor Manuel Fragoso Ferreira, Rosa Maria E. Moreira da Costa, Vera M.B. Werneck, *Brazil.*

Redesign Based on Card Sorting: How Universally Applicable Are Card Sort Results?

Jobke Wentzel, Nienke Beerlage de Jong, Thea Van der Geest, *Netherlands.*

Integrating Human Factors in Information Systems Development: User Centred and Agile Development Approaches

Leonor Teixeira, Vasco Saavedra, Beatriz Sousa Santos, Carlos Ferreira, *Portugal.*

Design, User Experience, and Usability

DUXU S108

Design Thinking Research on Innovation and Organizational Change

Chair(s): Sisira Adikari, *Australia*.

Room: **HARBOUR BALLROOM B**

Design Thinking Framework for Project Portfolio Management
Hamed Sarbazhosseini, Sisira Adikari, Heath Keighran, *Australia*.

Forward Thinking: An integrated framework for formulating vision, strategy and implementation
Narayanan Srinivasaraghavan, Kavitha Gurusamy, Heath Keighran, *Australia*.

An Integrated Framework for Design Thinking and Agile Methods for Digital Transformation
Kavitha Gurusamy, Narayanan Srinivasaraghavan, Sisira Adikari, *Australia*.

Embed Design Thinking in Co-Design for Rapid Innovation of Design Solutions
Sisira Adikari, Heath Keighran, Hamed Sarbazhosseini, *Australia*.

Developing High-Performing Teams: A Design Thinking Led Approach
Heath Keighran, Sisira Adikari, *Australia*.

Empathy at Work: Using the Power of Empathy to Deliver Delightful Enterprise Experiences
Janaki Kumar, Eliad Goldwasser, Prerna Seth, *United States*.

Prototyping Complex Systems: A Diary Study Approach to Understand the Design Process
Jumana Almahmoud, Almaha Almalki, Tarfah Alrashed, Areej Alwabil, *Saudi Arabia*.

S109

Design, Ergonomics and Usability - II

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

Room: **HARBOUR BALLROOM A**

Assessing the Cooperation Portal's Usability Based on the Proposition of Users' Needs
Clarissa Lins, André Pinho, Jose Guilherme Santa Rosa, *Brazil*.

Metaphors and Embodiment in Virtual Reality Systems
Ana Carol Pontes de França, Marcelo Márcio Soares, *Brazil*.

Prototyping and Interface Design of an Automated Screening Test to Evaluate the Linguistic Processing Abilities of School Children
Jose Guilherme Santa Rosa, Tito Henrique Borges, João Bosco Santos, Mário Sérgio Filgueira, Thiago Oliveira, Leonor Scliar-Cabral, Mauricio Martins, Antônio Pereira Junior, Beatriz Stransky, *Brazil*.

A Relational Model for Playful and Smart Game Design
Anna Priscilla De Albuquerque, Felipe Borba Breyer, Judith Kelner, *Brazil*.

The interaction design of household intelligent breathing training system
Zhanxun Dong, Lu Liu, Weiwei Li, *P.R. China*.

Applying Flow Theory to Predict User-Perceived Performance of Tablets
James Scovell, Rina Doherty, *United States*.

Distributed, Ambient and Pervasive Interactions

DAPI S110

Interacting with Smart Objects

Chair(s): Andreas Braun, *Germany*.

Room: **DOCKSIDE 5**

Exploring machine learning object classification for interactive proximity surfaces
Andreas Braun, Michael Alekseev, Arjan Kuijper, *Germany*.

Investigating Low-Cost Wireless Occupancy Sensors for Beds
Andreas Braun, Martin Majewski, Reiner Wichert, Arjan Kuijper, *Germany*.

Mid-Air Gestures for Virtual Modeling with Leap Motion
Jian Cui, *Singapore*; Dieter W. Fellner, Arjan Kuijper, *Germany*; Alexei Sourin, *Singapore*.

Towards Effective Interventive Health Applications: On the Problem of User Triggering
Tim Dutz, Augusto Garcia, Sandro Hardy, Stefan Göbel, Ralf Steinmetz, *Germany*.

Exploring the Ergonomic Issues of User-Defined Mid-Air Gestures for Interactive Product Exhibition
Li-Chieh Chen, Po-Ying Chu, Yun-Maw Cheng, *Taiwan*.

HCI in Business, Government and Organizations

HCIBGO S111

PANEL: HCI Testing in Laboratory or Field Settings

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

Room: **REGATTA**

HCI Testing in Laboratory or Field Settings
Chuan-Hoo Tan, *Singapore*; Austin R. Silva, *United States*; Rich C. Lee, *Taiwan*; Kanliang Wang, *P.R. China*; Fiona Fui-Hoon Nah, *United States*.

Presentation 1
Austin R. Silva, *United States*.

Presentation 2
Chuan-Hoo Tan, *Singapore*.

Presentation 3
Choon Ling Sia, *Hong Kong*.

LCT S112

Learning design and assessment
Chair(s): Jan Stelovsky, *United States*.

Room: **DOCKSIDE 9**

Process mining of interactions during computer-based testing for detecting and modelling guessing behaviour
Zacharoula Papamitsiou, Anastasios A. Economides, *Greece*.

Constructive Learning Using Flip-Flop Methodology: Learning by Making Quizzes Synchronized with Video Recording of Lectures
Umida Stelovska, Jan Stelovsky, John Wu, *United States*.

Searching Interactions and Perceived Learning
Xiangmin Zhang, *United States*.

An analysis of applying the Short Bridge Method to Digital Education
Renata Zilse, Tiago Primo, Fernando Koch, Andrew Koster, *Brazil*.

A Micro-Web Involving Learning Scenario Generation with LOD for Web-based Investigative Learning
Yasuhiro Kakinuma, Akihiro Kashiwara, *Japan*.

ITAP S113

IT and elderly: communication and representations between stereotypes and reality
Chair(s): Fausto Colombo, *Italy*.

Room: **MARINE**

Elders' Perceptions on the Role of ICTs on their Lives
Charo Sádaba, *Spain*.

Changing patterns of ICT use in Finland – the senior citizens' perspective
Pekka Räsänen, Ilkka Koiranen, *Finland*.

The Transformation of Reading among the Ageing Population in the Digital Age
Dobrinka Peicheva, Lilia Raycheva, *Bulgaria*.

The Elderly, IT and the Public Discourse. Representations of Exclusion and Inclusion
Piermarco Aroldi, Fausto Colombo, *Italy*.

Ageism and IT: Social Representations, Exclusion and Citizenship in the Digital Age
Ines Amaral, Fernanda Daniel, *Portugal*.

The Mediations of the Identity of Seniors on IT - The Case of Grand parenthood
Élodie Llobet-Vachias, Yves Jeanneret, *France*.

Elderly and IT: Brand Discourses on the Go
Karine Berthelot-Guiet, *France*.

S114

Making a Difference to the Lives of Older Adults through Technology and Service
Chair(s): Alan Hoi Shou Chan, *Hong Kong*.

Room: **PIER 8**

A Study of the Factors Affecting the Usability of Smart Phone Screen Protectors for the Elderly
Shuo-Fang Liu, Ching-Fen Chang, Ming Hong Wang, Hsin-Hsi Lai, *Taiwan*.

Coping with Ageing Issues - Adoption and Appropriation of Technology by Older Adults in Singapore
Natalie Pang, Xue Zhang, Pei Wen Law, Schubert Foo, *Singapore*.

RERC TechSage: Making a Difference to the Lives of Older Adults with Disability through Design and Technology
Jon A. Sanford, Elena T. Gonzalez, *United States*.

Over 60 and ICT: Exploring Factors that Affect Older Adults' ICT Usage
Qi Ma, Alan Hoi Shou Chan, *Hong Kong*; Pei-Lee Teh, *Malaysia*; Shun-Nam Poon, *Hong Kong*.

Tests of Cognitive Training as Archetypes in Elderly People - Identifying Design Categories for Cognitive and Communicative Interaction
Claudia Isabel Rojas R., Juan Alberto Castillo M., *Colombia*.

Development of the accessibility evaluation platform beyond digital divide
Junji Ohyama, *Japan*.

Interaction Design of Products for the Elderly in Smart Home under the Mode of Medical Care and Pension
Minggang Yang, He Huang, Haozhou Yuan, Qichao Sun, *P.R. China*.

HCI S115

Gaze and Face Recognition
Chair(s): Qianxiang Zhou, P.R. China.

Room: **HARBOUR BALLROOM C**

Real-Time Gaze Estimation Using Monocular Vision
Zhizhi Guo, Qianxiang Zhou, Zhongqi Liu, Xin Zhang, Zhaofang Xu, Yan Lv, P.R. China.

Combining low-cost eye trackers for dual monitor eye tracking
Sebastian Balthasar, Manuel Martin, Florian Van de Camp, Jutta Hild, Jürgen Beyerer, Germany.

Finding an Efficient Threshold for Fixation Detection in Eye Gaze Tracking
Sudarat Tangnimitchok, Nonnarit O-larnnithipong, Armando Barreto, Francisco R. Ortega, Naphtali D. Rische, United States.

Automatic Facial Recognition: A Systematic Review on the Problem of Light Variation
Kelvin S. Prado, Norton T. Roman, Valdinei F. Da Silva, João L. Bernardes Jr., Luciano A. Digiampietri, Enrique M. Ortega, Clodoaldo A.M. Lima, Luis M.del Val Cura, Marcelo M. Antunes, Brazil.

Bimodal Speech Recognition Fusing Audio-Visual Modalities
Alexey Karpov, Alexander Ronzhin, Irina Kipyatkova, Andrey Ronzhin, Vasilisa Verkhodanova, Anton Saveliev, Russia; Milos Zelezny, Czech Republic.

S116

User Studies
Chair(s): Vegard Engen, United Kingdom.

Room: **PIER 5**

Taking Advantage of Smartphone apps for understanding Information needs of Emergency Response Teams for Situational Awareness: Evidence from an indoor fire game
Vimala Nunavath, Andreas Prinz, Norway.

Study of Middle-Aged and Youth Users' Preference for Smart Homes
Jianxin Cheng, Yixiang Wu, He Huang, Xinhui Kang, P.R. China.

A Field Study: Evaluating Gamification Approaches for Promoting Physical Activity with Motivational Models of Behavior Changes
Xin Tong, Diane Gromala, Chris D. Shaw, Amber Choo, Canada.

A Practical Evaluation of the Influence of Input Devices on Playability
Lucas Machado, João L. Bernardes Jr., Brazil.

Machine Agency in Human-Machine Networks; Impacts and Trust Implications
Vegard Engen, J. Brian Pickering, Paul Walland, United Kingdom.

S117

Aesthetics and visual layout design
Chair(s): Hsiu Ching Laura Hsieh, Taiwan.

Room: **PIER 7**

Heuristics for Grid and Typography Evaluation of Art Magazines Websites
Ana Paula Retore, Cayley Guimarães, Marta Karina Leite, Brazil.

A Theoretical Model for the Design of Aesthetic Interaction
Hsiu Ching Laura Hsieh, Nine Chun Cheng, Taiwan.

Interface Aesthetics Effect on Usability: A Comparison of Two Screen Designs
Liang Zhao, Mihaela Vorvoreanu, United States.

Effect of Visual Emphasis on Important Parts of Texts
Yuta Fukui, Toru Nakata, Toshikazu Kato, Japan.

HIMI S118

Design Information Usage
Chair(s): Yen-Yu Kang, Taiwan.

Room: **QUEENS QUAY I**

Towards understanding senior citizens' gateball participations behavior and well-being: An application of the theory of planned behavior
Chia-Chien Hsu, Yu-Chin Hsu, Ching-Tong Lin, Taiwan.

Basic Observation about the Difficulty of Assembly Wood Puzzle by Wooden Joint
Takamitsu Tanaka, Masao Tachibana, Japan; Thongthai Wongwichai, Thailand; Yen-Yu Kang, Taiwan.

Collaborative Modes on Collaborative Problem Solving
Yu-Hung Chien, Kuen-Yi Lin, Kuang-Chao Yu, Hsien-Sheng Hsiao, Yu-Shan Chang, Yih-Hsien Chu, Taiwan.

Product Awareness between Consumers and Designers – A Family Dining Table Design as Example
Ming-Hsuan Hsieh, Chia-Ling Chang, Taiwan.

Exploring Information Needs of using Battery Swapping System for Riders
Fei-Hui Huang, Taiwan.

Application of Co-Creation Design Experiences to the Development of Green Furniture
Chia-Ling Chang, Ming-Hsuan Hsieh, Taiwan.

Listening to Music and Idea Generation
Win-Chih Chang, Chi-Meng Liao, Taiwan.

HIMI S119

Digital Museum
Chair(s): Michitaka Hirose, *Japan*.

Room: **QUEENS QUAY II**

Encouraging People to Interact with Interactive Systems in Public Spaces by Managing Lines of Participants
Takuji Narumi, Hiroyuki Yabe, Shunsuke Yoshida, Tomohiro Tanikawa, Michitaka Hirose, *Japan*.

AR Reference Model for K-Culture Time Machine
Eunseok Kim, Junghoon Jo, Kihong Kim, Sunhyuck Kim, Seungmo Hong, Jea-In Kim, Noh-young Park, Hyerim Park, Tamás Matuszka, Jungwha Kim, Woontack Woo, *Korea*.

Crowd-Cloud Window to the Past: Constructing a Photo Database for On-Site AR Exhibitions by Crowdsourcing
Sohei Osawa, Ryohei Tanaka, Takuji Narumi, Tomohiro Tanikawa, Michitaka Hirose, *Japan*.

Increasing User Appreciation of Spherical Videos by Finger Touch Interaction
Yuta Sakakibara, Ryohei Tanaka, Takuji Narumi, Tomohiro Tanikawa, Michitaka Hirose, *Japan*.

Fortune Air: Interactive Fortune-Telling for Entertainment Enhancement in a Praying Experience
Yoko Ueoka, Naoto Kamiyama, *Japan*.

Image mnemonics for cognitive mapping of the museum exhibits
Yasushi Ikei, Ken Ishigaki, Hirofumi Ota, Keisuke Yoshida, *Japan*.

UAHCI S120

Sensors and Mobile Applications for Human - Computer Interaction
Chair(s): João M.F. Rodrigues, Pedro J.S. Cardoso, *Portugal*.

Room: **DOCKSIDE 2**

A deep neural network video framework for monitoring elderly persons
Miguel Farrajota, João M.F. Rodrigues, Hans Du Buf, *Portugal*.

GyGSLA: A Portable Glove System for Learning Sign Language Alphabet
Luís Sousa, João M.F. Rodrigues, Jânio Monteiro, Pedro J.S. Cardoso, Roberto Lam, *Portugal*.

3D Modeling of the Milreu Roman Heritage with UAVs
José Rodrigues, Mauro Figueiredo, João Bernardes, César Gonçalves, *Portugal*.

Identifying Urban Mobility Challenges for the Visually Impaired with Mobile Monitoring of Multimodal Biosignals
Charalampos Saitis, Kyriaki Kalimeri, *Italy*.

Wheelchair Users' Psychological Barrier Estimation based on Inertial and Vital Data
Takashi Isezaki, Arinobu Nijijima, Akihiro Miyata, Tomoki Watanabe, Osamu Mizuno, *Japan*.

Braillet The Wristwatch-Style Refreshable Braille Display: Its Hardware, User Interface and Benchmarks
Kazunori Minatani, *Japan*.

S121

Senior Cloud for Active Aging and Work After Retirement
Chair(s): Masatomo Kobayashi, *Japan*.

Room: **DOCKSIDE 3**

Interactive Searching Interface for Job Matching of Elderly Workers
Hiroshi Yamada, Kaoru Shinkawa, Atsushi Hiyama, Masato Yamaguchi, Masatomo Kobayashi, Michitaka Hirose, *Japan*.

Augmented Live Communication Workspace Platform to Assist and Utilize Cognitive Abilities of Senior Workers
Akihiro Kosugi, Shogo Nishiguchi, Masahiko Izumi, Masatomo Kobayashi, Atsushi Hiyama, Michitaka Hirose, *Japan*.

Senior-Oriented On-Demand Economy: Locality, Matching, and Scheduling Are Keys to Success
Shoma Arita, Atsushi Hiyama, Michitaka Hirose, *Japan*.

Work motivating factors of the communications in a crowd-powered microvolunteering site
Takahiro Miura, Shoma Arita, Atsushi Hiyama, Masatomo Kobayashi, Toshinari Itoko, Junichiro Sawamura, Michitaka Hirose, *Japan*.

Self-conscious Support on Walking Posture through Mobile Avatar: Focusing on Women's Frailty Prevention toward Old Age
Masayuki Anekawa, Atsushi Hiyama, Sachiko Kamiyama, Michitaka Hirose, *Japan*.

Investigating Motivational Aspects of Brazilian Elderly to Interact with Digital Games
Gleice Souza, Luciana C. de C. Salgado, Esteban Clua, Daniela Gorski Trevisan, *Brazil*.

Connecting Aged Parents with Their Adult Children over Long Distances: Challenges and a Solution
Chen Guo, Xiaohang Zhang, Zhenyu Cheryl Qian, Yingjie Victor Chen, *United States*.

VAMR S122 continues...

Critical Challenges Facing Multitodal Interface Design and Implementation
Chair(s): Crystal S. Maraj, *United States*.

Room: **BAY ROOM**

From Interface to Interspace: Conceptual Framework for Multimodal Flight Deck Controls
Daniela Kratchounova, *United States*.

Assessment of Kim's Game Strategy for Behavior Cue Detection: Engagement, Flow, & Performance Aspects
Crystal S. Maraj, Stephanie J. Lackey, Karla A. Badillo-Urquiola, Irwin Hudson, *United States*.

A Role of Augmented Reality in Educational Contents: Intermediating between Reality and Virtual Reality
Shohei Tsuchida, Shu Matsuura, *Japan*.

Holographic Humans
Alexiei Dingli, Nicholas Mifsud, *Malta*.

Universal Access in Human-Computer Interaction

Virtual, Augmented and Mixed Reality

THURSDAY 13:30 - 15:30

VAMR S123

Gesture and motion-based Interaction in VAMR

Chair(s): Behrang Keshavarz, Canada.

Room: **PIER 8**

Evaluation of Information Visualization Interaction Techniques using Gestures and Widgets in 3D Environments

Brunelli Miranda, Carlos Santos, Nikolas Carneiro, Tiago Araújo, Anderson Marques, Marcelle Mota, Nelson Neto, Bianchi Meiguins, Brazil.

Object Manipulation by Virtual Menu Interaction Using Free-Hand Input in a Desktop Virtual Reality Maritime Situation Display

Ronald Meyer, Alexander Mertens, Jeronimo Dzaack, Christopher M. Schlick, Germany.

Gesture Interactions for Virtual Immersive Environments: Navigation, Selection and Manipulation

Paulo Dias, João Pinto, Sérgio Eliseu, Beatriz Sousa Santos, Portugal.

Research on Motion Model for Technique Movements of Competitive Swimming in Virtual Interactive Environment

Mao Jie, P.R. China.

CCD S124

Culture in Health-care and Transportation

Chair(s): Pilsung Choe, Qatar; Tauseef Gulrez, United Kingdom; Pei-Luen Patrick Rau, P.R. China.

Room: **DOCKSIDE 4**

Usability evaluation of blood glucose meters for elderly diabetic patients

Peter Rasche, Germany; Pilsung Choe, Qatar; Sabine Theis, Matthias Wille, Christina Bröhl, Lea Finken, Stefan Becker, Christopher M. Schlick, Alexander Mertens, Germany.

Kitchen KungFu: A Match-3 Game to Explore Chinese Medical Beliefs

Shuyu Li, Pei-Luen Patrick Rau, P.R. China.

Measuring Chinese Medical Beliefs of Chinese Adults

Runting Zhong, Pei-Luen Patrick Rau, Shuyu Li, P.R. China.

The Behavioral Analysis for Cross-Cultural Understandings using Place Oriented Internet Radio

Ayaka Ito, Katsuhiko Ogawa, Japan.

Older Drivers' Acceptance of Vehicle Warning Functions and the Influence of Driving Experience

Lin Wang, Korea.

Can Autonomous Sensor Systems Improve the Well-being of People Living at Home with Neurodegenerative Disorders?

Tauseef Gulrez, Samia-Nefti Meziani, David Rog, Matthew Jones, Anthony Hodgson, United Kingdom.

A Cross-cultural adaptation in reporting perinatal safety events

Weiyang Shan, P.R. China; Chen Liang, United States; Weichao Shan, Na Yang, P.R. China; Yang Gong, United States.

SCSM S125

Collaboration Support in Software Engineering Education

Chair(s): Carsten Kleiner, Germany.

Room: **DOCKSIDE 5**

Evaluation of Collaborative Development Environments for Software Engineering Courses in Higher Education

Daniel Kadenbach, Carsten Kleiner, Germany.

Collaboration Support in an International Computer Science Capstone Course

Robert Adams, United States; Carsten Kleiner, Germany.

International Collaboration for Software Capstone Projects

Alex Radermacher, Dean Knudson, United States.

A Validated Educational Format in Software Engineering Targeting Students' Collaboration Skills

Carolin Gold-Veerkamp, Nina Kaelberer, Martina Kuhn, Joerg Abke, Germany.

AC S126

Machine Learning on Cognitive Data

Chair(s): Leanne Hirshfield, United States.

Room: **PIER 9**

Using fNIRS for Realtime Cognitive Workload Assessment

Samuel W. Hincks, Daniel Afergan, Robert J.K. Jacob, United States.

Multi-Model Approach to Human Functional State Estimation

Kevin Durkee, Avinash Hiriyanna, Scott Pappada, John Feeney, Scott Galster, United States.

A More Complete Picture of Emotion using Electrocardiogram and Electrodermal Activity to Complement Cognitive Data

Danushka Bandara, United States; Stephen Song, Korea; Leanne Hirshfield, Senem Velipasalar, United States.

Truthiness: Challenges associated with employing machine learning on neurophysiological sensor data

Mark Costa, Sarah Bratt, United States.

Estimate Emotion Method to Use Biological, Symbolic Information Preliminary Experiment

Yuhei Ikeda, Yoshiko Okada, Midori Sugaya, Japan.

Cross-Cultural Design

Social Computing and Social Media

Augmented Cognition

DHM S127

Utilizing Traditional Wisdom and Technologies for Quality Care
Chair(s): Noriyuki Kida, *Japan*.

Room: **DOCKSIDE 1**

Assessing the Use of Communication Robots for Recreational Activities at Nursing Homes Based on Dementia Care Mapping (DCM)
Teruko Doi, Noriaki Kuwahara, Kazunari Morimoto, *Japan*.

The Transfer of Expertise in Conducting a Participatory Music Therapy during a Combined Rehabilitation-Recreational Program in an Elderly Care Facility
Akiyoshi Yamamoto, Henry Jr Cereno Barrameda, Tatsunori Azuma, Hideaki Kasasaku, Kayoko Hirota, Momo Jinno, Maki Sumiyama, Tomoko Ota, Akihiko Goto, Noriyuki Kida, Noriaki Kuwahara, Hiroyuki Hamada, *Japan*.

Movement Analysis of Transfer Assistance Using a Slide Board
Xiaodan Lu, *Japan*; Mengyuan Liao, Zelong Wang, *P.R. China*; Yuki Miyamoto, Hiroyuki Hamada, Tomoko Ota, Kengo Yano, Yoshihiko Tokumoto, Takashi Yoshikawa, Yuka Takai, Akihiko Goto, *Japan*.

Comparative Study of Design and Type of Work When Assembling Cardboard Beds for Shelters
Yoshihiro Mizutani, Naoya Yamada, Noriaki Kuwahara, Kazunari Morimoto, Hiroyuki Hamada, *Japan*.

Exploring Rhythmic Patterns in Dance Movements by Video Analysis
Camilo Arguello, Marcela Iregui, *Colombia*.

DUXU S128

UX and Sustainability
Chair(s): Tao Huang, *United States*.

Room: **HARBOUR BALLROOM B**

Pitfalls and Potentials of Home Energy Monitoring Feedback: An Information Experience Critique
Marlen Promann, *Estonia*; Zhenyu Cheryl Qian, Yingjie Victor Chen, *United States*.

User Experience Design for Green IT Products through Wearable Computing and Quantified Self
Jingyan Qin, Sha Cao, Xiaohui Wang, *P.R. China*.

The Research on Elderly-Adaptive Interface Design Based on Choice-Oriented Attention Theory
Bin Jiang, Dan Deng, *P.R. China*.

Conflict Interfaces: Mediated Meditations on Desire, Fear and Anxiety
Matthew Wizinsky, *United States*.

Disruptive UX for Sustainability: Radically resolving user needs is good for business and environment
Tao Huang, *United States*.

S129

Design, Ergonomics and Usability - III
Chair(s): Marcelo Márcio Soares, *Brazil*.

Room: **HARBOUR BALLROOM A**

Questing Ruins: A Game for a Digital Inclusion
Regina Heidrich, *Brazil*; Francisco Rebelo, *Portugal*; Marsal Branco, João Batista Mossmann, Anderson R. Schuh, Emely Jensen, *Brazil*; Tiago Oliveira, *Portugal*.

Remote HRI and Mixed Reality, an Ontology
Carolina Cani D.L., Felipe Borba Breyer, Judith Kelter, *Brazil*.

Analysis of Product Use by Means of Eye Tracking and EEG: a Study of Neuroergonomics
Rafaela Q. Barros, Ademario S. Tavares, Wilson Albuquerque, Jaciara Clarissa Da Silva, Isaltino Abel De Lemos, Raísa Lorena Siqueira De Albuquerque Cardoso, Marcelo Márcio Soares, Marcelo Cairrão, *Brazil*.

We Are All Cyborgs: Body-Machine and Body-Information in Virtual Reality Systems
Ana Carol Pontes de França, Joaquim De Vasconcelos Pereira Neto, Marcelo Márcio Soares, *Brazil*.

Speech Matters – Psychological Aspects of Artificial versus Anthropomorphic System Voices in User-Companion Interaction
Swantje Ferchow, Matthias Haase, Julia Krüger, Matthias Vogel, Mathias Wahl, Jörg Frommer, *Germany*.

QAZ Keyboard: QWERTY based Portrait Soft Keyboard
Hiroyuki Hakoda, Buntarou Shizuki, Jiro Tanaka, *Japan*.

HAS S130

The human factor in information security
Chair(s): Ulrike Hugl, *Austria*; Florian Kammüller, *United Kingdom*.

Room: **DOCKSIDE 6**

Attack Tree Analysis for Insider Threats on the IoT using Isabelle
Florian Kammüller, Jason R.C. Nurse, *United Kingdom*; Christian W. Probst, *Denmark*.

Optional Data Disclosure and the Online Privacy Paradox: A UK Perspective
Meredydd Williams, Jason R.C. Nurse, *United Kingdom*.

Current Trend of end-users' behaviors towards security mechanisms
Yasser M. Hausawi, *Saudi Arabia*.

Mass surveillance in cyberspace and the lost art of keeping a secret: Policy lessons for Government after the Snowden leaks
Theo Tryfonas, *United Kingdom*; Michael Carter, *Canada*; Tom Crick, Panagiotis Andriotis, *United Kingdom*.

Security by Compliance? A Study of Insider Threat Implications for Nigerian Banks
Tesleem Fagade, Theo Tryfonas, *United Kingdom*.

HCI in Business, Government and Organizations

HCIBGO S131

User Experience in the Digital Age - I

Chair(s): Constantinos K. Coursaris, Sarah J. Swierenga, *United States*; Khaled Hassanein, Milena Head, *Canada*.

Room: **REGATTA**

Where is Siri? The Accessibility Design Challenges for Enterprise Touchscreen Interfaces

Shuang Xu, *United States*; Chester Cornelio, *Philippines*; Marisa Gianfortune, *United States*.

Touchscreen voting interface design for persons with dexterity impairments: Insights from usability evaluation of mobile voting prototype

Jennifer Ismirle, Ian O'Bara, James E. Jackson, Sarah J. Swierenga, *United States*.

Accessible Learning Experience Design and Implementation

Phillip J. Deaton, *United States*.

From Mumbai to Paris: Experiencing Disasters Across Social Media

Liza Potts, Kristen Mapes, *United States*.

Building a Classification Model for Physician Recommender Service Based on Needs for Physician Information

Ming-Hsin Chiu, Wei-Chung Cheng, *Taiwan*.

Learning and Collaboration Technologies

LCT S132

Learning in Industry and Organizations

Chair(s): Karim Elia Fraoua, *France*.

Room: **DOCKSIDE 9**

Using Actor Network to Enhance Maritime System Design

Yushan Pan, Hans Petter Hildre, *Norway*.

Tomorrow's on-board learning system (TOOLS)

Manuel Oliveira, *Norway*; Joao Costa, *United Kingdom*; Hans Torvatn, *Norway*.

Creating Instructor Dashboards to Foster Collaborative Learning in On-line Medical Problem Based Learning Situations

Maedeh Assadat Kazemitabar, Stephen Bodnar, *Canada*; Peter Hogaboam, Yuxin Chen, Juan Pablo Sarmiento, *United States*; Susanne P. Lajoie, *Canada*; Cindy Hmelo-Silver, Ricki Goldman, *United States*; Jeffrey Wiseman, *Canada*; Lapki Chan, *Hong Kong*.

Theory and Tools in learning methods for medical doctors

Karim Elia Fraoua, Christian Bourret, Claude Amar, Stéphane Mouly, *France*.

Human Aspects of IT for the Aged Population

ITAP S133

Aging and Technology Acceptance - I

Chair(s): Jia Zhou, *P.R. China*.

Room: **MARINE**

Mobile Technology for Older Adults: Protector, Motivator or Threat?

Lynne Coventry, Pam Briggs, *United Kingdom*.

Control with Hand Gestures by Older Users: A Review

Sheau-Farn Max Liang, Yun-Ju Becker Lee, *Taiwan*.

Tactile Interaction for Novice User - Uncolocated Gestures

Denis Chêne, Vincent Pillot, Marc-Eric Bobillier Chaumon, *France*.

Effect of Icon Amount and Visual Density on Usability of Smartwatches

Fan Mo, Shuping Yi, Jia Zhou, *P.R. China*.

Rethinking Public Transport Services for the Elderly through a Transgenerational Design Approach

Roberta Grimaldi, Antonio Opromolla, Giovanni Andrea Parente, Eliseo Sciarretta, Valentina Volpi, *Italy*.

Analysis of Elderly Users' Preferences and Expectations on Service Robot's Personality, Appearance and Interaction

Styliani Kleanthous, Christophoros Christophorou, *Cyprus*; Christiana Tsiourti, *Switzerland*; Carina Dantas, *Portugal*; Rachele Wintjens, *Netherlands*; George Samaras, Eleni Christodoulou, *Cyprus*.

A Usability Research for Developing and Deploying Chronic Pain Relief Treatment Applications for Older Adults

Wang-Chin Tsai, Chia-Ling Chang, Cheng-Min Tsai, *Taiwan*.

HCI	S134
<p>Mobile guidance Chair(s): Masayuki Ihara, <i>Japan</i>.</p>	
<p>Room: HARBOUR BALLROOM C</p>	
<p>Development and Evaluation of Mobile Tour Guide using Wearable and Hand-held Devices Doyeon Kim, Daeil Seo, Byoungyun Yoo, Heedong Ko, <i>Korea</i>.</p>	
<p>The discussion of interactive outdoor guidance and appliance on smart glasses from the aspect of Human Computer Interaction: Taking Dihua Street for example Hao-Yuan Cheng, Chen-Wei Chiang, <i>Taiwan</i>.</p>	
<p>Smart Tourist Guide with Image Understanding Using Visual Instance Search Minh-Duc Nguyen, Thanh-An Than, Vinh-Tiep Nguyen, Minh-Triet Tran, <i>Viet Nam</i>.</p>	
<p>An Information Display System with Information Scrapping User Interface Based on Digital Signage Terminals and Mobile Devices for Disaster Situations Ryosuke Aoki, Akihiro Miyata, Shunichi Seko, Ryo Hashimoto, Tatsuhiro Ishida, Masahiro Watanabe, Masayuki Ihara, <i>Japan</i>.</p>	

S135
<p>Multimodal and Natural Interaction Chair(s): To be announced.</p>
<p>Room: PIER 5</p>
<p>In-depth Analysis of Multimodal Interaction: An Explorative Paradigm Felix Schüssel, Frank Honold, Nikola Bubalo, Anke Huckauf, Harald Traue, Dilana Hazer-Rau, <i>Germany</i>.</p>
<p>Optimal User Interface Parameters for Dual-sided Transparent Screens in Layered Window Conditions Hae Youn Joung, Se Young Kim, Seung Hyun Im, Bo Kyung Huh, Heesun Kim, Gyu Hyun Kwon, Ji-Hyung Park, <i>Korea</i>.</p>
<p>Hover Detection using Active Acoustic Sensing Masaya Tsuruta, Shuhei Aoyama, Arika Yoshida, Buntarou Shizuki, Jiro Tanaka, <i>Japan</i>.</p>
<p>Seeing Through Multiple Sensors Into Distant Scenes: The Essential Power of Viewpoint Control Alexander M. Morison, Taylor Murphy, David D. Woods, <i>United States</i>.</p>
<p>Automotive HUD Interaction Design Based on Lane Changing Scenario Chen-xi Jin, Fang You, Jian-min Wang, <i>P.R. China</i>.</p>
<p>Book-Like Reader: Mirroring Book Design and Navigation in an E-Book Reader Yuto Kotajima, Jiro Tanaka, <i>Japan</i>.</p>
<p>BCI-related research focus at HCI International Conference Gencay Deniz, Pinar Onay Durdu, <i>Turkey</i>.</p>

HIMI	S136
<p>New Well-Being Measures in HCI Chair(s): Deborah I. Fels, <i>Canada</i>.</p>	
<p>Room: QUEENS QUAY I</p>	
<p>Evaluating Hedonic and Eudaimonic Motives in Human-Computer Interaction Katie Seaborn, <i>Canada</i>.</p>	
<p>Sensory Evaluation Method with Multivariate Analysis for Pictograms on Smartphone Naotsune Hosono, Hiromitsu Inoue, Miwa Nakanishi, Yutaka Tomita, <i>Japan</i>.</p>	
<p>Well-Being and HCI in Later Life - What Matters? Arlene J. Astell, Canada; Faustina Hwang, Elizabeth Williams, Libby Archer, Sarah Harney-Levine, Dave Wright, Maggie Ellis, <i>United Kingdom</i>.</p>	
<p>User Centered Design Methods and their application in Older Adult community Joash Sujana Samuel Roy, W. Patrick Neumann, Deborah I. Fels, <i>Canada</i>.</p>	
<p>Improving Sense of Well-Being by Managing Memories of Experience Mark Chignell, Chelsea DeGuzman, Leon Zucherman, Jie Jiang, Canada; Jonathan Chan, Nipon Charoenkitkarn, <i>Thailand</i>.</p>	
<p>Association Rules on Relationships between Learner's Physiological Information and Mental States During Learning Process Kazuma Takehana, Tatsunori Matsui, <i>Japan</i>.</p>	

S137
<p>Tactile interaction Chair(s): Kentaro Kotani, <i>Japan</i>.</p>
<p>Room: QUEENS QUAY II</p>
<p>Empirical Study of Physiological Characteristics Accompanied by Tactile Thermal Perception - Relationship between changes in thermal gradients and skin conductance responses Takafumi Shinoda, Kouki Shimomura, Kentaro Kotani, Satoshi Suzuki, Takafumi Asao, Shigeyoshi Iizuka, <i>Japan</i>.</p>
<p>Why is tactile information not accurately perceived? Accuracy and transfer characteristics of visualized schematic images induced by perceived tactile stimuli Keisuke Kumagai, Kazuki Sakai, Kentaro Kotani, Satoshi Suzuki, Takafumi Asao, <i>Japan</i>.</p>
<p>Relationship between operability in touch actions and smartphone size based on muscular load Kentaro Kotani, Ryo Ineyama, Daisuke Hashimoto, Takafumi Asao, Satoshi Suzuki, <i>Japan</i>.</p>
<p>Proposal and Evaluation of a Document Reader that Supports Pointing and Finger Bookmarking Kentaro Takano, Shingo Uchihashi, Hirohito Shibata, Kengo Omura, Junko Ichino, Tomonori Hashiyama, Shun'ichi Tano, <i>Japan</i>.</p>
<p>Designing Effective Vibration Patterns for Tactile Interfaces Daiji Kobayashi, Ryogo Nakamura, <i>Japan</i>.</p>

UAHCI S138
<p>Design Access in Ergonomics and Interaction Chair(s): Fong-Gong Wu, <i>Taiwan</i>.</p> <p>Room: DOCKSIDE 2</p>
<p>Perceptual Information of Home-Use Glucose Meters for the Elderly Hsin-Chang Lo, Wan-Li Wei, Ching-Chang Chuang, <i>Taiwan</i>.</p>
<p>The Effect of Literacy Learning via Mobile Augmented Reality for the Students with ADHD and Reading Disabilities Chien-Yu Lin, Wen-Jeng Yu, Wei-Jie Chen, Chun-Wei Huang, Chien-Chi Lin, <i>Taiwan</i>.</p>
<p>Design and Evaluation of an Innovative Hazard Warning Helmet for Elder Scooter Riders Yu-Hsiu Hung, Hua-Cheng Hsu, Yu-Fang Huang, <i>Taiwan</i>.</p>
<p>Systematic infrastructure to help elderly farmers by sensors and mobile devices Jei-Chen Hsieh, <i>Taiwan</i>.</p>
<p>A Study of Product Form Design Using the Theory of Archetypes Meng-Dar Shieh, Fang-Chen Hsu, Jia-Shiuan Tian, Chien-Nan Chen, <i>Taiwan</i>.</p>
<p>Task Performance of Color Adaptation on the Screen Display Fong-Gong Wu, Carlos Cheang, <i>Taiwan</i>; SuHuey Tan, <i>Malaysia</i>.</p>
<p>Uncertainty and Mental Workload among Wayfinding Strategies Yi Chia Chien, Po An Tsai, Yu Ting Lin, Ssu Min Wu, Kuan Ting Chen, Yu Ting Han, T. K. Philip Hwang, <i>Taiwan</i>.</p>

S139
<p>Technology for Inclusion and Participation (TIP) Chair(s): Ingo K. Bosse, <i>Germany</i>.</p> <p>Room: DOCKSIDE 3</p>
<p>Technology for Inclusion and Participation - Technology Based Accessibility (TBA) Christian Bühler, <i>Germany</i>.</p>
<p>Increasing Educational Opportunities through Digital Participation Anna Maria Kamin, Dorothee M. Meister, <i>Germany</i>.</p>
<p>New initiatives for the empowerment of people with activity limitations - An analysis of 1,005 cases of (digital) social innovation worldwide Jennifer Eckhardt, Christoph Kaletka, Bastian Pelka, <i>Germany</i>.</p>
<p>The accessibility of MOOC platforms from instructors' perspective Norun C. Sanderson, Weiqin Chen, Way Kiat Bong, Siri Kessel, <i>Norway</i>.</p>
<p>Accessibility in Virtual Communities of Practice Under the Optics of Inclusion of Visually Impaired Luis Felipe Cândido Marques, Daniela Freitas Guilhermino, Maria Eduarda De Araújo Cardoso, Rafaella Aline Lopes da Silva Neitzel, Larissa Albano Lopes, José Reinaldo Merlin, Giovanna Dos Santos Striquer, <i>Brazil</i>.</p>
<p>Research and Intervention to Improve Institutional Structures for Adult AAC Users Ingo K. Bosse, Leevke Wilkens, <i>Germany</i>.</p>

VAMR S140
<p>Human-Autonomy Teaming Chair(s): Jessie Y.C. Chen, <i>United States</i>.</p> <p>Room: BAY ROOM</p>
<p>The Effect of Agent Reasoning Transparency on Automation Bias: An Analysis of Response Performance Julia L. Wright, Jessie Y.C. Chen, Michael J. Barnes, Peter A. Hancock, <i>United States</i>.</p>
<p>Test-bed for Integrated Ground Control Station Experimentation and Rehearsal: Crew Performance and Authority Pathway Concept Development Derek McColl, Simon Banbury, Ming Hou, <i>Canada</i>.</p>
<p>Tasking Teams: Supervisory Control and Task Management of Autonomous Unmanned Systems Robert S. Gutzwiller, Douglas S. Lange, <i>United States</i>.</p>
<p>The Effects of Automation Error Types on Operators' Trust and Reliance Svyatoslav Guznov, Joseph Lyons, Alexander Nelson, Montana Woolley, <i>United States</i>.</p>

S141
<p>High-Fidelity Virtual Human Interaction: Avatar Puppeteering Chair(s): Tami Griffith, <i>United States</i>.</p> <p>Room: PIER 8</p>
<p>Research on the Use of Puppeteering to Improve Realism in Army Simulations and Training Games Tami Griffith, Tabitha Dwyer, Jacob Kinard, Jeremy R. Flynn, Vic Kirazian, <i>United States</i>.</p>
<p>Ultrafast Facial Tracker using Generic Cameras with Applications in Intelligent Lifestyle Yung-Hui Li, Yuan-Ting Hu, Jethro Shen, <i>Taiwan</i>; Mihai Preda, Andrei Drexler, Carmen Sosoiu, Dragos Florin Stanculescu, <i>Romania</i>; Paul Liu, Joe Ye, <i>Taiwan</i>.</p>
<p>Avatar Types Matter: Review of Avatar Literature for Performance Purposes Irwin Hudson, Jonathan Hurter, <i>United States</i>.</p>
<p>Exploring Engagement with Avatars As a Function of Designing Puppeteered Learning Experiences Eileen Smith, Michael Carney, <i>United States</i>.</p>

CCD S142

Designing the human city and social innovation
Chair(s): Zhiyong Fu, *P.R. China.*

Room: **DOCKSIDE 4**

Design Research on Urban Public Space Share Interactive Mode under the Background of Internet Plus
Ping Zhou, Zhiyong Fu, *P.R. China.*

Environment-Specific Smart Service System Design
Xiaohua Sun, Jintian Shi, *P.R. China.*

Connected and Open Platform-based Approaches for Smart Car Service Design
Xiaohua Sun, Tong Li, Zexi Feng, *P.R. China.*

The Creative City: An Innovative Digital Leadership Program for City Decisions Makers
Christopher G. Kirwan, *United States;* Dan Yao, Wannan Dong, *P.R. China.*

Survey on Campus Landscape Construction and Study on Suitability Comprehensive Evaluation — Based on the Perspective of the Sustainable Development of Green Campus in China's Urbanization Process
Wei Wang, Zhongwei Shen, Huayi Zhou, *P.R. China.*

Social Things: Design Research on Social Computing
Jun Hu, *Netherlands.*

Constructing the Research Model of Beijing Neighborhood Through the Living Lab Method
Zhiyong Fu, Yaohua Bu, *P.R. China.*

SCSM S143

Users' behavior in social media
Chair(s): Panagiotis Germanakos, *Germany.*

Room: **DOCKSIDE 5**

Do Users Express Values During Use of Social Systems? A Classification of Their Postings in Personal, Social and Technical Values
Denilson Oliveira, Elizabeth Sucupira Furtado, Marilia Mendes, *Brazil.*

Surfing the Social Networks
Cristóbal Fernández Robin, *Chile;* Scott McCoy, *United States;* Diego Yáñez, *Chile.*

User's Understanding of Reputation Issues in a Community Based Mobile App
Orlando Afonso, Luciana C. de C. Salgado, José Viterbo, *Brazil.*

Detecting Personality Traces in Users' Social Activity
Styliani Kleanthous, Constantinos Herodotou, George Samaras, *Cyprus;* Panagiotis Germanakos, *Germany.*

Checking information reliability in Social Networks regarding user behavior and developers' effort to avoid misinformation
Alexandre Pinheiro, Claudia Cappelli, Cristiano Maciel, *Brazil.*

Modeling of User's Tweet Behavior to Enhance Profile's Influence
Esraa Almajhad, Abdullatif M. AlAbdullatif, Esam Alwagait, Basit Shahzad, *Saudi Arabia.*

AC S144

Toward Practical Brain-Computer Interfaces in Real Life
Chair(s): Yuan-Pin Lin, Tzyy-Ping Jung, *United States.*

Room: **PIER 9**

Session-to-session transfer in detecting steady-state visual evoked potentials with individual training data
Masaki Nakanishi, *United States;* Yijun Wang, *P.R. China;* Tzyy-Ping Jung, *United States.*

Augmenting VR/AR Applications with EEG/EOG Monitoring and Oculo-Vestibular Recoupling
John K. Zao, *Taiwan;* Tzyy-Ping Jung, *United States;* Hung-Ming Chang, Tchin-Tze Gan, *Taiwan;* Yu-Te Wang, Yuan-Pin Lin, *United States;* Wen-Hao Liu, Guang-Yu Zheng, Chin-Kuo Lin, Chia-Hung Lin, Yu-Yi Chien, Fang-Cheng Lin, Yi-Pai Huang, Sergio José Rodríguez Méndez, *Taiwan;* Felipe A. Medeiros, *United States.*

Comparing EEG Artifact Detection Methods for Real-World BCI
Michael W. Nonte, William D. Hairston, Stephen M. Gordon, *United States.*

Exploring the EEG Correlates of Neurocognitive Lapse with Robust Principal Component Analysis
Chun-Shu Wei, Yuan-Pin Lin, Tzyy-Ping Jung, *United States.*

Predicting EEG Sample Size Required for Classification Calibration
Zijing Mao, Tzyy-Ping Jung, *United States;* Chin-Teng Lin, *Taiwan;* Yufei Huang, *United States.*

DHM S145

Future Applied Conventional Technology
Chair(s): Yuka Takai, Akihiko Goto, *Japan.*

Room: **DOCKSIDE 1**

A Study on Development of a Wide Elegant Textile by Using Japanese Traditional Textile Technology of Nishijin-Ori
Masashi Kano, Hiro Akaji, Akiko Kato, Noriaki Kuwahara, *Japan.*

Performance Analysis of Professional Sewing Scissors using the "So-hizukuri" Forging Process
Yasuko Kitajima, Akihiko Goto, Hiroyuki Hamada, *Japan.*

A Comparison of Processing Time and Strike Position between Experts and Non-experts of Sheet-metal Repair
Shigeru Ikemoto, Hiroyuki Hamada, Yuka Takai, *Japan.*

The Load Measurement of the Beating Brush in the Second Lining Procedure
Yasuhiro Oka, Yuka Takai, Akihiko Goto, Kozo Oka, *Japan.*

Comparison Knitting Skills between Experts and non-Experts by Measurement of the Fabric Quality
Kontawat Chottikampon, *Thailand;* Shunyu Tang, *Japan;* Suchaline Mathurosemontri, *Thailand;* Porakoch Sirisuwan, Miyako Inoda, Hiroyuki Nishimoto, Hiroyuki Hamada, *Japan.*

Cross-Cultural Design

Social Computing and Social Media

Augmented Cognition

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

Design, User Experience, and Usability

DUXU S146

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

Room: **HARBOUR BALLROOM A**

Exploring the Role of Adults in Participatory Design for Children on the Autism Spectrum
Bryan Boyle, Inmaculada Arnedillo-Sánchez, *Ireland*.

The Triad of Strengths: A strengths-based approach for designing with autistic adults with additional learning disabilities
Katie Gaudion, Liz Pellicano, *United Kingdom*.

An Analysis of Data Collection Methods for User Participatory Design for and with People with Autism Spectrum Disorders
Debra Satterfield, Sunghyun Kang, Christopher Lepage, Nora Ladjahasan, *United States*.

Mobile Devices as Assistive Technologies for ASD: Experiences in the Classroom
David Roldán-Álvarez, Javier Gomez, Ana Márquez-Fernández, Estefanía Martín, German Montoro, *Spain*.

Human-Centered Design with Autistic University Students: Interface, Interaction and Information Preferences
Marc Fabri, Penny C.S. Andrews, *United Kingdom*.

The Design of Guidelines for Teachers and Parents in the Use of iPads to Support Children with Autism in the Development of Joint Attention Skills
Chrysoula Mangafa, Louise Moody, Andree Woodcock, Alex Woolner, *United Kingdom*.

S147

Designing and Evaluating User Experience (UX) in Interactive Systems
Chair(s): Claudia Zapata, Freddy Paz, José Antonio Pow-Sang, *Peru*.

Room: **HARBOUR BALLROOM B**

Assessing the Customer eXperience Based on Quantitative Data: Virtual Travel Agencies
Virginica Rusu, Cristian Rusu, Daniel Guzmán, Diego Espinoza, Daniel Rojas, Silvana Roncagliolo, Daniela Quiñones, *Chile*.

Application of the Communicability Evaluation Method to Evaluate the User Interface Design: A Case Study in Web Domain
Freddy Paz, Freddy A. Paz, José Antonio Pow-Sang, *Peru*.

Usability heuristics for Web Banking
Natali Fierro, Claudia Zapata, *Peru*.

A Comprehensive Stylus Evaluation Methodology and Design Guidelines
Kanchan Jahagirdar, Edward Raleigh, Hanan Alnizami, Keith Kao, Philip Corriveau, *United States*.

The 100,000 Participant Laboratory- A Crowd-Centered Approach to Design and Evaluate the Usability of Mobile Apps
Ming-Hui Wen, *Taiwan*.

Usability Testing Results for a Mobile Medical Transition Application
Jeremy Dixon, Josh Dehlinger, Shannan DeLany Dixon, Joyram Chakraborty, *United States*.

Human Aspects of Information Security, Privacy and Trust

HAS S148

Technological advances in security
Chair(s): Pavel Ocenášek, *Czech Republic*.

Room: **DOCKSIDE 6**

Security middleware programming using P4
Péter Vörös, Attila Kiss, *Hungary*.

Towards a Usable Framework for Modelling Security and Privacy Risks in the Smart Home
Jason R.C. Nurse, Ahmad Atamli, Andrew Martin, *United Kingdom*.

OpenStack Firewall as a Service rule analyser
Dániel Csubak, Attila Kiss, *Hungary*.

Share to Protect - Quantitative Study on Privacy Issues in V2X-Technology
Teresa Schmidt, Ralf Philippsen, Martina Ziefle, *Germany*.

The state of Near-Field Communication (NFC) on the Android platform
Jaromir Karmazin, Pavel Ocenášek, *Czech Republic*.

Vibration based Tangible Tokens for Intuitive Pairing among Smart Devices
Donghan Park, Hyunseung Choo, *Korea*.

HCI in Business, Government and Organizations

HCIBGO S149

User Experience in the Digital Age - II
Chair(s): Constantinos K. Coursaris, Sarah J. Swierenga, *United States*; Khaled Hassanein, Milena Head, *Canada*.

Room: **REGATTA**

User-Centred Requirements Analysis and Design of an Online Patient Interface for Chronic Disease Self-Management
Maryam Ariaeinejad, Norm Archer, Michael Stacey, Ted Rapanos, Fadi Elias, Faysal Najj, *Canada*.

A Model Based Approach to Web Application Design for Older Adults using MVC Design Pattern
Christopher Romanyk, Ryan McCallum, Pejman Salehi, *Canada*.

"Tell Me Who You Are, and I Will Show You What You Get" - The Use of Individuals' Identity for Information Technology Customization
Sonia Camacho, Andres Barrios, *Colombia*.

The Influence of Personality on Users' Emotional Reactions
Beverly Resseguier, Pierre-Majorique Leger, Sylvain Senecal, Marie-Christine Bastarache-Roberge, Francois Courtemanche, *Canada*.

Credibility of Algorithm Based Decentralized Computer Networks Governing Personal Finances: The Case of Cryptocurrency
Sapumal Ahangama, Danny Chiang Choon Poo, *Singapore*.

Exploring a LOD-based Application for Military Movie Retrieval
Liang-Chu Chen, Jen-Tsung Tseng, Yen-Hsuan Lien, Chia-Jung Hsieh, I-Chiang Shih, *Taiwan*.

Phase 1 of 3: Will a LinkedIn (TM) Jr. Optimize Internships for High School STEM Students?
Benjamin Fickes, Alexander Tam, Adithya Dattatri, Allen Tang, Alan Balu, David Brown, *United States*.

THURSDAY 16:00 - 18:00

LCT S150

Frameworks for supporting technology-enhanced learning

Chair(s): Jitender Kumar Chhabra, *India*.

Room: **DOCKSIDE 9**

E-Learning 3.0 Framework Adoption: Experts' Views

Paula Miranda, Pedro Isaias, Carlos J. Costa, Sara Pifano, *Portugal*.

Predictions on Service Adoption and Utilization Meet Reality – First Results from the Sciebo (Science Box) Project

Raimund Vogl, Holger Angenent, Dominik Rudolph, Andreas Wilmer, Anne Thoring, Stefan Stieglitz, Christian Meske, *Germany*.

An Analysis of Social Collaboration and Networking Tools in eLearning

Ali Shariq Imran, *Norway*; Krenare Pireva, *United Kingdom*; Fisnik Dalipi, Zenun Kastrati, *Norway*.

Towards Understanding the MOOC Trend: Pedagogical Challenges and Business Opportunities

Fisnik Dalipi, Sule Y. Yayilgan, Ali Shariq Imran, Zenun Kastrati, *Norway*.

Towards a Digital Teaching Platform in Brazil: Findings from UX Experiments

Andrew Koster, Renata Zilse, Tiago Primo, Álysson Oliveira, Marcos Souza, Daniela Azevedo, Francimar Maciel, Fernando Koch, *Brazil*.

ITAP S151

Aging and Technology Acceptance - II

Chair(s): Jia Zhou, *P.R. China*.

Room: **MARINE**

Elder Adults Utilizing Social Networking Sites on Mobile Platforms

Jessica Arfaa, Yuanqiong (Kathy) Wang, *United States*.

Impact of Website Information and Task Complexity on Older Adult's Cognitive Workload on Mobile Devices

Jincheng Huang, Jia Zhou, *P.R. China*.

A Study of Human Behavior and Mental Workload based on Neural Network

Lan Xiao, Jing Qiu, Jun Lu, *P.R. China*.

Smart Living for Elderly: Design and Human-Computer Interaction Considerations

Ranjana Sharma, Fiona Fui-Hoon Nah, Kavya Sharma, Teja Satya Sai Santosh Katta, *United States*; Natalie Pang, Alvin Yong, *Singapore*.

Designing Poker Time: Older People as Fixpartners in a Co-design Process

Linna Hu, Hua Dong, *P.R. China*.



HCI S152

Interaction Design Methods and Techniques
Chair(s): Tayana Conte, *Brazil*.

Room: **PIER 5**

Personalization in the User Interaction Design - Isn't Personalization Just the Adjustment According to Defined User Preferences?
Miroslav Sili, Markus Garschall, Martin Morandell, Sten Hanke, Christopher Mayer, *Austria*.

Designing Activity Diagrams Aiming at Achieving Usability in Interactive Applications: An Empirical Study
Williamson Silva, Natasha M. Costa Valentim, Tayana Conte, *Brazil*.

PATHY: Using Empathy with Personas to Design Applications that meet the Users' Needs
Bruna Moraes Ferreira, Simone D. J. Barbosa, Tayana Conte, *Brazil*.

The practitioners' points of view on the creation and use of personas for user interface design
Gabriela Viana, Jean-Marc Robert, *Canada*.

POP: An Instrument to decide on the Adoption of Participatory Design
Helder Cognaco de Oliveira, Marcelo da Silva Hounsell, Isabela Gasparini, *Brazil*.

Approaches of Participatory Design in the Design Process of a Serious Game to Assist in the learning of hospitalized children
Eunice P.S. Nunes, Alessandro R. Luz, Eduardo M. Lemos, Clodoaldo Nunes, *Brazil*.

Tool-Supported Usability Engineering for Continuous User Analysis
Anna Hüttig, Michael Herczeg, *Germany*.

HIMI S153

Human-centered Systems, Services and Applications
Chair(s): Ryosuke Saga, *Japan*.

Room: **QUEENS QUAY I**

Basic Investigation for Improvement of Sign Language Recognition using Classification Scheme
Hirotoshi Shibata, Hiromitsu Nishimura, Hiroshi Tanaka, *Japan*.

Support Vector Mind Map of Wine Speak
Brendan Flanagan, Sachio Hirokawa, *Japan*.

A Visual Citation Search Engine
Tetsuya Nakatoh, Hayato Nakanishi, Toshiro Minami, Kensuke Baba, Sachio Hirokawa, *Japan*.

A Sketch-based User Interface for Image Search Using Sample Photos
Hitoshi Sugimura, Hayato Tsukiji, Mizuki Kumada, Toshiya Iiba, Kosuke Takano, *Japan*.

The Effect of the Arrangement of Fuzzy If-Then Rules on the Performance of On-Line Fuzzy Classification
Tomoharu Nakashima, *Japan*.

Production of a VR Horror Movie Using a Head-mounted Display with a Head-tracking System
Kenichi Sera, Takashi Kitada, Nahomi Maki, *Japan*.

S154

Embodied Interaction and Communication
Chair(s): Tomio Watanabe, Teruaki Ito, *Japan*.

Room: **QUEENS QUAY II**

Motion control algorithm of ARM-COMS for entrainment enhancement
Teruaki Ito, Tomio Watanabe, *Japan*.

Co-creative Expression Interface: Aiming to Support Embodied Communication for Developmentally Disabled Children
Takuto Takahashi, Ryutarō Hayashi, Yoshiyuki Miwa, Hiroko Nishi, *Japan*.

Creation of Shadow Media using Point Cloud and Design of Co-creative Expression Space
Maho Hayashi, Yoshiyuki Miwa, Shiroh Itai, Hiroko Nishi, Yuto Yamakawa, *Japan*.

Analysis of Hand Raising Actions for Group Interaction Enhancement
Saizo Aoyagi, Michiya Yamamoto, Satoshi Fukumori, *Japan*.

Well-Being of Decolonizing Aesthetics: New Environment of Art with BCI in HCI
Hyunkyung Cho, *Korea*.

EPCE S155

Mental workload and Performance
Chair(s): Jung Hyup Kim, *United States*.

Room: **DOCKSIDE 6**

Sensitivity, Bias, and Mental workload in a multitasking environment
Monika Putri, Xiaonan Yang, Jung Hyup Kim, *United States*.

A New Method for Mental Workload Registration
Thea Radüntz, *Germany*.

Integrated Model for Workload Assessment Based on Multiple Physiological Parameters Measurement
Jufang Qiu, Ting Han, *P.R. China*.

Toward Quantitative Modeling of User Performance in Multitasking Environments
Shijing Liu, Amy Wadeson, Chang S. Nam, *United States*.

Workload Functions Distribution Method: A Workload Measurement based on Pilot's Behaviors
Yiyuan Zheng, Yuwen Jie, Tong Zhang, Shan Fu, *P.R. China*.

UAHCI S156

Diagnostic, intervention, communication and learning applications for ASD
 Chair(s): Samuel Silva, *Portugal*.

Room: **DOCKSIDE 2**

Development of Assessment Tool Judging Autism by Ocular Movement Measurement
 Ippei Torii, Kaoruko Ohtani, Takahito Niwa, Naohiro Ishii, *Japan*.

Design of a Mobile Collaborative Virtual Environment for Autism Intervention
 Lian Zhang, Megan Gabriel-King, Zachary Armento, Miles Baer, Qiang Fu, Huan Zhao, Amy Swanson, Medha Sarkar, Zachary Warren, Nilanjan Sarkar, *United States*.

Smart objects for Autism: a proposal of classification of the objects based on the Autism symptoms
 Roberta Grimaldi, Mauro Palatucci, Carlo Maria Medaglia, *Italy*.

M-Health Solutions to support the National Health Service in the diagnosis and monitoring of Autism Spectrum Disorders in Young Children
 Catherine Tryfona, Giles Oatley, Ana Calderon, Simon Thorne, *United Kingdom*.

A novel collaborative virtual reality game for children with ASD to foster social interaction
 Huan Zhao, Amy Swanson, Amy Weitlauf, Zachary Warren, Nilanjan Sarkar, *United States*.

"Look to Remove": a Virtual Reality Application on Word Learning for Chinese Children with Autism
 Pinata Winoto, Clerk Nuo Xu, Adam An Zhu, *P.R. China*.

CCD S157

Living in Intelligent Environment
 Chair(s): Pei-Luen Patrick Rau, *P.R. China*.

Room: **DOCKSIDE 4**

Measuring Disengagement and Chaos in Multitasking Interaction with Smart Devices
 Yubo Zhang, Pei-Luen Patrick Rau, Runting Zhong, *P.R. China*.

User Requirements of Wearable Technology for Activity Tracking - A comparison between German and Chinese Users
 Liuxing Tsao, *P.R. China*; Lukas Haferkamp, *Germany*; Liang Ma, *P.R. China*.

Exploration of smart phone knowledge management application design for nomadic maintenance workers
 Ziyang Li, Pei-Luen Patrick Rau, Nan Qie, Man Wu, *P.R. China*.

To Save or Not to Save? Let Me Help You Out: Persuasive Effects of Smart Agent in Promoting Energy Conservation
 Guo Yu, Pei-Luen Patrick Rau, Na Sun, Xiang Ji, *P.R. China*.

The Management Model Development of User Experience Design in Organization -A Case Study for Taiwan Technology Industry
 Henry Been-Lirn Duh, *Australia*; Jim-Jiunde Lee, *Taiwan*; Pei-Luen Patrick Rau, *P.R. China*; Mu-Qing Chen, *Taiwan*.

Group Participation Influence on Members' Gifting Behaviors in a Social Game
 Na Chen, Pei-Luen Patrick Rau, *P.R. China*.

S158

Case studies in cross-cultural design
 Chair(s): Zhe Chen, *P.R. China*.

Room: **DOCKSIDE 3**

How to Develop a User-Friendly Chinese Hand Input System for the Touch Device? A Case Study
 Zhe Chen, Pei-Luen Patrick Rau, Lin Ma, *P.R. China*.

Evaluation & Research on Interior Decoration Design of Automobile Cabins Based on Intention Recognition - Taking Control Panel Design for an Example
 Chaoxiang Yang, Jianxin Cheng, Zhang Zhang, Xinhui Kang, *P.R. China*.

Digital display and transmission of the culture of traditional Chinese furniture
 Xinxin Sun, Chao Li, *P.R. China*.

Cross-Cultural Design Learning Tool: Cross-Cultural Design (CCD) approach: A study of South Korean student projects in collaboration with Goldsmiths, University of London, UK
 Dong Yeong Lee, Mike Waller, *United Kingdom*.

SCSM S159

Serendipity Engineering via Creative Context-Aware Learning in Social Media
 Chair(s): Habib M. Fardoun, *Saudi Arabia*; Jose A. Gallud, *Spain*.

Room: **PIER 7**

Using Distributable User Interfaces in eLearning Environments
 Ricardo Tesoriero, *Spain*.

Chrono-Spatial Intelligence in Global Systems Science and Social Media: Predictions for Proactive Political Decision Making
 Niki Lambropoulos, *Greece*; Habib M. Fardoun, Daniyal M. Alghazzawi, *Saudi Arabia*.

Interaction Design Patterns from a Multicultural Perspective: Case Studies Panama, Colombia and Spain
 César A. Collazos, *Colombia*; Jaime Muñoz Arteaga, *Mexico*; Zayra Jaramillo, *Panama*; Daniyal M. Alghazzawi, Habib M. Fardoun, *Saudi Arabia*.

Usability Heuristics: Reinventing the Wheel?
 Cristian Rusu, Virginica Rusu, Silvana Roncagliolo, Daniela Quiñones, Virginia Zaraza Rusu, *Chile*; Habib M. Fardoun, Daniyal M. Alghazzawi, *Saudi Arabia*; César A. Collazos, *Colombia*.

Model Based on Learning Needs of Children with Auditory Impairment
 Sandra Cano, César A. Collazos, *Colombia*; Habib M. Fardoun, Daniyal M. Alghazzawi, Abdullah Albarakati, *Saudi Arabia*.

Mobile player experience evaluation in RA geolocalized serious games
 Carina S. Gonzalez Gonzales, *Spain*; Habib M. Fardoun, *Saudi Arabia*; Belén Armas, *Spain*; Abdullah S. Al-Malaise AlGhamdi, *Saudi Arabia*.

Towards Emotionally Intelligent Machines: Taking Social Contexts into Account
 Han Lin, Han Yu, Chunyan Miao, Lin Qiu, *Singapore*.



AC S160

Augmented Cognition

Multimodal communication, technology, and interaction
 Chair(s): Julian Abich IV, Lauren Reinerman-Jones, Grace Teo, *United States.*

Room: **PIER 9**

Integrating Methodology for Experimentation using Commercial Off-the-Shelf Products for Haptic Cueing
 LT Joseph E. Mercado, Nelson Lerma, Courtney McNamara, LT David Rozovski, *United States.*

Posture-Based Recognition of the Visual Focus of Attention for Adaptive Mobile Information Systems
 Martin Westhoven, Christian Plegge, Timo Henrich, Thomas Alexander, *Germany.*

Investigation of Multimodal Mobile Applications for Improving Mental Health
 Sushunova G. Martinez, Karla A. Badillo-Urquiola, Rebecca A. Leis, Jamie Chavez, Tiffany Green, Travis Clements, *United States.*

Navigating with a Visual Impairment: Problems, Tools, and Possible Solutions
 Michael Schwartz, Denise Benkert, *United States.*

A proposed approach for determining the influence of multimodal robot-of-human transparency information on human-agent teams
 Shan Lakhmani, Julian Abich IV, Daniel Barber, Jessie Y.C. Chen, *United States.*

DHM S161

DHM in medicine
 Chair(s): Caterina Rizzi, *Italy.*

Room: **DOCKSIDE 1**

Combination of non invasive medical imaging technologies and Virtual Reality systems to generate immersive fetal 3D visualizations
 Jorge Roberto Lopes dos Santos, Heron Werner, Gerson Ribeiro, Simone Belmonte, *Brazil.*

Computational Modeling for Simulating Obstructive Lung Diseases based on Geometry Processing Methods
 Stavros Nousias, Aris S. Lalos, Konstantinos Moustakas, *Greece.*

The ten characteristics of the critical task: Ergonomic analysis of vitality requirements in aortic valve surgery
 René Patesson, *Belgium*; Eric Brangier, *France.*

Bone Structure Monitoring Systems Applied to Physiotherapy of Children with Cerebral Palsy
 Danilo Saravia, *Ecuador*; Victor M. Gonzalez, *Mexico.*

Visual Representation of Dynamic Pressure Map on the Digital Human Model of Patient with a Lower Limb Prosthesis
 Giorgio Colombo, Claudio Comotti, Daniele Regazzoni, Caterina Rizzi, Andrea Vitali, *Italy.*

Interactive gestures for liver angiography operation
 Dina A. Elmanakhly, Ayman Atia, Essam A. Rashed, Mostafa-Samy M. Mostafa, *Egypt.*

DUXU S162

Future Trend & Service design in DUXU
 Chair(s): Scott Song, *Korea.*

Room: **HARBOUR BALLROOM A**

Service Modeling for situation-aware communication method decision
 Jungkih Hong, Scott Song, Minseok Kim, Wonsuk Lee, *Korea.*

An Exploratory Study on Consumer's Needs on Smart Home in Korea
 Sunwoo Kim, Jeonghyuk Yoon, *Korea.*

IoT Connectivity Interface in Tizen: Smart TV Scenarios
 Gaeun Lee, Minjin Rho, *Korea.*

Enhancing Personas for Well-Being e-Services and Product Service Systems
 Sauro Vicini, Adriano Gariglio, Francesco Alberti, Elettra Oleari, Alberto Sanna, *Italy.*

The Simpler the Better: How the User-Inspired Innovation Process (UIIP) Improved the Development of RelaxedCare – the Entirely New Way of Communicating and Caring
 Martin Morandell, Sandra Dittenberger, Andrea Koscher, Emanuel Sandner, Miroslav Sili, *Austria.*

A Framework to Evaluate User Empowerment in Decision-making Experiences with Participatory GIS
 Elizabeth Sucupira Furtado, *Brazil*; Lara Furtado, *United States*; Vasco Furtado, *Brazil.*

S163

Women in UX
 Chair(s): Özgürol Öztürk, Tuba Ugras, *Turkey.*

Room: **HARBOUR BALLROOM B**

Learning From the Users for Spatio-temporal Data Visualization Explorations on Social Events
 Damla Çay, Asim Evren Yantaç, *Turkey.*

How do the user experiences of everyday content differ from those of academic content?
 Emine Sendurur, *Turkey.*

How Serif and Sans Serif Typefaces Influence reading on screen: An Eye tracking study
 Berrin Dogusoy, Filiz Çiçek, Kürsat Çagiltay, *Turkey.*

Research Trends in Web Site Usability: A Systematic Review
 Tuba Ugras, Sevinc Gülsecen, Ceren Cubukcu, Ipek Ili Erdogmus, Vala Gashi, Merve Bedir, *Turkey.*

DUXU S164

Creative Interaction: Cross-disciplinary HCI toward Convergence

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

Room: **HARBOUR BALLROOM C**

Emotion-Aware Music Recommendation

Jinhyeok Yang, WooJoung Chae, SunYeob Kim, Hyeobong Choi, *Korea*.

Virtual Display of 3D Computational Human Brain using Oculus Rift

Seung-Wook Kim, Joon-Kyung Seong, *Korea*.

Creative Interaction for Plasma Physics

Han Sol Shin, Jee Ho Song, Tea Jun Yu, Kun Lee, *Korea*.

A Framework for Designing UX of Sharing 'Internet of Things (IoT)' System and Service: Case Study of UX Development of Community Laundry Machines

Minjoo Lee, Dasom Jeong, Hayoung Jeong, Enoch Lee, Moonkyu Song, *Korea*.

Proposal on Service Design for Social Innovation: Self-Expression of Adolescent to Parents

Jae Sun Yi, *Korea*.

Distributed, Ambient and Pervasive Interactions

DAPI S165

Ubiquitous and pervasive interaction

Chair(s): George Margetis, *Greece*.

Room: **PIER 8**

Towards Ubiquitous Service Design & Development Approach

Aicha Azoui, Djilali Idoughi, *Algeria*.

Establishing Guidelines for User Quality of Experience in Ubiquitous Systems

Deógenes Pereira Da Silva Junior, Patricia Cristiane De Souza, Cristiano Maciel, *Brazil*.

Machine Learning and Location Fingerprinting to improve UX in a Ubiquitous Application

Rainara M. Carvalho, Ismayle S. Santos, Ricardo G. Meira, Paulo A. Aguilár, Rossana Andrade, *Brazil*.

Facial Tracking-Assisted Hand Pointing Technique for Wall-Sized Displays

Haokan Cheng, Takahashi Shin, Jiro Tanaka, *Japan*.

Voices of the Internet of Things: An Exploration of Multiple Voice Effects in Smart Homes

Yohan Moon, Ki Joon Kim, Dong-Hee Shin, *Korea*.

User Interface Design for Ambient Assisted Living Systems

Caroline Byrne, Rem Collier, Michael O'Grady, Gregory M.P. O'Hare, *Ireland*.

HCI in Business, Government and Organizations

HCIBGO S166

Impact of context and location on HCI

Chair(s): Norman Shaw, *Canada*.

Room: **REGATTA**

Colour arousal effect on users' decision-making processes in the warning message context

Mario Silic, *Switzerland*; Dianne Cyr, *Canada*.

The Five Forces of Technology Adoption

Dan McArán, Sharm Manwani, *United Kingdom*.

Adoption of Smartphone Apps by Hotel Guests: the Roles of Trust and Word of Mouth

Norman Shaw, *Canada*.

Wearable Technology in Hospitals: Overcoming Patient Concerns About Privacy

Ksenia Sergueeva, Norman Shaw, *Canada*.

Visualizing Opportunities of Collaboration in Large Research Organizations

Mohammed Amin Yazdi, André Calero Valdez, Leonhard Lichtschlag, Martina Ziefle, Jan Borchers, *Germany*.

High availability of Big-Geo-Data as a Platform as a Service

Tim Förster, Simon Thum, Arjan Kuijper, *Germany*.

LCT S167

Language and History Learning

Chair(s): Andrea Valente, *Denmark*.

Room: **DOCKSIDE 9**

Coupled Persuasive Systems: A Case Study in Learning Japanese Characters

Dave Berque, Hiroko Chiba, *United States*.

Using Cortical Learning Algorithm to Arrange Sporadic Online Conversation Groups According to Personality Traits

Roberto Agustín García Vélez, *Ecuador*; Martín López Nores, Yolanda Blanco Fernández, José J. Pazos Arias, *Spain*.

The Many Voices of Audiobooks: Interactivity and Multimodality in Language Learning

Emanuela Marchetti, Andrea Valente, *Denmark*.

Pseudo-Haptics Presentation for Promoting Historical Understanding

Takumi Horiguchi, Akihiro Kashihara, *Japan*.

Learning and Collaboration Technologies

ITAP S168

Transportation Accessibility and Safety for an Aging Population

Chair(s): Neil Charness, *United States.*

Room: **MARINE**

Transportation Accessibility Assessment of Critical Emergency Facilities: Aging Population-focused Case Studies in Florida

Ayberk Kocatepe, Eren Erman Ozguven, Hidayet Ozel, Mark W. Horner, Ren Moses, *United States.*

Ensuring the Safety and Accessibility of Transportation for an Aging Population

Walter R. Boot, Kimberly Barajas, Ainsley Mitchum, Cary Stothart, Neil Charness, *United States.*

The Flashing Right Turn Signal with Pedestrian Indication: A Human Factors Study to Assess Driver Comprehension

Nelson A. Roque, Walter R. Boot, Neil Charness, Kimberly Barajas, Jared Dirghalli, Ainsley Mitchum, *United States.*

Challenges of Older Drivers' Adoption of Advanced Driver Assistance Systems and Autonomous Vehicles

Dustin Souders, Neil Charness, *United States.*

Age Effects on Inattentive Blindness: Implications for Driving

Cary Stothart, Walter R. Boot, Daniel Simons, Neil Charness, Timothy Wright, *United States.*

Immersive Virtual Reality Simulation as a Tool for Aging and Driving Research

Christopher R. Bennett, Richard R. Corey, Uro Giudice, Nicholas A. Giudice, *United States.*

S169

Technology for elderly - sensors, devices and new contexts of usage

Chair(s): Marie Sjölander, *Sweden.*

Room: **DOCKSIDE 5**

To Meet the Needs of Aging Users and the Prerequisites of Innovators in the Design Process – Lessons Learned from Three Pilot Projects

Marie Sjölander, Isabella Scandurra, Anneli Avatare Nöu, Ella Kolkowska, *Sweden.*

Dynamic Characteristics of the Transformation of Interpersonal Distance in Cooperation

Yosuke Kinoe, Nami Mizuno, *Japan.*

Board Games and Regulars' Tables – Extending User Centred Design in the Mobia Project

Johannes Tröger, Jan Alexandersson, Jochen Britz, Maurice Rekrut, Daniel Bieber, Kathleen Schwarz, *Germany.*

Socio-technical challenges in implementation of monitoring technologies in elderly care

Ella Kolkowska, Anneli Avatare Nöu, Marie Sjölander, Isabella Scandurra, *Sweden.*

Technologically mature but with limited capabilities

Yvonne Eriksson, *Sweden.*

Introduction of telecare mediated home care services pushes forward a re-delegation of the cooperative care work

Anita Woll, *Norway.*

Human-Computer Interaction

HCI	S170
<p>Designing and evaluating mobile applications Chair(s): To be announced.</p> <p>Room: PIER 5</p>	
<p>The Influence of Matching Degree of the User's Inherent Mental Model and the Product's Embedded Mental Model on the Mobile User Experience Tian Lei, Xu Liu, Lei Wu, Ziliang Jin, Yuhui Wang, Shuaili Wei, <i>P.R. China.</i></p>	
<p>Userbility: a technique for evaluation of User Experience and Usability on mobile applications Ingrid Nascimento, Williamson Silva, Bruno Gadelha, Tayana Conte, <i>Brazil.</i></p>	
<p>Mobile Application Tutorials: Perception of Usefulness from an HCI Expert Perspective Ger Joyce, Mariana Lilley, Trevor Barker, Amanda Jefferies, <i>United Kingdom.</i></p>	
<p>Cognitive Load and Attention for Mobile Applications: A Design Perspective Upasna Bhandari, Wen Yong Chua, <i>Singapore</i>; Tillmann Neben, <i>Germany</i>; Klarissa Chang, <i>Singapore.</i></p>	
<p>Evaluation of UX Methods: Lessons Learned when Evaluating a Multi-User Mobile Application Bruna Moraes Ferreira, Luis Rivero, Natasha M. Costa Valentim, Renata Zilse, Andrew Koster, Tayana Conte, <i>Brazil.</i></p>	
<p>An automated model based approach to mobile UI specification and development António Nestor Ribeiro, Rogério Araujo Costa, <i>Portugal.</i></p>	

Human Interface and the Management of Information

HIMI	S171
<p>Improvement in Learning and Educational Environments using ICT Chair(s): Takahito Tomoto, Takako Akakura, <i>Japan.</i></p> <p>Room: QUEENS QUAY I</p>	
<p>An Adaptive Research Support System for Students in Higher Education: Beyond Logging and Tracking Harriet Nyanchama Ocharo, Shinobu Hasegawa, <i>Japan.</i></p>	
<p>Construction of a literature review support system using latent Dirichlet allocation Yusuke Kometani, Keizo Nagaoka, <i>Japan.</i></p>	
<p>Design for Adaptive User Interface for Modeling Students' Learning Styles Ashery Mbilinyi, Shinobu Hasegawa, Akihiro Kashiwara, <i>Japan.</i></p>	
<p>Educational Externalization of Thinking Task by Kit-Build Method Tsukasa Hirashima, Yusuke Hayashi, <i>Japan.</i></p>	
<p>An Open-ended and Interactive Learning Using Logic Building System with Four-Frame Comic Strip Kayo Kawamoto, Yusuke Hayashi, Tsukasa Hirashima, <i>Japan.</i></p>	
<p>Gaze-aware Thinking Training Environment to Analyze Internal Self-conversation Process Yuki Hayashi, Kazuhisa Seta, Mitsuru Ikeda, <i>Japan.</i></p>	
<p>Student authentication method by sequential update of face information registered in e-Learning system Taisuke Kawamata, Susumu Fujimori, Takako Akakura, <i>Japan.</i></p>	

S172
<p>Big Data and Linked Data Chair(s): To be announced.</p> <p>Room: QUEENS QUAY II</p>
<p>Towards a Visual Data Language to Improve Insights Into Complex Multidimensional Data Jan Wojdziak, Bettina Kirchner, Dietrich Kammer, Martin Herrmann, Rainer Groh, <i>Germany.</i></p>
<p>Effect of Heuristics on Serendipity in Path-based Storytelling with Linked Data Laurens De Vocht, <i>Belgium</i>; Christian Beecks, <i>Germany</i>; Ruben Verborgh, Erik Mannens, <i>Belgium</i>; Thomas Seidl, <i>Germany</i>; Rik Van de Walle, <i>Belgium.</i></p>
<p>Federated query evaluation supported by SPARQL recommendation Gergó Gombos, Attila Kiss, <i>Hungary.</i></p>
<p>Ergonomic Considerations for the Design and the Evaluation of Uncertain Data Visualizations Sabine Theis, Christina Bröhl, Matthias Wille, Peter Rasche, Alexander Mertens, <i>Germany</i>; Emma Beauxis-Aussalet, Lynda Hardman, <i>Netherlands</i>; Christopher M. Schlick, <i>Germany.</i></p>
<p>Supporting Analytical Reasoning: A study from the automotive industry Tove Helldin, Maria Riveiro, Sepideh Pashami, Göran Falkman, Stefan Byttner, Slawomir Nowaczyk, <i>Sweden.</i></p>
<p>Comparison of Two Visualization Tools in Supporting Comprehension of Data Trends Chen Ling, Julie S. Bock, Leslie Goodwin, G. Cole Jackson, Molly K. Floyd, <i>United States.</i></p>

Engineering Psychology and Cognitive Ergonomics

EPCE	S173
<p>Context awareness, emotion and collaboration Chair(s): Peng Liu, <i>P.R. China.</i></p> <p>Room: DOCKSIDE 6</p>	
<p>Study on the Perceptual Intention Space Construction Model of Industrial Robots Based on 'User + Expert' Jianxin Cheng, Wangqun Xiao, Xuejie Wang, Junnan Ye, Le Xi, <i>P.R. China.</i></p>	
<p>The Effect of Multiple Perspectives Information on the Characteristics of Human's Spatial Cognition in the Human-Human Interaction of Spatial Cognition Tasks Xianliang Mu, Lifan Tan, Yu Tian, Chunhui Wang, <i>P.R. China.</i></p>	
<p>A-PiMod: A New Approach to Solving Human Factors Problems with Automation Joan Cahill, Tiziana Callari, <i>Ireland</i>; Florian Fortmann, <i>Germany</i>; Denis Javaux, <i>Belgium</i>; Andreas Hasselberg, <i>Germany.</i></p>	
<p>Pilot Situational Awareness Modeling for Cockpit Interface Evaluation Xu Wu, Xiaoru Wanyan, Damin Zhuang, Shuang Liu, <i>P.R. China.</i></p>	
<p>A Teamwork Model For Fighter Pilots Ulrika Ohlander, Jens Alfredson, Maria Riveiro, Göran Falkman, <i>Sweden.</i></p>	
<p>Seeing the Big Picture: Pilot Assessments of Cockpit System Interactions Contribution to Situation Awareness David R. Meyer, Christina F. Rusnock, Michael E. Miller, <i>United States.</i></p>	

FRIDAY 10:30 - 12:30

Universal Access in Human-Computer Interaction

UAHCI S174

Connected and Collaborative Health

Chair(s): Josette F. Jones, Beth Elias, *United States.*

Room: **DOCKSIDE 2**

Identifying and Addressing Critical Usability Issues to Strengthen Nurses' Interactions with Health IT

Nancy Staggers, Beth Elias, Ellen Makar, Jane Hunt, Gregory L. Alexander, *United States.*

Designing therapeutic activities based on tangible interaction for children with developmental delay

Clara Bonillo, Eva Cerezo, Javier Marco, Sandra Baldassarri, *Spain.*

Comparative Study of Tangible Tabletop and Computer-Based Training Interfaces for Cognitive Rehabilitation

Kyuye Song, Sekwang Lee, Sung-Bom Pyun, Laehyun Kim, *Korea.*

Investigating the Use of Social Media Technologies by Adults with Autism Spectrum Disorder in Saudi Arabia

Alaa Mashat, Mike Wald, Sarah Parsons, *United Kingdom.*

MAGNI: A Real-Time Robot-Aided Game-Based Tele-Rehabilitation System

Srujana Gattupalli, Alexandros Lioulemes, Shawn N. Gieser, Paul Sassaman, Vassilis Athitsos, Fillia Makedon, *United States.*

S175

Design for All Methods, techniques and tools

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

Room: **DOCKSIDE 3**

Personalizing Interaction focused on a User's Interactive Experience and Potential

Yi Ji, *P.R. China.*

On the Creation of a Persona to Support the Development of Technologies for Children with Autism Spectrum Disorder

Ana Leal, António Teixeira, Samuel Silva, *Portugal.*

A Universal Design Method for Adaptive Smart Home Environment

Silvia Ceccacci, Lorenzo Cavalieri, Francesca Gullà, Roberto Menghi, Michele Germani, *Italy.*

Inclusive Smart City: an exploratory study

João Soares de Oliveira Neto, Sergio Takeo Kofuji, *Brazil.*

A Test Procedure for Checking the WCAG 2.0 Guidelines

Kathrin Wille, Cornelius Wille, Reiner Dumke, *Germany.*

Home Trials of Robotic Systems: Challenges and Considerations for Evaluation Teams

Iliia Adami, Margherita Antona, Constantine Stephanidis, *Greece.*

Virtual, Augmented and Mixed Reality

VAMR S176

Where do Virtual Environments Belong? A Discussion of Application Domains

Chair(s): Stephanie J. Lackey, Gino Fragomeni, *United States.*

Room: **BAY ROOM**

Application of Virtual Environments for Infantry Soldier Skills Training: We Are Doing It Wrong

Douglas B. Maxwell, *United States.*

Tangible Augmented Reality and Engineering Product Dissection

Chloe McPherson, Rafael Radkowski, *United States.*

ANSIBLE: A Virtual World Ecosystem for Improving Psycho-Social Well-being

Tammy Ott, Peggy Wu, Jacquelyn Morie, Peter Wall, Jack Ladwig, Eric Chance, Kip Haynes, Bryan Bell, Chris Miller, Kim Binsted, *United States.*

Medutainment-based AR Rally: Disaster Medical Learning Tool for Citizens

Ikushi Yoda, Momo Shiroyama, *Japan.*

Screen Space Cone Tracing for Glossy Reflections

Lukas Herrmanns, Tobias Franke, Arjan Kuijper, *Germany.*

Cross-Cultural Design

CCD S177

Cross border e-commerce design

Chair(s): Paul L. Fu, Jonas Kong, *United States.*

Room: **DOCKSIDE 4**

CJM-based Service Design Process

Fuli Yang, Lili Qu, *P.R. China.*

A study on the comparison and inspiration for operation mode of the maker space brand in China and America

Minggang Yang, Xinhui Kang, Yixiang Wu, Chaoxiang Yang, *P.R. China.*

Proposal of Chinese Tourist Support System to Enjoy the Holy Land Pilgrimage in Japan

Ni Zhang, *P.R. China;* Katsuhiko Ogawa, *Japan.*

Design for Transition to a Circular Economy

Hao Yang, *P.R. China.*

Bridging the gap between the stakeholders and the users at Alibaba.com

Jonas Kong, *United States.*

FRIDAY 10:30 - 12:30

CCD S178

Design in Everyday Life
 Chair(s): Hsiu-Ping Yueh, *Taiwan*.

Room: **DOCKSIDE 5**

Design in Everyday Cooking: Challenges for Assisting with Menu Planning and Food Preparation
 Atsushi Hashimoto, Jun Harashima, Yoko Yamakata, Shinsuke Mori, *Japan*.

Every Day for an Active Self-Promotion: The Dialogue Between the Shower Gel Packaging on the Shelf of a Point of Sale and the Consumer
 Mu-Chien Chou, Weng-Kit Chong, *Taiwan*.

The Relationship between Robot Appearance and Interaction with Child Users: How Distance Matters
 Weijane Lin, Hsiu-Ping Yueh, *Taiwan*.

Services, appearances and psychological factors in intelligent home service robots
 Hsiu-Ping Yueh, Weijane Lin, *Taiwan*.

Mobile Technology Use among Sales People in Insurance Industry
 Ming-Hsin Lu, Hsiu-Ping Yueh, Weijane Lin, *Taiwan*.

SYSTEMATEKS: Scalable Interactive Modular Simulation (SIMS): Towards Sustainable Design
 Luigi Ferrara, Nastaran Dadashi, *Canada*.

SCSM S179

User experience in social media
 Chair(s): James Braman, *United States*.

Room: **PIER 7**

The Impact of Social Context and Personality toward the Usage of Stickers in LINE
 Ya-Chiao Chang, Jim-Jiunde Lee, *Taiwan*.

Exercising users' tolerance and solidarity: A groupware application for the Modus Operandi AND
 Marlon Jonas De Oliveira Lima, Laura Sánchez García, *Brazil*; Fernanda Eugénio, *Portugal*.

Using Liferay as an Interdisciplinary Scientific Collaboration Portal - A Comparative Usability Study of version 6.1 and 6.2
 Günther Schuh, André Bräkling, André Calero Valdez, Anne Kathrin Schaar, Martina Ziefle, *Germany*.

Factors Leading to Viral Intention on Exercise Posts
 Wonkyung Kim, Taiwoo Park, *United States*.

Designing for Neighbourhoods and Citizen Engagement – the case of MyNeighbourhood
 Sobah Abbas Petersen, Manuel Oliveira, *Norway*; Grazia Concilio, *Italy*.

The influence of social media on the design of the national image in the globalization context
 Minggang Yang, Hongling Wan, *P.R. China*.

AC S180

Quantifying the Human Dimension through Methodology and Technology
 Chair(s): Glory Emmanuel Avina, Monte Hancock, *United States*.

Room: **PIER 9**

Job Analysis and Cognitive Task Analysis in National Security Environments
 Robert Kittinger, Liza Kittinger, Glory Emmanuel Avina, *United States*.

The Art of Research: Opportunities for a Science-Based Approach
 Austin R. Silva, Glory Emmanuel Avina, Jeffrey Y. Tsao, *United States*.

Improving Analysis and Decision-Making through Intelligent Web Crawling
 Jonathan T. McClain, Glory Emmanuel Avina, Derek Trumbo, Robert Kittinger, *United States*.

Explaining a Virtual Worker's Job Performance: The Roles of Psychological Distance
 Ayoung Suh, Christian Wagner, *Hong Kong*.

Empirical Study of Secure Password Creation Habit
 Chloe Chun-Wing Lo, *Hong Kong*.

Modeling of Social Media Behaviors Using Only Account Metadata
 Fernanda Carapinha, John Khoury, Shai Neumann, Monte Hancock, Federico Calderon, Mendi Drayton, Arvil Easter, Edward Stapleton, Alexander Vazquez, David Woolfolk, *United States*.

DHM S181

DHM for design and ergonomics
 Chair(s): To be announced.

Room: **DOCKSIDE 1**

The Study of Design of Children's Anti-lost Clothing based upon Ergonomics
 Xiaoping Hu, Jiying Zhong, *P.R. China*.

Research on the comfortable and maximum pedaling forces of Chinese population
 Huiyu Luo, Chang Liu, Jing Zhang, Qing Ye, Li Ding, *P.R. China*.

Study on Somatotype Characteristics and Differences of Female Youth from Liaoning Province and Guangdong Province in China
 Xiaoping Hu, Jing Zhou, *P.R. China*.

Experimental Study on Discrimination Thresholds for Haptic Perception of Size in Manual Operation
 Ai-ping Yang, Guang Cheng, *Hong Kong*; Wenyu Fu, Hui-min Hu, Xin Zhang, *P.R. China*; Chau-Kuang Chen, *United States*.

Automatic below-knee prosthesis socket design: a preliminary approach
 Giorgio Colombo, Giancarlo Facchetti, Caterina Rizzi, *Italy*.

Social Computing and Social Media

Augmented Cognition

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

FRIDAY 10:30 - 12:30

DUXU S182

User vs. Platform Diversity in User Experience Research and Design
Chair(s): Kerem Rizvanoglu, Turkey.
Room: **HARBOUR BALLROOM A**

Achieving a User Friendly Error Message Design: Understanding the Mindset and Preferences of Turkish Software Developers
Yavuz Inal, Nesibe Özen-Çınar, Turkey.

How to Improve the Overall Pre-Purchase Experience through a New Category Structure based on a Compatible Database: Gittigidiyor (Ebay Turkey) Case
İrfan Gürvardar, Kerem Rizvanoglu, Özgürol Öztürk, Özgür Yavuz, Turkey.

Analyzing Playability in Multi-Platform Games: A Case Study of the Fruit Ninja Game
Çakir Aker, Kerem Rizvanoglu, Yavuz Inal, Alan Sarp Yilmaz, Turkey.

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

Usability Evaluation of a Gestural Interface Application for Children
Valeria Farinazzo Martins, Paulo N.M. Sampaio, Andrea Niedermeyer, Marcelo De Paiva Guimaraes, Brazil.

"One Doesn't Fit All": A Comparative Study of Various Finger Gesture Interaction Methods
Tiffany Y. Tang, Maldini Yifan He, Vince Lineng Cao, P.R. China.

Preliminary Studies on Exploring Autistic Sensory Perception with Sensory Ethnography and Biosensors
Doga Corlu, Asim Evren Yantaç, Turkey.

S183

Cross-Cultural Communication
Chair(s): Nouf Khashman, Qatar.
Room: **HARBOUR BALLROOM B**

TIIARA: A language tool for bridging the language gap
Nouf Khashman, Qatar; Elaine Ménard, Jonathan Dorey, Canada.

User Experience Changing Patterns of Chinese Users
Yanan Chen, Jing Liu, Guozhen Zhao, Xianghong Sun, P.R. China.

A Survey for Monitoring the Users' Profile and Information Technology Needs in Biodiversity Information Systems
Thiago Adriano Coleti, Marcelo Morandini, Pedro Luiz Pizzigatti Correa, Brazil.

Localized Website Design Advisor: a Web-Based Tool Providing Guidelines for Cross-Cultural Websites
Abdalghani Mushtaha, Olga De Troyer, Belgium.

S184

Games and gamification
Chair(s): Blaise Liffick, United States.
Room: **HARBOUR BALLROOM C**

GEOpod: Using a Game-Style Interface to Explore a Serious Meteorological Database
Blaise Liffick, Gary Zoppetti, Sepideh Yalda, Richard Clark, United States.

Extending Empirical Analysis of Usability and Playability to Multimodal Computer Games
David Novick, Laura M. Rodriguez, United States.

Design of a Gamified Interface to Improve Fuel Efficiency and Safe Driving
Atiyeh Vaezipour, Andry Rakotonirainy, Narelle Haworth, Australia.

Gamification Design Based Research on Fitness Mobile Application for University Students
Fengjiao Cai, Guanyu Dai, Ting Han, P.R. China.

Usability and Motivational Effects of a Gamified Exercise and Fitness System based on Wearable Devices
Zhao Zhao, S. Ali Etemad, Ali Arya, Anthony Whitehead, Canada.

HCIBGO S185

Smart Objects, Smart Homes, and Smart Buildings: Shaping Our Future Experience of Space
Chair(s): Faith McCreary, United States.
Room: **REGATTA**

The Contextual Complexity of Privacy in Smart Homes and Buildings
Faith McCreary, Alexandra Zafiroglu, Heather Patterson, United States.

Understanding User Experience Journeys for a Smart Watch Device
Jay Lundell, Corrie Bates, United States.

Social Influence and Emotional state while Shopping
Jesus Garcia-Mancilla, Victor R. Martinez, Victor M. Gonzalez, Angel F. Fajardo, Mexico.

Comparative Study on China-Italy Design Driven Innovation Strategy Furniture Firms
Zhang Zhang, Jianxin Cheng, Chaoxiang Yang, Yongyan Guo, P.R. China.

LCT S186

Models and ontologies supporting learning adaptation and personalisation

Chair(s): Nicholas H. Müller, *Germany*.

Room: **DOCKSIDE 9**

Adaptable and Adaptive human-computer Interface to recommend Learning Objects from Repositories

Thomas Quiroz, Oscar M. Salazar, Demetrio A. Ovalle, *Colombia*.

Learning and Performance Support - Personalization through Personal Assistant Technology

Jean-Francois Lapointe, Heather Molyneaux, Irina Kondratova, Aida Freixanet Viejo, *Canada*.

Pedagogical Document Classification and Organization Using Domain Ontology

Ali Shariq Imran, Zenun Kastrati, *Norway*.

Proactive functions of a pedagogical Agent – Steps for implementing a social catalyst function

Madlen Wuttke, Michael Heidt, Paul Rosenthal, Peter Ohler, Nicholas H. Müller, *Germany*.

Human-Computer Interaction

HCI S187

Communication and companionship
Chair(s): Wolfgang Minker, Germany.

Room: **PIER 5**

Users' Relational Ascriptions in User-Companion Interaction
Julia Krüger, Mathias Wahl, Jörg Frommer, Germany.

Is there a Biological Basis for Success in Human Companion Interaction? - Results from a Transsituational Study
Dietmar Rösner, Dilana Hazer-Rau, Christin Kohrs, Thomas Bauer, Stephan Günther, Holger Hoffmann, Lin Zhang, André Brechmann, Germany.

User Perceptions of a Virtual Human over Mobile Video Chat Interactions
Sin-Hwa Kang, Thai Phan, Mark Bolas, David M. Krum, United States.

Impression Evaluation for Active Behavior of Robot in Human Robot Interaction
Okada Akiho, Midori Sugaya, Japan.

Temporal and Spatial Design of Explanations in a Multimodal System
Florian Nothdurft, Frank Honold, Wolfgang Minker, Germany.

Discourse Particles in Human-Human and Human-Computer Interaction - Analysis and Evaluation
Ingo Siegert, Julia Krüger, Matthias Haase, Alicia Flores Lotz, Stephan Günther, Jörg Frommer, Dietmar Rösner, Andreas Wendemuth, Germany.

Human Interface and the Management of Information

HIMI S188

Safety-critical applications
Chair(s): Andrey Ronzhin, Russia.

Room: **QUEENS QUAY I**

The Influence of Numerical Displays on Human Performance in the Manual RVD Task
Wang Liu, Yu Tian, Chunhui Wang, Weifen Huang, Shanguang Chen, Jun Wang, P.R. China.

Towards more practical information sharing in disaster situations
Masayuki Ihara, Shunichi Seko, Akihiro Miyata, Ryosuke Aoki, Tatsuro Ishida, Masahiro Watanabe, Ryo Hashimoto, Hiroshi Watanabe, Japan.

Modelling Information Flow and Situational Awareness in Wild Fire Response Operations
Laila Goubran, Avi Parush, Anthony Whitehead, Canada.

Study on the Target Frame of HMDs in Different Background Brightness
Jiang Shao, Haiyan Wang, Rui Zhao, Jing Zhang, Zhangfan Shen, Hongwei Xi, P.R. China.

Multimodal Information Coding System for Wearable Devices of Advanced Uniform
Andrey Ronzhin, Oleg O. Basov, Anna I. Motienko, Alexey Karpov, Yuri Mikhailov, Russia; Milos Zelezny, Czech Republic.

S189

Interacting with text and images
Chair(s): Jiro Tanaka, Japan.

Room: **QUEENS QUAY II**

Visualization of Brand Images Extracted from Home-Interior Commercial Websites Using Color Features
Naoki Takahashi, Takashi Sakamoto, Toshikazu Kato, Japan.

Content Authoring Tool to Assign Signage Items to Regions on a Paper Poster
Akira Hattori, Hiroshi Suzuki, Haruo Hayami, Japan.

Evaluation of a System to Analyze Long-Term Images from a Stationary Camera
Akira Ishii, Tetsuya Abe, Hiroyuki Hakoda, Buntarou Shizuki, Jiro Tanaka, Japan.

Prototype of Decision Support Based on Estimation of Group Status Using Conversation Analysis
Susumu Kono, Kenro Aihara, Japan.

Method to Evaluate Difficulty of Technical Terms
Yuta Sudo, Toru Nakata, Toshikazu Kato, Japan.

Engineering Psychology and Cognitive Ergonomics

EPCE S190

Vision, Cognition and Interaction
Chair(s): To be announced.

Room: **DOCKSIDE 6**

Event-related potential study on visual selective attention to icon navigation bar of digital interface
Yafeng Niu, Chengqi Xue, Haiyan Wang, Lei Zhou, Jing Zhang, Ningyue Peng, Tao Jin, P.R. China.

The Research of Eye Movement Behavior of Expert and Novice in Flight Simulation of Landing
Wei Xiong, Yu Wang, Qianxiang Zhou, Zhongqi Liu, Xin Zhang, P.R. China.

How the alignment pattern and route direction Affect the Design of the Bus Stop Board: An Eye Movement Experimental Research
Na Lin, Chuanyu Zou, Yunhong Zhang, Yijun Chen, P.R. China.

The Influence of Visual Cues and Human Spatial Ability on Intra-vehicular Orientation Performance
Junpeng Guo, Guohua Jiang, Yuqing Liu, Yu Tian, Bohe Zhou, P.R. China.

Research of image recognition training method on manual rendezvous and docking
Jiayi Cai, Bin Wu, Xiang Zhang, Jie Li, Weifen Huang, P.R. China.

FRIDAY 13:30 - 15:30

Universal Access in Human-Computer Interaction

UAHCI S191

Ergonomics in Architecture

Chair(s): Jerzy Charytonowicz, Poland.

Room: **DOCKSIDE 2**

Internal diversification: developing research method of urban planning

Wojciech Bonenberg, Poland.

Place brand-building. Urban empathy as an evaluation method

Agata Bonenberg, Poland.

Aging Society in Wrocław's Prefabricated Housing Estates

Barbara Gronostajska, Andrzej Wielgus, Poland.

Ergonomic Systems of Collective Parking in Polish Cities

Robert Masztalski, Poland.

Architecture of Absurd

Klaudiusz Fross, Katarzyna Ujma-Wąsowicz, Ewa Wala, Dorota Winnicka-Jasłowska, Anna Gumińska, Michał Sitek, Agata Sempruch, Poland.

The role of architecture and ergonomics on shaping the domestic kitchen

Przemysław Nowakowski, Jerzy Charytonowicz, Poland.

S192

Designing User Experience for Human Diversity: Lessons from Inclusive Design and Personalization

Chair(s): Jutta Treviranus, Canada.

Room: **DOCKSIDE 3**

A Balloon, a Sweater, and a Wall: Developing Design Strategies for Accessible User Experiences with a Science Simulation

Taliesin L. Smith, Canada; Clayton Lewis, Emily B. Moore, United States.

Exploring the Relationship Between Implicit Scaffolding and Inclusive Design in Interactive Science Simulations

Emily B. Moore, United States; Taliesin L. Smith, Canada; Emily Randall, United States.

Inclusive Process and Tool for Evaluation of Accessible User Experience (AUX)

Geordie Graham, Sambhavi Chandrashekar, Canada.

Exploring Downloadable Assistive Technologies through the Co-Fabrication of a 3D Printed Do-It-Yourself (DIY) Dog Wheelchair

Rickee Charbonneau, Kate Sellen, Angelika Seeschaaf Veres, Canada.

About Us, With Us: The Fluid Project's Inclusive Design Tools

Colin Clark, Dana Ayotte, Canada; Antranig Basman, United Kingdom; Jutta Treviranus, Canada.

Virtual, Augmented and Mixed Reality

VAMR S193

Medical applications of VAMR

Chair(s): Toni B. Pence, United States.

Room: **BAY ROOM**

Hand Tracking and Haptic-Based Jugular Neonate Central Venous Access Procedure

Tatiana Ortegón-Sarmiento, Alvaro Uribe-Quevedo, Byron Perez-Gutierrez, Lizeth Vega-Medina, Gerardo Tibamoso, Colombia.

Animation Validation of Obese Virtual Pediatric Patients Using a FLACC Pain Scale

Toni B. Pence, Lauren C. Dukes, Larry F. Hodges, United States.

3DUI Electronic Syringe for Neonate Central Venous Access Procedure Simulation

Gerardo Tibamoso, Sergio Medina-Papagayo, Lizeth Vega-Medina, Byron Perez-Gutierrez, Alvaro Uribe-Quevedo, Colombia.

Immersion in Cardboard VR Compared to a Traditional Head-Mounted Display

Ashfaq Amin, Diane Gromala, Xin Tong, Chris D. Shaw, Canada.

Advances and Tendencies: a Review of Recent Studies on Virtual Reality for Pain Management

Zhejun Liu, Sijia Wangluo, Hua Dong, P.R. China.

CCD S194

Security and Usability

Chair(s): Hua Qin, P.R. China; Pilsung Choe, Qatar.

Room: **DOCKSIDE 4**

Research on the Impact of Menu Structure of Smart Phones on Dual Task Performance

Huining Xing, Hua Qin, Dingding Wang, P.R. China.

The Usability of Hand Pose and Gestures for Spaceflight Training System

Wanhong Lin, Jiangang Chao, Jin Yang, Ying Xiong, P.R. China.

Research on the Characteristics of Headforms and Classification of Headforms of Chinese Adults

Linghua Ran, Hong Luo, Xin Zhang, Hui-min Hu, Taijie Liu, Chaoyi Zhao, P.R. China.

Usability Comparison of Text CAPTCHAs Based on English and Chinese

Junnan Yu, Xuna Ma, Ting Han, P.R. China.

Cross-Cultural Design

FRIDAY 13:30 - 15:30

Social Computing and Social Media

SCSM S195

Designing and developing social media

Chair(s): Sara Anne Hook, *United States*.

Room: **PIER 7**

A Recommender System Research Based on Location-Based Social Networks

Jian-min Wang, Ruhuo Tan, Ripeng Zhang, Fang You, *P.R. China*.

Automated Mobile Health: Designing a Social Reasoning Platform for Remote Health Management

Hoang D. Nguyen, Danny Chiang Choon Poo, *Singapore*.

Gaggle on the Gavel: Designing an Interactive Website to Create a Community of Lawyers

Sara Anne Hook, *United States*; Shilpa Pachhapurkar, *India*.

Judgment Making with Conflicting Information in Social Media: The Second-Order Judgment Problems

Mina Park, Poong Oh, *United States*.

Circles: Enhancing Effective Interactions by Quantitative and Qualitative Visualization in User-Centered Design

Diana Sepúlveda Barrera, Erick Monroy Cuevas, Rocio Abascal Mena, *Mexico*.

Using infographics to represent meaning on Social Media

Erick Lopez-Ornelas, Saúl Hermilio Sánchez-Hernández, *Mexico*.

Augmented Cognition

AC S196

Advanced Methods for Assessment and Rehabilitation of Cognitive Abilities

Chair(s): Mark Ettenhofer, Ashley Safford, Rodolphe Gentili, Patricia Shewokis, David W. Shucard, *United States*.

Room: **PIER 9**

Evaluation of Cognitive Control and Distraction using Event-Related Potentials in Healthy Individuals and Patients with Multiple Sclerosis

Thomas J. Covey, Janet L. Shucard, David W. Shucard, *United States*.

Monitoring attention with embedded frequency markers for simulation environments

Bartlett Russell, Jon C. Russo, Ian P. Warfield, William Casebeer, *United States*.

Linking Indices of Tonic Alertness: Resting-State Pupil Dilation and Cingulo-Opercular Neural Activity

Stefanie E. Kuchinsky ; Nick B. Pandža, Henk J. Haarmann, *United States*.

Paradigm Development for Identifying and Validating Indicators of Trust in Automation in the Operational Environment of Human Automation Integration

Kim Drnec, Jason S. Metcalfe, *United States*.

Serial Sequence Learning On Digital Games

Eduardo Adams, Anderson Schuh, Marcia De Borba Campos, Débora N.F. Barbosa, João Batista Mossman, *Brazil*.

Single Trial Variability of Event-Related Brain Potentials as an Index of Neural Efficiency during Working Memory

David W. Shucard, Thomas J. Covey, Janet L. Shucard, *United States*.

Supporting Multi-Objective Decision Making within a Supervisory Control Environment

Ciara Sibley, Joe Coyne, Gopi Vinod Avvari, Manisha Mishra, Krishna R. Pattipati, *United States*.

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

DHM S197

Advances in DHM and related applications

Chair(s): Pingbo Tang, *United States*.

Room: **DOCKSIDE 1**

Experimental Research of Range of Motion about Wrist Joint

Wenyu Fu, *P.R. China*; Guang Cheng, Yufeng Ma, Ai-ping Yang, *Hong Kong*.

Constructing a Decision-Support System for Safe Ship-Navigation Using a Bayesian Network

Ruolan Zhang, Masao Furusho, *Japan*.

A novel visualization environment to support modelers in analyzing data generated by cellular automata

Philippe J. Giabbanelli, Guru Jagadeesh Babu, Magda Baniukiewicz, *United States*.

Introducing a Language for Human Stance Description

Antonio C. Mabiála, Antonio W. Sousa, Norton T. Roman, João L. Bernardes Jr., Marcelo M. Antunes, Enrique M. Ortega, Luciano A. Digiampietri, Luis M.del Val Cura, Valdinei F. Da Silva, Clodoaldo A.M. Lima, *Brazil*.

The research of Airport Operational Risk Alerting Model

Mei Rong, Min Luo, Yan Qiu Chen, *P.R. China*.

Automatic Imagery Data Analysis for Diagnosing Human Factors in the Outage of a Nuclear Plant

Pingbo Tang, Cheng Zhang, Alper Yilmaz, Nancy J. Cooke, Ronald Laurids Boring, Allan Chasey, Timothy Vaughn, Samuel Jones, Ashish Gupta, Verica Buchanan, *United States*.

Design, User Experience, and Usability

DUXU S198

Defining and designing the UX

Chair(s): Abbas Moallem, *United States*.

Room: **HARBOUR BALLROOM A**

Lean but not Mean UX: Towards a Spiral UX Design Model

Hang Guo, *Singapore*.

The X Factor - Defining the Concept of Experience

Stefano Bussolon, *Italy*.

Conversion Method for User Experience Design Information and Software Requirement Specification

Ayumi Takeda, Yosuke Hatakeyama, *Japan*.

A Scheme for Representing Beneficial Inconvenience

Hiroshi Kawakami, Toshihiro Hiraoka, Yuichi Hasebe, *Japan*.

Extracting Insights from Experience Designers to Enhance User Experience Design

Simon Kremer, Udo Lindemann, *Germany*.

What Do Users Prefer: Concrete or Abstract User Interface?

Abbas Moallem, *United States*.

DUXU S199	S200
<p>Design and creativity methods and tools Chair(s): Heloisa Candello, <i>Brazil</i>.</p> <p>Room: HARBOUR BALLROOM B</p>	<p>Persuasion, behaviour change and sustainability Chair(s): Cassandra Telenko, <i>United States</i>.</p> <p>Room: HARBOUR BALLROOM C</p>
<p>An Interactive Model of Creative Design Behavior with 3D Optical Technology Hao Jiang, Xiao-li Liu, Xiang Peng, <i>P.R. China</i>; Ming-xi Tang, <i>Hong Kong</i>.</p>	<p>Toward Long-term Persuasion Using a Personified Agent Akihito Yoshii, Tatsuo Nakajima, <i>Japan</i>.</p>
<p>Building Design Scenarios the Way Life Is Lived: The Contextual-Scenario Toolkit Eric H. Swanson, <i>United States</i>.</p>	<p>Mechanism of Persuasive Experience: A New Design and Evaluation Framework of Persuasive Systems Kaixiang Yu, Huiyang Li, <i>United States</i>.</p>
<p>Scaffolding a Methodology for Situating Cognitive Technology within Everyday Contexts Michael Heidt, Madlen Wuttke, Peter Ohler, Paul Rosenthal, <i>Germany</i>.</p>	<p>Why energy consumption feedback is not (only) a display issue Myriam Fréjus, Dominique Martini, <i>France</i>.</p>
<p>Affective Design with Kansei Mining: An Empirical Study from Automotive Industry in Indonesia Amalia Suzianti, Septy Aprilliandary, Nabila Priscandy Poetri, <i>Indonesia</i>.</p>	<p>A Review of Intervention Studies Aimed at Domestic Water Conservation Nicholas Benzoni, Cassandra Telenko, <i>United States</i>.</p>
<p>Evaluating the Expressiveness of MoLICC to Model the HCI of Collaborative Applications Luiz Gustavo De Souza, Simone D. J. Barbosa, Hugo Fuks, <i>Brazil</i>.</p>	

DAPI S201
<p>Designing smart living environments Chair(s): Daniela Fogli, <i>Italy</i>.</p> <p>Room: PIER 8</p>
<p>Data-driven Smart Home System for Elderly People based on Web Technologies Daeil Seo, Byoungyun Yoo, Heedong Ko, <i>Korea</i>.</p>
<p>Affect and atmosphere in controlled responsive environments Andreas Simon, Jan Torpus, Christiane Heibach, Jose Navarro, <i>Switzerland</i>.</p>
<p>End-User Development Tools for the Smart Home: A Systematic Literature Review Daniela Fogli, Rosa Lanzilotti, Antonio Piccinno, <i>Italy</i>.</p>
<p>How to support the design of user-oriented product-related services Maura Mengoni, Margherita Peruzzini, <i>Italy</i>.</p>
<p>Mental Model Development Using Collaborative 3D Virtual Environments Ali Asghar Nazari Shirehjini, Farideh Soltani Nejad, Gazelle Saniee-Monfared, Azin Semsar, <i>Iran</i>; Shervin Shirmohammadi, <i>Canada</i>.</p>
<p>Towards Big Data Interactive Visualization in Ambient Intelligence Environments Giannis Drossis, George Margetis, Constantine Stephanidis, <i>Greece</i>.</p>

HAS S202
<p>Sociotechnical approaches in cyber and security human factors Chair(s): Theo Tryfonas, <i>United Kingdom</i>.</p> <p>Room: DOCKSIDE 5</p>
<p>Responsibility Modelling and its Application Trust Management Andrew Blyth, <i>United Kingdom</i>.</p>
<p>Fraud Protection for Online Banking - A User-Centered Approach on Detecting Typical Double-Dealings due to Social Engineering and Inobservance whilst Operating with Personal Login Credentials Verena M.I.A. Hartl, Ulrike Schmunztsch, <i>Germany</i>.</p>
<p>A taxonomy to classify risk end-user profile in interaction with the computing environment Karla Susiane Pereira, Eduardo Feitosa, Tayana Conte, <i>Brazil</i>.</p>
<p>Proposed Privacy Patterns for Privacy Preserving Healthcare Systems in Accord with Nova Scotia's Personal Health Information Act Maha Aljohani, Kirstie Hawkey, James Blustein, <i>Canada</i>.</p>
<p>Secure Communication Protocol between a Human and a Bank Server for Preventing Man-in-the-Browser Attacks Takashi Tsuchiya, Masahiro Fujita, Kenta Takahashi, Takehisa Kato, Fumihiko Magata, Yoshimi Teshigawara, Ryoichi Sasaki, Masakatsu Nishigaki, <i>Japan</i>.</p>
<p>User Identification Using Games Oliver Buckley, Duncan Hodges, <i>United Kingdom</i>.</p>

Distributed, Ambient and Pervasive Interactions

Human Aspects of Information Security, Privacy and Trust

FRIDAY 13:30 - 15:30

HCIBGO S203

Social Media for Business

Chair(s): Constantinos K. Coursaris, Wietske Van Osch, *United States.*

Room: **REGATTA**

Media Selection: A method for understanding user choices among popular social media platforms

Brian Traynor, Jaigris Hodson, Gil Wilkes, *Canada.*

Professional Personal Branding: Using A "Think-aloud" Protocol to Investigate How Recruiters Judge LinkedIn Profile Pictures

Sarah F. Van der Land, Lotte M. Willemsen, Barbara G.E. Wilton, *Netherlands.*

Exploring The Effects of Source Credibility on Information Adoption on YouTube

Constantinos K. Coursaris, Wietske Van Osch, *United States.*

Bringing E-commerce to Social Networks

Zhao Huang, Wang Yang Yu, *P.R. China.*

Social Media and Accessibility

Gian Wild, *United States.*

The Social Dimension of Mobile Commerce – Engaging Customers through Group Purchase

Wee-Kek Tan, Hock Hai Teo, Chuan-Hoo Tan, Yang Yang, *Singapore.*

LCT S204

STEM learning

Chair(s): Mike Brayshaw, *United Kingdom.*

Room: **DOCKSIDE 9**

MADE Ratio: Affective Multimodal Software for Mathematical Concepts

Reza GhasemAghaei, Ali Arya, Robert Biddle, *Canada.*

Usability Evaluation of a Dynamic Geometry Software Mobile Interface through Eye Tracking

Serap Yagmur, Murat Perit Çakir, *Turkey.*

Natural-Language Neutrality in Programming Languages: Bridging the Knowledge Divide in Software Engineering

Ivan Ruby, India; Salomao David, *Switzerland.*

Game design recommendations focusing on children with developmental dyscalculia

Matheus A. Cezarotto, André L. Battaola, *Brazil.*

HCI	S205	S206	S207	S208
	<p>Emotional User Experience Chair(s): Ayoung Suh, <i>Hong Kong.</i></p> <p>Room: PIER 5</p>	<p>Mobile Input Chair(s): Ahmed Sabbir Arif, <i>Canada.</i></p> <p>Room: PIER 7</p>	<p>Modelling and designing complex systems Chair(s): Patrick Girard, <i>France.</i></p> <p>Room: PIER 8</p>	<p>Gesture, movement-based and full body interaction Chair(s): João L. Bernardes Jr, <i>Brazil.</i></p> <p>Room: DOCKSIDE 1</p>
	<p>fNIRS as a method to capture the emotional user experience – a feasibility study Kathrin Pollmann, Mathias Vukelic, Niels Birbaumer, Matthias Peissner, Wilhelm Bauer, Sunjung Kim, <i>Germany.</i></p>	<p>UniWatch: a soft keyboard for text entry on smartwatches using 3 keys – watch user-interface and user evaluation Franck Poirier, <i>France</i>; Mohammed Belatar, <i>Morocco.</i></p>	<p>Optimization of complex structure based on human-computer interaction method Lei Liu, Aijun Ma, Hongying Liu, Xuemei Feng, Meng Shi, <i>P.R. China.</i></p>	<p>Analysis of Choreographed Human Movements using Depth Cameras: a Systematic Review Danilo Ribeiro, João L. Bernardes Jr, Norton T. Roman, Marcelo M. Antunes, Enrique M. Ortega, Antonio W. Sousa, Luciano A. Digiampietri, Luis M.del Val Cura, Valdinei F. Da Silva, Clodoaldo A.M. Lima, <i>Brazil.</i></p>
	<p>Relationship between video game events and player emotion based on EEG Duo Chen, <i>P.R. China</i>; Joseph James, Forest Sheng Bao, Chen Ling, Tianzhe Fan, <i>United States.</i></p>	<p>MobiCentraList: software keyboard with predictive list for mobile device Georges Badr, Antoine Ghorra, Kabalan Chaccour, <i>Lebanon.</i></p>	<p>Designing functional specifications for complex systems Olga Goubali, Patrick Girard, Laurent Guittet, Alain Bignon, Djamel Kesraoui, Pascal Berruet, Jean-Frédéric Bouillon, <i>France.</i></p>	<p>Transition Times for Manipulation Tasks in Hybrid Interfaces Allan Christensen, Simon A. Pedersen, Per Bjerre, Andreas K. Pedersen, <i>Denmark</i>; Wolfgang Stuerzlinger, <i>Canada.</i></p>
	<p>Users' Sense-making of an Affective Intervention in Human-Computer Interaction Mathias Wahl, Julia Krüger, Jörg Frommer, <i>Germany.</i></p>	<p>Usability evaluation of 4-direction keys for ladder menu operation Takeshi Nagami, Yoshikazu Seki, Hidenori Sakai, Hiroaki Ikeda, <i>Japan.</i></p>	<p>Human-Machine Networks: Towards a Typology and Profiling Framework Aslak Wegner Eide, <i>Norway</i>; J. Brian Pickering, Taha Yasseri, <i>United Kingdom</i>; George Bravos, <i>Greece</i>; Asbjørn Følstad, <i>Norway</i>; Vegard Engen, Milena Tsvetkova, Eric T. Meyer, Paul Walland, <i>United Kingdom</i>; Marika Lüders, <i>Norway.</i></p>	<p>Exploring the Throughput Potential of In-Air Pointing Michelle A. Brown, Wolfgang Stuerzlinger, <i>Canada.</i></p>
	<p>Investigating Communal Interactive Video Viewing Experiences Online Lili Liu, Ayoung Suh, Christian Wagner, <i>Hong Kong.</i></p>	<p>Effects of Holding Ring Attached to Mobile Devices on Pointing Accuracy Yuya Kawabata, Daisuke Komoriya, Yuki Kubo, Buntarou Shizuki, Jiro Tanaka, <i>Japan.</i></p>	<p>A Library System to Support Model-Based User Interface Development in Industrial Automation Matthias Freund, Christopher Martin, Annerose Braune, <i>Germany.</i></p>	<p>A Methodology to introduce gesture-based interaction into existing consumer product Lorenzo Cavaliere, Maura Mengoni, Silvia Ceccacci, Michele Germani, <i>Italy.</i></p>
		<p>A Survey of Text Entry Techniques for Smartwatches Ahmed Sabbir Arif, Ali Mazalek, <i>Canada.</i></p>	<p>Analysis of Different Types of Navigational Structures for Machine Tool Controlling Julia N. Czerniak, Tobias Hellig, Alexander Kiehn, Christopher Brandl, Alexander Mertens, Christopher M. Schlick, <i>Germany.</i></p>	<p>Body Editing: Dance Biofeedback Experiments in Apperception Paula Gardner, Hart Sturgeon, Lee Jones, Steve Surlin, <i>Canada.</i></p>
				<p>Acceptable dwell time range for densely arranged object selection using video mirror interface Kazuyoshi Murata, Yu Shibuya, <i>Japan.</i></p>

HIMI S209

eScience and eResearch

Chair(s): Hashim Iqbal Chunpir, Germany.

Room: **DOCKSIDE 5**

Prioritizing Tasks using User-Support-Worker's Activity Model (USWAM)
Hashim Iqbal Chunpir, Germany.

Gauging the Reliability of Online Health Information in the Turkish Context
Edibe Betül Karbay, Turkey; Hashim Iqbal Chunpir, Germany.

How to Improve Research Data Management – The Case of sciebo (science box)
Konstantin Wilms, Christian Meske, Stefan Stieglitz, Dominik Rudolph, Raimund Vogl, Germany.

Data Integration and Knowledge Coordination for Planetary Exploration Traverses
Jordan R. Hill, Barrett S. Caldwell, Michael J. Miller, David S. Lees, United States.

Improving User Interfaces for a Request Tracking System: Best Practical RT
Hashim Iqbal Chunpir, Endrit Curri, Germany; Luciana A.M. Zaina, Brazil; Thomas Ludwig, Germany.

Strategic Knowledge Management for Interdisciplinary Teams - Overcoming Barriers of Interdisciplinary Work via an Online Portal Approach
Tatjana Hamann, Anne Kathrin Schaar, André Calero Valdez, Martina Ziefle, Germany.

UAHCI S210

Human, Computer & Environment

Chair(s): Jerzy Charytonowicz, Poland.

Room: **DOCKSIDE 2**

The Unconventional Tribune Profiles in Architectural Designing of Stadiums
Zdzislaw Pelczarski, Poland.

Mobile Bathroom – Ideas and solutions
Anna Jaglarz, Poland.

An eye tracking based examination of visual attention during pairwise comparisons of a digital product's package
Rafal Michalski, Jerzy Grobelny, Poland.

The effects of background color, shape and dimensionality on purchase intentions in a digital product presentation
Rafal Michalski, Jerzy Grobelny, Poland.

S211

BCI and multimodality for Universal Access

Chair(s): Niccolò Mora, Italy.

Room: **DOCKSIDE 3**

Hybrid BCI systems as HCI in Ambient Assisted Living scenarios
Niccolò Mora, Ilaria De Munari, Paolo Ciampolini, Italy.

Lesson Learnt from an EEG-based Experiment with ADHD Children in Malaysia
Syarifanor Hisham, Abdul Wahab Abdul Rahman, Malaysia.

BCIs for DOC patients: Assessment, communication, and new directions
Rupert Ortner, Austria; Jitka Annen, Belgium; Tim Von Oertzen, Arnau Espinosa, Austria; Javi Rodriguez, Spain; Brendan Z. Allison, United States; Günter Edlinger, Austria; Steven Laureys, Belgium; Martin Hamberger, Andrea Kammerhofer, Florian Guttman, Christoph Guger, Austria.

Usability Evaluation of a Wheelchair Virtual Simulator Controlled by a Brain-Computer Interface: Lessons Learned to the Design Process
Anderson Schuh, Marcia De Borba Campos, Marta Bez, João Batista Mossmann, Brazil.

Long-term Evaluation of a Modular Gesture Interface at Home for Persons with Severe Motor Dysfunction
Ikushi Yoda, Kazuyuki Itoh, Tsuyoshi Nakayama, Japan.

Autonomous Identification of Virtual 3D Objects by Visually Impaired Users with Proprioception and Audio Feedback
Érico De Souza Veriscimo, João L. Bernardes Jr., Brazil.

Development of an Audio-haptic Virtual Interface for Navigation of Large-scale Environments for People who are Blind
Lotfi B. Merabet, United States; Jaime Sánchez, Chile.

S212

Non visual mobile and wearable interaction

Chair(s): Thea Van der Geest, Netherlands.

Room: **DOCKSIDE 4**

Proposal of an Alternative HMI Mechanism for Blind Android Users Based on Media Headsets as Input/Output Peripherals
Miguel Páramo Castrillo, Silvia De los Rios, Juan Bautista Montalva Colomer, Maria Fernanda Cabrera-Umpierrez, Maria Teresa Arredondo, Spain.

How to Achieve Design for All: "list", "focus" and "multimodality" as minimal requirements
Denis Chêne, Eric Petit, Sophie Zijp-Rouzier, France.

Evaluation of Non-visual Zooming Operations on Touchscreen Devices
Hariprasath Palani, Uro Giudice, Nicholas A. Giudice, United States.

LOVIE : a word List Optimized for Visually Impaired users on smartphones
Philippe Roussille, Mathieu Raynal, France.

Audio Description of Videos for People with Visual Disabilities
Agebson Rocha Façanha, Adonias Caetano de Oliveira, Marcos Vinicius de Andrade Lima, Windson Viana, Brazil; Jaime Sánchez, Chile.

VAMR S213

Usability and User Experience in VAMR
Chair(s): To be announced.

Room: **DOCKSIDE 9**

Usability and Functionality Assessment of an Oculus Rift in Immersive and Interactive Systems Using Voice Commands
Valeria Farinazzo Martins, Paulo N.M. Sampaio, Fernanda Da S. Mendes, Andre Santos Lima, Marcelo De Paiva Guimaraes, *Brazil*.

Guidelines for Graphical User Interface Design in Mobile Augmented Reality Applications
Carlos Santos, Brunelli Miranda, Tiago Araújo, Nikolas Carneiro, Anderson Marques, Marcelle Mota, Jefferson Morais, Bianchi Meiguins, *Brazil*.

A Tool for Assessing User Experience of Fit of a Virtual Workplace
Ursula Hyrkkänen, Suvi Nenonen, *Finland*; Carolyn Axtell, *United Kingdom*.

Comparing Objective and Subjective Metrics between Physical and Virtual Tasks
Shawn N. Gieser, Caleb Gentry, James LePage, Fillia Makedon, *United States*.

AC S214

Toward Real Time State Assessment
Chair(s): Brett J. Borghetti, Christina F. Rusnock, *United States*.

Room: **PIER 9**

Modeling and Tracking Brain Nonstationarity in a Sustained Attention Task
Sheng-Hsiou Hsu, Tzyy-Ping Jung, *United States*.

Performance-based Eye-tracking Analysis in a Dynamic Monitoring Task
Wei Du, Jung Hyup Kim, *United States*.

Real-time Assessment of Cognitive State: Research and Implementation Challenges
Michael C. Trumbo, Mika L. Armenta, Michael J. Haass, Karin M. Butler, Aaron P. Jones, Charles S.H. Robinson, *United States*.

Real-Time Fatigue Monitoring with Computational Cognitive Models
Leslie M. Blaha, Chris R. Fisher, Matthew M. Walsh, Bella Z. Veksler, Glenn Gunzelmann, *United States*.

Introduction to Real-Time State Assessment
Brett J. Borghetti, Christina F. Rusnock, *United States*.

Aircraft Pilot Intention Recognition for Advanced Cockpit Assistance Systems
Stefan Suck, Florian Fortmann, *Germany*.

DUXU S215

Usability evaluation
Chair(s): Cheryl L. Coyle, *United States*.

Room: **HARBOUR BALLROOM A**

Study of Smart Watch Interface Usability Evaluation based on Eye-Tracking
Yixiang Wu, Jianxin Cheng, Xinhui Kang, *P.R. China*.

A Process-Based Approach to Test Usability of MultiPlatform Mobile Applications
Ingrid do Nascimento Mendes, Arilo Claudio Dias-Neto, *Brazil*.

Learnability Testing of a Complex Software Application
Cheryl L. Coyle, Mary Peterson, *United States*.

Eye tracking Usability Testing enhanced with EEG Analysis
Julia Falkowska, Janusz Sobecki, Martyna Pietrzak, *Poland*.

Heuristic Evaluation for Novice Evaluators
André De Lima Salgado, Renata Pontin De Mattos Fortes, *Brazil*.

Usability Evaluation of the Cockpit Display System
Hong-jun Xue, Xiu-bo Yu, Xiao-yan Zhang, *P.R. China*.

S216 continues..

Mobile DUXU
Chair(s): Patricia A. Morreale, *United States*.

Room: **HARBOUR BALLROOM B**

Aspect-oriented approach for user interaction logging of iOS applications
Ilka Kokemor, Hans-Peter Hutter, *Switzerland*.

Comparing Android App Permissions
Jason K. MacDuffie, Patricia A. Morreale, *United States*.

Comparison of Mobile Input Methods
Gencay Deniz, Pinar Onay Durdu, *Turkey*.

Where-How-What Am I Feeling: User Context Logging in Automated Usability Tests for Mobile Software
Jackson Feijo Filho, Wilson Prata, Juan Oliveira, *Brazil*.

Touch Zone Sizing for Mobile Devices in Military Applications
Jerry Ray, Stuart Michelson, Chandler Price, Cara Fausset, *United States*.

Gadgile Probing: Supporting Design of Active Mobile Interactions
Susanne Koch Stigberg, *Norway*.

Design, User Experience, and Usability

DUXU S217

DUXU for Natural Interaction

Chair(s): Emilia Duarte, *Portugal*.

Room: **HARBOUR BALLROOM C**

Designing Affordances for Virtual Reality-based Services with Natural User Interaction

Takayuki Miura, Akihito Yoshii, Tatsuo Nakajima, *Japan*.

User Interface and Interaction Design in future Auto-Mobility

Hendrik Wahl, United Arab Emirates; Rainer Groh, *Germany*.

Evaluation of an Inverse-Kinematics Depth-Sensing Controller for Operation of a Simulated Robotic Arm

Akhilesh Kumar Mishra, Lourdes Peña-Castillo, Oscar Meruvia-Pastor, *Canada*.

Expression of emotions by a service robot: A pilot study

Angela Giambattista, *Italy*; Luís Teixeira, Hande Ayanoglu, Magda Saraiva, Emilia Duarte, *Portugal*.

HCI in Business, Government and Organizations

HCIBGO S218

Digital Innovation

Chair(s): Françoise Détienne, *France*.

Room: **REGATTA**

Digital innovation and the becoming of an organizational identity

Nikolaus Obwegeser, Denmark; Stefan Bauer, *Austria*.

Diffusion of Innovations: The Case Study of Oman's e-Payment Gateway

Badar H. Al-Lawati, Xiaowen Fang, *United States*.

A Toolkit for Prototype Implementation of E-Governance Service System Readiness

Ashraf Ali Waseem, Zubair Ahmed Shaikh, Aqeel Ur Rehman, *Pakistan*.

Aligning Public Administrators and citizens on and around open data: an activity theory approach

Jonathan Groff, Michael Baker, Françoise Détienne, *France*.

Leadership & Innovation Growth: A Strategic Planning and Organizational Culture Perspective

Dimitrios Rigas, Yehia Sabri Nawar, *United Kingdom*.

Human Aspects of IT for the Aged Population

ITAP S219

Cyber-Physical System for Elderly Monitoring

Chair(s): M. Anwar Hossain, *Saudi Arabia*.

Room: **MARINE**

Multi-Sensory Cyber-Physical Therapy System for Elderly Monitoring

Abdur Rahman, *Saudi Arabia*.

A virtual testbed for studying trust in Ambient Intelligence environments

Azin Semsar, Morteza Malek Makan, Ali Asghar Nazari Shirehjini, Zahra Malek Mohammadi, *Iran*.

Using the Smartphone to Support Successful Aging: Technology Acceptance with Selective Optimization and Compensation among Older Adults

Yao Sun, Margaret L. McLaughlin, Michael J. Cody, *United States*.

Identification of an Individual's Frustration in the Work Environment through a Multi-Sensor Computer Mouse

David Portugal, Marios Belk, *Cyprus*; João Quintas, *Portugal*; Eleni Christodoulou, George Samaras, *Cyprus*.

Design Research on Self-Service Medical Apparatus and Instruments Aiming at Elderly Users

Jieqiong Huang, *P.R. China*.

001. **Towards the Design of a Cross Platform Solution for Efficient Colorimetric Tests**
Subrata Acharya, Gabriel Susai, Kelly Elkins, *United States.*
002. **Privacy Awareness and Design for Live Video Broadcasting Apps**
Dhuha Alamiri, James Blustein, *Canada.*
003. **An information-centric framework for mobile collaboration between seniors and caregivers that balances independence, privacy and social connectedness**
Yomna Aly, Cosmin Munteanu, *Canada.*
004. **Standardizing the human interaction in websites using web application frameworks**
Fernando Arango Isaza, Danny Alvarez Eraso, *Colombia.*
005. **Speech-enabled Intelligent Mobile Interfaces to Support Older Adults' Storytelling Around Digital Family Pictures**
Benett Axtell, Cosmin Munteanu, *Canada.*
006. **Evaluation of the Interaction with an Internet of Things Smart Building**
Rafael Bacchetti, *Brazil.*
007. **Organizational Vulnerability to Insider Threat: What do Australian Experts say?**
Justine Bedford, Luke Van Der Laan, *Australia.*
008. **To Err is Human: Building an Automatic Error Generator System**
Luiz Carlos Begosso, Marcos Roberto Alves Medeiros, *Brazil.*
009. **Evaluation of colorimetric characteristics of head-mounted displays**
Imad Benkhaled, Isabelle Marc, Dominique Lafon-Pham, Luc Jeanjean, *France.*
010. **Exposing American Undergraduates to Monozukuri and other Key Principles in Japanese Culture, Design, Technology and Robotics**
Dave Berque, Hiroko Chiba, *United States.*
011. **Enhancing the Customers' Experience using an Augmented Reality Mirror**
Chryssi Birliraki, George Margetis, Nikolaos Patsiouras, Giannis Drossis, Constantine Stephanidis, *Greece.*
012. **TAM reloaded: A Technology Acceptance Model for Human-Robot Cooperation in Production Systems**
Christina Bröhl, Jochen Nelles, Christopher Brandl, Alexander Mertens, Christopher M. Schlick, *Germany.*
013. **Designing ICTs for Elders: Considering a Taxonomy of Dignity**
Julie Buelow, Ben Migotto, Lia Tsotsos, *Canada.*
014. **Enhancing emotion recognition in VIPs with haptic feedback**
Hendrik Buimer, Marian Bittner, Tjerk Kostelijk, Thea Van der Geest, Richard Van Wezel, Yan Zhao, *Netherlands.*
015. **Reflective Interaction Capabilities by Use of Ambient Manuals for an Ambient Light Control**
Daniel Burmeister, Andreas Schrader, Bashar Altakroui, *Germany.*
016. **Development and Behavioral Pattern Analysis of a Mobile Guide System with Augmented Reality for Heritage Places**
Yu Lien Chang, Kuo En Chang, Huei Tse Hou, Yao Ting Sung, *Taiwan.*
017. **Synthesis-based Low-cost Gaze Analysis**
Zhuoqing Chang, Qiang Qiu, Guillermo Sapiro, *United States.*
018. **Message Delivery of Cultural and Creative Products under Cultural Industries**
Chi-Hsiung Chen, Shih-Ching Lin, *Taiwan.*
019. **Program for the Application of Innovative Design Thinking: Assessment of Product Opportunity Gaps of Classroom Furniture**
Chin Chuan Chen, Tien-Li Chen, *Taiwan.*
020. **A Tangible Art Learning Tool with a Behavioral Metaphor**
Chun-Wen Chen, Yan-Yu Chen, *Taiwan.*

021. **Car Park Finder – Presumptive Design Brings the Best Out of It**
Damian Chen, Siang Huat (Alfred) Teoh, Siew Ling (Cathy) Yong, *Malaysia*.
022. **Applying service design approach to new product development process toward creation of supportive structure for a start-up company**
Hee Jin Choi, Woon Sub So, Ji Sung Jeong, Jae Ki Lee, Seo Kyun Kim, *Korea*.
023. **A Design Framework for Ergonomic Smartphone Hard Key Location**
Younggeun Choi, Jihyung Lee, Hayoung Jung, Heecheon You, *Korea*.
024. **Implementing an Online Learning Platform to Motivate Experience Sharing Among Learners of Chinese Culture**
Wo-Hsin Chu, Chao-Hua Wang, *Taiwan*.
025. **On Repairing Generated Behaviors for Graphical Characters**
Andrea Corradini, *Denmark*; Manish Mehta, *United States*.
026. **Distributed User Interfaces for Luria's Tests for Older Adults**
Pedro Cruz Caballero, Amilcar Meneses-Viveros, Erika Hernández Rubio, *Mexico*.
027. **A Social Context-Aware Recommender of Itineraries between Relevant Points of Interest**
Dario D'Agostino, Fabio Gasparetti, Alessandro Micarelli, Giuseppe Sansonetti, *Italy*.
028. **Usability and UX Evaluation of a Mobile Social Application to Increase Students-Faculty Interactions**
Ticianne Darin, Rossana Andrade, José Macêdo, David Araújo, Lana Mesquita, *Brazil*; Jaime Sánchez, *Chile*.
029. **Android accessible m-learning application for people with hearing and physical disabilities**
Thiago Alves Costa De Araujo, Francisco Carlos De Mattos Brito Oliveira, Marcela Lopes Alves, Maikon Igor Da Silva Soares, Anderson Severo De Matos, Adriano Tavares de Freitas, Lidiane Castro Silva, *Brazil*.
030. **Organization Schemes in Institutional Repositories from Federal Universities**
Ronnie Fagundes De Brito, Milton Shintaku, Diego José Macedo, Priscila Paiva Castro, Ingrid Schiessl, Andrea Fleury, *Brazil*.
031. **Using MURAL to facilitate un-moderated formative user experience research activities**
Edward De Guzman, *United States*.
032. **Are Google Office Applications Easy for Seniors?: Usability Studies with 120 Elderly Users**
Javier Diaz, Ivana Harari, *Argentina*.
033. **An EEG study of auditory working memory load and cognitive performance**
Hsien-Ming Ding, Guan-Yi Lu, *Taiwan*; Yuan-Pin Lin, *United States*; Yi-Li Tseng, *Taiwan*.
034. **Design Research of Geriatric Rehabilitation Products Based on Natural Interaction**
Qijun Duan, Kai Fang, Min Liu, Yilin Pan, *P.R. China*.
035. **SecureUse: Balancing Security and Usability within System Design**
Saurabh Dutta, Stuart Madnick, *United States*; Ger Joyce, *United Kingdom*.
036. **Automatic Adaptation Techniques to Increase the Web Accessibility for Blind Users**
Mexhid Ferati, *Norway*; Lirim Sulejmani, *Former Yugoslav Republic of Macedonia*
037. **When it Comes to Depression, ICT Use Matters: A Longitudinal Analysis of the Effect of ICT Use and Mattering on Depression among Older Adults**
Jessica Francis, Travis Kadylak, Shelia R. Cotten, R.V. Rikard, *United States*.
038. **Method for Preventing Imposter Fraud during Blood-pressure Measurement**
Kaori Fujimura, Haruka Suzuki, Gen Takahashi, Toru Nakamura, Kazuhiro Hayakawa, *Japan*.
039. **Implementation and initial evaluation of game in which password enhancement factor is embedded**
Masahiro Fujita, Mako Yamada, Masakatsu Nishigaki, *Japan*.

040. **Instruction of Digital Human Models Through Interaction in Immersive Virtual Environments**
Andreas Geiger, Elisabeth Brandenburg, Rainer Stark, *Germany*.
041. **Evaluating Software for Affective Education: A Case Study of the Affective Walkthrough**
Reza GhasemAghaei, Ali Arya, Robert Biddle, *Canada*.
042. **The Persuasive Design for Aged People's health behavior change in The Domiciliary Health-care background**
Yongyan Guo, Minggang Yang, Zhang Zhang, *P.R. China*.
043. **Virtual reality for training diagnostic skills in eating disorders. Gender and usability**
Jose Gutierrez-Maldonado, Antonio Andres-Pueyo, Antoni Talarn, Joseba Achotegui, *Spain*.
044. **Effects on Auditory Attention and Walking While Texting with a Smartphone and Walking on Stairs**
Shigeru Haga, Kanae Fukuzawa, Eri Kido, Yoshinori Sudo, Azuri Yoshida, *Japan*.
045. **An Eye-Tracking Approach to Evaluating Decision-Makers' Cognitive Load and Need-for-Cognition in Response with Rational and Emotional Advertising Stimuli**
Min Hee Hahn, Kun Chang Lee, Seong Wook Chae, *Korea*
046. **A Flexible Scenario-Based Mobile Learning System for Disaster Evacuation**
Hisashi Hatakeyama, Masahiro Nagai, Masao Murota, *Japan*
047. **Outdoor gesture recognition system using accurate absolute position coordinates**
Tomohiko Hayakawa, Masatoshi Ishikawa, *Japan*
048. **How Coping Strategies Influence Cyber Task Performance in the Hybrid Space**
Kirsi Helkala, Benjamin J. Knox, Øyvind Jøsok, *Norway*; Ricardo G. Lugo, *United States*; Stefan Sütterlin, *Norway*.
049. **Unframes: Extendible Interface and Investigations of Its Usages**
Taichi Hisatsune, Kiyoshi Tomimatsu, *Japan*.
050. **Predicting performance in space teleoperation tasks through vernier acuity**
Yu Hongqiang, Ting Jiang, Chunhui Wang, *P.R. China*.
051. **Follow Me: Proxemics and Responsiveness Preferences of Elderly Users in a Person-Following Robot**
Shanee Honig, Tal Oron-Gilad, Yael Edan, *Israel*.
052. **The effects of fantasy on virtual world players' perception and behaviors**
Yu-chen Hsu, Siao-Wei Huang, Meng Chu Chiang, Ting Yu Liang, Ling Fang Hsu, *Taiwan*.
053. **Attracting Consumers' Attention and Interest in Exploring: Does HCI Strategy Matter?**
Eugenia Huang, Sheng-Wei Lin, Yu-Han Wu, *Taiwan*.
054. **Evaluating usability of a battery swap station for electric two wheelers: A case study**
Fei-Hui Huang, Yu-Cheng Lin, Ting-Ting Lv, *Taiwan*.
055. **Collaboration Strategies for Drag-and-Drop Interaction with Multiple Devices**
Stephen Hughes, Marc Davenport, Dalton Ott, *United States*.
056. **Timbre image scale for designing feedback sound on button operation**
Shota Imai, Sanae H. Wake, Megumi Mitsumoto, Mitsuyasu Noguchi, Yoshitaka Uchida, Noriko Nagata, *Japan*.
057. **Effect of navigation methods on spatial awareness in virtual worlds**
Makio Ishihara, Saki Higuchi, Yukio Ishihara, *Japan*.
058. **Developing a The Advanced IoT(Internet Of Things) Technology Based on Spatial Information**
Mi Na Ra Jang, Chan Yang Suhr, Yun Gil Lee, *Korea*.

059. **Reflecting on Expertise, a Key Factor When Designing for Professional Development in Informal Science Institutions**
Priscilla Jimenez-Pazmino, Leilah Lyons, Brian Slattery, Benjamin Hunt, *United States.*
060. **Study on the Relationship between Mental Model of Designer Team and Factors in Remote Collaboration**
Wu Jing, *P.R. China.*
061. **Will o'the Wisp: Augmented Reality Navigation for Hikers**
Catherine S. Johnson, Shambhavi Mahajan, Mehmet Ordu, Samyukta Sherugar, Bruce N. Walker, *United States.*
062. **Bus seat design development based on 3D human body shape**
Hayoung Jung, Seunghoon Lee, Nahyun Lee, Wonsup Lee, Heecheon You, *Korea.*
063. **Training system for puncture technique of hemodialysis**
Ren Kanehira, Atsushi Ohashi, Hideo Fujimoto, *Japan.*
064. **Proposal for a Remote Communications System based on Proxemics Theory**
Namgyu Kang, Kensaku Ito, *Japan.*
065. **Beyond Human Factors: The Role of Human Centered Design in Developing a Safety-Critical System**
Nicholas Kasdaglis, Kimberly Stowers, *United States.*
066. **The Pyramid Assessment Framework for 'Competence Developing Games'**
Johannes Alexander König, Martin R. Wolf, *Germany.*
067. **Tele-Immersion: Virtual Reality based Collaboration**
Muhammad Sikandar Lal Khan, Haibo Li, Shafiq Ur Rehman, *Sweden.*
068. **Development of Gesture-Recognition Based STEAM Educational Games Focused on Korean Traditional Archery**
Hyung Sook Kim, Su Hak Oh, Yong Hyun Park, *Korea.*
069. **Outside the Head Thinking: A Novel Approach for Detecting Human Brain Cognition**
Insoo Kim, *United States*; Miyoung Kim, Taeho Hwang, *Korea*; Chang Lee, *United States.*
070. **Technology Roadmap for Realistic Contents : The Korea case**
Sangil Kim, *Korea.*
071. **Decision making for complex ecosystems: A technique for establishing causality in dynamic systems**
Ryan Kirk, Dave Kirk, Peter Pescheck, *United States.*
072. **A suitable design for natural menu opening manipulations when note-taking on tablet devices**
Atsushi Kitani, Takako Nakatani, *Japan.*
073. **How to Measure Quality of Affordable 3D Printing: Cultivating Quantitative Index in the User Community**
Minjae Ko, Heemoon Kang, Jong ulrim Kim, Yonghyun Lee, Jie-Eun Hwang, *Korea.*
074. **Advancing writing work with handwriting-learning system for students with intellectual disabilities**
Iwao Kobayashi, Kiwamu Sato, Ayumi Sugisawa, Gou Inoue, Naohito Ogasawara, Hiroshi Nunokawa, *Japan.*
075. **Image Overlay Support with 3DCG Organ Model for Robot-Assisted Laparoscopic Partial Nephrectomy**
Masanao Koeda, Kiminori Mizushino, Katsuhiko Onishi, Hiroshi Noborio, Takahiro Kunii, Masatoshi Kayaki, Atsushi Sengiku, Atsuro Sawada, Takeshi Yoshikawa, Yoshiyuki Matsui, Osamu Ogawa, *Japan.*
076. **A Practical Approach to Icon Taxonomy**
Teemu Korpilahti, *Finland.*
077. **User Interface for Customizing Patents Search: An Exploratory Study**
Arthi Krishna, Brian Feldman, Joseph Wolf, Greg Gabel, Scott Beliveau, Thomas Beach, *United States.*

078. **A Conceptual Model of Instructional Thematic Game for Children with Intellectual Deficiencies**
Dandhi Kuswardhana, Shinobu Hasegawa, *Japan*.
079. **The Effect of Design Elements of Gaze Fixation Induction Method on Visual Field Testing**
Jihyung Lee, Younggeun Choi, Nahyun Lee, Gunhee Oh, Kyung-Hyun Jin, Hyejee Kim, Young-Gyun Kim, Jaheon Kang, Heecheon You, *Korea*.
080. **Research the role of interactivity on ACG website usage behavior through information search perspective: A comparison of experiential and goal-directed behaviors**
Juihsiang Lee, *Taiwan*.
081. **Developing a Design Supporting System in the Real-time Manner for Low-energy Building Design based on BIM**
Yun Gil Lee, *Korea*.
082. **Programming of Virtual reality system for swimming teaching**
Ting Liao, Bin Wang, Di Wu, *P.R. China*.
083. **I am SSam: Learning Benefits of the Korean Wrap Food**
Yang Kyu Lim, Eun Ju Lee, Joo Young Ha, Jin Wan Park, *Korea*.
084. **Motion Detection and Sound Effect Game for Daily Jogging**
Yang Kyu Lim, Eun Ju Lee, Hyun Chun Jung, Seong Kuk Park, Jin Wan Park, *Korea*.
085. **User Performance of Gestural and Non-gestural Operations in a Mixed Computer Task under Different Multi-touch Screen Configurations**
Cheng-Jhe Lin, *Taiwan*.
086. **Graphical Tools for Doctor-Patient Communication: An App Prototype Design in Children's Pain Management**
Fang Suey Lin, Ching-Yi Lin, Yu Jie Hsueh, Chun-Yi Lee, Chun-Pei Hsieh, *Taiwan*.
087. **The evaluation of visual fatigue in 3D televisions**
Po-Hung Lin, *Taiwan*.
088. **Research on the type of automobile controlling device and its ergonomic design parameters**
Siyuan Liu, Yinxia Li, Hui-min Hu, Chaoyi Zhao, *P.R. China*.
089. **A Novel Mobile-Computing Based Assistive Approach for Knee Injury Telerehabilitation – a Preliminary Study**
Tao Liu, *United States*; Hongshi Huang, *P.R. China*; Gang Qian, Yan Zhao, Maria Jones, Wenxi Zeng, Justin Hampton, Jicheng Fu, *United States*.
090. **The experiment research of pupil change for the evaluation of mental workload**
Zhongqi Liu, Bhao Xing, Qianxiang Zhou, Xin Zhang, *P.R. China*.
091. **Populating the Hybrid Space: Self-efficacy and intuitive decision-making**
Ricardo G. Lugo, *United States*; Stefan Sütterlin, Kirsi Helkala, Benjamin J. Knox, Øyvind Jøsok, Natalie Marie Lande, *Norway*.
092. **Criss-crossing Idea Landscapes via Idea Networks in Knowledge Forum**
Leanne Ma, *Canada*.
093. **NatureNet: An Interaction Design With a Focus on Crowdsourcing for Community**
Mary Lou Maher, Sarah Abdellahi, *United States*.
094. **Evaluation of GenderMag Personas based on Persona Attributes and Persona Gender**
Nicola Marsden, Maren Haag, *Germany*.
095. **From physiological measures to an automatic recognition system of stress**
Nicolas Martin, Jean-Marc Diverrez, *France*.
096. **From Acceptability to Acceptance: Does Experience with the Product Influence User Initial Representations?**
Nicolas Martin, Éric Jamet, Séverine Erhel, Géraldine Rouxel, *France*.

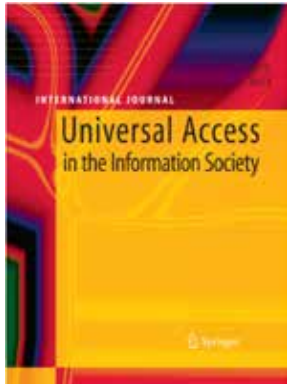
097. **Preliminary Quantitative Evaluation of Effect of Learning from Text, Illustrations, and Animations on Understanding**
Taiki Maruya, Shun'ichi Tano, Tomonori Hashiyama, *Japan*.
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Shogo Matsuno, Takahiro Terasaki, Shogo Aizawa, Tota Mizuno, Kazuyuki Mito, Naoaki Itakura, *Japan*.
099. **Empirical design for methodically triangulated Research in social media**
Nicholas H. Müller, Valentin Belentschikow, *Germany*.
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João Mesquita, António Silva, Bruno Giesteira, *Portugal*.
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Asuka Miyake, Yuji Morinishi, Masahiro Watanabe, *Japan*.
102. **The Belonging Robot (BeRo): A Hybrid Physical-Digital System to Reflect Moods**
Tarek H. Mokhtar, Samer E. Mansour, *Saudi Arabia*.
103. **The Interaction in an Interactive Exhibition as a Design-Aesthetics-Experience Relationship**
Humberto Muñoz, *Colombia*.
104. **A support tool for analyzing the 3D motions of sign language and the construction of a morpheme dictionary**
Yuji Nagashima, Keiko Watanabe, Mina Terauchi, Naoto Kato, Tsubasa Uchida, Shuichi Umeda, Taro Miyazaki, Makiko Azuma, Nobuyuki Hiruma, *Japan*.
105. **Primary Factors of Malicious Insider in E-learning Model**
Koichi Niihara, Hiroaki Kikuchi, *Japan*.
106. **Towards the Easy Analysis of Celebrity Representations Through Instagram: A Case Study**
Stefanie Niklander, Ricardo Soto, Broderick Crawford, Claudio León De la Barra, Eduardo Olguin, *Chile*.
107. **Facilitating Analysis of Audience Reaction on Social Networks using Content Analysis: a Case Study based on Political Corruption**
Stefanie Niklander, Ricardo Soto, Broderick Crawford, Claudio León De la Barra, Eduardo Olguin, *Chile*.
108. **Non-intrusive measurement of heart rate during computer work**
Mieko Ohsuga, *Japan*.
109. **Identity Confirmation to Issue Tickets using Face Recognition**
Akitoshi Okumura, Susumu Handa, Takamichi Hoshino, Yugo Nishiyama, *Japan*.
110. **User-centered tile menu selection technique in large scale display**
Katsuhiko Onishi, Yamato Gomi, *Japan*.
111. **Enhancing data visualization modes through a physical representation: the "Makerometer" solution**
Antonio Opromolla, Massimiliano Dibitonto, Stefania Barca, Sergio Frausin, Claudia Matera, Carlo Maria Medaglia, *Italy*.
112. **Playful Interactions for the Citizens' Engagement. The Musical Language as a Possible Application**
Antonio Opromolla, Valentina Volpi, Carlo Maria Medaglia, *Italy*.
113. **Consideration of the Loyal Customer Sub-Communities in a Consumer Community through Analysis of Social Networking Services: A Case Study of a Fashion Brand**
Kohei Otake, Tomofumi Uetake, Akito Sakurai, *Japan*.
114. **Development of Next Generation Indoor Environment Control Technology Using ICT**
Toshihiro Otsuka, Kazuhiro Sadakiyo, *Japan*.

115. **ATHENA – A Zero-Intrusion No Contact Method for Workload Detection using Linguistics, Keyboard Dynamics, and Computer Vision**
Tammy Ott, Peggy Wu, Amandalynne Paullada, Derek Mayer, Jeremy Gottlieb, Peter Wall, *United States*.
116. **The use of emojis as a tool to measure conceptual design artefacts**
Rosamelia Parizotto-Ribeiro, Cayley Guimarães, *Brazil*.
117. **Developing a Human Behavior Simulation Technology in the real-time manner based on BIM**
Changhoon Park, Yun Gil Lee, *Korea*.
118. **Applications and Future Research Directions of Human and Object Recognition Using Kinect Sensor**
Donggun Park, Kyung-Jun Lee, Jinwoo Oh, Yushin Lee, Sangwoo Bahn, *Korea*.
119. **Augmented Reality based Guidance for Solving Rubik's Cube using HMD**
Jaebum Park, Changhoon Park, *Korea*.
120. **Smartphone Application Content for Prevention and Improvement of Adolescents' Depression**
Jung-Sun Park, Hyeon-Woo Bak, Sun-Hee Ham, Jae-Suk Cho, Hye-Ji Yoon, Ji-Soo Park, Da-Yeon Seo, Jung-A Gwon, *Korea*.
121. **Multiplatform Game type of Health Survey on Cancer Patient's Stress Level**
Seong Kuk Park, Sang Rak Jeong, Dong Gyun Kim, Jae Hee Kim, Yang Kyu Lim, Han Byul Moon, Jin Wan Park, *Korea*.
122. **Supporting Complex Decisions through Selection of Appropriate Graphical Layout**
Caroline Parker, *United Kingdom*; Kendra DeBusk, *United States*.
123. **From real tombs to digital memorials: an exploratory study in multicultural elements for communication**
Vinicius Carvalho Pereira, Cristiano Maciel, Carla Faria Leitão, *Brazil*.
124. **Don't Read My Lips: Assessing Listening and Speaking Skills through Play with a Humanoid Robot**
Panayiota Polycarpou, *Cyprus*; Anna Andreeva, *Bulgaria*; Andri Ioannou, Panayiotis Zaphiris, *Cyprus*.
125. **Research on Interaction Design of Portable Body-Slimming Cabin for Female**
Yang Qiao, Minggang Yang, *P.R. China*.
126. **Comparison of head and face anthropometric characteristics between Six Countries**
Linghua Ran, Xin Zhang, Hui-min Hu, Hong Luo, Taijie Liu, *P.R. China*.
127. **Grid and Typography Guidelines to Inform Design of Digital Art Magazines**
Ana Paula Retore, Cayley Guimarães, Marta Karina Leite, *Brazil*.
128. **The Advanced Exploitation of Mixed Reality (AEMR) Community of Interest**
Maria Olinda Rodas, Jeff Waters, David Rousseau, *United States*.
129. **Designing Smartphone Keyboard for Elderly Users**
Eun Jeong Ryu, Minhyeok Kim, Joowoo Lee, Soomin Kim, Jiyoung Hong, Jieun Lee, Min Haeng Cho, Jinhae Choi, *Korea*.
130. **Quantitative Evaluation for Edge Bundling by Difference of Edge Lengths and Area Occupation**
Ryosuke Saga, *Japan*.
131. **Knowledge Extraction about Brand Image Using Information Retrieval Method**
Fumiaki Saitoh, Fumiya Shiozawa, Syohei Ishizu, *Japan*.
132. **Influence of display resolution on brain activity and task workload**
Kiyomi Sakamoto, Yutaka Tanaka, Kuniko Yamashita, Akira Okada, *Japan*.
133. **Real-time Japanese sign language recognition based on three phonological elements of sign**
Shinji Sako, Mika Hatano, Tadashi Kitamura, *Japan*.

134. **A New Design of an Automated Remote Lecture System in Japanese 18 Universities in 2015**
Takeshi Sakurada, Kazuhiro Mishima, Yoichi Hagiwara, *Japan*.
135. **Objects Assessment Approach Using Natural Language Processing and Data Quality to Support Emergency Situation Assessment**
Matheus F. Sanches, Valdir A.P. Junior, Jessica O. Souza, Caio S. Coneglian, Fabio R. Jorge, Natália P. Oliveira, Leonardo C. Botega, *Brazil*.
136. **Common-Awareness Artifacts: Conceptual Elements to Designing and Evaluating Collaboration in CVE**
Wilson J. Sarmiento, César A. Collazos, *Colombia*.
137. **Fixation-related EEG frequency band power analysis: A promising neuro-cognitive methodology to evaluate the matching-quality of web search results?**
Christian Scharinger, Yvonne Kammerer, Peter Gerjets, *Germany*.
138. **Adaptive Landmark-based Pedestrian Navigation System with Hand-held and Wearable Devices**
Daeil Seo, Doyeon Kim, Byoungyun Yoo, Heedong Ko, *Korea*.
139. **MocaBit 1.0 - A Gamified Mo-cap System to Track Physical Location**
Sudarshan Seshasayee, Sanghyun Yoo, *United States*.
140. **Sync-BIM: The Interactive BIM-based Platform for Controlling Data-driven Kinetic Facade**
Yang Ting Shen, Tien Yu Wu, *Taiwan*.
141. **Cloud Assisted IoT Based Social Door to Boost Student-Professor Interaction**
Ali Asghar Nazari Shirehjini, *Iran*; Abdulsalam Yassine, Shervin Shirmohammadi, *Canada*; Ramtin Rasooli, Mohammad Salar Arbabi, *Iran*.
142. **Sensing Grasp Force using Active Acoustic Sensing**
Buntarou Shizuki, *Japan*.
143. **Distributed Unity Applications: Evaluation of Approaches**
Anton Sigitov, Oliver Staadt, André Hinkenjann, *Germany*.
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Kalyani Singh, Brent Auernheimer, *United States*.
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John Kok Tiong Soo, Angela Li Sin Tan, Andrew Si Yong Ho, *Singapore*.
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Ricardo Soto, Broderick Crawford, Boris Almonacid, Stefanie Niklander, Eduardo Olguin, *Chile*.
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Kristof Stahl, Bashar Altakrouri, Daniel Burmeister, Andreas Schrader, *Germany*.
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Kelly S. Steelman, Kay L. Tislar, Leo C. Ureel II, Charles Wallace, *United States*.
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Evropi Stefanidi, Maria Doulgeraki, Maria Korozi, Asterios Leonidis, Margherita Antona, *Greece*.
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Ayoung Suh, Ruohan Li, Lili Liu, *Hong Kong*.
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Ming-Hsiang Sung, Chen-Wei Chiang, *Taiwan*.
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Hiroshi Suzuki, Hisashi Sato, *Japan*.

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Takuya Suzuki, Makoto Kobayashi, Yuji Nagashima, *Japan*.
154. **Some Considerations of Age Estimation Method for "Augmented TV" Based on Posture of Gripping Tablet PC**
Yuria Suzuki, Hiroyuki Kawakita, Michihiro Uehara, Toshio Nakagawa, Hiromitsu Nishimura, Akihiko Shirai, *Japan*.
155. **Capabilities driving competitive advantage in new product development: Coordination capability, absorptive capability, and information technology capability**
Yi-Ming Tai, Yi-Cheng Ku, *Taiwan*.
156. **Support System for Improving Speaking Skills in Job Interviews**
Tetsu Tanahashi, Yumie Takayashiki, Tetsuro Kitahara, *Japan*.
157. **Usability of thermal sensation voting device**
Eduardo Hideki Tanaka, Lucia Satiko Nomiso, Daniel Augusto Guerra da Costa, *Brazil*.
158. **An Affect Extraction Method in Personal Fabrication Based on Laban Movement Analysis**
Kazuaki Tanaka, Michiya Yamamoto, Saizo Aoyagi, Noriko Nagata, *Japan*.
159. **Advancement of a To-Do Reminder System Focusing on Context of the User**
Masatoshi Tanaka, Keisuke Yoshida, Shogo Matsuno, Minoru Ohyama, *Japan*.
160. **Correction of Optical Flow Calculations Using Color Balance Change**
Nami Tanaka, Hiromitsu Nishimura, *Japan*.
161. **A Comparative Study of Applying Low-Latency Smoothing Filters in a Multi-Kinect Virtual Play Environment**
Tiffany Y. Tang, Relic Yongfu Wang, *P.R. China*.
162. **Qualitative model for neuro-functional mechanism inducing human error detection to humanlike agents based on cortico-cerebellar function**
Yoshimasa Tawatsuji, Tatsunori Matsui, *Japan*.
163. **The Intuitive Human Interaction to Activate the Wetsuit Heating System**
Fábio Teixeira, Claudia Regina Batista, *Brazil*; Ambra Trotto, Christoffel Kuenen, *Sweden*; Claudio Henrique Da Silva, Adhemar Maria Do Valle Filho, *Brazil*.
164. **How to Teach Young Kids New Concepts with Interactive Videos and Visual Recognition**
Quan H. To, Ba-Huu Tran, Minh-Triet Tran, *Viet Nam*.
165. **Effectiveness of analysis with Near-Infrared Spectroscopy for EFL Learners in Japan**
Rumi Tobita, *Japan*.
166. **Nail art design system using interactive evolutionary computation with VR**
Masataka Tokumaru, Ayataka Yonezawa, *Japan*.
167. **An Android Application for Supporting Amateur Theatre**
Yuya Toyoda, Saori Nakajo, Tetsuro Kitahara, *Japan*.
168. **COSSplay: Validating a Computerized Operator Support System Using a Microworld Simulator**
Thomas Ulrich, Steffen Werner, Roger Lew, Ronald Laurids Boring, *United States*.
169. **An Analysis of Accuracy Requirements for Automatic Eyetracker Recalibration at Runtime**
Florian Van de Camp, Dennis Gill, Jutta Hild, Jürgen Beyerer, *Germany*.
170. **Challenges involved in the design of an e-health application for a wearable scoliosis monitoring system**
Gheorghe-Daniel Voinea, Cristian Postelnicu, Silviu Butnariu, *Romania*.
171. **Mobile Assisted Language Learning Applications for Health Care Sciences Students: a User Experience Study**
Ilana Wilken, Febe De Wet, Elsabé Taljard, *South Africa*.
172. **Low-Fidelity Prototyping for Collaborative User Interface Specifications**

- Jan Wojdziak, Bastian Bansemir, Bettina Kirchner, Berit Lochner, Rainer Groh, *Germany*.
173. **A Computerized Measurement of CROM (Cervical Range Of Motion) by using smartphone based HMD (Head Mounted Display)**
Changgon Woo, Changhoon Park, *Korea*.
174. **Evaluation of Four Eyestrain Recovery Methods for Visual Display Terminal Workers**
Hsin-Chieh Wu, Min-Chi Chiu, Jyun-Hao Jian, *Taiwan*.
175. **Comparative Study on Visual Differences of Poster Designs Based on Design Psychology**
Tianyu Wu, Yan Liu, *P.R. China*.
176. **Analysis on Historical Periods of Architectural Visualization under the Perspectival Consciousness**
Zhendong Wu, WeiMin Guo, *P.R. China*.
177. **Relation between Mental Workload and Useful Field of View in Elderly**
Kimihiro Yamanaka, Kohei Shioda, Mitsuyuki Kawakami, *Japan*.
178. **Estimating carrier's height by accelerometer signals of a smartphone**
HHiro-Fumi Yanai, Atsushi Enjyoji, *Japan*.
179. **Experimental Study on Comfort Ranges of Manual Operation in Standing Position**
Ai-ping Yang, *Hong Kong*; Wenyu Fu, *P.R. China*; Guang Cheng, *Hong Kong*; Xin Zhang, Hui-min Hu, *P.R. China*; Chau-Kuang Chen, *United States*.
180. **Usability of Various Input Devices for Virtual Liver Resection**
Xiaopeng Yang, Hee Chul Yu, Baik Hwan Cho, Heecheon You, *Korea*.
181. **Speech Activity Detection and Speaker Localization Based on Distributed Microphones**
Yi Yang, Jingyun Zhang, Jiasong Sun, *P.R. China*.
182. **Design and Implementation of Advanced HCI Education**
Yi Yang, *P.R. China*.
183. **HCI Technologies for Korea Society in the future**
Seung-kyu Yi, *Korea*.
184. **Uniqueness Seeking Behavior in Online Customization**
Jiamin Yin, Liang Zhou, Kanliang Wang, *P.R. China*.
185. **Study of Posture Estimation System Using Infrared Camera**
Airi Yoshino, Hiromitsu Nishimura, *Japan*.
186. **The Space Design of Hackerspace in the "Internet Plus" Era**
Haozhou Yuan, Minggang Yang, *P.R. China*.
187. **okinesio – Evaluation and Development of an Open Hardware Activity Tracker**
Michael Zöllner, Andreas Zapf, Nhan Duc Truong, *Germany*.
188. **How to update your heading and position during driving?**
Lei Zhang, *Canada*.
189. **TimeTree: A Novel Way to Visualize and Manage Exploratory Search Process**
Yin Zhang, Kening Gao, Bin Zhang, Pengfei Li, *P.R. China*.
190. **Evaluation of Pedal Button Diameter and Travel Length**
Pei Zhou, Yifen Qiu, Songtao Zhu, Hui-min Hu, Chaoyi Zhao, *P.R. China*.
191. **Turning an electric cargo vehicle into a portable interactive information kiosk**
Emmanouil Zidianakis, George Margetis, Spiros Paparoulis, Thanasis Toutountzis, Kallia Stratigi, Georgios Paparoulis, Constantine Stephanidis, *Greece*.
192. **smarTactile Map : an interactive and smart map to help the blind to navigate by touch**
MyungJoong Lee, Jie-Eun Hwang, University of Seoul, *Korea*.
193. **Applications and Considerations of Augmented Reality Capabilities for Next Generation Human-Computer Interaction to Support Military Shared Mission Command**
Arthur Wollocko, Michael Jenkins, Charles River Analytics, *United States*.



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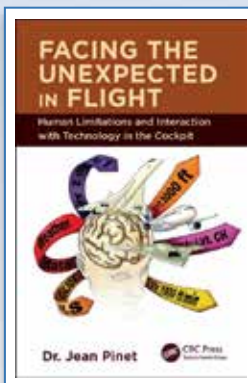
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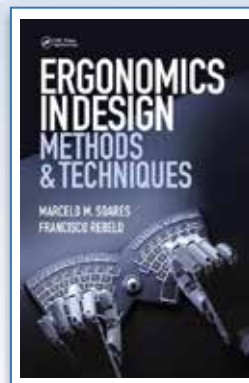
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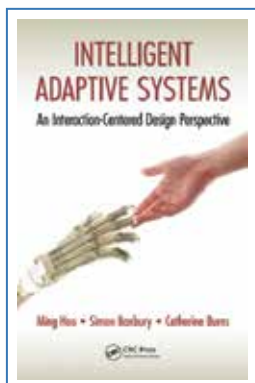
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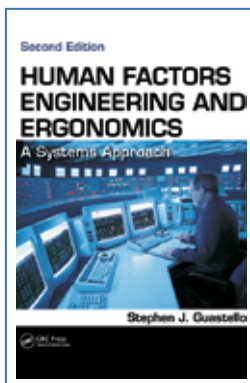
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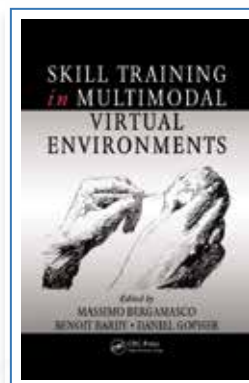
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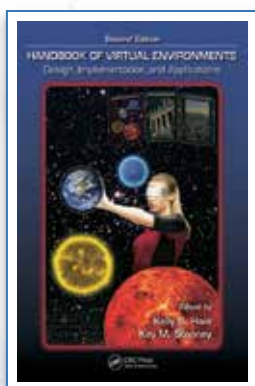
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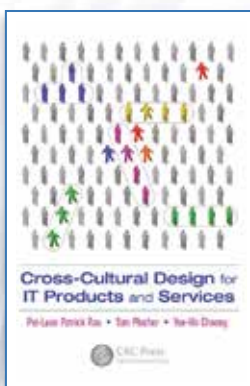
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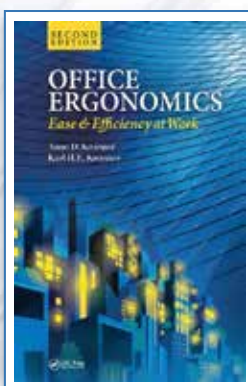
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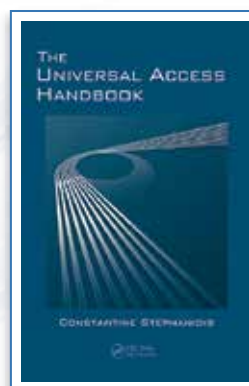
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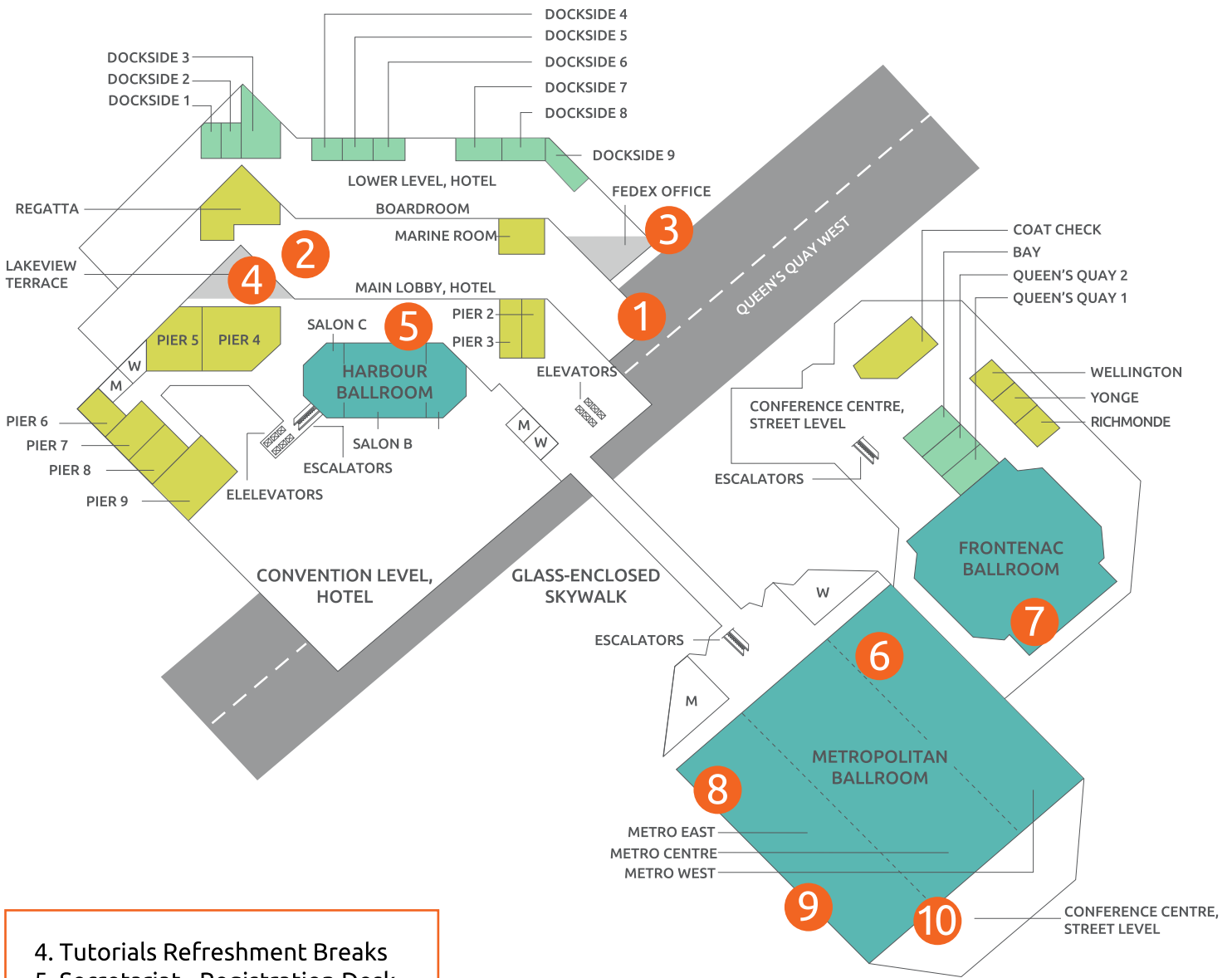
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