



BERLIN, GERMANY / OCTOBER 14-17, 2018



Chair's Welcome

Welcome to the 31st Annual ACM Symposium on User Interface Software and Technology (UIST), held from October 14th to October 17th, 2018, in Berlin, Germany.

UIST is the premier forum for presenting innovative research on software and technology for human-computer interfaces. Sponsored by ACM's special interest groups on computer-human interaction (SIGCHI) and computer graphics (SIGGRAPH), UIST brings together researchers and practitioners from diverse areas, including graphical & web user interfaces, tangible & ubiquitous computing, virtual & augmented reality, multimedia, new input & output devices, fabrication, wearable computing, and computer-supported collaborative work.

UIST 2018 received 375 technical paper submissions. After a thorough review process, the program committee accepted 80 papers (21.3%). Each anonymous submission that entered the full review process was first reviewed by three external reviewers, and a meta-review was provided by a program committee member. If, after these four reviews, the submission was deemed to pass a rebuttal threshold, a second member of the program committee provided an additional review. We then asked the authors to submit a rebuttal addressing the reviewers' concerns. The program committee met in person at Microsoft Research in Redmond, WA, USA on June 22nd and 23rd, 2018, to select the papers to invite for the program. After acceptance, authors provided a final revision addressing the committee's comments. Three papers were recognized by the reviewers and the program committee as Best Paper and four received Honorable Mention.

In addition to papers, our program includes 44 posters, 25 demonstrations, and 8 student presentations in the thirteenth annual Doctoral Symposium. Our program also features the ninth annual Student Innovation Contest. In this year's contest, we are partnering with Makeblock to enable teams from all over the world push the boundaries of input and output technology by creating novel human-robot interaction techniques.

The opening keynote will be given by Dr. Jaime Teevan from Microsoft and the closing keynote will be given by Prof. Selma Šabanović from Indiana University. Both will highlight impactful and sometimes unexpected ways in which interactive technology can be used to shape our society.

Once again: Welcome to Berlin and to UIST 2018!

Schedule at a glance

SUNDAY, OCTOBER 14th	
17:30 - 21:00	Opening reception with exhibitions at Hasso Plattner Institute
MONDAY, OCTOBER 15th	
8:30 - 18:00	Registration at Berlin Congress Center
8:45 - 9:30	Refreshment (Coffee & Snacks)
9:30 - 10:00	Opening Remarks + Awards
10:00 - 11:00	Keynote: Jaime Teevan
11:00 - 11:30	Break
11:30 - 12:50	Technical Sessions
12:50 - 14:10	Lunch break
14:10 - 15:50	Technical Sessions
15:50 - 16:20	Break
16:20 - 17:40	Technical Sessions
from 17:40	Open for Demo Reception Only Guests
18:00 - 21:00	Demo Reception
TUESDAY, OCTOBER 16th	
8:30 - 18:00	Registration at Berlin Congress Center
8:30 - 9:00	Refreshment (Coffee & Snacks)
9:00 - 10:40	Technical Sessions
10:40 - 11:10	Break
11:10 - 12:50	Technical Sessions
12:50 - 14:20	Lunch break - Women of UIST Networking Luncheon
14:20 - 16:00	Technical Sessions
16:00 - 17:00	Break (Posters)
17:00 - 18:00	Vision Track
From 19:00	Conference Dinner and Student Innovation Contest at Kulturbrauerei

Schedule at a glance (continued)

WEDNESDAY, OCTOBER 17th	
8:30 - 18:00	Registration at Berlin Congress Center
8:30 - 9:00	Refreshment (Coffee & Snacks)
9:00 - 10:20	Technical Sessions
10:20 - 11:20	Break (Posters)
11:20 - 12:40	Technical Sessions
12:40 - 14:00	Lunch break
13:30 - 14:00	Town Hall
14:00 - 15:40	Technical Sessions
15:40 - 16:30	Break
16:30 - 17:30	Closing Keynote: Selma Šabanović
17:30 - 18:00	Closing ceremony

Keynotes: Dr. Jaime Teevan & Prof. Selma Šabanović



Jaime Teevan is Chief Scientist at the Experiences and Devices Group at Microsoft, prior to that she was the Technical Advisor to Microsoft's CEO, where she is responsible for helping Satya Nadella formulate technical strategy and developing in-depth solutions to specific technical challenges. Previously she was a Principal Researcher at Microsoft Research AI, where she led the Productivity team. Dr. Teevan has published hundreds of award-winning research papers, technical articles, books, and patents, and given keynotes around the world. Her groundbreaking research earned her the Technology Review TR35 Young Innovator, Borg Early Career, Karen Spärck Jones, and SIGIR Test of Time awards. She holds a Ph.D. from MIT and a B.S. from Yale, and is an affiliate professor at the University of Washington.

Selma Šabanović is an Associate Professor of Informatics and Cognitive Science at Indiana University, Bloomington, where she founded and directs the R-House Human-Robot Interaction Lab. Her research focuses on the design, use, and consequences of socially interactive and assistive robots in different social and cultural contexts, including healthcare institutions, user homes, and various countries. She draws on theories and approaches from the social sciences to design and implement intelligent interactive technologies in ways that provide measurable benefits to users and their communities. She also explores values and ethics in robotics for everyday use through collaborative design with diverse users, including older adults, clinicians, and children.



Monday, October 15th – 11:30

(B08) Controlling and Collaborating in VR Session chair: David Lindlbauer		(C01) Human-Robot Symbiosis Session chair: Pedro Lopes	
PuPoP: Pop-up Prop on Palm for Virtual Reality	<i>Shan-Yuan Teng, Tzu-Sheng Kuo, Chi Wang, Chi-huan Chiang, Da-Yuan Huang, Liwei Chan, Bing-Yu Chen.</i>	MobiLimb: Augmenting Mobile Devices with a Robotic Limb	<i>Marc Teyssier, Gilles Bailly, Catherine Pelachaud, Eric Lecolinet.</i>
SynchronizAR: Instant Synchronization for Spontaneous and Spatial Collaborations in Augmented Reality	<i>Ke Huo, Tianyi Wang, Luis Paredes, Ana M. Villanueva, Yuanzhi Cao, Karthik Ramani.</i>	MetaArms: Body Remapping Using Feet-Controlled Artificial Arms	<i>MHD Yamen, Tomoya Sasaki, Kai Kunze, Kouta Minamizawa, Masahiko Inami.</i>
Ownership: Facilitating Overhead Interaction in Virtual Reality with an Ownership-Preserving Hand Space Shift	<i>Tiare Feuchtner, Jörg Müller.</i>	Authoring and Verifying Human-Robot Interactions 	<i>David Porfirio, Allison, La Crosse Aws Albarghouthi, Madison Bilge Mutlu.</i>
Wall-based Space Manipulation Technique for Efficient Placement of Distant Objects in Augmented Reality	<i>Han Joo Chae, Jeong-in Hwang, Jinwook Seo.</i>	GridDrones: A Self-Levitating Physical Voxel Lattice for Interactive 3D Surface Deformations	<i>Sean Braley, Calvin Rubens, Timothy Merritt, Roel Vertegaal.</i>

Monday, October 15th – 14:10

(B08) Fabrication Session chair: Tico Ballagas		(C01) Crowds and Human-AI Partnership Session chair: Michael Bernstein	
Dynablock: Dynamic 3D Printing for Instant and Reconstructable Shape Formation	<i>Ryo Suzuki, Junichi Yamaoka, Daniel Leithinger, Tom Yeh, Mark D. Gross, Yoshihiro Kawahara, Yasuaki Kakehi.</i>	The Exploratory Labeling Assistant: Mixed-Initiative Label Curation with Large Document Collections	<i>Cristian Felix, Aritra Dasgupta, Enrico Bertini.</i>
TrussFormer: 3D Printing Large Kinetic Structures	<i>Robert Kovacs, Alexandra Ion, Pedro Lopes, Tim Oesterreich, Johannes Filter, Philipp Otto, Tobias Arndt, Nico Ring, Melvin Witte, Anton Synytsia, Patrick Baudisch.</i>	Sprout: Crowd-Powered Task Design for Crowdsourcing	<i>Jonathan Bragg, Mausam Mausam, Daniel S. Weld.</i>
Shape-Aware Material: Interactive Fabrication with ShapeMe	<i>Michael Wessely, Theophanis Tsandilas, Wendy E. Mackay.</i>	Crowdsourcing Similarity Judgments for Agreement Analysis in End-User Elicitation Studies	<i>Abdullah X. Ali, Meredith Ringel Morris, Jacob O. Wobbrock.</i>
Wireless Analytics for 3D Printed Objects	<i>Vikram Iyer, Justin Chan, Ian Culhane, Jennifer Mankoff, Shyamnath Gollakota.</i>	Believe it or not: Designing a Human-AI Partnership for Mixed-Initiative Fact-Checking	<i>An T. Nguyen, Aditya Kharosekar, Saumyaa Krishnan, Siddhesh Krishnan, Elizabeth Tate, Byron C. Wallace, Matthew Lease.</i>
TOCHI: Automatics: Dynamically Generating Fabrication Tasks to Adapt to Varying Contexts	<i>Matthew Lakier, Michelle Annett, Daniel Wigdor.</i>	Porta: Profiling Software Tutorials Using Operating-System-Wide Activity Tracing 	<i>Alok Mysore, Philip J. Guo.</i>

Monday, October 15th – 16:20

(B08) Sensing and Acoustics Session chair: Mike Chen		(C01) Visualizations in 2D and 3D Session chair: Vidya Setlur	
Ubicoustics: Plug-and-Play Acoustic Activity Recognition	<i>Gierad Laput, Karan Ahuja, Mayank Goel, Chris Harrison.</i>	Vizir: A Domain-Specific Graphical Language for Authoring and Operating Airport Automations	<i>Stéphane Conversy, Jeremie Garcia, Guilhem Buisan, Mathieu Cousy, Mathieu Poirier, Nicolas Saporito, Damiano Taurino, Giuseppe Frau, Johan Debattista.</i>
Vibrosight: Long-Range Vibrometry for Smart Environment Sensing 	<i>Yang Zhang, Gierad Laput, Chris Harrison.</i>	MoSculp: Interactive Visualization of Shape and Time	<i>Xiuming Zhang, Tali Dekel, Tianfan Xue, Andrew Owens, Qiurui He, Jiajun Wu, Stefanie Mueller, William T. Freeman.</i>
SilentVoice: Unnoticeable Voice Input by Ingressive Speech 	<i>Masaaki Fukumoto.</i>	Maestro: Designing a System for Real-Time Orchestration of 3D Modeling Workshops	<i>Volodymyr Dziubak, Ben Lafreniere, Tovi Grossman, Andrea Bunt, George Fitzmaurice.</i>
SoundBender: Dynamic Acoustic Control Behind Obstacles	<i>Mohd Adili Norasikin, Diego Martinez Plasencia, Spyros Polychronopoulos, Gianluca Memoli, Yutaka Tokuda, Sriram Subramanian.</i>	Turbulence Ahead - A 3D Web-Based Aviation Weather Visualizer	<i>Lisa Stähli, David Rudi, Martin Raubal.</i>

Monday, October 15th – 18:00

(B01, B06) Demo Reception	
Scout: Mixed-Initiative Exploration of Design Variations through High-Level Design Constraints	<i>Amanda M Swearngin, Andrew J. Ko, James Fogarty.</i>
PrintMotion: Actuating Printed Objects Using Actuators Equipped in a 3D Printer	<i>Shohei Katakura, Keita Watanabe.</i>
MetaArms: Body Remapping Using Feet-Controlled Artificial Arms	<i>Tomoya Sasaki, Yamen Saraiji, Kouta Minamizawa, Masahiko Inami.</i>
Interactive Tangrami: Rapid Prototyping with Modular Paper-folded Electronics	<i>Michael Wessely, Nadiya Morenko, Jürgen Steimle, Michael Schmitz.</i>
Face/On: Actuating the Facial Contact Area of a Head-Mounted Display for Increased Immersion	<i>Dennis Wolf, Leo Hnatek, Enrico Rukzio.</i>
Transparent Mask: Face-Capturing Head-Mounted Display with IR Pass Filters	<i>Mariko Chiba, Wataru Yamada, Hiroyuki Manabe.</i>
Wearable Haptic Device that Presents the Haptics Sensation Corresponding to Three Fingers on the Forearm	<i>Taha Moriyama, Takuto Nakamura, Hiyoruki Kajimoto.</i>
Haptopus : Haptic VR Experience Using Suction Mechanism Embedded in Head-mounted Display	<i>Takayuki Kameoka, Yuki Kon, Takuto Nakamura, Hiroyuki Kajimoto.</i>
Unlimited Electric Gum: A Piezo-based Electric Taste Apparatus Activated by Chewing	<i>Naoshi Ooba, Kazuma Aoyama, Hiromi Nakamura, Homei Miyashita.</i>
AccordionFab: Fabricating Inflatable 3D Objects by Laser Cutting and Welding Multi-Layered Sheets	<i>Junichi Yamaoka, Kazunori Nozawa, Shion Asada, Ryuma Niiyama, Yoshihiro Kawahara, Yasuaki Takehi.</i>
HoloRoyale: A Large Scale High Fidelity Augmented Reality Game	<i>Damien Constantine Rompapas, Christian Sandor, Alexander Plopski, Daniel Saakes, Dong Hyeok Yun, Takafumi Taketomi, Hirokazu Kato.</i>
Screen–Camera Communication via Matrix Barcode Utilizing Imperceptible Color Vibration	<i>Satoshi Abe.</i>

Monday, October 15th – 18:00 (continued)

OptRod: Constructing Interactive Surface with Multiple Functions and Flexible Shape by Projected Image	<i>Ryo Shirai, Yuichi Itoh, Shori Ueda, Takao Onoye.</i>
Haptic Interface Using Tendon Electrical Stimulation	<i>Akifumi Takahashi, Kenta Tanabe, Hiroyuki Kajimoto.</i>
FTIR-based Touch Pad for Smartphone-based HMD Enhancement	<i>Takuya Kitade, Wataru Yamada, Hiroyuki Manabe.</i>
The Immersive Bubble Chart: a Semantic and Virtual Reality Visualization for Big Data	<i>Teresa Onorati, Paloma Díaz, Telmo Zarraonandia, Ignacio Aedo.</i>
Collaborative Virtual Reality for Low-Latency Interaction	<i>Carmine Elvezio, Frank Ling, Jen-Shuo Liu, Steven Feiner.</i>
Artificial Motion Guidance: an Intuitive Device based on Pneumatic Gel Muscle (PGM)	<i>Takashi Goto, Swagata Das, Yuichi Kurita, Kai Kunze.</i>
A Demonstration of VRSpinning: Exploring the Design Space of a 1D Rotation Platform to Increase the Perception of Self-Motion in VR	<i>Thomas Dreja, Michael Rietzler, Teresa Hirzle, Jan Gugenheimer, Julian Frommel, Enrico Rukzio.</i>
An Interactive Pipeline for Creating Visual Blends	<i>Lydia B. Chiton, Savvas Petridis, Maneesh Agrawala.</i>
A Stretch-Flexible Textile Multitouch Sensor for User Input on Inflatable Membrane Structures & Non-Planar Surfaces	<i>Kristian Gohlke.</i>
Demonstrating Gamepad with Programmable Haptic Texture Analog Buttons	<i>Youngbo Aram Shim, Geehyuk Lee.</i>
Knobology 2.0: Giving Shape to the Haptic Force Feedback of Interactive Knobs	<i>Anke van Oosterhout.</i>
Hybrid Watch User Interfaces: Collaboration Between Electro-Mechanical Components and Analog Materials	<i>Alex Olwal.</i>

Tuesday, October 16th – 9:00

(C01) Sensing in the Small Scale Session chair: Gierad Laput		(B08) Authoring, Reading and Writing Session chair: Steve Oney	
CamTrackPoint: Camera-Based Pointing Stick Using Transmitted Light through Finger	<i>Wataru Yamada, Hiroyuki Manabe, Daizo Ikeda.</i>	Extending a Reactive Expression Language with Data Update Actions for End-User Application Authoring	<i>Lea Verou, Tarfah Alrashed, David Karger.</i>
Indutivo: Contact-Based, Object-Driven Interactions with Inductive Sensing	<i>Jun Gong, Xin Yang, Teddy Seyed, Josh Urban Davis, Xing-Dong Yang.</i>	Immersive Trip Reports	<i>Jan Brejcha, Michal Lukác, Zhili Chen, Stephen DiVerdi, Martin Cadík.</i>
Touch+Finger: Extending Touch-based User Interface Capabilities with “Idle” Finger Gestures in the Air	<i>Hyunchul Lim, Jungmin Chung, Changhoon Oh, SoHyun Park, Joonhwan Lee, Bongwon Suh.</i>	Non-Linear Editing of Text-Based Screencasts	<i>Jungkook Park, Yeong Hoon Park, Alice Oh.</i>
FingerArc and FingerChord: Supporting Novice to Expert Transitions with Guided Finger-Aware Shortcuts	<i>Jingjie Zheng, Blaine Lewis, Jeff Avery, Daniel Vogel.</i>	Multitasking with Play Write, a Mobile Microproductivity Writing Tool	<i>Shamsi T. Iqbal, Jaime Teevan, Dan Liebling, Anne Loomis Thompson.</i>
Tacttoo: A Thin and Feel-Through Tattoo for On-Skin Tactile Output	<i>Anusha Withana, Daniel Groeger, Jürgen Steimle.</i>	Facilitating Document Reading by Linking Text and Tables	<i>Dae Hyun Kim, Enamul Hoque, Juho Kim, Maneesh Agrawala.</i>

Tuesday, October 16th – 11:10

(C01) Electronics Session chair: Stefanie Mueller		(B08) Navigation Session chair: Diego Martinez	
ElectroTutor : Test-Driven Physical Computing Tutorials	<i>Jeremy Warner, Ben Lafreniere, George Fitzmaurice, Tovi Grossman.</i>	ShareSpace: Facilitating Shared Use of the Physical Space by both VR Head-Mounted Display and External Users	<i>Keng-Ta Yang, Chiu-Hsuan Wang, Liwei Chan.</i>
WiFröst: Bridging the Information Gap for Debugging of Networked Embedded Systems	<i>William McGrath, Jeremy Warner, Mitchell Karchemsky, Andrew Head, Daniel Drew, Bjoern Hartmann.</i>	Scenograph: Fitting Real-Walking VR Experiences into Various Tracking Volumes	<i>Sebastian Marwecki, Patrick Baudisch.</i>
Assembly-aware Design of Printable Electromechanical Devices	<i>Ruta Desai, James McCann, Stelian Coros.</i>	Increasing Walking in VR using Redirected Teleportation	<i>James Liu, Hirav Parekh, Majed Al-Zayer, Eelke Folmer.</i>
RFIMatch: Distributed Batteryless Near-Field Identification Using RFID-Tagged Magnet-Biased Reed Switches	<i>Rong-Hao Liang, Meng-Ju Hsieh, Jheng-You Ke, Jr-Ling Guo, Bing-Yu Chen.</i>	Adasa: A Conversational In-Vehicle Digital Assistant for Advanced Driver Assistance Features 	<i>Shih-Chieh Lin, Chang-Hong Hsu, Walter Talamonti, Yunqi Zhang, Steve Oney, Jason Mars, Lingjia Tang.</i>
I/O Braid: Scalable Touch-Sensitive Lighted Cords Using Spiraling, Repeating Sensing Textiles and Fiber Optics	<i>Alex Olwal, Jon Moeller, Greg Priest-Dorman, Thad Starner, Ben Carroll.</i>	Intelligent Modality Selection for Navigation Systems	<i>Kyle Kotowick, Julie Shah.</i>

Tuesday, October 16th – 14:20

(B08) Haptics and VR Session chair: Christian Holz		(C01) Modelling and Animation Session chair: Steven Feiner	
DualPanto: A Haptic Device that Enables Blind Users to Continuously Interact with Virtual Worlds	<i>Oliver Schneider, Jotaro Shigeyama, Robert Kovacs, Thijs Jan Roumen, Sebastian Marwecki, Nico Boeckhoff, Daniel Amadeus Gloeckner, Jonas Bounama, Patrick Baudisch.</i>	4DMesh: 4D Printing Morphing Non-Developable Mesh Surfaces	<i>Guanyun Wang, Humphrey Yang, Zeyu Yan, Nurcan Gecer Ulu, Ye Tao, Jianzhe Gu, Levent Burak Kara, Lining Yao.</i>
VR Grabbers: Ungrounded Haptic Retargeting for Precision Grabbing Tools	<i>Jackie (Junrui) Yang, Hiroshi Horii, Alexander Thayer, Rafael Ballagas.</i>	Blocks-to-CAD: A Cross-Application Bridge from Minecraft to 3D Modeling	<i>Ben Lafreniere, Tovi Grossman.</i>
DextrES: Wearable Haptic Feedback for Grasping in VR via a Thin Form-Factor Electrostatic Brake	<i>Ronan Hinchet, Velko Vechev, Herbert Shea, Otmar Hilliges.</i>	A Mixed-Initiative Interface for Animating Static Pictures	<i>Nora S. Willett, Rubaiat Habib Kazi, Michael Chen, George Fitzmaurice, Adam Finkelstein, Tovi Grossman.</i>
HydroRing: Supporting Mixed Reality Haptics Using Liquid Flow	<i>Teng Han, Fraser Anderson, Pourang Irani, Tovi Grossman.</i>	TakeToons: Script-driven Performance Animation	<i>Hariharan Subramonyam, Wilmot Li, Eytan Adar, Mira Dontcheva.</i>
FacePush: Introducing Normal Force on Face with Head-Mounted Displays	<i>Hong-Yu Chang, Wen-Jie Tseng, Chia-En Tsai, Hsin-Yu Chen, Roshan Lalintha Peiris, Liwei Chan.</i>	Montage: A Video Prototyping System to Reduce Re-Shooting and Increase Re-Usability	<i>Germán Leiva, Michel Beaudouin-Lafon.</i>

Tuesday, October 16th – 16:00

(B01) Poster Session	
Pushables: A DIY Approach for Fabricating Customizable and Self-Contained Tactile Membrane Dome Switches	<i>Konstantin Klamka Technische, Raimund Dachself.</i>
Mindgame: Mediating People's EEG Alpha Band Power through Reinforcement Learning	<i>Tongda Xu, Dinglu Wang, Xiaohui You.</i>
SweatSponse: Closing the Loop on Notification Delivery Using Skin Conductance Responses	<i>Pascal E. Fortin, Elisabeth Sulmont, Jeremy R. Cooperstock.</i>
SurfaceStreams: A Content-Agnostic Streaming Toolkit for Interactive Surfaces	<i>Florian Echtler.</i>
Augmented Collaboration in Shared Space Design with Shared Attention and Manipulation	<i>Yoonjeong Cha, Sungu Nam, Mun Yong Yi, Jaeseung Jeong, Woontack Woo.</i>
Aalto Interface Metrics (AIM): A Service and Codebase for Computational GUI Evaluation	<i>Antti Oulasvirta, Samuli De Pascale, Janin Koch, Thomas Langerak, Jussi Jokinen, Kashyap Todi, Markku Laine, Manoj Krithombuge, Yuxi Zhu, Aliaksei Miniukovich, Gregorio Palmas, Tino Weinkauff.</i>
Shared Autonomy for Interactive Systems	<i>Sharon Zhou, Tong Mu, Karan Goel, Michael Bernstein, Emma Brunskill.</i>
DynamicSlide: Reference-based Interaction Techniques for Slide-based Lecture Videos	<i>Hyeunghshik Jung, Hijung Valentina Shin, Juho Kim.</i>
Gaze-guided Image Classification for Reflecting Perceptual Class Ambiguity	<i>Tatsuya Ishibashi, Yusuke Sugano, Yasuyuki Matsushita.</i>
Touch180: Finger Identification on Mobile Touchscreen using Fisheye Camera and Convolutional Neural Network	<i>Insu Kim, Keunwoo Park, Youngwoo Yoon, Geehyuk Lee.</i>
OmniEyeball: Spherical Display Equipped With Omnidirectional Camera And Its Application For 360-Degree Video Communication	<i>Zhengqing Li, Shio Miyafuji, Toshiki Sato, Hideaki Kuzuoka, Hideki Koike.</i>
AmbientLetter: Letter Presentation Method for Discreet Notification of Unknown Spelling when Handwriting	<i>Xaver Tomihiro Toyozaki, Keita Watanabe.</i>

Tuesday, October 16th – 16:00 (continued)

Head Pose Classification by using Body-Conducted Sound	<i>Ryo Kamoshida, Kentaro Takemura.</i>
cARe: An Augmented Reality Support System for Dementia Patients	<i>Dennis Wolf, Daniel Besserer, Karolina Sejunaite, Matthias Wilhelm Riepe, Enrico Rukzio.</i>
Scaling Notifications Beyond Alerts: From Subtly Drawing Attention up to Forcing the User to Take Action	<i>Denys J.C. Matthies, Laura Milena Daza Parra.</i>
Companion - A Software Toolkit for Digitally Aided Pen-and-Paper Tabletop Roleplaying	<i>Sebastian Stickert, Hagen Hiller, Florian Echtler.</i>
Post-literate Programming: Linking Discussion and Code in Software Development Teams	<i>Soya Park, Amy X. Zhang, David R. Karger.</i>
Juggling 4.0: Learning Complex Motor Skills with Augmented Reality Through the Example of Juggling	<i>Benjamin Meyer, Pascal Gruppe, Bastian Cornelsen, Tim Claudius Stratmann, Uwe Gruenefeld, Susanne Boll.</i>
Wearable Kinesthetic I/O Device for Sharing Muscle Compliance	<i>Jun Nishida, Kenji Suzuki.</i>
Reversing Voice-Related Biases Through Haptic Reinforcement	<i>Feras Al Taha, Pascal E. Fortin, Antoine Weill-Duflos, Jeremy Cooperstock.</i>
Mixed-Reality for Object-Focused Remote Collaboration	<i>Martin Feick, Tony Tang, Scott Bateman.</i>
Trans-scale Playground: An Immersive Visual Telexistence System for Human Adaptation	<i>Satoshi Hashizume, Akira Ishii, Kenta Suzuki, Kazuki Takazawa, Yoichi Ochiai.</i>
Augmenting Human Hearing Through Interactive Auditory Mediated Reality	<i>Evgeny Stemasov, Gabriel Haas, Michael Rietzler, Enrico Rukzio.</i>
Sense.Seat: Inducing Improved Mood and Cognition through Multisensorial Priming	<i>Pedro F. Campos, Diogo Cabral, Frederica Gonçalves.</i>
Kaleidoscope: An RDF-based Exploratory Data Analysis Tool for Ideation Outcomes	<i>Maximilian Mackeprang, Philipp Kuhnz, Gerold Schneider, Johann Strama, Jesse Josua Benjamin, Claudia Müller-Birn.</i>
Perceptual Switch for Gaze Selection	<i>Jooyeon Lee, Jong-Seok Lee.</i>

Tuesday, October 16th – 16:00 (continued)

ZEUSSS: Zero Energy Ubiquitous Sound Sensing Surface Leveraging Triboelectric Nanogenerator and Analog Backscatter Communication	<i>Nivedita Arora, Gregory D. Abowd.</i>
reMi: Translating Ambient Sounds of Moment into Tangible and Shareable Memories through Animated Paper	<i>Kyung Yun Choi, Darle Shinsato, Shane Zhang, Ken Nakagaki, Hiroshi Ishii.</i>
Engagement Learning: Expanding Visual Knowledge by Engaging Online Participants	<i>Ranjay Krishna, Donsuk Lee, Fei-Fei Li, Michael Bernstein.</i>
A WOZ Study of Feedforward Information on an Ambient Display in Autonomous Cars	<i>Hauke Sandhaus, Eva Hornecker.</i>
CrowdMuse: An Adaptive Crowd Brainstorming System	<i>Victor Girotto, Erin Walker, Winslow Burleson.</i>
Active Authentication on Smartphone using Touch Pressure	<i>Masashi Kudo, Hayato Yamana.</i>
DisplayBowl: A Bowl-Shaped Display for Omnidirectional Videos	<i>Shio Miyafuji, Soichiro Toyohara, Toshiki Sato, Hideki Koike.</i>
Investigation into Natural Gestures Using EMG for SuperNatural" Interaction in VR"	<i>Chloe Egtebas, Sandro Weber, Gudrun Klinker.</i>
I Know What You Want: Using Gaze Metrics to Predict Personal Interest	<i>Jakob Karolus, Patrick Dabbert, Pawel W. Wozniak.</i>
D-Aquarium: A Digital Aquarium to Reduce Perceived Waiting Time at Children's Hospital	<i>Jooyoung Son, Suzi Choi, Jundong Cho.</i>
One Button to Rule Them All: Rendering Arbitrary Force-Displacement Curves	<i>Yi-Chi Liao, Sunjun Kim, Antti Oulasvirta.</i>
Towards a Symbiotic Human-Machine Depth Sensor: Exploring 3D Gaze for Object Reconstruction	<i>Teresa Hirzle, Jan Gugenheimer, Florian Geiselhart, Andreas Bulling, Enrico Rukzio.</i>
Phonoscape: Auralization of Photographs using Stereophonic Auditory Icons	<i>Keichi Zempo, Yuichi Mashiba, Takayuki Kawamura, Noko Kuratomo, Hisham Elser Bilal Salih.</i>
DroneCTRL: A Tangible Remote Input Control for Quadcopters	<i>Thomas Kosch, Markus Funk, Albrecht Schmidt.</i>

Tuesday, October 16th – 16:00 (continued)

resources2City: Explorer A System for Generating Interactive Walkable Virtual Cities out of File Systems	<i>Attila Kett, Giuseppe Abrami, Alexander Mehler, Christian Spiekermann.</i>
EyeExpress: Expanding Hands-free Input Vocabulary using Eye Expressions	<i>Pin Sung Ku, Te-Yen Wu, Mike Y. Chen.</i>
Game Design for Users with Constraint: Exergame for Older Adults with Cognitive Impairment	<i>Mahzar Eisapour, Shi Cao, Jennifer Boger.</i>
Pop-up Robotics: Facilitating HRI in Public Spaces	<i>Swapna Joshi, Selma Sabanovic.</i>


Tuesday, October 16th – 17:00

(C01) Vision Track	
The Material for the 21st Century	<i>Gregory D. Abowd.</i>
The Future Evolution of Language	<i>Ken Perlin.</i>

Tuesday, October 16th – 19:00

(Kulturbrauerei) Conference Dinner and Student Innovation Contest


Wednesday, October 17th – 9:00

(C01) Bodies and Sensing Session chair: Jan Borchers		(B08) Novel Haptics Session chair: Sean Follmer	
Designing Groundless Body Channel Communication Systems: Performance and Implications	<i>Virag Varga, Marc Wyss, Gergely Vakulya, Alanson Sample, Thomas R. Gross.</i>	Magneto-Haptics: Embedding Magnetic Force Feedback for Physical Interactions	<i>Masa Ogata.</i>
Orecchio: Extending Body-Language through Actuated Static and Dynamic Auricular Postures	<i>Da-Yuan Huang, Teddy Seyed, Linjun Li, Jun Gong, Zhihao Yao, Yuchen Jiao, Xiang 'Anthony' Chen, Xing-Dong Yang.</i>	RESi: A Highly Flexible, Pressure-Sensitive, Imperceptible Textile Interface Based on Resistive Yarns 	<i>Patrick Parzer, Florian Perteneder, Kathrin Probst, Christian Rendl, Joanne Leong, Sarah Schuetz, Anita Vogl, Reinhard Schwoedlauer.</i>
Designing Socially Acceptable Hand-to-Face Input	<i>DoYoung Lee, Youryang Lee, Yonghwan Shin, Ian Oakley.</i>	Haptic Feedback to the Palm and Fingers for Improved Tactile Perception of Large Objects	<i>Bukun Son, Jaeyoung Park.</i>
Asterisk and Obelisk: Motion Codes for Passive Tagging	<i>Aakar Gupta, Jiushan Yang, Ravin Balakrishnan.</i>	ElectricItch: Skin Irritation as a Feedback Modality	<i>Henning Pohl, Kasper Hornbæk.</i>

Wednesday, October 17th – 11:20

(B08) Touch Interaction Session chair: Wendy Mackay		(C01) VR Interaction Techniques Session chair: Fraser Anderson	
InfiniTouch: Finger-Aware Interaction on Fully Touch Sensitive Smartphones	<i>Huy Viet Le, Sven Mayer, Niels Henze.</i>	RollingStone: Using Single Slip Taxel for Enhancing Active Finger Exploration with a Virtual Reality Controller	<i>Jo-Yu Lo, Da-Yuan Huang, Chen-Kuo Sun, Chu-En Hou, Bing-Yu Chen.</i>
Next-Point Prediction for Direct Touch Using Finite-Time Derivative Estimation	<i>Mathieu Nancel, Stanislav Aranovskiy, Rosane Ushirobira, Denis Efimov, Sebastien Poulmane, Nicolas Roussel, G�ry Casiez.</i>	TOCHI: Fallacies of Agreement: A Critical Review of Consensus Assessment Methods for Gesture	<i>Theophanis Tsandilas.</i>
FDSense: Estimating Young's Modulus and Stiffness of End Effectors to Facilitate Kinetic Interaction on Touch Surfaces	<i>Sanghwa Hong, Eunseok Jeong, Seongkook Heo, Byungjoo Lee.</i>	Spacetime: Enabling Fluid Individual and Collaborative Editing in Virtual Reality	<i>Haijun Xia, Sebastian Herscher, Ken Perlin, Daniel Wigdor.</i>
Unimanual Pen+Touch Input Using Variations of Precision Grip Postures	<i>Drini Cami, Fabrice Matulic, Richard G. Calland, Brian Vogel, Daniel Vogel.</i>	Evaluation of Interaction Techniques for a Virtual Reality Reading Room in Diagnostic Radiology	<i>Markus Wirth, Stefan Gradl, Jan Sembdner, Soeren Kuhrt, Bjoern M. Eskofier.</i>

Wednesday, October 17th – 14:00

(B08) Mobile Interactions Session chair: Dan Vogel		(C01) Web Session chair: Wilmot Li	
Ultra-Low-Power Mode for Screenless Mobile Interaction	<i>Jian Xu, Suwen Zhu, Aruna Balasubramanian, Xiaojun Bi, Roy Shilkrot.</i>	Arboretum and Arbility: Improving Web Accessibility Through a Shared Browsing Architecture	<i>Steve Oney, Alan Lundgard, Rebecca Krosnick, Michael Nebeling, Walter S. Lasecki.</i>
Learning Design Semantics for Mobile Apps	<i>Thomas F. Liu, Mark Craft, Jason Situ, Ersin Yumer, Radomir Mech, Ranjitha Kumar.</i>	Fusion: Opportunistic Web Prototyping with UI Mashups	<i>Xiong Zhang, Philip J. Guo.</i>
Lip-Interact: Improving Mobile Device Interaction with Silent Speech Commands	<i>Ke Sun, Chun Yu, Weinan Shi, Lan Liu, Yuanchun Shi.</i>	Rousillon: Scraping Distributed Hierarchical Web Data	<i>Sarah E. Chasins, Maria Mueller, Rastislav Bodik.</i>
Self-Powered Gesture Recognition with Ambient Light	<i>Yichen Li, Tianxing Li, Ruchir A. Patel, Xing-Dong Yang, Xia Zhou.</i>	Idyll: A Markup Language for Authoring and Publishing Interactive Articles on the Web	<i>Matthew Conlen, Jeffrey Heer.</i>
Robust Annotation of Mobile Application Interfaces in Methods for Accessibility Repair and Enhancement	<i>Xiaoyi Zhang, Anne Spencer Ross, James Fogarty.</i>	Ply: A Visual Web Inspector for Learning from Professional Webpages 	<i>Sarah Lim, Joshua Hirschman, Haoqi Zhang, Eleanor O'Rourke.</i>

UIST School 2018

Moving Interaction Closer To The Body: Physiology And Beyond

WEDNESDAY, OCTOBER 10th	
18:00	Pre-UIST School Get Together
THURSDAY, OCTOBER 11th	
9:00 - 9:30	Welcome and Introductions <i>Florian Alt (Bundeswehr University Munich)</i>
9:30 - 11:00	Designing with the Body: Somaesthetic Interaction Design <i>Kristina Höök (KTH Stockholm)</i>
11:00 - 11:30	Refreshment (Coffee & Snacks)
11:30 - 13:00	Brain and Muscle Computer Interfaces <i>Pedro Lopes (University of Chicago)</i>
13:00 - 14:00	Lunch Break
14:00 - 16:00	Correction of artifacts in EEG signals for Brain-Computer Interfaces <i>Sarah Blum (University of Oldenburg)</i>
16:00 – 20:00	Berlin Tour
FRIDAY, OCTOBER 12th	
08:30 - 12:00	Attending PhD Defenses at HPI
12:00 - 13:30	Lunch Break
13:30 - 15:00	Physiological Interaction <i>Albrecht Schmidt (LMU Munich)</i>
15:00 - 15:30	Refreshment (Coffee & Snacks)
15:30 - 17:00	Social signal processing and emotions in computing <i>Elisabeth Andre (University of Augsburg)</i>
evening	Night in Berlin

UIST School 2018 (Hackathon)

The UIST School Hackathon is organized and sponsored by

BR41N.IO

THE BRAIN-COMPUTER INTERFACE
DESIGNERS HACKATHON



SATURDAY, OCTOBER 13th	
10:00 - 10:30	Welcome to the Hackathon <i>Armin Schnürer (g.tec neurotechnology)</i>
10:30 - 11:00	Current and future applications of brain-computer interfaces <i>Armin Schnürer (g.tec neurotechnology)</i>
11:00 - 11:30	How to run a real-time BCI application <i>Armin Schnürer (g.tec neurotechnology)</i>
11:30 - 12:00	Unicorn Demo <i>Armin Schnürer (g.tec neurotechnology)</i>
12:00 - 13:00	Hacker Groups and Mentoring
from 13:00	br4in.io Hackathon
SUNDAY, OCTOBER 14th	
10:00 - 10:45	The physiological basis for BCIs <i>Lewis Chuang (LMU Munich)</i>
13:00 - 14:00	Preparing project presentations
14:00 - 15:00	Project presentations
15:00 - 15:30	Meeting hackathon jury <ul style="list-style-type: none"> • <i>Armin Schnürer (g.tec neurotechnology)</i> • <i>Lewis Chuang (LMU Munich)</i> • <i>Albrecht Schmidt (LMU Munich)</i> • <i>Patrick Baudisch (HPI)</i> • <i>Hamed Bahmani (dopavision)</i> • <i>Elisabeth Andre (University of Augsburg)</i> • <i>Florian Alt (Bundeswehr University Munich)</i>
15:30 - 16:00	BR4AIN.IO Ceremony
from 19:00	Hackathon Project Demos at UIST Opening Reception

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Dining Recommendations

GERMAN			
Reinstoff	Schlegelstraße 26c +49 30-30881214	2.800m (24 min using M5 tram)	\$\$\$\$
Zur Letzten Instanz	Waisenstraße 14-16 +49 30-2425528	700m (8 min walk)	\$\$\$
Balthazar Spreeufer 2	Am Spreeufer 2 +49 30-30882156	1000m (14 min walk or 9min with BUS 248)	\$\$\$
Clärchens Ballhaus	Auguststraße 24 +49 30-2829295	1800m (14 min using U8 subway)	\$\$\$
Brauereigaststätte Leibhaftig	Metzer Str. 30 +49 30 54815039	1700m (12 min using M2 tram)	\$\$
Brauhaus Georgbräu	Spreeufer 4 +49 302424244	1000m (14 min walk or 9min with BUS 248)	\$\$
Brauhaus Lemke	Karl Liebknechtstrasse 13 +49 3030878989	750m (10 min walk)	\$\$
OTHER			
Shiori (Japanese)	Max-Beer-Str. 13 +49 30 24337766	1000m (13 min 8 min using U8)	\$\$\$\$
Madami (Vietnamese)	Rosa-Luxemburg-Str. 3 +49 30 65779268	750m (10 min walk)	\$\$
Anjoy (Vietnamese)	Rykestraße 11 +493054861357	2200m (14 min using M2 tram)	\$\$
Cotto e Crudo (Italian)	Eberswalder Str. 33 +49 30 44037111	2900m (13min using U2 subway)	\$\$
You find plenty of cheap options around the trainstation Alexanderplatz or in the shopping mall Alexa			\$

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Transportation between Berlin Tegel Airport and BCC

Taxi: aprox. €25 (32-minute ride)

Public Transit: Bus TXL until S+U Alexanderplatz (44min, every 6 min)

Transportation between Berlin Schönefeld Airport and BCC

Taxi: aprox. €39 (38-minute ride)

Public Transit: Train RB14/ RE7/S9 until S+U Alexanderplatz (33min, every 15min)

Transportation between Berlin Central Station and BCC

Taxi: aprox. €14 (16-minute ride)

Public Transit: Train S3/S5/S7/S9/RB14/RE1/RE7 until S+U Alexanderplatz (10min, every 3 min)

Taxi companies:

Note that they charge €1.50 for card payment

Taxi Berlin: +49 30202020

Funk Taxi Berlin: +49 30261026

Würfelfunk: +49 30210101

Public Transport Fares:

One-way fare: €2.80

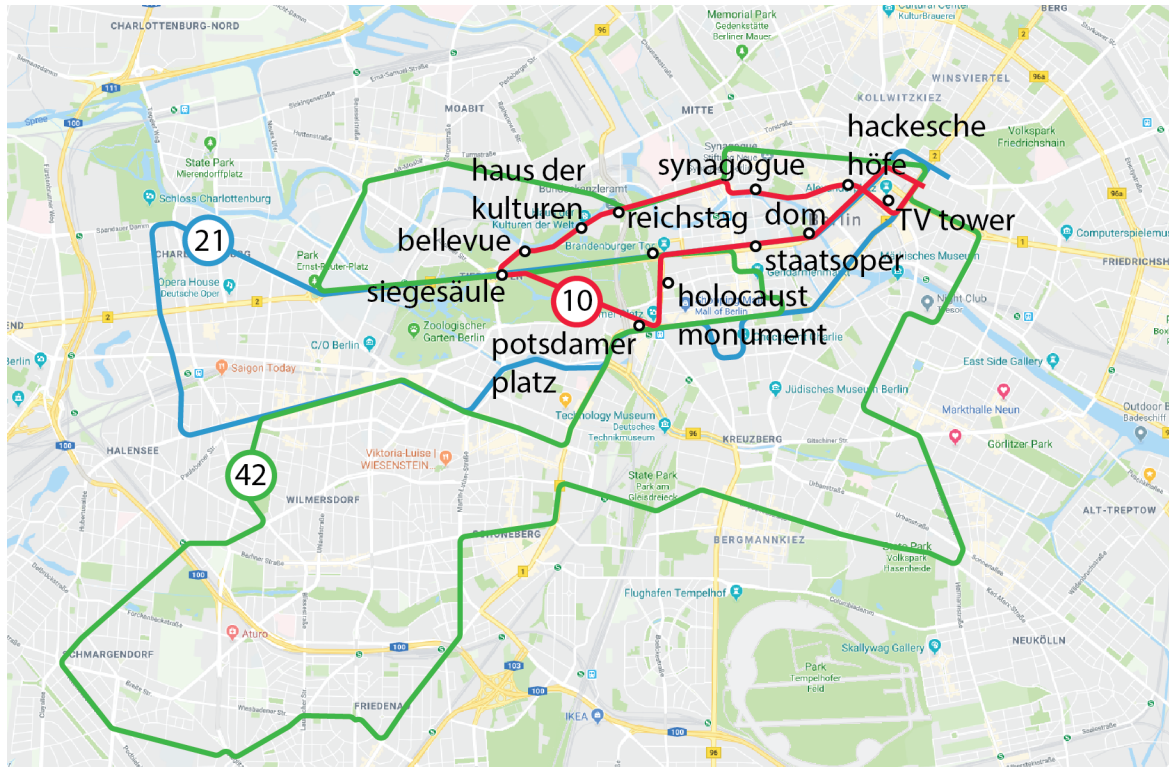
1-day pass: €7.70

Berlin Welcome card (4 days): €35.90 (+discount on all touristy things)

Popular in Berlin:

Within Berlin two forms of transport are cheap and popular: public transport gets you anywhere, fast and high frequent and bike sharing services like NextBike are a great way to go around for more active people. You find them everywhere and they cost only €1.00 per 30 minutes and €1.50 for every next 30 min

Sightseeing (runs)



Berlin is not only a city of east and west, old and new and long history, it is also the city of the fastest marathon in the world. It is only a month ago that Eliud Kipchoge ran his spectacular 2:01:39 time at the 45th Berlin Marathon. In 2 hours he has seen most of touristy Berlin which we recommend to any of you as well (green route). That said, most of us (including the author) are more likely to run half a marathon in that time (blue route). This gets you through the key sights while having some time to take pictures. Additionally, we have put some extra effort in making a 10k run (which obviously is a great walk on Saturday morning too) which we refer to as the UIST Sightseeing run (red route).

We recommend all of you to take out those running shoes and jump on board! To find other runners we made a Strava group: <https://www.strava.com/clubs/uist-runners> please join us!

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