

ANUSHA WITHANA

Human-Computer Interaction Group
MMCI Cluster of Excellence
Max Planck Institute for Informatics and Saarland University
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DoB: 1983-02-20, in Sri Lanka

I am a postdoctoral research fellow at Human-Computer Interaction Group, Multimodal Computing and Interaction (MMCI) Cluster of Excellence at Saarland University, Germany. My research is focused on creating *Blended Interfaces*, which I define as interfaces that are ubiquitous, harmonize with the environment and leverage on natural affordances of the context. Such interfaces are vital to expand traditional human computer interaction (HCI) from offices and homes to a broader social interaction paradigm, which will play the role of the medium that connect people between other people and machines to create the future smart society for smart living, education, play and wellbeing. Over the past few years as a postgraduate student and a postdoctoral fellow, I have worked in projects that implement and study social interfaces, which can be deployed in entertainment, communication, healthcare, transportation and automotive industry.

EDUCATION

- Ph.D. - Keio University**, Tokyo, Japan **2010 to 2014**
Thesis: Integration of Multimodal Interactions for Inter-Spatial Continuum
Advisors: Prof. Masahiko Inami, Prof. Naohisa Ohta, Prof. Akira Kato
- M.Des. - Keio University**, Tokyo, Japan **2008 to 2010**
Thesis: *ImpAct*: Immersive Haptic Interface - Exploring Direct Touch and Manipulation Techniques for Surface Computing
Advisors: Prof. Masahiko Inami, Asst. Prof. Maki Sugimoto
- B.Sc. (Hons.) - University of Moratuwa**, Moratuwa, Sri Lanka **2003 to 2007**
B.Sc. (Hons.) - Electronics and Telecommunication
Grade Point Average (GPA) = 3.91 (First Class)
- GCE A/L Examination**, Sri Lanka **2000 to 2002**
Maths: A, Physics: A, Chemistry: A, Z-score: 2.4838, District Rank (Kalutara): 1 (Appr. 20,000 participants), Island Rank: 41 (Appr. 180,000 participants).

PROFESSIONAL EXPERIENCES

- Max Planck Institute for Informatics and Saarland University**, Germany **Dec 2016 - Now**
Postdoctoral Fellow
- Singapore University of Technology and Design**, Singapore **Jan 2014 - Oct 2016**
Postdoctoral Fellow
- University of Melbourne**, Melbourne, Australia **Jun - Aug 2015**
Visiting Researcher
- Keio University**, Tokyo, Japan. **Oct - Dec 2013**
Researcher
SCOPE (Strategic Information and Communications R&D Promotion Program)
- Research Assistant* **Oct 2012 - Mar 2013**
SCOPE (Strategic Information and Communications R&D Promotion Program)
- JST ERATO Igarashi Design Interface Project**, Tokyo, Japan. **Jul 2009 - Mar 2011**
Research Assistant
- Dialog Telekom Ltd.**, Colombo, Sri Lanka. **Nov 2007 - Sep 2008**
Core Network Engineer

REFEREED PUBLICATIONS

JOURNAL PUBLICATIONS

- J1** Juan Pablo, Piyum Fernando, Priyashri Sridhar, **Anusha Withana**, Suranga Nanayakkara, Jurgen Steimle, and Pattie Maes. PostBits: using contextual locations for embedding cloud information in the home. *Personal and Ubiquitous Computing*, 20(6):1001–1014, nov 2016
- J2** Yuta Sugiura, Kakei Gota, **Anusha Withana**, Daisuke Sakamoto, Masahiko Inami, and Takeo Igarashi. Direct Operation Method with Self-projectable Finger Gestures for Bipedal Robots. *Journal of Information Processing (JIP)*, 52(2):737–742, 2011
- J3** Miyuru Dayarathna, **Anusha Withana**, and Kazunori Sugiura. Infoshare : Design and Implementation of Scalable Multimedia Signage Architecture for Wireless Ubiquitous Environments. *Wireless Personal Communications*, 60(1):3–27, mar 2011
- J4** **Anusha Withana**, Yasutoshi Makino, Makoto Kondo, Maki Sugimoto, Gota Kakehi, and Masahiko Inami. ImpAct : Immersive Haptic Stylus to Enable Direct Touch and Manipulation for Surface Computing. *Computers in Entertainment*, 8(2):1, dec 2010

SELECTED CONFERENCE PAPERS

- C1** Bernd Ploderer, Justin Fong, **Anusha Withana**, Marlena Klavic, Siddharth Nair, Vincent Crocher, Frank Vetere, and Suranga Nanayakkara. ArmSleeve: a Patient Monitoring System to Support Occupational Therapists in Stroke Rehabilitation. In *Proceedings of the 2016 ACM Conference on Designing Interactive Systems - DIS '16*, pages 700–711, New York, New York, USA, 2016. ACM Press
- C2** **Anusha Withana**, Roshan Peiris, Nipuna Samarasekara, and Suranga Nanayakkara. zSense: Enabling Shallow Depth Gesture Recognition for Greater Input Expressivity on Smart Wearables. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems - CHI '15*, pages 3661–3670, 2015
- C3** **Anusha Withana**, Shunsuke Koyama, Daniel Saakes, Kouta Minamizawa, Masahiko Inami, and Suranga Nanayakkara. RippleTouch: initial exploration of a wave resonant based full body haptic interface. In *Proceedings of the 6th Augmented Human International Conference on - AH '15*, pages 61–68, 2015
- C4** Santiago Ortega-Avila, Jochen Huber, Nuwan Janaka, **Anusha Withana**, Piyum Fernando, and Suranga Nanayakkara. Sparkubes: exploring the interplay between digital and physical spaces with minimalistic interfaces. In *Proceedings of the 26th Australian Computer-Human Interaction Conference on Designing Futures the Future of Design - OzCHI '14*, pages 204–207, 2014
- C5** Shunsuke Koyama, Masahiko Inami, Yuta Sugiura, Masa Ogata, **Anusha Withana**, Yuji Uema, Makoto Honda, Sayaka Yoshizu, Chihiro Sannomiya, and Kazunari Nawa. Multi-touch steering wheel for in-car tertiary applications using infrared sensors. In *Proceedings of the 5th Augmented Human International Conference on - AH '14*, pages 1–4, New York, New York, USA, 2014. ACM Press
- C6** **Anusha Withana**, Shunsuke Koyama, Yuta Sugiura, Yuji Uema, Kazunari Nawa, Sayaka Yoshizu, Chihiro Sannomiya, and Masahiko Inami. Effects of Relative Rotation on Gesture Interaction in a Multitouch Steering Wheel Based Gaming Interface. In *18 Virtual Reality Conference*, Osaka, Japan, 2013. Virtual Reality Society of Japan
- C7** Yuta Sugiura, Calista Lee, Masayasu Ogata, **Anusha Withana**, Yasutoshi Makino, Daisuke Sakamoto, Masahiko Inami, and Takeo Igarashi. PINOKY: A Ring That Animates Your Plush Toys. In *Proceedings of the 2012 ACM annual conference on Human Factors in Computing Systems - CHI '12*, pages 725–734, New York, New York, USA, may 2012. ACM Press
- C8** **Anusha Withana**, Yuta Sugiura, and Masahiko Inami. Haptic Telescope: Visual to Haptic Cross Modal Display. In *17 Virtual Reality Conference*. Virtual Reality Society of Japan, 2012
- C9** **Anusha Withana**, Miyuru Dayarathna, Masa Inakage, and Kazunori Sugiura. Infoshare: Content, design and system independent multimedia signage architecture. In *2011 2nd International Conference on Wireless Communication, Vehicular Technology, Information Theory and Aerospace & Electronic Systems Technology (Wireless VITAE)*, pages 1–6. IEEE, feb 2011

- C10** Yuta Sugiura, Gota Kakehi, **Anusha Withana**, Calista Lee, Daisuke Sakamoto, Maki Sugimoto, Masahiko Inami, and Takeo Igarashi. Detecting shape deformation of soft objects using directional photorefectivity measurement. In *Proceedings of the 24th annual ACM symposium on User interface software and technology - UIST '11*, pages 509–516, New York, New York, USA, oct 2011. ACM Press
- C11** Yuta Sugiura, Daisuke Sakamoto, **Anusha Withana**, Masahiko Inami, and Takeo Igarashi. Cooking with robots: designing a household system working in open environments. In *Proceedings of the 28th international conference on Human factors in computing systems - CHI '10*, page 2427, 2010
- C12** Kazunori Sugiura, Miyuru Dayarathna, and **Anusha Withana**. Design and implementation of distributed and scalable multimedia signage system. In *2010 Second International Conference on Ubiquitous and Future Networks (ICUFN)*, pages 273–278. IEEE, jun 2010

DEMONSTRATIONS, INSTALLATIONS AND EXHIBITIONS

- D1** **Anusha Withana**, Shanaka Ransiri, Tharindu Kaluarachchi, Chanaka Singhabahu, Yilei Shi, Samitha Elvitigala, and Suranga Nanayakkara. waveSense : Ultra Low Power Gesture Sensing Based on Selective Volumetric Illumination. In *Proceedings of the 29th Annual Symposium on User Interface Software and Technology*, pages 139–140, New York, NY, USA, 2016. ACM Press
- D2** Thomas Schroepfer, Suranga Nanayakkara, **Anusha Withana**, Aloysius Lian, and Lonce Wyse. The RIBbon @ Read Bridge: Interactive light installation, 2015
- D3** Thomas Schroepfer, Suranga Nanayakkara, **Anusha Withana**, Aloysius Lian, Roger Boldu, John Naylor, and Sachith Muthukumarana. SonicSG: Interactive light and sound installation for celebration of SG50, 2015
- D4** Thomas Schroepfer, Suranga Nanayakkara, **Anusha Withana**, Thomas Wortmann, Alex Cornelius, Yu Nong Khew, and Aloysius Lian. Keepers & Bees: an interactive light-art installation of interactive critters that visitors can interact with in real time via their smartphones., 2014
- D5** Thomas Schroepfer, Suranga Nanayakkara, **Anusha Withana**, Juan ÑPablo, Thomas Wortmann, Alex Cornelius, Yu Nong Khew, and Aloysius Lian. nZwarm: a swarm of luminous sea creatures that interact with passers-by, 2014
- D6** Thomas Schroepfer, Suranga Nanayakkara, Thomas Wortmann, Alex Cornelius, Yu Nong Khew, Aloysius Lian, Yeo Kian Peen, Roshan Peiris, **Anusha Withana**, Werry Iain, Benjamin Petry, Santiago Otega, Nuwan Janaka, Samitha Elvitigala, Piyum Fernando, and Nipuna Samarasekera. iSwarm: a swarm of luminous sea creatures that interact with passers-by, 2014
- D7** Yuta Sugiura, Calista Lee, Masayasu Ogata, **Anusha Withana**, Yasutoshi Makino, Daisuke Sakamoto, Masahiko Inami, and Takeo Igarashi. PINOKY: A Ring-like Device That Gives Movement to Any Plush Toy. In *CHI '12 Extended Abstracts on Human Factors in Computing Systems*, CHI EA '12, pages 1443–1444, New York, NY, USA, 2012. ACM
- D8** Gota Kakehi, Yuta Sugiura, **Anusha Withana**, Calista Lee, Naohisa Nagaya, Daisuke Sakamoto, Maki Sugimoto, Masahiko Inami, and Takeo Igarashi. FuwaFuwa: Detecting Shape Deformation of Soft Objects Using Directional Photorefectivity Measurement. In *ACM SIGGRAPH 2011 Emerging Technologies on - SIGGRAPH '11*, pages 1–1, New York, New York, USA, aug 2011. ACM Press
- D9** **Anusha Withana**, Yuta Sugiura, Charith Fernando, Yuji Uema, Yasutoshi Makino, Maki Sugimoto, and Masahiko Inami. ImpAct: Haptic Stylus for Shallow Depth Surface Interaction. In *SIGGRAPH Asia 2011 Emerging Technologies on - SA '11*, pages 1–1, New York, New York, USA, dec 2011. ACM Press
- D10** Yuta Sugiura, **Anusha Withana**, Teruki Shinohara, Masayasu Ogata, Daisuke Sakamoto, Masahiko Inami, and Takeo Igarashi. Cooky: A Cooperative Cooking Robot System. In *SIGGRAPH Asia 2011 Emerging Technologies on - SA '11*, pages 1–1, New York, New York, USA, dec 2011. ACM Press
- D11** **Anusha Withana**, Makoto Kondo, Gota Kakehi, Yasutoshi Makino, Maki Sugimoto, and Masahiko Inami. ImpAct: Enabling Direct Touch and Manipulation for Surface Computing. In *Adjunct proceedings of the 23rd annual ACM symposium on User interface software and technology - UIST '10*, page 411, New York, New York, USA, oct 2010. ACM Press
- D12** Yu Ebihara, Masa Inakage, Chihiro Kondo, Maki Sugimoto, Satoru Tokuhisa, Takuji Tokiwa, Kentaro Harada, Hiroaki Miyasho, Toshitugu Yasaka, and **Anusha Withana**. Composing sounds and images for public display using correlated KANSEI information. In *ACM SIGGRAPH ASIA 2010 Posters on - SA '10*, page 1, New York, New York, USA, dec 2010. ACM Press

- D13 Anusha Withana**, Rika Matsui, Maki Sugimoto, Kentaro Harada, and Masa Inakage. Narrative image composition using objective and subjective tagging. In *ACM SIGGRAPH 2010 Posters on - SIGGRAPH '10*, page 1, New York, New York, USA, jul 2010. ACM Press
- D14** Adrian David Cheok, Roshan Lalintha Peiris, Nimesha Ranasinghe, James Keng Soon Teh, Wei Wang Thang, Kening Zhu, Makoto Danjo, Miyuru Dayarathna, Charith Lasantha Fernando, Nancy Lan-Lan Ma, Yukihiko Morisawa, Dilrukshi Abeyrathne, **Anusha Indrajith Withana**, Chamari Priyange Edirisinghe, Owen Noel Newton Fernando, Isuru Sawubhagya Godage, Kris Hoogendoorn, Junsong Hou, Kasun Karunanayaka, and Michelle Narangoda. Petimo: children's companion for safe social networking. In *ACM SIGGRAPH ASIA 2009 Art Gallery & Emerging Technologies: Adaptation on - SIGGRAPH ASIA '09*, page 80, 2009
- D15** Adrian David Cheok, Owen Noel Newton Fernando, and Charith Lasantha Fernando. Petimo: Enhanced tangible social networking companion for children. In *Proceedings of the International Conference on Advances in Computer Entertainment Technology - ACE '09*, pages 411–412, 2009
- D16** Adrian David Cheok, Owen Noel Newton Fernando, and Charith Lasantha Fernando. Petimo: Safe Social Networking Robot for Children. In *Proceedings of the 8th International Conference on Interaction Design and Children - IDC '09*, page 274, New York, New York, USA, jun 2009. ACM Press
- D17** Charith Lasantha Fernando, Takeo Igarashi, Masahiko Inami, Maki Sugimoto, Yuta Sugiura, **Anusha Indrajith Withana**, and Kakehi Gota. An operating method for a bipedal walking robot for entertainment. In *ACM SIGGRAPH ASIA 2009 Art Gallery & Emerging Technologies: Adaptation on - SIGGRAPH ASIA '09*, page 79, New York, New York, USA, dec 2009. ACM Press

PATENTS

- **Withana, A.**, Nanayakkara, S.C., “zSense : A novel technique for close-proximity gesture recognition” ,*Singapore Patent Application No. 10201407991X*.
- **Withana, A.**, Nanayakkara, S.C., Inami, M., “RippleTouch : Initial Exploration of a Wave Resonant Based Full Body Haptic Interface”, *SUTD TLO Invention Disclosure, (Sub. March 2015)*
- Nanayakkara, S.C., Janaka, N. ,Peiris, R., **Withana, A.**,” Project SHRUG: Stroke Haptic Rehabilitation Utilising Gaming”, *Singapore Patent Application No. 10201406827S*.

HONOURS AND AWARDS

Most Promising Technology Award: zSense: Gestures on Smart Wearables Innovfest unBound 2016 event. Organized by NUS, unBound IDA Singapore.	2016
Best Pitch Award: zSense: Gestures on Smart Wearables Singapore-MIT Alliance for Research and Technology (SMART) Bootcamp, 2015.	2015
Monbukagakusho MEXT Japanese Government Monbukagakusho <i>MEXT</i> scholarship for higher education	2009 to 2013
Best Paper Silver Award for (ImpAct at ACE2010) ImpAct: Immersive haptic stylus to enable direct touch and manipulation for surface computing at 7th International Conference in ACE2010 at Taipei.	2010
InventiON: First prize in the ICT track for Petimo Petimo: social networking robot for children, won the first prize in an international innovation competition in Milan, Italy sponsored by the MMCC. April 22, 2010	2010
Petimo: Winner of the C4C (Como for Children) Competition at IDC The 8th International Conference on Interaction Design and Children (IDC): Learning and Playing in the pre-school of the future, Como, Italy, June 2009	2009
Dean's List (University of Moratuwa) <i>Dean's List</i> of Faculty of Engineering University of Moratuwa, Level 1 and 2.	2003 to 2004

DialogGSM Change Scholarship Awarded for outstanding performance in GCE A/L examination in physical science stream.	2003 to 2007
District Rank 1 GCE A/L examination (Kalutara District) Score the highest mark in GCE A/L examination in Kalutara District, Sri Lanka.	2002

FUNDED RESEARCH PROJECTS

AWARDED

zSense: Gestures on Smart Wearables, Role: Co-PI, Source: SMART Innovation Grant A novel technology to allow shallow depth gesture recognition on smart wearables. Leading the ideation, proposal, implementation and evaluation in the capacity of Co-PI. (216K SGD) <i>PI: Suranga Nanayakkara</i>	2016 to 2017
zSense: Gestures on Smart Wearables, Role: Co-PI, Source: SMART Innovation Grant Enabling Shallow Depth Gesture Recognition for Greater Input Expressivity on Smart Wearables. Leading the ideation, proposal, implementation and evaluation in the capacity of Co-PI. (60K SGD) <i>PI: Suranga Nanayakkara</i>	2015 to 2016
Gestures on Steering Wheel, Role: Lead research, Source:Toyota IT Designing Hovering, Flicking and Touch Based Interface for In-Car Secondary Applications. Lead the ideation, proposal, implementation and evaluation. (4 million JPY) <i>PI: Masahiko Inami</i>	2012 to 2013
Impact V2 - For Design and Creation, Role: Lead research, Source:Keio University Lead the ideation, proposal, implementation and evaluation in the capacity of the leading researcher. (400K JPY) <i>PI: Masahiko Inami</i>	2012 to 2013
Ambient Haptic Display for Car Steering Wheel, Role: Lead research, Source:Toyota IT Lead the ideation, proposal, implementation and evaluation in the capacity of the leading researcher. (4 million JPY) <i>PI: Masahiko Inami</i>	2011 to 2012

UNDER REVIEW

Assistive Augmentations, Role: Co-PI, Source: NRF Design of mobile assistive technologies, user interfaces and interactions that seamlessly integrate with a user's mind, body and behaviour. (3.1 million SGD) Under Review <i>PI: Suranga Nanayakkara</i>	2016 to 2019
WaveSense: Gestures on HMD, Role: Co-PI, Source: Samsung Research America A Novel Technology To Allow Medium Depth Gesture Recognition Head Mounted Displays for Virtual Reality. (289K SGD) Under Review <i>PI: Suranga Nanayakkara</i>	2016 to 2017

TEACHING EXPERIENCES

Systems and Control, SUTD, Singapore, (Co Teach) Conducted lectures, labs and tutorials and labs on Signals, LTI, Convolution, Laplace, FT, FS. <i>Professor: Suranga Nanayakkara, Class: Systems and Control</i>	2016
Functional Prototyping: Basics of Actuators, Keio University, Japan, (TA) Design and conducted a lecture on basics of electronic actuators and their usage in a workshop style class. <i>Professor: Masahiko Inami, Class: Introduction to Media Design</i>	2013

Experiment Design , Keio University, Japan, (TA) Assisted in designing and conducting a lecture on experiment design in HCI context. <i>Professor: Masahiko Inami, Class: Design of Experiments</i>	2012
Rapid Prototyping: Fabrication with Laser Cutter , Keio University, Japan, (TA) Design and conducted a lecture on fabrication with Laser cutter in a workshop style class. <i>Professor: Masahiko Inami, Class: Introduction to Media Design</i>	2011
Functional Prototyping: Sensors , Keio University, Japan, (TA) Instructed on basics of electronic sensors and their usage in a workshop style class. <i>Professor: Maki Sugimoto and Masahiko Inami, Class: Introduction to Media Design</i>	2010

STUDENT SUPERVISION

MASTERS STUDENTS

Shunshuke Koyama , Masters thesis Multi-touch steering wheel for in-car tertiary applications using infrared sensors. Keio University Japan.	2011 - 2012
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UNDERGRADUATE STUDENTS

Samuel Cheong Li Yang , Undergraduate Research Opportunities Program (UROP) Asthma, Air and Me: Ubiquitous device to measure air quality. Singapore University of Technology and Design.	2014 - 2015
Chanaka Singhabahu , Undergraduate Internship Program zSense: Enabling Shallow Depth Gesture Recognition on Smart Wearables. Singapore University of Technology and Design.	2015 - 2016
Tharindu Kaluarachchi , Undergraduate Internship Program SHRUG: Stroke Haptic Rehabilitation Utilising Gaming. Singapore University of Technology and Design.	2015 - 2016
Jessica A. Fang , MIT MISTI Internship Program SonicSG: Interactive light and sound installation for celebration of SG50. Singapore University of Technology and Design.	2015
Akshika Wijesundara , Undergraduate Internship Program zSense: Enabling Shallow Depth Gesture Recognition on Smart Wearables. Singapore University of Technology and Design.	2014 - 2015
Nipuna Samarasekara , Undergraduate Internship Program zSense: Enabling Shallow Depth Gesture Recognition on Smart Wearables. Singapore University of Technology and Design.	2014

SERVICES, TRAINING AND ACTIVITIES

Invited talk: zSense and RippleTouch: Appropriating Technologies for Social and Ubiquitous Interfaces , IDL seminar Social NUI Group, University of Melbourne, Australia. [www.socialnui.unimelb.edu.au]	June, 2015
Demonstration and Poster Co-Chair, Program Committee , AH15 Demonstration and Poster Co-Chair, Program Committee, ACM - Augmented Human 2015 International Conference. [dl.acm.org/citation.cfm?id=2735711]	2015
Invited talk: Auralities and Luminosities: When the object is not concrete , Lux14 Lux Wellington light festival. Lux Critical Forum, New Zealand. [lux.org.nz]	2014
Invited talk: ImpAct: Challenges in Through Surface Interaction Design , UniSA-Keio GCOE Workshop on Application on Human Sensing and Interaction, Keio University, Japan	2011

Invited talk: <i>Infoshare: Content, design and system independent multimedia signage</i> , IEEE Wireless VITAE 2011 International Conference, Chennai, India.	2011
Reviewer , Different scientific Conferences ACM CHI, ACM UIST, ACM AH, IEEE VR, ACM ACE	2009-now
Secretary, Sri Lanka Students' Association in Japan, SLSAJ Published SLSAJ journal, Annual multidisciplinary scientific research journal. [s1saj.com]	2008-2009
Editor of the E-Club , University of Moratuwa, Sri Lanka <i>E-Club</i> , Department of Electronics and Telecommunication Engineering, University of Moratuwa; for academic year 2004/2005. Published the E-Clubs yearly magazine <i>E-Carrier</i> . [ent.mrt.ac.lk]	2004-2005

LANGUAGE SKILLS AND COMPETENCES

English IELTS, December 2014. Results: <i>Listening: 8.0, Reading: 7.0, Writing: 8.0, Speaking: 7.0, Overall: 7.5</i>	Fluent
Sinhalese	Native
Japanese	Intermediate

SELECTED PRESS

National Television Sri Lanka (Rupvahini): Featured in program Nugasewana , 2015 Showcased <i>zSense</i> and <i>ImpAct</i> , December 31, 2015. [https://youtu.be/kDMqWdr9AbA]	Rupavahini, SL
Sonic sculpture livens up river , 2015 Showcased the project <i>SonicSG</i> in December 28, 2015. [https://goo.gl/51HQaW]	NUS' News Portal
An interactive tribute to Singapore (printed and web) , 2015 Showcased the project <i>SonicSG</i> in December 23, 2015. [http://goo.gl/tqL7mt]	Straits Times
The More Well Wishes for the Nation, the Brighter the Interactive Light Up , 2015 Showcased the project <i>SonicSG</i> in December 23, 2015. [http://tinyurl.com/ho8sd9z]	Lianhe Zaobao
Blinking curtain of lights to bring SG50 to a close , 2015 Showcased the project <i>SonicSG</i> in December 23, 2015. [http://tinyurl.com/jq3d7wh]	Berita Harian
Singapore designers create lights for the deaf and rings for the blind , 2015 Showcased the project <i>zSense</i> in November 19, 2015. [https://t.co/1JespV3wwD]	CNN
Keio university develops a device to probe content inside iPhone through a stylus , 2010 Showcased the project <i>ImpAct</i> in November 18, 2010. (in Japanese). [http://goo.gl/yJgtt2]	Gizmodo
Mixed Reality Lab on Discovery Science Channel "Future of Communication" , 2009 Showcased the project <i>Petimo</i> . [http://goo.gl/mizn6j]	Discovery
Walky robot understands iPhone gestures, football fanaticism , 2009 Showcased the project <i>Walky</i> in November 17, 2009.	Engadget
Social Networking Robot for Children: Article in newspaper Straits Times , 2009 Showcased the project <i>Petimo</i> in June 16, 2009.	Straits Times

Social Networking Robot for Children: appeared in NUS' News Portal, 2009
Showcased the project *Petimo* in June 03, 2009. [<http://goo.gl/8UbC8Z>]

NUS' News Portal

Social Networking Robot for Children: Article in newspaper Lianhe Zaobao, 2009
Showcased the project *Petimo* in May 31, 2009.

Lianhe Zaobao

FABRICATION, PROTOTYPING AND SOFTWARE TOOLS

Programing and Application Implementation

Network Application programing with "HTML5", "NodeJS", "NW.js" and "JavaScript"	Expert
Object Oriented Programming with "JAVA"	Expert
Android mobile Application Programming with "JAVA"	Expert
Procedural Programming with "C"	Expert
Web CMS with "Drupal 7"	Expert
Web service programing with "PHP"	Expert
Object Oriented Programming with "C++"	Expert
MVC programing with "Ruby on Rails"	Intermediate

Fabrication

3D Modeling with "Solidworks"	Expert
Rapid Prototyping / Additive Manufacturing "Laser Cutter", "3D Printer"	Expert
Electronics circuit design and PCB layout with "Altium DXP"	Expert
Firmware and embedded programing in "GNU-ARM", "Arduino", "AVR", "CCS C PIC"	Expert

Software Tools

Statistics and data manipulation with "R"	Expert
Mathematical modeling and simulations "Matlab"	Expert
Machine learning and data manipulation "Weka"	Expert
Interactive 3D application creation "UNITY 3D"	Advanced

Operating Systems

Server operating systems "FreeBSD10" and "Debian"	Expert
Desktop operating systems "Ubuntu", "Mac OSX" and "Windows"	Expert

Last Updated December, 2016.