

Future Devices SIG

“On Trend – High Fashion meets High Technology”

27th March 2014

Kindly hosted by UCL - Department of Electronic & Electrical Engineering

This SIG is championed by Peter Whale of Qualcomm, Abhi Naha of Zone V and John Roe of Accenture

Supported by Geoff McCormick of Alloy / User Experience SIG Champion

Venue: UCL, Wilkins Old Refectory Room, Wilkins Building, Torrington Place, London, WC1E 7JE

AGENDA

09:30	Registration & Networking
10:00	Introduction to Cambridge Wireless Future Devices SIG by SIG Champion, Peter Whale of Qualcomm
10:10	Brief and overview of the Design Sessions by Geoff McCormick of Alloy / User Experience SIG Champion (see Design Brief at the end)
	Session chaired by SIG Champion, Peter Whale of Qualcomm
10:15	Welcome and presentation from our host, Dr Sally Day, Senior Lecturer, UCL, Department of Electronic & Electrical Engineering
10:35	Q&A
10:40	Dr Dean Mohamedally, UCL, Department of Computer Sciences Introduction to the Student Project Programme
	Session chaired by SIG Champion, Abhi Naha of Zone V
10:45	“Let's Not Waste the Power of Fashion” Marina Toeters, Founder & Director, by-wire.net Fashion designers have a great ability to create acceptance for change. Fashion changes every season. Technologists develop great things that are very relevant. Acceptance, especially of innovative products close to the body, is always difficult. Collaboration could change the world. However, it seems that fashion is only about changing colour and shape instead of implementing new materials and functionalities. Beside this it is one of the most polluting and wasting sectors. If fashion designers and technologists collaborate they have the power to change the world! Collaboration in the vogue world is Marina's goal. In her hybrid workspace they create prototypes for innovative fashion and textile products.
11:05	Q&A
11:10	Refreshment Break & Networking
	Session chaired by SIG Champion, Abhi Naha of Zone V
11:40	"CuteCircuit, 10 years of Fashion Innovation" Francesca Rosella, Co-Founder & Creative Director, CuteCircuit
12:00	Q&A
12:05	Design Session One: Opportunity Exploring an underlying primal need - such as sex, safety, hunger or status - in order to elicit a product concept.
12:35	Lunch & Networking
	Session chaired by SIG Champion, John Roe of Accenture
13:35	“Meaningful Applications with Wearable Light at Philips” Koen van Os, Senior Scientist Intelligent Textiles, Philips Research Koen will explain how Philips developed medical applications of wearable light in the just closed PLACE-it project. Phototherapy devices came out as an interesting application domain where all aspects of wearable technologies have to be addressed. Based on this knowledge we are exploring other business opportunities which are meaningful in another context but can be based on similar technologies. For example increasing a persons' visibility on a dark street or environment is a very promising opportunity.
13:55	Q&A
14:00	Design Session Two: Technology/Solutions Using a design toolkit to look at key design issues to ensure the design is realizable.

Sessions chaired by SIG Champion, Peter Whale of Qualcomm

14:30 "Fashion and Function"

Rob Milner, Senior Consultant, Wireless Division, Cambridge Consultants

Almost all of the enduring fashion brands started out with a functional use and this endures, their products are still good at what they do, but fashion adds the allure and desirability. Rob's talk will focus on the how - what does technology enable, what are the constraints it introduces, how can you keep the function and what is the flexibility within the product design for fashion?

14:50 Q&A

14:55 Design Session Three: Feedback and Debate

Plenary session to provide feedback and discussion on the previous two sessions.

15:25 Refreshment Break & Networking

Case Studies chaired by SIG Champion, John Roe of Accenture

15:55 "Smart Watches" presented by Zahid Ghadialy, CTO, eXplanoTech**16:05 "Wearable Computing" presented by Necati Munir, Computer Science Student, UCL**

16:15 Design Team Presentations chaired by Geoff McCormick of Alloy

5 minute presentation from each design group presenting final design and announcing winning teams

16:45 Closing remarks by SIG Champion, Abhi Naha of Zone V

16.50 Event Close and Fill in Evaluation Forms

With the permission of the speakers, presentations will be loaded to the Cambridge Wireless website on the day following the event

Design Brief

Set within the beautiful cloisters of the college, there are three distinct design sessions, organized into small, facilitator-led teams, with prizes for the winning team. Each sessions provide a fast-paced and interactive environment to discuss and apply insights gained from the speaker sessions on wearable technology. In the first session, an underlying primal need is explored - such as sex, safety, hunger or status - in order to elicit a product concept. In the second session a design toolkit is used to ensure the design is realizable, and the third session provides feedback and debate. Finally each team provides an elevator-pitch on their design concept, with prizes awarded to the team with the most exciting and potentially viable product concept.

Profile of Organisers

Cambridge Wireless (CW)

CW is the leading international community for companies involved in the research, development and application of wireless & mobile, internet, semiconductor and software technologies. With 400 members from major network operators and device manufacturers to innovative start-ups and universities, CW stimulates debate and collaboration, harnesses and shares knowledge, and helps to build connections between academia and industry. CW's 20 Special Interest Groups (SIGs) provide its members with a dynamic forum where they can network with their peers, track the latest technology trends and business developments and position their organisations in key market sectors. CW also organises the annual Future of Wireless International Conference and Discovering Start-ups competition along with other high-quality industry networking events and dinners. With headquarters at the heart of Cambridge, UK, CW partners with other international industry clusters and organisations to extend its reach and remain at the forefront of global developments and business opportunities. For more information, please visit www.cambridgewireless.co.uk

Profile of Host

UCL – Department of Electronic & Electrical Engineering

UCL Electronic and Electrical Engineering was the first department of Electrical Engineering to be established in England, founded in 1885, and now comprises some 200 researchers working on topics in communications and information systems, electronic materials and devices, optical networks, photonics and sensors, systems and circuits, with turnover exceeding £11 million. It has consistently been rated among the top ten UK Departments in its subject area in the UK Government's Research Assessment Exercise. In 2009, alumnus Sir Charles K. Kao received the Nobel Prize for Physics for his invention of low loss optical fibres and their application to global communication systems. Recent EPSRC Programme Grants, total over £18 million for work in photonic information and communication technologies, THz systems and nanoelectronic quantum devices. For more information please visit: www.ee.ucl.ac.uk

Profile of SIG Champions

Abhi Naha, Zone V

Abhi Naha is the CEO and Founder of Zone V Ltd who specialise in empowering blind people through mobile devices. Previously he held senior management roles at Powermat and Idem. Idem is a Finnish handset design firm with over 100 million handsets in the market from four of the top Tier 1 Handset OEMs in the world. Prior to this, Abhi was a senior manager at Silicon Valley mobile touchscreen and user interface technology provider, Synaptics. Abhi is an Ex-Chairman of the UK based charity BeatBullying and Vice President and board member of the Communications and Manufacturing Association of India. He has also held advisory roles for Goldman Sachs and Silver Lake in the area of mobile handset user interface technologies. Abhi Naha holds a MBA from Aston Business School and BSc (Honours) degree in Electronics Engineering from Leicester University. For more information please visit: www.zone-v.com

John Roe, Accenture

John is Technology Planning Lead at Accenture Mobility, based in Cambridge. Accenture is a global management consulting, technology services and outsourcing company, with 261,000 people serving clients in more than 120 countries. John is responsible for spearheading the Technology agenda in Accenture Mobility, where he has worked since 2009 helping clients deliver key device projects, and taking new technology offerings to market. Prior to Accenture he worked at Nokia and at Symbian where he spent 10 years working closely with handset OEMs on the architecture and realisation of many market leading smartphones. John holds a MA in Engineering from Churchill College, Cambridge University and is a Chartered Engineer. For more information please visit: www.accenture.com

Peter Whale FIET, Qualcomm

Peter Whale FIET is Director of Product Management for Xiam Technologies Ltd, a Qualcomm company, working in the field of content discovery and personal recommendations for mobile content and services. Peter has a long track record of conceiving, developing and marketing successful technology-based solutions, working within a number of innovative Cambridge-based and International organisations. Peter is a board member of Cambridge Wireless and a champion of the Cambridge Wireless Future Devices SIG and more recently has become a Fellow of the IET. For more information please visit: www.qualcomm.com

Profile of Speakers

Dr Sally Day, UCL, Department of Electronic and Electrical Engineering

Dr Sally Day is a Senior Lecturer in Electronic and Electrical Engineering whose research is in the application of liquid crystal devices and displays. She is the UK and Ireland Director for the Society for Information Displays (SID) and was awarded the Cyril Hilsum Medal by the British Liquid Crystal Society in 2008. Her work on liquid crystal displays covers the design of Liquid Crystal on Silicon devices, which are miniaturised displays used in projection systems, but which have application in helmet mounted augmented reality and virtual reality displays, as well as potential to form diffractive and holographic displays. She has also researched the use of cholesteric polarisers, large area displays for architectural applications and more recently the use of liquid crystals in microwave devices and the optical design of an auto-stereoscopic display. In her spare time she designs and makes jewellery and is attempting to incorporate electronics tastefully! For more information please visit: www.ee.ucl.ac.uk

Dr Dean Mohamedally, UCL, Department of Computer Sciences

Dr Dean Mohamedally is the Senior Teaching Fellow in Industrial Software Engineering and Programming in the Department of Computer Science. He is the Director for Apps Engineering for all UCL faculties, on the Apps Strategy Board for UCL. He is also the Director for MSc Software Systems Engineering Projects, Co-Director for Undergraduate Proof of Concepts Projects and works alongside some of the biggest technology companies today in designing and operating Technology Transfer to syllabus at UCL Computer Science. He runs the client-steered apps development and software engineering courses, with access to over 380 students. This enables all levels of Computer Science students to gain real world work experience in software production with external clients in arenas of research, industry and manufacturing as part of their studies. He specialises in applied constructionism theory in software engineering and is a Fellow of the Higher Education Academy. For more information please visit www.cs.ucl.ac.uk

Marina Toeters, Founder & Director, by-wire.net

Marina Toeters, educated as graphic and fashion designer, finished her Master of Art with honors at MAHKU Utrecht by exploring the gap between designers and technicians in the world of fashion. She motivates collaboration for fashion innovation and is initiator and director of by-wire.net (design & research in fashion technology) working amongst others for Philips Research and European Space Agency (ESA). Marina is member of the research group Smart Functional Materials at Saxion University for applied science and teaches New Production Techniques for textile & garments. In HKU University for the Arts and Design Utrecht she is lecturer Fashion Ecology & Technology. At the Eindhoven University of Technology Marina is Theme Champ in Wearable Senses next to her coaching tasks within the Department of Industrial Design. For more information please visit: www.by-wire.net

Francesca Rosella, Co-Founder & Creative Director, CuteCircuit

Internationally-known fashion house, CuteCircuit, has been pushing the boundaries of wearable technology since its launch in 2004. In ten short years CuteCircuit has become the global leader in interactive fashion with iconic designs that have introduced many ground-breaking ideas to the fashion world by integrating beauty and functionality through the use of advanced technology within their designs. CuteCircuit is the first fashion label to seamlessly integrate fashion design within interactive technologies creating magical garments that look spectacular. CuteCircuit brings the fashion of the future into reality today. CuteCircuit is headquartered in Shoreditch, artistic heart of London, where Francesca Rosella and Ryan Genz are the design duo behind all of CuteCircuit's amazing creations. Francesca's Italian heritage, design flair, and love of couture perfectly merge with Ryan's all-American attitude towards Innovation. Inspired by the ground-breaking pioneers like Coco Chanel and Schiaparelli, CuteCircuit move fashion forward mixing innovation with couture techniques. CuteCircuit come with a host of internationally fashionable and fabulous celebrity fans. Notably, Nicole Scherzinger debuted the world's first haute couture Twitter Dress, designed and created by CuteCircuit. CuteCircuit is also the high end fashion designer of choice for Katy Perry, who has worn their creations at many of her stage shows and red carpet appearances including to the MET Gala, and recently for her appearance at the iTunes Festival grand finale. Other clients include U2 and Italian singer Laura Pausini. The label launched its Prêt-à-Porter line in 2010, bringing the first-ever technologically infused ready to wear to major fashion retailers. CuteCircuit created some of the most iconic garments ever seen in the fashion landscape. From the HugShirt, honored as one of the Best Inventions of the Year by Time Magazine, to the Galaxy Dress which is on permanent display at the Museum of Science and Industry in Chicago, CuteCircuit continuously pushes the boundaries of what fashion should mean in the 21st Century. These garments are unlike anything you've ever seen. For more information please visit: www.cutecircuit.com/

Koen van Os, Senior Scientist Intelligent Textiles, Philips Research

Koen van Os received his master in precision engineering in 1995 from Eindhoven University of Technology. After his graduation he fulfilled positions at Stork Digital Imaging and joined Philips in 2001. Here he started as a technologist in the field of electronic interconnection technologies. Later he was engineering manager at Philips Lumalive for developing LED textiles in wearable applications. Since 2010 he explores electronic textiles at Philips Research. He is responsible for product and process developments with a strong focus on industrialization by bridging the gap between electronic and textile industries and is project coordinator of PLACE-it. The PLACE-it (finished in January 2014) project investigated Large Area Conformable Electronics by Integration. The project has demonstrated added value of complaint technologies in a broad domain: from health care to automotive. Currently Koen van Os is developing wearable light technologies for new business opportunities. For more information please visit: www.research.philips.com

Rob Milner, Senior Consultant, Wireless Division, Cambridge Consultants

Dr Robert Milner is a senior consultant with Cambridge Consultants, a company that employs world class engineering teams in Cambridge UK, Boston and Singapore, to design and develop innovative medical devices and technologies for the world's leading companies and for innovative start-ups. Rob designs the communications that allow medical and consumer devices to connect to smart phones or hubs. Recently this work has been fuelled by the continually improving performance of Bluetooth smart silicon, the adoption of Bluetooth Low Energy into devices like the iPhone and the growth of regulated medical apps. His current work is centred around systems where medical or fitness devices communicate to applications on smart phones and internet services. Previously Rob has led Cambridge Consultants' Apple Accessory Protocol stack development and is part of the team managing communications technology such as VENA, a single chip Continua solution, and Interface Express, a highly optimised Bluetooth protocol stack. He was the inventor of the Iona internet radio previously exhibited at CES. For more information please visit: www.cambridgeconsultants.com

Profile of Case Study Presenters

Zahid Ghadialy, CTO, eXplanoTech

Zahid has been working in the mobile industry since the dawn of 3G. He worked with the team responsible for the first 3G network rollout in Japan and Europe. Since then he has worked with several established and small companies in different areas of technology as an engineer, programmer, researcher, architect, trainer, project manager, product manager and even in PR and marketing functions. During his career spanning over 15 years, he has worked with chipset and handset manufacturers, network equipment vendors, research companies, small cells and wi-fi companies, analyst firms and even consulting companies. As a Co-Founder, Managing Director and CTO of eXplanoTech, Zahid is using his immense experience to help this young company become well established and successful. Along with an expertise in programming and 3G / 4G technologies, he is nowadays working on futuristic ideas and technologies, including 5G. He is a regular speaker at many small and international conferences and events. His 3G4G blog (<http://blog.3g4g.co.uk/>) is one of the most well known independent mobile technology blog worldwide. You can also follow him on twitter @zahidtg

Necati Munir, Computer Science Student, UCL

Necati is a 2nd year Undergraduate Computer Science student. He is currently the team leader on a prototype wearable device developed in collaboration with Microsoft Research. Necati is also the Chair for the Wearable Technologies Student Special Interest Group at UCL.

Profile of Design Team Facilitators

Geoff McCormick, Director, Alloy (User Experience SIG)

Geoff has worked as a business consultant in the design industry for over 10 years. In that time he has worked with some of the world's most famous and successful designers, where his role was to help designers, companies and brands to try and maximise the commercial effectiveness of design. His experience covers every populated continent and a diverse range of sectors, including developing a mobile petrol retail station, an interior design system for VIP aircraft, hydrogen powered vehicles, packaging strategies for FMCG brands and innovation programmes utilising Asian sourcing. It is this breadth of experience that he values most. Common across all of his clients and projects is the desire to create truly unique experiences that occupy a space in peoples' hearts and minds. For more information please visit www.thealloy.com

Tim Ensor, Head of Connected Devices, Cambridge Consultants

Tim works with clients across consumer, medical and industrial sectors, helping them create exciting new connected devices and services by applying cutting-edge wireless technology to a wide range of applications. Most recently this has included projects to create Bluetooth Smart connected building controls and the use of 4G mobile technology for industrial automation. Previously, Tim has advised the mobile telecoms industry on strategy, operations and regulation. For more information please visit: www.cambridgeconsultants.com

Vaishali Kamat, Head of Digital Practice, Cambridge Consultants

Vaishali heads the Digital Health Practice at Cambridge Consultants. She has significant domain expertise in this new and evolving space, including an understanding of regulations, financial models and market players. She has worked with several large medical device and pharmaceutical companies helping them define patient facing solutions and incorporate connectivity into medical devices. Vaishali has authored several articles on this field, including a white paper on the state of Connected Health in 2009 describing the opportunity and challenges in this field. Vaishali received a Master's degree in Electrical & Computer Engineer from Iowa State University and has been named as inventor on 3 US patents. For more information please visit: www.cambridgeconsultants.com

Ruth Thompson, Head of Consumer Brands, Cambridge Consultants

Ruth leads the Consumer Business at Cambridge Consultants. She has more than 10 years' experience of working with consumer brands, using technology to deliver innovative customer experiences across a range of products and services. Over the last five years she has focused on the sports and fitness market, and the development of novel connected systems that monitor performance/technique to provide actionable information to the consumer. With many of the technical building blocks now available at an accessible cost, it is an exciting time to be working on the next generation of products and services that can support people in their fitness goals. Key to Ruth's work is bringing together technical teams of the right engineering, scientific and user interface skills with the system architecture to ensure the balance of the requirements of a connected system. For more information please visit: www.cambridgeconsultants.com