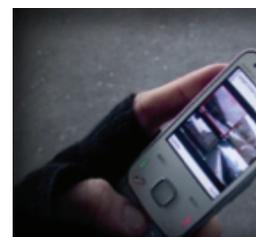
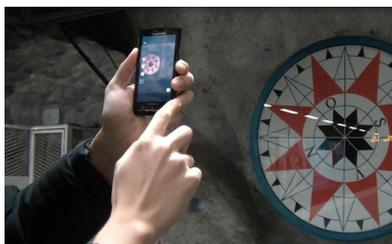


Mobile@IT ... the mid-life



2010-2011

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A Centre that is coming of age - and actively seeking a mid-life crisis to engage its research.

As we argued in last year's report, the Centre has established itself as an internationally recognized research locus in the area of mobile services. The centre is internationally visible – it was selected as the second lab to be featured in the international journal Interaction's series of important HCI (Human Computer Interaction) labs around the world. While we are proud of our achievements we actively seek new productive disruptions in our work.

To actively establish a “mid-life” crisis, and thereby keep us delivering interesting research and innovation, we have initiated a discussion on the next research plan in advance of the usual document deadlines. That discussion has spanned the board, the partners and the group's researchers and management team, over the last ten months. While we retain our focus on exploring mobile lifestyles where people orient to ‘the good life’, our new emergent research clusters around the *re-emergence* of interest in the “internet of things.” The Centre will revisit this area, which has up to now focussed on utility services and machines communicating with each other. We combine this with a focus on the mobile devices in our hands empowered with applications supporting social interaction, and with an interest in consumer oriented applications. This exciting new research area joins our existing interests in supporting ‘the good life’ – one of the most distinctive parts of the centre's research has been on how we should live meaningful and interesting lives. Upcoming new technologies, such as sensors, communication technologies and software, probes for our future technological life, will keep the Centre fresh and edgy. This expansion in focus also involves developing our partnerships, with new types of research groups e.g. in network computing and large dataset analysis, as well as with new types of industrial partners and senior researchers.

The Centre's main contribution to its partners is what we term “strategic innovation.” These results, in the form of knowledge and design exemplars, provide us with a view of what to expect on the market in a three to five years perspective. In turn, we also generate results that can be exploited on a more short-term basis. Now, the experience Centre has matured we need to curate this knowledge more. As the centre develops it needs to nurture tof the ideas better, building on our existing experiences. We are currently revisiting the Centre as an innovation system, expanding our ambitions in this area.

Summing up, in last years we have developed a Centre that produces result of strategic relevance for its partners. But it is also a Centre that refuses to be easily satisfied with its experiences, we seek the identity of an uneasy individual who is not simply content with life as it is. We are challenging ourselves to try to find new ways to explore the combination of mobile technology and the quest for the good life.

Oskar Juhlin, Centre Director



The Mobile Life VINN Excellence Centre provides a neutral arena where researchers and industrial partners work together. We focus on creating new interaction models; finding efficient and user-oriented methods for developing mobile services; gaining a deepened understanding of the unique properties of the future mobile life; creating a future mobile service eco system where we explore alternative universes for infrastructure, business models and the industry's new roles; and finally a range of novel mobile services for mobile media creation, play, social interaction and bodily awareness.

The Mobile Life research centre at Stockholm University is located in Kista outside Stockholm, Sweden. The Centre started in 2007 and has funding until 2017. After four years, the Mobile Life Centre has grown to be about 50 researchers, exploring experiential, leisure and playful mobile and ubiquitous interactions. The research is interdisciplinary, involving researchers from computer science, interaction design, sociology, psychology but also game designers, artists, dancers, and fashion experts. The Centre's competitive edge lies in making serious research on what we might normally portray as "unserious" activities in collaboration with our industry partners Ericsson, Nokia, Microsoft Research, TeliaSonera, and Company P. We also have close collaboration with the city of Stockholm. We get inspired by doing studies on people's mundane leisure and creative activities such as horseback riding, hunting, parcour, dancing or role-playing. We use those insights to spur innovative design processes, resulting in mobile applications, sensor-based applications, pervasive games, mobile mash-up services, new mobile media, technical platforms and materials to support amateurs' creativity. The results range from publishing ambitious books on new playful activities, such as pervasive games and social media on the road, to generating and demonstrating innovative mobile and leisure oriented applications and finding new methods for design and evaluation. Since we started we have published 26 journal articles, 80 conference papers in highly renowned venues. We are now counting ourselves as a significant research organisation that have provided us with experience and notations of what we need to do next.

We participate in international conferences and are often invited to give talks also outside the research community. Examples are:

- The speak given by Kristina Höök in May at the Exop2010 in the presence of the Swedish King and the Swedish Minister for Enterprise and Energy.
- The participation by Sara Ljungblad at TEDxMälaren.
- The organisation of the closing keynote session by Lars Erik Holmquist about ubiquitous computing and mobile mash-ups at Appnation in San Francisco.

We have during the year increased our efforts in a direction towards realising some of the inventions in the centre and started the way to push them to the market. We are determined to contribute to the growth of Sweden through strategic collaboration with our partners, the EIT and VINNOVA. Examples of innovations:

- The Affective Health System
- The Instant Broadcasting System

The centre is also collaborating closely with industry outside the dedicated partners in the centre. During the year we have had subprojects with Phillips Research, Bambuser, Street Media 7 and Do-Fi.



Stockholm University is the principal of the consortium that is formed by partners from the major companies in the mobile industry, together with research organisations, public sector representatives and innovation system actors. Here, we present the partners that are currently active in the centre.

Research organisations

Stockholm University: Mobile Life is organised as a unit under the Department of Computer and Systems Sciences (DSV) in Kista. The Centre is physically located in the Kista campus in the Electrum building. Through Stockholm University, the research in the Centre is strongly connected with undergraduate and graduate educations and the general social science faculty. Students employed the Centre will be enrolled in the masters and doctorate programs within the University, primarily in the Computer and Systems department. Senior researchers will be actively involved in the formation of such programs, primarily in this department but also in other departments within Stockholm University and the Royal Institute of Technology (KTH).

Swedish Institute of Computer Science (SICS) and Interactive Institute (II): The role of SICS and Interactive Institute AB in Mobile Life Centre will be that of a co-executor of research together with Stockholm University. SICS and II have their main offices in Kista. During the upcoming period, SICS and Interactive Institute will receive 50% of the VINNOVA funding (3.5 MSEK/year) and will co-fund the Centre with an equal amount. The funding and co-funding is equally divided between Interactive Institute and SICS.

Industry partners

Ericsson AB - Ericsson is a world-leading provider of telecommunications equipment and related services, to mobile and fixed network operators globally. Ericsson has deep knowledge in present and future telecommunications systems, including content and communication oriented services for mobile devices and the connected home. Ericsson will provide the Centre with concrete technology as well as deep knowledge in present and future telecommunications systems, including content and communication oriented services for mobile devices and the connected home.

TeliaSonera AB - TeliaSonera is the leading telecommunications company in the Nordic and Baltic region. TeliaSonera bring to the Centre its vast experience of service provisioning, both from a cultural and business technology but also on multiple platforms including both fixed and mobile telephony, hot spot wireless communication, portals and communities.

Microsoft Research Ltd - Microsoft Research Ltd has identified various key domains in which support from Microsoft will enable University researchers to achieve the greatest progress: the technological aspects of the emerging computing environment is one, the transformation of computing by social shaping is another, and the advancement of curricula development in all those areas impinging upon computing is a third. Through its focus on social and mobile services, the Mobile Life Centre targets several of these areas. The researchers of the Centre have a well-established collaboration with Microsoft Research Ltd in Cambridge, furthering in particular the deep understanding of information technology use in everyday life activities.

Nokia - Nokia is a world leader in mobility, driving the transformation and growth of the converging Internet and communications industries. They make a wide range of mobile devices with services and software that enable people experience music, navigation, video, television, imaging, games, business mobility and more. The Centre focus its research on similar areas, which allow high level articulation

of design oriented research, addition to skills in Scandinavian design, commercialisation of services and applications, as well as seniority in design oriented research on mobile applications.

Company P - In 2006 The company P was formed to address the growing demand by the audience to participate and become an integral part of the drama enabled by new digital interactive technologies and social media. The company P is on a pursuit of the type of entertainment that is enjoyable as a product to consume and watch, and as a game and event to dig as deeply into as you choose. Entertainment that is broadcasted and distributed in the most available and effective ways that the new technologies allow. Entertainment that uses the new means of storytelling, expression and experiences that new media affords us.

Public sector representatives

City of Stockholm Municipality - Within Sweden as a whole, the Stockholm region and Kista play a crucial role in the establishment of a consumer-oriented service industry. This role has been recognised by the City of Stockholm that has chosen to establish and participate in several initiatives focused on this sector, the Kista Mobile Showcase, and to participate in the Mobile Life Centre. The City of Stockholm plays a natural central role in the Mobile Life Centre, through providing multiple channels for local collaboration, dissemination, and take-up with both small and large companies.

The City of Stockholm contributes to the Centre by being prepared to be test-users representing the public sector in several domain projects. Furthermore the City strives at coordinating and cooperating regarding the various mobile initiatives in the city.

Kista Science City AB - Kista is a Science City – a creative melting pot where companies, researchers and students collaborate in order to develop and grow. The foremost sector in Kista is ICT. Figures show that few places on the planet can demonstrate the same high concentration of expertise, innovation and business opportunities within ICT.

Kista Science City brings to the competence Centre its project “Kista Mobile & Multimedia Network”, an active business oriented network for people and companies within mobile services and multi media industry. The network is a meeting point for researchers, entrepreneurs and industrial management in an international environment with a strong focus on business. It provides an important part of the ecosystem where society, academia and industry work together for growth. The physical location in Kista Science Tower is an excellent location for the open seminar series arranged by Mobile Life that runs on a regular basis.

Innovation system partner

STING - STING (Stockholm Innovation & Growth), founded 2002, is a world class eco system for innovative startups based in Stockholm. The eco system encompasses comprehensive business development support, own financing sources and access to STING’s broad network – all interacting with each other to faster build Sweden’s new international growth companies. STING works primarily with innovative startups within ICT, Internet/media, medtech and cleantech – supporting entrepreneurs and innovators from academia, research institutes and the business sector. STING is headquartered in Kista Science City – in the middle of one of the world’s premier ICT clusters.



Social Properties

Social properties of mobile leisure - Research in the Centre explores on the one hand leisure and playful experiences, and on the other hand new opportunities that arise from mobile services that exploit intrinsic properties of mobility, such as access variability, ad-hoc meetings with other devices, context awareness, access to information dependent on geographical location, and positioning relative to other users or resources. In this project, we conduct studies of such social properties to provide a social science oriented framework for future research and design in a broad sense. It serves as a shared arena for studies with a strong focus on social interaction, and where the design outcome is on a general level.

This year the project has expanded to include the hunting, with specific a focus on the interaction between humans and animals, and with a focus on technology to support such interaction. We studied the use of dog tracking systems, and discussed why they have become a successful part of the hunt. Social science studies, related to the project, have focussed on establishing an empirical programme for the study of enjoyment, as well as in studies in of social interaction around public screens.

Contact: Oskar Juhlin, oskar@mobilelifecentre.org ■



Jumping Dog
Photographer: Unknown

Mobile Malleable Materials is one of the theme projects within Mobile Life. The project centres on the challenge of creating the mobile malleable materials of the future, allowing amateurs to create their own media productions, pervasive games, and bodily modes of expression. The project is coordinated with an externally funded project at SICS and SU with the same name.

In Mobile Life, the project is focussed on publishing a website/blog with essays related to the project issues. The intention of the blog is to make such knowledge more accessible to a generic audience, with designers active in industry as a main target group. The essays that focus on concrete example materials prioritise technology that is inherently mobile, or currently going mobile.

The project developed an ambitious approach to its publishing venue: the development of a new more suitable form for publishing was adopted as a project goal in itself. In line with the goals of the project, we decided to make a website that in itself represents a 'new material': a publishing venue designed web-pad adapted reading and sharing of academic text. The website has recently gone live and featured its first essay. We hope to publish approximately one essay/month.

Contact: Annika Waern, annika@mobilelifecentre.org ■



Annika Waern, Project Manager
Photographer: Maria Holm

In this project we explore ways of designing for people to engage themselves bodily and physically in interaction with mobile devices. Rather than relying on eyes and hands as the primary means of interaction, we attempt to encourage people to feel and use their whole bodies in interaction including sensations such as pulse, rhythm, touch, and balance. This is explored, firstly through a number of application and technology examples such as, non-verbal touch-based communication, stress and body awareness, and whole body musical interaction.

Secondly, this is explored through empirical studies of settings and situations in which bodily engagement and interaction is particularly salient in sports and leisure activities such as skateboarding, golf and horseback riding. This allows us to map out critical design qualities and novel approaches to design in ways that involve our bodies in interaction. The work is conducted in three subprojects: Designing for Supple Interaction, Generalised Interaction Models, and Affective health.

Contact: Jakob Tholander, jakob@mobilelifecentre.org ■



Dance Exercise on “Fika Paus”
Photographer: Maria Holm

Ethnographic studies of bodily experiences -In three ethnographic studies of bodily movement and experience in leisure and everyday activities we have developed design qualities for guidance and inspiration in the design of bodily engaging interaction.

In three ethnographic studies of bodily movement and experience in leisure and everyday activities we have developed design qualities for guidance and inspiration in the design of bodily engaging interaction. The first study looked at full body movement activities with non-digital artefacts that are well known, such as golf and skateboarding. We explored people's skilled use of the artefacts and studied their bodily performances in these activities and teased out eight design qualities for bodily engaging interaction. We saw how the interdependency between user, artefact and physical environment was a primary driving force behind a rich, sustained and graceful interaction with the artefacts. The eight design qualities we found are; 1) interaction that connects to physical space 2) counterintuitive interaction 3) bodily feedback 4) harmonizing modalities in interaction 5) open-ended response 6) one size fits all 7) the devil is in the details, and 8) appreciating failure.

A second study analysed a horseback riding experience. The study identified the following key themes in the experience, 1) how certain kinds of bodily experiences are best understood through experiencing them yourself -- the bodily ways of knowing, 2) how rhythm and balance create for particularly strong physical experiences of this kind, 3) how movement and emotion coincide, 4) how the movement between seeing our own bodies as objects vs experiencing in and through our bodies is a way of learning the language of expressing and understanding bodily action, and 5) how this in turn lets us describe the sensitive and delicate relationship of wordless signs and signals between two agents. These themes were formulated into four design considerations for bodily interactions. a) Designing spaces for mutual wordless understanding between human and machine, b) letting bodily learning take time and be a pleasure in itself, c) putting more emphasis on the aesthetic pleasures of rhythm when designing for bodily interaction, and d) finding ways of describing experiences of bodily interactions that can serve as inspiration to design.



A third study investigated bodily ways of living with mobiles. In order to open the design space for novel ways of designing mobiles and their interactions we decided to study one of the last groups of users on earth who had not been exposed to mobiles: the people of Vanuatu. As they had so recently started using mobiles, their use was still in flux; the fragility of the mobile was unusual to them as was the need to move in order to find coverage. They were still getting used to carrying their mobiles and keeping them safe. Their encounters with mobiles exposed the need to consider somaesthetics practices when designing mobiles as they profoundly affect our bodily ways of being in the world.

MoBoogie and The fruit kids game - applications for open ended bodily interaction

We have developed two explorative applications designed for engaging users to interact through open-ended movement – MoBoogie and The fruit kids game. MoBoogie is an Android-based application designed for children to support creative expression through movement and music, allowing for an open-ended exploration of full body movement and creative dance and music experiences. MoBoogie engaged users in a positive loop of dancing that occurred as the music changed with their dance moves - and as their moves were guided by the music they were instantly creating. This reinforces a feeling of their bodies being in sync with the music.



Dancing with MoBoogie



Playing the Fruit kids and Weather gods game

The fruit kids game uses motion-sensing technologies in combination with tactile and audio feedback to create an embodied interactive setting without computer screens. The game is designed to support children to interactively experience consumption, preservation and creation of energy, by sensing and responding to different aspects of the children's movements. The large space gym hall setting for the activity gave different dimensions for experience, from embodied interaction in the personal space to being part of the larger whole in the hall. We argue that by adapting the interchange needed between the different spaces, it is possible to build activities that allow for both a rich experience of small details in the personal space to a joint understanding of concepts in the larger whole.

Contact: Jakob Tholander, jakob@mobilelifecentre.org ■

In early 2010 the Lega prototype, a system for bodily sharing of experiences, was successfully deployed at the Vårsalongen art exhibit at Liljevalchs art hall in Stockholm. The development work on the Lega, and user studies performed on-site at the art hall, has yielded results including technological innovation in the area of low-power radio communication, increased understanding of design for bodily interaction, and finally insights into the challenges of designing with digital materials. A lesson learnt in the Lega work was that multi disciplinary design teams need novel approaches for exploring, understanding, and mediating properties of digital materials to create a shared understanding of properties and their design potential within the design team.

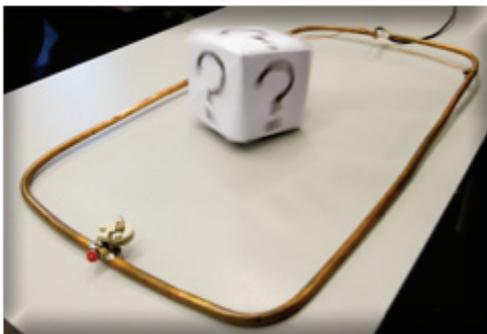
During this year this last aspect has been the focus of the project. The most important result of this work is the Inspirational Bits method. Inspirational bits are, as the name suggests, small, inspirational investigations of specific technologies with the intent of exposing and making dynamic properties tangible, visible, and ultimately understandable for members of a design team. These bits were given the form of small games that allow design teams to explore and experience properties of technologies in an easy to grasp and playful manner. The incentives people have to understand the rules of a game will also be helpful in exploring technological limitations and properties, spurring them to understand them. For example, in the 'BluePete'-game, a digital entity utilizes BlueTooth connections to jump from device to device. Users that have Pete on their device should try to pass 'him' on to other devices by getting close to them. The game illustrates BlueTooth's inability to search for devices and listen for incoming connections at the same time.

The inspirational bits method starts out from the challenge that in designing for bodily interaction it is difficult to conceptualise how the kind of bodily and emotional sensations we were aiming for are going to feel. We need ways to explore how they will actually be experienced in the digital material. We explored this by giving engineers more time to both understand the properties of the digital material, and to work out ways for communicating this knowledge to the others in the design team. Thereby we approach the digital material in similar ways to how we approach other materials, such as plastic and wood, as design materials. This focus on material issues pinpoints how interactive systems design also need to approach technology as a design material, and to make it available to all members in a multidisciplinary team.

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BendID – a bit where the user wears tags over her whole body

The diZe – a playful presentation of the reading angle of RFID;



A mechanical model of an accelerometer showing how gravity always is a factor.

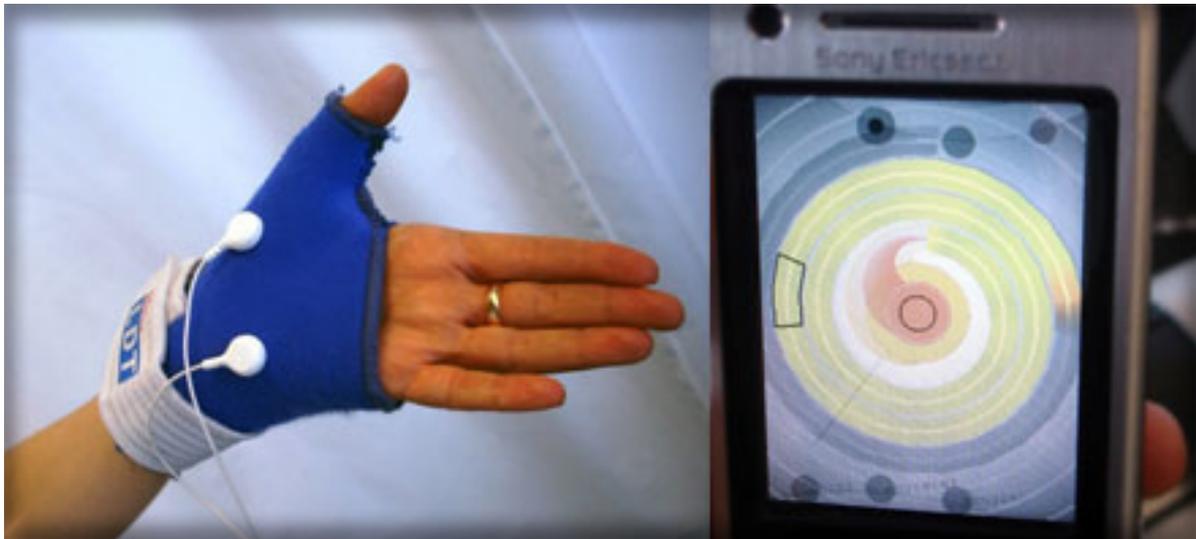


Affective Health – designing for stress and body awareness

The Affective Health project has during the year had two major breakthroughs. First, we conducted a study with four users from Stockholm City Municipality who each used the system for a whole month on a daily basis. The study confirmed that users will start to reflect on their everyday stress related to their bodily reactions (as picked up by the bio-sensors they carried) as they use such sensor. They even started to change their behaviour or at least relate differently to stressful events, situations or persons. One of them learnt how to be more “mindful” when it came to a stressing situation in her life.

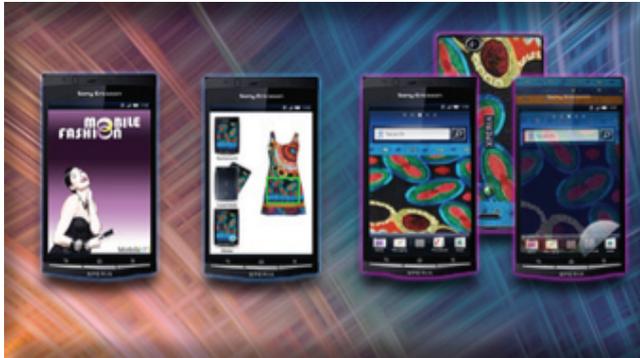
Second, in February 2011, Affective Health won, in tough competition, a grant of 500 KSEK from SSF/VINNOVA aimed to help us commercialize our results. We are now in negotiations with Philips, Affectiva Ltd, Ericsson Research and others to find collaboration partners.

Contact: Jakob Tholander, jakob@mobilelifecentre.org ■



The increasing emphasis on experiences within mobile interaction design has put the selection of colours, materials and form to the fore. However, the discussion of such aspects in design research has not yet accounted for how users themselves, as well as industry, pay attention to those aspects e.g. as forms of fashion and in relation to peoples' complete outfits.

Thus, we argue that fashion logics is part of users' context in which they select colour and material. A neglect of understanding of fashion dynamics might lead both to missed opportunities, as well as a decrease in the take up of new applications. Thus teasing out the difference between consumption of mobile experiences as some sort of de facto products and symbolic fashion oriented experiences is of critical importance for the design oriented research in the mobile area. In which ways do we need to account for fashion logics in mobile interaction design? In which ways can we understand purchase and use of mobile technology as a form of fashion consumption? Where and when do mobile design overlap with fashion design and fashion industry? What are the unexplored fashion areas that would be interesting to combine with mobile design and where do they come from?



Photographer: Morvarid Kashanipour

Yanqing Zhang has worked full time on the project, and she is on the way to become a Ph D student at Stockholm University DSV, in collaboration with the fashion Centre at Stockholm University. During the year we have published a full paper, called “Unpacking Social Interaction that Make us Adore – On the Aesthetics of Mobile Phones as Fashion Items”, which will be presented at the International conference Mobile HCI 2011 in Stockholm. It shows how fashion bloggers think about the aesthetics of mobile devices, and it gave us ideas on how to design the phones to increase its appreciation among fashion oriented people. The study also points out the misfit with these peoples' view of aesthetics and the somewhat rigid “pragmatic aesthetics”, which dominates the understanding in Human Computer Interaction. Celia has also extended the list of interviewees in the fashion industry and the mobile industry. A first analysis of how these industries relate, has been accepted to the conference “Fashion – exploring critical issues” in Oxford, September 2011.

Morvarid Kashanipour, who is a master student from KTH, has also been working in the project. Her task is to develop the idea of “outfit centric” accessories, which emanated out of the fashion blog study, and design a mobile application. The principles of this application will be made public in June.

We are also happy to have Jeanna Kimbré, Head of Colours & Materials Design at Sony Ericsson in Sweden as a keynote speaker at the Mobile HCI conference, where she will specifically address issues considering aesthetics and mobile design.

Contact: Oskar Juhlin, oskar@mobilelifecentre.org ■

We invent and investigate mobile collaborative live video mixing. A first generation of applications in this genre, make it possible to broad-cast live video streams from various types of use contexts over mobile networks such as 3G (see for example bambuser.com and qik.com). We explore a second generation of such applications, where professional techniques for collaborative live video editing are made available on mobile platforms.

Using networked camera phones, we show how it is possible to mix live concurrent video streams from multiple users for public display on Internet and locally. The design space includes adapting these new possibilities, previously only available to professional TV-production teams, to amateurs in various contexts of use. Such situations might include the broadcast of multiple live images of soccer matches by parents or, as demonstrated by the Instant Broadcasting System, to visitors at night clubs, and to visitors of public exhibitions. The domain project explore a number of issues ranging from; 1) gaining an understanding of today's mobile media usage, and 2) based on this knowledge we have formulated, designed and evaluated two new mobile video mixers.

We have during the year continued to conduct research in this area. Most notable is a paper that presents a qualitative content analysis on the first generation of commercial mobile webcasting services. It is apparent that the users struggle with appropriating live video as a new social media, which could be explained as limits in video literacy or limits in the production tools.

We have also made efforts to move the research prototypes into a commercial environment. We have submitted a patent application based on the mobile vision mixer, and we have developed the Instant Broadcasting Service further, in order to interest potential customers.

Noting that video is both a strongly expanding area of Internet consumption, at the same time as the area struggles to become integrated with social media, we argue for the need to expand research more broadly. We have therefore organised two international workshops, to establish a broad and sustainable area, which we call "video interaction."

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Pervasive Games

Pervasive games are games that are played in the world around us, rather than on a computer or mobile phone. Their main attraction lies in that they are reality-based, drawing upon a real world which is richer, more varied, and emotionally and historically more interesting than any made-up game world can be.

During recent years, pervasive games have become more and more mainstream. Today, there exist a vast number of location-aware mobile games downloadable to your phone, at the same time as various cross-medial productions mixing TV, web presence, and physical events have become increasingly common.

The pervasive games project at Mobile Life originated in the IPerG project, a large European project on pervasive games that ran 2004-2008. During its first two years, the Pervasive Games project focused primarily on the development and testing of tools for staging, running and evaluating pervasive games. Two such systems were developed: the *Creator* system that supports rapid design and development of pervasive games, and the *Babylon* system for studying pervasive games. During 2010, the project shifted focus to the study and co-creation of games with external partners. In total, the group ran six such collaborations, all of them with a commercial or public (art) focus. We have developed games for two theatre productions, street acrobats, sight-impaired children, a marketing campaign and a mobile dance device. Two of the projects were done in collaboration with the City of Stockholm, and the others with SMEs and one large company. It is clear that the genre is maturing; all our collaborators knew about similar productions and had their own visions for what to achieve. From an academic perspective, the design principles and technology basis for pervasive games are also now mostly well understood. One outstanding issue for design-oriented research pertains to scalability, in particular in terms of long-term, large-scale pervasive games. This is the issue that the Pervasive Games project plans to address during its last year.

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Every mobile phone is part of a complex social and technical network, involving the owner and other users, the data on the phone and in the cloud, the information available through phone sensors. This means that creating truly mobile services requires a more diverse approach than simply moving existing stationary Internet services to the mobile platforms. We call services that take into account the unique properties of the mobile setting Mobile 2.0 services. We are interested in both developing such services, and seeing what happens when they reach a wide audience.

> Image+location-based services

In Mobile 2.0, we are interested in using the existing sensors on mobile phones. In particular, this year we have concentrated on location and camera sensors. By combining these two sensors it is possible to get much more accurate information than by using either one in isolation. For example, a system can recognise a particular scene or object by eliminating photos from other locations, (used in the Subway Art information system). Alternatively, the camera can also be used to get a better fix on location than what is available through GPS (used in Phi2 and Pic-in). We are currently working on a generalised software infrastructure that will allow us to easily construct image+location-based services for other application domains.



> Phi2

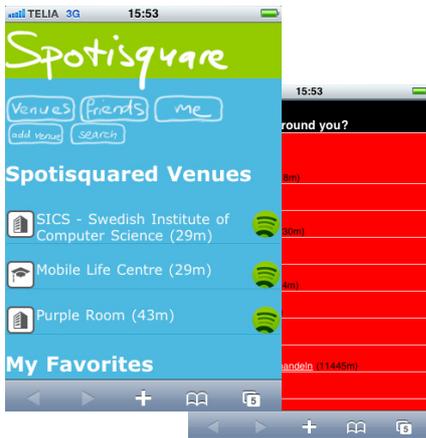
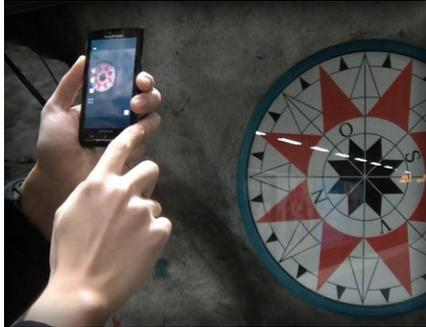
With Phi2 ('phi-square' = 'physical check-ins for Foursquare') we created and evaluated different methods for location-sharing, based on Foursquare's popular check-in model. Instead of scrolling through a list, users can now interact with physical artifacts in the real world to select and share a place. The Phi2 Scanner is an application that uses 2D barcodes for the check-in. A tag generator at our project website enables users to print stickers and place them at a venue to create a user-generated infrastructure for the system. The scanner is available on the Android app market and several hundred barcodes have been printed by users all over the world.

> Pic-In

This application is a continuation of Phi2. However, instead of letting users check in to Foursquare by photographing a barcode, the new system does away with the barcode and lets users check in by taking a photo of the venue directly. Since most venues do not have pre-existing photos, the system uses crowd sourcing to build up a database of photos.

> SL Subway Art information system

This image-based system allows users to get information about artworks in the subway by simply snapping a picture. After identifying the picture, the application shows brief information about the artwork, and gives the option to find out more by going to the relevant description on the web. It currently works on a subset of subway stations around Stockholm. We showed the results to Stockholm's Transport Authority (SL) and they are very interested in continuing this work, and possibly releasing it as a public application.



> Mobile Mash-Ups

Mobile mash-ups is our new concept for quickly created mobile web services, which use Mobile 2.0 properties such as location, mixing this with existing services and social networks. These services can be built very quickly, combining existing services mashed together with HTML glue, and that they are easy to distribute, since all that is required is a URL that works with all modern smartphones (no need to build a separate app).

During the year we have developed a large number of such "mash-ups", all of which are completely web based and thus compatible with almost any smartphone. A few examples are:

SpotiSquare

Spotisquare connects Foursquare venues with Spotify playlists, and looks at different aspects of locative media. The idea is to let users connect a collaborative Spotify playlist to a Foursquare venue, in order to jointly create a playlist relevant to the place. In its first month since release the web page has been visited 7400 times, tested by 1443 unique users, and 105 venues have been connected with a playlist. During the Kista World Music festival we performed a study of Spotisquare together with Kista Library. Kista Library organized what they called a music walk during which participants walked to different spots around Kista and listened to preselected music chosen for the different spots, and used SpotiSquare to "place" the music at the different spots.

NearMe

This mash-up displays your distance to your Facebook friends. Who is the nearest to you and who is the farthest away? This mash-up uses location features that are available in many web browsers and couples it with Facebook identity, to give a list of the physical distance to other users who have visited the page.

LocalURL

This service lets you easily attach URLs - which can be web pages as well as sounds, movies, and even apps - to any location. Just open the browser to get the most relevant URL for your current location, and add your own information to the places you visit! This service and NearMe have not been publicly released yet, but will be in the future.

> Location, location, location

In our view, location currently represents the most interesting and powerful resource for contextual information services available in standard off-the-shelf smartphones. During the last two years, a great number of location-based services have been launched and achieved various degrees of success, including Foursquare, Gowalla, Facebook Places, and so on. At SXSW it was clear that location-based services

are still a source of great innovation in the start-up community. Therefore, location has been a particular focus for this year in the project, first of course as demonstrated by the various location-based prototype services mentioned above.

In our work we have expanded this focus into researching how existing commercial services are used. While location-sharing services have a long standing history in research, they have only recently become available for consumers. Most popular commercial location-sharing services differ from previous research efforts in important ways: they use manual 'check-ins' to pair user location with semantically named venues rather than tracking; venues are visible to all users; location is shared with a potentially very large audience; and they employ incentives. To see how location is currently used in everyday practices, we performed 20 in-depth interviews with Foursquare users and collected 49 survey responses, complemented with analysis of actual Foursquare check-in data. From this data, we see many examples of how location sharing systems are now becoming appropriated by users, for instance the performative aspects have come to become an important aspect. We can also see that new social norms are emerging on when to check in - and when not to.

> **Engaging with the mobile service start-up community**

As these mobile mash-ups demonstrate the time between concept and useful service is getting shorter and shorter. In fact, many of the research projects in this project could just as easily have been launched as commercial services. We have become very interested in exploring this kind of "start-up style research", and have started to engage with the start-up community in various ways.

We visited South By South West Interactive to get a feel for the start-up culture and see the latest trends. We also engaged directly with companies doing location-based mobile services, to understand how they launched their service and what makes some services successful and some failures. In total, we interviewed 8 location-based startup companies, including MapDing, Skyline, Locaii, Bump, Ditto, Heytell, Tangotab and Yobongo. Some of them were in the middle of launching (or had not even launched), while others were well established with millions of users. They had many different strategies for gaining traction, and we are currently analysing the results. We will also follow up the companies through blogs, Twitter and other media to see how well they succeed in the long run.

> **Research in the Large**

A particular interest that is closely related to the start-up world is how to perform research in the large - i.e. engage with thousands, maybe millions of users, rather than the handful or dozen that have been the norm in earlier research on mobile services. We have done this in many different ways, including performing large-scale studies of our own apps and creating a research community around the issue.

For instance, we ran a study of the mobile Java application Portrait Catalog during Ung08 - a youth festival in Kungsträdgården, Stockholm. Together with Kulturskolan, Stockholm Municipality, we arranged an activity for the teenagers in one tent on the festival area. Teenagers aged 13-19 years old got to take their own "mug-shot" photo and install a photo sharing application. Around 400 visitors participated in the activity, and got the opportunity to receive the application. It was successfully installed on approximately 250 phones. From this study it was clear that although we were able to get our application into the hands of many users, the current eco-system for sharing on feature phones is still not well developed, and even on smartphones such as iPhone and Android, there are difficult issues in how to get the service noted and used (not coincidentally, many of the same issues arose in our interviews with start-ups).

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Designing for play and playful experiences has been a central theme at Mobile Life since its start, and is an integrated theme in most of the research projects at the centre. As can be seen in most project descriptions, much of our research efforts are oriented towards use qualities of enjoyment, leisure, social interaction, creative explorations, and bodily experiences, or as framed in a recent Interactions magazine report from the centre: “Mobile Applications for Fun and Pleasure”. This project serves to further integrate the research in the centre around a shared discourse around this broad theme.

There are many reasons why interaction with mobile technology is interesting to explore in terms of playful experiences. Mobile phones include sensors and media facilities that enable many new forms of playful activities, as do their capacity to mediate social interaction both remotely and locally. People carry their devices with them, making for very personal, smooth, and habitual practices, integrating play in daily routines, in transitional ‘non-places’, and while waiting. At Mobile Life, we are exploring mobile technology also more broadly, including movement and mobility beyond the mobile phone. Some of these explorations include properties of a material (e.g. new flexible devices), moving or kinetic artefacts (e.g. robotic toys), tools that support human bodies in motion (e.g. dance and music), and in vehicle interactive systems (e.g. passengers in a car).

One central activity in the project has been to collect publications from within the centre that connect to the theme of playful experiences. The outcome of this work will result in a printed book containing design sketches, photographs and shorter texts, with theoretical introductions. This project will be jointly managed by Ylva Ferneaus at Mobile Life, Christian Norlin at Ericsson, Jussi Holopainen at NRC and Sian Lindley at MSR, who all will be contributing with theoretic introductions from different research perspectives.

Another activity in the project has been to arrange workshops around the project theme where concrete projects are presented and discussed. One such workshop was conducted at NRC in Tampere in October 2010, with participants from all Mobile Life research groups as well as several projects conducted at NRC. Together with Nokia Research the project also organised a workshop at mobile HCI in Lisbon 2010, attracting a broad range of position papers. A follow up workshop on the same theme is again being organised Mobile HCI 2011 in Stockholm.

Two boys playing with MooBoogie (right), snapshot from an InspirationalBits exploration of accelerometer technology (middle), and everyday casual play at Vanuatu (right).



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Book

Juhlin O. (2010). Social media on the road - The future of car based computing. Springer Verlag CSCW series.

Book Chapters

Fernaesus, Y., Isbister, K., Höök, K., Laaksolahti, J., and Sundström, P. (2011). Understanding Users and Their Situation, In Paolo Petta, Catherine Pelachaud and Roddy Cowie (eds), *Emotion-Oriented Systems, The Humaine Handbook*, pp. 653-666, Springer.

Höök, K (2004). User-Centred Design and Evaluation of Affective Interfaces, In *From Brows to Trust: Evaluating Embodied Conversational Agents*, Edited by Zsófia Ruttkay and Catherine Pelachaud, Published in Kluwer's Human-Computer Interaction Series – volume 7, 2004.

Höök, K., Isbister, K., Westerman, S., Gardner, P., Sutherland, E., Vasalou, A., Sundström, P., Kaye, J.J., and Laaksolahti, J. (2011). Evaluation of Affective Interactive Applications, In Paolo Petta, Catherine Pelachaud and Roddy Cowie (eds), *Emotion-Oriented Systems, The Humaine Handbook*, pp. 683-700, Springer.

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Kaye, J., Laaksolahti, J., Höök, K., Isbister, K. (2011). The Design and Evaluation Process, In Paolo Petta, Catherine Pelachaud and Roddy Cowie (eds), *Emotion-Oriented Systems, The Humaine Handbook*, pp. 637-652, Springer.

Journal publications

Waern, A. (2011). Pixel crush doesn't begin to explain it! *Playground magazine*. Issue no 1, February 2011.

Waern, A. (2011). I'm in love with someone who doesn't exist! Bleed in the context of a computer game. *Journal of Gaming and Virtual Worlds*.

Stenros, J. Waern, A. and Montola, M. (2011). Studying the Elusive Experience of Pervasive Games. *Journal of Simulation and Gaming*.

Juhlin, O. (2011) Social media on the road: Mobile Technologies and Future Traffic research. *IEEE MultiMedia*, Volume 18. Issue 1, January.

Perry, M., Engström, A., Juhlin, O., and Broth, M. (2010). "EVS... now!" Mixing relevant instant replay into live video. Forthcoming in special issue of *Visual Studies on New Technologies: Shifting Boundaries, Shared Moments*

Peer-reviewed conference papers

Benyon, D., Höök, K., and Nigay, L. (2010). Spaces of Interaction. *Proceedings of ACM/BCS Visions of Computing conference*, Edinburgh.

Engström, A, Juhlin, O, Perry, M., Broth M. (2010). Temporal hybridity: Mixing live video footage with instant replay in real time. In *Proceedings of CHI 2010 Atlanta Georgia, USA*.

Fernaesus, Y., Håkansson, M., Jacobsson, M., and Ljungblad, S. (2010). How do you play with a robotic toy animal?: a long-term study of Pleo. In *Proceedings of the 9th international Conference on interaction Design and Children (Barcelona, Spain, June 09 - 12, 2010)*. IDC '10. ACM, New York, NY, 39-48.

Helmes, J., Taylor, A. S., Cao, X., Höök, K., Schmitt, P., Villar, N. (2011). Rudiments 1, 2 & 3: Design Speculations on Autonomy. In *Proceedings of Tangible and Embedded Interaction (TEI)*, January 2011, Portugal, ACM Press.

Höök, K. (2010). Transferring Qualities from Horseback Riding to Design. In Proceedings of NordiCHI, Reykjavik, Iceland, October 18 - 20, ACM Press.

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Rost, M., Cramer H., Belloni, N., and Holmquist, L. E. (2010). Geolocation in the Mobile Web Browser. In proceedings of UbiComp'10, September 26–29, 2010, Copenhagen, Denmark.

Ruixue, X., Rost, M., and Holmquist, L. E. (2010). Business Models in the Mobile Ecosystem. In Proceedings of International Conference on Mobile Business, Global Mobility Roundtable, June 13-15, Athens, Greece.

Sanches, P., Höök, K., Kosmack Vaara, E., Weymann, C., Bylund, M., and Sjölander, M. (2010). Mind the Body! Designing a Mobile Stress Management Application Encouraging Personal Reflection. In Proceedings of Designing Interactive Systems (DIS), Aarhus, Denmark, ACM Press.

Sjölander, M., Jansson, L., Höök, K., Laaksohalmi, J., Bergh, C., Södersten, P. and Zandian, M. (2010) User involvement of patients with eating disorder – the design process from user needs to prototype. In: ICEHST 2010 - International Conference on e-Health Services and Technologies, 2010, University of Piraeus, Athens, Greece.

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Sundström, P., and Höök, K. (2010). Hand in Hand with the Material: Designing for Suppleness. In proceedings of CHI 2010: 28th ACM Conference on Human Factors in Computing Systems, Atlanta, USA, April 2010, ACM Press.

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Waern, A. and Stenros, J. (2010). Studying the Elusive Experience in Pervasive Games. In Proceedings of the Tampere Games Research Methods Seminar, 2010, April, Tampere, Finland.

Zangouei, F., Gashti, M. A.B., Höök, K., Tijs, T., de Vries, G-J., and Westerink, J. (2010). How to Stay in the Emotional Rollercoaster: Lessons Learnt from Designing EmRoll. In Proceedings of NordiCHI, Reykjavik, Iceland, October 18 - 20, ACM Press.

Zoric, G. and Önnvall, E. (2010). Watching sports in pubs as an inspiration for the design of mobile live TV services. In Proceedings of Mobile HCI 2010, September 7-10, Lisbon, Portugal.

Workshop Papers, Posters and other

Ahmet, Z. and Holmquist, L. (2010). Sharing mobile services - Beyond the app store model. Poster In Proceedings of MobileHCI 2010, September 7-10, Lisbon, Portugal.

Büttner, S., Cramer, H., Rost, M., Belloni, N., and Holmquist, L. E. (2010). ²: Exploring physical Check-Ins for Location-Based Services. In proceedings of UbiComp'10, September 26–29, 2010, Copenhagen, Denmark.



Cramer, H., Belloni, N., and Rost, M. (2010). On not being a stranger: Making sense of the sociable media landscape. “Designing and Evaluating Affective Aspects of Sociable Media to Support Social Connectedness” workshop at CHI 2010, Atlanta, GA, USA.

Cramer, H., Mentis, H. and Fernaeus, Y. (2010). Serious work on playful experiences: a preliminary set of challenges. “Fun, seriously?” workshop at CSCW 2010, Savannah, GA, USA.

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Cramer, H., and Büttner, S. (2010). Things that Tweet, Check-In and are Befriended. Two Explorations on Robotics & Social Media. Poster accepted to HRI 2011 Human-Robot Interaction conference, Lausanne March 7-9.

Dahlström, E. (2010). Documenting and experiencing with live video - An evaluation of two mobile applications for live video editing. Mobile Life report.

Munjjal, D., Tsui, K., Yanco, H., Cramer, H., Kemper, N. (2010). Using the “Negative Attitude Towards Robots Scale” with Telepresence Robots, PerMIS’10, Baltimore, USA.

Fernaeus, Y., Cramer, H., Korhonen, H. and Kaye, J. (2010). Please Enjoy!? Workshop on Playful Experiences in Mobile HCI. In proceedings MobileHCI 2010, Lisbon, Portugal.

Holmquist, L E., Ju, W., Jonsson, M., Tholander, J., Ahmet, Z., Sumon, S I., Acholonu, U., Winograd, T. (2010). Wii Science: Teaching the laws of nature with physically engaging video game technologies. At the workshop Video Games As Research Instruments at the ACM CHI 2010 Conference, Atlanta, USA.

Höök, K., Sundström, P., Tholander, J., Ferreira, P., Ståhl, A., Laaksolahti, J., Kosmack Vaara, E., Karlsson, A., Sanches, P., Johansson, C., Sjölander, M., Weymann, C., and Jaensson, T. (2010). Design Processes for Bodily Interaction. At the workshop Artifacts in Design: Representation, Ideation, and Process at the ACM CHI 2010 Conference, Atlanta, USA.

Márquez S., E., Johansson, C., Moen, J. & Waern, A. (2011). Bodies, boogies, bugs & buddies: Shall we play?. Presented at Work-in-Progress Workshop at TEI 2011, Madeira, Portugal.

Sanches, P., Vaara, E., Sjölander, M., Weymann, C. and Höök, K. (2010). Affective Health – designing for empowerment rather than stress diagnosis. At the workshop, Know thyself: monitoring and reflecting on facets of one’s life at CHI 2010, Atlanta, GA, USA.

Sundström, P., and Taylor A. (2010). Inspirational Bits. At the Materialities workshop at DIS’10.

Tholander, J. and Johansson, C. (2010). Bodies, boards, clubs and bugs: A study of bodily engaging artefacts. in CHI 2010 Extended Abstracts, Work-in-progress.

Zang Y., C., and Juhlin, O. (2010). A Fashion-ology of Mobile Innovation. The Culture of Ubiquitous Information. Seminar.

Önnevall, E., Juhlin, O., and Perry, M. (2010). TV watching at sports bars as social interaction. “Designing for crowds.” Workshop at Pervasive Computing, Helsinki, Finland.

Popular articles

On May 31 2010, Lars Erik Holmquist published an article called The Age of the Mobile Mash-Up on the Crunch-Gear blog. The article was featured on the first page of parent blog TechCrunch, which has over 10 million readers. In the article, we trace today's mobile services back to earlier research, and argue that we are now entering an age where a new infrastructure makes it possible to recreate many experimental ubiquitous computing projects by combining elements of existing services - so-called mobile mash-ups. We also made an argument for what has been one of the cornerstones of the Mobile 2.0 project from the beginning, which is that most services will move from specialised apps and onto the mobile web. A number of Mobile Life services were used to illustrate this, including SpotiSquare and NearMe. The article generated a lot of interest and also resulted in an invitation to be closing keynote speaker at Appnation, a new conference and expo on mobile applications in San Francisco.

Keynote Talk

Lars Erik Holmquist organised the closing keynote session about ubiquitous computing and mobile mash-ups at Appnation in San Francisco in September 2010.

Doctoral Thesis

Sundström, P. (2010). Designing Affective Loop Experiences. Doctoral thesis in Human Machine Interaction at Department of Computer & Systems Sciences, Stockholm University.

Master Theses

André, C. (2010). Design aspects in a mobile biofeedback system - development of a new interface concept using design qualities. M. Sc. Thesis, Umeå University, Sweden.

Büttner, S. (2010). Developing Physical Check-In Methods for Location-Sharing Services and Analysing Their Influence on the User Experience. Diploma Thesis, Darmstadt University of Technology, Germany.

Gabarro, Roger Moret (2010). Interactive augmented reality. Ms. Sc. thesis, Royal Institute of Technology, Sweden.

Grufberg, K. (2010). Inspirational Bits: Communicating Technology in a Design Community. M. Sc. Thesis, Royal Institute of Technology (KTH), Sweden.

Hernegren, F. (2010). Taking affect into consideration: Iterative user-centred design for an affective and ambiguous mobile application. M. Sc. Thesis, Uppsala University, Sweden.

Lundén, M. (2010). Politecast - a new communication primitive for wireless sensor networks. M. Sc. Thesis, Royal Institute of Technology (KTH), Sweden.

Nasch, S (2011). Smart Phones for Early Prototyping: Soundscape. M. Sc. Thesis at Södertörns University, Sweden.

Oest, S. (2010). A playcentric design process to storytelling pervasive games. M. Sc. Thesis at Uppsala University, Sweden.

Toussi, R. (2011). Mobile Vision Mixer, A System for Collaborative Live Mobile Video Production. M. Sc. Thesis at Royal Institute of Technology (KTH), Sweden.

Zangouei, F. (2010). How to stay in the emotional roller coaster: lessons learnt from designing EmRoll. M. Sc. Thesis, Royal Institute of Technology (KTH), Sweden.



External activities

April 2010 – “Sydney Michaelson Memorial Lecture”

Kristina Höök gave the “Sydney Michaelson Memorial Lecture” in Edinburgh April 7th, 2010, followed by a talk in Glasgow on the 8th of April.

April 2010 – Tampere game research methods seminar

Annika Waern visited the ‘Tampere game research methods seminar’ in April, and presented the paper ‘Studying the Elusive Experience of Pervasive Games’ together with Jaakko Stenros. The paper was accepted to appear in a special issue of ‘Games and Simulation’.

April 2010 – The Creator in Malmö

Annika Waern and Karl-Petter Åkesson visited the ‘ELBES – Location Based Entertainment Summit – in Malmö in April. Karl-Petter presented the Creator system and the commercialization plans for Creator. Annika acted as moderator of the event.

May 2010 – “Gesture Technology and Play”

Elena Marques Sera and Carolina Johansson visited the “Gesture, Technology and Play” symposium in Bristol , and did a presentation entitled “Studying dance as interaction”.

May 2010 – The world Expo 2010 in Shanghai

Kristina Höök gave a talk at The Spirit of Innovation Day in the Swedish Pavilion of the Expo 2010, 24th of May, in Shanghai. The day was organised by VINNOVA and had speakers and visitors such as Swedish King, Minister Maud Olofsson, Jacob Wallenberg, and the Svenska Näringslivsdelegationen.

May 2010 – Future Mobile Services

Elsa Kosmack Vaara gave a presentation about future mobile services and Mobile Life to Sveriges Landstings Telefonansvarigas nätgrupp, SLT.

May 2010 – “Ingvar Carlsson Award”

Kristina Höök gave a talk to the “Ingvar Carlsson Award”-winners funded by SSF about leadership strategies.

May 2010 – Flower wall at the Digital Arts Center

Sara Ljungblad and Mattias Jacobsson installed the Flower wall at the Digital Arts Center in Ärvinge that had the Grand opening.

May 2010 – Software intensive systems

Kristina Höök presented parts of the Supple-project at a workshop for the “SW-intensive systems” organised for projects that SSF have financed as well as the evaluation group, and the original strategic committee that brought out the vision for the programme.

June 2010 - TEDxMälaren

Mobile Life researcher Sara Ljungblad gave a presentation, Inspiration for interaction design, at TEDxMälaren on June 15th. Sara’s research interest is in the field of Human Computer Interaction and her thesis “Beyond Users” focused on how to develop innovative information technology by taking inspiration not primarily from the intended users, but by exploring engaging experiences that the intended users may not already be familiar with. This way, specific experiences and existing practices are used as an analogy to learn about meaningful use of specific technology properties, to explore novel uses of IT. Sara Ljungblad has been working with various technologies in her projects, such as agents and robots, digital camera technology, visualization techniques and intelligent pushpin technology.

June 2010 – LOVE Stockholm

Mobile Life was invited by KTH to participate in the LOVE Stockholm festival in connection with the royal wedding in June 2010. The activities took place at Skeppsbron in the KTH tent. Representatives from the centre were Kristina Höök, Iuliana Silvána and Carolina Johansson with Affective Health, Jordi Solsana, Marcus Lundén and Helena Mentis with the Lega and Sara Ljungblad, Zeynep Ahmet and Mattias Jacobsson with the Flower wall.

September 2010 – Bokmässan in Göteborg

Oskar presented Mobile Life Centre and the research under the title Mobila tjänster berikar vardagen at the annual book fair, Bokmässan in Göteborg.

September 2010 – Talk at Finansförbundet

Petra Sundström was invited as speaker to Finansförbundet. She talked about, Mobile Dreams: the future technology will soon be in your hand.

November 2010 – Mobile Life Bay Area Tour

Mobile Life organised a trip to San Francisco to get influences from the innovative climate of the Silicon Valley area. The centre was presented at Yahoo, Intel, Google, Ericsson research, Willow garage, Parc and Nokia. Participants were the Mobile Life management team and representatives from Ericsson, Nokia, TeliaSonera, SICS and Stockholm City and Municipality.

November 2010 – Present at the GAMEX fair

November 4th-7th: WeRunFree was demonstrated at Gamex at Kista mässan, a huge open expo for the Game industry. Other than Mobile Life exhibitors like Microsoft, EA, World of Warcraft.

November 2010 – Mobile Life at Mobilgalan

The Annual event, Mobilgalan, organised by the magazin “Mobil” took place in Kista Science Tower. The centre partner, Kista Science City invited the centre to take part in the exhibiton during the day called, “The Mobile Innovation Alley”. We had good representation during the day with demos like Affective Health, the Lega system, WeRunFree, I’m Your Body, and Soundscape. Höök participated as a member of the jury during the awards dinner in the evening.

November 2010 – Stockholm Brain institute

Kristina Höök gave an invited seminar at the Stockholm Brain Institute seminar series at Karolinska Institute. Kristina is also member of the board of the Institute.

December 2010 – Paris Region Innovation Tour

Oskar Juhlin presented the Mobile Life Centre at the Paris Region Innovation Tour. Mobile Life was invited as honorary guest to the annual meeting on December 13th. The event attracted 600 visitors from the Paris region. The centre was presented by Oskar Juhlin at the Talk & Walk together with speakers from all around Europe.

December 2010 – VIP Open House

Mobile Life arranged a VIP open house with invited politicians, funding agencies, industry representatives and entrepreneurs. The event attracted 25 visitors and ended with a successful speed-dating event for networking. The speed-dating event was moderated by the centre partner Kista Science City and Tomas Bennich.

January 2011 –Presentation at the Research Councils Anniversary

Kristina Höök is invited speaker when VINNOVA and the Swedish Research councils, VR, FAS and Formas, celebrates their 10 year anniversary. She will talk about her research and the Mobile Life VINN Excellence centre as a good example of research environment. The event takes place at Clarion Hotel Sign hotel in Stockholm, January 18th.

January 2011 – Nokia Research lab in Santa Monica

Oskar Juhlin presented the centre for the Nokia Media Research lab in Santa Monica, Los Angeles.

January 2011 – VINNOVA 10-year anniversary

Kristina Höök gave a presentation at the 10 year anniversary of VINNOVA (our main funder). The topic of her talk was “Why research on play, games, emotions and body is relevant to industry”. The anniversary attracted 230 participants.

January 2011 – University of California San Diego

Oskar Juhlin presented the Centre at the Distributed Cognitions group on University of California San Diego.

February 2011 – The Digital World Research Centre

Dr. Mark Perry gave a seminar at University of Surrey, Digital World Research Centre, with the title: User-generated video production: from professional to amateur – mobile, interacting, live and online.

March 2011- Talk at University of Swansea

Oskar Juhlin is invited to give a talk at the Department for Computer Science, University of Swansea, the 15th of March 2011.

March 2011 . Future Friday

The Future Friday is organised at the Department for Computer and Systems Science for students looking to apply to the university. Oskar Juhlin gave a seminar about the Mobile Life centre and Celia Yanqing Zhang gave a seminar about the mFashion project.

March 2011 - Inspirational bits at SIBSAN

Petra Sundström gave a talk to the international MBA alumni association SIBSAN at their annual event in Stockholm.

March 2011 – Advisor to the IT minister

Kristina Höök will continue her work as advisor to the Swedish government and discuss the future Swedish ICT and telecom in the newly funded IT delegation with the IT minister Anna-Karin Hatt. The delegation consists of 26 experts from industry, academia and governance.

March 2011 – Internship at Spotify

Stina Nylander will spend four months during the spring, March until June, and work at Spotify. The internship is funded by VINNOVA.

Visits in the centre

April 2010. Post - och telestyrelsen (PTS) visited with representatives from PTS business intelligence network. Presentation of the Centre, followed by demoing of the Lega by Marcus Lundén and GeoChat and the Portrait Catalog by Mattias Rost.

April 2010. SICS Open House. Demos of Affective Health, ActDresses and the Lega. Unfortunately Kristina Höök's talk was cancelled due to the ashes from Eyjafjallajökull.

April 2010. Eliza Roszkowska Öberg, Moderaternas IT-expert and Jonas Falk, political secretary, nya Moderaterna are visiting Kista between 10-12. The meeting was arranged by Carl-Gustaf Jansson, KTH ITC, Anette Scheibe, Kista Science City and Jannecke Schulmann KTH. Lars Erik Holmquist presented the centre, Marcus Lundén demo the Lega and Mattias Rost demo the GeoChat.

May 2010. Visit to the centre by Martin Körling, Ericsson, with guest from the Multi Media University Malaysia, Cyberjaya, Dr. Chang Yoong Choong and, Techn. Strategy Director, Dr. Timothy Senathirajah, Ericsson, Malaysia.

May 2010. A delegation of 35 people from the French retail organisation, PICOM ended their week long visit to Sweden and Finland at SICS and the Mobile Life Centre. Mattias Jacobsson and Ylva Ferneaus presented the ActDresses. Marcus Lundén and Helena Mentis presented the Lega.

May 2010. Visit to the centre by Mikael Anneroth, Ericsson and guests, Dr. Timothy Senathirajah, Ericsson, Malaysia, two teleoperators and eight prize-winning students. Presentation of the Centre, Oskar Juhlin. Marcus Lundén demoed the Lega and Iuliana Silvasan demoed the Affective Health project.

June 2010. The EU project LIREC visited the centre with with 32 people. Oskar Juhlin and Maria Holm presented the centre and in the centre following demos was presented; 1) MoreVideo by Ramin Toussi, 2) The Lega by Marcus Lundén, 3) Traveur by Claus Weymann, and 4) Mobile Actdresses was presented by Mattias Jacobsson.

June 2010. A delegation from The Singapore Manpower Policy & Planning Department visited the centre. The visit was planned together with VINNOVA and discussed the set up and organisation of an excellence centre.

September 2010. The centre was visited by the HR and Administrative department from Stockholm University, DSV. Kristina Höök showed the centre, presented the organisation. The visit was concluded with some live demo presented by Mobile Life researchers.

September 2010. The centre was visited by a delegation from China with representatives from the Ministry of Transport. Oskar Juhlin presented the Mobile Life Centre and gave an introduction to the research in the centre.

October 2010. The EU LIREC project held a project meeting at SICS week of 5-7 of October. In conjunction with the meeting on the 6th Oskar Juhlin gave a presentation of the centre and the participants was guided through the centre and were demonstrated Mobile Life prototypes and results.

Workshops

The centre is organising internal workshops for the partner as a mean of knowledge transfer. During the year several workshops have been organised on various topics. A few examples are provided below.

- The Body Bug project organised a workshop called DanceStar with participants from a local dance school in Stockholm. April 2010.
- Mobile 2.0 organised a workshop with Ericsson in the Mobile Life Centre. May 2010.
- The, I'm your body project organised a workshop with the city museum of Stockholm. June 2010.
- The WeRunFree project organised a test of a prototype. June 2010.
- The Supple Project organised a workshop with Mobile Life researchers, Ericsson, SICS, KTH and Boris Design. August 2010.
- Mobile Life organised a workshop with Stockholm Municipality within the Citizen Dialogue project in the Mobile Life Centre. September 2010.
- Mobile Life researchers participated in discussions with Ericsson. Ericsson hosted the meeting. September 2010.
- Mobile 2.0 organised a workshop with Ericsson in the Mobile Life Centre. October 2010.
- Mobile Life organised a partner workshop with Ericsson in the Mobile Life Centre. October 2010.
- The Playful Experience project organised a workshop with Mobile Life researchers and Nokia in Tampere. October 2010.
- MoreVideo organised a workshop on Mobile Broadcasting with Mobile Life researchers, Ericsson, Mixed Reality Lab (Nottingham), TeliaSonera, Stockholm Municipality, SICS, University of Gothenburg, Bambuser. October 2010.
- The Supple Project led a workshop around the notion of "The social web of things" with Mobile Life researchers and Ericsson. January 2011.
- Mobile 2.0 organised a workshop with Ericsson on the theme Indoor location. February 2011.

Seminars

The open seminar series has continued during the year. The seminar is hosted by the centre partner Kista Science City in Kista Science Tower. The seminar are open and welcomes participants from all areas.

- *May 5. The wicked problem of designing for privacy. Markus Bylund, Ph.D. at SICS.*
- *May 12. Studying games as second order design. Annika Waern, Associate Professor at Stockholm University.*
- *June 10. From Bystander to Performer - Ubiquitous Computing in a Digitally Extravagant Era. Matt Jones, Professor at Swansea University.*
- *June 16. Open seminar with Amelia Bryne, researcher at Deep Tech.*
- *Aug 18. Online reviews and the great good place. Barry Brown, visiting professor at Mobile Life.*
- *Aug 31. Methodologies, in, of and with video. Eric Laurier, Senior research fellow at University of Edinburgh.*



- Sep 15. *Testing rapid functional prototypes in real contexts of use.* Frank Bentley, Motorola research
- Oct 06. *Aesthetics of interaction?!?* Sus Lundgren, researcher at University of Gothenburgh.
- Oct 27. *User Interfaces and the Environment: Exploiting Human Abilities to Improve Mobile Interaction.* Antti Oulasvirta, Ph.D at HIIT.
- Nov 03. *“I’m in love with someone that doesn’t exist” Bleed in the context of Computer Game.* Annika Waern, Associate Professor at Stockholm University.
- Nov 17. *Collaboration and quality: revisiting old research and discussing new ideas.* Maria Normark, guest researcher at Mobile Life Centre
- Dec 01. *A Field study of the Emergence of Play in Household Messaging.* Sian Lindley, researcher at Microsoft Research, Cambridge.
- Dec 08. *Design qualities for Whole Body Interaction – Learning from Golf, Skateboarding and BodyBugging.* Jakob Tholander, senior researcher at Mobile Life Centre.
- Dec 15. *Pretend that it is real!* Marie Denward, PhD Student at Stockholm University
- Feb 2. *Transferring Qualities from Horseback Riding to Design.* Kia Höök, Professor at Stockholm University, DSV.
- Feb 16. *Say it with a touch! Experiences from deploying a tactile device at Liljevalchs Vårsalong.* Jarmo Laakso-lahti, senior researcher at Mobile Life Centre.
- Feb 23. *Emotion regulation with biofeedback: effects on regulation strategies and brain activity.* Nathalie Peira, PhD at Stockholm University, Dep. Of Psychology.
- March 2. *Simplifying Internet application development with a name-based API.* Javier Ubillos, PhD student/ researcher at NETS lab/SICS.
- March 9. *Opinion or Sentiment Mining from Text.* Jussi Karlgren, associate professor at SICS.
- March 16. *Bodily Orientations around Mobiles: Lessons learnt in Vanuatu.* Pedro Ferreira, PhD student at Stockholm University/SICS.
- March 23. *User experience evaluation methods - is your design both useful and pleasurable?* Kaisa Väänänen-Vainio-Mattila, visiting professor at Stockholm University.

*Petra Sundström (2010) successfully defended her Doctoral thesis, **Designing Affective Loop Experiences**, at Department of Computer & Systems Sciences, Stockholm University.*



There is a lack of attention to the emotional and the physical aspects of communication in how we, up to now have been approaching communication between people in the field of Human Computer Interaction (HCI). As designers of digital communication tools we need to consider altering the underlying model for communication that has been prevailing in HCI: the information transfer model. Communication is about so much more than transferring information. It is about getting to know yourself, who you are and what part you play in the communication as it unfolds. It is also about the experience of a communication process, what it feels like, how that feeling changes, when it changes, why and perhaps by whom the process is initiated, altered, disrupted. The idea of Affective Loop experiences in design aims to create new expressive and experiential media for whole users, embodied with the social and physical world they live in, and where communication not only is about getting the message across but also about living the experience of communication.

An Affective Loop experience is an emerging, in the moment, emotional experience where the inner emotional experience, the situation at hand and the social and physical context act together, to create for one complete embodied experience. The loop perspective comes from how this experience takes place in communication and how there is a rhythmic pattern in communication where those involved take turns in both expressing themselves and standing back interpreting the moment - feeling it.

To allow for Affective Loop experiences with or through a computer system, the user need to be allowed to express herself in rich personal ways involving our many ways of expressing and sensing emotions – muscles tensions, facial expressions and more. For the user to become further engaged in interaction, the computer system needs the capability to return relevant, either diminishing, enforcing or disruptive feedback to those emotions expressed by the user so that she wants to continue express herself by either strengthening, changing or keeping her expression.

We describe how we used the idea of affective loop experiences as a conceptual tool to navigate a design space of gestural input combined with rich instant feedback. In our design journey, we created two systems, eMoto and FriendSense.

Media

Oskar Juhlin in Dagens Nyheter, March 2011

Oskar comments on a report from Denmark, "Increased internet surfing while on the toilet".

Annika Waern in Computer Sweden, March 2011

Annika discusses how companies use social media and games in their marketing communication as a means to reach and interact with customers.

Kristina Höök in Computer Sweden, March 2011

Kristina Höök will continue her work as advisor to the Swedish government and discuss the future Swedish ICT and telecom in the newly funded IT delegation with the IT minister Anna-Karin Hatt. The delegation consists of 26 experts from industry, research and governance.

Mobile Life Centre featured in Interactions, March 2011

Mobile Life Centre is presented in the March - April issue 2011, of the journal Interactions. The centre of Mobile Applications for Fun and Pleasure. Read the article [here](#)

Portrait of the Centre and Kristina Höök in Vinnova nytt, March 2011

Vinnova nytt visited the centre in the beginning of the year which resulted in a portrait of Kristina Höök. Read the article [here](#). (In Swedish)

Oskar Juhlin interviewed in P4 Radion Stockholm, December 10th, 2010

Radio Stockholm broadcasted live from Kista Science City with Ulf Elfving as host. Oskar Juhlin was interviewed during the program and talked about the future mobile services. Listen to the interview (17:30 min. into the interview, interview is in Swedish).

Oskar Juhlin interview in magazin Oracle's December report, 2010

Oracle magazine published an analytical discussion with Oskar Juhlin on the future of car computing. Five Ideas: Trends in Automobile Industry: How Technology will change the way we drive. Read the article.

Oskar Juhlin in the journal för CTO:s, December 2011

The technology has to put the people in focus, and not just provide functionality but also experiences.

Kristina Höök, one of the most powerful IT women, December 2010.

Kristina Höök was once again elected one of the most powerful women within IT by the journal Computer Sweden.

Mobil reports from the fair Mobilgalan, November 2010

Mobile Life researchers were demonstrating at the annual event Mobile Innovation Alley. The journal Mobil was there and reports on one of the demos. See the clip.

Researchers in the Mobile Life Centre studies your whereabouts, Metro Teknik, October 27th, 2010

Mattias Rost and researchers at the Mobile Life Centre investigate why people use Foursquare, Gowalla, and Google Latitude to tell their whereabouts.

Ylva Ferneaus on Swedish Radio with Magnus Uggla, Friday, October 8th, 2010.

Ylva Ferneaus was invited to Radio Stockholms and the talk show with Magnus Uggla.

Kristina Höök in the jury for Mobilgalan 2010, in Mobile Business, October 2010.

Kristina Höök is part of the jury at this year's Mobilgalan that took place in Kista Science Tower on November 11th.

Oskar Juhlin presented the Mobile Life Centre at Bokmässan, September 24th, 2010.

Vinnova invited Oskar Juhlin to "Forskartorget" at the annual Bokmässan in Göteborg and to talk about the future mobile services.

I'm your body in "Mitt i Kista", September 14th, 2010.

Jon Back, Ph. D. Student at Mobile Life was interviewed by the local paper "Mitt i Kista" about the mobile game, I'm your body.

Oskar Juhlin and Ramin Toussi appeared in Metro Teknik, September 22nd, 2010.

Oskar Juhlin was interview in the magazine Oracle, August 2010.

Oskar Juhlin was interview in the journal Oracle in connection with his book release, “Social Media on the Road!

Kristina Höök, in Computer Sweden, May 2010.

Kristina Höök once again on the list of the most powerful IT-women in Sweden, May 24th 2010. Computer Sweden appoints the most powerful women in the IT community each year.

Oskar Juhlin on “Vetandets värld” in Swedish Radion P1, May 17th, 2010.

Oskar comments on the future of mobile applications in the P1 program called “Appar vinner mark i mobilen” in Vetandets värld the 17th of May

Lars Erik on TV4’s “Ekonominyheterna” April 26th, 2010.

Lars Erik Holmquist has been interviewed by TV4 “Ekonominyheterna” on the mobile “apps” - sevicees and software for mobile phones. Sweden is a leader in this development because of very good courses in porgramming and interacion design, mobile phone and a high degree of maturity. In the future it will be obvious that the mobile phone and the “apps” will become even more integrated with the users’ social and professional life, and more and more “smart-stuff” will be controlled by the mobile phone. See the interview.



Exhibition Space at Mobile Life

Photographer: Maria Holm



The Organisation

People in the centre

Oskar Juhlin, Associate professor, Director
Annika Waern, Associate professor, Co-Director
Maria Holm, Coordinator
Lars Erik Holmquist, Professor, Research leader
Kristina Höök SU, Professor, Research leader

Alexandra Weilenmann, ITU Göteborg, Associate professor, VINNMER researcher

Allan Svensson, II/Umeå University, Master student

Anna Ståhl, SICS, Ph.D. Student

Arvid Engström, II, Ph.D. Student

Barry Brown, II/USDC, Associate professor, Guest researcher

Carolina Johansson, SU, Research assistant

Caroline André, SICS/Umeå Institute of Design, Master student

Celia Yanqing Zhang, II, Research assistant

Elena Marques-Segura, SICS, Research assistant

Elena Balan, II, Bachelor student

Elin Önnvall, II/SU, Research assistant, Coordinator assistant

Elsa Kosmack-Vaara, SICS/SU, Ph.D. Student

Farnaz Zangouei, II, Research assistant

Franc Aleo, SICS/KTH, Master student

Fredrik Hernegren, SICS/KTH, Master student

Goranka Zoric, II, Researcher

Henriette Cramer, SICS, Researcher

Jakob Tholander, SU, Researcher, Project leader

Jarmo Laakolahti, SICS, Researcher, Project leader

Javier Jiménez , SU, Master student

Johanna Mercurio, SICS/Linköping University, Master student

Jon Back, SU, Ph.D. Student

Jordi Solsona, SICS/KTH, Ph.D. Student

Katja Gruffberg, SU, Research assistant

Kim Nevelsteen, II/SU, Ph.D. Student

Marcus Lundén, SICS, Research assistant

Maria Normark, Södertörn/SU, VINNMER researcher

Marie Denward, II/Malmö University, Ph.D. Student

Mark Perry, II/Brunel University, Guest researcher

Markus Westerlund, SICS/Södertörn, Ph.D. Student

Mattias Jacobsson, SICS, Ph.D. Student

Mattias Rost, SICS, Ph.D. Student

Mela Kocher, II/ the Swiss National Science Foundation, Guest researcher



Morvarid Kashanipour, II/KTH, Master student

Mudassar Ahmed Mughal, SU, Ph.D. Student

Pedro Ferreira, SU, Ph.D. Student

Petra Sundström, SICS, Researcher

Pradthana Jarusriboonchai, SICS/KTH, Master student

Ramin Toussi, II/KTH, Master student

Sebastian Büttner, SU, Research assistant



The centre board

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Richard Harper, Microsoft

Johan Wickman, TeliaSonera

Jyri Huopaniemi, Nokia

Christer Norström, SICS

Staffan Ingvarsson, Stockholm City

Gudrun Dahl, Stockholm University

Ulf Eriksson, SU Holding

Deputies

Alex Taylor, Microsoft

Mikael Anneroth, Ericsson

Pekka Markkula, TeliaSonera

Tero Jokela, Nokia

Karin Öhlander, Stockholm City

Mats Danielsson, Stockholm University

Christina von Dorrien, Interactive Institute

Staffan Rosenberg, Company P

The Academic Advisory Board

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Masa Inakage, Dean, Graduate School of Media Design, Keio University, Japan

Katherine Isbister, Associate Professor, Polytechnic University of NYU, USA

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Sergio Gayoso Fernández, II/KTH, Master student

Stina Andrén, SICS/Linköping University, Master student

Tengjiao Cai, SICS/KTH, Master student

Ylva Fernaeus, SICS, Researcher, Project leader

Zeynep Ahmed, SU, Master student

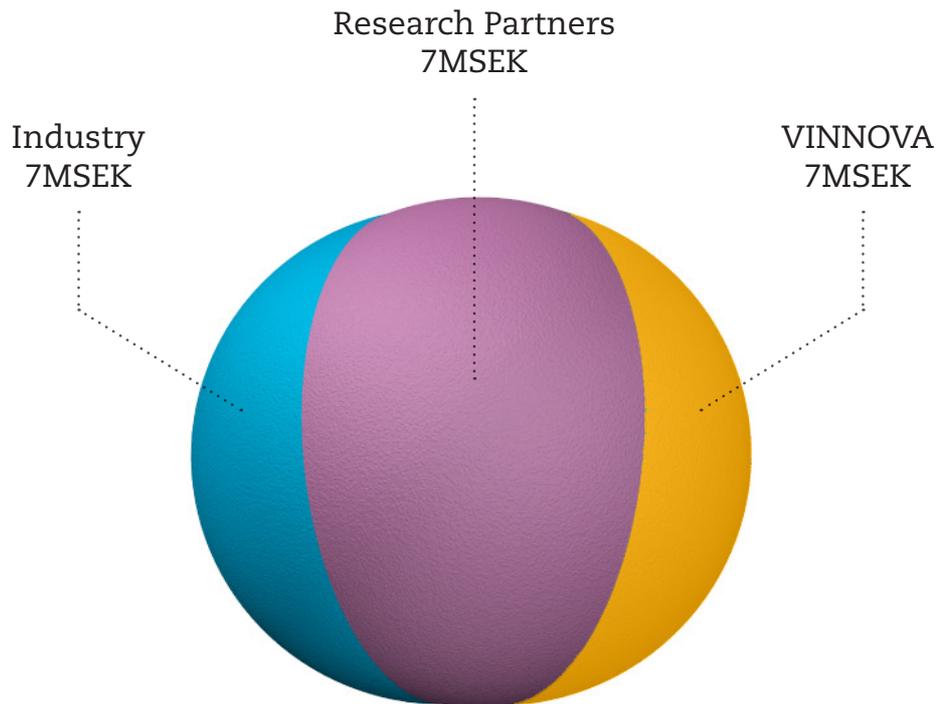
Yuyu Zhao, II/KTH, Master student

Zhengwu Zhang, II/KTH, Master student

Funding

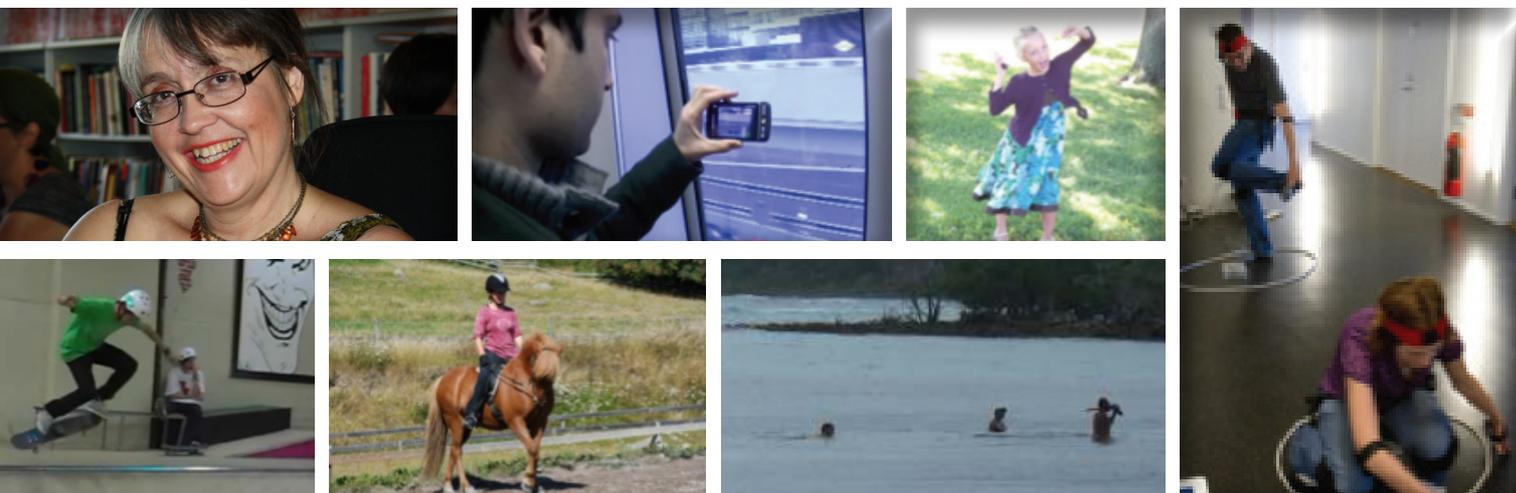
VINN Excellence Centre is a form of collaboration between industry, public organisations and universities, research institutes and other research-performing organisations. VINNOVA's funding model for the VINN Excellence centres is that the university (together with the research organisations) and the industry are co-funding with the same amount as VINNOVA.

The Mobile Life Centre is funded by VINNOVA on a 10 year grant, 2007 - 2017. For the period 20090401 - 2010033 the centre has expanded and the total contribution from VINNOVA, the research organisations and the industry, is 21 MSEK per year.



MobileJ!T





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