Design for All Estonia

Performance by Noolegrupp

Guest Editor Lylian Meister

Professor, Dean of
the Faculty of Design
Estonian Academy of Arts

Goodbye, pity! Let's design

ESTONIAN
ACADEMY OF ARTS

Table of contents

ESTONIAN
ACADEMY OF ARTS

Lylian Meister

Guest Editor of current issue

Lylian Meister is professor and dean of Faculty of Design in Estonian Academy of Arts (EAA). She first graduated as textile designer and has a second degree in landscape design. She is partner and designer in the Terra Magica LLC and active textile artist. She is one of the authors of the book "Kuidasleiutadajalgratast? Disainimeelseltettevõtlusest" ("How to Invent a Bicycle. Entrepreneurship from a Designer Point of View").She has worked as an editor and coauthor for magazines Deko,Marie Claire, Kodukolle and 101 Ideed.Her area of interest includes design management, design and business relationship, entrepreneurship, design thinking and strategic design. She is lecturing in EAA and belongs to the board of CIRRUS, network of the Nordic-Baltic Design and Architecture schools. She is a member of the advisory boards of Estonian Design Centre and Tallinn Art Hall.

Kari Käsper

Kari Käsper is the Executive Director of the Estonian Human Rights Centre (EHRC).He takes part in the work of refugee and equal treatment programmes. Kari also teaches European Union law and studies public administration in doctoral level at Tallinn University of Technology (TUT). He manages the equal treatment advancement projects at TUT, a part of which is the campaign "Diversity Enriches". He was involved with the youth organisationTegusadEestiNoored (Active Estonian Youth) 2001 – 2008, being one of the founders and helping to manage it. He also took part in the work of the European Youth Parliament between 1999 and 2008. He is the member of Council at Estonian Lawyers Association, Member of Executive Board at Estonian Association for European Law of the Estonian Lawyers Association (FIDE Estonia), Member of Scientific Council of the Library of TUT and

Member of TegusadEestiNoored.
Kari Käsper writes in his article "Goodbye pity!" that in case of a disability, a human-rights-centred approach proves better than an approach focusing on healthcare.

Ruth-Helene Melioranski
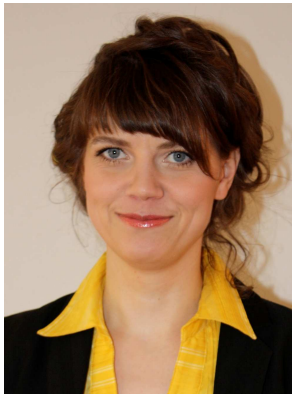
Ruth-Helene Melioranski is a researcher at Tallinn University of Technology (TUT) and is one of the developers and supervisors of the joint master's curriculum Design & Engineering. She is doing her doctorate in the Estonian Academy of Arts (EAA) and is focusing her research on the methodologies of social design. Her area of interest includes service design, design of policies and strategies and the ways how to implement these in public policy making and service development. In several Estonian universities she is giving lectures on service design, design management, design theory and methodologies.
Ruth-Helene Melioranski gives in her article "Designing an InclusiveCity" an overview of an instruction manual „Planning and creation of an inclusive living environment", which provides answers and application possibilities from an inclusive design perspective to all specialists participating in the creation of environments, to offer inspiration and solutions for eliminating problems and to introduce best practices for developing and planning the environments that consider the needs of different groups of people.
In this issue she also writes about the aims and projects of the EAA and TUT joint master programme Design & Engineering.

VeronikaValk

VeronikaValk is an Estonian architect and researcher. She studied in the Estonian Academy of Arts (EAA) and in the Rhode Island School of Design (RISID, Providence, RI, USA). From 2002 to 2005 she was founder, partner and architect in the Kavakava LLC architectural bureau. In 2005 she founded, and to present works in the Zizi&Yoyo LLC. Veronika has been AD an co-producer of Tallinn Festival of Light, Valgusfestival. Most notable works by VeronikaValk are the central square of Rakvere, the sports hall of the Suure-Jaani Gymnasium, the monument of the composer Eduard Tubin and the reconstruction of the Lasva water tower. She has successfully participated in numerous architectural competitions and published over one hundred articles on architecture

and urbanism. She has been council member of architecture magazine *Ehituskunst* and design magazine *RUUM*.
VeronikaValk provides an interview with **SixtenHeidmets**, the EAA associate professor of Product Design department.Sixten leads the social design projects at the Faculty of Design of EAA. The issues of ethics and sustainability are especially prevalent in design processes, and the responsibility of the designer therein, social design hasan important part in the studies and research.

Helena Veidenbaum

Helena Veidenbaum is designer, design researcher and a recent Master of Science graduate in interdisciplinary and joint Master's program of Design and Engineering from Tallinn University of Technology and Estonian Academy of Arts, in Estonia. Previous work experience includes graphic and UI design internship at Clothia Inc., in San Francisco, California and almost five years of experience working as a project manager/creative producer leading and managing the creative team of animators and designers in 2D/3D animation and post-production company SmileMotion in Tallinn, Estonia.Design portfolio and resume available at http://helenaveidenbaum.com/
Helena Veidenbaum's article presents the conclusion of a research and concept development of her Master Thesis where she analyses the possibilities of altering human behavior by design and proposes new product solution that could be used when experiencing the urge to urinate in unexpected situations where no conventional restrooms are available.

LiinaErnits

LiinaErnits is a product designer based in Tallinn, Estonia. Her journey as a designer started in Estonia, where she enjoyed her first experiences in this field and fell in love with it. Her desire to see the world and have new adventures took her to Politecnico di Milano and La Sapienza University in Italy, where she further developed her knowledge of industrial design and explored more of its faces. Currently she works as a packaging designer responsible for her company's north and central European markets. Beside her computer design work, she also enjoys doing wall murals and searching for new and exciting challenges in life.
LiinaErnits writes about Info Digital Organizer (IDO) product-service system with user interface is a concept based on simple and fast data

transmission to survivors of a disaster, large accident or an extreme situation that transcends cultural or linguistic barriers.

SilleSarapuu

SilleSarapuu is an Estonian fashion designer, graduated from Estonian Academy of Arts in 2012. She studied as well in Escola Superior de Artes e Design in Portugal 2008/09. Since 2012 she works as Monton menswear designer in Baltika, *https://monton.andmorefashion.com/*. She has taken part in different fashion shows, including 2011 - Tallinn Fashion Week with collection Freedom is paradise (coauthor Hanna Haring) and Habitus Baltija show in Riga, Latvia, with collection Tetris for an Estonian brand Hula. In 2011 she started to work with people with special needs and took part in Fashion Empowerment project. *http://www.fashion-empowerment.blogspot.com/*.

SilleSarapuu writes, that even fashion today has become more diverse and democratic,the supply of fashion in the mainstream market does not celebrate the diversity of the human body. By far, the majority of fashion labels focus on catering the desires of a very limited consumer group – young, healthy and slim women. She gives the overview about her own research and designing the comfortable cloths for people with special needs, and indeed, each one of them is special.

Keijo Julius Räihä

Keijo Julius Räihä is marketing specialist focusing on sustainability marketing and corporate social responsibilities. His particular business field of interest is global fashion industry. Previous work experience of Keijo Julius Räihä comes from working as a marketing specialist at the marketing agency Ping Pong Marketing and for fashion brand UpMade by Reet Aus. Mr. Räihä has obtained he's BA(Hons) degree in business and marketing from University of South Wales and currently proceeding a MSc marketing degree at the same university.

Keijo Julius Räihä writes about fashion, theatre and film designerReetAus (PhD), who has created the world's first mass-produced 100% upcylced fashion brand.She is involved in an innovative research project in partnership with one of the largest vertically integrated fabric and garment producer in Bangladesh called Beximco.

Design cares and provides solutions

Editorial by Lylian Meister

I am delighted to greet the readers of the current web issue of Design for All India in the role of the guest editor and I thank **Dr. Sunil Bathia**for the trust and invitation to produce this fall edition.
I would hereby also like to use this opportunity and greet all my friends in India, in the Kerala textile centre**Tasara**where I worked as an artist and designer in residence and was able to experience and enjoy the Indian hospitality.

Good design is always also local, derived from the available resources and hundreds of years of collected knowledge, which gives innovation its roots.Designers always face the challenges arising from the needs of users nearby in the process of creating new products and services where problems are turned into new possibilities and profitable businesses. In the current number, I shall take the opportunity to introduce the latest developments in Estonian product and service design, but as is common in design field, the local processes are still international at their core and directed at improving the wellbeing of people everywhere. It often pays to observe our daily life and objects from a distance.
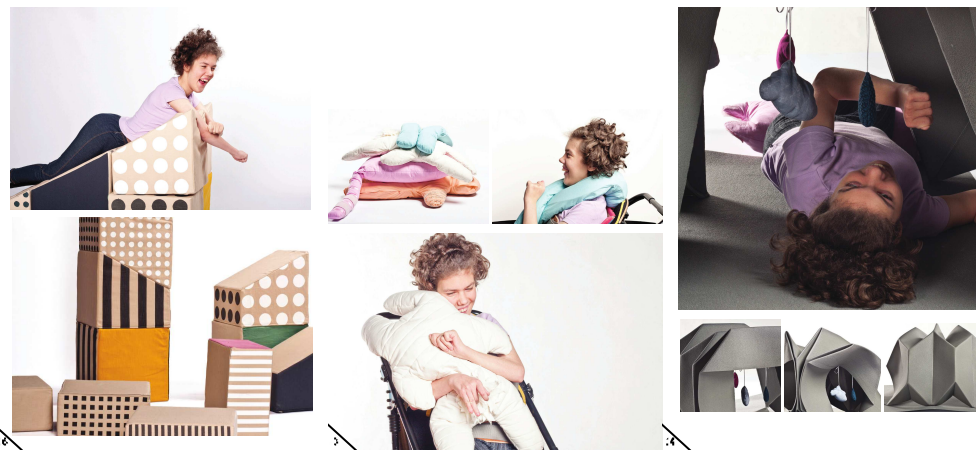
Study and therapytools for children with complex disabilities, designed by students of EAA LuiseWonneberger, Inna Beinar, TatjanaKuusik and ImbiIlves (supervisorsKärtOjavee and Jana Kadastik)

E-Estonia

Tallinn, the capital of Estonia, becomes especially mysterious and beautiful during winter

My country, Estonia, is situated in the Baltic region of Northern Europe. It is a small country with 1.3 million inhabitants. At the same time, I live in a state, which continuously utilizes and invents contemporary and high-tech solutions and is considered to be one of the most advanced e-societies in the world. This also means designing human friendly and accessible e-services. I am very happy if those innovative solutions made in Estonia will bring benefits to the wider world community. Estonia will be the first country to offer **e-residency** to the people from all over the world and you will have the opportunity to get a digital identity provided by the Estonian government by the end of 2014, http://e-estonia.com. This gives you the secure access to world-leading digital services from wherever you might be. As an Estonian citizen I am able to use an **ID card** (identification card), which allows me to do all bank transactions without leaving the comfort of the home and set up my own company in 30 minutes.The ID card is a microchip card, which in addition to the printed personal information contains my digital identity: the authentication and signature certificate with security protected keys (PIN – personal identification numbers). At the same time I can transfer my digital identity to a special mobile phone SIM-card and use the **Mobile-ID**by entering the security passwords. The security of the ID-card is at the level of global military and intelligence services and you can give digital signatures, which cannot be forged or disclaimed. "The New York Times" writes on their International Business pages, that as me, Estonians have fully embraced the digital

world, enthusiastically adopting public and private online services — offering a snapshot of a society that lives first and foremost online.[1]
"The Economist" praises the Estonian ID-system without reservation: "There is one place where this cyberdream is already reality. Secure, authenticated identity is the birthright of every Estonian: before a newborn even arrives home, the hospital will have issued a digital birth certificate and his health insurance will have been started automatically. All residents of the small Baltic state aged 15 or over have electronic ID cards, which are used in health care, electronic banking and shopping, to sign contracts and encrypt e-mail, as tram tickets, and much more besides—even to vote…. In all, the Estonian state offers 600 e-services to its citizens and 2,400 to businesses. Starting later this year, Estonia will issue ID cards to non-resident "satellite Estonians", thereby creating a global, government-standard digital identity. Some good ideas never take off because too few people embrace them. And with just 1.3m residents, Estonia is a tiddler - even with the 10m satellite Estonians the government hopes to add over the next decade. What may provide the necessary scale is a European Union rule soon to come into force that will require member states to accept each others' digital IDs. That means non-resident holders of Estonian IDs, wherever they are, will be able not only to send each other encrypted e-mail and to prove their identity to web-service providers who accept government-issued identities, but also to do business with governments anywhere in the EU.[2]
I strongly believe that we have designed great IT-based services in Estonia and such developments make other people's lives easier.This has already been attained by **Skype**, created by Estonian programmers, software developers and entrepreneurs AhtiHeinla, PriitKasesalu and Jaan Tallinn, in cooperation with Janus Friis (Denmark) and NiklasZennström (Sweden). Skype was first released in August 2003. The service allows users to communicate with peers by voice using a microphone, video by using a webcam, and instant messaging over the Internet. Phone calls may be placed to recipients on the traditional telephone networks. Calls to other users within the Skype service are free of charge. Skype has also become popular for its additional features, including file transfer and videoconferencing. Skype is currently developed by Microsoft-owned Skype Technologiesand it had 663 million registered users at the end of 2010. Microsoft's Skype division headquarters is in Luxembourg, but most of the development team and 44% of the overall employees of the division are still situated in Tallinn and Tartu, Estonia.[3]
Recently, on September 16th, the young Estonian entrepreneurs sold their start-up company's web engineering platform **GrabCAD** to the

[1]Estonians Embrace Life in a Digital World. The New York Times, 09.10.2014. whttp://www.nytimes.com/2014/10/09/business/international/estonians-embrace-life-in-a-digital-world.html?_r=0
[2] Estonia takes the plunge. The Economist, 27.06.2014
http://www.economist.com/news/international/21605923-national-identity-scheme-goes-global-estonia-takes-plunge
[3]http://en.wikipedia.org/wiki/Skype

leading global provider of 3D printing systems Stratasys. "GrabCAD was founded with the idea to get together all the engineers in the world and help them collaborate in order to bring better products to market faster," says the GrabCAD Executive Director HardiMeybaum who continues as the head of the company as part of the group. Founded in 2010, GrabCAD is the pioneering company of the CAD software development , which has made the cloud-based 3D CAD cooperation solutions and tools available to engineers around the world. [4]GrabCAD Workbench is a fast and easy way to manage and share CAD files without PDM costs and hassle. Workbench allows teams on any CAD system to work smoothly together by syncing local CAD files to cloud projects, tracking versions and locking files to prevent conflicts. The GrabCAD Library has the models and knowledge you need in the world's largest collection of free CAD files and you can join the Community for free.[5]GrabCAD has more than 1.5 million users who have access to the public CAD files and the possibility to be connected to engineers all over the world.

Transferwise, also a start-up company founded by Estonians, is the clever new way to beat bank fees. Banks charge huge hidden fees when you send money abroad. With TransferWise you save up to 90% and this is very easy to do. Your problem is solved and money saved. TransferWise was also the main sponsor of the recent **2014 Estonian Design Awards event**http://www.eestidisainiauhinnad.ee, http://disainiblogi.ee/en/.

BRUNO and Design Education

Economic success of every country comes from internationally successful products and services, from export capacities. This involves the co-operation of entrepreneurs and of the public sector – the higher the quality of products and services, the greater the extra value. **BRUNO** is an Estonian design award which has been given out by the Estonian Association of Designers since 2006. The award got its name from **Bruno Tomberg**, founder of design departement in the EAA. On 2014 the Estonian product design prize Bruno in the category of industrial design was awarded to the young designer **MihkelGüsson's**accessory device Shaka Weather Station (http://shakaon.net). The small device can be used by sailors, kitesurfers, mountain climbers et al. The international jury deemed Shaka as an innovative and very practical product.

---

[4]http://uudised.err.ee/v/majandus/63c76925-90a4-48e7-aa9f-d75048e04f81
[5]http://grabcad.com

Shaka Weather Station device, designed by MihkelGüsson

It is usually good design education that makes a good designer. For the first time in its history, the same award gala also acknowledged the importance of design education by handing out the first **Design Education Prize.** This prize is intended for an eminent developer of design education in Estonia or to someone from Estonia whose activities have contributed significantly to international design education. The first Design Education Prize was issued in cooperation with the Estonian Academy of Arts, Estonian Design Centre, Estonian Association of Designers, ADC Estonia and Estonian Service Industry Association. The prize was awarded to Professor Emeritus, the founder of the Chair of Industrial Art and long-time teacher Bruno Tomberg. Today's design education of Estonia is constructed on the foundation laid by him. The Chair of Industrial Art was opened by the State Art Institute of the Estonian SSR (ERKI, today EAA) in 1971. The first students were admitted already in 1966. The founder of the specialty and its soul Bruno Tomberg has said in the preface of the commemorative ERKI DESIGN 10 catalogue: "Learning may be a one-sided activity, but not teaching, and the fact that our chair of design is what it is now, the role of students has been just as great as the one of teachers – the readiness of students to acquire new knowledge and their high demands during studies have been a constant stimulus for the teachers to continuously and readily bring in new knowledge."

ESTONIAN
ACADEMY OF ARTS

Shooting portrait film of Bruno Tomberg "Designer number 1" 2009 (directed by Leonardo Meigas). Photo by Leonardo Meigas

Talking about design education in Estonia, I am happy to note that the university where I lead the Faculty of Design, the EAA, was founded as the State Industrial Art School and this year it is celebrating its 100th anniversary. Today, the Faculty of Design is the largest in the EAA and definitely the most entrepreneurial one. Naturally, we collaborate with other universities and development centres in the field, both in Estonia and abroad. We have established a joint MA curriculum with Tallinn University of Technology (TUT)Design & Engineeringhttp://www.design-engineering.ee.We are members of CUMULUS (International Association of Universities and Colleges of Art, Design and Media, www.cumulusassociation.org) and CIRRUS (Nordic-Baltic design and arts academies network, http//:cirrus.artun.ee). We have cooperation agreements with more than a hundred foreign universities, including universities outside of the European Union (e.g. Australia, United States, Canada, Israel and Russia). Weare striving to be the kind of educational environment where the student can apply his creativity and wit at mapping and analysing the design problems, but also at solving practical tasks. In addition to design thinking and planning, they must roll up their sleeves and do hands-on work in the workshop and make products or prototypes.

Design cares

The social design projects are an important part of the studies and research at the Faculty of Design of EAA. Today, the issues of ethics and sustainability are especially prevalent in design processes, and the responsibility of the designer therein. Estonian Academy of Arts started dealing with socially conscious design when associate professor **KadiPajupuu** initiated the project "Public and Personal" at the beginning of 2000's (instructed by sociologist Iris Pettai and journalist BarbiPilvre). A beneficial part of the course was the dialogue formed between Estonian handicraft artisans and help them apply their potential and craft and through that increase the employment opportunities in the rural areas. The Equal Opportunity Bureau of the Ministry of Social Affairs and Estonian Institute for Open Society invited the Textile Department of the EAA to participate in these activities. They took part in the International Labor Organization's project "More and Better Jobs for Women", curated by Equal Opportunity Bureau of the Ministry of Social Affairs.We became more thoroughly involved with special needs issues in 2005 when the project "Toys-aids for mentally challenged children" was carried out in collaboration with Department of Children and Youth of the Psychiatric Clinic (instructor prof. Mare Kelpman, special needs educator MaretRander, activities specialist/instructor/educator SiiriMinka). The collaboration with social partners has continued through the years. Research of the "smart textiles", which came into focus in Estonia in 2004, has been used in the social design projects. Jonah Brucker-Cohen and Katherine Moriwaki held a wearable technology workshop in the frames of ISEA event in Tallinn. Followed by EAA textile and product design and IT College student project "Smart Products Design – the Future Profession" in 2006-2008, lead by prof Mare Kelpman, prof Martin Pärn and assisted by KärtOjavee. In 2007, at the Ars Electronica festival held in Linz, Austria the students presented the results of the project in the form of the interior textile line SpringON.The project was concluded in 2008 with the exhibition „Smartly 2005-2008" held in SooSoo Gallery, complemented by a catalogue. **KärtOjavee**whoworked as the projectassistant, defendedherdoctoralthesis „Active Smart Interior Textiles: Interactive SoftDisplays" in 2013.

Tallinn for All

Design Management holds a key role in creating a good living environment and I rejoice over the fact that Tallinn, the capital city of Estonia received the **Design Management Europe Award in 2012** for public transport services in the category of Non-Profit Organisation. Designers and also the EAA design faculty provided an important part in that achievement. The success story dates back to 2010 when Estonian Association of Designers (EAD) raised awareness about making Tallinn a user-friendlier place by initiating the project Cities For All – Tallinn For All, part of European Innovation Festival. The aim of the project was to introduce the megatrends of this century that should be known by all designers, architects, producers,

public service employees as well as service designers. The City has to be easily accessible and comfortable to use for all age groups, nationals, mothers with small children and persons with special needs by means of social involvement.[6]Partners in this project were Tallinn City (TC), foundation Tallinn – European Capital of Culture 2011, Estonian Academy of Arts (EAA), Estonian Information Technology College, Estonian Entrepreneurship University, Tartu Univerity Pärnu College, TC Transport Department, Urban Planning Department, TC Enterprise Board, TC's Board of Disabled People (TCBDP), Astangu Vocational Rehabilitation Centre, Design Management LLC and Institute for Design and Disability - Design For All Europe(EIDD).

I am also delighted and appreciative of the fact that public transportation is free of charge to the Tallinn citizens.
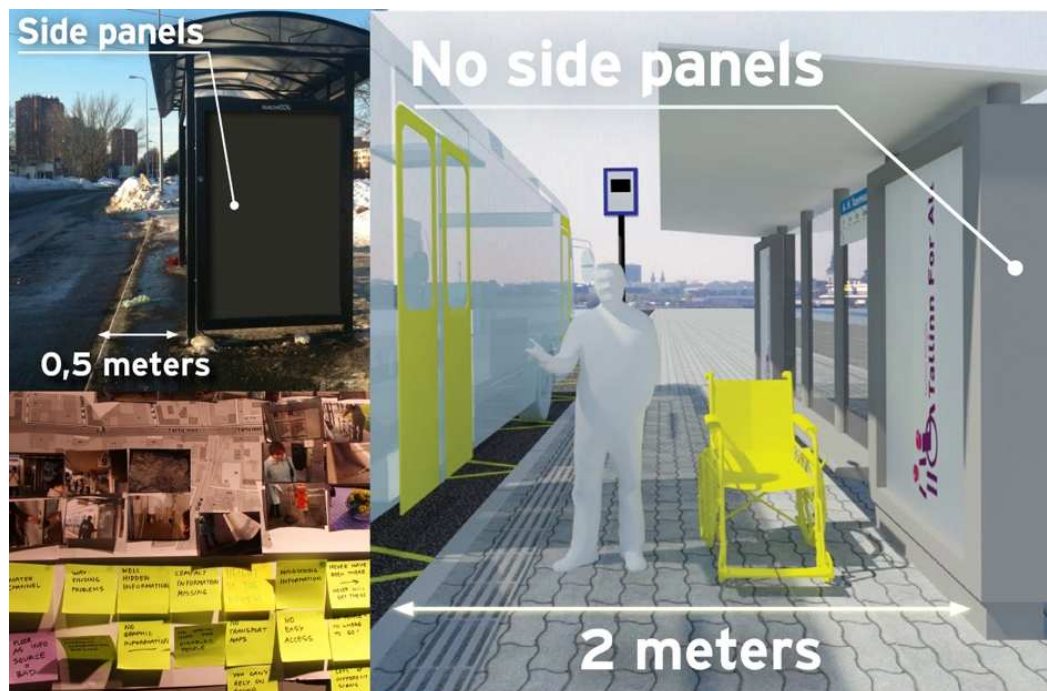
Tallinn For All research project

The main goal of Design for All is simple – to design for all people, including people who are generally overlooked as a target group by designers and have special needs. As a guest editor I hope this issue seeks to find answers to the questions whether design and fashion can improve peoples' quality of life, can they care and do they empower? I am sure you will find the Estonian research, projects and case studies in the field of social design interesting and productive, even proactive

---

[6] Tallinn for All, http://www.edl.ee/cities-for-all-tallinn-for-all

Goodbye, pity!

Kari Käsper

In case of a disability, human rights centric approach proves better than an approach focusing on healthcare. A revolution in what people perceive as disability is happening all around the world. By protecting the human rights of people with disabilities or the chronically ill, we can better their situation drastically. The main tool in this revolution is the Convention on the Rights of Persons with Disabilities.[7]

Demonstration of the disabled persons in Tallinn, Estonia 2014. Photo by HeikiRebane, EestiPäevaleht 13.10.2014

Previously, the disabled person was believed to be the problem: due to the lack of a specific function he/she is not partaking in society as others do. A person with reduced mobility doesn't work, doesn't do shopping or go to gym because he/she is not able to climb and descend stairs. A visually impaired person will not read a utility bill or a textbook because he/she cannot see. A hearing-impaired person will not attend seminars because he/she can't hear. A person with

---

[7]Paul Harpur (2012) Embracing the new disability rights paradigm: the importance of the Convention on the Rights of Persons with Disabilities, Disability & Society, 27:1, 1-14

learning disability will not listen to the news because he/she is not able to understand complex text. According to that point of view, disability is the person's own problem and as long as the society cannot „cure" them or turn them „normal" with the help of specially developed technical aids, that person cannot fully participate in society. Disabled person will have to change (or the society has to change them) in order to fit into a society that has been created by and for people without disabilities. The main focus in this case is on healthcare and on different kinds of support systems, so that the disabled person is made to be as 'normal' as possible. The healthcare oriented approach does not look as a whole at the problems disabled people are facing; instead the focus is on treatment and rehabilitation, on healing the disabled people instead of trying to offer them a possibility to live a fruitful and independent life regardless of a disability. Even with exceptional healthcare and support system a disabled person can never fully be turned 'normal': a person in a wheelchair cannot climb stairs and a guide dog will not be reading labels on products in grocery stores. Therefore this approach is incomplete: a disabled person can never be equal with others because he/is is just not like them.

Isolation is not a solution

The result of pity-driven approach has been isolating disabled people from society.People with disabilities and people without them live in separate parallel worlds. Isolation usually starts in early days: disabled children often do not go to a regular school with other kids. From early on disabled people are suggested not to aim very high in life. Segregation in education has led to discrimination in job market which has created a belief that disabled people cannot function in open job market. Even if some succeed in getting a job, it is usually a low-paid one. Thus there is a link between disability and poverty: disabled people are doomed to live off pensions and benefits and be dependent on their friends' and relatives' and officials' help. But it does not have to be this way.

Better than this traditional approach is the concept based on human rights which has a whole different starting point. According to that approach disability is a social concept that has not much to do with the lack of physical or mental functions. The approach based on human rights sees disability not as that particular person's problem but as a problem for the whole society. It's the society that is defective, not the person. It's the social structures that prevent disabled people from being a part of society. It's the social practices and societal norms that hold disabled people back and stop them from fully being part of the society. The obstacles occur outside of the person: people with reduced mobility cannot go to gym, to the shop or to work because the owner or tenant of the building has not had a special elevator or ramp built in – the work place has not been adapted to their needs; the hearing impaired cannot attend a seminar

because the organiser has not provided a sign language interpreter; the visually impaired cannot read a utility bill or a textbook because the issuer of the bill and the publisher of the textbook have not had their material presented in alternative formats; the mentally ill cannot understand news because these are not alternatively presented in easier language. The approach based on human rights therefore signifies the end to the isolation of disabled people. This means that people with and without disabilities are equally valuable: it's the society that needs to change in order to enable the disabled people to feel equal with others. The society needs to change its views because they prevent the accomplishment of equal treatment.

Thinking needs to be changed

As a discriminated group, people with disabilities have been less talked about.Sexism, racism and homophobia are phenomena increasingly condemned in societies.Yet it seems to be acceptable to treat disabled people as second-class citizens who don't deserve the status of an equal member of society. In the late 2011 during an awareness campaign in Estonia called 'Diversity enriches' posters were mounted that featured disabled people, and their disabilities were purposely emphasised because talking about them was a taboo in the society.[8] This was shocking to a lot of people, including the disabled people's family members, because they were confronted with the society's attitude towards the disabled. A journalist wrote about 'an ugly distorted face of a child', and parents were criticising the fact that disabled kids were portrayed as terrifying. Thus the change in thinking assumes organising a lot of things differently and also resources and investing in people. This will take a long while. But without those changes it cannot be guaranteed that the human rights of disabled people will be protected the same way as all the others'. In 1958, while talking about modern human rights, Eleanor Roosevelt said: "Where, after all, do universal human rights begin? In small places, close to home – so close and so small that they cannot be seen on any maps of the world. Yet they are the world of the individual person; the neighbourhood he lives in; the school or college he attends; the factory, farm or office where he works. Such are the places where every man, woman and child seeks equal justice, equal opportunity, equal dignity without discrimination. Unless these rights have meaning there, they have little meaning anywhere. Without concerned citizen action to uphold them close to home, we shall look in vain for progress in the larger world."[9]
Human rights are worthless if they do not work in real life, if they are not valid for everyone regardless of their status or their wallet, and if they are not applicable to people with disabilities. Appreciating human

---

[8]http://ekspress.delfi.ee/news/paevauudised/reklaamid-solvavad-puuetega-laste-vanemaid.d?id=63303776

[9]Eleanor Roosevelt, In Our Hands.*1958 speech delivered on the tenth anniversary of the Universal Declaration of Human Rights.*

rights is a powerful weapon against injustice and for fighting for your rights and for protecting and forwarding the society. But why is it that the Universal Declaration of Human Rights effective since 1948 and all the later conventions and laws have still not managed to protect equally everyone's human rights? Why have the disabled people been deprived of real protection? In order for the human rights not to remain mere words, the disabled people need to not just be aware of their rights but also be prepared to demand them. This means that the disabled people need to be well organised, aware, and ready to go to court to protect their own rights. Obstacles are definitely more serious for them than they are for others but hopefully we will witness more and more disabled people stepping up for their rights.

A minority among many

People with a disability are not alone. There are other groups besides disabled people that have been treated inferior or less valuable compared to others and who have been discriminated and who have therefore had to suffer. Women throughout history have had to suffer inequality and violence which are still present today. Gender income gap is only a minor example about everything that's wrong. Due to the contribution of feminists and others alike the situation is slowly changing but a lot of work is yet to be done to achieve a society that is gender-equitable. Patriarchal thinking and societal practice rooted strongly in history will not change overnight.
According to different race-theories people were classified by many as valuable and less valuable less than a hundred years ago. Holocaust is a persisting reminder to humanity about where an irrational hatred towards one group of people can lead to. Today we know there are no separate races, there's only one: the human race. But despite all the experience from history, xenophobia and racism are still apparent.
Lesbian, gay, bisexual or transsexual people everywhere in the world are just like all the rest of us and deserve the same human rights. Sexual orientation is part of a human being's identity and it should not be a basis for discrimination. All of these battles and situations are different but there's one aspect that they all have in common, and that is the potential to step up for their own rights and change the current situation by protecting human rights. It is not easy, especially if you stand alone for just your own issue. Other minorities could constitute a great ally to the disabled, even more so because there are men and women among them, Estonians and Russians, young and old, gays and lesbians.
If the society treats all its members equally, then everyone is a winner. Taken separately, the minorities in a society are in minority but if the minorities join forces for equal treatment then they become a majority or at least their voice becomes twice as strong. Great improvements in the field of human rights have been achieved exactly like that.
Isolating disabled people is also not wise from economic perspective. In Estonia for instance there's an outdated and wrongly built benefit

system that prevents the integration of the disabled. It has taught disabled people to depend on others instead of working. This is a situation where the whole societal structure starting with education is built to be inhibitory towards equal treatment of disabled people. There has been a lot of critique towards the work capability reform currently in the enforcement in Estonia because it sets the disabled person and his/her capability to work in the spotlight, although it should be more important to be thinking about the society's capability to provide well-paid and respected jobs for the disabled. More than work capability reform we would need an inclusive labour market reform, a non-discriminating employer reform and a tolerant society reform.

It means in one hand that people with disabilities become more aware of their human rights, and also that they start claiming them in a more active way. The main concern here is the fact that disabled people's organisations depend too much on political, governmental or local authorities' funding. Also it might prove a challenge trying to activate people to claim their rights when they have grown up being used to depending on others instead of making their own decisions. Also in public discussions people with disabilities are usually treated as objects instead of citizens with equal rights. Spokespeople for the disabled people are usually not disabled themselves which furthers being treated as objects even more. In many countries the outdated laws still foresee restricting active capacity of people with certain kinds of disabilities: how can someone with restricted legal capacity fight for their human rights? This is mainly the case of the mentally disabled but it is often hard to make oneself heard also for people with other types of disabilities.

Protecting the human rights of disabled people means hard work with the whole society so that the concerned people would know their commitments and how to fulfil them. For the employers it means understanding that discriminating a disabled person is a legal offense just as any other and that it will sooner or later be followed by sanctions.

Commitments are to be met not only by employers but also by the creators and mediators of culture. At an exhibition about the culture of native Central American people at Museé du Quai Branly in Paris, the exact replicas of the pieces had been created with 3D printers for the visually impaired, and everyone were asked to touch them. In the Art Museum of Estonia (Kumu) a special educational programme has twice been worked out for the visually impaired adults and children. Both of the times it was applied to sculpture. Estonian sculptors in cooperation with the Association of the Blind have organised a special exhibition for the visually impaired. At the moment there is an international art exhibition called "Face to Face" of the people with intellectual impairment in Kumu, which is part of an international project "Art for everyone". It tries to find ways how to provide art education to the people with mental disorders and to help their art and culture reach the market. The project is carried out in seven countries (France, Austria, the Netherlands, Denmark, Italy and

Estonia).[10] But a vast majority of culture and cultural events are currently unavailable to the people with disabilities!

There are several ways how to remind the responsible parties of their responsibilities, starting with simple things such as a guaranteed interview in the employment process, to compulsory quotas that should at first be fulfilled by governmental employers and those private sector employers who wish to participate in the procurement. The rules applied to the accessibility of buildings have to be taken seriously, etc.

So how to achieve a situation where the human rights of disabled people are taken into account in everyday life and where the society is in every way more successful? The convention of protection of the rights of people with disabilities will be of help, and a board of protection of the rights of people with disabilities is about to be created and it will help implement the convention, making sure life is in accordance with the convention. The aim of the convention is to introduce a new paradigm; a societal approach to disability. This implies work with disabled people: increase their legal awareness and support them in stepping up for protecting their rights. It also means work with the whole society so that everyone would know their responsibilities and would know how to take care of them. Everyone has to make an effort but not for the sake of the disabled people but for all of us. Today life is good for a lot of people. But it would be even better if life would be good for everyone, including people who happen to have a disability.

This article was first published in Estonian cultural weekly Sirp on 25.07.2014

Demonstration of the disabled persons in Tartu 2014.
Photo by HendrikOsula, EestiPäevaleht 13.10.2014

---

[10]ReetVarblane.Kunstkuulubkõigile. (Art belongs to everyone)Sirp 25.07.2014

Designing an Inclusive city

Ruth-Helene Melioranski

Background

The constitutions of most EU countries are borne by conviction that all human beings – both citizen and tourists – are equal and nobody should be discriminated or treated in a way humiliating their dignity. Estonian constitution stipulates (§ 34) that everybody staying legally in Estonia should have the right to free movement and choice of the place of residence (Republic of Estonia, 1992). Although the constitution should be the basis of life in Estonia, we have to admit that the right of free movement of many people in Estonia, but also of other European countries, is quite often severely restricted by built environmental obstructions. In some cases these obstructions are so big that they are discriminating and humiliating.

Although the public opinion tends to connect the issue of restricted mobility with a very small group of people, to those using a wheelchair because of their disability, this problem in reality is much bigger and influences us all to some extent. Following the principles of accessibility and consideration of human needs already in the phase of creating services and products, makes the whole living environment and movement more convenient, healthy and of better quality.

Considering the above Astangu Vocational Rehabilitation Centre has commissioned a research-based instructional manual „Planning and creation of inclusive living environment". The aim of this manual is to share field specific information with developers, planners, designers and architects and doing so to try to relieve the problem and prevent new ones.

In Estonia we are in the situation where the social and demographic processes evolve in the same direction as in the other European countries. But so far improving living standards and well being through developing environments, services and products according to users' needs has been very modest. On the other hand the authors of the research emanated from the fact that the professional education of builders and real estate developers but also designers, architects and engineers has been less concentrated on the present subject than demanded by modern quality of life.

One of the main reasons for developing and distributing inclusive design methodology is the demographic shift in the society – the overall ageing of population. In case of physical and mental ageing the performing capacity of people gradually falls and slows down, this demands from environment, products and services a lower threshold. Today in EU 130 million people or 36,5% of the population are over 50 years old, by 2020 every second adult is prognosticated to be in that age (Design Council, n.d.). The developments in Estonia are similar to those of Europe. According to the Board of Statistics in January 2010 there were 482199 persons over 50 in Estonia that is 36% of the population (Statistikaamet 2012).

Estonian Human Development Report 2010/2011 shows a clear tendency towards higher life expectancy. Higher life expectancy does not automatically mean high quality of life from birth to death. The human development report shows that in 2007 the life spent in good health conditions ended in average 10 years before death (Vihalemm, 2011). This means that most members of society have to count with several years of their life spent in worsened quality. While analysing these processes we may allege that living environments and services created according to ageing society members' needs will be needed by most people in the late years of their lives.

In addition to people with moving disabilities and elderly it is important to consider in the process of inclusive design people whose capacities or dimensions differ from average. The biggest group of those are children whose number in Estonian society was over two hundred and four thousand (till 14 years old) that is 15,5% of the population in 2012 (Board of Statistics 2012). Naturally most of the pre-school aged children do not consume public services independently but several services are directly targeted to them (for example kindergartens, playgrounds). The children are active members of society together with their families and therefore a service not accessible for children or environment passed with difficulty may become a problem for the whole family. Therefore we should count with a considerable number of environment users whose ignored needs will lead to different malfunctions that the provider of services has to alleviate making extra spendings.

Main opposition to the use of the inclusive design principles in the development of public environments is the reasoning that the target group is too small. If children and elderly together are one third of the society and in addition, we've got people with disabilities and kids' family members whose everyday life is more or less disturbed by non-accessible environments, it means we are ignoring the problem and not admitting the real necessities (Melioranski et al. 2012).

Aims of the research

Astangu Vocational Rehabilitation Centre commissioned from the Union of Estonian Architects, Estonian Design Centre and Estonian Academy of Arts an instructional manual „Planning and creation of inclusive living environment" for practical professional development. The compilation of the manual was based on by thorough thematic research. The aim of the instruction manual is to provide answers and application possibilities from the inclusive design perspective to all specialists participating in the creation of environments, to offer inspiration and solutions for eliminating problems and to introduce best practices for developing and planning the environments that consider the needs of different groups of people.

Considering the above the authors set the main aims for the research:
1. To define the profiles of people with special needs that the instruction manual should concentrate on
2. To map the problems of people with special needs and the bottlenecks in Estonian public space
3. To map the necessities of people with special needs and their expectations towards their living environment
4. After the analysis of mapping results to make proposals for the instruction manual (Melioranski et al., 2012)

Methodology

Inclusive design (also defined and here also as universal design and design for all) is not anew field of design; it is a special design methodology where the interests of the widest possible range of users are considered. The objective of implementing the inclusive design is to guarantee equal possibilities and equal participation in the society for everybody but also the possibility to cope independently in everyday life and to encourage everybody to be active users of environment and participants in social life. The focus is on the design of consumer goods, environment, buildings and services which should be usable without adaptations and accessible to as many people as possible. Besides satisfying the needs of the people with specific capabilities, needs or dimensions, implementing inclusive design methodology is improving the user experience of all the other people as well.

The roots of the inclusive design can be seen in the requirements for planning barrier-free and accessible buildings or environments from the middle of the previous century. By today it is widely understood that access only is not enough, important is to guarantee the ability to consume services and the participation in the social life.

Additionally, the inclusive design supports several other goals in the society. For example the sustainable development, environmental issues, cultural diversity, gender equality, usage security, fire safety,

aesthetic issues etc. For instance the methodology supports the sustainable development through social dimension and the design of new infrastructures.

The implementation of the inclusive design strategy assumes that cross-disciplinary principles are applied throughout the process, in planning, developing, support services, implementation and evaluation. Qualitative involvement is very important in order to be able to attract different users; as the involvement is one of the most important attributes of the inclusive design process. The implementation of the inclusive design methodology does not necessarily bring along new working processes but assumes the wide participation of users' representation organizations and consideration of the needs of different users.

Political measures are used all over the world to implement the principles of inclusive design. These policies have different names in different countries but general objectives are the same – to change the environments, constructions, services, products etc. accessible to as many people as possible to integrate maximal number of citizen into the society and social life. The long-term aim of those policies is to guarantee that maximal number of people copes independently with their everyday lives (Melioranski et. al., 2012).

In parallel with the developments of the inclusive design, the methodology of user-centred design (here also as human-centred design) has been evolving. User-centred design places human being or user into the centre of the development process from the phase of identifying the needs and the new concept till the disposal of the product. Although with this method the central focus is on people, in the framework of development process other factors like economical, technological are considered. The inclusive design and human-centred design have both coinciding aims and outputs. For instance NASA emphasizes in the description of their human-centred design process that following the process it is more likely to achieve results which are usable in an easier, more understandable and less stressful way, the results which offer better satisfaction and improve thereby the user's quality of life, productivity and the efficiency of handling the product (NASA, 2011).

To compose the instruction manual and implement the research the authors compiled a methodology that combined both, the principles of the inclusive and human-centred design. The principles of inclusive design used in the research guaranteed the consideration of needs of the widest possible range of human groups to create an environment with equal possibilities, it also guaranteed that the solutions proposed on the basis of manual's recommendations would enthuse the society members to be active users of the environment and participants in the society.

The user-centred approach guaranteed the handling the problems with the focus on the human being not on the ready-made object; therefore in composing the instructional manual the team concentrated on the description of capacities, needs and abilities of different people not on existing solutions. While composing the instruction manual it was considered more important to share the information of the problems of different human groups, not the respective standard measurements. Although such approach differs radically from wide-spread existing instructive materials which typically concentrate on accessibility through describing the existing solutions, the compiled manual is mainly aimed to inspire for the diversity of possible solutions that groups of creators might use in accordance with the designed environment and its functions (Melioranski et. al.2012).

The whole research started with the analysis of the existing material that involved the mapping and structuring of existing norms and regulations in Estonia, the mapping and analysis of other countries' experience, the mapping and analysis of solutions existing in Estonia and the content analysis of topical literature. This stage helped to understand the existing legal regulations and norms, the present situation and practices and to consider the experience of other countries and the results of the previous researches.

The research continued with pre-structured qualitative interviews that were made with representatives of the target groups of extreme users, experts in the field and in the phase of summarising the interviews a discussion meeting was held with the focus group where both the representatives of target groups and experts participated. In addition to interviews with people with different needs an intensive and important part of the research was the focused observation of the user activities and participation in the social life, for instance, in shops, cafes, in the street etc.

It is also important to underline the multi-disciplinarity of the team that guaranteed the involvement of different knowledge and skills in the whole development process. In the name of the common goal architects, interior and landscape architects, graphical and product designers, engineers, physiotherapists etc worked together. According to the methodology of the inclusive design there were also representatives of the target group with special needs who were invited to the team, for example a wheelchair user, a person with impaired vision, a mother of the big family etc.

In order to get constant feedback and comments the material was twice introduced to a reflection group composed of people with special needs, projectors, planners, civil servants, architects, and designers.

Personas and journey mapping tool

In addition to investigating the existing regulations, drawbacks of existing practices and needs of people the team concentrated on looking for possibilities how to support developers most efficiently in their search for new solutions. According to this the most important part of the research became the creation of new special tools inspired by the inclusive and human-centred methods. These are mainly tools for mapping the situation and the needs and favouring the analysis. These tools are meant to be used in the design process in order to take into consideration the users' peculiarities, to achieve a more user-friendly result and to find the solutions better meeting the objectives.

While analysing the research data it was decided to create specific personas to present extreme user needs through stories and encourage empathy with the people with special needs among the users of the instructional manual. Persona is a sample or typical user of the environment, product or service. Personas are used in design process for different reasons and different stages. For example in the idea generation as stimuli to whom to refer to in design process, whom to use as auxiliary for value propositions or as archetypes who represent all segments of the organization's market (Engine 2012).

Elvi   Martin saatjaga   Reet perega   Eero   Jelena   Kristiina
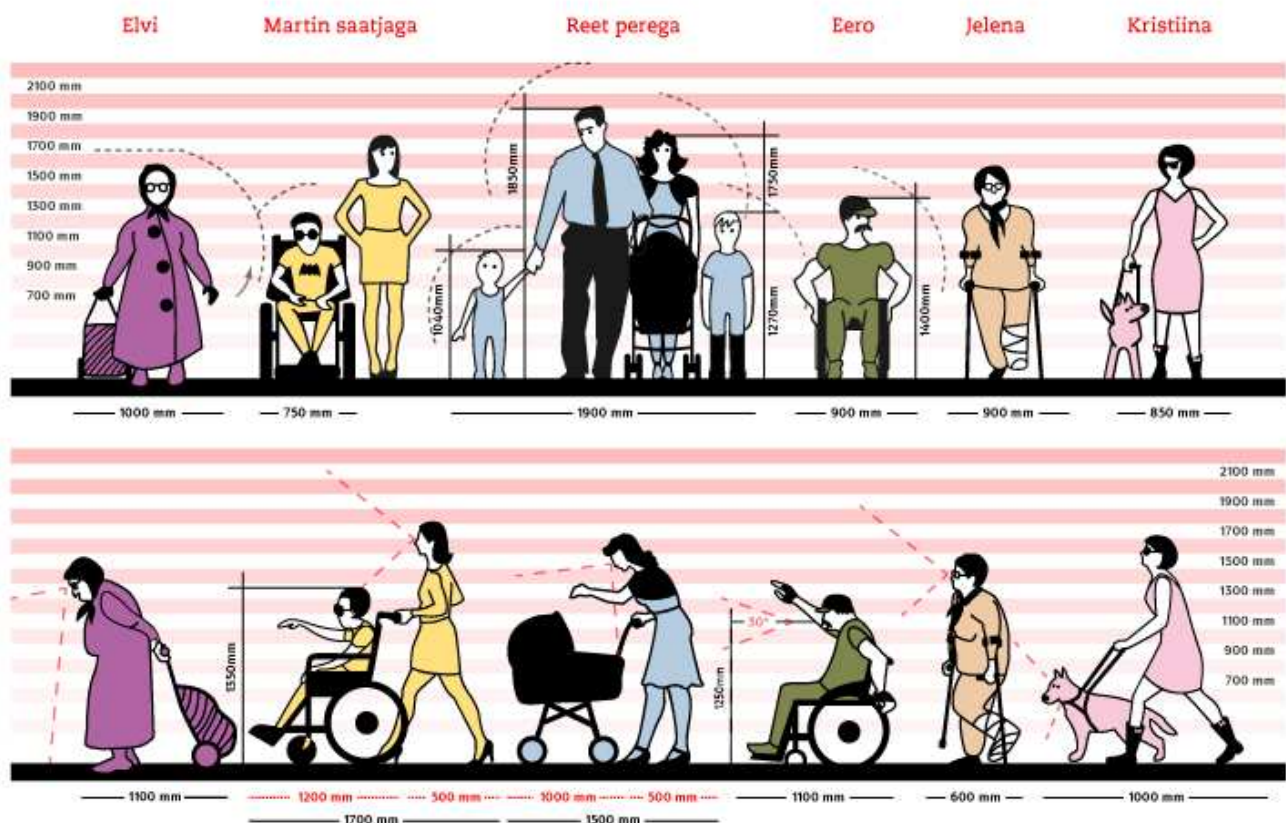
Kaasava elukeskkonna juhendmaterjal   Elukeskkonna erinevad kasutajad

Visualisations of personas. Graphic design by Kristi Rummel (Melioranski et al.2012)

The creation of personas was preceded by a through acquaintance of user's nature, needs and wishes and conclusions on that ground were made. On the basis of collected data were created six personas representing different groups of users whose physical, mental, behaviouraspects were described in detail. These descriptions contain information about users general background, lifestyle, behaviour habits, skills, wishes, use of time, places visited, character etc.

The development of the other tool, user's journey mapping tool, was mainly based on the blueprint tool, widely spread in service design. Service blueprint helps to define the essence of service and to find bottlenecks in the earliest stage. Traditional blueprints documented the location, physical space or object, the service blueprint documents time and the activities within but also touchpoints with physical environment. Service blueprints are living flexible documents and usually created in co-operation with as many interest or cohesion

groups as possible. The service blueprint is usable within the whole design process to specify the different components of services.

In the preparation process of the instructional manual of inclusive environment the tool for mapping the user's journey was elaborated. It is meant to analyse the journeys of created personas and their use of services. With the journey mapping tool it is possible to analyse both existing environments and the ones in preparation, the accessibility and user experience of services. The user's journey mapping tool concentrates on journey undergo including the connected services and activities within, physical meeting-points, time spent and experience acquired. The top part of the tool concentrates on the journey made by the average, healthy and strong person. The main body of the tool concentrates on the users' peculiarities and special needs. Before using the journey mapping tool it is important to get thoroughly acquainted with personas' way of life. Only so it is possible to consider all the needs and expectations of a certain person.

The first stage of the exercising the user's journey map is meant to be concentrated on activities directly before and during the journey. For example a taxi journey usually begins by choosing the service provider, looking for its telephone number and ordering a taxi. After the arrival of the taxi opening of its door and getting in.If necessary putting the bag into the luggage room etc.

Every enumerated activity brings along a touchpoint with physical or virtual world. For example one looks for taxi provider's number in Internet or in a telephone book, in telephone memory or one calls to a friend. Touchpoints are in that case a computer with search engine and homepage, telephone book, telephone or telephone with a friend answering the call.

Every activity takes certain time and contact with the touchpoint arouses different emotions in the user. A service or an environment one usually remembers by the mood or feeling it brings along. Time consumption and consideration of emotional background is usually not in the centre of the design team. At the same time exactly these indicators are important and define a person's satisfaction.

The stages of the journey map provide us an understanding on how a person makes the journey or consumes the service. In the evaluation context of the inclusive environment it is important to consider the ability to use the service by people with different needs and abilities. In the next stage the analysers should empathy the selected persona and walk through the same journey or use the same service as previously the first person. The starting point of analysis is the list of activities written in the top part of the tool, next to persona should be added the distinguishing circumstances of those activities.

TEEKOND	1	2	3	4	5	6	7	8	9	10
TEGEVUS										
KOKKUPUUTEPUNKTID KESKKONNAS füüsilised objektid, abivahendid, info jmt.										
TEGEVUSEKS KULUNUD AEG										
EMOTSIOON										
REET 35-aastane koduperenaine 3 väikelapse ema										
ELVI naispensionär										
JELENA ajutine liikumispuue, vene emakeel.										
EERO seljavigastusega ratastoolis liikuja, sõidab ise autoga										
MARTIN vaegnägija ajutise liikumispuudega (ratastoolis) ning liigub saatjaga										
KRISTIINA vaegnägija, liigub koera või valge kepiga										
PARANDUSETTEPANEKUD Millest tundsite puudust? Mis oleks teinud kulgemise mugavamaks/ meeldivamaks?										

Kõiki kaasava elukeskkonna kavandamine & loomine

Template of journey mapping tool. Graphic design by Kristi Rummel (Melioranski et al.2012)

For instance Kristiina informs the taxi company of her visual impairment already in the process of ordering the taxi and describes how she looks like so that the driver could spot her easily. Kristiina prefers a yellow cab as she has a small visual capacity that enables her to distinguish a yellow surface from the surrounding grey mass. Each persona is a personality and everybody experiences a different emotion while performing different activities. If for a person in a good physical condition entering a taxi means making oneself comfortable in it then for Eero this stage is much more complicated. The taxi should be parked in a place with enough room and good access, Eero should be able to shin himself down on the seat, to pack up the wheelchair etc. The whole procedure takes time and demands a physical effort.

After the mental or real analysis of the journey with personas it is possible to draw conclusions of each stage of the journey and make amendment proposals based on that considering the remarks of different users. Amendment proposals should be re-analysed – will they really make the life of all the users easier? How could one do better? Will the amendments improve the users' experience? At the end of the manual, in the appendixes, we have shown the analyses of eight hypothetical journeys that illustrate the use of the tool and help to understand the needs and specialities of different users.

Conclusions

The focus of the accomplished instruction manual is on the built environment, the possibilities of its use and the planning of services within that corresponding to the needs of the maximum number of people. At the same time the building of environment is just a process preceding its use – living, working and moving within.

In the interviews of the initial research a much more serious problem surfaced – a disparaging or pre-emptive attitude towards people different from others. It means that in addition to adjusting the environment it is extremely necessary to change the attitude that all members of society should be valued. Neither age nor disability should be the basis of any type of discrimination. Changing of behaviour patterns are time-consuming and complicated processes where the living environment can only be a support. In order to induce and direct such processes both social and service design methodologies can be used.

Maintenance and up-keeping of the living environment is also directly connected to attitude. Unfortunately it is not enough to construct buildings; important is also to maintain them. It is unbelievable how often poor maintenance or improper use cause problems to people whose only access to a service is an especially large parking space or an inclined road. It might even mean that improper use by others can exclude them from the consumer group of these services.

The third important assumption to develop a high quality environment is connected to the implementation of the systematic approach and integrity of the planning process. The practice so far is based on ownership and plots and somehow the border of the two real estate objects is under nobody's responsibility. However the change of pavement might occur on these borders and cause inconveniences to pedestrians or a road with an unexpected step may end the journey of someone with walking hindrance. Therefore the authors recommend considering more the functioning of the whole system and co-ordinate your activities with those of your neighbours.

The team of the instruction manual wish enthusiasm and willingness to consider the interests of different people around us and hope that

you will find new inspiring and creative ideas for designing living environments from the manual (Melioranski et al.2012).

Acknowledgements

References

Design Council. Inclusive design education resource. Retrieved February 13, 2012, from http://www.designcouncil.info/inclusivedesignresource/

EestiVabariik. EestiVabariigipõhiseadus (1992). Estonia. Retrieved September 24, 2014 from https://www.riigiteataja.ee/akt/633949 Engine. Service design tools: Personas. Retrieved February 26, 2012, from http://enginegroup.co.uk

Melioranski, R.-H., Levald, A., Valk, V., Falkenberg, V., Kotsjuba, D., Lepik, P.-R., … Vaikla, T.-K. (2012). *Kõikikaasavaelukeskkonnakavandamine&loomine*. (R.-H. Melioranski, A. Levald, & V. Valk, Eds.). Tallinn: EestiArhitektideLiit, EestiDisainikeskus, EestiKunstiakadeemia.

NASA. (2011). Process: Usability and User Centered Design Process. Retrieved November 04, 2011, from http://www.hq.nasa.gov/pao/portal/usability/process/index.htm

Statistikaamet. (2012). Eestirahvastik. Retrieved February 13, 2012, from http://www.stat.ee/ppe-43537

Vihalemm, P. (2011). *Globaalneinimarenguindeks: Läänemeremaadesarnasedjaerinevadarengujooned*. *EestiInimarenguAruanne 2010/2011 „InimarenguBaltirajad: muutustekaksaastakümmet"* (pp. 12–18). EestiKoostööKogu. Retrieved from http://kogu.ee/public/eia2011/EIA_2011.pdf

ESTONIAN
ACADEMY OF ARTS

Socializing Design

VeronikaValk

For some years now a special course by Associate Professor **SixtenHeidmets**, product designer, has been tutored to Master's programme students of the Estonian Academy of Arts Faculty of Design.
 "It is my hope that this elective subject would facilitate the comprehension of design. Design is mostly to be taken as relationship between individuals and objects and is meant to serve everyone," Associate Professor SixtenHeidmets concludes. Students get a marvellous experience from such projects, since design is aimed at providing solutions to problems and make daily life smoother. It should all be rooted in the expertise and capability of society to build bridges between different worlds. The development of skills involved work with the target group, mapping the needs and providing design solutions as prototypes. By ways of investigative approach students reached unexpected meaningful goals.

Setting up the task

Handicapped people face a variety of unsolved issues. The participants of the project had to comprehend the essence of the problems and look at the world through the eyes of the people yearning for solutions, and setting out from that, to provide solutions. Says Heidmets: "Identifying precisely the scope of problems was definitely the hardest part of it all, as one party of the project were the handicapped whose communication with the society was hindered because of various health problems." Cooperation has been going on with the social welfare services provider AS Hoolekandeteenused, as well as the Association of the Hard of Hearing and Tallinn Helen School.[1]
The social services provider proposed that the special course would create various work possibilities different from those which exist for their clients, and a convenient work environment. Clients now do mainly handicrafts, perform clean-up tasks and do packaging. Could be good to think of products to be developed with the aim of stimulating different senses.

The World of Aids

Design is to assist and develop coping, so that clients would be best fit for self-reliant life. One of such aids can be a simplified daily schedule which helps the user to understand the flow of time by time

increments. This is what was focused on by KristiinaOppi, Masters' level student of glass art: "I devised a wall mounting method for a pictorial system." The structured day and activity enables the person with special needs to be more autonomous and to get the notion of time better. "The complicity of the task lies in the fact that if we think we know precisely what we like or not, then when we deal with a mentally retarded person, we can only guess that. One cannot use logics rather than methods based on feelings and senses to teach them. It is important to discover the strength of each person's wit, interests and abilities," says Oppi whose project focuses on communication with symbols (pictograms, PCS system, BLISS-Symbol-System, etc.)[2] "Pictorial language makes self-expression easier and helps structure information," explains Oppi.

Figure 1. The Day Plan   Figure 2.The proposed
system used   Day Plansystemonthe
before the projectmagnetic holders using
                                         the universal PSC system

Taavi Soot, Master's level student of product design, another participant in the course, tells that during visits to social care units and interviews with the personnel it became evident that people are clever and ready to make what is needed. The task of the designer is just to go with the flow and help to execute the ideas. "The question remains what can one's needs be in order to improve life quality. Many people would like to read books and to communicate with others via Internet, write and receive letters. It is their handicap that sets limits to that. The task of my project was to design an adjustable reading table, shock and pressure proof, and a device to facilitate computer keyboard usage for a 28 year old male patient with complex disability," says Soot who is mentored by KatrinMaiste, specialist of social welfare.

He has tested the prototypes of the reading table and typing device on a client and he seems to be mostly satisfied. "When familiarizing myself with the existing reading tables it became evident that there exist many but namely such kind suitable for a person with a complex disability is missing," says Soot. He will develop the project further on and will be presenting the many times tested and improved version as his master level project this winter. The design process focusing on the user-friendliness involves the end user and takes into consideration the various needs and expectations of the client.
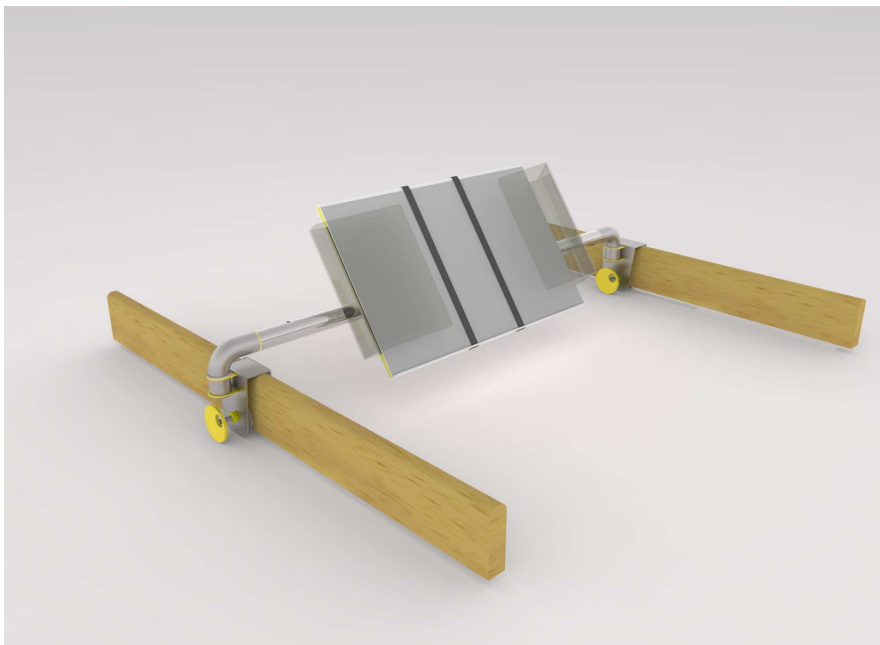
Figure 3-5.Small table with clamps by Taavi Soot.
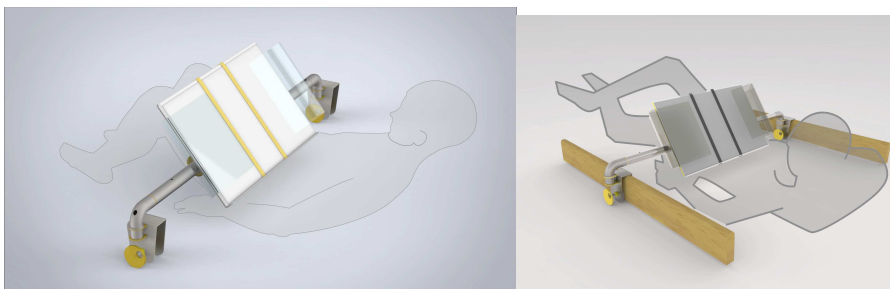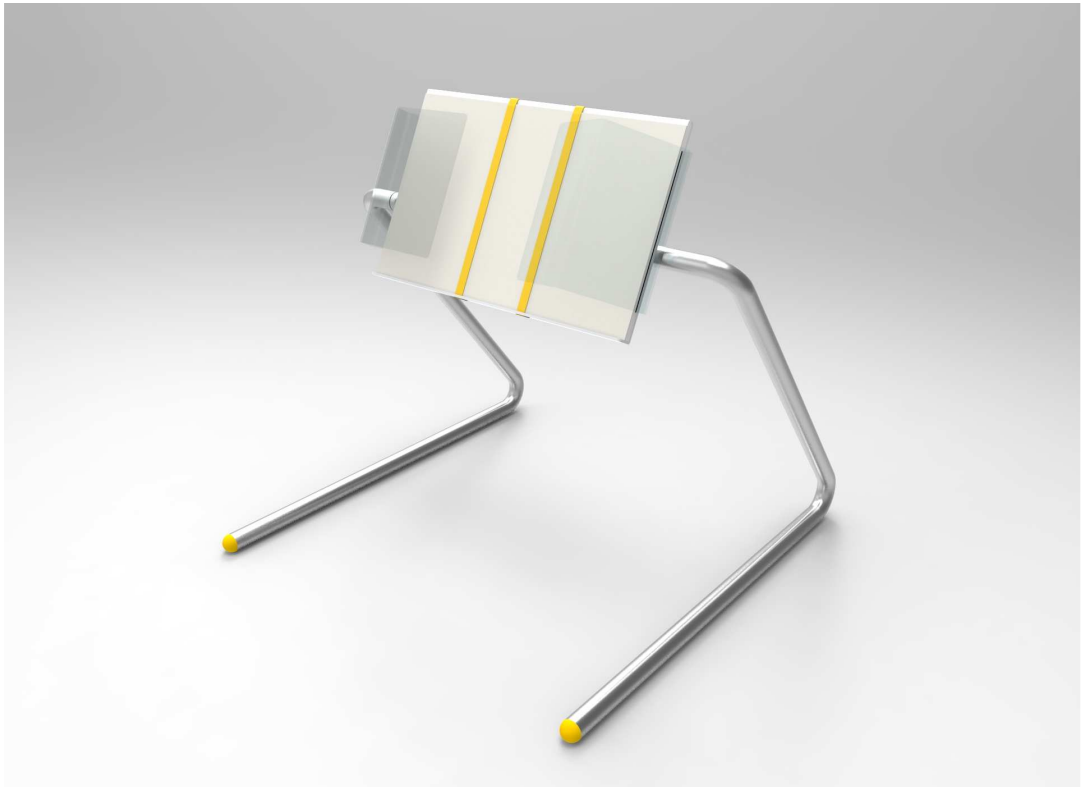
Figure 6.Bed-top frame by Taavi Soot.

Figure 7.Typing device for the patient with complex disability by Taavi Soot.

A Broader Picture

Students have also met people with complex disabilities who are under special surveillance day and night. "This experience – educative in many ways – has broadened our world perception a lot; background studies were time and energy consuming," says Oppi. "Even if to provide a solution specifically for one person, it is worth to investigate if it might suit a wider target group, the aged or people with some other kind of special needs," concludes she; in the course of her work she reached the understanding that her design of the

reading table could be targeted to a much wider audience. "This aid is meant for individuals who have been bound to the wheel chair or hospital bed but who still would like to read and write. The table solves the problem connected to holding the book and enables to fix the pages. One can write on this table and some smaller objects like pencils can be placed there. The fasteners of the table enable to mount it on wheelchair or bed. Research proved that the table is of good use to senior citizens who have difficulties in holding a book, as well as to individuals suffering from a variety of chronic ailments limiting their mobility, or who have uncontrolled movements, muscular tension etc. The table might also help people with one-sided paralysis," recons Soot.

When asked what has set students wonder in the course of work, Soot replies: "Nurses and care providers have been tight-lipped and distrustful." Says Oppi: "It seems the organisations and institutions involved in creating means of aid do not communicate with each other. They should meet and discuss things more often."

Designer's Role

SixtenHeidmets as supervisor is well familiar with the tendencies of change in the society: aging; extension of life-span although the number of years lived in well-being is not growing; more people live by themselves; male and female roles have got mixed; demands set on people get growing, more frequent psychic disturbances are part of a more wealthy and developed society. So it was really hard to surprise him during the course. As problems of a wider sense what the society is faced with he points out that if we want to live a stress-free life, products and services should be consumable intuitively. "A bulky manual means the product is bad, they say. One should also note individuality: people yearn for expressing their personal self, and that is why it is ever harder to determine target groups. We cannot say for instance that all men aged 36 with higher education and who earn equal salary and live in downtown share the same values, and all the same solutions could fit them all. The universally applicable design solutions become ever more important, in order to make life more convenient and to make the environment, products and services accessible without support from outside, to be used and comprehended by everyone, including the individuals with special needs," Heidmets explains.

One might ask what the role of designer is if such a task is set, and whether the profession of designer is changing under present-day circumstances. Empathy should always be there, Heidmets thinks, and this is what Estonian Academy of Arts is developing in future designers. "It is not possible for a designer to identify themselves with all consumers and to picture their actual problems. It is inevitable to conduct a thorough research of the end user while creating a functional user friendly design. The world is constantly changing and so is the profession of designer, and that is good. It is a sheer joy to observe there are devoted students with a strong will to

understand the weaker ones and put their effort in creating caring design also in the study free summer time. This is once again testifying that being a designer is not a fixed time job but a way of life."

[1]AS Hoolekandeteenused is a fully state owned company to provide social welfare services to the mentally retarded individuals, referred to as clients. Therefore the term client is used throughout this article. [2]BLISS-Symbol-System is an international method of communication to support or substitute speech in which words are replaced with graphic symbols. It consists of several geometric elements like circle, square, triangle, and their elements which can make up endless amount of symbols designating words. These are of help most of all to people suffering from cerebral paralysis and those whose mobility is challenged but who possess good imagination and memory and who are able to build up expressions. BLISS symbols can be used by people with mild mental retardation, complex handicap or children with aphasia, and individuals in rehabilitation phase after accident. PCS (Picture Communication Symbols) are graphic signs based on more than 3000 outline images. The meanings of images are written above images. PCS is probably the most used system nowadays, offering a variety of possibilities to improve communication environment. Its big number of signs is its main asset when compared to pictograms; it is in general use in United Kingdom, Ireland, Germany and Spain. PCS is used by Estonian students of patient care.

This article was first published in Estonian cultural weekly Sirp on 12.09.2014

Implementing user-centred design methodology in design & engineering education

Ruth-Helene Melioranski

Background

Discussions about design in our everyday life and moreover, about the possibilities of the use of design to enhance the competitiveness of economy or to develop the policies and services of the public sector have engaged almost everyone interested in design. Since Herbert Simon's definition "changing existing situations into preferred ones" most of the discussions focus on design as a problem solving discipline (Simon, 1996). But if we delve into the design process, we see how important are the skills to create an appropriate design brief and prior to the brief the ability to identify and circumscribe the problem's scope and roots.

This latter, finding out the core of the problem, is most often the key to the whole solution path. Understanding the demand for such creative leaders and specialists of development teams, people who are capable of investigating and defining the roots of problems and setting tasks for further development process was one of the incentives to open, in co-operation between the Estonian Academy of Arts and Tallinn Technical University, a joint international master's program Design and Engineering in 2009 (Melioranski, 2014). Design & Engineeringis aimed at young graduates of engineering and design disciplines interested to continue their education in a cross-disciplinary course with purpose to combine technological competence with design skills and knowledge to become future leaders of design and development ("Design & Engineering," 2014).

The disadvantage of the tiny Estonian design studios has always been limited capabilities. Nothing to be done, alone you can reach only till the fruits on the lower branches, in order to aim higher and further on one needs support of others as joined forces make stronger. Alone it is nearly impossible to learn about the multicultural essence of the global world and acquire the skills for using it. International and multidisciplinary teams bring different aspects of product development into one process and although the results of the joint studies are made over only a couple of years the global possibilities of

ESTONIAN
ACADEMY OF ARTS

co-operation between industrial design and engineering are already much more evident (Melioranski, 2014).

Establishing the new curriculum stood also on the understanding that successful companies today are outstanding in their respective industries and fields primarily due to their mastery of the cross-disciplinary approach to product development and innovation. An emphasis on product and process technology alone is seen as insufficient for market and business success. Technological competence needs to be combined with a deep understanding of users, the social and cultural context of use, as well the utilisation of design in the creation of meaningful, pleasing and sustainable solutions. Answering these complex and sometimes contradictory demands requires new professional types. Design & Engineering master's programme has been specifically crafted to address such demands by two of Estonia's leading Educational Centres of Excellence, Tallinn Technical University and Estonian Academy of Arts("Design & Engineering," 2014).

With a business and entrepreneurial approach, the programme is founded upon synergies and benefits gained through the integration of Art, Design and Science. Keeping this objective in mind, programme participants work in on-going team-based projects in collaboration with partners from industry, science and public sector. Beside Estonia, students are from France, Turkey, United Kingdom, New Zealand, Norway, Germany, India, Kuwait, Iran, Russia, China, Ukraine etc ("Design & Engineering," 2014).

Methodology

Compilation of the curriculum's methodology is based on the aims to teach the students to identify and map the needs of different user groups, to develop unique solutions in a multicultural and multidisciplinary team, to be able to understand and consider social, ecological and economic processes in their development projects.

In addition to the aforementioned joint training of design and engineering, the curriculum is also characterized by the focus on a thorough and investigatory approach in development projects. It is the combined engineering and design research that has given clearer understanding of the bottlenecks development prospects. Special design research, user-centred design process, service design and other courses have given students the sources to compose their research methodology and to implement suitable methods and tools.

Assignments with open questions have pushed the students into unstable situations which are full of variables. Such indeterminacy brings along a search for new knowledge and leaves aside simple solutions based on existing knowledge and assumptions. If in that situation of indeterminacy a student focusses on people and their

needs it is more likely to achieve results that are humane and raise the quality of life (Melioranski, 2014).

Because of aforementioned reasons user-centred design was chosen to be the basic methodology of curricular development projects by the leading design professor Martin Pärn from the very start. The roots of user-centred design methodology are in industrial design and ergonomics, the started from the conviction that designers' main focus should be on user's needs and wishesand not only on the production capacities.

Researching and getting to know the user is an essential part in the elaboration of a good and functional design solution. At first designers should realize who are the future users of the product or service and then they should become acquainted with their cognitive, behavioural, anthropometric, attitudinal characteristics (Kurvinen, 2007). Despite the designers' trained empathy they are unable to identify themselves with all user groups and presume their real problems. People have very different capacities, skills, previous experiences, wishes and opinions. Therefore it is vital to engage the end-user to the design process as early as possible and till the very end (Melioranski et al., 2012).

There are different methods to apply user-centred design, from traditional consumer-centred researches to new developing and evolving experimental design methods. In practice there is a combination of three approaches that has been widely used: ethnographic methods, testing with prototypes and approaches supporting the co-operation between the designer and the user (Keinonen, Jääskö, &Mattelmäki, 2008).

Within the Design and Engineering curriculum wide variety of user-centred methods are applied. The aim of the methods are to support students in the mapping of the problems and finding solutions to them. However the essential question while following the users' activities is not what or how but why, understanding the background the roots and noticing the behavioural patterns. The researches may very often turn out to be more inspiring than informative. A stage of research does not concentrate directly on designing a product or service but on the research of potential user's character or way of life and in general on factors connected to the designing of the future product or environment. The curriculum proceeds form the assumption that a quality analysis of user and his situation will give an important input for further development work and helps to focus on the actual problem or necessity.

Another cornerstone for the curriculum is to show that the process of user-centred design is never linear, it means that at some point one always returns to a stage already carried out. For instance if there are problems found in the stage of testing, and usually this is what happens, these problems should become settled. It means design has

to be immediate: there has to be a circulation between design, tests and evaluations, and as often as possible (Kurvinen, 2007).

Methodology implementation

Although in step with our increasing experiences we are constantly developing the curriculum's methodology, it is only today we can start summing up the compatibility of the methodology and principles with international Design & Engineering curriculum. In order to illustrate the processes and results of the chosen methodology hereby a few examples from students' development projects are given.

Patient security & dignity

The aim of the 2013 Autumn semester's development project was to understand and test how design can be used to bring forward a better medical care in hospitals by approaching two subjects: patient safety and patient dignity. Human beings make mistakes mainly because the systems, tasks and processes they work in are poorly designed. Mistakes in hospital care are not unusual and could have very serious effects. The aim of the project was to reduce the number of errors within hospital care, make them easier to discover when they do happen and reduce the harmful effects of errors that do occur.

Hospital environments are designed proceeding from functional aspects to offer better treatment and care. At the same time patients' needs and expectations for privacy, personal dignity and comfort have received little to no attention. The aim of the project was to make patients' hospital experience better by helping them feel less vulnerable and more dignified in order to improve the quality of care.

At first both subjects, safety and dignity, needed a thorough understanding of hospital life—both from the view of medical personnel and patients. These two subjects were asked to be defined and split into number of sub-problems which could be solved with the means of design. This was possible only by understanding how the system works. (Nõu, Pärn, &Siimar, 2013).

The medical design projects were done in cooperation with North Estonia Medical Centre (Põhja-EestiRegionaalhaigla, PERH). From the field research that students carried out in the hospital, several issues were found that could be improved both from the patients and nurses point of view. The students spent hours and hours in hospital and the amount of bottlenecks and possibilities for their improvement or the development possibilities they mapped were really impressive. These were ranging from information system to food distribution and hospital furniture (Melioranski, 2014).

MedBook application &MedTray

One of the most important problems that came into students' (Gina Metssalu, Karl Annus, Jibing Wu and AfsinHassani) focus was the distribution system of medication. The existing system implied lots of hand labour and possibilities for human error. For instance writing down by hand the doctor's instructions during the morning rounds or sorting out the medicines in correct amounts and to correct patients with gloved hands (Melioranski, 2014).

Students found out and reported (Metssalu, Annus, Wu, &Hassani, 2014) that current system is not unequivocal for everyone and creates diverse base for human errors. Students started their field research with observing the hospital's daily routine and workflow. Workflow in hospital is the set of tasks that are grouped chronologically into processes and every task needs the set of people or resources to accomplish a given goal. The team members noticed that huge amount of time was spent on entering data into computers although it was supposed to be only a marginal task to complete. The current information system at PERH hospital had both paper and electronic records, and due to user-hostile interface of these both, a self-created medication management system, with notebooks, handwritten lists, tables and notes was in daily use.

Health care is a service industry that heavily relies on good information. The research brought out that some parts of this important information was documented in non-official and unrecordable notes or transferred as conversations. The students' main attention was focussed on drug distribution system, concentrating on how information moved from doctor's order in medical treatment plan until its execution.

A day in the hospital starts with the morning ward rounds while nurse makes quick notes about doctors' orders to the nursing file. Doctor has to sign all the orders in this document. Nurses have to insert part of this information do a digital system—it is a task that nobody wants to do.

Because of searching information for every single patient from nursing files is inconvenient and time consuming, there has been created a so called "PAPKA" system—a piece of paper for each patient that can be edited with pen and eraser. The PAPKA contains the information needed most often (patient's treatment plan, medicaments, menu etc.).

To conclude, all this amount of paper records was poorly managed and it was inadequate in the world with all the contemporary information technology possibilities. Processing all the paper files is time-consuming, involves a lot of staff members and needs physical storing space.

Through the thorough field research the team recognized the need to redesign the existing system at all levels to make it safer—to make it harder for people to do something wrong and easier for them to do it right. In health care system there should be a working culture that can prevent possible mistakes, doesn't carry along errors that emerged in previous steps throughout the whole process and avoids reliance on memory. In the situation where patients to nurses ratio is enormous, there all the unnecessary tasks should be avoided.

By virtue of their direct patient-care activities and administration of medications to patients, nurses—perhaps more than any other health-care providers—are in an excellent position to prevent, detect and report medication errors. The students detected that nurses play the most important role in risk reduction of medication distribution. That's why the main objectives of the proposed concept was targeted to design a nurses' working system, although the benefits could evolve at all levels of system.

The first general concept set the framework for the new system that included iPads to digitalise created or gathered information at once and as conveniently as possible. The interface is connected with a "smart" medication distribution tray and at the same time allows a digital recordingof any kind of information at all levels of communication line.

For further development the need arose to map and analyse the information flow at all levels, especially during the daily routine in the surveyed hospital department. During this research phase all the key factors were marked down in a simple and clear order and systematized in a blueprint to show all the processes and touch-points. The errors and linked touch-points were analysed to find the ways for reducing occurrence of possible errors. The main error types were mishearing, misinterpretation, writing mistakes, timing (rush), medicine errors, memory and control.

The final design concept included two mutually complementary solutions: MedBook application for user-friendly, easy, safe, effective and quick information administration and MedTray a medical distribution desk controlled by MedBook. The app consists of 4 simple sections: „morning tour", medicine, tests, and food. The system with the app and tray do collect all the relevant data into one system helping to reduce nurses' paperwork. It is not only making nurses' life easier, but it also prevents mistakes, makes information easily accessible and controllable, shares information with others outside the department (e.g. kitchen), spreads the medicines automatically etc (Metssaluet al., 2014).
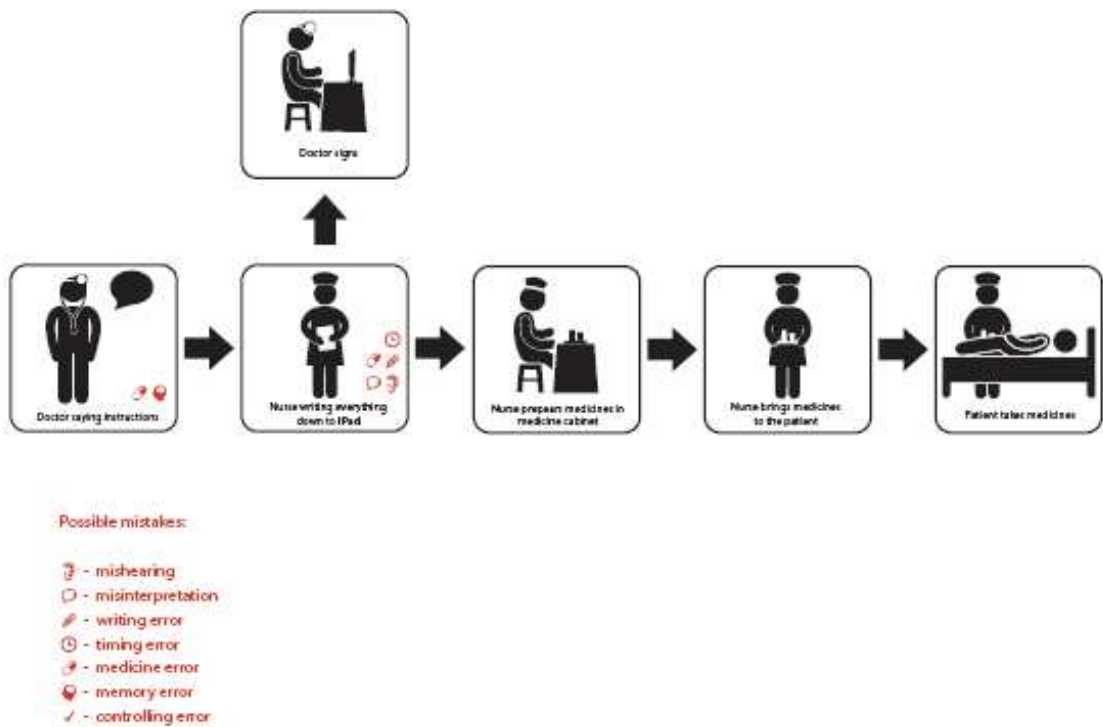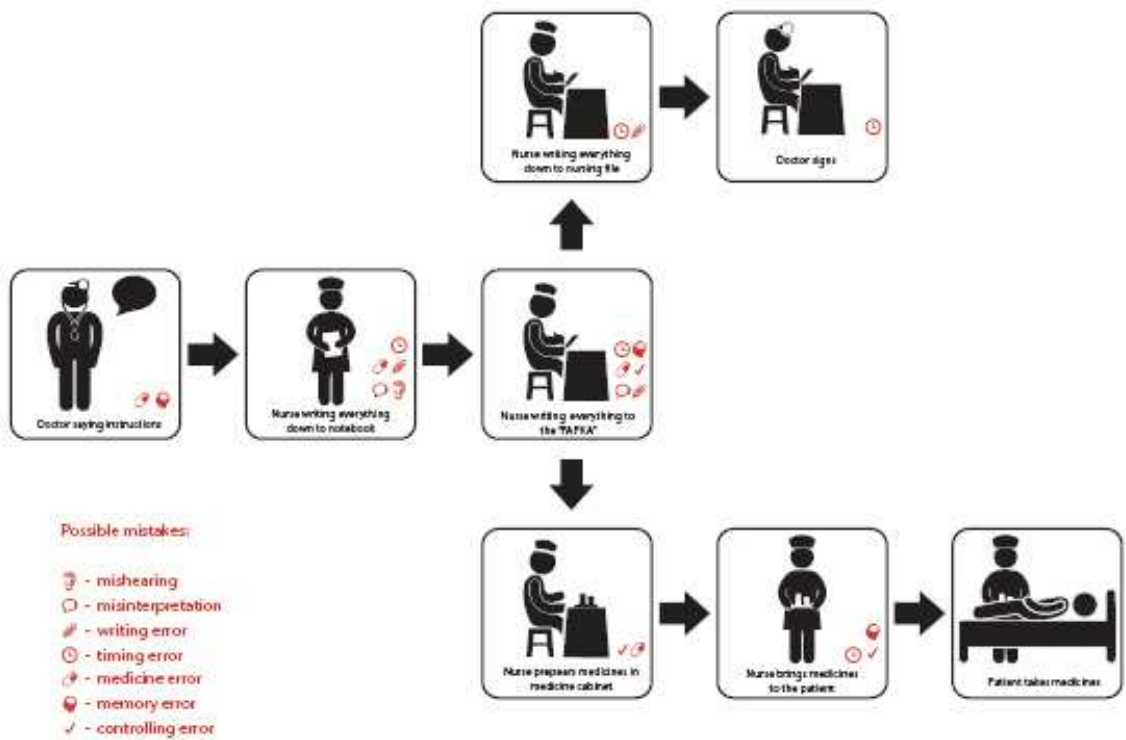
MedBook: Information flow and error points in previous and proposed MedBook system. Team Gina Metssalu, Karl Annus, Jibing Wu, AfshinHasani
Supervisors prof. Martin Pärn, JannoNõu, JannoSiimar and HenrikHerranen (Metssalu et al., 2014)

The user-centred methodology in this project concentrated on nurses, but we can see the benefits for the whole hospital and most importantly for the patients as well. The new system provides a possibility to improve the quality of the service and at the same time significantly reduce costs.

Swivel — a personal space in a shared room

Another team of Dyre Magnus Vaa, KristelLaur, Matthew Mccallum and Mike Negrelloexplored the concept of dignity in the hospital. To understand the concept and importance of dignity in hospital the students composed a research methodology which included a variety of methods:

> • Visits to PERH to observe patient care, equipment, environments and services.
>
> • Discussions with staff and patients both past and present.
>
> • Simulating a ward interior in 3D CAD software based on PERH floor plans.
>
> • Theoretical research from the perspectives of psychology, product design, interior architecture and hospital policy.
>
> • Analysing innovative approaches and solutions in areas such as public and private transport (Laur, Mccallum, Negrello, &Vaa, 2014).

After the first visits of observing and documenting the situation of patients' dignity the team raised questions of differentiation in private, single-bed and multi-bed wards. As part of the hospital was recently renovated, the issue was supported by the increase in private single bed rooms from one to three on the newly renovated wards. The lack of curtains, control over environment and the shared bathroom facilities were characteristic to shared four patient rooms. These findings from the observational research inspired the students further research into room layout and creating personal space and privacy between patients.

On the next phase of ethnographic research the team focused mostly on what patients bring to the hospital and where and how they store their things. The research stated that the most common and important item for the patients was a water bottle or cup. There is a list of items hospital recommends to take to the hospital, the team noticed that in addition to these recommendations many people have multiple electronic devices such as computers, smart-phones and tablets with them. Students also analysed the current possibilities and obstacles to use these devices in the hospital environment and the

question over the benefits for personal privacy and the impact on other's dignity. Although the positive aspects of using technology by patients is obvious (to participate in the social life or to escape to the virtual world), the presence of these devices highlighted the lack of suitable and secure storage available to patients and the lack of regular access to power source which further complicates the security and working environment for nurses. The other important insight the students found was the non-suitable low height cupboards and non-ergonomic limited access for patients who are bedridden (Laur et al., 2014).

The parallel theoretical research helped the team to define and explain two key areas most concern patient dignity. These are patient privacy and control or patient privacy and physical surrounding/environment (Laur et al., 2014).

After this phase of ethnographic and theoretical investigations the team started to create concepts to explore ways how can hospital furniture be designed and arranged to create personal space. The concept of Swivel started from lifting the cabinet up. This added a new function of being able to block visually oneself from other patients. Another positive aspect was the perception of hygiene as the belongings were raised from the floor and allowed for better cleaning of the room. And most importantly the valuable access to their belonging from the bed gives independence to the patients. The further challenge was to design a solution that kept or improved the functionality of the existing cabinets but in this new location (Laur et al., 2014).

After the first concepts were prototyped some of the team members changed for the next semester. IlkeCakmakoglu, Patrick Mallon, Matthew McCallum and Mihkel-Emil Mikk started with new level of research using a variety of ethnographic and design based methods including a GIGA-map workshop supervised by BirgerSevaldson from the Oslo School of Architecture and visits to the hospital with observations and interviews.

GIGA-mapping were chosen to be one of the research and development methods as the process integrated systems thinking with designing as a way of developing and internalising an understanding of a complex field and to "build" material for decision making (Sevaldson, 2011).

During the visits to the hospital the concept was introduced to the personnel for feedback and to verify the necessity within the existing circumstances. Within the interviews with nurses the GIGA-map was introduced and discussed to clarify processes and gather more information about patients activities and disabilities. The team continued with different user-centred design methods, including making three personas to humanise the focus of design, the user scenarios to illustrate the need and functionality, stakeholder map to

list all the perceived parties, modelling, prototyping and testing (Cakmakoglu, Mallon, McCallum, Mikk, &Laur, 2014)

For the final presentation the team described their concept as following:

> "Swivel offers unprecedented levels of access and control for bed bound patients. Tidily hung from the ceiling, Swivel is never out of arm's reach and offers equal access from both the left and right sides. The hospital floor and walls (all ready over burdened) remain undisturbed and can now be cleaned regularly. Patients have accessed to mains electricity right at their fingertips, and all electronics and valuables can be housed safely in a RFID locked table. The many circles of rotation allow the device to be position exactly where the user wants. The many shelves and compartments cater for the storage needs of the average patient with space for: Drinks, magazines and sanitation gear. Once it's time for bed the device neatly folds and retreats to the wallside, out of the way, but still in arms reach."(Cakmakoglu et al., 2014).

From the first test of the concept it is obviously better accessible by patients and through this decreases the need for nurse's help. Beside the accessibility the main characteristics are the possibility to create a shade and the suitability for both the use of electronic devices and eating. All the positive aspects were designed based on a solid understanding gained from a thorough user research and user-centred development process.

Swivel: Swivel's prototype testing. Team Dyre Magnus Vaa, KristelLaur, Matthew Mccallum, Mike Negrello,IlkeCakmakoglu, Mihkel-Emil Mikk and Patrick Mallon. Supervisors prof. Martin Pärn, JannoNõu, Sven Sõrmus, Ruth-Helene Melioranski and HenrikHerranen
Photo Matthew Mccallum

Conclusions and future perspectives

Through all the long-run design and development projects the exercises have put students into new and uncertain situations. We have observed how students struggle through the process and guided them to focus on users and stakeholders to identify the needs and test the concepts with them. As the team members have different educational and cultural background the process always includes misunderstandings and problems in managing. But the results have been rich and interesting. The user-centred research has given valuable insights and understandings of the real circumstances and the multi-national and multi-disciplinary team members ensure diverse input.

ESTONIAN
ACADEMY OF ARTS

Both above-described concepts with prototypes were presented to public and got very positive feedback from the hospital. The final public discussions confirmed that the chosen methodology is leading us in a well-formed direction. Each autumn we welcome new students and according to their background we specify the topics and revisit the specific tools and methods. According to the significant results of the past development projects the framework of user-centred design will be the core to the curriculum in the coming future as well.

Bibliography

Cakmakoglu, I., Mallon, P., McCallum, M., Mikk, M.-E., &Laur, K. (2014). *Future patient furniture system*. Tallinn.

Design & Engineering. (2014). Retrieved September 21, 2014, from http://design-engineering.ee

Keinonen, T. K., Jääskö, V., &Mattelmäki, T. M. (2008).Three-in-One User Study for Focused Collaboration.*International Journal of Design*, *2(1)*, 1–10.

Kurvinen, E. (2007).*Prototyping Social Action.*University of Art and Design Helsinki. Retrieved from https://aaltodoc.aalto.fi/bitstream/handle/123456789/11892/isbn978 9526036588.pdf?sequence=1

Laur, K., Mccallum, M., Negrello, M., &Vaa, D. M. (2014).*Swivel. Redefining personal space in a multi-bed room*. Tallinn, Estonia: Tallinn University of Technology. Retrieved September 21, 2014 from http://design-engineering.ee/project-gallery.html

Melioranski, R.-H. (2014, September 19). Disainjatootearendus. EestiKunstiakadeemiajaTallinnaTehnikaülikooliühiserahvusvahelisema gistriõppeprogrammisuunad. *Sirp*, p. 11.

Melioranski, R.-H., Levald, A., Valk, V., Falkenberg, V., Kotsjuba, D., Lepik, P.-R., … Vaikla, T.-K. (2012). *Kõikikaasavaelukeskkonnakavandamine&loomine*. (R.-H. Melioranski, A. Levald, & V. Valk, Eds.). Tallinn: EestiArhitektideLiit, EestiDisainikeskus, EestiKunstiakadeemia.

Metssalu, G., Annus, Ka., Wu, J., &Hassani, A. (2014). *MedBook application &MedTray*. Tallinn, Estonia. Retrieved September 21, 2014 from http://design-engineering.ee/project-gallery.html

Nõu, J., Pärn, M., &Siimar, J. MEDICAL DESIGN PROJECT (2013).

Simon, H. A. (1996). *The Sciences of the Artificial* (3rd ed.). Massachusetts: Massachusetts Institute of Technology.

Altering human behavior by design. Human's physiological urge to urinate in unexpected situations

Helena Veidenbaum

MSc in Engineering, Tallinn University of Technology, Estonian Academy of Arts
Master Thesis supervisor: PhD researcher Ruth-Helene Melioranski; co-supervisor: MSc in Nursing, Registered Nurse and Consultant John Usher

Abstract

This article presents the conclusion of a research and concept development Master Thesis of Helena Veidenbaum where the author analyses the possibilities of altering human behavior by design and proposes new product solution that could be used when experiencing the urge to urinate in unexpected situations where no conventional restrooms are available.

Author Keywords – design thinking, human-centered design, user and market research, concept development, breaking taboos, raising awareness, sustainability

Introduction

We all have the physiological need to urinate several times a day, whereas it can be way more complicated when you are stuck in traffic, are a professional truck driver, depend on a wheelchair in your everyday life, have to lay in bed due to a medical condition, or live in areas without adequate sanitation whatsoever. Through human-centered design, identifying and understanding human needs in different contexts was the foundation for the concept proposal.

ESTONIAN
ACADEMY OF ARTS

Many companies have already tried to solve the problem in traffic situations and there are several products available on the market but those aren't very widely used. Analyzing existing products helped to identify their weaknesses and get a better understanding of what constraints needs to be fulfilled when offering a solution which would satisfy the above mentioned human need.

Methods used in the research were all derived from human-centered design and design thinking. GIGA-mapping technique by systems oriented design was used and empirical interviews conducted with open-minded individuals ready to discuss the subject matter. In addition, buying several existing products from online shops and executing experiments and user tests gave diverse understanding of the issue. Part of the research was carried out during a research and study visit to the United States of America, in California during which user research interviews were conducted to get insights from people's lives and experiences in traffic situations, case studies were analyzed and traffic situations in cities and on freeways documented, in order to generate and analyze ideas to understand peoples' ways of thinking about alternative solutions for this personal activity.

As Chris Dixon put it in his speech at Startup School 2013 "the best ideas come from direct experience with the problem" (Dixon, 2013), it is how the personal experiences of the author explain the choice of the research subject. Experiencing the painful urge to urinate multiple times in the last few years made the author think why she was experiencing it and if there was a way to improve the current situation.

The aim of the research and concept development thesis was to find out if it is possible to alter human behavior by design and make the activity of urinating socially acceptable when offering a new and possibly better solution to relieve people's pain in unexpected situations.

Background and Context

The urge to urinate can happen to anyone and possibly among wider number of individuals as people are traveling more and more these days. They can be stuck in traffic congestions near big cities (Figure 1) or when thousands of people are on their way to big events like Burning Man in Black Rock Desert (Figure 2).
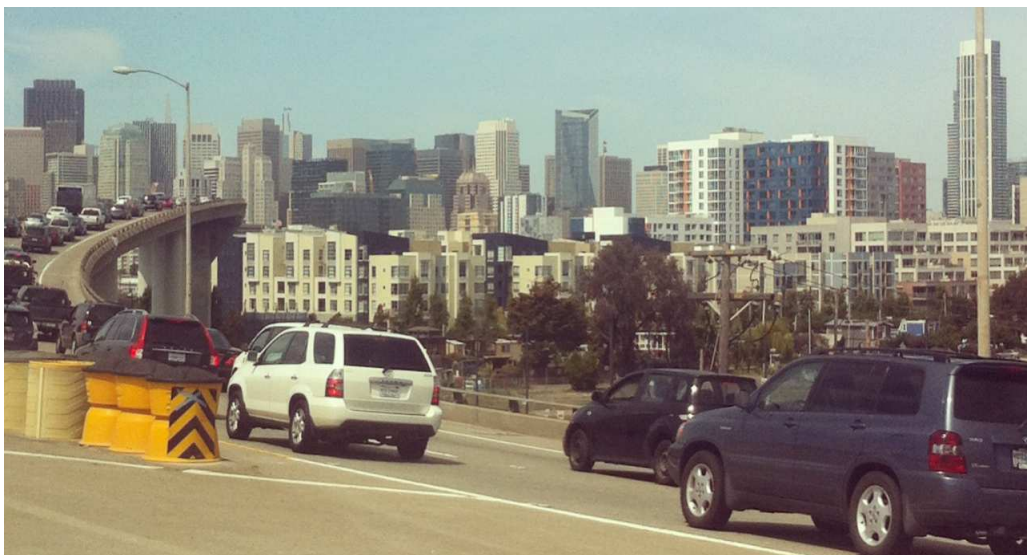
Figure 1. Traffic congestion on Highway 280 heading to downtown San Francisco (April 18, 2014). Photo credits: Helena Veidenbaum private collection

Figure 2. Traffic congestion on the way to Burning Man 2006. Photo credits: Raul Salumäe private collection

There are also professional truck drivers who are famous for peeing in bottles and throwing them out of the window. In a discussion with John Usher, he revealed that he knows male truck drivers who always peed in bottles and it wasn't an emergency situation, just the way they do it.

Figure 3. Common view on roadsides. Source: Daily News (North Dakota confronts its nasty 'trucker bomb' problem, 2012).

Side by side male truckers, there is a growing number of female truck drivers today and it is estimated that more than 200 000 truckers in the United States are women (Go By Truck Global News, 2013). But as women can't physiologically urinate into an average sized bottle and they also tend to have higher expectations to cleanliness of the restroom facilities than men, they can find themselves in trouble when arriving at the truck stops.

From another point of view, according to the latest estimates, 2.5 billion people lack improved sanitation facilities all over the world and 1.1 billion people practice open defecation in the fields, forests, bushes, water and other open spaces (Roma & Pugh, 2012; Unicef, 2013; Cook, 2014; UNESCO, 2014).

As the CEO of CauseLabs, T.J. Cook believes: "In order to truly solve big problems related to the environment, sanitation, education, poverty and other health and social issues, the ultimate goal must be to change human behavior, awareness and attitudes. The role of technology is to serve as a catalyst to jump-start these changes" (Cook, 2014), many companies and NGOs are already researching and developing products and solutions to solve these burning problems.

For example, Unilever and Water and Sanitation for the Urban Poor engaged IDEO.org to help determine the best approach for developing new products and services and thanks to research in Ghana, IDEO.org designed a new sanitation offering which combines product, service and business design. Now people in the city of Kumasi, Ghana can rent a stand-alone toilet in their homes and it's cleaning service which will be done three times a week. IDEO.org

also designed a brand for the service – Clean Team – which stands not only for sanitation business, but also a social business and a sanitation solution to redefine the status quo (Reineck, n.d.).

05
Waste used to generate electricity or create fertilizer to sustain and grow local business.

01
Branded household toilet with bio-digester chemical and removable waste container.

02
Local franchised operator provides household waste collection service.

04
Vacuum truck services local transfer tanks.

03
Waste taken to neighborhood transfer tank for interim storage.

Figure 4. Clean team business model. Source: Clean Team homepage (Clean Team, n.d.).

Gail Klintworth, the Chief Sustainability Officer working at Unilever knows that poor sanitation is an issue which can affect everyone but women are often the most at risk, says: "A lack of access to a clean, safe toilet can impact girls' attendance at school, increase women's burden of work and leave females at risk of sanitation-borne diseases and even violent assault" (Unilever Domestos, WaterAid, WSSCC, n.d.).

Another very problematic area in addition to the general poor sanitation conditions all over the world is connected to refugees and sanitation in refugee camps. Hanan, Syrian refugee in Za'atari camp in Jordan, which is now housing more than 100,000 refugees (UNHCR, 2014), says:"Biggest problem in the camp is the toilets. They are far away from the tents and very dark at night. No woman or girl goes there after nightfall. And in the daytime, the women go in groups for safety. There is no way to lock the door, and they don't feel safe. We need light, it is too dangerous for us here in the dark" (Susskind, 2013).This is also the reason why many families dig holes

by their tents and use these holes as toilets, but in wintertime, the torrential rain spreads the contents of these toilet pits throughout the camp and the water gets easily contaminated.

All of those hardships what people in refugee camps experience from day to day are hard to imagine for anyone who hasn't seen it with their own eyes, and it is taking too long before people in refugee camps can return home or start afresh somewhere else. In 1993, it was estimated that the average length of displacement for refugees was 9 years, and at the end of 2003 it was already estimated to be 17 years (UNHCR, n.d.). Proving it is a huge problem area which needs to be tackled from every aspect of it.

Concept development

In order to develop a concept proposal, lots of ideas were generated and iterated, putting the emphasis on insights and possibilities gathered in the research phase.

As Tim Brown explains in his book *Change by design: how design thinking transforms organizations and inspires innovation,* the mindless consumption isn't sustainable any more and we have to find ways to encourage people to move towards a more sustainable behaviors (Brown, 2009), I agree that the mentality of repairing and reusing products has to become prevalent.

As disposable products create waste, usually end up in landfills and are more expensive to buy in total, it wasn't sensible to propose another type of convenient disposable product concept which people would throw away after they have used it once. That is why a reusable product proposal was being developed.

For testing a promising concept idea, an early rapid prototype was being created, which consisted of a plastic cup with a lid, a tube and a baby feeding bottle nipple, which was used upside-down inside the tube and tube inside the plastic lid with a hole in the middle. After testing it out, it was clear that the idea works in principle and it made sense to continue to work more on this idea.

Figure 5. Early rapid prototype for initial concept testing

The developed concept proposal became a camouflaged bottle-container for collecting urine which looks like a regular stainless steel water bottle. As these metal bottles are perceived as water bottles, using the same shape of already existing product and perception about it would offer the clever way of a disguise when carrying it around with you and emptying it which you wouldn't want everyone to know that this what you are doing – carrying around a bottle containing your body waste liquid. This disguise gives one the freedom of using it in private, but emptying it in public, since a liquid is a liquid when it is poured out of the bottle.

The re-usable bottle-container would consist of a flexible inserted part made of medical polymer which can be pulled out, adjusted to the right position and used for urination. After it is done, the insert would be pushed back inside the bottle, sealed with a cap and emptied at the convenient time and location. After emptying and washing it, the product can be reused indefinitely. If the polymer insert breaks, it is possible to order a new one to replace with the old one.

This product could be used by female truck drivers in their vehicles, offering them cleanliness, safety and no possibilities of being sexually harrassed by male truck drivers. This could be the way how females can relieve themselves in refugee camps too and not be afraid or suffer humiliation, harrasment and even raping. Females' dignity and safety could be assured when they didn't have to leave their housing or a car in the first place in unsafe locations.

Figure 6. Side view of the concept bottle and the inside of the bottle. All of the 3D modeling and rendering credits: Kristjan Meister

Figure 7. Top views of the concept, where the insert is inside and out of the bottle

Figure 8. Side view of the parts: stainless steel bottle, flexible polymer insert, a cap
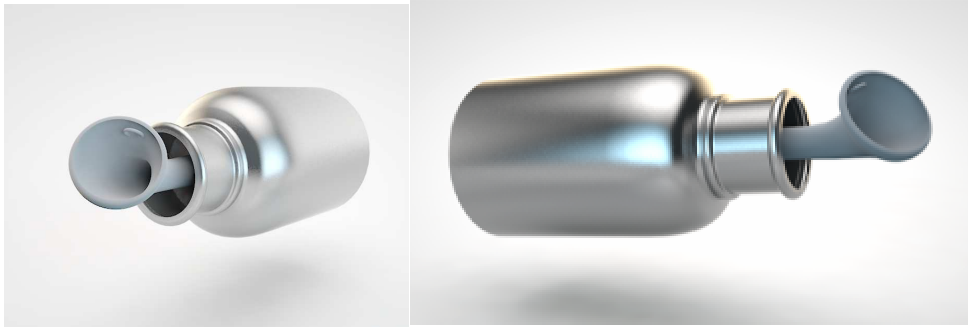
Figure 9. Side views of the usage situation

Figure 10. Side view of the polymer insert, bended in the usage situation

Conclusion

Through researching different situations when the event of having the urge could happen and understanding people's perceptions about it, also different ways how urine could be reused as fertilizer and recycled to drinking water, along with analyzing existing products in the market all gave insights into proposing a concept solution that could be used for solving this basic human need.

People have to be educated so they could become aware of the different situations where they might end up in and need a product which can be used to solve their urgent pain. Because usually it happens that people don't think too much ahead of time and can't imagine finding themselves in these sorts of situations.

Raising awareness and educating people globally about the importance of sustainable sanitation is hopefully the starting point for creating a better world for the future generations. Our efforts in sustainability should be focused in solving the ecological problems we face today, because these are the long term investments that we do when we educate people and provide them with knowledge and opportunities to be aware of every aspect of their lives so they could make conscious decisions.

References

Brown, T. (2009). *Change by design: how design thinking transforms organizations and inspires innovation.* New York, United States of America: HarperCollins Publishers.

Clean Team. (n.d.). *Our Model*. Retrieved March 28, 2014, from Clean Team: http://www.cleanteamtoilets.com/our-model/

Cook, T. J. (2014, February 4). *How Great Technologists Can Help Solve The World's Problems*. Retrieved April 7, 2014, from Wired: http://archive.wired.com/insights/2014/04/great-technologists-can-help-solve-worlds-problems/

Dixon, C. (2013, October 25). *Chris Dixon at Startup School 2013*. Retrieved March 15, 2014, from Youtube: https://www.youtube.com/watch?v=akOazwgDiSI

Go By Truck Global News. (2013, May 6). *Female truckers growing in number*. Retrieved May 5, 2014, from Go By Truck Global News: http://www.gobytrucknews.com/female-truckers-growing-in-number

North Dakota confronts its nasty 'trucker bomb' problem. (2012, March 26). Retrieved April 25, 2014, from Daily News: http://www.nydailynews.com/news/national/north-dakota-confronts-nasty-trucker-bomb-problem-article-1.1050862

Reineck, A. (n.d.). *Clean Team*. Retrieved March 29, 2014, from IDEO.org: http://www.ideo.org/projects/clean-team/completed

Roma, E., & Pugh, I. (2012, November 19). *To mark World Toilet Day, the School has produced a comprehensive report on toilets and sanitation*. Retrieved February 20, 2014, from London School of Hygiene and Tropical Medicine: http://www.lshtm.ac.uk/newsevents/features/2012/toilets_for_health:_flushed_with_success_.html

Digital aid for organizing a large number people through a quick exchange of information in case of a crisis or extreme situation

Liina Ernits - Author and executor of the design development project

Prof. Martin Pärn - Supervisor, MA
Ervin Kaeval - Co-supervisor, Engineer (Technology)
Prof. Heiki Zoova - Consultant, MA

Abstract

The Info Digital Organizer (IDO) product-service system with user interface is a concept based on simple and fast data transmission to survivors of a disaster, large accident or an extreme situation that transcends cultural or linguistic barriers. The IDO product-service system development project focuses on offering a complete solution to transmit information to the victims of a major accident or disaster. It is composed of the IDO device complete with a user interface that is operated by computer software. When needed, the computer interface program sends the IDO device predetermined informative signals. The IDO device is equipped with four data fields represented by easily recognizable pictograms that receive signals visible on the luminous surface of the device. In general, the information transmitted to the IDO device is anonymous and meant for all the users who are either holding or monitoring the device; this general information pertains to the availability of food, clean drinking water or medical help that has arrived in the victims' camp. If needed, the IDO device can also be personalized and used to send specific information to a particular person; for example, when rescuers have found a victim and are then able to notify his family through the personalized IDO device they hold. (Figure 1)

ESTONIAN
ACADEMY OF ARTS
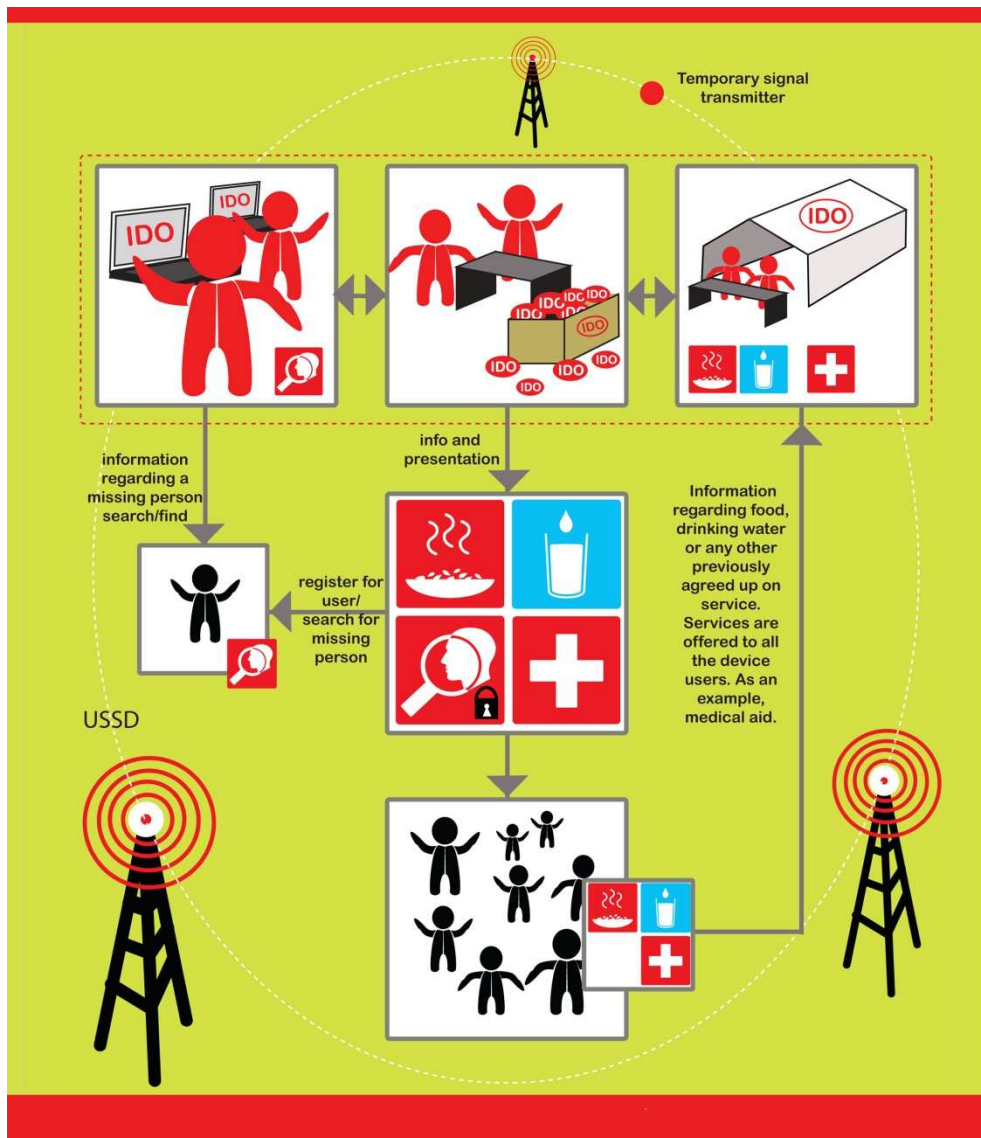
Figure 1

Keywords

Digital tool, information, interface, product-service system, extreme situation, disaster, disaster victim, pictogram, drinking water, food, medical care, Estonia

Intrduction

According to statistics from the 20th century more than 4 million people lost their lives in upwards of 50,000 natural disasters. Moreover, the frequency of such emergency occurrences is growing in an alarming rate: unexpected and widespread biological, geological, hydro meteorological disasters or large accidents as the result of human activity can interrupt the normal functioning and development of a society in the affected region for unspecified periods of time. In

general, the disaster can be divided into multiple phases, sequentially following each other. The response phase is the most critical and is formed in the first 72 hours after the disaster. People who escape during the response phase are more likely to survive. This phase is followed by the recuperation and recovery phase. Similarly to the response phase, the situation during the recuperation and recovery phase is chaotic and disorderly. Next comes the reconstruction and prevention/mitigation phase during which a society attempts to return to its regular activities. Thereafter, wherein the immediate consequences of a disaster have been dealt with, the preparedness phase is reached; it is characterized by the society exiting the extreme situation and returning to its normal functioning. The primary objective of the IDO product-service system is to transmit information that will allow the victims of the disaster to pass through the response phase and the recuperation and recovery phase as quickly and optimally as possible.

Technological background

IDO product-service system technological background.

The IDO product-service system is composed of the device itself, with the user interface software program and ready-made unstructured supplementary services data (USSD) platform upon which the whole system is based; it is distributed to a target group or its representative in case of an extreme situation. The user interface software allows the IDO center to transmit pre-determined informative signals to the distributed IDO devices in a short time and with little effort. The user interface program functions are threefold: 1) Checking the number of IDO devices in use in the area during an extreme situation, 2) Transmitting public information to IDO devices (such as availability of food, clean drinking water, medical care, radioactivity or any other pre-agreed signal3) Sending private information to specific IDO devices (personalized information meant for a specific user that only reaches that user through a signal). The user interface is managedby a trained staff member (IDO operator), such as a volunteer or rescue worker. The IDO operator will enter necessary data to the software program running the device, as well as check and register signals. By pressing the desired button on a user interface managing the IDO system, the operator sends a USSD query to all IDO devices. The query then reaches the USSD center. System data exchange will go to the IDO devices. In order to acquire information on the considered region, the network query "Push Mode" is sent from the IDO center to IDO devices. The software program managing the IDO system user interface enables both terminal surveys and network queries. There must be at least one ISP in the IDO operating area acting as a telecommunication and information technology service provider and becoming a Hub from which multiple devices can be reached simultaneously. If the ISP is missing, it will take ten times the IDO devices to cover the same area

as with a cellular network as the signal will need to be relayed individually from one device to the other.IDO devices are in compliance with the mobile network ETSI GSM 900/ GSM 1800standard for the end-user interface.

The IDO device is a radiotelephone communication terminal, which is intended to connect base stations to cellular networks, temporary support lighthouses, and repeater
Technological specifications for the IDO devices:
·   Minimum lifetime 3-5 years when stored
·   Readily available to use
·   Operates in an environment where mobile communication base stations are damaged or where access to a supply of electricity is lacking
·   User frequency does not interfere with the frequencies used by the military or the rescuers
·   Minimum size of the coverage area should be 15 square kilometers
·   Normally in passive mode, activated when receiving a signal
·   Nominal voltage of 3.3 VDC

Design background

IDO device design form.
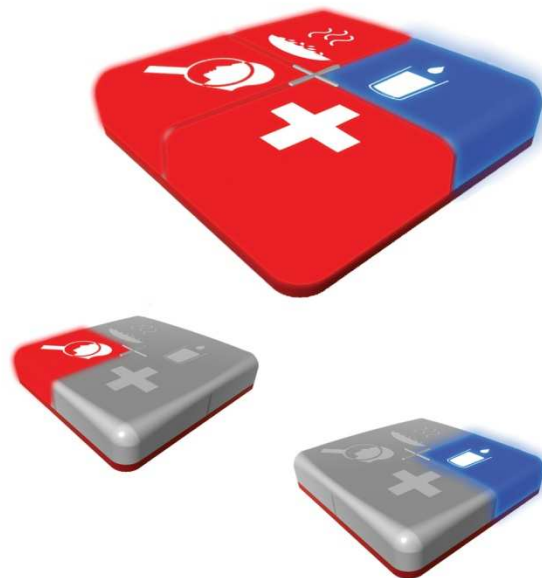
In the product design, emphasis is given to the simplicity of the use, convenience and universality. The IDO device is square shaped, with basic forms. The upper surface of the device is divided into four equal parts that act as vital information carriers. Each part with its surrounding edges denotes a specific signal represented by a pictogram. (Figure 2).These white (unlit) pictograms will only become fully visible on the surface of the device

"IDO" device, when different information is activated.

when the LEDs underneath them light up. (Figure 3) Special attention has been paid to the visual design of the pictograms transmitting the information, making them as simple, recognizable and understandable as possible across different languages, cultural backgrounds, and age classes. Each device has a maximum of four pictograms, three of which are intended for public use and one for personal use if necessary. According to the signal received, pictograms intended for the general public, light up on all user devices. The device becomes private only when personalized. The user of such device will have been previously briefed in detail on how to proceed in case the personalized light signal activates.

Figure 2. Public and private information pictograms.   All public pictograms carry the same meaning at all times while personalized (private) pictogram can carry different pre-agreed upon information in different situations.

Figure 3. IDO device with lit pictograms.

The Personal digital aid can be used in virtually all indoor and outdoor lighting conditions. The casing is shock and water-resistant and includes a space upon which one can add his name or initials.The casing of the IDO device measures 50 x 50 x 10 mm and can be attached to a neck strap, warn on the wrist, or placed in a pocket. Front and lateral sides of the product are made of translucent milky colored two-component plastic (Elantas Electrical Insulation and hardener). The material feels "rubbery" to the touch. The top part of the casing has rounded corners, providing ergonomic comfort when handling the product. The backside of the casing is made of similar but more solid two-component plastic, increasing the rigidity of the product. The most important part of the backside is the loading button. By pressing it for 4 seconds the IDO device can be charged for up to one-week of usage.(Figure 4) In addition, this button can also be used to check the working condition of the device. If the red light next to the button turns on when the button is pushed, then the IDO device is operational. The casing surface of the product is bright red, to allow the user to better spot the product in the distance or to find it in case of losing or dropping it
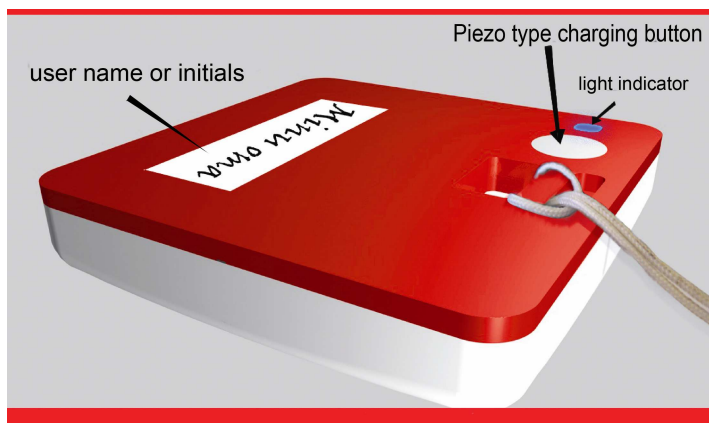
Figure 4: Back surface of the IDO device casing, where you can choose to write your name or initials.

Fashion and special needs

SilleSarapuu

According to the data of World Health Organization, disabled persons make approximately 15% of the population of the world; thus the total number of the people with special needs is over 750 million. Global number of disabled persons is increasing, largely due to the aging trend of population.

Daily usual activities of ordinary people are often challenging for disabled persons. One of these is dressing. Typical garments developed throughout the history do not take account of the persons with special needs. Many disabled persons need help for dressing.

In fashion design and business, mass fashion brands are prevailing in result of the development of 20th and 21st century industrial production. Mass fashion produces ready-made garments with the principle to sell every product as much as possible. This means that one and the same product should be suitable for as many people as possible, i.e. for many physically different bodies. Average body types of various target groups have been developed in mass fashion. For this purpose many people have been measured and generalizations have been made. The system of sizes has been created on the basis of average results. Deduction of sizes is one of the most complicated stages in the production of garments, but availability of this system is the main function of mass industry. The garments manufactured on the basis of the size system are suitable for many people, however definitely not for everybody. Even the people of the same nation or the same race have very different body measures and forms. Bones and muscles of physically disabled persons can be highly deteriorated and developed differently, also their mobility reach is smaller. This causes quite different requirements to the garments. Bodies of disabled persons would be very difficult (if not impossible) to standardize, therefore they need more individual approach.

Master's thesis of SilleSarapuu „Garments for the Persons with Special Needs" approached the problem from the angle of individual design. Output of the thesis was a clothing collection taking account of the special needs of disabled persons, for which creation the author has cooperated with six disabled persons. The collection includes eleven garments, making six sets of clothing, each of which is proceeding from the special needs of one specific person.

Objective of the collection was to simplify daily dressing of six

ESTONIAN
ACADEMY OF ARTS

disabled persons from their own standpoint as well as the point of view of the people assisting them. An essential factor was physically correct fit of the garments or their suitability for the body shape of the person.

The disabled persons cooperating with the author described the garments they usually bought. The people in wheelchair prefer loose clothes, which do not squeeze or limit their mobility. Disabled persons often wear clothes, which are too large for them. Comfortable pants have rubber band, which makes them easier to put on. There are no problems to find such clothes in a store, but in their opinion these make their aesthetic appearance worse. Clothes made of hosiery and stretching material are comfortable to wear, but tend to become worn rapidly. Search of clothes is also made difficult by the fact that many stores cannot be accessed with wheelchair and usually the dressing booth is too confined for the users of wheelchair.

Another minus of mass fashion from the standpoint of the people with special needs is the fact that typical developed garments require two hands, two feet and well-moving fingers for putting them on. Most shirts should be pulled over the head or can be opened in the front with buttons, snaps or zipper, which fixing requires fingers. Trousers have traditionally two closed leg tubes, and a fly with buttons or zipper at front in the middle. For a physically healthy person with well-functioning limbs such dressing methods are comfortable and reasonable. However, for a person, who cannot move his or her feet, hands or fingers, dressing should have different logic.

Communication of the author with physically disabled persons reveals that they seldom think themselves of possible more user-friendly garments. Many of them anyway need assistance for dressing, but this process could be much easier, if the dressing systems – fixing methods and openings for putting on garments – would take account of the peculiarities of a body of a disabled person. This requires ergonomics and thorough thinking, how to adapt garments to people, not other way round. Similarly, as objects of utility and living spaces have been made more organic for the people with special needs, also special garments could improve their everyday life.

personal experiences at the department during the 1980s.

Examples basing on specific persons

Examples of two persons participating in the project are provided below.

Tom Rüütel

Tom Rüütel is a 23 years old young man with the diagnosis of PCI or cerebral paralysis. This disability has been caused by a defect of central nervous system of brain. Tom's heart stopped during birth and reanimation procedures caused motor or mobility disability. He has no lag in intellectual and mental development. His limbs are spastic, therefore their mobility is limited and disturbed. Unintentional movements occur in Tom's hands and partially also in his feet, muscles are tensioned and cannot be controlled. Unintentional movements also occur in body trunk. Contrary to the opinion of doctors, Tom learned to move on his own feet. However, he walks with a visible defect: during walking his knees touch each other. Tom cannot control movements of his hands and fingers. Hands are usually bent from elbows towards the chest. Left hand is 2.5 cm shorter than right hand.

Tom needs help for putting on any clothes. To put on trousers, he sits down. Feet are inserted into the trouser legs, Tom stands up and trousers are lifted up. He can stand also on one foot, thus it is not always necessary to start in a sitting position, but it is more comfortable, because keeping balance on one foot needs more effort. Tom prefers loose trousers, because these do not limit his mobility and enable comfortable sitting and walking. As belt is bothersome to use, he prefers trousers with an elastic band. This simplifies also going to a toilet, because he needs help there as well. In case of trousers, Tom does not use back pockets, but rather front pockets or pockets added onto the sides. The latter are easily accessible also for others and this is important in case of Tom's pockets, because he cannot get things out of his pockets with his hands. The young man carries money, mobile phone and door key in his pockets. He prefers light and thinner materials, because jerking muscles produce much heat. Moving is physically much harder for Tom compared to ordinary people, therefore he sweats more.

In case of a shirt, it is first put over the head and then the hands are inserted through the sleeves one by one. Tom is mostly wearing loose T-shirts, which provide comfortable feeling and enable the dresser to provide easy assistance. In order to put on clothes with long sleeves, the dresser pulls Tom's hand straight, to insert it through the sleeve. He is daily wearing sweaters with front zipper, so that he can ask somebody else to pull the zipper open in case of heat. He cannot close or open zippers, buttons, snaps or other fixing devices of garments himself. (Rüütel 2011, 2012.)

The set taking account of Tom's special needs includes a sweater with long sleeves and long trousers.

Tom Rüütel wearing his new clothes, designed by SilleSarapuu.

Description of the sweater:

1. Sleeves of the sweater open in full length with a zipper. Thus there is no need to pull Tom's hands straight during dressing. Zipper can be opened in case of heat.
2. A large pocket with a zipper is provided on the belly, accommodating everything necessary. A pendant fixed to the zipper head makes opening of the pocket easier. A separate smaller pocket is added inside for the phone.
3. The parts of sweater under the armpits are designed of thin air-penetrating material, as Tom sweats much.
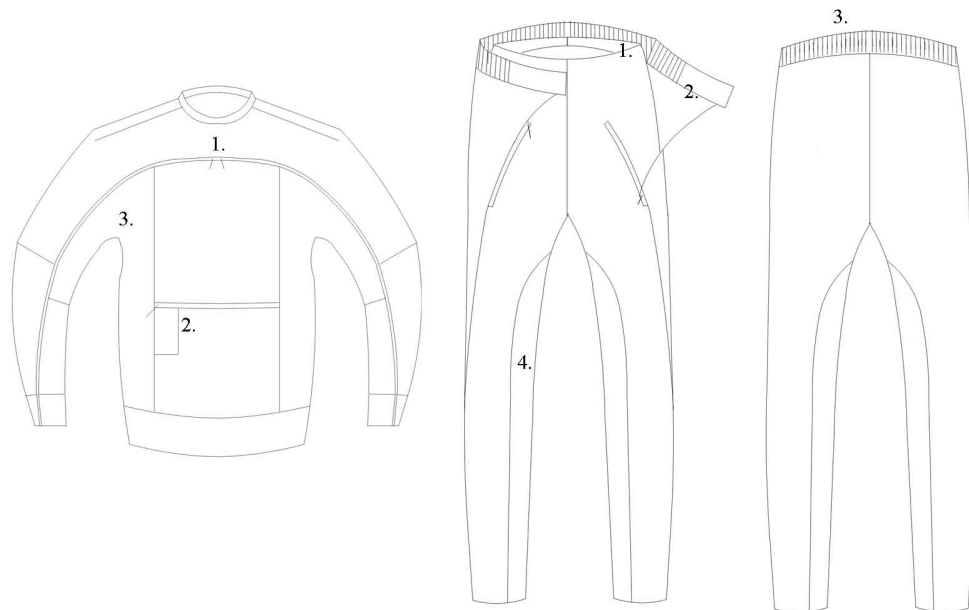
Description of the trousers:

1. Front part of the trousers is fixed with Velcro strip at the back. "Wings" starting from side seams are made of well-breathing *Aerocool Spandex* hosiery material.

2. Back part of the trousers covers back Velcro strip of the front part. "Wings" extended from side seams reach onto the front part, are fixed with zippers in the leg section and with hooks in front middle. In WC it is possible to open only the back part.

3. At the back in the section of the waistband there is an elastic band eliminating the need for a belt.

4. As Tom's knees touch each other during walking, the interior sides of trouser knees are softened with pads, preventing friction and injuries. This part is made of more durable and thicker cotton fabric.

5. Pocket is easily accessible for other people.

Andreas Urb

Andreas Urb is a 20 years old young man with multiple disability. His diagnosis is also PCI or cerebral paralysis. In case of Andreas, the brain damage has caused defects in physical as well as mental development. His limbs are spastic and he is using wheelchair for moving. His most easily moving limb is left hand, which he uses for grabbing items and advancing his wheelchair. His fingers are rather stiff. Andreas may suffer from salivation in case of fatigue, because his right-side facial muscles are slack. He also has dysarthria or spastic condition of mouth, tongue and throat muscles, which is expressed in confused and obstructed speech. His bones and build are

not normally developed. Circumference of thorax is wider compared to other body proportions. Vertebral column is crooked and limbs have different length.

Andreas does not dress independently. His left hand, which is moving better, provides assistance during dressing. Trousers are put on in recumbent position and upper clothes in sitting position. According to the words of Külli, Andreas's mother, it is easier to put on the clothes made of stretching material with strong seams, as they should often be stretched at the places not intended for that purpose. Putting hands into sleeves is not easy; this requires sufficiently wide garments. Length of shirts and overdress must ensure that these would not reach uncomfortably under the seat or behind the back, which would disturb sitting. Külli considers buttons troublesome, because upon long-term sitting Andreas huddles up in the chair, opening up the gaps between buttons. This is not a correct view. From time to time it is necessary to lift Andreas up in the chair. It is also necessary to pull up the trousers, which tend to slide down, if they do not have a sufficiently high waistband.

As for materials of Andreas's clothes, Külli prefers natural fabrics, in order to prevent excessive sweating, which in turn may cause bedsore. As Andreas is suffering from salivation, his shirts are chosen of materials, which do not reveal a wet spot immediately. The fabrics should also endure frequent laundering. The young man himself likes bright colored garments.

The set taking account of Andreas's special needs includes a sweater with long sleeves and long trousers.

Description of the sweater:
1. Neckline can be broadly opened on both shoulders, providing more space for insertion of hands into sleeves.
2. The sleeves have no connection seams tending to rip under the armpits. The sleeves are compact with the body part and there is sufficient space for movement under the armpit.
3. Sleeve ends are not broad, but hold tight around the wrist, simplifying operating with hands.
4. Sleeve ends open with zippers, to simplify insertion of hand through close-fitting sleeve.
5. The chest and back segment formed with cross-cuts is made of heat-preserving *Super Roubaix* fabric, similar to fleece. This material is very flexible and dries fast. It also does not reveal wet spot, which is essential, because Andreas is suffering from salivation.
6. As Andreas's left hand is moving better, the pocket is pointed towards this hand. A pendant fixed to the zipper head makes opening of the pocket easier.

Andreas Urb wearing his new clothes, designed by SilleSarapuu.

Description of the trousers:

1. Front fixing detail has been moved from the middle to both sides on the legs, where zippers open from the waistband almost to the knees. This simplifies dressing and visiting of toilet.
2. Convexity has been added to the knee parts on the front and concavity to the knee hollow. Knees have a "fitting" shape. This prevents excessive accumulation of material in the hollow of the knee, which would disturb blood circulation.
3. Seat seam of the trousers has been extended and the waistband

part has been raised. Thus the trousers do not slide down during sitting and lower back is covered. Durable material has been used for the waistband.

4. Two loops have been added to the waistband, enabling to lift the trousers and raise them in sitting position, if necessary.
5. The waistband is elastic.
6. Pocket is placed on the leg, pointed towards left hand.
7. Lower edges of the trouser leg are longer in front than in the back, reaching on the shoes and ensuring that the leg is not left bare.
8. Zippers have been added to the sides at the lower edge, to provide more space for the leg part during dressing and removal of the trousers.

Experience of the author confirms that the covered topic needs closer introduction to the persons with special needs. They are not and cannot be aware of the possibilities that could be offered to them by fashion design. Fashion is a matter of welfare and everybody should get equal share of it. Design solutions of the models developed during the creation of the collection can be applied also to the garments of other people with similar disabilities. The author is convinced that fashion with personal approach would improve self-esteem of the people; it is more high-quality, more long-lasting and more respected.

UpMade by ReetAus – massproduced 100% upcycled fashion brand

Keijo Julius Räihä

PhD ReetAus is a fashion, theatre and film designer, who has made her goal to change the global fashion industry for the better. It is not an easy task, but Reet seems to have found a solution as she has introduced her brand UpMade by ReetAus which is the world first mass-produced 100% upcycled fashion brand, where each garment carries a label with a unique calculations of the environmental savings it provides.

Designer ReetAus in her studio.

Previous years of ReetAus study had shown her that the functioning of the traditional fashion industry is not compatible with her view as a designer of how a garment should be manufactured. She found herself increasingly feeling the need to do things completely differently, often the opposite of the standard practice. The reason behind it was that she had begun to see how wasteful and environmentally damaging the activities of the existing fashion industry can be. The signals were too loud and clear to be ignored. This made her realise that creating something does not have to mean destroying the environment and people in the process and that creation does not have to be only based on profitability. The contrast between the locally acting communities and the global fashion industry was surprisingly large. And yet, local action does not preclude the application of global ideas – it is the already global mass production cycle that precludes attention given to local communities and the environment.

It all led to testing and researching different sustainable techniques, also forming her PhD theses ''TRASH TO TREND –USING UPCYCLING IN FASHION DESIGN'', that were based on the concept of remaining local (redesign, upcycling, plant-based dyes, etc.) but which, in theory, could be sold to a global market. Reet wanted to understand if and how it would be possible to influence the existing fashion industry and whether these techniques could also be applied to mass production.

In 2012 all the theories and research were put into action on a scale ReetAus had been looking for. She managed to partnered up with one of the largest vertically integrated fabric and garment producer in Bangladesh called Beximco with whom upcycling designer ReetAus and her team have been involved in a innovative research project together since. The unity between the two companies, aims for upcycling, which can be defined as following: ''A process of converting leftover materials into something new and beautiful by adapting the

production processes with the help of design", to be implemented into the regular production processes of Beximco in order to save resources, grow efficiency and significantly reduce environmental impacts as upcycling could potentially reduce up to 40% of waste created by the giant production of approximately 140 million garments a year. Upcycling has given great results, as the calculations made by ReetAus team showed that each new garment, enables to save on average 70% of water and create 88% less CO_2 emission compared to the regular production as it does not require growing new cotton or producing new fabric.

100% upcycled T-shirts by Reet Aus.

ReetAus has come a long way since the beginning and is currently the leading industrial upcycler. Her concept and mass-produced 100% upcyled collections have gained attention and have been presented at various fashion weeks and shows around the world. The latest being at the Green Showroom in Berlin during the Berlin Fashion Week. Besides her collections Reet also offer a possibility first time in the history to order mass-produced 100% upcycled T-shirts in large quantities for events etc. The last statement can be seen by the fact

that for this summer ReetAus designed and produced in cooperation with Beximco 23 000 upcyled shirts for the biggest national event in Estonia called ''Estonian Dance and Song celebration'' avoiding the need to produce 5.5 tons of new fabric which allowed to saved 91% of water and created 85% less CO_2 emission per each shirt.

Furthermore Reet'sgoal besides designing her own collections, is to cooperate with more big brands and mass producers that see sustainability as part of their core business. ''The whole concept behind industrial upcyling works best when implemented into mass production and into the same factory where the waste is created. Implementing industrial upcycling into brands regular production processes from the start, it not only significantly reduces the environmental impacts but also allows to save resources and grow efficiently.'' says Reet. To ensure the scientific legitimacy of upcycled products and production methods Reet also has been developing the ↑MADE® certificate in cooperation with the Stockholm Environment Institute in Tallinn and Estonian Academy of Arts. The certificate which is currently in its final stages of approval, will ensure that the development process is reliable and transparent and aimed for a genuine improvement.

ReetAus innovative collections are available in several countries around Europe and online from www.trashtotrend.com. She is also active as researcher at Estonian Academy of Arts.

www.upmade.org
www.reetaus.com
www.trashtotrend.com

ESTONIAN
ACADEMY OF ARTS

Chairman's Desk:

Dr. Sunil Bhatia

Why does child in mother's womb start kicking and sucks its thumb is still a mystery for us? Is it this act of biological function to prepare the child for meet the challenges of future for its survival requires to create pressure or live with or under the pressure? This may be a role of nature to design habit of facing pressure. Pressure experiencing is synonymous with life and it is gone living beings embrace death. It means we cannot escape from pressure and best tactics devised by our ancestors that instead of fighting with it they started living with and invented devices how to use it for their benefits. Once child is delivered it comes under the atmosphere, people around say that it is equal to weight of four elephants. 'Is pressure integral part of human personality?' During breastfeeding child holds the breast for right amount of pressure for better sucking. Who guides it to hold the breast with tiny fingers? Heart keep pumping the blood with right pressure to reach every pore of human body and it is his duty that it should be properly maintained otherwise consequences are so bad that even some may lose their lives. All kinds of plants require water for living , growing and it reaches to every cell of the plants of any height with the principle of osmosis. It is mystery for me that osmosis works when dense medium attracts lighter medium of water and in case of plants I fail to imagine how come millions of cells pile up vertically suck the water and allow reaching every cell. Sunlight is evaporating the water from leaves but to take the water against the gravity to tip of the height of tree is not explained till date. It is the pressure its role is still not sorted out.

Our ancestors were unaware about scientific background of pressure but had noted the nature they and understood its functions & roles. Slow air flows were breeze and little higher speed was storm and high intensity was tornado. They designed the various products by using intensity of the air flow. Winnowing fan, large foil for sailing etc. and to counter destruction by storm or tornado they built home with such materials that can bear the pressure for the safety of the residents. Even to dig the earth they designed various tools that could help in generating desired pressure. They learnt the art of twisting the natural fibers for bearing certain level of pressure and that helped in designing ropes for lifting water from well as well for other purposes. River water generates some kind of pressure and sometime it was experienced by them that it was difficult to cross the river because of pressure of water was strong that could wash away anything which lost grip & could not resist it. They had observed during floods everything destroyed and those who resisted had to bear pressure of survival. What they had experienced in river did not find that pressure in standing water of lakes or ponds. Reason is lakes and ponds are still not exploited properly by mankind and limited to potable water or recreation activities. River's pressure of water is exploited for generation of electricity, irrigation purpose, and transportation. Stone pelting is ancient practice among our ancestors to keep the attacker away by throwing & hitting. Stone hits the others and its pressure that generates pain or even put the attacker's life at risk if it hits in delicate areas of body. They designed the mortar & pestle on design of pressure. The design of scissor is simplest design of using the pressure for cutting and it forces me to admire those who got the idea of designing it. Cutting of hard nut like betel nut cutter in India is not good design compared to scissor. Manual hair clipper, pruning shears, and surgical instruments are examples that astonish me .Discovery of fire and art of management of it made them to understand the art of faster cooking. They designed the vessels and utensils with necks and realized by covering with lid they could generate some kind of steam pressure. Peeling and segregating harder shell along with cutting

that increases surface area of foods helped in faster cooking because pressure and heat were evenly distributed. We know that hot water gets cooler if wide surface area is exposed to air compared to that remains in vessel that has neck for minimum exposure to air. They also experienced that unbaked earthen pots were less capable to hold the pressure of liquid or solid compared to bake one. As technologies improved they changed to iron, brass, aluminum and other metals that could resist the pressure of containing items. The same steam pressure was used for industrial revolution and James watt designed steam engine and later on people had designed boiler. It is surprising that after the design of steam engine we took almost few decades to design the pressure cooker for cooking.

Ancient people designed the axe, knife and dagger but they were unaware about the principle of pressure that force in per unit area is pressure. They made the area so thin that required minimal manual force for operation for generating desired pressure for meeting their objectives. I am amazed by simple design of changing branch of tree for arrow was nothing but used of pressure by sting of bow and creating sharp head of arrow to penetrate with utmost pressure. I admire the intelligence of ancient people. As civilization progressed woman thought to organize their hairs and they designed the comb that parted the hair and easily untangle for better management. To hold the web of hair they thought of band, various types of clips and clutches. All were designed by basic application of pressure for holding. To separate the cream out of milk was nothing but using centrifugal force as pressure. In modern time we are using the application of pressure in key board. When we apply the pressure on key , it types and as we remove a rubber cap inside the key cap releases the key. Ink Jet printer is designed on using the pressure to throw the ink on paper by using pressure for designing the jet. Design of modern house is nothing but calculation of bearing pressure of load. Columns, beams and slabs are the basic units that are designed to bear pressure. Earlier building was designed with bricks and

bearing capacity of it decides the height of building. As our technologies improved and RCC structure replaced the traditional brick bearing because it can enhance the bearing pressure and strength now that decides the height of building. Secret of good ramp design lies on the bearing of users pressure. If user has to exert more manual pressure to move wheelchair or leg pressure for upward /downward movement and at any stage chances that user may not able to apply that pressure and either falls down or slip may prove dangerous. If we look at the universal design principle we will find the core is management of pressure and design should help acceptance universally.

Presence of pressure is everywhere and no one can escape from its influence. Shock waves are used as pressure to destroy mountains and nuclear bomb is ultimate designed for destruction of mankind by generating pressure of heat and shock waves. Ballooning is possible when we give proper pressure by heating the air. Airplane or jet or submarine all are designed to function on pressure concept. Water flows from higher level to lower because of difference in pressure. Water supply was designed in urban area by using the principle of difference in pressure by erecting water tank at heights that are above the built houses. All automobiles need movements and to lay dedicated lines are not possible everywhere and tyre–tube concepts was developed, is nothing but to meet the challenges of all terrain based on pressure. Right amount of air pressure in it can create economy and increase the life of engine. Design of shock absorbers and spring leaf in automobiles are designed to meet the unexpected pressure or shocks while in motion. Names of the roads are different because of bearing capacity of pressure or in other words we design the road keeping in mind the level of pressure on it. Footpath, lane, service road, road, highways, express highways are few are manmade design . Pneumatic hydraulics is nothing but using the pressure.

Pressure provides safety, helps in transportation and improves our life. Concept of nail and screw are designed for different kind of

pressure. Locks can bear the pressure of intruder who wishes to enter forcefully and it provides safety. Buttons, zips and Velcro are designed with the concept of pressure for safety and easy maneuvering. Bicycle peddling with chain and teethed wheel is amazing piece of work of simple design where pressure can be used for optimum rotational movements. Conveyer belt with size of wheel is genius work of modern designer to transfer power from one place to another either for accelerating or retardation of the speed. The designs of these items are amazed and who got idea of this simple design deserves our salute. Idea of various types of glues is nothing but managing pressure. Concept of sterilize glue or zipping are used in medical science where instant locking or grafting or surgery needs few days to operate. Defecating or delivery of child or coughing or sneezing all is functioning because of pressure.

Estonia ranks very high in the Human Development Index, and performs favorably in measurements of economic freedom, civil liberties, education and press freedom. It is our great honor that Prof Lylian Meister, Dean of the Faculty of Design /EAA is guest editor of this special issue and I do not want to miss this privileged opportunity and we are breaking our tradition of publication for benefits of our readers. Articles are worth since these open new dimensions in thought process and take us forward toward scientific temperaments. Achieving scientific minds needs rigorous training, hard work and passion to stay with the problem till we reach some solutions. Estonians have proved and no one can deny their contribution toward betterment of society. I salute their knowledge and zeal for Design For All.

With regards
Dr. Sunil Bhatia
Design For All Institute of India
www.designforall.in
dr_subha@yahoo.com
Tel 91-11-27853470®

ESTONIAN
ACADEMY OF ARTS

Lee Christopher is the Director of eLearning at Arapahoe Community College and also an ACC instructor. Lee has a BA in Philosophy, an M.Ed, and a M.F.A in Writing and Poetics. Lee is currently in the dissertation phase pursuing a Doctorate in Education from Capella University. Her dissertation title is Universal Design for Learning: Implementation and Challenges of Community Colleges. Lee's publications include: "Digital Storytelling" in *Handbook of Research on Transformative Online Education and Liberation: Models for Social Equality*, Kurubacak and Yuzer, Eds., IGI Global, 2011, "Hype versus Reality on Campus: Why eLearning Isn't Likely to Replace a Professor Any Time Soon" with Brent Wilson, *The E-Learning Handbook,* Carliner and Shank, eds.Pfeiffer, 2008 , and "What video games have to teach us about learning and, Lee literacy," located at http://edrev.asu.edu/reviews/rev591.htm is on the Colorado Community College System Task Force for Web-IT Accessibility. She has a passion for Universal Design for Learning and will be guest editor for concluding issue of year 2014 Women's Designer.

Stephanie Battista, Senior Design Program Manager . Stephanie directs medical and wearable technology design programs at Modern Edge. She is responsible for project management, client relationships, business development, sourcing, and studio culture. For over a decade prior to joining Modern Edge, Stephanie was the principal of her own product design and development firm specializing in lifestyle product design, soft goods, and wearables for technology-driven start-ups. Stephanie brings expertise in medical devices, textiles,

ESTONIAN
ACADEMY OF ARTS

consumer goods, and wearable technology. She will be the Guest Editor and invite different authors of her choice on concept of universal design and it will be our fifth special issue on different occasions with IDSA, USA. Website: Modernedge.com

Email: s.battista@modernedge.com

February 2015 Vol-10 No-2

Prof Mugendi K. M'Rithaa is an industrial designer, educator and researcher at the Cape Peninsula University of Technology. He holds postgraduate qualifications in Industrial Design, Higher Education, and Universal Design. He is passionate about various expressions of socially (responsive and) responsible design, including Participatory Design; Universal Design; and Design for Sustainability. Mugendi has a special interest in the pivotal role of design in advancing the developmental agenda on the African continent. He is associated with a number of international networks focusing on design within industrially developing/majority world contexts, and is currently the President-Elect of the *International Council of Societies of Industrial Design* (Icsid). He will be the Guest Editor and his passion for universal Design is real driving force for establishing the concept in Africa continent.

March 2015 Vol-10 No- 3
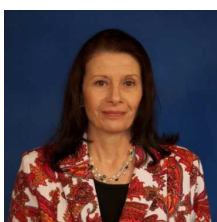
Paula Sotnik, Institute for Community Inclusion, School for Global Inclusion & Social Development, University of Massachusetts Boston .

Paula Sotnik developed and directed 12 federal and state training and technical assistance projects (past and current) supporting individuals from traditionally underrepresented groups, including persons with disabilities. She is a recognized expert consultant, trainer and author on

access and accommodations; culture brokering; diversity; outreach and recruitment strategies; team and partnership development; measurable outcome oriented strategic planning; national service, volunteerism and disability legislation, policy knowledge and practice acquired through years of personal, educational and professional life experiences. She serves as a consultant reviewer and trainer for an international fellowship exchange program. She will be Guest Editor of special issue and will focus on Universal design development in USA

April 2015 Vol-10 No-4

Debra Ruh is a Global Disability Inclusion Strategist, ICT Accessibility Training and Social Media Thought Leader on Disabilities. She focuses on Disability Inclusion, EmployAbility, Corporate Social Responsibilities, ICT Accessibility, Corporate Social Responsibility and Social Entrepreneurs. She is also the author of several books including "Uncovering Hidden Human Capital: How Leading Corporations Leverage Multiple Abilities in their Workforce" and "Finding Your Voice by Using Social Media"

May 2015 Vol-10 No-7

afUD (French Association of Universal Design) **President Jean Rene Moussu** has accepted our invitation for Guest Editor for our special issue. He is enthusiastic to popularize the concept of Universal Design in his country because he feels it is social responsibility of every citizen of the world to make the world accessible to all. He is inspired by Ron Mace and believes his word his philosophy

*The UD is a collective thought. Think different !UD*think! The UD* is notan evolution, it is a revolution.

June 2015 Vol-10 No-7
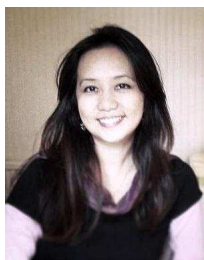
Dr.Antika Sawadsri is a full-time lecturer in the School of Interior-Architecture at King Mongkut's Institute of Technology Ladkrabang (KMITL). She received a PhD from the School of Architecture, Planning and Landscape, Newcastle University, UK. She has qualifications on interior Architecture and Planning and is a specialist in an interrelationship between social construction of 'disability' and the designed environment.

Her academic interest focuses on inclusiveness in the process of creating living spaces. Recently, Antika has taken parts in both the State's agencies and non-government's movement in mobilising equal access to the buildings and city of disabled and ageing groups in Thailand.

July 2015 Vol-10 No-7

Humaniteam is a design laboratory which focuses on Health and Disability-related issues. We believe that the practice of a sport is conducive to enhancing the skills of people in disability situation in their everyday life environment. Design acts as a bridge between each pole of expertise, thereby creating a common language and translating it into objects or services. HUMANITEAM is really passionate by design for All. Many projects of UD are ongoing. **Claire Fauchille** will be the Guest Editor.

August 2015 Vol-10 No-8

Dr. Bijaya K. Shrestha received Doctoral in Urban Engineering from the University of Tokyo, Japan (1995-'98), Master in Urban Design from the University of Hong Kong, Hong Kong (1993-'95) and Bachelor in Architecture from the

University of Roorkee (now Indian Institute of Technology), India (1983-'88). Dr. Shrestha has got working experiences of more than two decades. He had already served to the Department of Housing and Urban Development, Ministry of Housing and Physical Planning, Government of Nepal, United Nations Centre for Regional Development (UNCRD), Japan and various architectural schools in Nepal before taking the present job at Town Development Fund (TDF). He has initiated a new master program in Urban Design and Conservation at Khwopa Engineering College, Purbanchal University, where he served two years as Head of Post-graduate Department of Urban Design and Conservation.

Dr. Shrestha is the recipient of numerous gold medals for his excellent academic performance and decorated by 'Calcutta Convention National Award 2006' by Indian Society for Technical Education for his best paper at the 35th ISTE Annual convention and National Seminar on Disaster – Prediction, Prevention and Management. He is also member of numerous professional bodies and life member of various alumni associations. He has already contributed more than five dozen of papers, published in various forms: book chapter, international journals, conference proceedings, local magazines and journals including in local newspapers. Moreover, he has been invited in numerous international conferences for presentation of his research findings. Finally, his field of expertise includes sustainable urban development, disaster management, housing, local government capacity building and development control. He will focus on universal design concept on Nepal.

September 2015 Vol-10 No-9

Min Wang Dean of School of Design CAFA, Beijing Beijing City, China Design Currently with AGI, China Central Academy of Fine Arts School of Design and previously worked with Square Two Design, ICOGRADA, Beijing 2008 Olympic Committee. His education is from Yale University will be Guest Editor and he will highlight the contribution of China in Universal Design.

October 2015 Vol-10 No-10

Prof Ravi and Dr Ajanta Sen of IIT Mumbai India will be the Guest Editor and theme of the special issue is Design and Children.

November 2015 Vol-10 No-11

Ewa Golebiowska, Poland is the president of EIDD Design For All and she has accepted our invitation of Guest Editor and she will invite the authors from European countries for special issue.

BOOK RECEIVED:

1.A New eBook from UniversalDesign.com
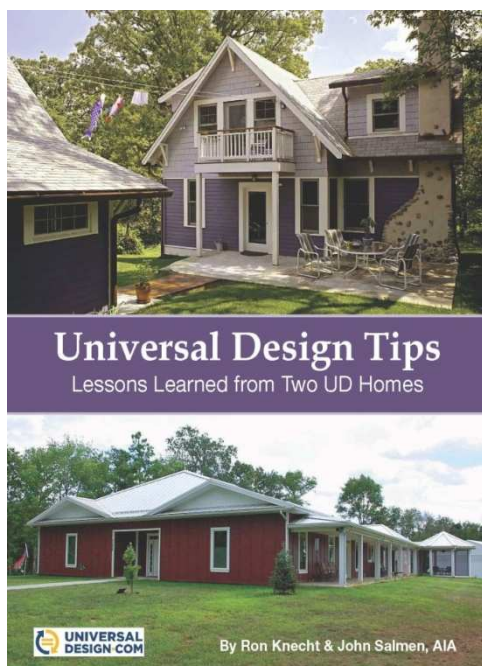
Universal Design Tips: Lessons Learned from Two UD Homes

This new electronic book from UniversalDesign.com is filled with tips and ideas that will help guide anyone through the process of designing and constructing their own Universally Designed home. The book was co-authored by John Salmen, AIA, the publisher of *Universal Design News* and founder of UniversalDesign.com, and Ron Knecht, whose durable, energy efficient Universally Designed house was featured in the January 2012 issueof *Universal Design News.*

The first section of the book deals with the planning process, providing insight on how to choose a location for the house, consider activities of daily living during planning, best use various types of design professionals, finalize a floor plan and develop a building schedule.

The rest of the book is organized according to different areas or elements of the home (i.e. exterior doors, bathing, and kitchen counters, just to name a few.) Whether designing a whole house or simply remodeling one area, *Universal Design Tips* makes it easy to quickly refer to the relevant section and find valuable tips that ensure success. Each of these sections includes design tips, photos and important lessons that the two authors learned through their personal projects.

John Salmen has been working in the field of accessible architecture and Universal Design for over 30 years, and he put this expertise to good use when remodeling a historic property to create the Universally Designed house he and his wife hope to live in for many years. Salmen's "Home for the Next 50 Years" has been featured in various media outlets: including *The Washington Post*, *Fine Homebuilding*, AARP's television show *Inside E Street* and the book *The Accessible Home: Designing for All Ages and Abilities*. Now, readers will be able to explore Salmen's home in even greater detail and apply his experience to their own Universally Designed home projects.

Ron Knecht's experience with Universal Design started after his wife of 46 years became ill with cancer. As her health worsened, Knecht learned first-hand the importance of accessibility for maintaining independence, safety and one's quality of life. Before Knecht's wife passed away, she extracted a promise from him that he would move to a Universally Designed house located closer to their daughter. Knecht was underwhelmed by both the houses that he saw on the market and the UD house plans that he found online; he realized that he would have to plan and build a custom house in order to fulfill his promise.

2.
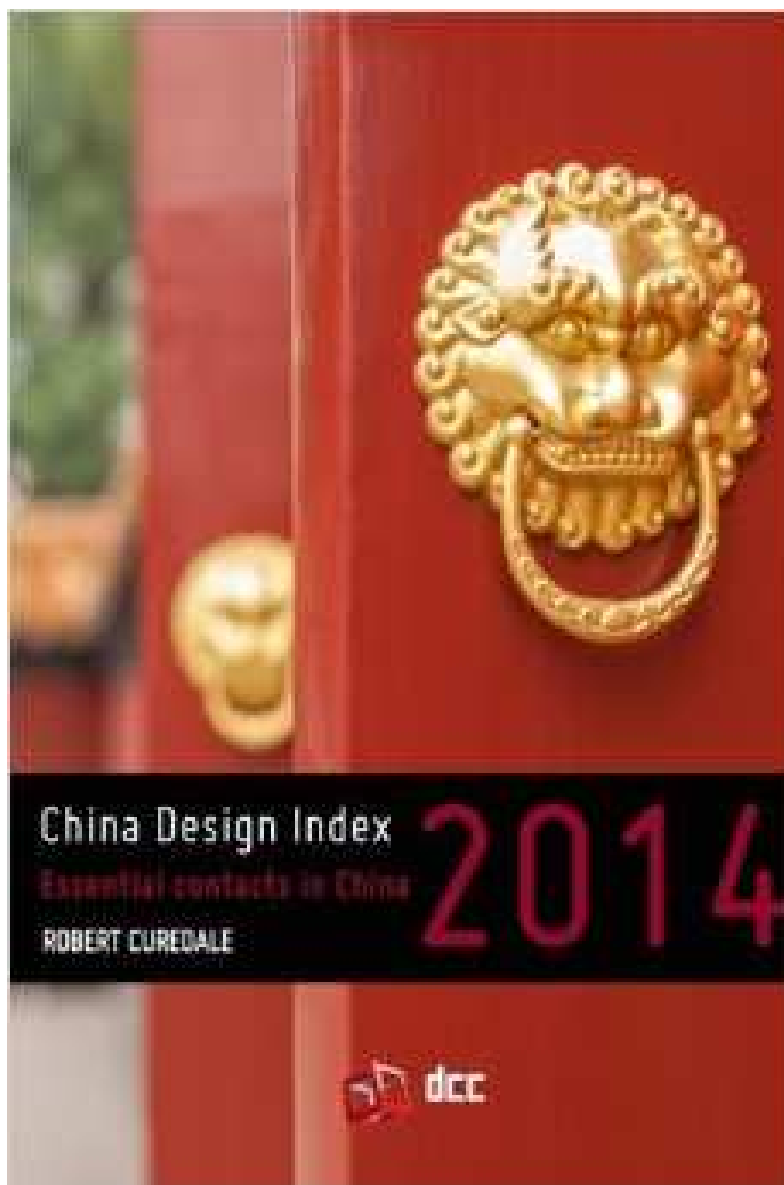
China Design Index 2014: The essential directory of contacts for designers Paperback – February 1, 2014 by Robert A. Curedale (Author)

3.
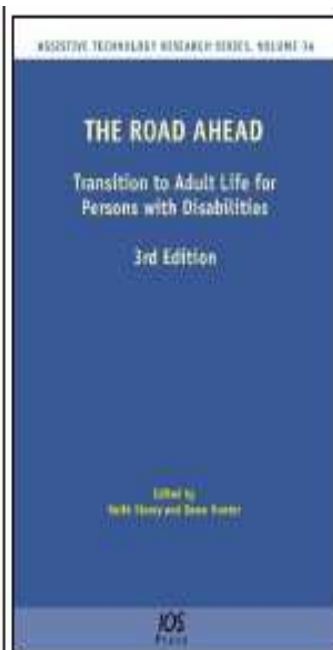
The Road Ahead

Transition to Adult Life for Persons with
Disabilities

Successful transition from school to adult life has always been difficult for people with disabilities, especially in the area of employment. The vast majority of people with disabilities are either unemployed or underemployed with low wages and few benefits, and many governments are struggling to find a way of providing employment and benefits to people with disabilities without creating disincentives to work.

This book provides strategies and ideas for improving the lives of people with disabilities, exploring new ways of enabling a successful transition to an integrated adult working life by providing effective instruction and support. Following an introduction which outlines the importance of transition services and meaningful outcomes, topics covered in the remaining chapters include: person centered transition planning; enhancing competence and independence; employment assessment and career development; collaboration between agencies for a seamless transition; independent living and supported living; and community functioning skills.

The book will be of interest to all those who work with transition age students as well as those who work with adults with disabilities and want to enable them to have the best life possible. To paraphrase Helen Keller: "People with disabilities not only need to be given lives, they need to be given lives worth living."

4.
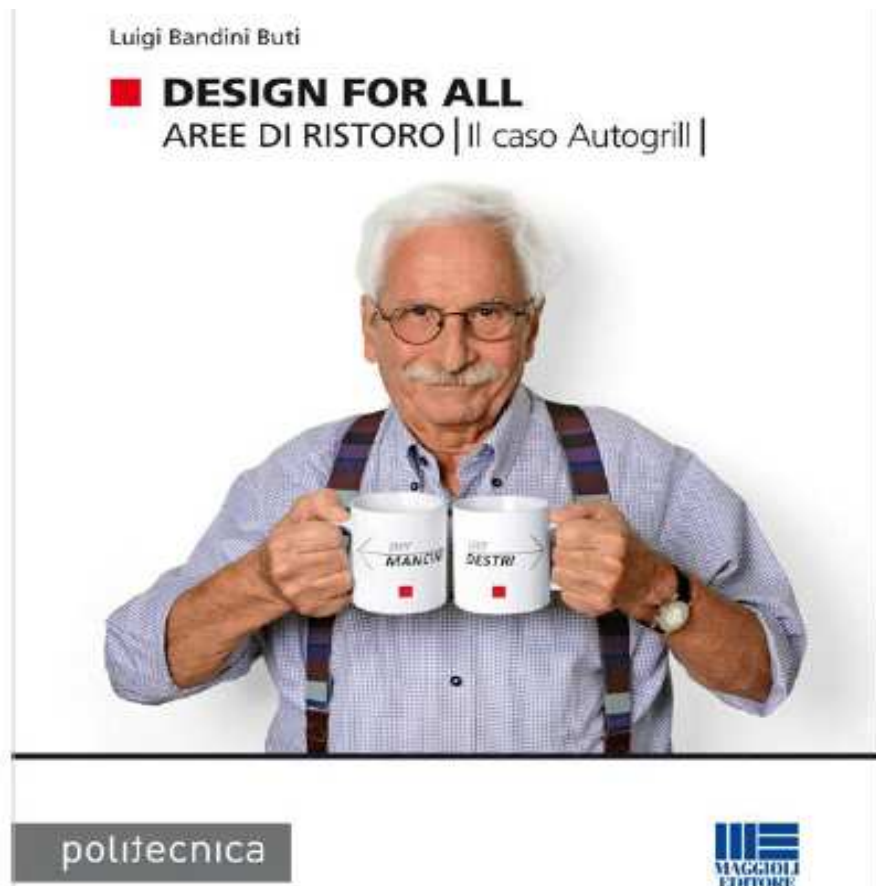
Luigi Bandini Buti
DESIGN FOR ALL | AREE DI RISTORO | il caso Autogrill |
Maggioli Editore, 2013
http://shop.wki.it/risultatoricerca.aspx?indizioricerca=luigi+bandini+buti

This book has been born following the collaboration with Autogrill that, for its new facilities "Villoresi Est", has developed an innovative, Design for All oriented project. We then realized that the cares foreseen for "all" would not be noted by "the majority".
If you are not on a wheel-chair, or blind, or you are not travelling with a large family or you don't have to look after your old grand-father, you will not be able to appreciate many of the attentions included into the project. It was therefore necessary to make more visible the virtuosity of the planning process and its results, which may not appear obvious to many people.

This publication is not meant to be a mere description, it is rather a critical analysis of the Villoresi Est rest area, included in a context that wants to examine in depth the methods and the means of Design for All.
Its main objective is therefore to use the "Autogrill case" to investigate the necessary steps to develop projects Design for all oriented, hopefully in an authoritative way.

5.

Edmonton Architect publishes - Adult Children's Book—Accessible Architecture: A Visit From Pops.

Edmonton Architect Ron Wickman launches his first book titled: *Accessible Architecture: A Visit From Pops* at the City Room in City Hall, Tuesday, March 18 at 6 p.m. Ron, son of the late Percy Wickman, MLA Edmonton-Rutherford 1989-2001, is a story written on the focus of Percy and his 3 grandchildren. Ron is best known for his accessible design. His most recent endeavor published by Gemma B. Publishing draws on this knowledge. Edmonton draughtsman Jared Schmidts illustrates with wit and precision the need for a house to be visitable by everyone.

As a child, Ron Wickman learned firsthand about the need for accessibility. His father became paraplegic after being injured by an industrial accident. Ron wheeled his father into many inaccessible places. A longtime Edmonton City Councilor Percy Wickman advocated for people with disabilities throughout his life.

Ron Wickman studied architecture in Edmonton and in Halifax, Nova Scotia, specializing in barrier-free design, designing houses and public spaces that were both beautiful and accessible.

Accessible Architecture: A Visit From Pops—is an adult children's book, which demonstrates the three principles for ensuring a house can be visited and enjoyed by everyone equally, including those with a disability. Following Wickman's design and renovation also enables homeowners to age in place.

Visitability principles include

- the front entrance must have no steps;
- all main floor doors must be at least 36" wide
- an accessible washroom must be on the entrance floor.

Accessible Architecture: A Visit From Pops, by Ron Wickman, illustrated by Jared Schmidts and edited by Sarah Yates, is published by Gemma B. Publishing, a Winnipeg-based publisher. Gemma B. Publishing creates heroes and heroines living with a disability, in both fiction and non-fiction. The book will be launched at Edmonton City Hall, March 18 at 6 p.m. and available later at Audrey's Books in Edmonton.

Ron Wickman will be available for interviews after the press conference at City Hall. His lecture at the Buildex Conference, Edmonton Expo Centre, Northlands will be held Wednesday, March 19 at 2:30 p.m.

Accessible Architecture: A Visit From Pops ISBN978-0-991697-0-8 sells for $20.

– 30 –

For additional information, contact:
Ron Wickman
Architect
780-430-9935
E-mail: rwickman@shaw.ca

6.

Accessible Architecture
A Visit From Pops

Written By: Ron Wickman
Illustrated By: Jared Schmidts

The Politics of Disability

A Need for a Just Society Inclusive of People with Disabilities

PETER GIBILISCO
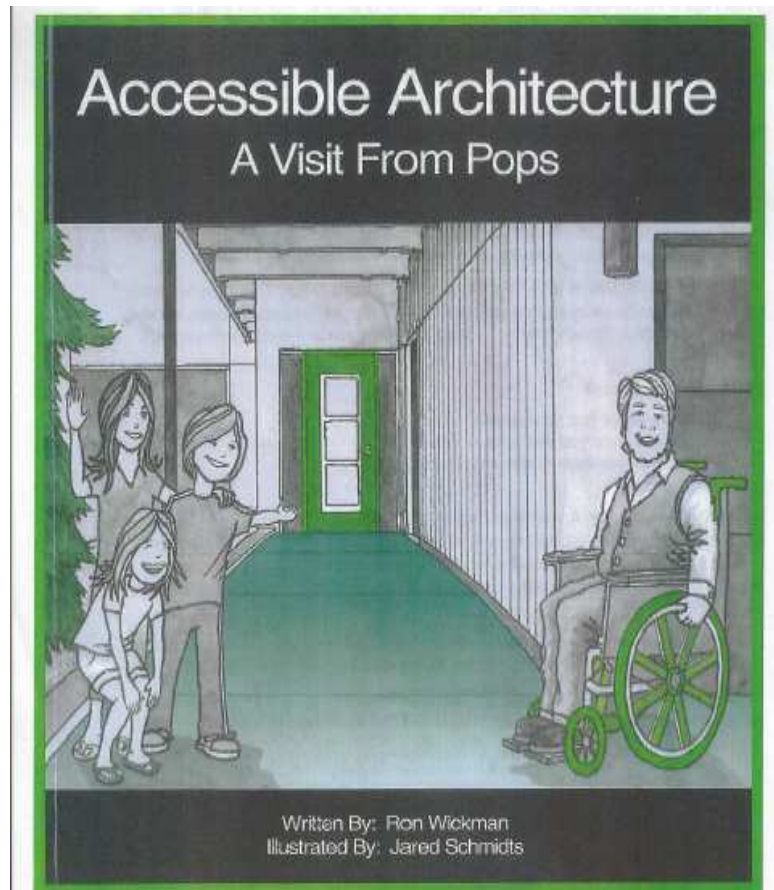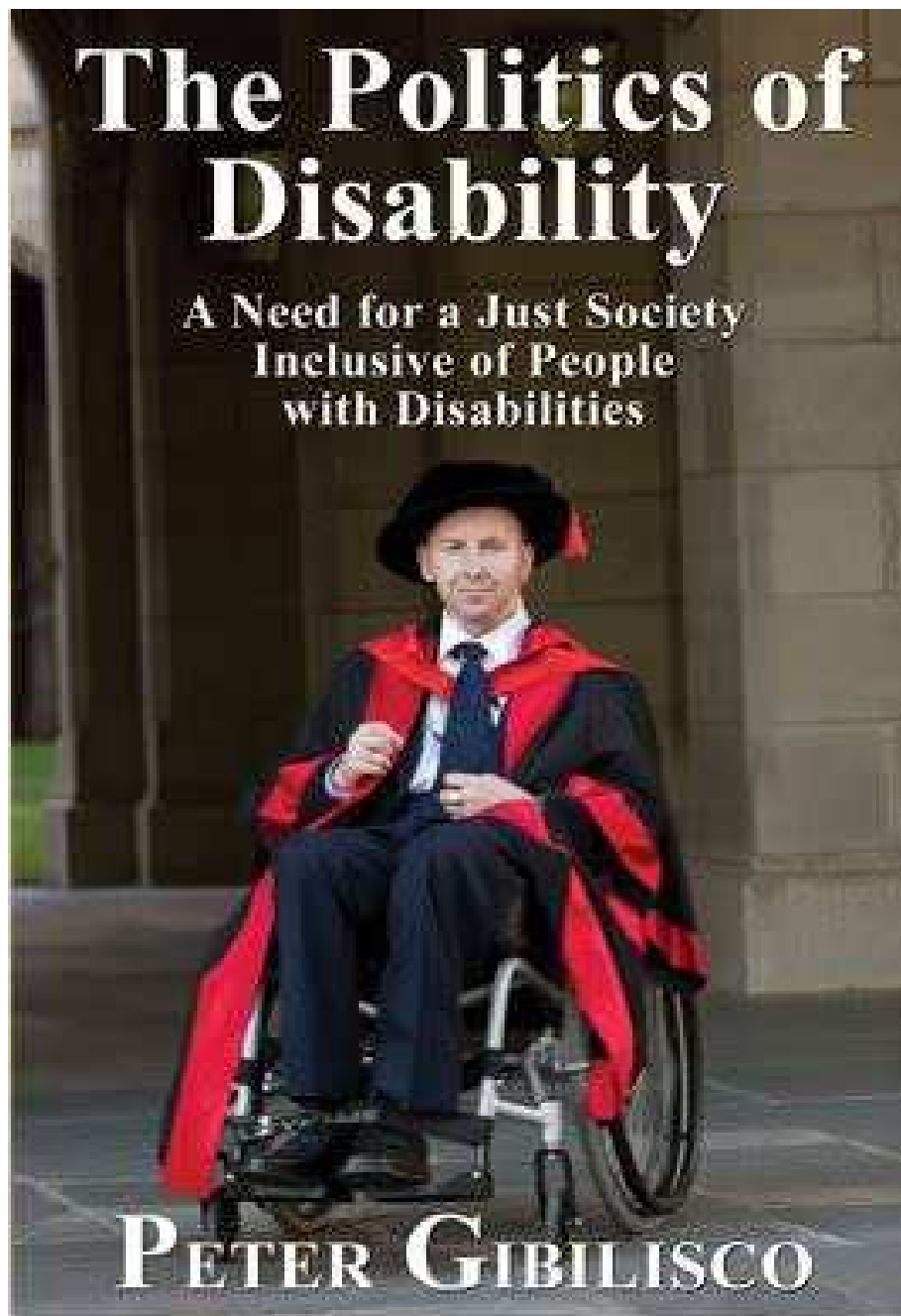
This book will retail for a recommended price of $19.95 USD ISBN 978-1-77143-155-2, with an ebook version also available at a recommended price of $7.95 USD ISBN 978-1-77143-156-9. You'll be able to buy it from all the usual places - Angus & Robertson, Bookworld, Fishpond, Amazon, Kobo, iBookStore, and Google's Play Store, amongst others.

ESTONIAN
ACADEMY OF ARTS

7.

<u>**Maurice Barnwell**</u> **(Author)**

studies in design and culture 5

Cultural Revolution

1968-2000,
design,
social protest,
consuming
culture

Maurice Barnwell
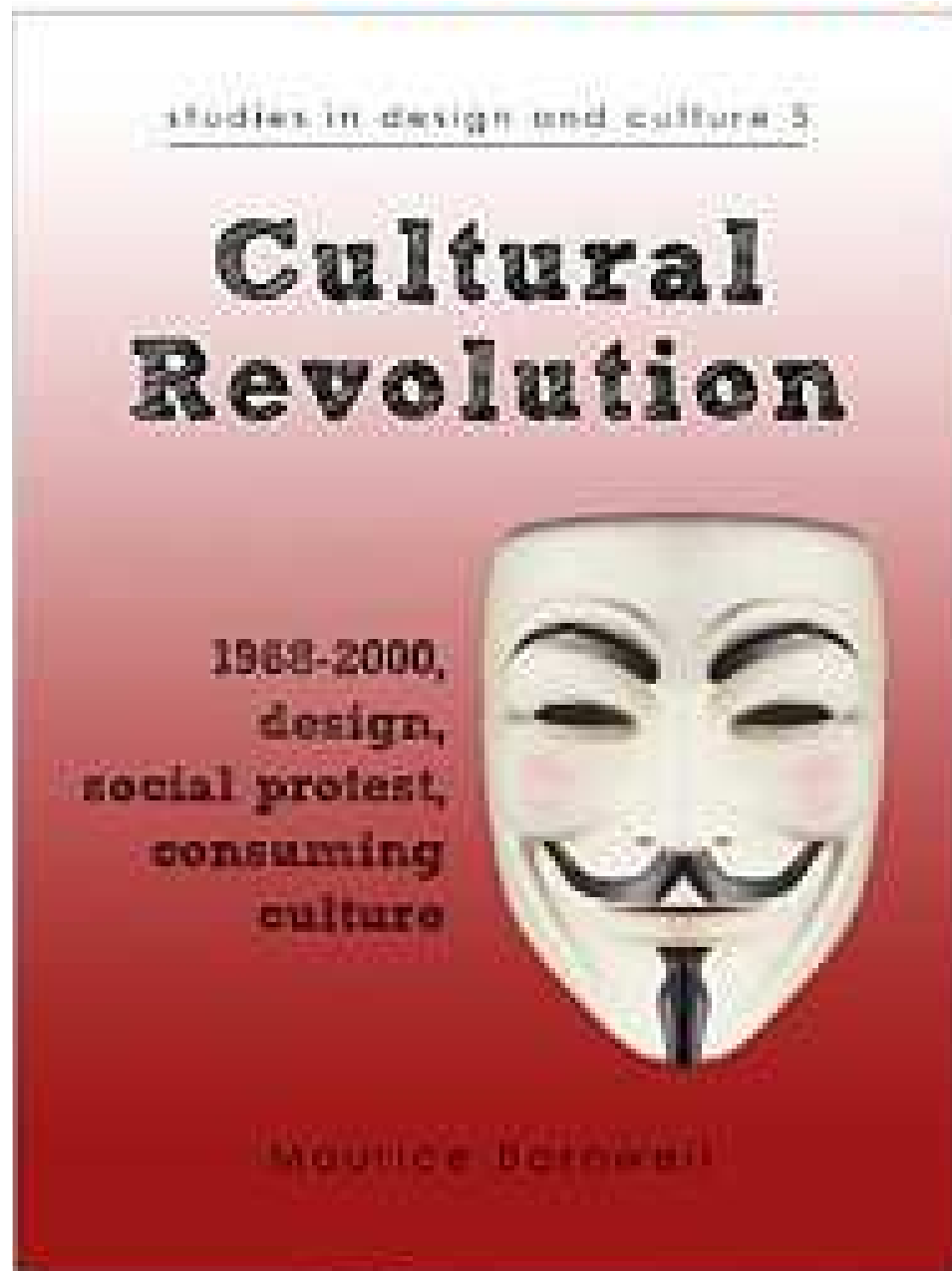
8.

CAMBRIDGE DISABILITY LAW AND POLICY SERIES

eQuality

The Struggle for Web Accessibility
by Persons with Cognitive Disabilities

PETER BLANCK

WITH A FOREWORD BY DAVID BRADDOCK

CAMBRIDGE

ESTONIAN
ACADEMY OF ARTS

NEWS:

1.

Students developing low-cost portable Braille printer

INDIA: In a bid to make technology affordable and accessible to people with vision disabilities, Sandeep Konam, a B. Tech. final-year ECE student at Indian Institutes of Technology (IIT), Idupulapaya, and a group of IITians are engaged in not only developing a low-cost portable Braille printer that could cost as much as an average Android mobile but also in integrating graphics, tables and images in Indian languages.

Mr. Konam and other B. Tech. students — P. Laksh Kumar, V. Shakti Priyan, Ayushman Talwar, Amera Ali, Aparna Hariharan, Sai Revanth Tadepalli, Syed Junaid Ahmed and Rohith Sirpa — from diverse branches such as design, electronics, mechanical and computer science from IITs and NITs across India, demonstrated a prototype at a workshop titled "ReDx: Engineering the Eye" at Hyderabad recently. A portable working model of a Braille printer was expected to be optimised by December this year, Mr. Konam said.

Mentored by Elliott J. Rouse, Post-Doctoral Associate of Biomechatronics Group, MIT Media Lab, and assisted by premier institutions such as L.V. Prasad Eye Institute Innovation Centre, Cyient (formerly Infosys) and the Tata Centre for Technology and Design, the low-cost Braille printer, a counterpart to ink printers, using solenoids to control the embossing pins, could revolutionize the facility for people who are blind and low vision. "Developing a prototype that can be used in open source community and qualitative enough to meet the needs of people with vision disabilities is our goal," says Mr. Konam. "We have hacked a vinyl cutter and reverse-engineered it for usability as Braille printer."

Source: Hindu

2. Children learn better with inclusive education

Inclusive education is the need of the hour. It helps build friendships and inculcate mutual respect and understanding. Patricia Mascarenhas investigates why inclusive education is not successful in India and what is the way forward

A majority of children with disabilities go to special schools, away from their peers who go to regular schools. However, the Right to Education (RTE) Act, introduced in 2012 allows children with special needs to pursue mainstream education.

All students, irrespective of their impairment, should be educated in mainstream schools. "If you check Ch 2 (2) of the RTE Act, it says that a child with 'disability', as defined by the Persons with Disability Act 1995 and the National Trust Act, has the right to free and compulsory education as per the provisions of Ch V of the Persons with Disabilities Act," informs Pallavi Lotlikar, project manager, Saraswati Mandir Trust. To put this very simply, children with vision disabilities, hearing disabilities, physical disability, mental disabilities, autism, cerebral palsy and multiple disability have the right to study in a regular school environment till the age of 18 years. "The RTE rules for children without disability are till completion of elementary education or class VIII or 14 years of age but for children with disability is till 18 years of age," informs Lotikar.

However, though some schools practice inclusive education, a majority of children with disabilities still do not receive any formal education. "The main problem is that no one is aware or concerned about the provisions for special kids," says Lotikar. Nitin Wadhwani, founder-director, Citizens Association for Child Rights agrees, "It is not only important to provide infrastructure like ramps, toilets, accessibility to laboratories, playground, etc but also to identify and support children with learning and mental disabilities."

There are multiple interpretations of the RTE, which is another reason why many redundant laws that are being followed and existing laws are being violated. "Government departments NGO's dealing with special schools think that 'special education is inclusive education. There is a conceptual lack in understanding the RTE clause on inclusive education," explains Mithu Alur, chairperson, ADAPT adding that inclusive education does not refer only to children with special needs, it is high-quality education individualised to each child's needs.

Lack of flexibility in curriculum, affordability, being bullied in the class and not getting adequate attention from the teachers who are not trained to teach children with disabilities are other contributing factors to this situation. "Inclusive education is bound to fail if the teachers or principals are not qualified and if children with disabilities are treated as a burden and passive participants in a classroom," warns Lotikar. Alur adds that UGC's Teacher Preparation in Special Education (TEPSE) Scheme prepares teachers to teach children with special need in special schools. IGNOU also concentrates on special rather than inclusive education. "Not much is known about inclusive education. They need to look at inclusive education training," she advises.

"Inclusive education is a guaranteed long term investment with excellent returns but a very very high premium that we all have to contribute towards in the short-term," says Alur. Children with disabilities are unable to cope with mainstream schools. "Lack of adequate support from the authorities and the society which still views disability only on sympathetic grounds leads to insufficient

opportunities for inclusion," says Wadhwani adding post completion of primary education, there aren't sufficient secondary schools or vocational training centres for child with special needs which allow them to progress and become independent in life. This has resulted in many children not getting fair chance on inclusive education.

However despite the hurdles, there are a number of children with disabilities who have trained in mainstream schools and are doing really well. Rucha Shere, a child with a down syndrome is one such example. After completing HSC from SNDT Women's University, Shere is currently pursuing BA. "We had to do a lot of school hopping when she was younger. Being around other children in a mainstream environment, Rucha progressed, watching them do things, she too started thinking in a similar manner," says Sunil Shere, parent.

This proves that a society needs to be and think inclusive, the law will only reinforce it. Of course, if not practiced with correct methodology and appropriate teachers, it will not work. A strong and inclusive public school system and a vigilant government, media and community is the only answer for an equal and fair education system. "Every school should be audited and certified RTE Compliant, which also means ensuring Inclusive Education in the school, not only with physical infrastructure, but also specially trained teachers for these children and based on compliance, the registration and various grants to these schools should be provided and renewed periodically," advises Wadhwani.

The Inclusive Education Clause in the RTE Act is an important step in the right direction. It also helps regular kids. When they attend classes that reflect the similarities and differences of people in the real world, they learn to appreciate diversity.

Source: DNA India

PROGRAM & EVENTS:

1.

2.

3.

Transportation connects us all.

Whether it's simply getting from home to work or using products shipped over distances near and far, in every region of the world transportation impacts our daily lives.

At first glance, transportation may simply appear to be about the movement of people and goods. But looking deeper, it's also closely linked to equality, access to healthy food and good schools, and wildlife impacts, for example.

As the mobility demands of people and freight have grown, so too has the need for products, systems, and services that will make the transportation sector more life-friendly, for both people and the planet.

Registration is now open

Learn biomimicry and how to apply it while competing for cash prizes with students from around the world.

Register your team for immediate access to the biomimicry design resources and start developing your design solution today!

4.

5.

6.

7.

8.

9.

The Biennale Internationale Design SaintÉtienne 2015

10.

11.

12.

13

Aiap Summer School con Martin Foessleitner
Emergency / Emergenza

Da venerdì 27 a lunedì 30 giugno 2014
dalle ore 10.00 alle 17.30
Accoglienza summer school venerdì 27 alle ore 9.45
Accademia di Belle Arti di Genova,
via Agostino Bertani, 5 - 16125 Genova
Sono aperte le iscrizioni con sconti per tutti gli iscritti entro il 5 giugno!
Potete leggere e scaricare il modulo a questo link.

14

15.

16.

17.

18.

Typography Day 2015

7th - 9th March 2015,

Organized at IDC, IIT Bombay with support from InDeAs and Aksharaya

http://www.typoday.in

Theme:

Focus on 'Typography, Sensitivity and Fineness'

Introduction

Typography Day will be organized for the eight time from 7th to 9th March 2015 at the Industrial Design Centre (IDC), Indian Institute of Technology Bombay (IIT Bombay) with support from India Design Association (InDeAs) and Aksharaya.

The theme for this year's event is 'Typography, Sensitivity and Fineness'.

19.

EBU The voice of blind and partially sighted people in Europe

The Vision for Equality Award

The EBU Vision for Equality Award is given to European organisations, institutions, policy makers, enterprises or individuals in recognition of their commitment to protect and promote the rights of blind and partially sighted people and to improve their living conditions. The Award, which consists of a certificate and a piece of art by a visually impaired artist, is presented every four years on the occasion of EBU general assemblies.

Nominations may be put forward by EBU national members and are processed by the EBU Awards Working Group.

CALL FOR NOMINATIONS FOR THE 2015 EBU "VISION FOR EQUALITY" AWARD

20.

Asian Centre for Inclusive Education (ACIE)
"Promoting Inclusive Education in Asian Countries"

2nd International Conference on Inclusive Education
9 - 11 January, 2015

Venue: Institution of Diploma Engineers, Kakrail, Dhaka, Bangladesh

Conference Theme: Achieving Inclusive Education through Post EFA Goals 2015--How Far are We?

21.

Confederation of Indian Industry NATIONAL INSTITUTE OF DESIGN 14th CII NID Design Summit endorsed by India Design Council

DESIGN Trinity 20th & 21st November '14

22.

23.

5th International Conference on Accessible Tourism (ICAT) 2014 organized by Beautiful Gate Foundation for the Disabled, will be held on December 4-7, 2014, at MBPJ Civic Hall, Petaling Jaya, Selangor, Malaysia.

24.

25.
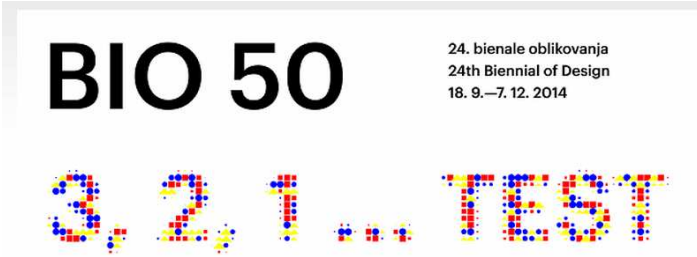
Policies and measures to promote universal accessibility in tourism will be at the center of the 1st UNWTO European Conference on Accessible Tourism, jointly organized by UNWTO and the Government of the Republic of San Marino in November 2014.

26.
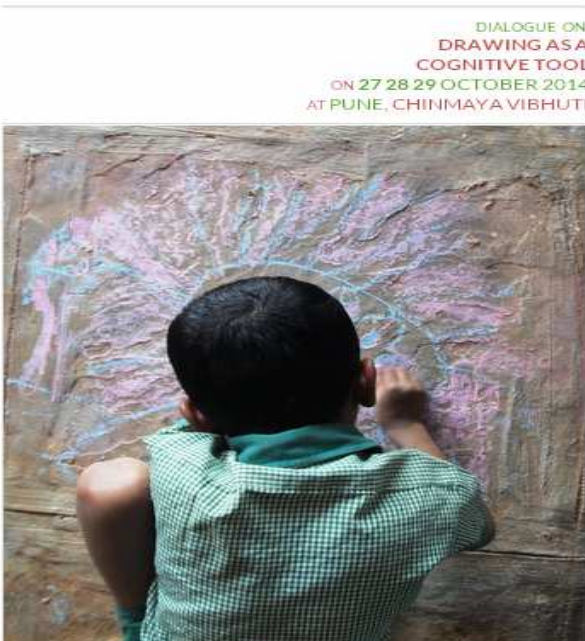
BIO 50

24. bienale oblikovanja
24th Biennial of Design
18. 9.—7. 12. 2014

3, 2, 1 ... TEST

Countdown to the opening of BIO 50:
The Biennial of Design in Ljubljana unveils the results of a six-month-long collaborative process

On 18 September 2014, more than 120 designers and multidisciplinary agents descend upon Ljubljana for the opening week of BIO 50, the Biennial of Design. Over the course of four days, they will unveil the results of a six-month long collaborative process, offering perspectives on possible futures for design. The awards for best collaboration will be presented by the BIO 50 jury comprising industrial designer Konstantin Grcic, design critic Alice Rawsthorn and designer and professor Saša J. Mächtig. Before the opening, the talk with Alice Rawsthorn, Justin McGuirk and Jan Boelen will be organized.

27.

DIALOGUE ON
DRAWING AS A
COGNITIVE TOOL
ON 27 28 29 OCTOBER 2014
AT PUNE, CHINMAYA VIBHUTI

SADHANA VILLAGE, 1, PRIYANKIT, LOKMANYA COLONY, PAUD ROAD, PUNE-411038.
SADHANA ENGLISH SCHOOL, AT KULE, TALUKA MULSHI, DIST. PUNE,
MAHARASHTRA.
E-MAIL:- SADHANAVILLAGESCHOOL@GMAIL.COM

28.

29.

European Innovation Workshops in Inclusive Design: Oslo 16-17 October

What is missing from many design or development processes? What can make you more competitive and creative? How can you better understand what your clients need?

Find the answers at a two-day Executive Education event in Inclusive Design. Learn from international experts such as Marco Steinberg, Anna Kirah, Dan Formosa and Rama Gheerawo who will show how inclusive design can be a tool for innovation at both operational and strategic levels.

Through inspiring lectures and method-based workshops, you will develop your personal expertise, and expand your professional and international network.

This event is open to designers, architects, urban planners, educators, marketers or business people wanting to create better products, services and environments.

The event is part of the Oslo Innovation Week.
Practical information:
The Norwegian Centre for Design and Architecture, Oslo, Norway, 16-17 October 2014
Read more and sign up for the event

30.
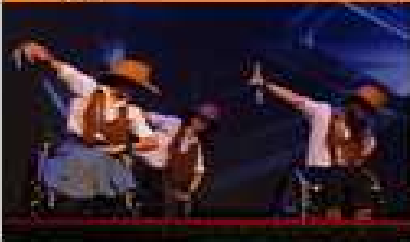
National Social Innovation Seminar
17th of November 2014, Pune

31.

32.

Conference Countdown

In the eight weeks between now and the Iconic Houses Conference in Barcelona on on November 25th at La Pedrera,

33.

Asian Centre for Inclusive Education (ACIE)

"Promoting Inclusive Education in Asian Countries"

2nd International Conference on Inclusive Education
9 - 11 January, 2015

Venue: Proyash Institute of Special Education & Research, Bangladesh University of Professionals, Proyash - Dhaka Cantonment

34.

IAA 2015
International Architecture Awards 2015. Registrations Open.

ESTONIAN
ACADEMY OF ARTS

35.

36.

JOB OPENINGS:

1.

WeAreHolidays is looking for a Lead UX designer to join their team in Gurgaon. Please see details about the company and role below. Interested candidates should reach out directly to Manju.kumari@weareholidays. com / Mob. No. +91 7042519814

Company profile

WeAreHolidays is one of India's fastest growing travel start-ups. WeAreHolidays (WAH Holidays Private Limited), a 2011 company, was founded with the vision of creating the largest marketplace offering vacation options for Indians traveling abroad. Its founding team has extensive experience of working at MakeMyTrip, and includes Engineers (from IIT & other reputed institutes), Management graduates (from IIM & other reputed institutes) and numerous souls who've chosen the road less travelled on their entrepreneurial journeys. It is a venture-funded company with Matrix Partners (Silicon Valley & India based) as the lead investor. Matrix Partners has invested in several market leaders in the consumer technology space including Quikr (online classifieds), Olacabs (cab marketplace), Stayzilla (stays marketplace), LimeRoad (social commerce marketplace), Mswipe (mobile POS), NewsHunt (local language mobile platform) and U2opia (social mobile apps) among others. The company also has Blume ventures as one of its investors. Blume Ventures has investments in some of the leading companies in the Indian internet space. It also has Rajesh Sawhney (Founder GSF accelerator) and Sachin Bhatia (Co-Founder, MakeMyTrip.com) as investors.

Since its launch, WeAreHolidays has been in numerous national publications and media outlets including the Times of India, Mint, The Economic Times , CNBC Awaaz, Corporate Dossier, Your Story and many others.

WeAreHolidays has thousands of customers and is growing at a phenomenal pace in India.

As someone who would be joining the team, you need to be a self-starter and show strong ownership/commitment and have experience in incubating and maturing a business in this fast-paced, entrepreneurial environment. Above all we're looking for an 'I Will' attitude over a 'We Shall' one.

Job Description:

Lead User Experience Designer

We're looking for a passionate, awesome, kick ass 'someone' to execute WeAreHolidays' vision of being the largest managed marketplace for holidays in this part of the world.

You'll be leading our efforts to drive a design centric thinking across our company, business & products. You will be someone with deep understanding and appreciation of information architecture, user experience and usability principles. You're someone who has applied his/her skills to real-world human problems (not just artistic or academic exercises). You have a deep understanding of user-centered design principles, excellent interaction & visual design skills and are able to pay attention to detail. Bias for action is a must-have quality. You need to be a self-starter with a passion for independent, creative problem-solving and show strong

ownership/commitment. Above all we're looking for an 'I Will' attitude over 'We Shall'.

Key Responsibilities

Job Description

- Owning and evangelizing a UX vision across the company
- Work on complex, ambiguous projects and provide strategic influence on products.
- Work on the layout, information architecture, visual appearance and usability of the web site.
- Ensure the designs are visually effective, easy to access & interact with and support the business goals and vision.
- Work with product and business teams and translate product requirements into design briefs,wireframes & Information Architecture layouts.
- Iterate on the wireframes, post formative and summative testing.
- Work with different personas, user scenarios, UX specs, task flows, wireframes, site maps, storyboards, taxonomies, task flows, mockups, prototypes, visual designs and design patterns.
- Have understanding of and be able to appreciate the advantages and disadvantages of the primary form factors, viz. desktop/laptop computers, tablets and mobile devices and be able to create distinct user experiences for each of them
- Ensure designs are optimized for different form factors, browsers, resolutions etc.
- Work on low and high fidelity mockups on paper.
- Work with developers and testers to make sure what\'s designed gets translated in code.
- The ideal candidate for this profile will be someone
- With at least 4 years of relevant work experience in web design and/or interaction design (2 years necessarily has to be in Interaction Design / Visual Design / UX / Information Architecture).
- Is a great "systemic thinker", capable of imagining, designing and communicating complex systems or systems-level challenges. You can apply this systemic thinking to areas beyond software.
- A graduate/post graduate from a recognized university/college.
- Proficient in Axure, Balsamiq or Visio.
- Proficient in Adobe Master Collection CS5 (Photoshop, Flash, Illustrator etc.), SQL, ASP/ PHP and Macromedia.
- Understand technical design constraints.
- In tune with current web design trends and techniques and upcoming trends.
- Has a showcase of strong online portfolio of user centred web design .
- Attention to detail and creative approach to problem solving.
- Ability to be simplistic even while solving the most complex of design problems.
- Able to thrive in a fast paced and dynamic start up environment.

This position will be based full time at Gurgaon. Salary and perks will be no constraint for the right candidate.

Skills

- With excellent judgement; data-driven decision maker
- Excellent problem solving and multitasking skills, with a creative and flexible attitude
- Solid understanding of development processes, what\'s easy vs. hard to do technically
- Passionate about delivering an outstanding user experience through obsessive attention to detail
- Has a strong track record of shaping business strategy for technical products or services.
- Has relentlessly high standards (is never satisfied with the status quo)
- Is able to dive deep and is never out of touch with the details of the business. Thinks big, without losing the details.
- Expects and requires innovation of her/his team
- Has passion and convictions and the innate ability to inspire passion in others
- Is a B.Tech / B.E. / M.E. / M.Tech / Diploma in Design (NID) from a reputed institute
- Bonus – Is a MBA from a tier 1 institute
- Bonus points for previous start-up experience or contribution to any open source project
- Good written communication and documentation abilities
- Strong inter-personal skills, intense curiosity, and a desire and ability to \"get things done\"
- Able to thrive in a fast paced and dynamic start up environment
- Willing to push the boundaries to the discover what is possible
- Hungry for growth with fire in the belly

Sr. HR Executive, WeAreHolidays
Manju.kumari@weareholidays.com
Mob. No. +91 7042519814
f: Facebook | in: LinkedIn | t: Twitter
Check us on The Economic Times | CNBC Awaaz
2.
whatfix requires a UX designer to join their team. Please send your resumes/portfolios tokhadim@whatfix.com or varakumar@whatfix.com if you are interested.
About whatfix
whatfix was started in 2013 by two highly experienced telecom professionals and it was recently rated as one of the best startups in Asia.
About product
whatfix enhances self-service capability of web products and helping companies to reduce support queries and improve user engagement. It is a cloud platform using which product teams can self-curate interactive guides & integrate across all user touch points.
whatfix is based on patent pending technology and being used by large as well as small enterprises for improving training effectiveness, enhancing customer support, and to improve user on-boarding.
UX / Interaction Designer
Job Description:

We are looking for UX designer who can re-think how online help is consumed and created. We are building a product which will disrupt online consumptions of How-Tos, product support and trainings, and you would play a significant role in bridging the gap between consumption and technology.

You'll be working closely with the founding team and imagine the journey of disrupting an industry and establishing yourself as thought leader.

Role: Full Time/Part Time

Experience: 4 to 15 years

Responsibilities:

1. Collaborate with business and technology teams to design great user experiences.
2. Take responsibility for end to end design process to deliver amazing, pixel perfect products.
3. Data driven in-approach providing insights on where user needs are not being met and innovate.
4. Coordinate and execute user research efforts (interviews, usability testing, surveys, etc.)
5. Demonstrated experience in online interaction design preferably for SaaS products.

Additional responsibilities for full time role:

1. Deliver results in fast paced startup environment.
2. Consistently raise the bar for design standards through your work.
3. Develop expert knowledge of industry, competitive, and complementary products.
4. Hands-on in UI development (HTML5, CSS3, Java Script).

Media Mentions:

Winning DreamPlus startup battlefield in south korea among tops startups representing eleven asian countries.

http://technode.com/2014/10/05/whatfix-wins-dreamplus-startup-competition-in-seoul/

http://m.economictimes.com/news/emerging-businesses/startups/bangalore-based-whatfix-wins-top-startup-award-secures-funding/articleshow/44515139.cms

whatfix story:

http://epaperbeta.timesofindia.com/Article.aspx?eid=31806&articlexml=BRAIN-WAVE-Helping-customers-help-themselves-17062014012040

Get in touch at khadim@whatfix.com or varakumar@whatfix.com

3.

I would like to share an opportunity with Lumos Design Technology, based in Bangalore. They are looking for an Industrial designer with 2-4 years of experience.

To introduce Lumos, we merge Solar Energy and Fashion design to create power-packed apparel and accessories. With the tagline "Clothes are the new gadgets", we are building expertise in building Backpacks, Jackets and T-shirts that go beyond their conventional utility. Our Mobile-charging Solar Backpacks have already sold in 11 countries. We are backed and mentored by Rajan Anandan (Managing Director of Google India).

ESTONIAN ACADEMY OF ARTS

As we expand our team, we expect Industrial design to play a strategic role in helping Lumos define and build products with a strong quotient of customer interaction. Hence, we are looking to take on-board an industrial designer. More details can be found at http://lumos.co.in/product- design/ . I would request interested designers to contact me at gandharv@lumos.co.in .

4.

Onio Design Pvt. Ltd. is a leading design led innovation consulting company. Onio works with visionary start-ups, SMEs and Fortune 500 companies, through their innovation journey from ethnographic research, future scenarios, brand strategy, product innovation to innovation capability building.

Onio's approach to innovation is more holistic and renaissance like, with engineering to business and aesthetics to philosophy being discussed in a day's work. Our team consists of people from diverse backgrounds and universities. We are looking for self-motivated and talented people to join our team at our Pune office.

This position is for our Pune office.

Communication (graphic) Designer (G-1401)- One Position

Onio uses graphics, beyond the conventional realms of just brochures, packaging & UI design etc. as an important tool for design led innovation. Right from creating info-graphic stories for our cutting edge research projects, to preparing visual branding for our Indian Renaissance workshops to building brand stories for Onio, we need graphic design with a twist.

Candidate must be graphic/communication design graduate from any of the renowned design collages/applied arts colleges. Experienced profiles would be preferred but freshers can apply as well; immaculate command on written and verbal communication in English is a must.

Send your résumés with half a page cover note about yourself to manoj at oniodesign dot com.

Onio Design Pvt. Ltd. | www.oniodesign.com

5.

Wildcraft (Bangalore) is urgently looking for an apparel designer for a 6 months Design Diploma Project (Oct '14 - April '15). Students from NIFT or NIFD would be preferred.

Candidate must be creative with a strong aesthetic & functional design sense and should have excellent drawing and software (Corel and Photoshop) skills.

Please send your resume and relevant design portfolio to prasenjit.kundu1111@gmail.com.

6.

We at americanswan.com are looking for freelance graphic designers to work with our Marketing Team for promotion creatives. Its an online fashion brand & scope of work will primarily be limiting to emailers, banners & special landing pages.

Anybody interested can send in their portfolio to ruchika.dhamija@taslc.com

7.

We are a stealth start-up with a small team here in HSR layout.

Here are some basics to be time efficient.

· Must have built web application UIs from concept to prototype in a small team environment

· Fast and efficient in building rapid prototypes

· Love doing both minimal and inspirational flat pages

· Process driven approach to scale by building and assembling components

We are looking for people with integrity, passion and intelligence to join our team.

@CHEAPESTO

+1 415 225 4737

+91 9620509445 (IN)

8.

emids Technologies – we are a Healthcare IT services organization.

www.emids.com

We are trying to explore the industry for Partnership / Independent Consultants who can help us with their UI/UX expertise. To know more you can drop in a note to Arpana.itagi@emids.com or you can reach me at 9731901174.

Advertising:
To advertise in digital Newsletter
advertisement@designforall.in
Acceptance of advertisement does not mean our endorsement of the products or services by the Design for All Institute of India
News and Views:
Regarding new products or events or seminars/conferences /workshops.
News@designforall.in
Feedback:
Readers are requested to express their views about our newsletter to the Editor
Feedback@designforall.in

Dear Friends,
We need your feedback on our publication and your support for popularizing the concept of our social movement of Design For All/ Universal/ Barrier free/ Inclusive Design. It is our further request kindly submit your latest articles, research findings , news and events with us for publication in our newsletter.
With regards
Dr. Sunil Bhatia
Design For All Institute of India
www.designforall.in
dr_subha@yahoo.com
Tel:91-11-27853470(R)

Forthcoming Events and Programs:
Editor@designforall.in

The views expressed in the signed articles do not necessarily reflect the official views of the Design for All Institute of India.

Chief-Editor:

Dr .Sunil Kumar Bhatia Faculty Member,
13, Lodhi Institutional Area, Lodhi Road, New Delhi-110003(INDIA)
Editor:

Shri L.K. Das
Former Head Industrial Design Center, Indian Institute of Technology (Delhi), India
Associate Editor:
Shri.AmitavBhowmick Industrial Designer Small Industries Service Institute. Ministry of Small scale, Government Of India, Delhi

Editorial Board:

Mr. M.L .Dhawan
Mr. Pankaj Sharma
Mr. Pramod Chauhan

ESTONIAN
ACADEMY OF ARTS

Special Correspondent:
Ms.Nemisha Sharma ,Mumbai, India
Nemisha98@gmail.com

ESTONIAN
ACADEMY OF ARTS