SPACE

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This was 2010:

(2013-Run-up starting on Jan-25)

YASUO YOKOTA
WIECKOWSKA MARTA
WHITTON ROGER
VALENTE DANYELLE
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SADAMURA TOSHIMITSU
REICHINGER ANDREAS
NOWAK WOLFGANG
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BRAUN CHRISTIANE
A First Impression.

A First Impression.

Welcome to space-x at the IIIDspace. Please find below some first minutes, nicely done by Tanja Lechner, pictures mostly taken by Elvina, And we apologize for this looooong website. Many thanks.

This first summary will be soon available as PDF, together withmore slides and pictures.
The presentations will be available for download within the next days.

Thanks to all of you, presenting, participating and contributing, making space-x an outstanding experience.

>> Preliminary Programme PDF

BESSEMANS ANN & WILLEMS BERT

Leiden University & Hasselt University (PHL University College)

The question Ms Bessemans asked herself was wether she can create a font that would stimulate the reading process of children with low vision.

PROBLEM OF DEFINITION
Children with visual impairment struggle with decoding words and deciphering of visual patterns. Their reading speed is very low which could lead to cognitive problems, because they for example are forced to leave the normal school although they do not have a cognitive problem.

"Because most of the process of learning to read is finished after the age of 9 it is important that these children are supported in the initial stages of this process." (jeugdgezondheidszorg, 2006)

Research has always been done on elderly or adults, but not on children. Elderly people are more comfortable with reading bigger type sizes because it is more comfortable for them. Also elderly people prefer fonts that they are already used to.

Three "e" in different fonts where shown, first an e in Arial which is not good to read as the shape of the e is really close so difficult to read. However most of the children books are written in Arial.

Scientific researcher are currently not working together with specialists on typography. This lack of cooperation becomes clear in the existing legibility research. Many psychologists that make legibility tests with children and do not pay attention to typography. Sometimes they are even using fonts that are really difficult to read. Aries Arditi was one of the psychologies mentioned by Ms Bessemans who used such enormously complicated fonts and based testing on those fonts. Of course the results of such testing is highly doubtful.

THE TERM LEGIBILITY
Legibility is a poor terminology, that is generalizing and not specific enough. Ms Bessemans therefor tried to find a better definition: "Legibility is the ease/speed with which visual symbols are decoded."

OBJECTIVE AND MEHODS OF THE PROJECT
This should change in the future, there needs to be more openness towards each other, there needs to be more communication under scientists, psychologies, designers and typographers.

The research is made with children that just start reading because they are not yet used to a certain kind of font. Several "homemade" fonts were tried out, the term legibility was defined as part of the project, as well as a correct method found.

PARAMETERS
Which parameters are influencing the legibility? The font has to be as easy to read as possible. The fonts Frutiger and Documenta were used as these are two fonts that are quite neutral, with the difference that one font has serifs and one is a more simple font without serifs. From these fonts, variations where made so that 12 fonts were finally used for the testing phase.

EMPERICAL RESEARCH
The program "affect" was used to test different words with the children. Pseudowords, so words that could exists but actually don't exist, were used so that the context effects were eliminated and the complexity could be controlled. Words were used that were not too complicated for the children, consisting of only

three letters.

Ms Besseman noticed that the children quite liked the testing.

RESULTS
- One result of the project is a critical point of view on legibility (define term legibility and relevant application).
- Also a font specially designed for children with low visions will be designed.
- Furthermore the results of the project should be applicable in a practical and educational context.
- Throughout the whole project, typographic and scientific knowledge was combined.

Ann Bessemans (1983) studied graphic design at the PHL University College (PHL). Her graduation project was awarded a national prize. She teaches typography and graphic design at the PHL and is working on a PhD thesis at the Universities of Leiden and Hasselt, in association with the PHL. Prof. Gerard Unger is her supervisor and Prof. Dr. Bert Willems the co-supervisor. She has received a grant from Microsoft USA (Cleartype & Advanced Reading Technologies) for her research, in which among other things she develops typefaces for children with a visual impairment. Ann Bessemans is since 2008 a designer for Vlees & Beton/Voids & Borders (mainly book design).
Bert Willems (1973) studied Psychology at the University of Leuven and defended his PhD (Experimental Psychology, Cognitive Science) in 2002. At the moment he is research coordinator at the Media, Arts and Design Faculty (Hasselt, Belgium).

BRAUN CHRISTIANE

Art Historian Vienna

Christiane gave us a wonderful introduction on Tuesday morning on the visual impairment and its implications on Claude Monets artwork.

Claude Monet (1840 – 1926) painted some subjects over and over again, decade after decade. This fact is a lucky chance for the posterity, because it follows - among others - the downward progression of his eye condition. After noticing the first signs of some problem with his eyesight around 1908, Monet was diagnosed with cataracts in both eyes in 1912 and the condition got progressively worse over the following years.
Four paintings of the 'Japanese Bridge' were chosen by way of comparison. An early version and another three from about twenty years later when Monets condition was far advanced.
In these days it is possible to demonstrate the effect of reducing vision by using computer animation, but the presentation showed
- how a progressive visual impairment in the artist can be seen in his paintings in a remarkable, individual and direct way.
- the intensive manner in which Monet was still able to make use of his limited sight.

DAGAR SUMIT

National Institute of Design, India

Mr Dagar is working on facilitating devices so that they can be easily used by disabled persons. Such a device is the Braille phone.

In developing the braille phone, a research was conducted, as well as a framework set up. The braille phone has a refreshable Braille display. There are 3 types of date that need to be represented in this Braille phone, which are information (non-editable data), textfields and buttons.

SHAPE OF THE PHONE
Simple shape, with the size corresponding to an iphone.

Two important factors were taken into account: spatial perception and consistency. A navigation panel was introduced so that frequently used actions can be accessed faster. The numbers as well as the letters can be entered in braille, so that also messages can be written.

The Braille phone is still in development.

Presented Braille Phone at India HCI 2010, IIT Bombay, India. Qualifications: 1) Presently working as Research Assistant in User Driven Innovation Centre, Laurea University of Applied Sciences, Finland. 2) Master in Information and Interface Design from National Institute of Design, Bangalore, India. 3) B.Tech in Information and Communication Technology from DA-IICT, Gandhinagar, India. Awards and IPR: 1) Pride of National Institute of Design, 2009. 2) Second prize, USID (Usable Software and Interaction Design) Design Challenge, 2009. 3) World Finalist, Imagine Short Film Track, 2009. 4) Design registration of Braille Phone under Mobile Telephones in Indian Patent Office.

EGGER VERONIKA

IsDesign GmbH

How do people that are visually impaired perceive the world? Ms Egger started with explaining that current architecture uses a lot of glass, a material that is very difficult to perceive for visually impaired people.

FINDING THE ENTRANCE
If for example there is a large surface of glass elements, it is difficult to find out where the entrance is. For this reason, many new-built buildings draw attention to the entrance by marking the entrance with color, or by making a pathway that leads to the entrance. Many buildings with glass surfaces that were not designed in a good way at first place, were given add-ons to help identify the entrance. For example additional lines or stickers placed on the surfaces.

Nevertheless with many buildings and surfaces it is still difficult as they give no clue, because for example the markings placed on the glass are conform with design but are simply not visible. This happens when the stickers used are too small, when there is light that makes the stickers "invisible/hard to see" or when the stickers are not visible because of the things that are going on behind the glass surface which distract from the markings.

THE NEED FOR UNIFORM STANDARDS
Standards need to be worked out containing a design framework for designers and architects to meet the needs of visually impaired people. The area of application, the amount of area covered with graphic, as well as the relative contrast and visibility needs to be clearly identified. It has to be ensured that the door handle is easily identifiable. Finally, it is important that all the measures are executable in an easy and low-cost way.

As an information designer Veronika has been interested in the comprehensibility and usability of design throughout her career. At Philips Design in Vienna, where she began in product graphics and later established and led an interdisciplinary user-interface group, she developed a passion for usable solutions. Her own company, is-design GmbH, was founded in 1997 and focuses on the readability of information and the usability of the built environment. An “inclusive design” approach and measurable quality are fundamental to all her design projects.
Veronika Egger (MSc) is a board member and deputy director of the International Institute for Information Design (IIID), she is a life fellow of the Communication Research Institute in Melbourne, Australia, and a co-founder of the Austrian „design for all“ organization.

Veronika has given numerous lectures and presentations on inclusive information design at international conferences, symposia and seminars. (i.e.: MEGRA 2010; Assista 2010; 3rd OECD World Forum on Statistics, Knowledge and Policy 2009; IIID Vision Plus 2003, 2005, 2007, 2008, IIID Expert Forum Traffic Guidance Systems 2007, and many more).

ERIKSSON YVONNE

Professor for Information Design, School of Innovation, Design and Engineering, Malardalen University

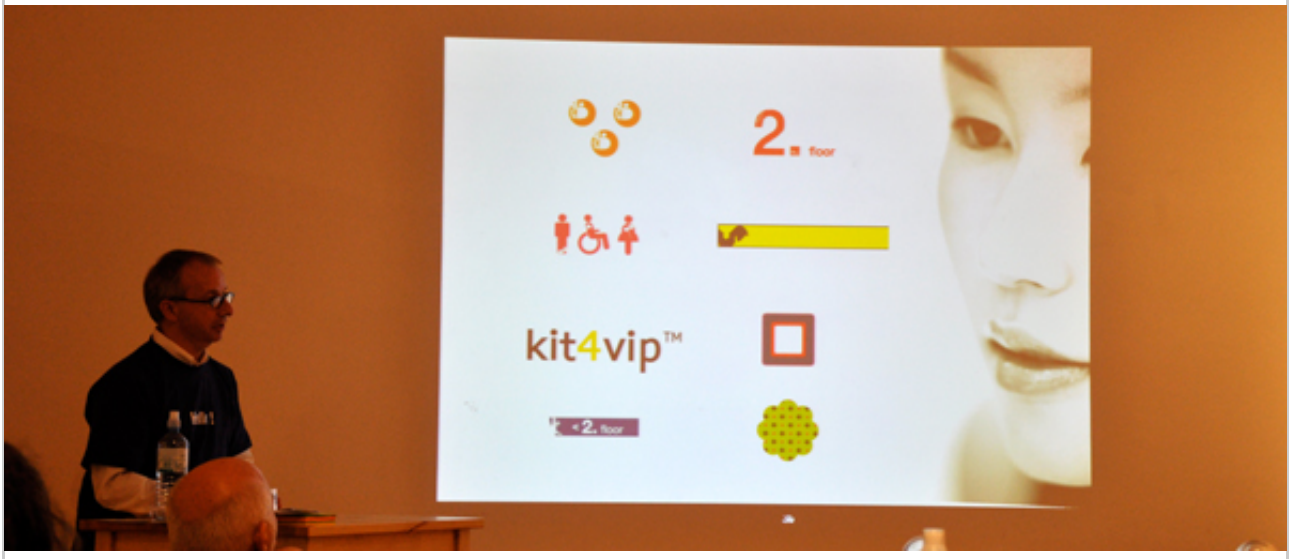
In visual communication, we use gestures and mimics all the time. Furthermore, to investigate new places, sighted people consult maps. Haptic, hearing, touch, and smell are also important for sighted people. However visually impaired people have no sight and thus have to rely on the other senses much more.

Seeing and touching are to different strategies as you do not have to learn how to see, however you have to learn how to touch.

Tactile pictures can be raised line drawings, made out of different textures or material, with not too much detail and no shadows.

A famous swedish children book on how to make a cake was translated for blind children. We could see the single pages of the book. Ms Eriksson draw our attention to the shortcomings of the book, for example that the egg disappeared in the step after the egg was added to the bowl. She emphasized that it is important that using tactile books have to go in hand with learning to draw.

Yvonne Eriksson is Associate Professor in Information Design and Research Director for Information Design at the School for Innovation, Design and Engineering at Malardalen University. She has a background in Art History and Visual Studies and in her research Yvonne Eriksson has focused on the relation between pictures and text for both sighted and blind people, and how gender is reflected in textbooks, advertisement and the visual culture. Her research interests are visualization and visualization processes; how and to what extent pictures and visualizations give meaning to information and different kinds of messages.



FOESSLEITNER MARTIN

High-PerformanceVienna

KIT4VIP makes an existing building better accessible for visually impaired people, by adding floor signage, stripes on stair cases, markings for light switches and doors or glasses.

Another focus is the design of special pattern, that both work on a functional and on an aesthetic side, are side easy to handle and not too cost intensive.

Currently the kit is in development and testings are still to be made before the kit will be finally launched.

FRANK DIANA

Office for concept and design
YOU SEE WHAT YOU KNOW

Ms Frank showed us some interesting pictures of the interior on an airport. One of the images was showing a direction signage which was not clear at all. Another picture was crowded by information.

PROVIDING INFORMATION
- To adress different demands, think about enjoyable options of using something
- Offer at least two options next to the basic function
- Ease of use should remain the overall demand

HOW TO DECODE INFORMATION
Decoding can be for example done via knowledge transfer. However if you have no knowledge of for example of a city you have never visited before, you might get lost. Reading the information on the underground or at train stations is often slightly of confusing and not easy to figure out.

A good example of "You see what you know" was a picture of a crowded japanese scene, where there was written Starbucks coffee on a building. As a foreigner, our attention was automatically drawn to this Starbucks sign, because it was something that we knew.

Designer, graduated in visual communications, HfG Offenbach, Germany. Working as designer and consultant in the context of communication strategy, concept development, CI processes and design management. After first job experience in 1996 working with Pixel-Factory, Offenbach (for clients like Deutsche Bank and Lufthansa) she starts to work for own clients and different design companies in 1998. Founding her own office in 2001 in Frankfurt. In 2006, working as a consultant with iSe Hospitality, she was responsible for the signage and decorative graphics of the Official Hospitality Areas of the FIFA Worldcup in Germany.
2003 speaker, hdm, Stuttgart, Germany
2007 speaker (poster presentation), IA conference, Stuttgart, Germany
2008 speaker, applications of information design, Mälardalen, Sweden
2008/2009 certification of advanced studies (CAS) in signaletik in Bern, Switzerland
2009 speaker at sign09

PETER SABINE

Egger and Lerch Vienna

Sichtweisen is a magazine which is an exemplary model on how both the readability needs of visally impaired and sighted readers can be taken into account.

In exploring the needs of visually impaired, special emphasis was placed on aspects like which typeface to use, which background would be most suitable etc. For better understanding the issue, Ms Peter gave us a magazine showing a side which would be really difficult to read for a visually impaired person using a reading device, for example because the type size was too small, there were background illustrations behind the text, the contrast between letters and background was very bad or headlines were integrated in pictures. Therefor in the Design-Process of the magazine "Sichtweisen", the layout was optimized and refined.

TYPOGRAPHY
The fonts "Helvetica Neue" and "PMN Caecilia" were used, at a type size of 10,5 pt and a line spacing of 16 pt. These two fonts might not really be the most optimal fonts, however the target group of the magazine is very comfortable in reading those two fonts which was why they were used.

ORIENTATION
Regarding the Orientation, a clear structure was preferred. The text was left-aligned with column lines, because this is easier to read as breaks between the words are always the same. Another element in the magazine are clearly marked info spaces. When two articles are placed on one side, enough white space is used to distinguish the single articles.

PICTURES
With pictures, special attention as paid that all the pictures are not blurred and that there is no text placed on the images but that text is placed below the pictures.
Egger and Lerch Vienna

FRISCH GABRIELE
Magazine sichtweisen - Hilfsgemeinschaft der Blinden und Sehschwachen Österreichs
Editor in Chief
Born in Vienna, Austria in 1960. Studied Communication Sciences at the University of Vienna and holds a doctor degree in Theater, Film and Media Sciences. She worked for several years as Editor for financial newspapers and specialized journals and as Public Relation Manager with focus on wide ranging media campaigns (life sciences, public finances). Mrs. Frisch joined the Hilfsgemeinschaft four years ago where she initiated innovative information campaigns. (The Hilfsgemeinschaft is known for bringing to the attention of the general public the needs of visually impaired persons with an innovative and somehow provocative sense of humour). She is responsible for the new conception and design of the monthly magazine “sichtweisen” an exemplary model on how both the readability needs of visually impaired and sighted readers can be taken into account.

PETER SABINE

Works as a graphic designer at corporate publishing agency EGGER & LERCH in Vienna. Her special focus is on editorial design. Developed together with Gabriele Frisch the design of "sichtweisen", the monthly magazine of the Hilfsgemeinschaft.

HAMPL STEFAN

Sigmund Freud University Vienna Paris (SFU)
Institute of Cultural Psychology and Qualitative Social Research (ikus)

What is planimetric design? Why do psychologists deal with design?

Planimetric is deign with the phenomenon that we are able to understand compositions. To illustrate this, Mr Hample showed us a black and white portrait. Although the face had no nose, not many details etc, our brain tells us that the single parts add up to a face.

THE SEEING SEEING (Das sehende Sehen; As opposed to just recognizing images.)

THE MAC LOGO
What makes the logo of Apple so special? What makes the sign so recognizable? What would it look like if the gap would be on the other side or if the gap was closed? Is it this gap that makes the image interesting, that adds the tension that is needed? Would it be even recognizable as an apple if there is no gap in the apple? It is actually this gap, it is the tension that is created by the gap that makes the logo interesting.

THE DOMINATING STRUCTURES IN AN IMAGE
To find out what are the dominating structures in an image, 3 different images were shown, an old postcard, a va

CULTURAL SEEING
For an informed group of people it was enough that Mr Hample described the picture as "Stefan Raab dressed as a Turkish man in front of the Bosporus" . This informed group of people are people who watch television regularly. However if you are not part of this informed group you need more details rather than only those shortcuts to be able to imagine the content of a picture. For scientific reasons it is thus important to give much more details on a picture, for examples on the gestures of the person in the picture, the colors in the picture, the additional details that can be seen.

It is important to become aware of what we already know when we are looking at a picture. not in a sense that we eliminate this knowledge but to better understand

the picture and make the picture accessible to people from another culture, and to make the puncture scientifically understandable. It is also important to compare one picture with other pictures on for example dominant structures. By doing this, computers can help you because there are special programs that can identify dominant structures in an image.

Stefan Hampl is specialised in cultural psychology and visual research methodology. For the last five years he has been working on the development of a non-text-based method of video interpretation based on planimetric composition. The guiding idea of this approach is to empirically understand the essential laws of the visual that are operational beyond the realm of language and text.

Graduated in business administration at Vienna University of Economics and Business (2003) and in psychology at the University of Vienna (2004), Stefan Hampl co-founded the Institute of Cultural Psychology and Qualitative Social Research (ikus) in 2007. At this institute he chairs a versatile work group of about 20 members that research human experience in relation to cultures, objects and media. Since 2007 Stefan Hampl is study programme coordinator of psychology at Sigmund Freud University Vienna Paris. At the Institute of Psychology he i

HAGINO HITOMI

i Design/Chief Designer

The project at the Airport brought together in a work shop the design coordinators, the Terminal Owner and the user groups (hearing impaired people).

COMMUNICATION SUPPORT BOARDS
For the airport special lists, so-called communication support boards, where designed, showing icons, as well as translations in english (for Foreigners), in japanese, and two other languages.

Special lists were made for the Check-In Counters, as well as for the Information Counters. The Information Counter list for example included expressions like "Exuse me…" and "May I help you?", as well as Departure Lobby, Check-in, Car Rental, Parking, Smoking area, Telephone, Fax. Another list was made for the

Rental, Parking, Smoking area, Telephone, Fax. Another list was made for the Security Checkpoints (Check-in, Rechecks). This list for example shows phrases like "Please show your passport and ticket" in both image form, english, japanese and other languages.

For the lists it was considered how to place them on the counters. Special card holders were placed on the counter tables with a note saying that if you want you can use this list. In practice when an hearing impaired passenger comes to the counter, he will be shown a list and through this list, the air port staff and the passenger can communicate. For detailed communication, the list provides free space on which communication can be written down. This helps in the better and easier understanding and communication.

It is important for the future that the Communication Support Boards get wide-spread and wide-used also at other airports.

THE BRAILLE MAP
For the visually impaired people, a braille map was designed that shows a floor map for seeing with the hands. Furthermore information signs were placed on the airport and a braille booklet was made. Additionally, a website for visually impaired was created.

Hitomi Hagino is a Chief Designer of i Design inc.. A member of "Sign Design Society Limited" in London and "Japanese Association for an Inclusive Society" in Japan. She is a Part-time Lecturer at TOYO University, Faculty of Human Life Design, Department of Human Environment and Teach Information Design. Past Presentation: "A Variety of Means for Supplying Information to Users Under Different Conditions" presented at the 2nd International Conference for Universal Design in Kyoto 2006. "Sign Design Plan for Public Spaces" as a guest speaker at the Build Boston in U.S.A 2003. Award: October 2003,"Good Design Award 2003" winning work in Japan Subject : Shinkansen Full-Color LED Display System of Central Japan Railway Co.

KIERS MARTIJN

FH Joanneum Graz

The project goal of Ways4all is the conception of a barrier-free system for orientation and movement in public space for people with special needs, especially for visually impaired and blind people.

Many partners are participating in this project, for example the Wiener Linien, the ÖBB Infrastruktur Bau AG, etc. Those partners also served in giving input and important informations.

TECHNICAL BACKGROUND
The user has a smartphone (RFID reader) that is connect to the Internet and through RFID tags, he can obtain information on its position and on how to go to this destination, for example the exit or the toilet.

MAIN RESEARCH TOPIC OF THE PROJECT
1) Indoor navigation based on RFID and tactile guidance systems
2) Interaction of different technologies and applications in one device (smart phone)
3) Coordination of different data sources like infrastructure plans or vehicles and real time information. This real time information is for example important when a train is late and the user needs to know the new times as well as on which platform his train is leaving.

The person plans his route at home. retrieves information using ways4all software on a smart phone or on the PC. The information is then downloaded to the smart phone. The smart phone then navigates the user via GPS to the streets that where plans beforehand. When the user enters a building the indoor navigation based on RFID tags will come into use.
This system works without coordinations, using 10 directions to guide a person through a building. Eight directions are used for all directions on a two-dimensional basis and one directions to indicate to go up and one to go down.

GOAL
The goal was to build a simple and intuitive user interface.

PREFERRED HANDLING
It was found out that people want acoustic menus, hot keys, speech selection and touch screen displays.

Factors regarding the software that were taken into account were not to use more than eight points in one list and not more than three sub-points to facilitate the navigation and understanding.

NEEDED EQUIPMENT
Blind stick with an RFID reader is needed, as well as a mobile phone with bluetooth and internet, a Quo Vadis transmitter as well as a bluetooth head set.

On the trip you have to enter the destination in the phone (text input method), the route is then calculated by Ways4All software. The outdoor routing is done via GPS routing on mobile phone. The Indoor rooting is done via RFID routing, in a way that your mobile phone is connected with your blind stick. You then get the information, for example go left, right or straight ahead etc.

When entering public transport means, it is possible to communicate with this mean of transport.

First results are now obtained. Those result include for example:
- RFID tags with a reading range of 2 cm to 20 cm are used

- Short and clear commands or text is necessary are the best

REAL LIFE TESTING
A concept of proof will be conducted at the underground station Vienna Südtiroler Platz in December 2010. Research will also be conducted on the usage of QR code as an alternative source code for points of interests.

born on 1st of July 1971 in the Netherlands, is the project manager of the project "Ways4all". Since September 2006 Martijn Kiers is university teacher and senior researcher at the University of Applied Science FH-JOANNEUM, course "Energy-, Traffic- and Environmental Management" in Kapfenberg, Austria. During his work, he has given several speeches and presentations for universities and local governments in Austria (TU-GRAZ, KF-Uni Graz, Stadt Wien and Land Steiermark). Before becoming a teacher Martijn Kiers was working for 10 years as project manager for the Dutch Ministry of Waterways and Public Works. Here he presented different projects on national and international conferences, like the European Union Project "Tabasco" (Telematics Applications in BAvaria, SCotland and Others) in Glasgow and in Amsterdam; The Utilisation project "A27 Utrecht Vianen" in Rotterdam and as coordinator a total overview of the Utilisation projects of the province Utrecht in Den Haag, the Netherlands.

MARANO DANIELE

Hilfsgemeinschaft Vienna

VISUAL IMPAIRMENT

Daniele Marano from the non-profit organization "Relief Organisation for Austria's Blind and Visually Impaired" (Hilfsgemeinschaft der Blinden und Sehschwachen) (Austria) showed us different forms of visual impairment and options to improve the living condition of visually impaired and blind people, without sacrificing aesthetics. Examples of situations that are difficult for the blind and visually impaired to navigate include: glass marking, stairs marking, handrail, floor signage, door handle marking, toilet pictograms, light switches marking and drip mats for cups. As there are many different forms of visual impairement, not one solution will be found. Some examples of good design highlighted were chevron

markings on door entrances, marked handrails and stairs where the first and last step are marked, contrasting door handles, and easy to understand pictograms (i.e. for toilets)
Standards and regulations are essential for the creation of a barrier-free building environment. Planning the accessibility or visually impaired people can be made in accordance with design criteria. Visually impaired persons perceive beauty. To plan a barrier-free environment with design strengthens the sense of equality and inclusion. Accessibility made with design will be implemented easily rather than just apply standards, we have to define accessibility can be nice and chic and persuade them rather than force them. Finally a visually friendly environment is an advantage for all of us.

Dr. Daniele Marano is project manager at the Relief Organisation for Austria's Blind and Visually Impaired where he is in charge of web accessibility and usability and represents the organisation nationally and internationally in different disability interest committees. He has served as associate expert in the Social Development Division at the United Nations. He holds a doctor degree in psychology.

SIEBENHANDL KARIN & MAYER ULLRIKE

Danube University Krems & ÖBB - Austrian Railways

SOCIAL INCLUSION
If everyone is to have equal opportunities for participation in today's society, the full range of ICT goods, products and services need to be accessible.
This includes computers, telephones, TVs, online government, online shopping, call centers, self-service terminals such as automatic teller machines (ATM's) and ticket machines.

The trend goes towards closing the normal counters and only buying tickets from automatic ticket vending machines.

INNOMAT and INNOMAT2

A project with the research focus on developing a barrier free prototype for a new generation of rail ticket machines. The design practices include the placement of the machines, the hardware, as well as the software that is needed for the machine.

PLACEMENT

Current issues are that ticket machines are often not marked as such, are difficult to find, there are no signs or markings that lead to the machines, the machines are often not usable for people in wheelchairs. Sometimes you can also see machines were there is a display that is very hard to read as sun light is reflecting in the display. So all these are areas of improvement.

Important for ticket machines is that they are placed in a very light place and that the privacy of the single user is secured.

HARDWARE AND SOFTWARE

A nice example of ticket vending hardware is a ticket machine where single elements (display, credit card slot, exchange money box) are marked in different colors so that they can be distinguished. Another good example are the displays of the DB railway company in Germany where the display is easy and simple structured, marked in distinctive colors and have a reduced user manual.
A bad example is the display of the ticket vending machine of the SNCF rail way company in France, where the color contrast is very low, the buttons are very small, also the text is very small and difficult to read.

Ticket machines should be accessible and usable by the wides audience possible. Users should easily find the terminal and access it without barriers. The users should reach, operate and understand the controls, inputs and outputs.

There are still technical and economical limitations in the development of a ticket machine that meets the needs of all disabled peoples. Currently there is the project to facilitate the the Austrian ticket vending machines at train stations, which are at the moment quite complicated to use.

Ullrike Mayer is working for the Austrian Rail on a project for implementing a new ticket vending system over all vending systems. One of these is the vending machine, which is the most powerful vending system of the ÖBB. Ullrike Mayer has a degree in Business Informatics from the technical University of Vienna (Austria) and has so a technical base for the analytical work to be done. Now she is responsible for Usability and Accessibility topics of the new system and therefore leading research projects in the field of unassisted ticket vending procedures.

Karin Siebenhandl is Head of Research Center KnowComm at Danube University Krems (Austria). Her research interests focus on perspectives on information design (related to traffic applications), gender aspects in IT and usability. Karin Siebenhandl has a PhD in landscape planning and architecture from University of Natural Resources and Applied Life Sciences, Vienna (Austria). She conducted numerous research projects related to traffic applications and is member of the Committee of international conferences (e.g. IADIS eSociety, International Conference on Education and Information Systems, Technolgies and Applications; ITSC).

McCUE THOMAS

Illinois Institute of Technology Institute of Design / Designer

Mr McCue showed a design concept for a design system that is easy to install, inexpensive, ad-hoc "go anywhere kind of solution".

VITAL NEEDS REGARDING PLACE TALK
Important to make the system a good and satisfactory one is the physical configuration, the function of a space, and the points of interest. What people are interested in, thus what the system should be capable to give is information about are the Key visual elements, the architectural details, the objects of interest, the vistas/expanse/panorama.

THE PLATFORM APPROACH OF PLACETALK
An audio description should be a pathway to enrich a mental image of a space. PlaceTalk was designed as a platform locating specific information. The special thing is that the platform is a shared experience (like an "acoustic YOUTUBE"), where an individual can place a description of any specific place. So many people make descriptions, make them publicly available and therefor a large pool of descriptions can be developed. For one location there can thus be many description, made my different people, each reflecting the needs of different people. PlaceTalk is very flexible, as it is low cost and easy employed. When looking at the execution there are stickers that can be placed at any mean, eg bus station, shop, monument.

Besides this system of open source information created by individuals, there can be system that is created by the state, containing professionally recorded descriptions. However the open source data is a very vital part.

THE PYSICAL TAG
There is a Physical Tag, via a smartphone (PDA) you can scan this tag, send a query via Internet to a database that is availably online. From this database, the specific audio description is then downloaded to the smart phone.

THE WEBSITE
The website is the platform where descriptions are available. Secondary tasks . Additionally in order to avoid that people place unnecessary descriptions, there is a rating system for the

PLACEMENT OF THE TAG
To make the tags visible and accessible, you either need a consistent height, sign groupings with other signage information, placement of tags at entry/exit points or at transition points.

FINDING AND SCANNING OF TAGS
A message could be "There are 3 tags in 4 meters of you." Finding and Scanning to PlaceTalks is done via a special device camera. There is a color code on the tags, and a QR code that can be scanned by this special device camera.

AUDIO DESCRIPTIONS
The audio descriptions techniques are used for many areas including images, film, video, multimedia, museum exhibits, to live performances. They should give a good mental image. A good description is one that moves from general to more specific information; it needs to consist of simple and straightforward sentences.

Thomas is an independent designer and researcher based in Chicago. He recently completed a Master's in Design degree from Illinois Institute of Technology Institute of Design, where he studied human centered design and user experience. He is particularly interested in how to frame social and participatory design methods so that effective narratives about space can be created and used by others. Formally trained as a visual artist and designer, Thomas developed a vision impairment in 2001, changing his sight from 20-20 to low vision. This journey has given him personal experience in adapting to the challenge of vision impairment and strategies for adapting to daily life. Study at the Institute of Design offered a path to design where the emphasis is less a pursuit of pure aesthetic or form, and more about cultivating empathy with users and designing solutions around emergent needs and behaviors. Maps, wayfinding, and orientation are a present topic of study, especially how we understand that most immediate space around us.

MEYER FABIENNE

Hochschule der Künste Bern

Word and meaning for sighted people is a direct process, for with visually impaired people, this process is more difficult...

PROJECT POINT BY POINT
The project applied specific communication strategies for exercises and educational materials. The children tested were blind and visually impaired children of preschool age. However the project also invited sighted participants so that both, visually impaired and sighted children, have the chance to learn together and have fun together.

For the project, Ms Meyer visited the Swiss library for blind and visually impaired people. She looked at all the books that were offered on the subject. Also current school education was checked out. They looked at how the teachers work with the children and how they try to motivate the children to develop their senses and which kind of toys and books they use. Many toys for visually impaired children are made out of wood, the books often use different materials to stimulate the touch sense, some of them also use braille fonts. The "Fibel for Children" is a good example of a book for blind children.

PROBLEM AND QUESTION
- The materials used are very individual, adapted for each child and often handmade.
- Its difficult to give consideration to the needs of blind AND visually impaired children at the same time.
- How do blind children experience their surroundings and what are their imagination of objects, colors and spaces?
- How does the transformation work from 3D to 2D for a blind child?

GOAL
The goal is to design a book that will meet all the criteria found out during the project. The book should also be easy to produce and replicate and it should be produced in a handy format.

Education. 2009: Certificate German as a foreign language, International House Berlin. 2004 – 2008: Studies of visual Communication at the University of the Arts Bern Degree: designerin FH Visuelle Kommunikation«. 2003 – 2004: Foundation Year at Basel School of Design. 1998 – 2001: Gymnasium High School, Economics, Muttenz. Practical Experience
2009 : Artistic research assistant in Communication Design, University of the Arts Bern. 2009 : Teaching German as a foreign language, Switch School, Zurich. 2009 : Selfemployed Graphic designer, Zurich. 2008 – 2009: Freelancerin at the Crossmedia-Agency »Kreative Konzeption«, Berlin. 2006 – 2007: Student assistant in the research department for Communication Design, University of the Arts Bern. 2006: Three months internship at the graphic design studio AER, Michelle Gubser, Paris.2002 – 2003: One year internship at the graphic design studio AND, Jean-Benoît Lévy, Basel. Experience as Speeker: Various lectures and presentations to industry partners and customers as part of the university activity and as a designer.

WASSERBURGER WOLFGANG

CEIT ALANOVA gemeinnützige GmbH, Institute of Urbanism, Transport, Environment and Information Society
Senior Researcher

General information: There are only 120 dogs for blinds in Austria. 24.000 blind people.

AMAUROSIS is the greek word for blindness.
The objective of the project is to give blind and visually impaired people access to maps, specially made for them.

AMAUROSIS is an Open Street Map where you can plan your trip beforehand. The system is based upon a geographic system (GIS). An automatic translation is made from Geodata to an alphanumeric description. The output of the application is a braille display or a scan reader.

As there was hardly any literature available, when starting the project, blinds were asked how they orientate themselves in cities, how a verbal map should be made.

POINTS OF ORIENTATION
As points of orientation, cafés, restaurants, monuments, waste bins, etc were taken.
Issues that exist with the current systems are that there are lines on the streets but they are inconsistent, there are objects placed on the lines constituting an obstacle to follow the lines, there are lines that directly run into walls etc. All these are areas that need improvement.

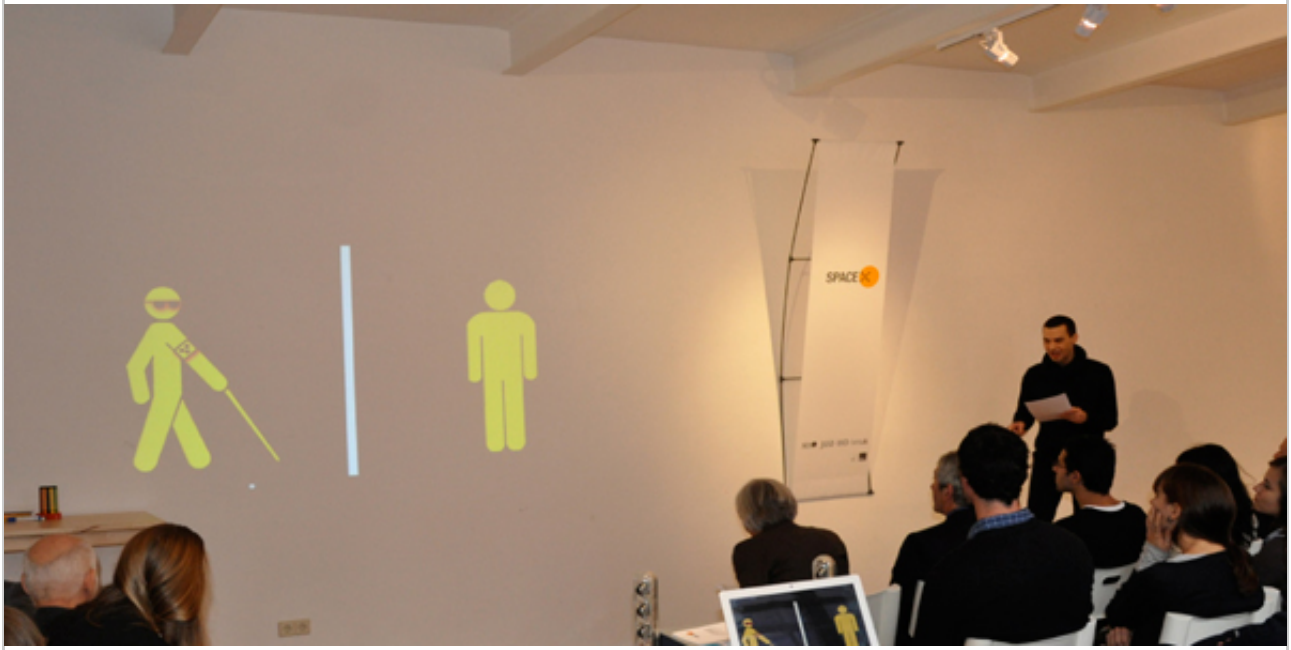
TECHNICAL IMPLEMENTATION
- There are many different elements in a map: streets, streets with no end, streets for bicycles, house blocks, bridges, parks, - places, public buildings. So there are
- Data is used from OpenStreetMap.ORG. An advantage of this is that it is free of costs, offers information on many important information for visually impaired people such as tactile paving, acoustic traffic lights etc.
- On www.amauro.map.at the map can be tested

The next steps of the implementation are to translate the attribute data, to add

directed descriptions, point of interests and test it with blinds.

In further projects and phases, the project will be tested more in detail and adapted to different languages. Mobile versions will be developed. Furthermore one of the other steps are that the map should be equipped with the possibility to note information for the personal use and for open usage.

WOLFGANG:
Specialisation: 1) Spatial Planning and Regional Science, Landscape Planning, Environmental Impact. 2) Assesments, Spatial Planning Technologies, Geographic Information Systems (GIS), Computer Aided Design (CAD), Webmapping, Web-Accessibility, Prototyping in various Computer Languages. 3) Conference-Speaker on national/international conferences in Austria, Germany, Slovakia, France and Spain within the last 20 years.



NOVACHI BOJIC BORIS

University for Applied Arts

Boris graduated studies in architecture and in industrial design.
Since 2007, in the framework of his doctoral studies at the University of Applied Arts in Vienna,
he researches on the impact of design of auxiliary means for blind people on social status of the blind people.

Science deals only with the segments of our reality(ies), therefore it sometimes doesn't equal the reality - it rather creates new realities - sometimes crippled, sometimes beautiful.

SCOPE
This project investigates the mechanisms of co-relations between social, technology and industrial design field, based on the research on the population with 100% visual impairment, with the eventual goal to analyse the current technical solutions to the purchase procedure of comestibles and household

appliances in blind.

In order to evaluate the current cosmetic appearance of the population with 100% visual impairment in public and its influence on the current social position of the blind, this research uses the distinctive historical records on the development of the auxiliary means for blind and on the technological and social turns in general (and their assumable interferences). The research is expected to result in a three-dimensional image showing the mentioned records on the timeline, intending to locate the old and new contributing elements to the stigma of this impairment. How much information on other's impairment do we need for the sake of safety and successful encounter and how much of these marks feed the stigma of the impairment, is the relevant question through the entire research. There are symbols, signs that took their time to get established in our society as a mark or unspoken information on the visual impairment. Therefore, this research strongly investigates the possible low visual prominence of the additional auxiliary tools for the blind, aiming to moderate the visual prominence of the impairment and to reduce the social stigma.

FINANCIAL SUPPORT FOR ACQUIREMENT OF AUXILIARY MEANS

Auxiliary means do not replace directly a certain limb shape or limb function. They usually perform more complex procedures and functions. Those performances go even beyond the capabilities of human body… Hence, the acquiring auxiliary means will often not be supported by health insurances, as not being categorised as prostheses. As explained, these gadgets do not belong to the category of prostheses and therefore their acquirement will too often not be supported financially, due to their exceeding costs. (costs of the bar-code scanner with audio feedback: between 2964,22 € and 3391.50 €). Common health insurance foundations in Austria cover the costs of auxiliary means up to approximately 400 €. Private health insurance foundations offer a yearly frames up to 5000€ for the entire yearly treatment coverage costs. As known, blindness is often a following effect of other chronic diseases, which are also highly cost demanding.

PURCHASE / STORES

One of the most common market strategies of the selling stores is the change of their furnishing setups and the order of the product display, so as to make us see the overlooked products while roaming trough their new spatial setup. On an average, blind people are forced to rely on certain routines much more than we are.

GUIDE DOGS

In the various hygienic norms related to the comestibles trade, the guide dogs for the blind are still not clearly classified as the orientation and mobility aid.

CAPABILITY / DISABILITY

Also to discuss would be the difference between the higher capability of some blind in comparison to the rest of the blind people, resulting in inaccurate conclusions among the entire blind population, the conclusions which eventually serve as a misleading reference for the further creative ideas. (some blind people regard even such devices as the IPhone as usefull). The capability is strictly dependable on personal inborn skills, mental and physical. Our personal predispositions will determine how much we are going to rely on PC. Otherwise, we will have to perform the task ourselves. The blind, in order to function autonomously like the seeing, can not alternate.

PRIVACY

Not to overlook is the need for privacy. The purchase procedure can not be necessarily regarded as an activity which could be accomplished in the full privacy; at least it is not yet socially established and technically feasible as such. However, on a daily basis, it can go on the costs of one's personal, cultural or even religious views, if one doesn't have the autonomy at one's disposal to the most possible extent.

DISCUSSION
Industrial design involves not only the knowledge about the current social climates, but also about the social tendencies.
Are the hi-tech solutions to the purchase procedure in blind already foreseen to fail? Are the other concepts like home delivery services more effective, regarded from financial and other mentioned aspects?
The main outcome thought so far, which should mainly consider the mass production of portable devices in general, would be to create more fractable, more open and customisable systems with additional adaptability to a single user instead of predefined handful of user profiles, as for the custom needs of the impaired to be of the lower costs than currently and therewith the blind population to grow as a target group.

NOWAK WOLFGANG

Behindertenvertrauensperson, University of Vienna
Chairman of the Works Council of the Disabled

Otto Neurath, a philosopher and inventor of the language ISOTYPE, inspirited Mr Nowak to create this system for blind and visually impaired people. Also very important for Mr Nowak is the United Nations Convention on the Rights of Persons with Disablities (UN CRPD). It contains a wide definition of persons with disabilities. Important elements in this convention are the social model, human rights, barrier freedom, inclusion, participation and self-determinations.

THE NOWAK/ERTL SYSTEM
This system was developed by Mr Nowak in cooperation with Mr Ertl and installed at University of Vienna. The system contains information on the floor which gives indications on where to go to. This indication is made by black lines. The common path are two black lines, the more lines there are the more attention a person should pay, as for example there is a staircase not far away. Special markings are made when a person comes to a step to indicate that there are staircases. There are also attention areas indicated by triple squares.

TECHNICAL DETAILS

The system is an indoor system. The lines are only stuck to the ground so that the tiles and the floor is not damaged. The stripes are very resistant as they are also used for streets. The lines are only 2 millimeters high and can easily be felt.

FUTURE STEPS
Additionally to this guiding system on the floor, information on handrails are developed to mark the position in the building. This information on the handrails are given in braille as well as tactile. Furthermore audio guidance, as well as a map are in development, in order to give people that are not familiar with the university the chance to inform themselves about the building.

Wolfgang Nowak, MMag., studied philosophy, law and political science at the university of Vienna. He is associate of the head of curriculum of political science and chairman of the works council of the disabled at the University of Vienna. Main research: philosophy, philosophy of science and law, political theory and economics. He developed the guidance system for blind persons at the Vienna University: http://bvp.univie.ac.at. Lectures: The guidance system for vision impaired people of the University of Vienna Karl-Franzens-University Graz (April 2009); On Freedom of Barriers. The problems of accessability in Blackboard Vista. University of Vienna, BB-Dach – Conference (May 2009); ISOTI – for instance the tactile system at the University of Vienna. Japanese Braille Library, Japan (September 2009); Otto Neurath´s ISOTYPE – ISOTI: for instance the implementation of the tactile system of the University of Vienna. Okayama Prectural University, Japan (September 2009); The condition of persons with disabilities at the University of Vienna. Japanese Braille Library, Japan (October 2009); Possibilities and Realities according to social inclusion in the WorldWideWeb. University of Vienna (October 2009); Inclusive Access – Tactile ISOTYPE. On Realization of Barrier-Freedom and Requirements-Orientation at the University of Vienna. University of Vienna (January 2010).

REICHINGER ANDREAS

Zentrum für Virtual Reality and Visualisierung Forschungs-GmbH

Mr Reichinger was performing a project in cooperation with the museum of art history of Vienna where real paintings were transformed into tactile, touchable paintings. The goal of the project is to make over 600 pictures accessible to everyone. In the course of the project a process was found how to transform paintings into tactile representations. The tactile paintings had to be suitable for guided tours for blind and visually impaired people and used as complement to textual information. Furthermore the tactile painting should be as faithful/similar to the original painting as possible. Finally the process of making tactile paintings should be simple in a way that no manual sculpting skills should be needed.

The objective was to allow for a deeper understanding of paintings.

Mr Reichinger told us that there are artists who paint for both, visually impaired and sighted people, for example Heather Bowring. Her paintings are paintings that you can both look at and explore via touching. Furthermore for visually impaired people, some Museums make exhibitions where you can really touch statutes.

THE PROCESS OF MAKING A TACTILE PICTURE
The basis of the translation is the high resolution picture of the painting. Then the picture is simplified, so that the most important structures are identified. Important in the translation is the human interpretation, as the computer can often not distinguish the important area, lines and borders. Attention was paid to the factor "depth", which can be encoded by the sighted eye when looking at a painting and which has to be translated in a tactile manner.

One of the tactile pictures is part of the permanent exhibition in the Museum of Art History of Vienna, all the other tactile paintings that have already been made are used for special guided tours in the Museum.

Andreas studied Media Technology and Design at the Upper Austria University of Applied Sciences after finishing the Higher Technical College Leonding, department of Communications Engineering and Electronics. Currently, he is computer graphics and computer vision researcher at VRVis - Zentrum f¸r Virtual Reality and Visualisierung Forschungs-GmbH, and PhD candidate at the Technical University Vienna. His interests include computer sciences, fine arts, electronic arts, computational photography, human perception, light interaction and optics. He has worked on various projects like, designing and implementing virtual reality applications, lighting simulation for architectural scenes, motion tracking, video art and photometric reconstruction. He will present his recent project: gallery paintings for blind and visually impaired people.

SADAMURA TOSHIMITSU

Japan Sign Design Association

Mr. Sadamura described the design process behind the Nankuma Underground line and it was designed to be easy for everyone to use, especially those with limited mobility and those with impaired cognitive abilities. Some examples of the resulting design include: elevators and escalators on every floor, Universal movement lines, no height difference between the train and station floor, ticket machinces usuable for wheelchair users, and important areas (information, toilet) are marked and are highly noticable. Additionally those who have a special device (provided by the government) have audio signals triggered when their device passes by a sensor that alerts them to information, danger, location, elevaors, escalators, etc.
While there is consistancy in the design of the entire line, each station also has unique design elements to help distinguish them from one another. Each station uses a different interior wall material, as well as each station having a symbol that relates to the area the stop is located in (geographically).

Toshimitsu Sadamura is President-director of GA-TAP.inc , and member of Japan Sign Design Association. He is one of the few designers who can make a bilateral approach from the fields of communication design and space design. The inclusive design project of the Fukuoka City Tube Nanakuma Line presented at the The 2nd International Conference for Universal Design in Kyoto 2006 has been highly appreciated worldwide. He presented the project at international design conferences in Beijing 2006, in London 2007, in Oslo 2008, in Helsinki 2008, in Seoul 2008 and 2009 to mention some.

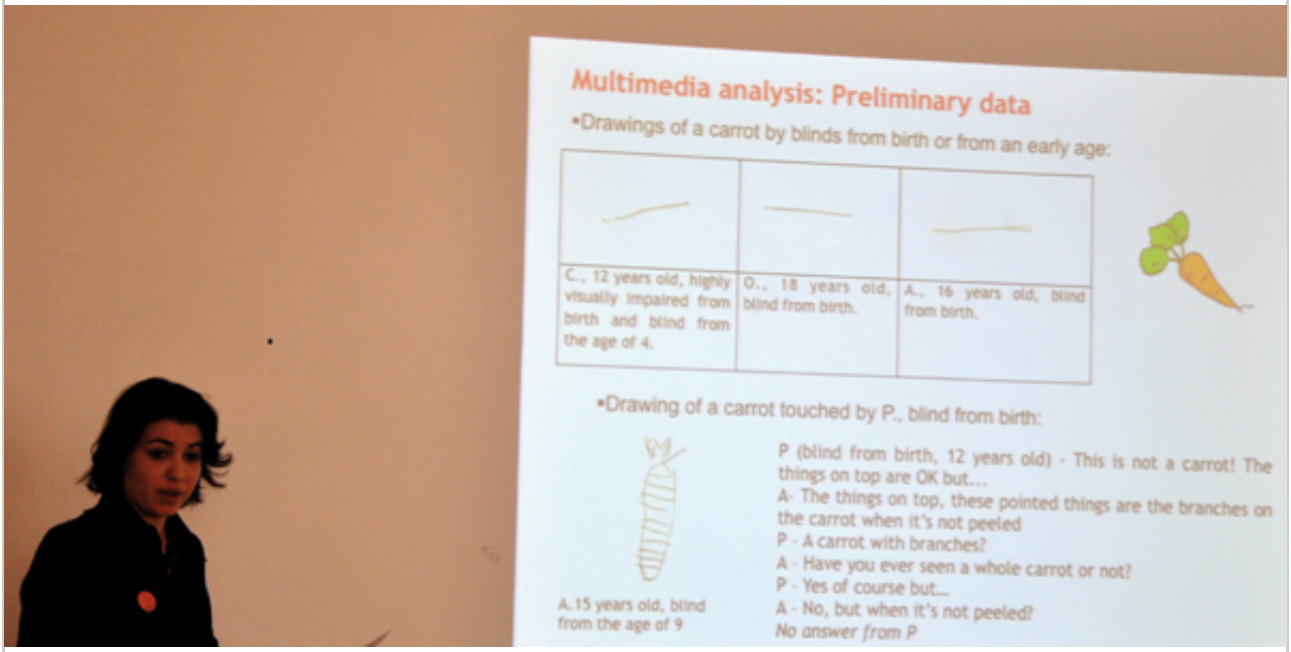
TRIVEDI KIRTI

Industrial Design Centre, IIT, Bombay
Professor

Kirti Triveldi talked about how to make a city accessible for Visual Impaired. First he mentioned some examples of existing assistances, like textile tiles or tactile maps, part of the orientation system of the airport of Munich. He continued with the „Equality for disabled Persons Act“ and the definition of barrier-free. So barrier-free building means that the world we create ourselves – from pavement to house to light switch – must be so designed that it is open to all people, irrespective of their given physical condition o rage, without assistance and without restriction.
Related tot he Blindness Planning Requirements, the current main focus is on preventing accident or injuries and not on facilitating normal life, that needs to be changed.
He represented the idea of the Audiomarkersas a System for Urban Navigation. It is a system of standardized plates with audio codes identification which can be easily fitted everywhere. These plates need to be touched with a special marker and audio information is given. So existing buildings can be made more user-friendly for visually impaired people. The system can be applied in al lot of areas, e.g. at busstops, in museums or at monuments where information about the monument is given. In Asia the markers are very popular for children books which gives audio information when pressing a specific image. There is a need to design a comprehensive system to make every place in the world fully-accessible tot he visually impaired and for a website where a upgrades and downloads for different cities can be obtained.
Development of software and talking pen are future steps to be taken. Future steps also include workshops, cooperation with national organisations oft he blind and the visually impaired to explain and promote the concept, as well as working with vendors and solution providers to involve a commun distribution, delivery and deployment model.

The initiator and founder of India’s first Master’s Degree Programme in Visual Communication in 1981; Kirti Trivedi (born 1948, Gwalior, India) is a Professor at the Industrial Design Centre, IIT, Bombay. After a first degree in Mechanical Engineering, he did postgraduate studies in Industrial Design from IIT, Bombay and the Royal College of Art, London. In 1981, he worked as a UNESCO Fellow in Japan, under the guidance of Prof. Kohei Sugiura. Besides teaching and design

in Japan, under the guidance of Prof. Kohei Sugiura. Besides teaching and design research, he is active as a design consultant in the areas of product design, design management and product planning, graphic design, book design, exhibition and museum design, environmental graphics and signage design; with numerous publications and awards both nationally and internationally. His current research is in Universal, Language-independent Learning; and in developing appropriate interaction design solutions for Indian needs based on emerging technology possibilities. He has worked for many national and international companies for their product design and development projects. At present he is associated with Grameen Gyan Abhiyaan of MSSRF, Chennai; as technology consultant to advise and help develop appropriate technology solutions for rural India. The products already developed include a Community Computer, Rural Information Kiosk, and an Indian Language integrated PC. He is frequently invited to speak at International conferences and seminars on design; and presentations have included those at ICOGRADA, Nice; Design for Development, Nairobi; Oullim Millennium Congress, Seoul; ISIS-Symmetry Congresses at Budapest, Hiroshima and Sydney; Asian Design Round Table, Japan; and as Judge of the International Poster Competition, Taiwan. In 2000, he was one of the six international educationist invited to help draft the Manifesto for the Future of Design Education, presented at Oullim 2000, in Seoul, South Korea. Two of his recent exhibitions : 'The Way of Asian Design' (2007), and 'The Forms of Everyday Asia' (2009), organized at the School of Art, Design & Media, at NTU, Singapore; are part of an ongoing project to explain and develop awareness about the Asian design methodologies.



VALENTE DANYELLE

CRICC - Paris 1 Panthéon Sorbonne
Professor - researcher

The tacilonary game constitutes a study about production and reception of communicational drawings by visually impaired people. In a real situation, blind children were drawing images

THE OBJECTIVE

THE OBJECTIVE

Analyze the communicational graphic activity of young blind people in three main areas:

- Semantic memory: Do blind people build cognitive résumés similar to those constructed by sighted people? From their specific perceptual and interactional reality, are these cognitive résumés composed of non visual but haptic, tactile or auditory properties? Do blind people update these cognitive résumés while drawing?
- Executive bricolage and programmes: How do they behave face to an activity they have very little experience with? How do they overcome graphic difficulties? How do they learn?
- Communication: how do blind people playing this game together behave in this situation of interaction? Do they manage to communicate and play with drawing?

TACTILONARY: THE CONCEPT OF THE PROTOCOL

- Creating a situation in which we could analyze the 'communicational dramaturgy' (Goffman in: Darras, 1996) that occurs spontaneously around drawing.
- Multimedia approach (Darras, 1996): a comprehensive and contextual analysis of the drawing 'in the making' - not only the finished drawing but also the gestures, words, hesitations and self-criticisms that accompany the production of the drawing and are significant data for analysis.

The game is composed of: 1 game board with 2 playing pieces interlockable with the board, 2 drawing blocks in relief (Dycem material), 37 cards bearing the name of the object written in 'visible characters' and in Braille, 1 sound timer and modelling dough.

RULES OF THE GAME

Each group is composed of 4 participants who play 2 against 2. Team mates alternate in the role of 'draftsman' and 'guesser':

1. The draftsman has 1 minute to draw the object which name is written on the card and is known only to himself.
2. His team mate has 1 minute to touch the drawing and try to guess what it is. The guesser can ask questions to which the draftsman can answer only by 'yes', 'no' or 'almost'. If the recognition task is accomplished successfully, the team moves three squares on the board.
3. If the object is not guessed, the draftsman still has 1 minute to represent this object by modelling it with the dough, his team mate then has 1 minute to guess what it is. If the object is identified after the modelling stage, the team moves 2 squares on the board.

PARTICIPANTS AND DATA COLLECTION

- 12 game sessions with 4 blind and visually impaired teenagers
- 48 subjects - 28 were blind from birth or became blind very young (i.e. all were totally blind before the age of 4)

CONCLUSIONS

The data presented here gives only a brief overview of some graphic strategies implemented by blind teenagers while playing the Tactilonary game:

- Drawings by young blind people from birth show strategies for updating semantic information based on a reality rather tactile than visual
- The iconic and representative drawing in graphic culture of the sighted possesses figurative elements that make little sense in the perceptive reality of the blind.
- The graphic strategy implemented is based on a process of executive bricolage resulting from little practice and habit of this activity and of the multiple implicit skills that it contains and which are developed from drawings of early childhood.

- The question of the ability of the blind to understand and produce drawings in relief is an issue that cannot be reduced only to aspects related to perception and to the ability of touch to understand embossed drawings. Equally important is the question of the subject being part of a semiotic community producing graphic signs and the different rules and habits that are shared.

has worked since 2002 with drawing production and reception of tactile images by blind people. Actually is a PhD student in Cultural Studies under the direction of Bernard Darras at Research Center of Images, Cultures and Cognitions CRICC at University Paris 1, Panthéon - Sorbonne. Last papers presented: 1) VALENTE, D. . O desenho como ferramenta de comunicação para pessoas cegas : estudo sobre a influência do contexto perceptivo na compreensão de representações gráficas esquemáticas. Congresso Iberoamericano de Educaçao Artistica, Beja, Portugal, may 2008. 2) VALENTE, D. . La influencia del contexto perceptivo en la interpretation de representationes esquematicas tactiles.Primeras Jornadas Internacionales "Información, autonomía y expresión de los niños ciegos: prototipos en la imagen y en el lenguaje",UCA, Cádiz, Spain, december 2007. 3) VALENTE, D. . A influencia do contexto perceptivo na interpretação de representacões esquemáticas táteis. 2007. Primeiras Jornadas Internacionais Brasil-Espanha "Informação, autonomia e expressão de crianças cegas: protótipos na imagem e na linguagem", UDESC, Brazil, august 2007.

WHITTON ROGER

The Guide Dogs for the Blind / Sign Design Society

Mr Whitton started of by how difficult it is already for a person that is fully sighted to orient himself in a city he has never been to before. So the world is challenging. This challenging world needs technologies for visually impaired people in order to help them to overcome those challenges. Those technologies are often referred to as Assistive technologies (AT). There are 3 categories of those technologies:
- Micro Navigation Aids,
- Macro navigation Aids (who to get to a place in first place),
- Assistive services (eg. the internet)

MICRO NAVIGATION AIDS

- Talking signs: Talking signs are an examples of assistive technologies.
- React system: The user carries a chip in his pocket and as the user comes to a space of interest, it gets information.
- Palm sonar: With this devise you can scan your environment to detect for example obstacles. The palm sonar is sending out a signal and depending on the signal that is coming back the device can tell how big the obstacle you are facing is.
- RFID: Technology that is working on a tag - interrogator basis, where radio waves are used to sense from a distance information stored on a tag by using an interrogator. Bar codes, some transportation and payment cards or toll payment cards are an example of RFID appliance.

MACRO NAVIGATION
- GPS: GPS is an important technology in macro navigation. There are already devices that work on an acoustic basis. Currently GPS improvements that are in development are made to make a better pedestrian mode, give greater accuracy, include point of interests, automatic re-routing for example in case of obstacles on the road. GPS accuracy will be improved over the coming two years with two new satellite systems, meaning Egnos (2-4 meter accuracy) and Galileo (less than one meter accuracy).
- Tactile maps: Tactile maps are a great chance to get to know a city before actually going there. A further improvement of those tactile maps would be such maps that are equipped with RFID tags, giving informations on special spots.
- Store finder: Store finders can help finding specific stores for examples supermarkets such as Tesco. It uses your current location and indicates the best way to go to the store that you want to go to.

TALKING TAGS
This project consisted of placing RFID tags and equipping users with interrogators. Trough this, the user gets a way finding system to navigate in a specific environment, such as a city. The tags can be positioned and power levels adjusted, to enable any external or internal area to be navigated. The tags can be set up temporarily for events exhibitions etc. Furthermore onboard information files can be personalized to find only tags on hotels or other specific buildings. Trails are currently made at Oxford street to test the system and to find out how people perceive the system.

The physical realization is done in a way that the person is carrying an electronics box on the waist. The interrogator can also be integrated into clothing. There is also the possibility of bluetooth head pieces or of ankle devices that for example vibrate two times to indicate that the person has to go left or one time to go straight forward.

For more information on the technologies explained by Mr Whitton in this presentation, check out www.guidedogs.org.uk/technowatch.

Roger Whitton is the Senior Assistive Technology Consultant for Guide Dogs for the Blind. He trained as a telecommunications engineer and in a career that spans almost forty years has held a wide range of posts within both the telecommunications and computer industry. Joining Guide Dogs twelve years ago he has specialised in Accessibility and Assistive technology for the last ten years. The current focus of his work is in the development of Wayfinding systems primarily for the blind and partially sighted but these systems will also be beneficial to other assistive technology users. He is a Technology Group member of the Vision 2020 organisation.

WIECKOWSKA MARTA

Academy of Fine Arts, Institute for Visual Research and Interaction

Ms Wieckowska from the Institute for Visual Research and Interaction / Academy of Fine Art in Katowice (Poland) spoke about research methods as a tool for Designers to make their design decisions that do not neglect the needs of the visually impaired people.
Elements of the research are Perception, Semantics, Interaction and Emotions. The idea of the research is to find similarities in the perception between the different kinds of visual impairment. To find these similarities, 10 visualy impaired students were interviewed about everyday problems and took part in experiments under controlled conditions.
Some results are that capital letters can be seen better. The bigger the letter space is, the better it was perceived. There are slightly more good answers when white letters are on a black Background. Colors that are seen first are red and violet.
Plans for the future are finding new research methods, looking for co-operation with other researchers and to create a center of knowledge exchange.

Marta Wieckowska works at The Institute of Visual Research and Interaction which is part of the design department of the Academy of Fine Arts in Katowice (Poland). She teaches methods of visual research, psychophysiology of vision and interaction. Member of a science group (Academy of Fine Art in Katowice and The Institute of Theoretical and Applied Informatics of the Polish Academy of Sciences) researching gesture semantics and interfaces based on gesture. She was a contributor at the conference "Image and Imagery in times of electronic media" organized by the Academy of Fine Arts in Katowice. She presented 'Gesture topology by David Mc Neill'. With dr hab. Wies?aw Gdowicz she presented the first results from their research around gesture meaning at the conference 'Kansei. User interface', organized by the Polish Japanese Institute of Information Technology. Author of articles about perception of point arrangement, analysis of legibility hierarchy and information architecture, published in Biuletyn Sztuki Projektowania (Folia Academiae, Katowice).
Author of a program for blind children which supports sensorial development and space orientation.

YASUO YOKOTA

President of the Japan Sign Design Association/JSDA
Graphic designer,executive director of GK Graphics incorporated

OUTLINE OF THE SURVEY
Purpose of the survey: To determine the optimum acoustic sign system for the Japan public transportation system
Background: in 2000 the Road traffic act with regard to barrier-free access for disabled people was established.

Acoustic Signs are used for different means of transportation. Also specific areas are marked by acoustic signs, eg ping pong sound for gates of subways, bird sounds for stair areas (this bird sound needs to be further revised to improve the sign)

The survey questions:
- Have you actually heard Acoustic signs? At Ticket gates and escalator, the highest perception rates could be seen (more than 60% noticed the acoustic signs)
- Have you experienced a situation where acoustic signs could not be used or were difficult to understand?

Acoustic sign issues were that too much information results in difficulties of understanding. Also there are no standards, so different companies use different sounds, they place the acoustic means/sources in different places etc. Also while

The survey was conducted in a way that a questionnaire was sent to 6 railroad companies that have lines linked to Shinjuku, a major hub.

So standards need to be made and applied for all companies and the public need to be further educated on acoustic signs. Because acoustic signs are not only important for visually impaired people but also for people that visit a place for the first time.

IMPROVING the acoustic signs:
1) Establish a Standard for Sound and Volume
2) Proper Placement of Speakers

3) Clearly define operation method
4) Consideration regarding the Sound Environment (so that signs do not add up the noise and result in a negative perception by both impaired and non-impaired people)
5) Positioning of Acoustic Signs in a Total Sign System, and the Relationship to other signs.
6) Publicity and Education for Acoustic Signs.

The sound is currently often perceived as noise by the non-visually impaired people, while visually impaired people complain that the sounds are often difficult to understand. One factor that is influencing this perception might be the quality of the loudspeakers, as high-quality speakers are very expensive. Research is still ongoing on the development of abstract acoustic signs.

His main work is signage planning and corporate identity planning on the theme of information communication in environment.
He took charge of Tokyo Metropolitan Government The Corporate Identity, A logotype for inviting The 2016 Olympic games to Tokyo, East Japan Railway sinage planning, the signboardsystem of TOYOTA's all channel stores. He was in research group of acoustic signs for impaired people at JSDA from1998.