Chairman's Desk,

We are delighted when we look back how quickly first year has passed and we are presenting you our annual

issue of monthly Newsletter of "Design For All Institute of India". If we see the other angle it may be said that our successes has been moderate.

Moving from first issue of monthly newsletter Vol-1, No-1 (February 2006) To Vol-2, No-1(January 2007) looks very easy and smooth. We know how much we have suffered and side by side gained during this strenuous journey. Sometime we are appreciated by others out of their love to be part of this social movement. Sometime you are criticized by certain sections in spite of our best efforts. That also shows their intense concern for us. We have gained many valuable well wishers. We are of course pained to lose a few good friends.

We request all who have left us in disgust for their expectations since we could not reach that height. It is not Dr. Sunil Bhatia who is the person with whom you should get disappoint. It is the movement of Design For All/ Universal Design which is not taking desired shape as they wish.

Man always celebrates. When he is victorious he enjoys his successes with all who have made that possible. When he fails others who have made him to be defeated celebrates their success. It is time for celebration. History is never fair to all. Some time defeats are glorified because it would inspire and motivate the future generations. Our all actions are affecting significantly the present generation and nothing to our past. But it is affecting enormously the future. It is we who can affect the future. Present is mixture of

certainty and uncertainty and with his sincere efforts sometime man converts uncertainty to certainty and we call that man wise, knowledgeable or even intelligent. Past is all certain since it has been actualized. No efforts can change it that is why it is not of much concern . Man is more concerned with future. But future is all uncertain and it leads him to fear. Out of fear he even avoids discussing the future. Sometime it proves to be best trait in the man. Man's biggest achievement is that he forgets that death is inevitable. It makes him more powerful among all the living being. To overcome the fear of future he develops the communications and invents alphabets, Numerals and addition, subtraction, multiplication and division ad more. Man has countless weakness. But he has conquered some and few are challenged and majorities are yet to encounter, unknown or he is ignorant or avoiding deliberately to face them. To overcome his weakness of born lethargy and save the energy for future he has designed machines. He has tried to come out the circle of ease and pleasure and settled against the odds.

Man lives in society and if he so determines. He is against the status quoism and can bring social changes. Sometime technology helps in bringing the change as we have designed bicycle. I call it bicycle is nothing but extension of man's legs to reach the desired destinations in short time with less consummation of energy. Today scientists, professionals and designers are inventing and

designing machine what society is needing. It is difficult to change the mind set of the man by all the time introducing the new technologies. Religion has failed to change the mind set of people. It has affected and influenced us but we still live with same weaknesses for what our prophets and religious leaders advised us from centuries to shun these habits.

We are accommodating and ready to shun our all those things which may affect and slow the social movements of Design For All/ Universal Design. This is our destiny

I am thankful to Mr. Pete Kercher, President, EIDD, Prof Richard Duncan, NCSU, USA and Prof Jim Sandhu for guiding and help us whenever we were in trouble. Prof Jim Sandhu has helped us when he was hospitalized and gone under the major surgery. That passion makes us work hard for betterment of society. We can not forget their actual support for our cause. We are all sailing in the same boat.

When ever I was disappointed, discouraged and I look for some one to share my feelings, I find a man of 81 years who stood for my cause and motivated me by reciting few couplets. What I have achieved little it is his motivation and he is none but one of the strongest person of our editorial board Mr. M.L. Dhawan

Our special thanks to EIDD- Design For All, Europe, Design For All Foundation, Barcelona, Industrial Designers Association Of America (IDSA) , International Association for Universal Design (IAUD), Japan for endorsing our program .   The support we enjoyed from Head and Prof. Lalit Das IDDC, Indian institute of

Technology our acknowledgment will be incomplete. It shows their commitment for the Design For All Institute Of India for our cause and program

 I wish you all happy beginning for our second year journey of publishing our monthly. We have miles to travel together. We need your sincere help as you have shown us in our first year of publication. We hope you would convey our message to all those who are concerned like us in reshaping a healthy progressive and advanced future

Thanking you.

With regards

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www.designforall.in

Table of Contents

Foreword:
Universal Usability: Shaping the world for ourselves and our children

Ben Shneiderman, University of Maryland, College Park, MD USA
(draft 1/3/2007)

I am delighted to learn of the growing worldwide interest in universal usability, especially in India with the Design For All Institute of India and Newsletter. These efforts are excellent contributions, but there is much work ahead to shift the thinking of every designer, so that they incorporate universal usability thinking. Many successful designers have already learned the lessons about how design improvements yield high payoffs in the broad utilization of information and communications technologies. This volume of the Indian Design For All Newsletter demonstrates the growing interest and offers valuable resources.

The quest for Universal usability (UU) is more than an academic pursuit that benefits special communities; it clarifies thinking about advanced interfaces that benefit

all information and communications technology users (Shneiderman, 2000; Vanderheiden, 2001; Stephanidis, 2003; Horton, 2005). The breakthroughs needed to enable diverse users to succeed, will often accelerate progress for all users of current technologies such as medical information dissemination, family communications, and business collaborations (Hocheiser and Shneiderman, 2001; Shneiderman and Hocheiser, 2001; Keates and Clarkson, 2003).

It seems possible for Indian researchers and developers to take a leadership role in this growing movement. The well-educated technology community can develop the expertise to deal with multi-lingual users as well as those with low literacy. Indian designers would also do well to support flexible usage to accommodate slow and fast networks, as well as small and large displays. The Indian experience with rapid technology expansion provides excellent test beds for universally usability interfaces.

Another benefit is that software that is designed to accommodate diversity has also proven to facilitate maintenance when problems occur and enable improvements as opportunities are identified. Similarly, interfaces that are designed to accommodate users with disabilities often provide valuable services for all users. For example, screen magnifiers or font enlargement tools for low-vision users are helpful to readers working in moving vehicles or lecturers who wish to enlarge text for their audiences. Another example of multiple payoffs is

that closed caption text on television, originally designed for deaf users, benefits new language learners and helps viewers in noisy environments (bars or airports) or quiet places (hospitals or libraries).

Improved services for diverse users with a wide range of technology platforms are the most common research directions, but a great opportunity for universal usability research is enabling users to learn how to use new interfaces. One increasingly popular strategy is to provide recorded demonstrations. These video-like presentations are short (1-3 minute) sessions that show familiar tasks being carried out while a narrator explains the activity. These screen captures (for example Camtasia or AutoDemo) have higher resolution images with fewer bytes than video, enabling fairly rapid downloading. Users can chose which segments to download, then watch and view them repeatedly (Plaisant and Shneiderman, 2005).

A major challenge remains to accommodate older adults whose familiarity with information and communications technologies may be low. They can benefit from medical information, social exchange, and contribute to their communities more effectively if the user interfaces are designed to meet their needs (Newell and Gregor, 2002; Chadwick et al., 2003; Dickinson et al., 2005). Universal usability challenges are particularly important for web designers because the audiences are potentially large (Paciello, 2000; Hanson and Richards, 2005).

Innovation dissemination can be accelerated if researchers and designers devote themselves fully to serving all users. We have a grand opportunity to provide improved services that will improve many lives. Let's do it!

References

Chadwick-Dias, A., McNulty, M. and Tullis, T., Web usability and age: How design changes can improve performance, *Proc. ACM Conferences on Universal Usability 2003*, ACM Press, New York (2003), 30-37.

Dickinson, A., Newell, A. F., Smith, M. J., and Hill, R., Introducing the internet to the over-60's: developing an email system for older novice computer users, *Interacting with Computers*, 17 (2005), pp.621-642.

Hanson, V. and Richards, J. T., Achieving a more usable World Wide Web. *Behaviour and Information Technology* 24, 3 (May 2005), 231-46.

Horton, S., *Access by Design: A Guide to Universal Usability for Web Designers*, New Riders Press, Indianapolis, IN (2005). Available at: HYPERLINK "http://www.universalusability.com/" http://www.universalusability.com/

Keates, S. and Clarkson, P.J., Countering design exclusion through inclusive design, *Proc. ACM Conferences on Universal Usability 2003*, ACM Press, New York (2003), 69-76.

Lazar, J. (Editor), Universal Usability: Designing Computer Interfaces for Diverse User Populations, Chichester, UK: John Wiley and Sons, 2007.

Newell, A. F. and Gregor, P., Design for older and disabled people – where do we go from here?, *Universal Access in the Information Society 2*, 1 (Nov. 2002), 3-7.

Paciello, M. G., *Web Accessibility for People with Disabilities*, CMP Books, Gilroy, CA (2000).

Plaisant, C. and Shneiderman, B., Show Me! Guidelines for producing recorded demonstrations, *Proc. Conf. on Visual Languages/Human-Centric Computing*, IEEE Press, Piscataway, NJ (Sept 2005), 171-178.

Shneiderman, B., Universal Usability: Pushing human-computer interaction research to empower every citizen, *Communications of the ACM 43*, 5 (May 2000), 84-91.

Shneiderman, B. and Hochheiser, H., Universal usability as a stimulus to advanced interface design, *Behaviour & Information Technology 20,* 5 (Sept-Oct 2001), 367-376.

Stephanidis, C. (Ed.), *HYPERLINK "http://www.ics.forth.gr/hci/publications/book.html" User Interfaces for All - Concepts, Methods, and Tools,* Lawrence Erlbaum Associates, Mahwah, NJ (2001).

Vanderheiden, G., Everyone interfaces, In Stephanidis, C. (Editor), *User Interfaces for All: Concepts, Methods, and Tools*, Lawrence Erlbaum Assoc., Mahwah, NJ (2001), 115-133.

Selected Web Resources
Defining Universal Usability
   HYPERLINK "http://instone.org/universalusability"
http://instone.org/universalusability
 HYPERLINK
"http://instone.org/node/40?PHPSESSID=d785b97f1d3c
4f9c749c0d405a5ff4df"
http://instone.org/node/40?PHPSESSID=d785b97f1d3c4
f9c749c0d405a5ff4df
Book: Access by Design, by Sarah Horton (full text on the web)
   HYPERLINK "http://www.universalusability.com/"
http://www.universalusability.com/

Universal Usability in Practice: Principles and strategies for practitioners designing universally usable sites. Resources website HYPERLINK "http://www.otal.umd.edu/uupractice/" http://www.otal.umd.edu/uupractice/

ACM Conferences on Universal Usability
  2003: HYPERLINK "http://www.acm.org/sigchi/cuu2003/" http://www.acm.org/sigchi/cuu2003/
  2000: HYPERLINK "http://sigchi.org/cuu/" http://sigchi.org/cuu/

ACM SIGCHI: HYPERLINK "http://www.acm.org/sigchi/" http://www.acm.org/sigchi/

ACM SIGCHI on Accessibility: HYPERLINK "http://www.hcibib.org/accessibility/" http://www.hcibib.org/accessibility/

ACM SIGACCESS: HYPERLINK "http://www.acm.org/sigaccess/index.php" http://www.acm.org/sigaccess/index.php

Accessible Design in the Digital World Conference: HYPERLINK "http://www.accessinthedigitalworld.org/2005/" http://www.accessinthedigitalworld.org/2005/

Universal Access in Human-Computer Interaction (UAHCI) HYPERLINK "http://www.hcii2007.org/ta/ua.html" http://www.hcii2007.org/ta/ua.html
Held every two years in conjunction with the HCI International Conference series.

User Interfaces for All Conferences (UI4ALL): HYPERLINK "http://ui4all.ics.forth.gr/" http://ui4all.ics.forth.gr/

TRACE Center: HYPERLINK "http://trace.wisc.edu/" http://trace.wisc.edu/

European Research Consortium for Informatics and Mathematics.
  Workshops: User Interfaces For All, founded by Prof. Constantine Stephanidis in 1995 (HYPERLINK "http://www.ui4all.gr/" http://www.ui4all.gr/)
  2004: HYPERLINK "http://ui4all.ics.forth.gr/workshop2004/" http://ui4all.ics.forth.gr/workshop2004/

2002: HYPERLINK "http://ui4all.ics.forth.gr/workshop2002/"
http://ui4all.ics.forth.gr/workshop2002/
Springer Journal:
 Universal Access in the Information Society (UAIS):
 HYPERLINK "http://www.springeronline.com/east/journal/10209/"
http://www.springeronline.com/east/journal/10209/
California State University, Northridge Center on Disabilities' 22nd Annual International Technology and Persons with Disabilities Conference.
 HYPERLINK "http://www.csun.edu/cod/conf/"
http://www.csun.edu/cod/conf/
 HYPERLINK "http://www.csun.edu/cod/conf/proceedings_index.htm"
http://www.csun.edu/cod/conf/proceedings_index.htm
Rehabilitation Engineering & Assistive Technology Society of North America
   HYPERLINK "http://www.resna.org/"
http://www.resna.org/
The National Institute on Disability and Rehabilitation Research (NIDRR)
   HYPERLINK "http://www.ed.gov/about/offices/list/osers/nidrr/index.html"
http://www.ed.gov/about/offices/list/osers/nidrr/index.html

From the Editors Desk

Design for all is a formidable challenge. It calls upon designer to design not for himself, nor for a user segment, but for all. Who is this 'all'? What are the limits,

potentialities and aspirations of this 'all'. Can a 'designer me' become the 'designer all'. Victor Papaneck and Schumacher in late sixties successfully triggered a reorientation in design thinking. Much has happened since then. Universal design, inclusive design, designer for all. And yet much remains. And it takes just a few 'designer me' to mess up the environment with products, services and environment put up for mass use by designers with a narrow perspective of the user. Unbridled creativity has been given a free reign. Care has been ignored. No civilization is capable of long term survival unless creativity and care do not operate simultaneously. These values are culturally determined and reinforced. Designers and designs are the carrier of these values.

The cultural shift from one design paradigm to another is a long drawn out process. This has been brought out very clearly by Thomas Kuhn's Structure of Scientific Revolutions. What he expounds in the context of Scientific Revolutions is equally applicable to Design revolutions and associated shift from one design paradigm to another. We have to keep cracking at Universal Design, inclusive Design and Design for All. As more and more practitioners of these paradigms are available who can demonstrate the all inclusive efficacy of these paradigms in providing better solutions, the easier it will become for the new thinking to be universally adopted. Till then both new and old will uneasily coexist.

The virtual Design for All Institute of India is doing a tremendous job in making the change happen. The very broad selection of articles by Dr. Sunil Bhatia is a small

but significant step in this direction. The show must go on.

The articles in this annual issue range from Meta theory, to theory and practice. Each is well thought out and equally well articulated. We have Pete Kercher, President, EIDD – Design for All Europe. He traces the evolution to the Design for All paradigm in the European context of nearly 22 nations over a period of 13 years. It begins with the enlarging the participation of persons with disability through application of design. Moves over to enhancing the quality of life of all through barrier free design. And finally enhancing the quality of Life through Design for All. Advancement and adoption of Design for All concepts requires as much discussion on Quality of Life and Society for All. Success of the Design for All India website is in its willingness to discuss these issues too. Much needs to be done in order to develop a methodology of Design for All that encompasses aspects of a quality society for all.

Andrew Walker brings in the U.K. perspective and the need to participate in the European dialogue. He articulates the significance of the concept of Inclusive Design and the importance of audit in taking the movement forward. He urges India to actively evolve it own strategies.

Daniel Formosa, Ph.D. from Smart Design shows at length how Design for All or Universal Design has made business sense and as such has been embraced both by Design Consultancies and their clients. This truly is a remarkable approach to the acceptance of Design for all in a commercially driven and economics driven society.

Russell Marshal and his colleagues describe the framework of a software tool 'HADRIAN' developed to support designers in their effort to 'Design for All'. We need to enlarge this initiative in the public domain. Could there be, an Indo - European - USA initiative to further this mission. The funds are waiting. If Linux can happen, so can 'Hadrian Earth'. Some body has to take the initiative.

We can become bigger and better human beings through 'Design for All'. This initiative is not just for designers. We all have much to gain.

We are thankful to eminent invited authors for contributing their articles for our annual issue of newsletter. We can not publish all ten articles in one issue of our newsletter. We have limitations for uploading the article for sending through electronic medium of mail.

Happy reading and best wishes for a second year of Design for All Institute of India.

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India

Forthcoming issue (February 2007, Vol- 2,No-2)

MARCH, 2007, Vol-1, No-3
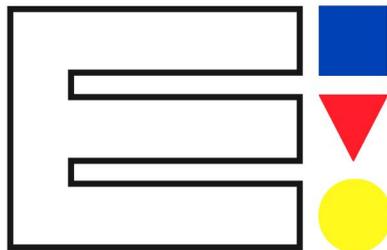
EIDD – DESIGN FOR ALL EUROPE

ENHANCING THE QUALITY OF LIFE THROUGH DESIGN FOR ALL

Names and Mission Statements: the evolving message of Design for All

Pete Kercher, President, EIDD- Design For All Europe

"What's in a name? That which we call a rose by any other name would smell as sweet…."
William Shakespeare, *Romeo and Juliet*, Act II, Scene 2

When Sunil Bhatia invited me to write an article for this first anniversary edition of the newsletter of the Design for All Institute of India and specified that I was to describe the development of Design for All in the year 2006, I immediately found myself in a difficult situation: how should I go about crystallising the development of Design for All in one year, when that development takes such different forms from one country to another (not to mention continents…) and to all intents and purposes defies segmentation into annual bite-sized milestones?

So I started by looking back at some of the events that could be identified as milestones in the last year, in random order: Activities involving EIDD and its member organisations took place in an unprecedented 22 European countries; A highly active new group was set up in Serbia: very promising for a blossoming future in south-eastern Europe; Organisations in two new countries joined EIDD; The first Work for All conference was held in Ireland and attended by top politicians; Design for All was

factored into several top international design awards; New contacts were established in several countries worldwide; The European Commission showed signs of being prepared to explore an holistic rather than a sectoral approach to social inclusion.

Most of these milestones are concerned with the organisational interests of EIDD and its allied institutes: they are significant in relation to the development of Design for All because every practical approach – and, like all design disciplines, Design for All is a practical approach, as well as a philosophy – requires an organisational infrastructure to further its interests.

What transpires immediately from a cursory glance at these milestones is their eurocentric focus: while this is natural enough, as my perspective is that of President of a European organisation, I do not want to give the impression that the relevance of Design for All is necessarily restricted to any particular model of socio-economic development. Indeed, the geographical area that we know as Europe (whatever that happens to be at any moment in time – and it is a concept that has been changing constantly over the centuries) contains a wide diversity of models, some of which have more in common with other, extra-European counterparts than with each other.

In the case of India, of course, the establishment of the Design for All Institute of India must certainly be classified as the most important milestone in the local

advance of Design for All. Congratulations are due to Sunil Bhatia and the team in India for all their hard work.

To answer the question, then, the best approach is probably to look at the significance of ongoing developments that can be expected to have a fallout effect on the discipline as a whole in due course. These developments may be self-evident, such as the adoption on 13 December 2006 of the UN Convention on the Rights of Persons with Disabilities, which has at long last included disabled people in the recognised pattern of enshrinement and endorsement of civil rights. Exactly what the material effects of such a laudable piece of international paper will turn out to be in the long term is of course a moot point: if the model of the United Nations Assembly's recognition of human rights is anything to go by, then the adoption of a Convention could well be interpreted by future historians as a danger signal. How many civilians and military (and one man's freedom fighter has always been another man's terrorist) have been killed quite senselessly and for the greater glory of self-aggrandising politicians of whatever hue since human life was declared to be inviolable (by the same politicians or their representatives) in the Universal Declaration of 1948? As Tommasi de Lampedusa wrote in his great novel about the Italian Risorgimento, *The Leopard*, all things must change (apparently), so that nothing changes in reality...

So perhaps it is more pertinent for me to look at apparently much more modest developments that have taken place within our own field of competence, as a

closer study reveals them to be indicative of a groundswell of massive change.

One such development took place in the course of 2006, with ramifications that are far more extensive than its apparent organisational motives. In May 2006, in evident disagreement with the sentiments expressed by the Bard and quoted at the beginning of this article, EIDD changed its name. This is how the name change was reported on the EIDD website (HYPERLINK"http://www.design-for-all.org" www.design-for-all.org) on 20 May:

 INCLUDEPICTURE"http://www.design-for-all.org/images/balletjekl.gif" * MERGEFORMATINET

EIDD changes its name: "EIDD - Design for All Europe":

Reflecting the development in its core business since foundation thirteen years ago, the EIDD Annual General Meeting 2006 made the major decision to change the Institute's name: from today, the Institute shall be known as "EIDD - Design for All Europe", with the abbreviations "EIDD" and "European Institute" continuing in use.

This decision reflects the Institute's longstanding focus on Design for All as a path towards the achievement of social inclusion following an holistic methodology. At the same time, the Institute's new name maintains a clear reference to its roots as the European Institute for Design and Disability, thus maintaining a cultural continuity of

essential importance to any complete understanding of Design for All.

The discussion about how to take this momentous step had been under way for several years, punctuated at irregular intervals by (less emotionally charged) amendments of the Institute's mission statement, which has gradually evolved from the first 1993 version

"A non-profit making foundation contributing to the participation of people with disabilities through the application of design"

through such intermediate phases as the 1995 version

"Contributing to enhancing the quality of life of all citizens by promoting the ideal of barrier-free design"

and the 1998 amendment

"Contributing to enhancing the quality of life of all citizens by promoting the ideal of Design for All."

to its current version of

"Enhancing the Quality of Life through Design for All".

EIDD did not "invent" Design for All: the Institute was originally established because design and its practising professions, which can make such an important difference to the quality of everyone's life, were nevertheless often

leading the way in manifestations of appalling complacency and ignorance. Something had to be done about improving design's track record in the area of disability and the founders of EIDD succeeded in gathering together the necessary critical mass from several European countries to establish the Institute in 1993.

Almost immediately (at the Bonn symposium in December of the same year), EIDD started discussing Design for All, as it was rapidly apparent that there were (and still are) two ways of applying the practice of design to improving things for disabled people. Let's call them, for the sake of argument, the straightforward approach and the complex approach. In design parlance, we might distinguish them as "Design for Disability" and "Design for All", though their ramifications in practice indicate that they are perhaps best described as "design for the inclusion of identified categories", or "exclusively inclusive design", and "design for holistic social inclusion", or "inclusively inclusive design". The one is straightforward, because it avoids the many and varied issues of human diversity and the ethical responsibilities of creativity applied for utilitarian purposes, preferring to aim straight at the objective of a clearly-defined and sometimes narrow (these days often increasingly narrow and highly specialised) target; the other is complex, for the very reason that it is built on the synergic concomitance of these and many other factors, influences and variables: in

short, like nature, the world and life itself, it is complex, though not necessarily complicated.

The straightforward approach

The straightforward approach is the one that could reasonably have been expected of any competent designer, architect or other exponent of the creative professions already at the time when EIDD was established. The first step is to identify a problem, which may be in the way a product is used (usability), the way an environment or building is accessed (accessibility) or the way a communication system is understood (comprehensibility). Having identified the problem, a competent professional should next explore the range of potential users of the product, environment or communication system, then start drawing up targeted design hypotheses to respond to the identified challenges.

In this respect, the individual disabled person, with an identifiable life situation requiring improvement, and the community of disabled people sharing comparable life situations both constitute rather clearly identifiable targets for the design process. The result is that designers have developed a series of specialisations that have first related rather closely to the sciences of rehabilitation and have tended more recently to develop synergies with information and communication

technologies (ICTs), as tools for enhancing the quality of life for identifiable disabled groups.

Of course, the process of catering for an identified need with a clear design process is not (and never has been) quite that simple in the real world. Numerous other factors have a bad habit of getting in the way, factors that range from the realistic to the patently absurd (but not less influential). The stresses induced by the perceived need to shorten products' time to market have made it increasingly difficult for designers to take the necessary time out to ponder their creations, consider their subsidiary effects (unplanned usages, like using a pen as a telephone dialler or a back-scratcher, for example) and involve real focus user groups in preliminary and ongoing development evaluations... and this is a realistic development that we are expected to accept in respectful silence, because it is dictated by curiously ineffable "market forces". But the influence of the patently absurd is also there for all to perceive: one example for all is the restaurant owner who resists adapting his premises to make them wheelchair accessible out of an illogical and rather disgusting prejudicial fear that disabled patrons would scare his "normal" able-bodied clients away. These are different problems which require different answers. In the first case, there is a real need for the methods and advantages of good design to be taught not only to future designers and architects, but also to those whose decisions dictate the scope of their activities: marketing, management and public administration are fields that

spring to mind immediately. In the second case, the need is for more useful education from infancy onwards, whose purpose must be to reduce and eventually eliminate prejudices.

The straightforward approach has actually had a rather good innings in the last fifteen to twenty years. It has achieved major milestones of its own, particularly in Europe and the United States. Since the war, advances in medical science have made it possible to live longer and healthier lives despite having a permanent disability. Also, the writing has been on the wall for Europe and North America ever since the post-war baby boom: sooner or later, the population was going to get old, so some form of allowance had to be made. The European Union responded by gradually factoring elements of specialised research for disabled and elderly applications of existing and future ICTs into its framework research programmes (1 January 2007 saw the launch of the seventh of these, known in jargon as FP7). The result has been the growth of a rather large research community with a focus on "special needs" solutions that has done some magnificent work in facilitating everyday life for many categories of people, by generating everything from advanced prostheses and implants to improved low floor buses and more user-friendly advanced consumer electronics. In the United States, the human rights legislation embodied in the Americans with Disabilities Act moved the architectural profession to come to terms with the challenge of access to the built environment. In both

cases, as indeed elsewhere in the world, notably Japan, another society that is having to learn to cope with ageing, such thinking has led gradually to the development of a design approach that attempts to broaden the scope of potential users of its end products, starting from the principle of including disabled people.

Design for All

The complex approach, or Design for All, has a parallel history. As the EIDD's Stockholm Declaration© 2004 (reproduced in full in the first issue of the Design for All Institute of India Newsletter, in February 2006) states:

"Design for All has roots both in Scandinavian functionalism in the 1950s and in ergonomic design from the 1960s. There is also a socio-political background in Scandinavian welfare policies, which in Sweden in the late 1960s gave birth to the concept of 'A society for all' referring primarily to accessibility."

It is no coincidence, obviously, that the authority for this statement comes from Finn Petrén, Vice-President of EIDD since 2003, who has long played the leading role in the socio-political development of Design for All in Scandinavia, until quite recently as Director of the Nordic Council on Disability Policy, then as President of EIDD Sverige and co-ordinator of Sweden's major national Design for All programme.

The first and fundamental difference between the two approaches is the attitude taken towards the world and its inhabitants. Though both approaches aim at achieving inclusion, the straightforward approach developed from a matrix of design for disability, which leads it to tend to continue targeting inclusion by identifying categories to be included and dealing with them, one by one or group by group, as the need is perceived to arise, while Design for All developed from a socio-political matrix in which the foremost emphasis has always been on social inclusion as such, rather than on one or more identifiable groups of people to be included, and design has been found to be the most efficient and effective tool to achieve this purpose.

No simple label is perfect and Design for All is no exception: its detractors have long enjoyed repeating the remarkably persistent, though eminently foolish myth that Design for All must fail in the attempt to make "one size fit all", demonstrating an avoidable tendency to attribute literal meanings to words, rather than study the messages they convey, and a somewhat obstinate refusal to study the discipline and its aspirations. Be that as it may, this criticism was already answered in the statement adopted by the EIDD's Bonn Symposium in December 1993:

"[...] there will always be a need for design directed towards meeting special needs."

The approach adopted by the complex approach, or Design for All, may appear when first studied to be quite similar to that of the straightforward approach. Once again, the first step is to identify a problem, followed by exploring the range of potential users, consulting with them and then drawing up targeted design hypotheses to respond to the identified challenges. The difference lies in the definitions attributed to the terminology being used.

Identifying the problem

There is no substantial difference between the classical methodology used by design in general and that used by design for disability. The "problem" may be a car's poor fuel performance, the difficulty in cleaning a household kitchen device, a building whose only access is by stairs or a road sign that needs to be read and understood rapidly. Or it may be a manufacturer's need to create something new so as to keep his market share and stay in business. The purpose is generally identified before the designer is called in to deal with it. As a result, major decisions pertaining to the framing of the relevant questions have already been made before the intervention of design and its methodology.

In the case of Design for All, the "problem" is approached from a different angle. The first major difference is that it is never seen as a problem at all, but as a challenge to the

creativity of design. This may sound like semantic hair-splitting, but it makes a world of difference to the thinking involved in the course of the entire design process and so also to the eventual results. So, now that we have established that we are never dealing with a problem, but always with a challenge, how do we start tackling the challenge?

Here the vital element of difference lies in the moment when design expertise is involved: Design for All requires that, from the very beginning, the analytical skills which the design professions are trained to exercise must be applied to the definition of the parameters. If design is essentially a problem-solving methodology (or, to put the more positive spin on it, a challenge-tackling methodology), then it needs to have an important say in the definition of the problem and hence the challenge. Unlike politicians and diplomats, whose millennial culture has led them to build us an increasingly faceless world of meaningless (and essentially contentless) compromises based on a dreary series of lowest common denominators (though the language used to depict them is redolent with high-flown phraseology, whose aim is to strike a chord with ordinary human aspirations), designers, architects and other professional creatives are more akin to entrepreneurs, whose essential function is to generate a win-win situation for everyone concerned. Notoriously, that is never achieved by adopting the platitudes of lowest common denominators.

Exploring the range of potential users

This brings me immediately to the next stage: that of identifying the potential users. In the classical design scenario, the user is the person whom we identify as the end user, i.e. the one who has to interact with the object as it executes the function for which it was made. But this approach leaves us many lacunae. The most obvious is the whole series of people who are involved in the object's life cycle upstream and downstream of its actual usage, from those involved in its physical manufacture, supplying the raw materials and energy, shipping, wholesaling, distributing, retailing and delivering, to those concerned with its maintenance during its life cycle and those others whose task it will one day be to dispose of it responsibly and sustainably.

In addition to this, we need to question the basic assumption of the object's user: is our user base – and hence our customer base – correctly defined? When defining the users of a simple object like a chair, for example, what limitations have we set to our thinking? Are they merely anthropometric and ergonomic? Have we started out by describing the object as a "chair", or more broadly as "seating"? Have we considered the different ways that different cultures use seating, or the adaptability expected of every product that becomes a familiar and so trusted feature of the home or workplace?

But that still only tackles the expectation that seating will be used for sitting. Before we go any further, we also need to explore the potential unplanned applications to which the object might be subjected in its lifetime. Chairs may be made for sitting, but they are often also used for climbing, for example, to reach a high shelf, or, when combined together, as ad hoc adventure playgrounds by children... All of these are potential users, though purist designers may frown on such unworthy applications of their earth-shattering masterpieces...!

The principle here is inclusive thinking: when defining who is a user, every conceivable actor and every conceivable scenario should be taken into consideration. And then we should always remember to make allowance for others: because there certainly will be more!

Consulting

The consultative process is a direct development on the previous stage of identifying the range of users. To those of us who talk about this every day, it is a natural requirement to consult the users of every design at every stage in the design process, from framing the brief to marketing. But there is a very strong tendency out there in the real world to cut corners... and the more that economic pressures are perceived, the more corners end up being cut.

So perhaps it is necessary to reiterate the principle that consultation is not a corner available for cutting. For example, if a company decides to reduce its costs by eliminating secondary product packaging, it will need to consult with a wide range of actors/users if it is to get it right and so achieve its purpose. Those actors include the shippers, the distributors, the retailers, the marketing experts, a cross-section of consumers, whose reactions to the change must be positive, the manufacturers of packaging materials, who will be called upon to create the alternatives, and so on. Because the aim is to cut costs, not the manufacturer's own throat!

The example I have chosen is apparently commonplace and hardly germane to the field of social inclusion, but I chose it intentionally: the practice of consultation makes sound business sense and it is only by applying the practices of good economics and business that Design for All can expect to have a lasting impact on society.

This is what the EIDD Stockholm Declaration© says about consultation:

"The practice of Design for All makes conscious use of the analysis of human needs and aspirations and requires the involvement of end users at every stage in the design process."

Drawing up design hypotheses

It is only at this stage that the team of practitioners applying the methodology of Design for All will venture into creating actual design hypotheses. Again, those of us who work in this field may feel it is superfluous to reiterate the obvious, but the most blatant error made repeatedly at this stage by designers, architects and other creatives the world over derives from the tendency to design for themselves, rather than for the target audience, or, even worse, to design for a dream-like idea of what they would like to be. Which is why we have so many products, buildings, environments, services and systems that seem to be made for a brand of humanity that is never born, never gets pregnant, never has a day's illness, never breaks a leg, never ages, never... exists! It is a world of perfectly healthy males, aged about 25, who probably spring fully-grown from a pod, or are manufactured in Ridley Scott's *Blade Runner*. It is a very impoverished view of the world... and also a very unflattering view of the imaginative capacities of the people who created it, whether they be exponents of design or marketing.

But we are diverse! As the Stockholm Declaration© already established in 2004:

Across Europe, human diversity in age, culture and ability is greater than ever. We now survive illness and injury and live with disability as never before. Although today's world is a complex place, it is one of our own making, one in which we therefore have the possibility –

and the responsibility – to base our designs on the principle of inclusion.

And we should be celebrating the cultural and human wealth that derives from this wonderful gift of human diversity, rather than stolidly obliging humanity to conform to rigid standards. Which is why the actual design stage should shun the easy recourse to compliance with standards and checklists that ascertain *ex post factum* that a given design will suit a given arithmetic average. Standards have a very sensible purpose: to ensure that plug X fits into socket Y or that a mobile telephone will communicate within a given bandbreadth. Human beings are neither plugs nor mobile telephones and should not be categorised as if they were.

The metamorphosis in thinking

Practically since its inception and as a result of the increasing synergy between the community of social inclusion actors and that of Design, the EIDD has been providing the platform for a gradual metamorphosis in thinking about design, its scope, its potential and its future.

This metamorphosis has received considerable stimuli from many sides, among which the need to improve design's track record for disabled and ageing people is a very important one, favoured by the advancing age of the continent's population, as I mentioned before. Similarly,

other socio-environmental factors have exerted further major stimuli on the metamorphic process around design. Primary among these is the enormous ethnic variety that is now commonplace in European societies: the first waves came as southern Europeans (mostly from Italy) migrated to the mines of Belgium and France between the world wars. Then came the return of colonial administrators from newly independent states shortly after the last World War, who brought the acquired taste for foreign exotica back to dreary war-torn societies. These were closely followed by the first immigrants from those same countries, although they confined their interest to the ex-colonial powers (broadly speaking, these were France, Great Britain, Belgium, the Netherlands and Portugal). The economic boom in the fifties brought more intra-European migration, as first Italians, Spaniards ands Portuguese, then Greeks, Turks, Slovenes, Croats and Serbs migrated to Germany. Economic migration from the Maghreb and West Africa then turned former sources of migration into destinations for immigrants, as Italy and Spain had to learn to deal with an unfamiliar phenomenon. The collapse of the Iron Curtain, the economic development favoured by the European Union and the rise in perceived insecurity in many countries, leading to an influx of asylum seekers who only want to be allowed to live their lives in peace, out of the reach of rapacious politicians, then made migration a significant factor in the few remaining countries in Europe where it was previously unfamiliar: Scandinavia as a whole and, more recently and to a quite

staggering extent, Ireland.

Europe is not today's melting pot, because different cultures are not being forced to melt into one indistinguishable mass (regardless of what the detractors of the process of European integration claim in their simplistic rhetoric), but maintain their respective independence; as a result, it certainly provides a challenge of social inclusion that is worthy of the finest design minds.

Another factor that contributes to the metamorphosis in design thinking is the realisation of the discipline's potential for social change. And yet, when most members of the public are asked to describe their instinctive reactions to the word "design", the adjectives they cite tend to be related to the spurious, the frivolous, the superfluous, the ephemeral, the costly, the unnecessary. This opinion is compounded by the attitudes adopted by the many of the world's "star designers", most of whom are more deserving of the epithet "artist" than of that of "designer". By publicising their own egos as being of greater importance than the intrinsic values of their products and intimating that those products are worthy by demanding exclusively high prices, these individuals do a favour to nobody at all except themselves. They certainly have a hugely detrimental effect on the reputation of design in the mind of the general public and, as a consequence, in the opinions of decision-makers the

world over, who are liable to write it off with the same set of negative adjectives.

While public opinion considers design to be relevant to nothing but expensive clothing, exclusive furniture and hugely expensive architectural creations – at least, that part of public opinion that can afford the luxury of thinking about design at all – thus perpetuating established mindsets among middle-level decision-makers (who are, after all, members of the general public), the design community itself continues to publish the expensive and the ephemeral, the fleeting and the superfluous, making a tremendous fuss about its tendencies, its aesthetics and all the other terms that are more at home in the writings of an art critic.

And yet, as those of us who have devoted our energies to the ethics of this admirable discipline know only too well, design can do a lot more than generate the latest superfluous frippery. When Britain set up the Design against Crime initiative, for example, it showed one of many ways forward. Much minor criminal behaviour can be avoided at source by "designing it out" of the context: design can be applied to ensuring that the potential for crime does not exist in the first place.

It is in this vein that Design for All applies design methodology to ensure that the potential for social exclusion – regardless of whether it is based on ethnic origins, culture, lifestyle, gender, social or sexual

preferences, temporary or permanent disability, illness, or whatever other conditioning factor – does not exist in the first place. States the Stockholm Declaration©:

"Design for All aims to enable all people to have equal opportunities to participate in every aspect of society. To achieve this, the built environment, everyday objects, services, culture and information – in short, everything that is designed and made by people to be used by people – must be accessible, convenient for everyone in society to use and responsive to evolving human diversity."

Where we come from...

In the dawn of human prehistory, our ancestors lived in a hostile environment. It is impossible to exaggerate the importance of this fact: the history of human evolution is the history of humanity's ability to adapt to the vagaries of that hostile environment. Indeed, the ability to adapt has become so engrained in human mindsets as to develop almost into a part of our psychological DNA, as no longer an ability, but an obligation to adapt.

While this was certainly a very favourable propensity on the part of our ancestors, one that ensured that we would survive until the present day as a species, the time has now come to question whether, like the human appendix, it has largely outlived its usefulness and deserves a quiet retirement.

The fact is that recent generations have witnessed the development if a new paradigm in humanity's relationship

with its host planet. Paradigms do not generally change overnight, but take a long time to do so and this one, being a paradigm of such primary importance, is certainly no exception. Until the middle of the last century, the majority of humanity still lived in relatively close contact with the land: the first major paradigm change come with mankind's increasing urbanisation. But of primary interest to us here is not so much the fact that humanity now lives in sprawling conurbations, as the fact that those sprawling conurbations were not of course created by nature, but built by the humanity that inhabits them. Here, then, is the major paradigm change, which calls for a major change in humanity's instinctive thinking: although we inhabit a landscape of our own making, we still instinctively expect ourselves and others to adapt to the hardships, obstacles and often mind-boggling stupidities imposed on it by bad design.

At EIDD's establishment in 1993, the Institute's first President Paul Hogan coined the simple slogan that encapsulates the essence of design's responsibility and potential, when he stated that

"Good design enables, bad design disables."

In 2004, the EIDD Stockholm Declaration© provided an equally simple, immediate definition of Design for All:

"Design for All is design for human diversity, social inclusion and equality."

Now, in response to the need for a clear statement about the methodology to be adopted in our practical approach to targeting and achieving social inclusion, the EIDD Waterford Convention©, adopted at the conclusion of the 2006 Annual Conference on the topic of Work for All, established that:

Design for All *"insists on the vital importance of a seamless rather than a sectoral approach to social inclusion"*.

Conclusion

I started this article by explaining that I believe it to be impossible to single out any one event or milestone that can be described as the most important to have affected the discipline of Design for All during the course of 2006.

Although considerations of length (this is, after all, an article and not – yet – an outline for a book) induce me to summarise many factors in a manner that I fear leaves more to be explained than I have succeeded in clarifying, I trust that I have conveyed a few vital impressions:
1) The essence of Design for All derives from socio-political rather than from design roots;
2) Its approach is therefore essentially holistic, based on the real need to cater for the wealth of human diversity, rather than focused on restricted groups of users, however deserving in the short to medium term;

3) Design for All constitutes the methodology that lends itself best to achieving a seamless rather than a sectoral approach to social inclusion;

4) It therefore also constitutes the methodology that lends itself best to translating fine sentiments into hard, tangible facts: really making this world into a better place for everyone and not just talking about it.

© Pete Kercher, President, EIDD – Design for All Europe, January 2007

India – Developing its own philosophy for Inclusive Design

Andrew Walker, United Kingdom Institute Of Design(UKid)

Agenda for change

I belong to the United Kingdom Institute for Inclusive Design (UKiiD) and hope that I can contribute to the debate that you are having on your approach to Design and Inclusion that you are calling "Design for All". Just as we in the UK have had to develop our own philosophy on this, it is now India's turn. I think you need to be very

strong and positive on these occasions especially without funds and will need to resist, as we have had to do, being taken over by people only interested in developing their careers and organizations wanting to adopt us as their own. Independence and integrity must be maintained however difficult in the world's largest democracy. We in the UK have several centuries of contact with you and have similar approaches to problems. In the UK we are fortunate that gradual societal change is imbedded in our planning and development systems and is creating a solid foundation for the acceptance of permanent change. You too are undergoing rapid societal change at the same time as you become one of the great power houses of the world. Here the road that has been travelled started off by pressure from disabled people reacting against charity and being thought of as separate and is now firmly embedded into the structure of civil rights that flows through all legislation and includes all people. Inclusive design is not an add-on but the basis that helps develop an inclusive society.

This has been comprehensively implanted into the planning guidance of the Greater London Authority, (GLA), as well as nationally into the new Part M and Access Statements.

1. The Foundation

Over the last thirty years we have had six Acts of Parliament relating to Equal Pay, Sex Discrimination, Race Relations and finally the Disability Discrimination Act. All have meant painful and protracted journeys by various

groups to prove they were needed and that only legislation would really be effective. People just being nice to one another does not accomplish change.

In order to prove these points we have also had diverse groups pursuing their own researches to add their ingredients into the melting pot. Inclusive Design as a belief emerged from the bottom up and the source is firmly based with disabled people in the built environment as this is the area where art (that which is invented) and the real world (that which just exists) come together in complexity. It started because our building regulations have had to accommodate people who cannot adapt to an environment that is disabling but have demanded the right to use it. These standards could no longer omit old people and children so the only people that were being omitted were the non-disabled population. As a result of this we now have regulations that, in access to and the use of buildings, refer now just to "people".

Since 1976 the Centre for Accessible Environments has been beavering away with regular publications, training courses and helping establish the National Register of Access Consultants. Later the Helen Hamlyn Foundation at the Royal College of Art (RCA), my work at the Architectural Association and more recently others efforts at Reading, Salford, Belfast and Bristol have been engaged on developing design philosophies within their own differing but welcome agendas.

The National Lottery, in a slightly absurd but welcome accident, has also paid a huge role in that the tickets bought come from everybody so everybody should benefit

from the cash spent. This enabled the Arts Council to set up its guidelines that determined projects must allow use by anyone suitably qualified or it would not fund them. Cleverly its payment and monitoring process also related to RIBA work stages. Suddenly projects like Covent Garden Opera and Sadler's Wells had to have access groups and consequently can now be used and run by anyone. This happened to different degrees across the whole country and the initiative is well regarded by other countries.

In a deliberate way the Joseph Rowntree Foundation set up its Lifetime Homes Group to lobby for changes in housing. It was made part of the Labour government's agenda. Now Norway and the UK are the only countries that have a general accessible housing standard for <u>all</u> new dwellings.

I use these examples to show how all these rather different elements have combined in an absurd and extremely British way into providing the firm foundation upon which inclusive design can develop. We start poking about and not too sure what we are doing and suddenly something quite new pops up.

2. Inclusive Design

Inclusive Design is a <u>process</u> that includes <u>all</u> people regardless of age, gender or disability. This is quite different from some iconic perfect and immutable product, sort, like the Holy Grail, by designers and architects to massage egos. This is not just a product (like design for

all) that is just produced and that is the end of it. It is a way of designing, which encompasses management, operation and information and relates to all areas - the built environment, transport, graphics, telecommunications and products.

The term inclusive design I believe is simply the correct use of English. It relates to all those Acts of Parliament I mentioned earlier - from employment where there are "equal ops practices" dealing fairly with the demands of a diverse community to design for everybody in the same spirit. It is <u>not</u> designing for the broader average but for <u>everybody</u>. Isn't that what is needed in this sad world divided by race, religion, wars, politics, age, gender, class, education and income? I think it is.

As well as benefiting the human lot it is also conveniently pro business. This is one of the reasons that Part M was extended to cover all new housing. It saves the government money on the increasing cost of adaptations. Like Part M it is also a standard it is accepted is not fixed but designed to be regularly updated.

The difficult thing about this issue is that the professions prefer to think that, whilst inclusion must mean everybody, "inclusive design" is seen as a euphemism for the archaic designing for "the disabled" as disabled people are a commodity and not individual human beings. There is much research on the needs of "them" – the disabled – but little on the needs of everybody else. It is so much easier to do a PhD on disabled people and to get funding for research. But the rest of the population does

not seem to have woken up to the failings of design, manufacture, information and management relating to them. It has been left to those with the added value of a disability who have had to raise the anti.

Calling for a broader view, The Arts Council is now pressing for organisational audits and auditing will be needed if Access Statements are to work. The Access Statement is really only doing what the Arts Council in its Lottery funded projects has insisted on from day one – the Statement has the ownership of the client and the document evolves through the project and beyond it. I hope that people's perception of inclusive design evolves also beyond "oh that is just about old and disabled people".

Then researchers may actually start doing some work on the rest of the population: for example children, night clubbers and officer workers. Did anyone consult the users of this building before it became used as conference centre? I am sure they did not demand the cobblestones in front of it. A menace.

Any strategy will need to include having access officers in place and seeing that they are properly trained. Very little is taking place in architectural and design institutions where the subject may not be seen yet as academic. Users are hardly involved at all. The Centre for Accessible Environments has been doing training for some years and other institutions are also developing their own methods. The National Register of Access Consultants has now been running for some years and has been a huge and necessary development. Some of us coming from slightly

different professions and not wishing to add more expense to our annual affiliation fees may have chosen other routes. But it is beholden on authorities to insist that officers are not just given labels without knowledge of their subjects.

3. Two Nations

This is unfortunately what is happening too often – probably most often. In the great conurbations across the UK it is safe to assume that access is seen as important. In London I can move about using public transport and taxis with great ease and visit galleries, concert halls, shops and museums. There is an understanding by authorities, professions and public that these things should be in place in a civilized society.

Leave these areas and the picture is quite different. It is like two nations. Yes, the municipal accessible loo with its radar key, locked at seven o'oclock, and the induction loop at the Town Hall where the local tax is paid. But generally it is <u>separate</u> provision and this is <u>not equal</u> provision. The towns are small, the politics are sewn up and aspirations low. There are few buses for anyone and a low floor bus would be a novelty and perceived as something for disabled people. Saloon cars are licensed taxis and an accessible cab means a converted people carrier by Mercedes-Benz.

Complain in a large town about facilities then it is likely to be remedied. But try doing the same thing in a small place

where everyone knows everyone then life can be made very difficult. Even attempting to get a shop to add a doorbell can be seen as confrontational and it will not happen. The local building conservation officer will tell people that the building cannot be altered because it is old, the fire officer will say that the DDA is of no importance and if there is an access officer the post will be given to someone to while away their Friday afternoons. The council will have sold off any buildings that may prove an embarrassment and warned any lessees to sort out their own problems under the DDA. Any access group is of wheelchair users only and meets twice a year with luck.

Developers, usually brewers or builders, will have their own authorized inspectors somewhere else in the country who will not be that a-tuned to detail.

Public participation is not on the agenda and consultation is merely the sending out of questionnaires with percentages for approval ratings of the council's activities. Not necessarily the right questions and no separate box for other comments.

It has taken twenty years to change things in our cities. That is too long to expect people to wait. The DRC or Equalities Commission should be prepared to act in these areas and encourage the setting up of integrated access groups with fully qualified support in the local authority. Somehow mechanism for full public participation on a regular basis is required. Withholding or giving funding has been proved to work. Officers, councilors and the public should be able to meet and talk with one another.

Different professions should be capable of talking to one another. Disabled and non-disabled people should be prepared to sit at the same tables and discuss common issues. We expect people in Northern Ireland, Israel, Palestine, Iraq and South Africa who have been at each others throats to change and yet here people in the same towns and communities are frightened of doing so. It happened all the time in the sixties when planners and architects were doing quite terrible things to our environment. People forget how many of the bad things were stopped by the actions of ordinary folk. Our small towns have now the opportunity to do things new and do not have to have the same composition as existing access groups. Planners and politicians should welcome such change.

When I broke my spine 23 years ago I discovered that the parking permit office was on the first floor without a lift. Since then a lot has happened and there is much to be pleased about and all done by individual and joint efforts of ordinary people.

4. What we have won

We do have the London Cab – a service founded by Oliver Cromwell – which gives wheelchair access, induction loops, baby seat in the armrest, charging point for a mobile phone is clean and knows how to get there. We do have the bendy buses. Every bus in London is now low floor. This has taken great <u>political</u> <u>will</u> by the Mayor. Our businesses and organisations have to similarly pass

muster. Passenger lifts not chair lifts, entrances with bi-parting doors, clear signs and lighting that does not cause glare or pools of light. Colours that are not just shades of grey and do in truth define the spaces. A low welcoming reception desk, positioned so that the receptionist does not need to wear sunglasses all day in the summer. Lavatories with a choice of transfer position and integrated with other facilities and not hidden away or designed to look like something out of a "Sado Masochistic" nightclub. And we know that is just scratching the surface of necessity. But none are difficult. Product design is now under the spotlight of inclusive design - a diverse and complicated area relating to industry and fashion and choice. It is all the more difficult when standards have to be agreed by every state in the EU and very complicated to change. To change them is a protracted business. We need to keep our eye on the ball here and if we were outside the EU we would still end up using the EU standards without any part in the say so.

There is fresh air blowing into some of our architectural practices and some learning from all parties when access statements are agreed. I hope that we shall similar integrated thoughts in the schools of architecture and design where
education and perceptions need to change. It is difficult for established professions with academic and practical education lasting seven years. Similarly with the great dinosaurs of charities "for" disabled people who are trying to latch on to and promote inclusive design that is quite

new to them. They will need to listen and learn from those organisations that have been creating the philosophy or they will fail. Change is not something that the professions and charities have been accustomed to do.

I do hope India will do that which it is best in doing – working from the bottom up, from the villages to the town. Demand political rights not the right to beg, exclude no one. The politicians will need to listen. We who have been through it in Europe and North America and Australasia will support you.

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HADRIAN: Supporting Design for All.

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Abstract

HADRIAN is a software tool developed to support designers in their efforts to 'design for all'. Current research is expanding the tool to transport related tasks. This includes supporting investigations of the whole journey environment. This development is moving towards a journey planner that allows each stage of a journey to be assessed against an individual's physical, cognitive and emotional abilities. This journey planner will then support both individuals wishing to make a journey, and also designers and planners wishing to investigate the inclusiveness of a new design. Much of the data collection has been completed and a concept for the journey planner is outlined. The development of this work also poses a number of significant challenges which are discussed.

Introduction

The case for products, services and environments to be 'designed for all' has never been clearer. Reports by organisations such as the World Heath Organisation (WHO, 2006) highlight the ageing global population and

the increase in people with disabilities. This growing number of people provides a strong impetus to design for the broadest range of consumers. Recognising this need, or opportunity, is important; however it is equally important to provide guidance and support for those who wish to design for all. Our approach has been to look at ways to integrate Design for All philosophy into existing good practice, such as the use of ergonomics design tools.

SAMMIE is a computer aided human modelling system that represents a widely used tool to accommodate the needs of a broad range of differently sized and shaped people into the design of products (SAMMIE, 2007). SAMMIE has been successfully developed and employed in a large number of industrial, commercial and government projects through SAMMIE CAD Ltd., a UK Ergonomics Society Registered Design Consultancy (Porter et al 1999). However, the successful use of such tools is often constrained by the need for 'expert' users. Many difficulties are encountered accessing the correct data, and then applying the data correctly. The de-facto standard of designing for 5th to 95th percentile clearly highlights this issue and also illustrates that ergonomics tools can be used to support poor design decisions just as easily as good design decisions. This has led to the development of HADRIAN.

HADRIAN (Human Anthropometric Data Requirements Investigation and Analysis) is our inclusive design support tool. HADRIAN was developed as part of the Engineering and Physical Research Council's (EPSRC – based in the UK) Design for All element of the EQUAL (Extending Quality Life) programme. The main focus of the work was to address two core concerns in the areas of design and ergonomics that were directly relevant to informing and supporting designers in their efforts to design for all (Porter et al, 2003). These concerns relate to the need for designers to be able to predict multivariate accommodation, and can be summarised as follows (Marshall et al, 2005):

- The provision of relevant, accessible and holistic information on people of a broad range of size, shape, and ability
- A means of utilising the available information to assess the inclusiveness of a proposed design.

Assessment of design for all, or inclusive design problems is very complex. Even relatively simple products such as a common ATM or cash dispenser have a significant number of issues that must be addressed. Firstly there is the core functionality, requiring the user to view and interpret the screen, to reach and operate the controls and to collect the cash and receipt. However, all of this is done in the context of needing the cash which leads to how the user accessed the cash dispenser, where the cash dispenser is situated, and what they might encounter

when they come to use the cash. All of these activities present multivariate accommodation problems for the designer. If any one element of these tasks cannot be completed by the user they are effectively 'designed out'.

In response to these concerns HADRIAN consists of two main elements. The first is a database consisting of physical and behavioural data on 100 individuals covering a broad range of ages and abilities. The sample is deliberately skewed towards the older and disabled population to offset the relatively well understood younger / able bodied population. Data are available on anthropometry, joint constraints, background information and also notes on any disabilities and problems experienced with activities of daily living (Gyi et al, 2004). A key feature of the database is how the data are presented. The database is effectively a catalogue of individuals, allowing the user to browse through the people in the database. This approach fosters empathy between the designer and the people who they are designing for, and attempts to minimise the dehumanizing effect of the virtual environment in which the design is being created. It also moves away from decisions to deliberately design out a proportion of the population based purely on the numbers.

Figure 1. The HADRIAN database contains information on a broad range of individuals.

In addition to the range of anthropometry and joint constraints the system also contains task based data. This covers a range of kitchen based tasks and a number of seating scenarios which can also be broken down into more generically applicable elements. Where possible the data collected reflects real-world application.   Thus, comfort maximums were recorded to reflect what the subject would be likely to do in their own home where absolute maximums would not normally be used.   In

addition, tasks that represented hot loads such as lifting items into and out of the oven were performed using oven gloves to represent their affects on capability and behaviour.
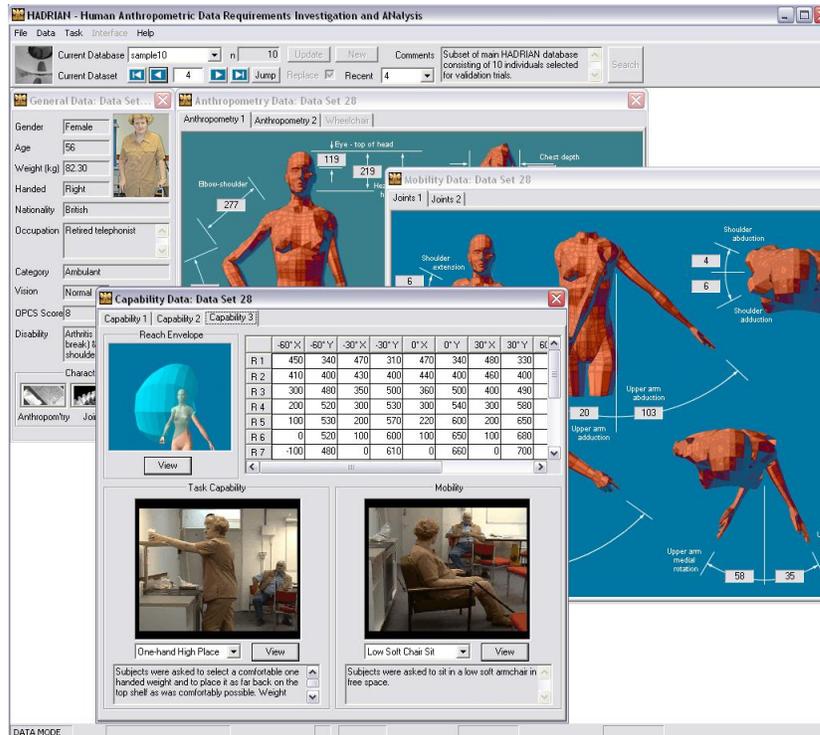
Figure 2. Data display from the HADRIAN database: showing anthropometry, task video clips, reach envelope data etc.

Task data stored within HADRIAN includes a success or a failure for each task element. In addition, the data not only records whether a task was completed, but also how it was completed. This behavioural element is a key part of the HADRIAN mechanism for predicting accurate postures in task situations. It could be argued that as long as the system predicts postures that the individual could adopt the results would be valid and useful. However, older and disabled people often develop coping strategies for dealing with their reduced capability. These coping strategies make it much less predictable what an individual might do and subsequently what they might be capable of for any given task. Thus, we believe it is equally important to capture and then predict the capability and behaviour of an individual in a virtual fitting trial (Marshall et al, 2004).

Accessible transport

Research is now being undertaken as part of the AUNT-SUE (Accessibility and User Needs in Transport for Sustainable Urban Environments) consortium. AUNT-SUE is part of the EPSRC's SUE programme. The consortium consists of UK academic institutions including London Metropolitan University, University College London and Loughborough University, together with local councils and other public and private bodies such as Camden Council, Hertfordshire Council, and the RNIB. The consortium's aim is to produce methodologies for sustainable policies and practices that will deliver effective socially inclusive design and operation of transport. Loughborough's role

in AUNT-SUE is to expand the HADRIAN philosophy to transport, a key area in design for all.

The initial development of HADRIAN addressed localised design problems in response to surveys conducted with 50 older and disabled people (Oliver et al, 2001). The core of the survey examined how design could improve their quality of life. The two primary responses were: in being able to prepare meals for friends and family; and being able to use local transport. This lead to a focus on kitchen based tasks and a range of seating scenarios for initial data collection. Taking a pragmatic approach the data collection focussed on tasks that were sufficiently specific to be relevant to design needs, yet generically applicable so that we were not designing a kitchen design tool, or creating a system that required data on every possible task situation in order to be useful. In addition, ethical considerations and project resources required that we limit the scope of our study to a manageable size, both for the subjects and the researchers.

As part of the AUNT-SUE project, HADRIAN is being developed, to broaden the content of the database and to increase the functionality of the task analysis to incorporate transport-related data. This addresses a key element in attempting to design for all and responds to the second most common response from our user surveys.

The size of the HADRIAN database has been maintained at 100. Data collection is nearing completion and data have been collected from many of the subjects featured in the original study. For various reasons a number of subjects were unavailable for the AUNT-SUE project and so new subjects have been found. Also, some new subjects were required as we have slightly modified the profile of the subject group to include other transport users who are commonly designed out such as young mothers with push chairs.

Significant amounts of additional data are being collected as part of the AUNT-SUE study. This includes features such as ingress and egress capability and behaviour from a range of public transport types. An adjustable experimental rig was constructed that could be used to simulate entering and existing from UK rail, coach and bus vehicles with a range of step heights and handle locations. Participants were videoed traversing the rig at a range of step heights that represented what they were comfortable attempting.

Figure 3. Images taken from video of subjects using the ingress/egress rig.

To supplement, and potentially replace, traditional anthropometric measures the study has been collecting whole body scanned data. Using a $[TC]^2$ whole body scanning system, subjects have been scanned to capture their body form. This allows the extraction of many more measures than would be practicable using traditional methods, to reprocess the data at a later date if additional measures are required without having to try to recall all the subjects, and also provides a computer representation

of the subject's body form which could be used for human modelling purposes in the future.

Figure 4. An example body scan from the [TC]^2 scanner.

Whilst these data enhance the database and improve its applicability to transport they are still only applicable to physical design problems. The initial version of HADRIAN and indeed, most ergonomics design and human modelling tools such as SAMMIE, work within the physical realm. However, as part of the AUNT-SUE project our aim is to expand the database beyond the physical into cognitive, emotional and sensory data associated with travel. These data cover the individual's ability to deal

with tasks such as route planning, dealing with crowds and the effects of crowding on the transport design, understanding signs and other public information under conditions of high visual noise, issues with lighting, and the effects of perceptions of crime and personal safety. All of these elements are complex problems to understand and, in particular, to manipulate into a useable data resource. However, they are often some of the most fundamental issues when people are excluded. Thus, if we consider the design of an ATM, the ATM may be highly inclusive accommodating a broad range of users yet when placed in its operating environment it fails to be inclusive due to the dark and secluded location dissuading users from attempting to access it. Alternatively, a perfectly accessible train design may exclude users who cannot reach the train due to poor signage, or timetabling.

We have addressed this issue through the development of a Transport Activities Questionnaire.   Participants are asked questions concerning: their physical abilities; any problems encountered when using trains, buses, trams, London-style taxi cabs and minicab taxis; their ability to walk distances, as well as issues surrounding taking luggage on the different transport modes; the types and frequency of journeys made; problems in using stairs, lifts or escalators; and difficulties in understanding timetables and signs. The questionnaire also includes a request for information about problems experienced in the local area. Any local areas that participants identified as causing problems, when travelling, are visited by the

experimenters to provide quantitative data to supplement the reports from the participants. For example, this may range from measuring the force required to open a heavy shop door, to assessing the cognitive and emotional issues at a transport node (e.g. changing from a bus to the train, involving crossing busy roads, walking through empty or crowded public spaces with poor street lighting). In short, the questionnaire aims to provide information concerning issues that may arise at any point during the whole journey process.

The whole journey approach

As mentioned previously, HADRIAN has been developed to address localised accessible design problems. However, the concept of accessible transport is not solely related to any single design, rather it concerns a network or system of designs. This network is part of the transport infrastructure, combining a number of directly related, and indirectly related design problems that must be addressed holistically if accessible transport is taken in the context of the 'journey'.

The journey is part of our perception that accessible transport is there to enable users to travel from one place to another. To succeed in providing accessible transport we must be able to ensure that our door-to-door journey for example, from home to the doctor, from the bank to the theatre, or from the airport to a relative's house, is possible at every stage.

As part of the AUNT-SUE consortium two test-bed sites have been identified: in the London Borough of Camden and in the County of Hertfordshire, both of which have council representatives on the project. As part of our whole journey approach we will use the test-beds to identify a number of relevant journeys from which we can collect data. The journeys will be based on observation and real world experience from people in the area and will include all of the accessible design elements that the individuals will have to deal with on those journeys. In particular we will identify the potential barriers faced by the people who make these journeys. These barriers may take many forms and are likely to include a range of: kerbs, pavements, slopes, steps, street furniture, cash dispensers, ticketing machines, lifts and escalators, toilets, transport types, and so on. Clearly, many of these potential barriers may be interacted with in the course of making a typical journey and if any one prevents the user from achieving a relatively small part of the overall task it may well prevent the journey from being possible.

Figure 5. Potential barriers faced during a typical journey.

It is intended that developments to the task element of the HADRIAN system will also take this whole journey approach. Individual designs will still be the main focus of evaluation but they will be taken in the context of the journey and the designer will be able to evaluate the accessibility of a particular journey rather than have to consider each element in isolation. This approach should then provide a much more realistic evaluation of the social inclusiveness of any transport system.

This part of the HADRIAN system will be available as a journey planner. Journey planners already exist (Transport Direct, 2007) and much of this common interface functionality will be adopted. A starting point and destination will be entered, dates and times of travel accounted for and the system will provide a number of options for completing the journey. What is novel about the HADRIAN approach is how the user can assess the individual journey options and the elements of each journey option. A particular journey can be examined and details about each component of that journey can be interrogated. A user can see that a short walk actually includes a number of steps, or a steep slope, that there are benches to sit on along the route of the walk, and that the route is often crowded at the specified time of travel. All of these factors would allow an individual to make a much more accurate assessment of their ability to complete that element of the journey. As a design tool, the journey planner will allow a designer to investigate typical journeys that make use of their design be it the infrastructure, a new train station, or just a ticket barrier that will be encountered along the way. HADRIAN will then assess the journey using the database of 100 individuals and record where each has difficulties and report back who would be designed out.
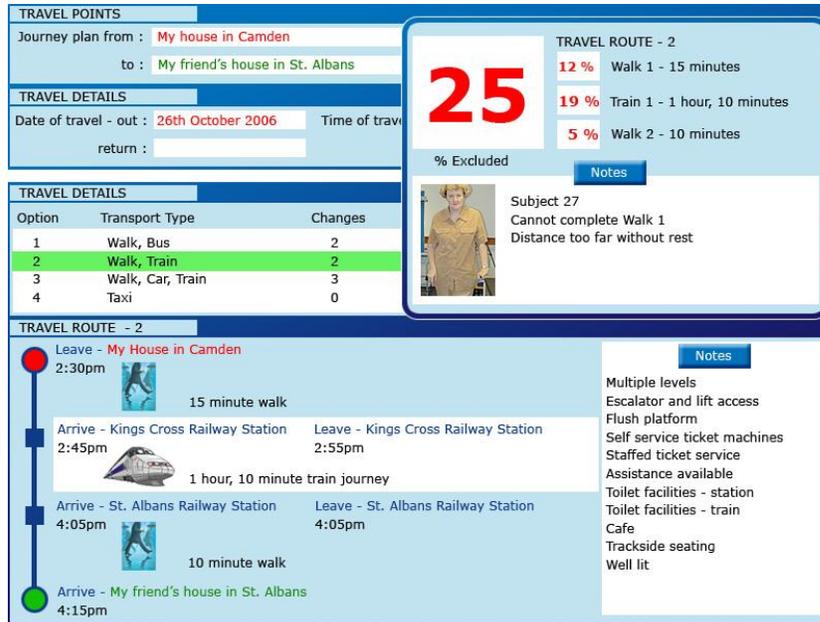
Figure 6. Journey planner interface highlighting the train station element of Travel option 2. Notes indicate possible issues with this element. Interface also shows 25% of the database's 100 individuals being excluded form this journey.

Future challenges

The aims set out for the HADRIAN component of the AUNT-SUE project pose some significant challenges. The first of these is the development of a technique to evaluate a journey. HADRIAN currently employs a task based evaluative mechanism that requires the designer to define a series of activities for the virtual users from the

database to perform (Marshall et al, 2002a & b). The definition of a journey will then add an additional layer to this task framework. As with the initial development of the task definition, one key element with be the intuitiveness of the system and avoiding placing too significant a burden on the designer. It is possible that the system will take a template approach to common design evaluations, automatically providing a task definition that only requires checking by the designer. This then leaves the designer free to focus on any new or particularly complex areas of the design.

In addition to the actual analysis mechanism a further critical factor is the underlying data upon which the analysis is based. Initially the prototype journey planner will use data from the two test bed areas highlighted earlier. The AUNT-SUE consortium has already mapped these two locations in significant detail providing an ideal resource for HADRIAN. However, this level of detail is not widely available for all of the locations people would wish to travel. Assuming validation of the tool proves to be successful, methods of collecting this data can be envisaged. Firstly more research could be done to map key locations. Individuals could be encouraged to submit data to a central (web based?) source relating to areas that they frequently travel. Businesses may be encouraged to map areas near to their premises to encourage trade. It is likely that a long term view would need to be taken, adopting a centrally managed, user driven process that employs many different strategies in

order to successfully provide the level of detail necessary for the journey planner.

The second significant challenge is the incorporation of non-physical evaluations into the process. Whilst presenting these data in the database is relatively straightforward and strengthens the empathy that the designer will be able to gain with the individuals in the database, it is the ability to factor these into the task evaluations that offers the greatest potential step forward. If HADRIAN was a significant step in improving the support for designers in an inclusive design context, then the ability to evaluate the emotional, cognitive, and sensorial effects on a design will be an even larger step. Initially, these effects are likely to be addressed through a look-up table arrangement where parameters are compared to a matrix of data in the database and a judgement made on the referenced value, with more advanced solutions left for future work. Whilst this is not an ideal evaluation of these important effects it does bring their attention to the designer and offers evaluation of various scenarios even if only to a limited degree.

The final challenge is in making the tool itself accessible. The original HADRIAN project got feedback from a number of designers but never really had the resources to fully implement suggestions to the necessary degree. However, the AUNT-SUE project provides an opportunity to address usability and, in particular, the interface towards the needs and working practices of designers. It

is clear that any benefit that HADRIAN might bring to inclusive and accessible design is only as good as the take up and use by those who actually do the designing of these products, environments and systems.

Conclusion

HADRIAN has been developed to support designers in efforts to design for all. This novel approach has proven the concept of maintaining ergonomics data as individuals and supplementing this with additional background information to provide empathy with the people being designed for. In addition, the ability to then employ these individuals in virtual user trials provided a potentially quick and easy method for obtaining the kind of feedback you could expect from a real user trial. Furthermore, this feedback could be obtained during the early stages of design when the cost and time implications of finding a user group and building a full-size mock-up would be prohibitive.

The AUNT-SUE project draws together many initiatives with the single focus of accessible transport. HADRIAN is being developed towards this aim with an expanded database incorporating transport related data and an enhanced task analysis tool that will provide the ability to evaluate a whole journey. In addition to the physical data, HADRIAN will be further expanded to incorporate cognitive, emotional and sensory data that can have a

significant impact on accessibility and the inclusiveness of a design.

Finally, the AUNT-SUE project also gives us the opportunity to develop HADRIAN beyond an initial prototype into a useable system. A system that not only addresses the need for applicable data and a method for employing such data, but also one that is sympathetic to the working practices of the designers who will actually use the system.

References

Gyi, D.E., Sims, R.E., Porter, J.M., Marshall, R. and Case, K., (2004). Representing older and disabled people in virutal user trials; data collection methods, Applied Ergonomics, 35, 2004, pp-443-451.

Marshall, R., Porter, J.M., Sims, R.E., Gyi, D.E. and Case, K., (2005). HADRIAN meets AUNT-SUE, Proceedings of INCLUDE 2005, INCLUDE 2005, Royal College of Art, London, UK, April 2005, pp. 1-7.

Marshall, R., Case, K., Porter, J.M., Sims, R.E. and Gyi, D.E., (2004). Using Hadrian for Eliciting Virtual User Feedback in 'Design for All', Journal of Engineering Manufacture. IMECHE Proceedings Part B , 218(B9) , 2004, pp. 1203-1210.

Marshall, R., Case, K., Oliver, R.E. Gyi, D.E., and Porter J.M. (2002a). A Task Based 'Design for All' Support Tool. Journal of Robotics and Computer Integrated Manufacturing, 18(3-4), pp. 297-303.

Marshall, R., Case, K., Gyi, D.E., Oliver, R.E. and Porter J.M. (2002b). HADRIAN: An Integrated Design Ergonomics Analysis Tool. Proceedings of the International Annual Occupational Ergonomics & Safety Conference, Toronto June 9-12th. pp. 1-6. CD-ROM.

Oliver, R., Gyi, D.E., Porter, J.M., Marshall R. and Case K. (2001). A Survey of the Design Needs of Older and Disabled People. In: M. A. Hanson, ed. Contemporary Ergonomics. Proceedings of the Annual Ergonomics Society Conference, 10th-12th April, London: Taylor & Francis, pp. 365-370.

Porter, J.M., Marshall, R., Sims, R.E., Gyi, D.E. and Case, K. (2003). HADRIAN: a human modelling CAD tool to promote 'design for all', Proceedings of INCLUDE 2003: inclusive design for society and business , 6, Royal College of Art, London , London, 2003, pp. 222-228, CD-ROM.

Porter, J.M., Case, K. and Freer, M.T. (1999). Computer aided design and human models. In: Handbook of Occupational Ergonomics, Eds. Karwowski, W. and Marras, W., pp. 479-500, CRC Press LLC, Florida.

SAMMIE. (2007). SAMMIE CAD Ltd. http://www.sammiecad.com/

Transport Direct. (2007). Transport Direct: Britain's free online journey planner. www.transportdirect.info

WHO. (2007). World Heath Organisation: The world is fast ageing – have we noticed?. http://www.who.int/ageing/en/

Social Sustainability

Dr. Daniel Formosa, Smart Design, USA

Modern Times, Charlie Chaplin's film about the inhumanity of the mechanical age, opened at the Rivoli Theater in New York City in 1936. Chaplin plays a factory worker whose job includes things such as tightening bolts and oiling gears to keep the machinery running. When his boss selects him to experiment with an automatic feeding mechanism on a machine, problems occur. Chaplin becomes consumed by enormous gears and drive belts swallowed up and rendered helpless by machine parts much larger than he. His boss reaction was not to blame the machinery. He blamed Chaplin and sent him to a mental hospital.

This was a silent film, no human voices, produced at a time when sound in films was commonplace. The soundtrack consisted of the rumbling of machinery. The machinery clearly dominated, for Chaplin and for the audience. Its plot reflected the public cry for help, a need to rebel against atrocities of the machine age.

In the 1920 the ability to mass-produce products allowed many people to enjoy the luxuries of the elite. Products

became cheaper, and were more plentiful than ever before. However, machines were one thing, people were another. Manufacturers were doing all they could to enable machines to spew out products. More products per day meant more success for the machine and more success for the manufacturer. A metal stamping machine, for instance, had certain capabilities and limitations. Production was the focus of their attention. If the product was not ideal from a consumer point of view, at least consumers had access to the product. The availability of the product, brought about by industry ability to mass-produce it at a reasonable cost, won out.

Attitudes were changing by the 1930s. In the United States *Modern Times* coincided with the emergence of the Industrial Design profession. At the time the designer goal was to help companies produce modern, stylized products a significant departure from the highly utilitarian, more inhumane products of the 1920s. By the 1930s people were talking about, and demanding, products that served them better. With factories and huge industrial complexes already in place, the industrial designer task was to tame the machine. They obtained shapes that represented a departure from the past, while promising simplicity, luxury, and hope for the future. A designer work required a good understanding of the industrial equipment.

Historically industrial design allegiance has been with the engineers and manufacturers. Marketing role was to create and maintain a desire among consumers. The mold

for the industrial design profession was cast in the 1930뭘, and endured throughout subsequent decades.

By the late 1980s designers realized that the future of design is in understanding the entire user experience. Designers even began undertaking projects for service industries projects in which a physical product may not even have been involved. This was certainly spurred by the emergence of computers, and later, the internet. Products became limited by consumers ability to operate or interpret an electronic interface. The software or firmware became the critical link in the person/product relationship.

Social Influences in the US

From a perspective in the United States, other factors were also at work. The 1950s saw a surge in births in the US. Post World War II baby Boomers were being born in record numbers. The 1950s also saw racial prejudice across the country, especially in the southern states, where discrimination against black people was prominent. By the 1960s racial strife, and the call for racial equality, aroused social consciousness. In the 1970s the call to eliminate segregation was extended to women rights. The Women Liberation Movement emerged, calling for equality between the sexes. Student movements in the 1960s and 70s supported these causes, and design students of the time were certainly among the radical student ranks.

By the 1980s questions arose as to whether design can, in fact, have a social impact. Must it be confined to superficial styling with which many in the profession

seemed content throughout 60s and 70s? Or can the field of design establish a greater goal? As Baby Boomer designers joined the ranks of design professionals, different sensibilities emerged. A readiness to reject authority a trait of the 60웰 radical student movement led to an openness to try new approaches, methodologies, and points of view in developing products.

This attitude prompted us to establish Smart Design, a firm started in New York City in 1979 by a group of designers just a few years out of college. Our office was not alone in this mission. Other design groups began to appear in a similar pattern. Our goal to utilize design to impart social impact started with an effort to make products inclusive, usable by a wide range of people. In addition to being an altruistic goal, it also had, of course, commercial potential. The ability to include a wide range of consumers meant a wider audience, and therefore more sales, an idea that flourished whenever we could convince our clients to take this direction. In the early 1980s we were well underway incorporating principles of biomechanics and cognitive psychology into the design process. Our design methods incorporated quantitative and qualitative studies to advance the cause. In 1980, for instance, we knew it was possible, by employing techniques of cognitive psychology, to measure people웰 perceptual and emotional reactions to a product. We also knew that perceptions and physical design attributes need to be considered in unison. Quantitative studies in

design represented a radical departure from past methods.

While a focus on people was our goal in design, it was sometimes difficult to sell this approach to our clients, who were established in more traditional ways of working. There were exceptions. Clients such as Corning Glass Works and Johnson & Johnson were open to, and supportive of this approach, more so than some of our other consumer products clients. This turned around in 1990, however, when we were asked to develop a line of kitchen tools that could be used by anyone, including people with physical challenges such as arthritis and poor vision. We were thrilled to undertake the project. Where in many previous projects we were convincing our clients that this idea of design for all should be embraced, the concept was now the core of this project. In the course of the design work the company was named OXO and the product line was named Good Grips. While the product line has since become a commonly referred to example of design for all, at the time it was a radical departure from the products currently on the shelves and a risky undertaking.

The Future of Design

Our single principle guiding Design for All, or Universal Design, was to eliminate segregation. Design for everybody. Design should not unnecessarily exclude portions of the population from enjoying the advantages of a designed environment, or the potential to improve their quality of life. This approach does not necessarily

mean one design for everybody. A system of products can sometimes provide an optimum solution. However, no product offerings should stigmatize a portion of a population based on their physical or cognitive abilities, or other circumstances beyond their control.

In the 2000s we are expanding our scope. While committed to Universal Design, Design for All we are addressing other aspects of social responsibility, or Social Sustainability in design. These include design for a diverse range of physical abilities, cognitive abilities, cultural and sub-cultural issues, social scenarios, gender differences, geographic differences and environmental sustainability

How do these goals mesh with Industrial Design roots? Achieving them requires a radical shift in the practices of the profession. Today the field of Industrial Design may be a victim of its past. The ability to address these new goals reaches far beyond the ability of designers to same

the machine. Design education programs may be evolving too slowly to help the design profession keep pace. In the near term, we will need to call on professionals from other disciplines to assist. It's an imperfect solution. Unless designers take on this social responsibility, we may see designers reduced to technicians, not visionaries. Other professionals will find themselves better suited to steer design.

If Charlie Chaplin were around today he could address any number of social topics in a sequel to *Modern Times*. Recent movies such as *An Inconvenient Truth*, addressing environmental issues, are serving similar roles. It will be interesting to see if the design profession reinvents itself to take a new direction, and if a new wave of social awareness coincides with the emergence of a new role for design.

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Art and exhibitions for all – some basic principles to achieving the goal

Dr. Rüdiger Leidner
President of the coordination board on tourism
of the German Association for blind and partially sighted people

1. Preliminary remark

The principle of Design for all (DFA) was well explained in the article of Pete Kercher, President of Design for all Europe, in the very first edition of this newsletter in 2006. In order to contribute to specifying the principles of DFA I tried to apply these principles to a particular industry, the tourism sector (see No. 2/2006).

Thus, I do not think – after the number of famous contributions to the newsletter of Design for all India, that it will be necessary to explain the principles of DFA again. I will rather go *medias in res* and try to show how these principles can be applied in another important area of daily life: art and exhibitions.

The organisational instruments presented in this article to realize DFA with regard to art and exhibitions can easily be transferred to other areas.

2. The accessibility plan

Art and exhibitions for all is a particularly crucial issue when assuming that the buildings used will not be newly constructed, but exist already. Taking into account the needs of the potential clients and consulting them, one of the basic principles of DFA, in such cases means that the operators first must answer (to themselves) the question for which persons the museum or exhibition shall be accessible: only for the average client of both sexes without any activity limitation (160 to 180 cm tall, right-handed, no glasses, no baby carriage) or also for people who deviate of this average and would perhaps

benefit from well contrasting characters and signs, from more and better direction panels, and stairless corridors.

In view of the demographic development forecasted in Europe that will result in 2040 in a share of people older than 65 of about 30 % on the population the share of visitors with activity limitations will rise as well.

One does not have to think of people with cognitive disabilities to take care of an easy to understand language. Some years ago I visited the exhibition "The imperfect man" in Germany that presented good and bad examples how societies treat the issue of disability. After my guided tour one of the managers of that exhibition mentioned in a discussion that she as scientist sometimes feels frustrated when observing how many visitors without cognitive impairment exclusively read the information presented in easy to understand language for this group. Apparently this information was "easy for all"!

After this internal clarification by the management the targeted visitors should be consulted to collect their wishes and needs.

Since it can easily be assumed that the number of wishes exceeds the financial capacity of the establishment it will be necessary to set priorities with respect to the annual budgets.

That means that an „accessibility plan" has to be set up that takes into account the financial means of the establishment as well as the wishes and needs of the target visitors to set priorities and arrange a temporal sequence of their achievement.

As far as visitors with reduced mobility or sensoric impairments are concerned visitor profiles considering the respective disability are an important prerequisite for the next steps.

When these visitor profiles are established the management of the establishment must decide whether they shall be realised in sequence one after the other or whether the most important needs of each group shall be accomplished simultaneously postponing needs considered less urgent to the next budget.

The existence of such lists of visitor profiles leads to more transparency and is also of advantage with regard to the dialogue with the public, for they make it easier to inform the public, for which target groups which measures have already been carried out and which are decided to be realized later.

Besides the target visitors an accessibility plan must also involve other stakeholders such as the authorities responsible eg. For town planning. For to make the content of an exhibition accessible prerequisites the accessibility of the building and its environment. The target visitors must be able to get to the building from their parking place (wheel-chair users without steps) or the next station of public transport (blind visitors should be guided by pedo-tactile stripes in the sidewalks).

As regards the content of an exhibition most establishments in Europe make use of audio guides and presentations in relief to make it accessible for visually impaired visitors. In September 2006 in Austria the

Vienna Institute for blind students carried out a conference on art for all. The presentations at this conference showed that, for example, the Louvre in Paris obtains plenty of experience concerning visually impaired visitors.

Interesting approaches with regard to visually impaired users were realized in September 2006 in Germany, for example, at "Sandworld", an exhibition of huge sand sculptures and in the exhibition "Understanding Egypt by touch" presented in the Egyptian Museum in Munich. In both exhibitions the organisers made use of new audio guides presenting additional information for visually impaired visitors that started speaking automatically when the visitor came close to an object.

In the Egyptian Museum copies of the originals were presented to touch them. Depending on the size of the original the copy was enlarged or reduced to facilitate the touching visitor to get an impression of the whole figure. Furthermore, the Egyptian Museum installed pedo-tactile stripes in the floor guiding the blind visitor around all objects accessible for him.

The audio guides used at these exhibitions can easily present information for different visitor profiles. At the Sandworld exhibition particular information was offered for children and visually impaired visitors. The respective company envisages implementing in the next version also a profile for visitors with hearing impairments that then presents sign language on the display. This would be a very good example for audio guides designed for all.

Much more difficult, however, is the answer to the question how paintings can be made accessible for blind visitors.

The Louvre in Paris obviously relies on relief copies in combination with verbal explanation (guided tours).

The Museum of Modern Art in New York makes use of the concept of audio guides with particular user profiles. Some paintings presented there do not only have a number to be entered in the audio guide presenting general information, but additional numbers to get information for children or blind visitors. Blind visitors, thus, can receive information eg. on the size of the painting, its main structure and colours presented.

The Museum of Modern Art, however, did not yet install the most important guiding systems for blind visitors such as talking elevators or pedo-tactile stripes in the floor. Furthermore, a blind visitor can not recognise, at which paintings he can receive the particular information and which number has to be entered.

In this field we break new ground. For the operators of these exhibitions/museums it must be very clear which kind of information shall be provided. The organisations for the blind should take up this task pro-actively. It is a further good example that art for all – as design for all in general - needs the participation of the user. In Europe they can benefit from the experience made with the production of "audio-films" presenting additional information on a second track or a second channel of the TV.

3. The accessibility coordinator

Experience made, for example by the TAETE Gallery in London, recommends that the setting up of accessibility plans, its carrying out as well as the dialogue with external stakeholders should be executed by a person particularly in charge of this task, the „accessibility coordinator".

Besides the setting up and carrying out of the accessibility plan an accessibility coordinator has other important responsibilities to realise the concept of art for all.

In particular he should organise the exchange of views and experiences between the staff of an establishment as well as the training necessary to familiarize the staff with the needs of disabled visitors. Furthermore, the accessibility coordinators of all establishments following the concept of art for all should meet regularly to exchange views and experience. In this respect the Vienna conference in September 2006 was a promising start for such a platform that will hopefully be followed by a second conference in May 2007 in Marburg (Germany).

We are thankful to all of your sincere efforts for us.

NEWS: 1, Mr. Edward of AARP (American Association of Retired Persons), USA visited India and arranged our meeting at Taj Hotel, India. Due to demise of his close friend, he left India and requested Ms Wendy R. Sherman, (Ambassador, AARP) conducted meeting. After the condolence for Edward's friend, our meeting was conducted in open environment and shared our thought for aged people in India.

2. We have invited Mr. David Richard, President, Design For Use, USA, for talk on 'user usability' at Indian Institute Of Technology, IDDC Delhi for design students.

3.

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Message From President, Mr. Takuma Yamamoto, International Association for Universal Design, Japan

On behalf of IAUD, we wish to congratulate you on the holding of the International Conference of Design for All Institute of India.

After bringing the 2nd International Conference for Universal Design (UD) in Kyoto in October last year to a satisfactory conclusion without complication, we are now having a brief moment of respite. We would like to express our deep appreciation for the enthusiastic participation of your country in the conference. Thanks to the efforts of participants from your country and other countries, we were able to welcome attendants from 29 countries and to receive the compliment that we need not be shy about calling such a turnout an international conference in the true sense of the word.

The 1st International Conference for Universal Design in 2002 was held with a feeling of trepidation but we received praise from our overseas participants, and I believe that it was a very meaningful conference in the sense that benchmarks became possible and Japan's position with respect to UD was recognized. In particular, the high regard from a world perspective of the initiatives of industry in Japan significantly boosted the confidence of the Japanese companies participating, and led to a deeper understanding and the subsequent participation by relevant government agencies and organizations as well as educational institutions including universities and research institutes. This also led to the establishment of the IAUD in 2003.

While we are small in scale, I believe that our efforts to promote our activities step by step from the perspective

of our users have resulted in a significant movement toward UD. This belief was also incorporated into the International Universal Design Declaration announced at the end of our 2002 conference in Yokohama.

Unfortunately, I will not be able to attend your conference due to other commitments. However, I would like to express my sincere wishes for the fostering of UD in India in a truly Indian way and my keen desire to cooperate with you in UD to create a society where people in Asia and the world can enjoy the benefits of UD.

We hope that this step will be your springboard to making significant progress in your efforts in UD in the future

From the Far East region of Japan, we send our best wishes for the success of your upcoming conference.

4. **Competitiveness Summit '06:**
A review from the UK Design Council
By Nico Macdonald

Roundtable discussion with Bill Moggridge, David Godber, Sir Terence Conran and David Kester, responding to the speech delivered by the Rt. Hon Alistair Darling MP, UK Secretary of State for Trade and Industry, seated far right. Photo: Christine Donnier-Valentin ©The Design Council.

R e d u c t i o n
In November 2005 the UK Treasury published the [**Cox Review of Creativity in Business**](#), addressing "a question that is vital to the UK's long-term economic success—namely, how to exploit the nation's creative skills more fully" where the "emphasis is on the use made of creative skills by smaller businesses, with particular concern for manufacturing."

Innovation "will dictate the economic prosperity of nations" Cox observed, but the weakness of the UK is "not being able to take full advantage of this." We produce people in art schools who don't understand the language of the business world, he noted, and business people who don't understand how to manage innovation. How can we combine their skills?

This December the **UK Design Council**, of which report author Sir George Cox is Chairman, convened the **Competitiveness Summit '06** in London to brief people on progress with implementation of the report's recommendations and 'build momentum' around it. Specifically the Summit was intended to showcase the role of creativity and design in UK competitiveness, discuss how they may be further embedded, and examine future trends; consider threats and opportunities from abroad; and examine the role of education and its relationship to industry.

The Competitiveness Summit was probably the most serious and eminent design event in the UK in the last five years, though the balance of the audience was from the design and consultancy industries, government policy and funding, and education, rather than the 'client side' of the equation.

"My report contains no originality at all," Sir George Cox told the assembly in his opening keynote—though he reported the interest it had generated in the US and the

Middle East, and at the **World Economic Forum** Annual Meeting at which he had presented.

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Considering the much debated threat of China and India he argued they also represent great potential, but to take advantage of this we will need "wit and imagination, and to be able to innovate."

Responding to the question 'Is UK competitiveness imperilled by developing economies catching up with us?' John Thackara, Director of Doors of Perception, and programme director of the Designs of the time project, challenged some of the assumptions underlying the Summit. "We are all emerging economies now," he argued, more "wrongly developed" than advanced.

The panel on Strengthening Links Between Industry and Education Providers, brought together Professor David Gann, Principal of Imperial College London's Tanaka Business School; Professor Jeremy Myerson, Director of Innovation RCA at the Royal College of Art; and Rolls-Royce Chief Design Engineer for Civil Aerospace Geoff Kirk. What does industry want from academics? asked Professor Gann. "Well trained people, inquiring

minds, rigour." What should academia avoid? "Second rate consulting to third rate firms is the road to misery," he argued. Instead it should consider collaborative models, take a long-term view, work out its attitude to intellectual property, and consider incentive models. In the context of the first point, he described one of the increasing number of links between Imperial and the Royal College of Art, some motivated by the *Cox Review*.

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The Summit demonstrated a somewhat limited imagination about the power and nature of design. In his very engaging talk, David Kester cited the typography of the Yellow Page as an example of good design. And so it is. But did it really answer the problem? Possibly at the time, but the real design solution to finding and evaluating local services has been much better solved by a combination of searchable databases, the Web, ubiquitous Internet access, mobile devices, and GPS.

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Even within the design community the discussion was oddly out-of-date, focusing almost exclusively on product design. The Ministers were, as usual (and perhaps understandably), given to this narrow understanding of design, though they were also guilty, in the case of

Malcolm Wicks, of corralling 'rock and pop' and the design industry into the all-encircling pen of 'creativity.'

Gordon Brown and other Ministers in the current UK administration may say the right things about design, but they lack real ambition or leadership. Instead they are *raising up design and creativity* and hoping to bask in their untarnished glow. Designers need to avoid being tarnished by association

(Courtesy: World Economic Forum)