

Design for All

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LIVING PROOF



Work from
the Royal
College of Art
Helen Hamlyn
Centre

Chairman's Desk:

The emperor Asoka unified most of India in the 3rd century BC. This is recognized as a golden age in Indian history. About 1200 years thereafter India again experienced the invaders from the North West and later by the Mongol conqueror Baber, who established the Mogul empire (1526–1857). Many European powers established their trading companies in the 16th and 17th centuries but finally the East India Company established its dominance in 1857. In the middle of 20th century, India regained its political independence from Great Britain (1947) following a campaign of civil disobedience led by the great pacifist Mohandas K. Gandhi. Its concomitant partition into the separate countries of India and Pakistan resulted in a tumultuous migration of Muslims to Pakistan and Hindus and Sikhs to India in which approximately one million people had died. This man made disaster is unprecedented in human history.

Our world was changing, even though at the time, we had no idea how destructive the change could be. We were designing so many arts & crafts with perfection for thousands of years. The world was amazed to see our performance and few countries could reach the height of our skill or the devotion in details of our craftsmen. This was such a part of us that we continued to do so even under foreign rule. On the other hand a new world was emerging with industrialization in Europe. New hopes were noticeable on the horizon. A realization was growing for industrial

design that could satisfy more numbers of men and women. The new concept of Industrial Design was emerging in Britain. The historians of Design give credit to Joseph Claude Sinel who coined the name 'Industrial Design' and popularized it from 1919 onwards in the minds of the British people. The effects of World War-I were clearly visible in the commercial and industrial world. Everyone experienced the dark time of war that was a result of either political fall-out or the result of a few individuals wishing to satisfy their huge ambition & ego even at the cost of many lives. Its long, sad affects developed a craving among the mind of a majority of people to spend quality time with their family members and work for betterment of society. The great depression was still looming large in the minds of people. That was the time when man's social creativities were very low. Few dared and defied the man-made calamities of war, and kept engaging themselves in spite of knowing that there were no takers for their works. They set an example for upcoming generations to 'keep on working for your objectives whatever odds might be.' As people felt a little bit of ease of the pressure of war, finance, and commercial depression, the world again came under the influence of World War-II. It had broken the backbone of people who wished to live peacefully and devote time for the betterment of society. How come designers were left untouched under these circumstances? Their role was marginalized. Their need was felt in the decade of 60's and they established themselves as a part of industrialization from the 70's onward. Gradually some designers have realized the need

for Universal/ Design For All/ Inclusive design. They found that few people were able to use their products with ease and rests of the users were deprived in spite of being able to afford and in need of such products. It germinates new ideas in the mind of designers to make their products commercially successful and viable. The most significant part in 80's was that these concepts of Universal/ Design For All/ Inclusive Design thrilled some designers. They started designing their products for delight of the users and thought this concept may make everyone use their products with ease. It gave them tremendous inner satisfaction in fulfilling their social duty for those who were deprived because of design faults.

It was an effect of many centuries; India's design was established at grassroot level and was safe, prosperous in the hand of craftsmen till the 18th century. Society was sensitive and caring. The elite class and religion were supporting and patronizing it either by introducing the rituals for common people to practice or at the time of natural calamities ordered them to construct the palaces, place of worships or forts. There was some sort of institutional support but no institution was in any real sense existing but work of craftsman used to get patronage. Present day designers of India are remarkable in their design and proving themselves internationally. We have more qualified designers but generally they are professional. They are divided and have neither support of institutions nor are they interested in improving the skills of their work or understand the social responsibility. But a few have some

intuitive creativity. This is the reason we notice some masterpieces being thrown up from time to time but a high level of sensitivity is missing in their acts. All these changes are transforming our society. Their thinking is limited up to earning money and that is all. This is the reason we design but the divine touch of a masterpiece is missing. To create a masterpiece one has to think beyond the materialistic world. Designers should live in astral world by practicing rigorous discipline and renouncing earthly designs. We have learnt a lot from the West and grateful for their scientific knowledge and raising our knowledge-based society. We know if inside of man is ruined all the progress is of no consequence. We should tread our path of progress with a sense of divinity.

We are living in modern India and somehow we have managed to come out of the shattering experience of our collapse of different prevailing ideologies during our freedom movement. No clear ideology could emerge as winner and no individual or organization is in a position to claim that freedom was attained because of any particular ideology. That is why many ideologies are surviving and we witness that their followers are carrying on their work. Diversity of opinion has some time been good for the progress of mankind but there are times when it has scattered our efforts and we could not proceed in one right direction. Standardization often scuttles creativity but the open minds of the people help to preserve these elements since it permits us to visualize beyond set uniformity. The beauty of the great cities is not inspiring at times as we notice that many buildings in USA or UK or Japan or Dubai

are in standard formats and the distinct character of the city is lost in the attempt to standardize. Creativity is limited and not blooming and flourishing in any real sense as it usually grows in the absence of standardization.

Our leaders adopted much of the western progress model under the leadership of Pt. Nehru who was representing elite groups who eventually came to taken over control of the state and the peasantry whose natural leader was Mahatma Gandhi was reduced to an ornamental figure as 'Father of Nation'. Pt Nehru laid the very strong foundation based on the liberal democratic system of Great Britain. We are therefore proud that we are world's largest democratic country today. This system has given opportunities to many of us. The majority community has developed a system to protect the interests of the minorities and introduced a protectionist policy that has benefited all and gradually minorities have joined the mainstream. We have produced designers who have learnt from the west and they are flourishing in our society also. But we should also encourage our genuine designers who are our traditional craftsmen. Their arts too have changed hands from one generation to another and in the process refinement is noticeable.

Our toy industry was very good in designing. Our artisans used natural materials such as earth or paper or wood and crafted in such a way that their toys could last for years. The same material provided by nature could be recycled. The purpose of toy is to distract the mind of the child, keep it happy, and help in learning that should enhance its

personality. Our advice to the young designers is design something which is universal, useful and natural.

At present whatever our position we enjoy in the world all the credit goes to the leaders who have participated in the freedom movement and learnt a lot from British administration. They had a great vision and were strong characters. The first Governor General of free India His Excellency Rajaji was a visionary and as far back as 1929 he questioned and doubted our capability to rule our free country. "We are fighting for free India. Are we competent and capable to rule our free country?" He was a great thinker and worried for future and was aware that freedom was inevitable and we would succeed sooner or later. I liked their attitude and our designer should develop the same skill of commitment, honesty to themselves and always think for future or look at probable problems and the solutions. I am great admirer of Mahatma Gandhi. I remember his words of wisdom when we were about to be a free country and last viceroy Lord Mountbatten was about to declare act of political independence. Everywhere confusion was prevailing, rumors were at peak and hatred was germinated and growing in the Indian mind because the idea of the creation of Pakistan was disturbing everyone. He said 'we have a long relationship with Great Britain and we were fighting for our freedom. Let them go honorably and we should see them off gracefully.' He maintained the grace in his heart for the Britishers. Goodness should prevail in every heart. We are free and our long association should continue on the principle of friendship.

In past, Europeans had a very vague concept of the Indian subcontinent as a unit, and rightly so. The first significant English map of the region, drawn by Renold Elstrack in 1619, but based on information supplied by Sir Thomos Roe, was a map of 'The Empire of the Great Mogoll'. Britishers have contributed a lot in preparing us to meet the challenge of the modern world. They have given us modern geographical boundaries for our nation, a Rail system, electricity, post and telegraph, social reforms like abolishing of Sati, child marriage, widow remarriage, established modern universities in Madras, Calcutta, Lahore, and Allahabad. They started schools for girls in many parts.

Today we are competing with rest of the world because we are an English speaking people and our training is according to the requirement of modern world. We are thankful to them. One day I was traveling by public transport and few young and middle-aged passengers were talking. From from their discussion I could make sense of their frustration that they were interested that our country should progress by leaps and bounds and they were in firm belief that it could. One of the passengers posed a question to his fellow passengers. "Was it not too early for us to get freedom from the British? They should have continued to rule us till today and we need more experienced guidance and discipline of the British?" This question had disturbed and shaken me inside. While alighting the bus, I murmured, "If the British would have ruled over us and given us complete autonomy we would have performed much better than how we are

performing today. Our leadership is bankrupt as in many parts of the world. ”

The Indian subcontinent is blessed with a most fertile peninsula in the world. It is nature’s gift to us. We have all the four seasons. We have not seen the hardship of weather because of the blessings of nature. We have the sea on three sides and on the other side we have the mountains of the Himalayan range. We are protected by natural boundaries. We are gifted with bounties of nature. What is happening in the rest of the world has minimal effect on us. The world wars II & I have not affected us. Our countrymen were never ambitious to invade others. We never attacked any country to prove our supremacy over others and never wished to be a world power. We maintain a low profile and never live with a huge ego. The continent of Circe always attracted the traders, messengers of gods etc. It has equally attracted political ambitious rulers and some as settlers and some as invaders. Our country has welcomed the intellectuals of all time who wished to learn from our advanced progress in world of science, philosophy of logics, ethical values and respect for all living beings. Our ancestors were so sensitive, ethical and respectful for our environment that they never traded raw materials but always sent out finished goods. In 1760, India’s share in world trade was nearly 25% and when we are currently trading all natural raw goods and partly finished goods our total trade value of total trade is less than 2% of total world trade. Is it not time we should think about redesigning our systems?

Most of the people are asking me 'why are you selflessly publishing a free newsletter and spending your all resources and in return asking for nothing?' I paused for a moment and say "I am not born with huge ego. If I would have huge ego I won't be publishing this newsletter but in some glamorous profession like fashion, film etc. "I do not measure human success in terms of wealth or power or status rather rendering quiet and dignified service and sacrifice.

I am thankful to Director Prof Jeremy Myerson co-founder of Helen Hamlyn Centre and Manager and Research Fellow Mr. Rama Gheerawo who has done their job of guest editing with complete honesty and have poured their heart into each word of this special issue. Our Guest Editors have a very long experience of their specialized area and we are honoured that our young designers can learn a lot from their contributions. Communication Manager Ms Margaret Durkan has designed our cover on the request of Mr. Rama and our team thanks for her marvelous work of a standard befitting the Royal College of Art. What our readers are reading is the effort of many contributors who have made great efforts worldwide. Their contributions are remarkable in this special issue. We are fortunate that we have collaborated with the world's most respected and regarded institute 'Royal College of Art Helen Hamlyn Centre, London' for this special issue.

Live for design and think in design. Each morning is a new design for everyone.

With regards

Dr. Sunil Bhatia

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From the Editors Desk

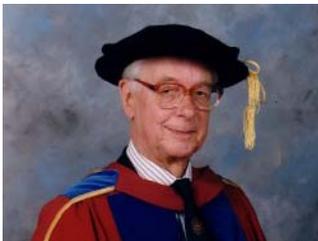
Lalit Kumar Das, M.A.(RCA)

It was 1972. I had joined School of Industrial Design (Engineering), Royal College of Art. Mr. Victor Papanek, a year earlier had published his path breaker "Design for the Real World." For Professor Frank Height it was a challenge that could not be ignored. Frank's concerns later materialized into a conference 'Design for Need' held at RCA. It feels good that Helen Hamlyn Centre with its focus on people-centered design and innovation is a continuation of those concerns going back to the 70's.

In those days it was difficult for us Indian student's to appreciate the problems posed by Victor Papanek. Back home, we were actually living in the real world which came naturally to us. We were socially caring, we were mindful of resources. Wastage was shunned at. Elderly mattered. Studying in the west meant understanding the making of modernization. The 'real world' challenge for us, was the understanding the design of complex products & systems and ever advancing lifestyle that characterized the western world. This was our understanding then. However east has met the west on a common platter of challenges, global warming, resource crunch, waste dumps, marginalized population, diseases endemic to modern development, me, me and me. These are no longer theoretical constructs. They are real problems.

This special issue devoted to the work of Helen Hamlyn for inclusive design at the Royal College of Art. More details of their activities can be seen at <http://www.hhc.rca.ac.uk/>. The selected papers document the work done by research associates and others, in collaboration with the industry, in areas encompassing design of kitchens, bathrooms, packaging, workplace design, way-finding, accessibility and research methodology on user studies for inclusive design.

Undoubtedly this is great effort which should inspire more young minds to work in this area and more experienced clouts to create opportunities for such work. There is a need to move from a designer inspired designing to culture propelled designing if we are to really provide a lasting solution to inclusive design.



My hats off to Frank for being part of the mover & shakers legacy at RCA in the early 70's. It has had some lasting effect.

Lalit Kumar Das, M.A. (RCA)

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Other regular features

Forthcoming issues:

1.

Chairman ICDRI, Mr. Mike Burks has accepted the invitation of our Guest Editor of January 2009 Vol-4, No-1 issue of newsletter. We are honoring the inventor of Braille language for his role in 200 years on 9th January 2009

2.

December 2008 vol-3, No-12 issue is our special invited author's issue

3

November 2008 Vol-3, No-11 issue is special issue with Dr Rain Scott as Guest Editor

4.

Prof Ricardo Gomes of Industry and Design, San Francisco State University has accepted the invitation of Guest Editor and organizing for special issue for March 2009 Vol-4 No-3.

5

Newly formed organization in Taiwan Asian Universal Design Network has expressed to collbrate with us for special issue and Mr Chang Tang is inviting articles on the behalf of Design For All Institute of India from their members.



Jeremy Myerson

Director

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Academic and professional background

Jeremy Myerson is Director of the Helen Hamlyn Centre and Professor of Design Studies at the Royal College of Art. A graduate of Hull University and the Royal College of Art, he began his working life on The Stage newspaper in the mid-1970s and developed his interest in design as a journalist and editor working on a number of titles including Design (published by the Design Council), Creative Review and World Architecture. From 1986-89, he was Founding Editor of Design Week, the world's first weekly news magazine for designers and their clients.

For much of the 1990s, Jeremy worked as an independent writer, researcher and curator in design, often with the aim of linking design industry developments to those in higher education. From 1995-8 he was Professor of Contemporary Design at De Montfort University. In 1999, he was invited to return to the RCA to set up the Helen Hamlyn Centre, its role as a catalyst for socially inclusive design reflecting much of his own writing, research and exhibition curation.

Research interests

His research focus is on the study of professional design practice in relation to social and technological change. He is particularly interested in the junction point of inclusive design and innovation – in exploring how human-centred

design methods can be a trigger for business productivity and enterprise. In recent years he has focused this interest on the design of the office environment, writing a trilogy of books on the subject with technologist Philip Ross, the latest of which, Space To Work, was published in October 2006 by Laurence King in London and Abbeville in New York.

His exhibitions similarly address a mix of humanist and innovation themes. These include the British Council touring show Look Inside: New British Interiors for People, Doing a Dyson at the Design Museum, and Rewind: 40 years of design and advertising from the D&AD Awards at the Victoria & Albert Museum.



Rama Gheerawo

Research Fellow

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Academic and research background

A designer and academic by training, Rama Gheerawo joined the Helen Hamlyn Centre at its inception in 1999. He worked on developing the Centre's Awards programme which encouraged take-up of inclusive design amongst RCA design students. He now leads a team of researchers on the Centre's Research Associate Programme who work closely with research partners on applied inclusive design projects and was shortlisted in 2008 by the British Council for their UK Young Design Entrepreneur of the Year Award."

Rama was part of the team responsible for developing the centre to the position it holds today and he has worked on a number of associated projects. He has held the position of Deputy Chairman of the Scientific Committee of the centre's Include conference for the last five years. Rama has had experience in the creative industry, having worked in the automotive, product design, multimedia design and design engineering sectors. He writes, publishes, lectures and talks regularly to a variety of audiences including students, academics, designers, industry and government.

His first degree was a BEng (Hons) in Mechanical Engineering from Imperial College, London and his second degree was an MA in Industrial Design Engineering from the Royal College of Art.

Research interests

Rama specialises in inclusive design practice, the development of methodology and knowledge transfer to business. Key areas of focus include more inclusive modes of transport and independent living – the creation of products, services and environments that give diverse groups greater choice and sustained independence in their daily lives. He has a special interest in moving inclusive design beyond its current construct of age and disability focus to address ideas of social, racial, cultural and historical exclusion. His work on the Research Associates Programme has recently focused on ‘innovation through inclusive design’ looking at how user-centred design methods and practices can create new knowledge and new opportunities for business. Central to this is the articulation of the business benefits of inclusive design and the creation of management models to incubate the inclusive design process in an industry context. He uses a range of methodologies in his research including ‘close-to-consumer’ ethnography and maintains a practical focus in all areas of research.

Rama is currently leader of the Centre’s [Research Associate Programme](#) which teams recent design graduates of the Royal College of Art with industry partners to work on year-long inclusive design research projects. Work focuses on knowledge transfer to business and the projects result in ‘real life’ inclusive design case studies. Recent partners have included Hewlett-Packard, Ford, Levi Strauss, B&Q, Orange and Philips Design.

Guest Editorial:

Mr. Rama Gheerawo,

Prof. Jeremy Myerson

Living Proof: The litmus test for people-inspired design

If described as a purely aesthetic process, design tends to have a one-dimensional relationship with business and society that weakens its effectiveness in both arenas. If design can enable us to think about and visualise peoples' needs and aspirations, it can become a powerful tool for social inclusion and wider change. Centring design around people can significantly increase corporate competitiveness and value, whilst acting as a trigger for designers to innovate. This is a central premise of our thinking at the Royal College of Art Helen Hamlyn Centre, but whilst there is obvious social, moral and philosophical benefit, we also look at the creative, financial and potential business impact of adopting this approach.

In this special edition newsletter for the Design for All Institute in India, we showcase an important part of our work, our collaborations with industry, building on over 100 projects with 66 companies and organisations completed since 2000. We have also included a selection of academic papers and articles written by HHC staff that outlines our latest thinking. We thank Dr Sunil Bhatia and his team for this excellent opportunity to share our work through his

newsletter and begin our individual dialogue with the Design for All movement in India.

India has a long history of contemplating and responding to the human condition and this, in particular, lends itself well to a people-inspired, socially inclusive approach to design. The evidence is there in front of us. From the timeless Vedas to Adi Shankara's system of Advaita that preaches the philosophy of 'non-dualism' and equality, from the reign of the legendary King Ashoka the Great, lauded by H. G. Wells, and whose edicts are a blueprint for social sustainability to Mahatma Gandhi who helped to build a nation of millions in the last century, India has always had a dialogue around its people, their needs and their aspirations.

In today's context, as India becomes an international leader in manufacturing, commerce and technology, these people-centred ideals and ideology should not be lost and there is now much scope for design to play a role in engendering this. Just focusing on population ageing by itself outlines the need. By 2025, there will be 160 million Indians over 60 and this will have great impact on the design industry. Achieving social sustainability as well as environmental sustainability is now more of a challenge than ever and one that a people-centred design approach can help to address.

A global situation

It will come as no surprise to learn that the economic downturn this year has been accompanied by a massive upsurge of interest in people-centred design. As business

organisations face a global credit crunch, their search for new ways to connect with customers and touch their lives in a more meaningful way has taken on a new urgency. In particular, expertise in co-design and co-creation with users has moved centre-stage and been covered extensively in the business press, whereas once it was considered a marginal activity by industry.

The design community has responded to these moves with a nervousness typical of the times, questioning whether the creative autonomy of the designer will be challenged by more cooperative design processes in which the user voice is a driving force. When our research partner the Audi Design Foundation chaired a debate at the Royal Society of Arts on the subject in April this year, chaired by the RCA Rector Sir Christopher Frayling, there were heated arguments over the limits of co-design. One group argued that designers were being stripped of 'authorship', that they were downgrading the design process towards 'design by committee', or worse – a form of free consultancy masquerading as public consultation. Champions of greater user participation in design argued the opposite – that treating people not as test subjects but as equal contributors to the designed outcome is the future of design and an inspirational way to go.

Seeking a balance

Against this background of opportunity and threat, the design researchers at the Helen Hamlyn Centre have worked this year within a tradition of inclusive design investigation

that seeks a balance in the debate. Our belief is that the designer acts as an advocate on behalf of the user, listening carefully to their voice, observing their behaviour, and sifting the evidence of their daily lives, but always retaining the capacity to act and innovate autonomously.

Increasingly our work as a research centre has begun to revolve around the idea of evidence-based design. Designers get inspiration from a number of sources. A new material or technology, a shape or form that triggers a creative reflex, a strong sense of aesthetic or even a visionary personal approach can all play a part in the process of innovation. But one of the most powerful sources can be the people for whom products, services, systems and spaces are designed. In each project, the design researchers are encouraged to use a variety of methods to gather an evidence base for design decision-making, primarily through the participation of users at different stages of the design process. However the decision-making itself, whilst informed and validated by the user, remains the responsibility of the designer.

We've chosen to explore this evidence-based design proposition in this special edition newsletter entitled *Living Proof*, which highlights the work of the Helen Hamlyn Research Associates Programme 2008, nine industry-partnered projects that develop inclusive design principles and methodologies to improve people's lives. The title is a signal of our belief that the litmus test for design that is inclusive and fit for purpose is how well it responds to the evidence of people's lives.

In setting up this year's partnerships with industry, we aimed to express this philosophy through the three main research themes of the Helen Hamlyn Centre: design for patient safety, workplace design and inclusive design. The nine projects have developed design propositions that benefit people in these three specific areas and propose new insights that advance thinking.

Patient safety this year has not just looked at the patient experience – it has also focused on another type of user, the medical personnel involved in delivering healthcare, by assessing their needs and designing to support them in improving standards of healthcare and reducing medical error. Projects have looked at the 'behind the scenes' systems involved in transporting and sterilising surgical instruments as well as the design of the infusion devices that play a critical role in keeping patients alive on the ward.

Complex relationships

Our workplace design projects have proposed a new way of thinking about work-life balance. It has articulated this as a work-life blend, perhaps a more accurate description of the complex interactions between living and working. The scale of the projects moves from specific interior solutions that bring elements of nature into the office, through mobile technologies that permeate the boundaries of workplace and home, to the urban scale where alternative ways of

measuring city density respond directly to more fluid living and working patterns.

The inclusive design group deals with the traditional problems of designing physical space and artefacts that account for the ageing process. In one study, the bathroom is redefined as a luxurious living space for the older person; in another, domestic lighting concepts are developed for people with low vision. However the Research Associates programme is also working to extend the inclusive design domain to address technological exclusion. The new barriers to social inclusion are digital, so work here includes internet-based services that allow older people to manage late-life transitions and wayfinding solutions that enable visually impaired people to navigate public buildings.

So this publication is not just about innovative design, but also about innovative thinking. This is a direct result of a people-inspired approach and is something that our industry partners have come to value. We hope you enjoy this latest newsletter the thinking enshrined in it.

Guest Editor:

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Prof. Jeremy Myerson founded the Royal College of Art Helen Hamlyn Centre with Roger Coleman in 1999 and created the Research Associates Programme in the same year

Rama Gheerawo joined the Centre at its inception in 1999 and is one of the team responsible for building up its reputation today.

About US: The Royal College of Art Helen Hamlyn Centre



The Royal College of Art Helen Hamlyn Centre provides a focus for people-centred design and innovation at the RCA in London, the world's only wholly postgraduate university institution of art and design. The centre was set up by Roger Coleman and Jeremy Myerson in January 1999 to explore the design implications of social and demographic change. Today, its multi-disciplinary team of designers, engineers, architects and anthropologists undertake practical research and projects with industry.

Its programmes look at how a people-centred and socially inclusive approach to design can support independent living and working for ageing and diverse populations, improved standards of healthcare and patient safety, and a flow of innovative ideas for business. The centre works with four design communities – students, new graduates, professional designers and academics – in response to the commitment in the Royal College of Art's Charter to 'advance learning, knowledge and professional competence' in relation to 'social developments'.

Endowed by the Helen Hamlyn Trust, a charity dedicated to supporting innovative projects that will effect lasting change and improve quality of life, the Royal College of Art Helen Hamlyn Centre engages a range of external commercial, academic, government and voluntary sector partners in its work

The Helen Hamlyn Research Associates Programme

The work that forms the main part of this journal, comes from the Centre's Research Associates (RA) Programme works by taking new Royal College of Art (RCA) graduates from a range of design disciplines and partnering them with an industry organization to work on year long people-centred design innovation projects. Basing them within the RCA design studios allows them to draw on the creativity of the RCA whilst developing user-centred design skills through the Helen Hamlyn Centre network of users. By maintaining close contact with the research partners, the industry relationships grow as innovative design research partnerships rather than goal-directed, problem solving design consultancy. Work focuses on knowledge transfer to business and influences the companies at the highest level as the company contacts are typically at management or boardroom level. The briefs aim to bring inclusive design knowledge, ideas, products or services into the business arena and everyday practice.

Between 1999 and 2008 the Centre has undertaken projects with more than 66 companies from the corporate and voluntary sectors. These include:

- large multinationals including Levi Strauss, Philips and Ford
- architecture and design firms including IDEO, Geoffrey Reid Architects and Pearson Matthews
- technology firms including Hewlett-Packard, Intel, Nokia and Research in Motion (makers of Blackberry®)
- charities including the Laura Ashley Foundation and the British Heart Foundation
- public sector bodies such as the UK's National Health Service
- international pharmaceuticals such as GlaxoSmithKline

Companies from across the globe including the US, Canada, Europe, Japan and China have come to the UK to be a part of the RA Programme investing over 2.2 million Pounds (18.6 crores) in inclusive design projects. Work has resulted in commercial design successes, new products or services, guidelines and even changes in business strategy. Basing the programme at the RCA means that it is well placed to influence, educate and inspire the next generation of designers, infusing them with a people-centred and socially inclusive approach. 90 designers have gone through the programme in the last nine years.

The new knowledge and methodologies developed on the programme have gone on to inform academic and business practice. The designers have worked with people around the world to gain insights and inspire new thinking. The projects

employed a diverse range of design research methodologies to identify and include the needs and requirements of people – from questionnaires, expert consultation, user diaries and interviews to observation in situ, testing with prototypes and research kits. The result is an evidence base of knowledge that has influenced and supported the design ideas.

The RA Programme operates on an annual basis, running from October to October. Each year ends with a symposium and exhibition launch event for research partners and collaborators. Around 300 people attend the symposium, and there are more than 1000 visitors to the exhibition. As well as realising the design concepts and exemplars for the research partner, each young design researcher produces an extensive report describing and cataloguing the research process and project results. The programme maintains a core interest in working with older users under its independent living theme.

Living Proof

The nine projects of the Helen Hamlyn Research Associates 2008 are showcased this year in the Living Proof edition of the Design for All Institute's newsletter. Projects were completed in September 2008 by ten RCA design graduates whose work in partnership with a range of industry and third-sector partners address the things that really matter, from safer healthcare services to innovations that support failing eyesight and environments that improve working life.

The projects specialise in user-centred and evidence-based design, rooting their work in practical and insightful investigations into how people really live and work. It is therefore entirely appropriate that their projects should be collectively termed Living Proof, a testament to the evidence-based design philosophy behind the projects.

Research Partners

3D Reid

3D Reid employs a philosophy of knowledge-led architecture in which research provides a major contribution to what is a highly creative international architecture and design practice. The practice boasts its own Research and Development Unit that informs all the projects it undertakes. Its previous research has covered mixed-use within the context of community, real issues that hamper successful urban design and the inclusive design of urban space.
www.reidarchitecture.com

Arup

Arup is a global firm of designers, engineers, planners and business consultants providing a diverse range of professional services to clients around the world. With this fully integrated approach Arup is a creative force behind many of the world's most innovative and sustainable designs for the built environment, including most recently the 'Eco-City' of Dongtan, China. This leading practice has established

60 years of research and has its own Foresight + Innovation + Incubation group. www.arup.com

Audi Design Foundation

Audi Design Foundation (ADF) is an independent charity, set up by Audi UK in 1997, with the mission to use design to make a positive impact on people's lives. It does this through a number of initiatives, including offering bursaries to postgraduate students from developing nations; funding inclusive research; running community design (co-design) partnerships both in the UK and developing nations; and grant making. www.audidesignfoundation.org

British Council for Offices

The British Council for Offices' (BCO) has a mission to research, develop and communicate best practice, and stimulate new thinking on the design, development and occupation of offices across the UK. The development of the BCO research programme has been marked by the adoption of a thematic approach which focuses on all aspects of the workplace, sustainability and urban regeneration. It delivers this by providing a forum for the discussion and debate of relevant issues.

www.bco.org.uk

Child Graddon Lewis

Formed in 1992, architects and designers Child Graddon Lewis (CGL) today has more than 50 staff in its Spitalfields offices in London. CGL has an excellent track record in commercial, retail and residential architecture as well as mixed-use projects requiring master planning and urban design expertise. CGL is currently working with Transport for London, Genesis Housing Group, Brompton Estates, Royal Borough of Kensington and Chelsea, HSBC and Boots.

www.cgluk.com

DePuy

DePuy International is an operating company of Johnson & Johnson. With an annual turnover in excess of \$50 billion, Johnson & Johnson is the world's most broadly-based manufacturer of healthcare products, servicing in excess of 150 countries in pharmaceutical, consumer, medical device and diagnostic markets. DePuy has already established itself as a global leader in the design, development and manufacture of orthopaedic systems.

www.injgateway.com

Fletcher Priest Trust

Fletcher Priest Architects have established a Trust, which is a separate registered charity, in order to support architecture and architectural education in the UK. Its work

can take a variety of forms, including the sponsorship of events, exhibitions, publications, research and bursaries. Projects currently supported by the Trust include an international lecture series, financial bursaries for students to under-take their diploma studies, and the part-funding of postgraduate research.

www.fletcherpriest.com

Ideal Standard

Ideal Standard serves the UK market with sister companies Armitage Shanks and Trevi Showers. The company is unusual in that it produces the complete bathroom: sanitaryware, baths, complete showers, brass fittings and storage furniture. It is also very keen to use quality designers and to apply design in its mid-market as well as its top-end ranges.

www.ideal-standard.co.uk

National Patient Safety Agency

The NPSA was created to co-ordinate the efforts of those involved in delivering healthcare to learn from patient safety incidents occurring in the NHS. The NPSA's work encompasses: safety aspects of hospital design, cleanliness and food; and ensuring research is carried out safely, through the Central Office for Research Ethics Committees. It also addresses concerns about the performance of doctors

and dentists, through the National Clinical Assessment Service.

www.npsa.nhs.uk

Nokia

Nokia are the world leader in mobility, focused on driving the transformation and growth of the converging internet and communications industries, whilst striving to enhance communication and explore new ways to exchange information. Nokia's vision is a world where everyone can be connected.

www.nokia.com

Research In Motion

Research In Motion is a leading designer, manufacturer and marketer of innovative wireless solutions for the worldwide mobile communications market. RIM's portfolio of award-winning products, services and embedded technologies include the BlackBerry® wireless platform, the BlackBerry® smartphone product line, software development tools, radio-modems and software/hardware licensing agreements.

www.rim.com

Thomas Pocklington Trust

Thomas Pocklington Trust is the leading provider of housing, care and support services for people with sight loss in the

UK. Each year it also commits around £700,000 to fund social and public health research and development projects. Pocklington's research and development programme aims to identify practical ways to improve the lives of people with sight loss, by improving social inclusion, independence and quality of life, improving and developing service outcomes as well as focusing on public health issues. www.pocklington-trust.org.uk

UrbanBuzz

UrbanBuzz is a knowledge exchange programme designed to address barriers in the delivery of sustainable communities in London and the Greater South East. University College London (UCL) is leading the two-year programme (2007-8) with the University of East London. The £5m programme is funding 28 projects, all helping to break down the silo-thinking that can exist amongst and between academic and professional disciplines.

www.urbanbuzz.org

Designing for the 21st Century

The Designing for the 21st Century Initiative is a vehicle for supporting interdisciplinary design research over a five-year period from 2005-2009. It aims to support the development of design practice and it is funded by two UK Research Councils, the Engineering & Physical Sciences Research Council (EPSRC) and the Arts & Humanities Research Council (AHRC). Both have remits that include design. Professor Tom

Inns of the University of Dundee is Director of the Initiative, which is supporting more than 40 design research projects across the UK, including Welcoming Workplace in the RCA Helen Hamlyn Centre.

www.design21.dundee.ac.uk

RCA Departments

Three RCA Departments, all world leaders in their field have participated on the programme this year and supplied new design graduates to work at the Centre.

Architecture

The Department of Architecture aims to combine experiment with plausibility. With inspiration drawn from the city, it attempts to tune in to urban desire and anticipate the next major architectural moves. It is not interested in designing spaces that simply evolve the norms of style but work in a dynamic way with what happens in them. Its medium is not so much bricks and mortar but space itself. It considers the work of the architect as spanning between the hard materiality of building and the reprogramming of existing space.

Head of Department: Professor Nigel Coates

Design Products

The Department of Design Products does not embrace any one design ideology or favour a specific style, nor does it

train towards any one of the design trades. Its aim is to create a design culture engaged equally in ongoing debate on all aspects of design, including the social, ecological and technological. It seeks to generate a culture that thrives on new ideas, new ways of doing things and new areas of exploration. It encourages experimentation and risk-taking.

Head of Department: Professor Ron Arad

Industrial Design Engineering

The Department of Industrial Design Engineering has the philosophy of the Enlightenment: creativity, design and science in harmony. It is a unique 'hub' discipline, from which creative multidisciplinary projects are inspired, led or joined and then executed. A joint course with Imperial College, it believes in the benefits to society of design and promotes its graduates to work at the centre of complex, demanding projects, juggling creatively in teams, to achieve great ideas, designs and successful products.

Head of Department: Professor Tom Barker

Programme Structure

The Helen Hamlyn Research Associates year is structured in three distinct phases that fit a calendar year at the Royal College of Art

DEFINE (October-January)

The first phase begins with an induction period for new research associates in areas such as project management, presentation, user research, writing and film-making. For all projects, this is a period for wide exploration. The context of the project is investigated, market analysis conducted, desk research completed and preliminary user studies carried out. By the end of this phase a direction is defined.

DEVELOP (February-May)

The second phase of the programme develops the design directions chosen with the research partner. Research associates work with selected users and construct research methods around them. Initial scenarios and prototypes are created and relevant processes and technologies are investigated. Ideas are validated with experts and in user trials. Final project outputs are determined in preparation for the final phase.

DELIVER (June-September)

The third and final phase of the programme focuses on completing the project. The results are captured in a form that is most practical and applicable to the research partner. This can include new designs, prototypes, films, guidelines or publications. A final report with full design documentation is written up so that ideas and recommendations can be acted upon by the research partner.

CASE STUDIES:

Living Proof

Projects from the Royal College of Art Helen Hamlyn Centre

Research Associates Programme 2008



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Project 1: The sound of north

Wayfinding for visually impaired people



Research Associate: David Sweeney

Department: RCA Industrial Design Engineering

Research Partner: Audi Design Foundation

Wayfinding solutions for people with low vision have yet to take full advantage of emerging technologies. This project looks at designing systems that enable better navigation of public spaces and buildings using near-future technology

Most wayfinding solutions are geared to the needs of people with good eyesight. Where systems have been designed for low vision users, they are generally limited to audio loops that can be expensive to install or Braille, which only a small percentage of people can read. However the rapid development of technology and the high uptake of personal electronic devices mean that there is an opportunity for change.

This project set out to look at how emerging technologies could be harnessed to enable new forms of navigation that rely less on sight and more on the other senses. The aim was to realise the inclusive potential of 'sensory substitution' through practical design. Wayfinding was defined from the start as comprising four essential components: orientation, route decision, route monitoring and destination recognition. A key objective was to develop concepts that would enable these tasks to be carried out effectively.

A user perspective

In order to understand the difficulties of wayfinding first-hand, field research was conducted at the Vassall Centre in Bristol, a building which houses a number of different disability organisations but has no reception and relies on visual signage for direction. It is a location with many navigation problems – and as visitors represent a range of age and ability, it provided an ideal test-site for the project.

People were filmed as they struggled to find their destination and then informally interviewed to gain further insight. Experts such as Dr John Gill from the Royal National Institute for the Blind were consulted to supplement the user research and provide further perspective on the project. Emerging technologies were painstakingly researched and evaluated.

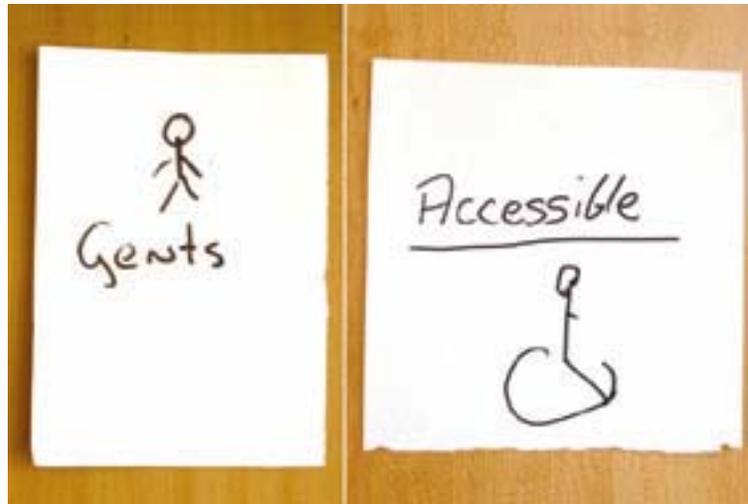


Figure 1 Temporary signage at the Vassall Centre



Figure 2 Approach designed for both mainstream and visually impaired users

Three solutions

The project proposes three different solutions. All aim to limit the amount of information involved, convey only the

most important information first, and allow the user to access more detail should they wish. The first design concept develops a tactile map that combines a physical object with voice information to describe a building using hearing and touch. The materials that distinguish different sections of the model are used in the real building so users can run their fingers along a material strip in the corridor to their destination.

The next two ideas use different technologies to run a similar system. They build on the fact that most people have electronic devices such as camera-equipped mobile phones or mp3 players and the majority of these will soon have easy access to the internet. A building can therefore upload navigation information on the internet that can be accessed in 'real time' as a person walks through that space, giving 'blow by blow' directions. People can post their own directions and comments on a particular space to aid other users and the recipients can adjust the amount of information they want to hear. One system uses QR codes, a two-dimensional barcode that can be read by a mobile phone camera and interpreted into directions. The other uses RFID technology to allow a seamless interchange between a building and a personal device.



Figure 3 Using the mobile phone to read QR codes

The three solutions were prototyped and tested in situ in the Vassall Centre, giving the study a practical application and adding to the sum of knowledge on using new technology to aid wayfinding for both the low vision user and the fully sighted.

Project 2: Enlightened

Domestic lighting for people with low vision



Research Associate: Chris McGinley

Department: RCA Industrial Design Engineering

Research Partner: Thomas Pocklington Trust

Most domestic lighting does not include the specific needs of people with low vision. This study has developed new concepts for the market by working closely with users and occupational therapists to illuminate the key areas of concern.

Prevalence of sight loss increases with age. It has been estimated that one in eight people aged over 75 years and one in three people over 90 years have serious (registerable) sight loss. This equates to some 600,000 people over 75 years old. But around two million individuals in the UK have sight loss that affects their everyday lives. This is a sizeable market that is set to grow as a result of a rapidly ageing population whose sight will deteriorate as

part of the natural ageing process. This study in partnership with a leading sight loss charity set out to improve home lighting for older people and those with low vision – but the benefits of an inclusive approach are also relevant to the wider market.

The first year of the project examined the critical role of good lighting in enabling individuals with low vision to live more independently, complete daily tasks and light their homes in a more attractive way. The work uncovered limitations in the standard lighting fixtures currently available and developed three new concepts that each responded to an area of critical concern for the user group consulted. Tack addressed navigation around the house, Frame increased the overall illumination in a room and Candle was portable task lighting that could be carried wherever needed.



Figure 4. Candle prototype for handheld portability



Figure 5. Frame prototype for overall illumination



Figure 6. Tack prototype for wayfinding

Developing the designs

The second year of work began to develop these three designs and bring them closer to market. The concepts aimed to harness the potential of emerging LED technologies

and achieve more seamless interaction between the lighting objects and the users. The research targeted two groups – sight professionals who gave expert insight and advice, and the low vision users themselves.



Figure 7. Lighting professional examining candle

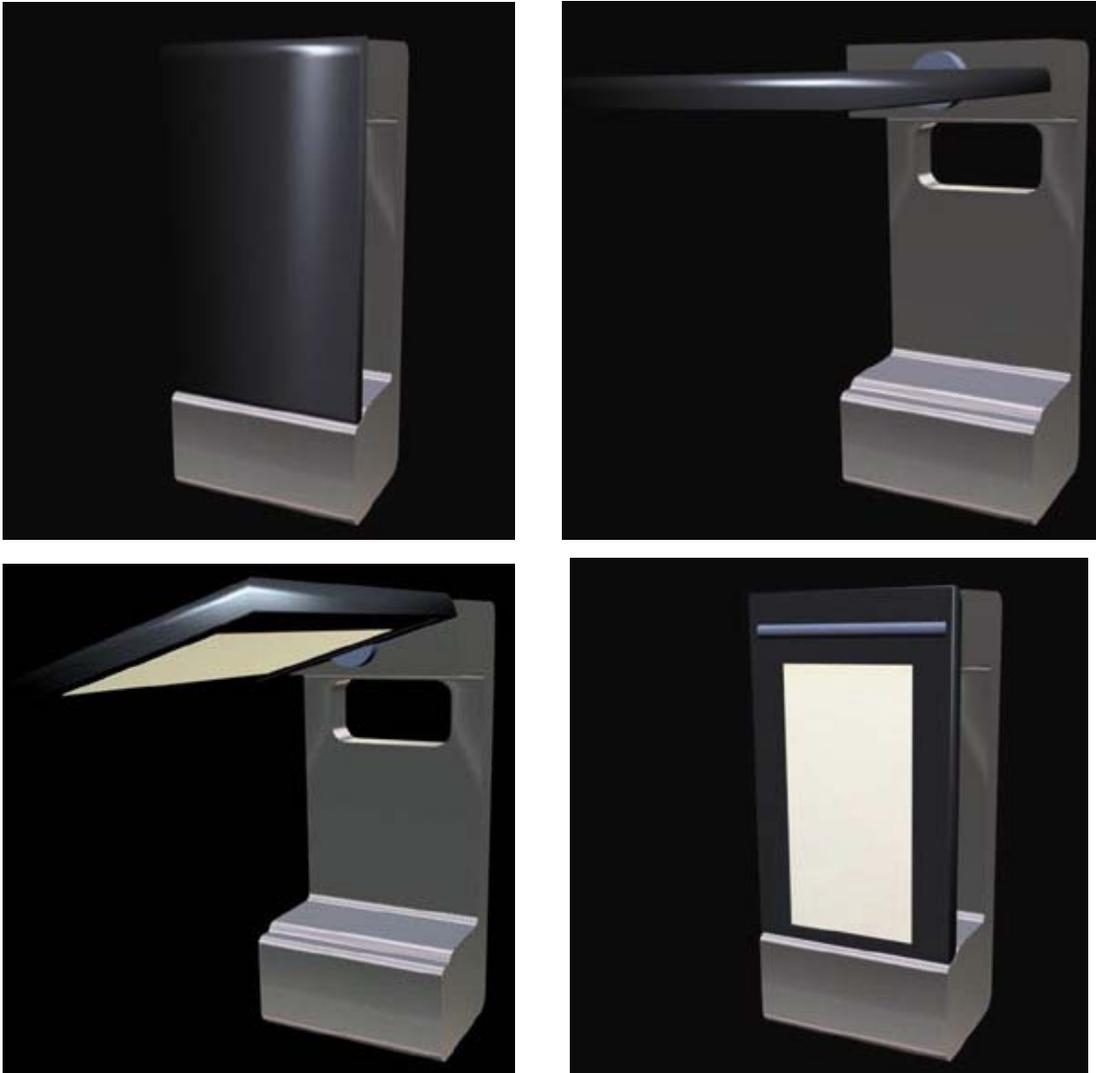


Figure 8. Visually impaired user with Tack prototype

Four homes were selected and the three prototypes were delivered to residents to test them and give feedback. An accompanying probe kit containing a variety of prompts and recording equipment encouraged participants to articulate their thoughts in a more expressive manner. There was an even spread of age ranges and a variety of eye conditions amongst the users. A teenager and her family were added to the user group to widen the age range and place the prototypes within a family setting.

Lighting up industry

The feedback from this research resulted in multiple suggestions and these were ranked according to user preference. A competitor analysis coupled with a market feasibility study conducted by the Tanaka Business School at Imperial College London helped to further define direction. As a result, Spin Light was designed, informed by the research, it develops upon the functional appeal of Candle. It provides good illumination to create ambience or atmosphere but can be carried and positioned by the user to provide strong, focused task lighting where needed. The design is easy to handle, is stable when positioned on a flat surface and 'docks' to recharge like a mobile phone. A special hinge allows the light source to spin around and remain in position with no need for any locking mechanism.



Figures 9-12. Renderings of Spin Light showing hinged movement

Alongside this, a lightweight, portable kit of existing lighting products similar to Tack, Frame and Candle was developed for occupational therapists and rehabilitation officers to take on home visits. This tackles the immediate need to improve lighting for people with low vision as the Spin Light starts on the long and challenging route to market in discussion with potential manufacturers.

Project 3: Transitions

Communication, ageing and independent living



Research Associate: Stephanie Chen

Department: RCA Industrial Design Engineering

Research Partner: Nokia

Key transitions in later life involving disruption, displacement and dependency require new models of communication for older people. This study explores opportunities for internet-based services during significant states of change

A common misconception about old age is that life transitions are generally smooth and well-planned in contrast to the more disruptive changes of the teenage years. This project in partnership with the Design for All team at Nokia set out to explore the communications needs around key points of transition in the lives of older people. In doing so, the study discovered that disruption,

displacement and dependency – more typically associated with younger people – were also features of later life, requiring new service design models to address the emotional and psychological needs of older people.



Figure 13. Observational research into the way older people use technology



Figure 14. An example of paper-based communication older people are familiar with

The Transitions study began with a broader look at the nature of communication and at how past mobile communication projects have addressed the physical demands of ageing. Research into the 'situational' aspects of ageing identified three common transitions in later life: moving house, retirement and sudden dependency through ill health. Research was undertaken with 13 older people, aged 62 to 83, from varied backgrounds in the Greater London area. Interviews, observations and responses to a research probe – an activity pack to stimulate discussion in a group setting – built up a picture of communication practice as older people travel, learn, socialise and manage their health.



Figure 15. Workshop with a group of older people

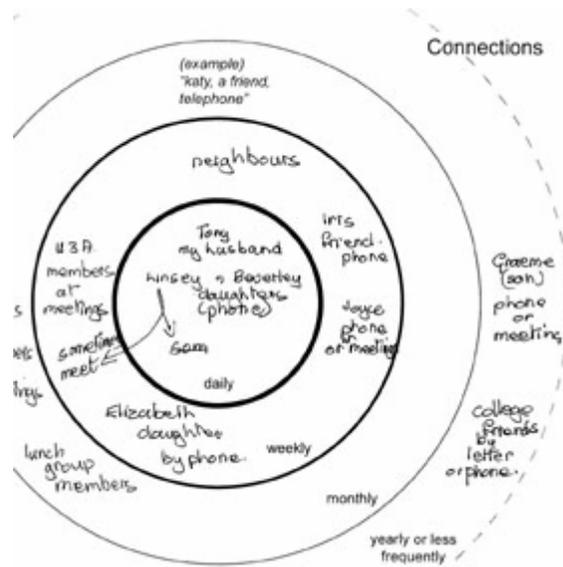


Figure 16. Response from the research probe sent out to participants

Independence prized

The study revealed just how much older people prize their independence and mobility – and how that can be hindered by disconnects in communication. When people downsize from a family house to a smaller dwelling, retire from fulltime work or become dependant following a stroke or fall, these are the ‘tipping points’ that require exceptional communication support, whether such events are planned or unforeseen. An opportunity was identified for Nokia to respond to such needs through a set of internet services branded Nokia Transitions.

Six design scenarios were created to explore new service ideas. The three key transition events were examined from both an expected and a sudden user perspective. At the heart of the proposed system is an online contacts database. This enables individuals to input personal contacts and

subscribe to relevant services. The interface is organised as a series of support circles stretching from family and friends to work, neighbourhood/community and citywide contacts.

Creating new ties

For those moving house, communication services called Post and Postcode enable people to keep in touch with old friends and contacts as well as create ties in their new community. For retirees, Family Vault is an online 'scrapbook' allowing the richness of family memorabilia to be shared across the generations while Link facilitates pairing of the newly retired with entrepreneurs in need. For people experiencing sudden dependency through ill health, Reach is a one-touch alert service for family and friends to be in contact with each other during times of need, and Corner Shop gives access to local services – from florists to taxis – in order to maintain independence and dignity while in this state of transition.

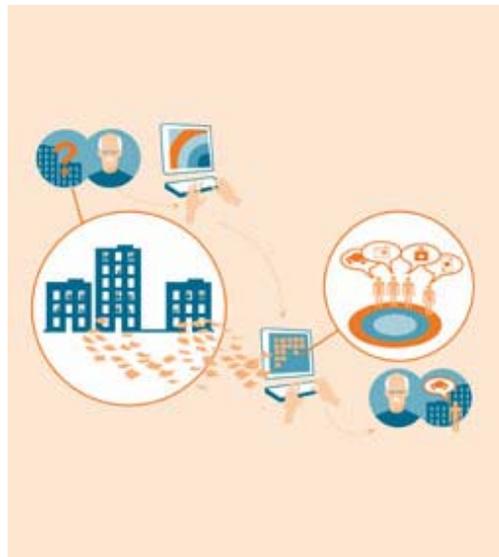


Figure 17. Screenshot from book outlining the Postcode proposal

Collectively, these design proposals respond to the growth of ageing populations as well as Nokia's future strategy of concentrating on internet services. Nokia Transitions demonstrates how a Design for All focus can be a catalyst for innovation, challenging stereotypes on how people manage the later stages of life.

Project 4: Indulgent bathing

Concepts for the total bathroom



Research Associate: Tomek Rygalik

Department: RCA Design Products

Research Partner: Ideal Standard

This project puts indulgence and luxury at the heart of bathroom design for older people. New concepts for the toilet and shower combine with a basin and mirror to create an integrated range that is inviting and inclusive

Bathrooms have historically focused on safety and cleanliness but they are now being transformed into coveted living spaces in the home, offering a contemplative place where we get ready to face the outside world and an intimate environment where we can work on our appearance. But despite the rejuvenating aspect of the bathroom setting, most bathroom furniture does little to

address our aspirations or support an idea of luxury or indulgence.

As we age and the desire to pamper and groom and keep up appearances becomes more important, a bathroom that does more than function as a place of hygiene becomes more important too. This project with Ideal Standard set out to look at 'beauty pampering' in the bathroom and create new design concepts that take account of those consumers over 50 who are a burgeoning market for bathroom manufacturers.

Ideas and insights

The first year of the project focused on building up a picture of user need and aspiration in relation to the washbasin and mirror, focal point for grooming. Eleven people representing a mix of age, gender, ethnicity, personal circumstance and family structure were selected as core users to inform and inspire the design approach. They were filmed and interviewed in their own space or home, and their insights and ideas informed a new design concept incorporating a sculptural basin, three mirrors, lighting, seating and storage. The study returned to the older members of this user group to look at bathroom furniture for showering and toileting in the second year of the project.



Figure 18. The washbasin and mirror concept from the first year

General issues to emerge from the user research included future-proofing the bathroom so it could be used well into old age and the need to make it easy to clean. Specific issues with the toilet were around hygiene and access. Showering uncovered a range of concerns including text that was difficult to read, a lack of grab rails and the difficulties caused by having just a single overhead source of water, which left some parts of the body such as feet unwashed due to reduced dexterity and mobility problems.

A total concept

New shower and toilet concepts resulted from the study. The toilet moves beyond the ceramic technology that has dominated the last century to reflect advances in 'solid surface' materials, and has a widened seating area to improve stability. It is wall-hung to allow it to be placed at any height and lifted off the floor for easier cleaning. The

bowl is designed to feel more capacious and dispose of waste and water more easily. The shower has a large surface area for graphics and handles that work better for ageing hands. An important addition is the inclusion of a secondary showerhead that uses a suction cup to be positioned anywhere around the bathroom. The shower rail also acts as a grab rail offering strong support without the need for a new fixing.



Figure 19. CAD drawing showing primary and secondary showerheads



Figure 20. Toilet concept with arm rest to support people standing up and sitting down

These new showering and toileting concepts sit alongside the washbasin and mirror combination of the first year as part of an integrated bathroom range. They acknowledge the trend towards seeing the bathroom as a living space, but are firmly fixed within the space limitations of the average European bathroom and budget limitations of the average household income. All the ideas have resulted in full-sized prototypes unveiled by Ideal Standard this autumn.

Project 5: Giving drugs safely

Creating design guidelines for infusion devices



Research Associate: Sally Halls

Department: RCA Industrial Design Engineering

Research Partner: National Patient Safety Agency

Infusion devices that pump fluids, medication or nutrients into a patient's circulatory system are essential in hospitals, but difficult to operate. This study has created design guidelines to help reduce medical errors in their use

Every year the Medicines and Healthcare Regulatory Agency (MHRA) receives more than 700 reports of unsafe incidents involving infusion devices. At least one quarter of all reported incidents are directly attributed to user error. In the majority of incidents involving fatalities, no fault was found with the devices, implying user error as the leading immediate cause and poor design as the likely root cause.

The term 'infusion device' covers a number of different types, each of which has its own individual operating mode that must be learnt. The complexity of these devices, combined with the lack of standardisation, appears to be contributing to the large number of incidents – and unintuitive interfaces only compound the problem.



Figure 21. The number of devices around one patient means that identifying a particular device can be difficult

A lack of design

The project started with a literature review to learn from documented problems, previous recommendations, and existing expertise within health services. Little mention had been made of the design or interface of the devices, and most issues were focused around staff performance. Whilst personnel are trained in the use of infusion devices in areas where they are prevalent such as intensive care units,

anecdotal evidence suggests that training is less of a priority in other areas of the hospital.

Moreover, a huge problem with existing devices is that staff must undergo training for each model. Staff familiar with one device may not be able to navigate their way around one from another manufacturer. There is therefore a strong need to create some level of standardisation throughout infusion devices to enable a consistent way of navigating through the menu, of checking options and of confirming steps. This would then allow any member of staff who has undergone a generic training programme to be able to safely operate any device they come into contact with.

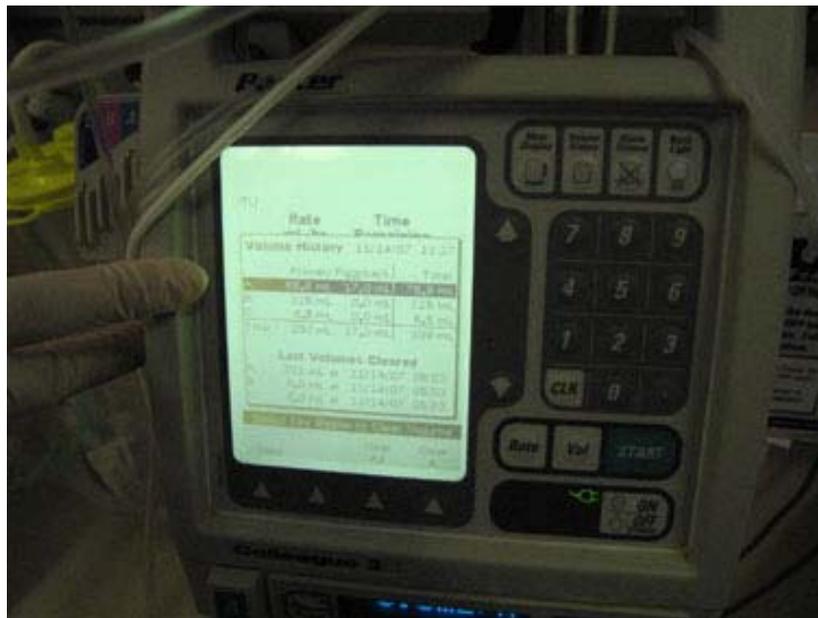


Figure 22. Screens can be cluttered, with small text and 'difficult to read' graphics

Involving medical staff

These aims were central to creating the design guidelines. In order to achieve this effectively, it was important to learn about existing devices and user experiences. Ward observations were conducted and interviews were held with users from a variety of backgrounds, including nurses, anaesthetists and procurement personnel.

Methods of communication were also explored with the development of an 'ideal pump kit'. This provided users with the tools to create an image of their ideal infusion pump, allowing them to change parameters and highlight the functions and information they felt to be most important. Contact was made with key manufacturers in the field, to better understand industry issues and experiences in developing the products. Involving manufacturers in this way helps to ensure future buy-in from industry into the guidelines.

Key findings were collated into a number of design recommendations. These ranged from addressing the physical characteristics of a pump and providing handles to aid transport, to creating an order of information entry to help standardise key software parameters. Each of the recommendations has been illustrated in a double page spread of a publication. A draft copy of the guide-lines was sent out for stakeholder review to over 100 international professionals in the field, whose comments and feed-back will be incorporated into the final edition, which is set for

publication for Easter 2009 subject to UK Department of Health approval.

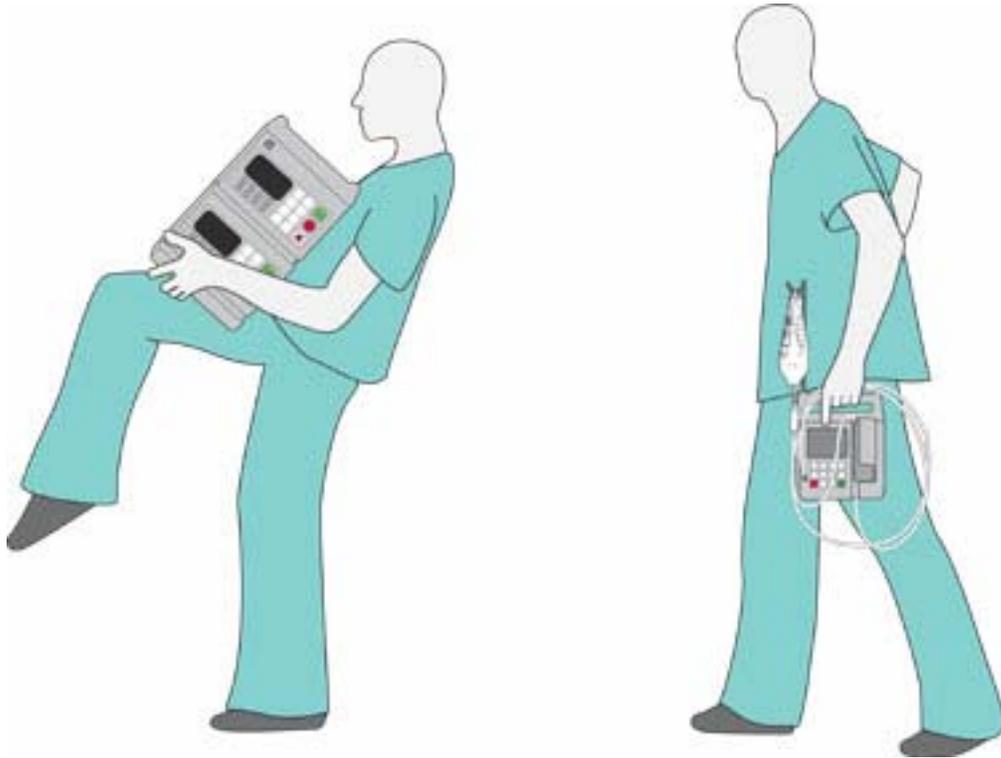


Figure 23. Images from the publication showing the problem of carrying the device and a solution of adding a handle.

Project 6: Tooling up

Delivery systems for surgical instruments



Research Associates: Maja Kecman and Lisa Stroux

Department: RCA Industrial Design Engineering

Research Partner: DePuy

Surgical instruments should arrive in the surgeon's hands in the operating theatre at the right moment, correctly assembled, completely sterile and without delay. To achieve this, the delivery systems need to be improved as this project demonstrates

Surgical instruments are transferred into the operating theatre in containers referred to as 'delivery systems' or 'trays'. They hold the instruments during the sterilisation process and protect them during transport and storage. The trays are handled by a range of hospital and medical personnel and need to meet different performance criteria. They play an important role – if these containers do not keep the instruments clean or secure, operations could be

cancelled and surgery delayed with resulting financial costs to the hospital and health implications for the patient.



Figure 24. Existing containers for surgical instruments

The primary aim of this project in partnership with orthopaedic systems company DePuy was to assess the current delivery systems for primary knee replacement instruments in order to pinpoint the main problems and identify opportunities for design intervention. Concepts were developed with the objectives of reducing turn-around time, improving durability and ease of use, and lowering cost.

A critical focus

A wide variety of research methods were employed, including observation, video ethnography and interviews. To thoroughly investigate the processes related to delivery systems, employees from the Central Sterile Services Department who handle trays on a daily basis were

observed, and interviews with the facility managers were conducted. Relevant technical information was collated through desk research and contact with tray manufacturers.



Figure 25. Interviews with the staff responsible for cleaning and preparing the trays

Six areas of critical focus were defined from this study: the first looked at how the trays are handled throughout the cycle of use; the second looked at labelling, asking how information regarding content and sterility can be provided by the container; the third investigated the wrapping of the container to maintain sterility and help medical staff identify the type of tools inside; the fourth addressed the issue of moisture residue after the washing and sterilising process; the fifth assessed how well the containers need to work in the confined spaces of the surgical theatre; and the sixth looked at the layout of the instruments inside the container.

Two systems developed

From the many design concepts generated to address these issues, two were chosen for further development. The first consists of generic clips arranged within a lightweight aluminium base fixing all the instruments inside the tray. The shape of the clip allows for the secure capture of instruments of varying shapes and sizes. Images of instruments are provided to aid placement. The lightweight external cover includes handles that enable the trays to be carried easily when wrapped and allows for labelling or branding.

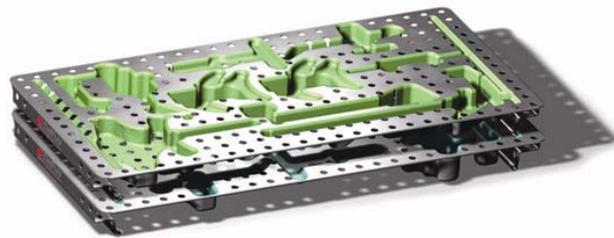


Figure 26. The solution designed using a system of generic clips



Figure 27. External cover offers an opportunity for better labelling in the storeroom

The second concept uses a metal sheet stamped into the shape of the instruments, placed directly into a simple wire basket with silicone handles for heat insulation. This allows for easier location of the instruments which can be washed in-situ. The concept is durable and quick to dry. A lid keeps the instruments in place. Both systems have been presented to medical staff for intensive assessment. As a result of positive feedback, elements will be taken forward into the next generation of containers, adding value to operating procedures, reducing risk of delays or errors and improving overall patient safety.



Figure28. Wire-basket solution

Project 7: Metricity

Exploring alternative measures of urban density



Research Associate: Paul Clarke

Department: RCA Architecture

Research Partners: 3D Reid, Arup, British Council for Offices, Child Graddon Lewis, Fletcher Priest Trust, Urban Buzz

Conventional measures of urban density such as 'dwellings per hectare' or 'bed-spaces per hectare' are one-dimensional and prescriptive means of 'measuring-up' the cities we live in. None succeed in truly representing the characteristics of high-density living or adequately describing the increasingly varied ways in which we live and work.

For those involved in the planning process, this can mean that new urban developments do not meet the needs of city dwellers and are not designed to support the powerful social, demographic and cultural changes around us. This two-year architectural study, supported by a consortium of

architectural research partners, was investigated alternative ways of measuring urban density and explored how such measures affect the way new urban developments around transport hubs are designed and occupied.

A user-driven framework

A hypothesis that a more user-driven measure of density can generate a more dynamic urban environment better suited to modern living and working was reinforced by a programme of research. Interviews with experts gave an overview on policy and looked at planning at the global, national and local scale. Horizon-scanning and trend research identified technological, social and cultural influences that could impact in the future. User consultations in London and Tokyo gave the research an individual scale.

This led to the creation of four new principles that were presented at the end of the first year of the project and developed further this year: Intensity – the measure of an area's socio-economic requirements; Amenity – the measure of social demographic needs; Autonomy – the political ability of residents to influence local planning; and Frequency – the technology measure of an area's flow of information and people within wireless networks.

The second year of the study used these four principles to drive four hypothetical design scenarios, looking at how one site could change in character when different density measures are applied. The chosen site was Ebbsfleet in Kent,

relatively remote from established central city services, but with good national and international transport connections.

Four new scenarios

Dis-connected Suburb, the first scenario, is a predominantly low density, low rise suburban extension built at a national average of 25 dwellings per hectare and typically of post war housing stock. Built to meet short-term housing requirements, this is a settlement numbering less than 5,000 homes and reflects the suburban spread that has historically happened over the last century.

With a dominant residential emphasis and minimal employment, this scenario depicts a typical Commuter Satellite Town. This separation of uses is entrenched in the current planning system and is encouraged by an explicit work-life divide. Often described as 'bed towns', they provide a resting place for a commuting workforce that leaves the suburb deserted in the morning and returns to fill it in the evening. The low density of taxpayers in the area does not attract local facilities or businesses leaving it potentially disconnected. Instead, a bypass and roadside development encourage wider catchment through superstores, business parks, and shopping malls. Delivery vans and taxis sustain the connections needed to access essential services.

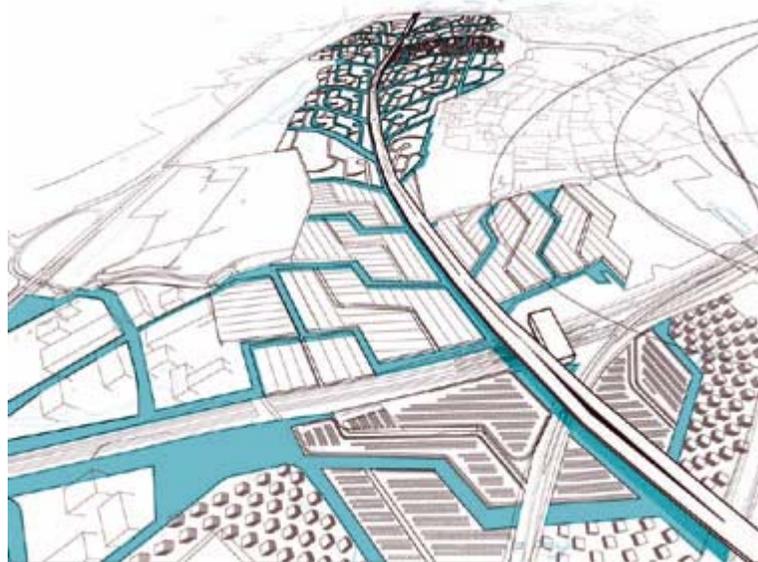


Figure 29. Dis-connected Suburb with low density housing and few amenities

Timeshare Towers is a high-density, high-rise settlement with a dominant work focus – the main residents are workers employed by the companies who dominate the site and the architecture has been designed to support rapid turnaround. High-density development is encouraged by green belt restrictions that result in intensive land use and a negative impact on housing standards. Accommodation for living becomes more tightly packed together. The outcome is a transport node that is economically self-contained with a heavy premium on space. The soaring cost of floor space creates rapidly growing markets and trade. Businesses and people move in and out of the building every year and units are designed around shipping container geometry to support efficiency. Homogeneous in typology, these developments prohibit external changes and limit personalisation. Instead it is heavily branded and with vertically connected spaces

stacking businesses and housing on top of each other. Public areas include a shopping and leisure district that is limited to the ground floor level. The lack of adaptability and inadequacies of the living spaces encourage more transient living and working patterns. The prevailing property ownership of banks, corporations and businesses on the site means that housing is typically bought or rented by the company workforce.

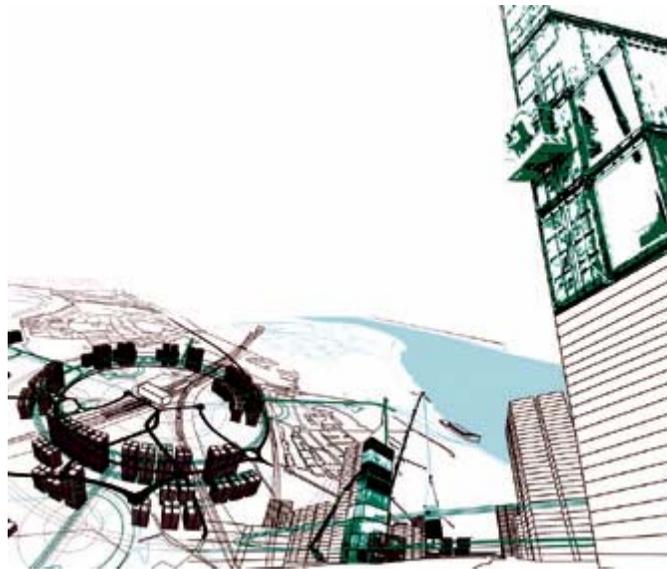


Figure 30. Timeshare Towers where work dominates and the buildings overlook the street

Incorporated Cluster combines living and working and constitutes a mixed-use, medium density settlement that alternates between low and high-rise development with business and commercial centres working alongside amenities for local residents. As the town has attracted a number of companies and enterprises, this scenario depicts

a Knowledge Campus Town. Unlike previous company towns that were vulnerable to abrupt changes in the market, this town and its related facilities focus on versatility of business interests and uses ICT to broker new contractual partnerships between different companies. A cellular organisation of services and employment has been encouraged by decentralisation and more pervasive company distribution. Homeworking and flexi-working are prevalent in this scenario.

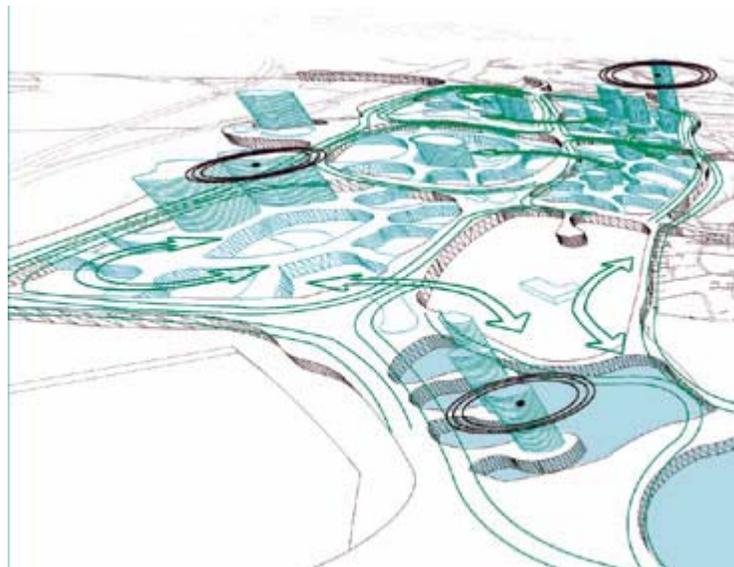


Figure 31. Incorporated Cluster represents a more mixed-use proposition

Open Source City is a user-led and resident-managed estate that allows social networking to evolve its form on a high-density site. An organically developed site with Internet enabled cooperative management has created a networked estate. A high density site with a mixture of high and low-rise development and good local access to transport. The establishment of this Internet enabled, cooperative management has been secured by enticing early adopters of

technology to the area, offering them financial incentives to move to Ebbsfleet. Their technological expertise has helped the site develop. For example, social network software is used to identify prospective community needs, facilitating organic growth of the development around users' requirements. Tenants are able to adapt the architecture to their needs. A multitude of activities take place and flexible boundaries blur the lines between the private and the public spaces. Estate management initially provides low rates of rent to encourage small and creative businesses to grow. This follows the example of some managed estates in central London where any losses are easily returned by the higher residential rents that can be demanded due to the improved vibrancy of the area.

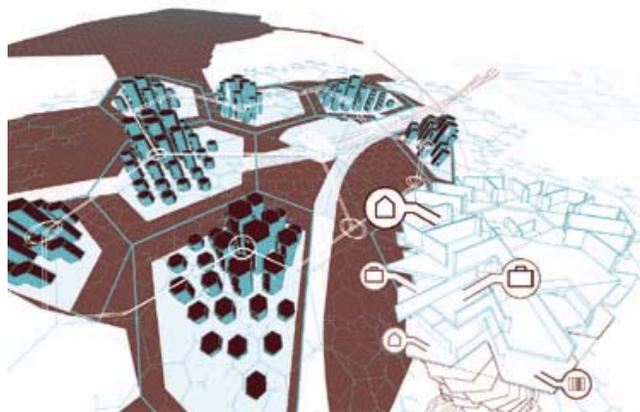


Figure 32. Open Source City looks at utilising technology and digital forms of social networking

The scenarios sketch out four alternative and provocative views of the future, tested via multidisciplinary and participatory knowledge-transfer events as part of the

UrbanBuzz initiative. What emerged from the study is that narrow measures of urban density restrict the open-mindedness of the city. New density measures are needed for developments to be planned in a more animated and holistic way.

Project 8: Seamless mobility

Technology enabling work-life blend



Research Associate: Cian Plumbe

Department: RCA Industrial Design Engineering

Research Partner: Research In Motion

Information and communication technologies continue to change our lives, creating new freedoms and new dependencies. As they expand their capabilities, they start to impact in new ways. This project, in partnership with Research In Motion (RIM), maker of the BlackBerry® device, takes a people-centred look at how technology might enable our patterns of living and working to be more seamless, improving communication with those around us.

The BlackBerry® is a ubiquitous business tool known for enabling work to happen outside the office and around the clock. This study looked at opportunities for technology to allow people to have better connection with their family,

friends and life outside of work. A central hypothesis challenged the traditional view that we are all trying to create a work-life 'balance'. For today's city dwellers, this has become more of a work-life 'blend'.

Work-life blend

In order to understand the drivers and tensions of this relationship, the project selected a number of users who exhibit different biases in 'blending' work and life. Four extreme work-life relationship types were identified: the Overlapper has work and life sharing the same space and the Separator keeps them apart; the Expander has work dominating life and the Reclaimer organises work around life. Seven participants were visited in their homes or at work, informally interviewed and given probe packs to allow them to capture a week-long snapshot of their lives.

The research was analysed and translated into design scenarios that depict possibilities five years in the future. The study identified two key user demands: first, to 'experience the immediate' and explore the unfamiliar safely; and second, to be able to 'take their world with them' wherever they went, allowing impersonal spaces to become familiar and giving them access to friends and family. These imperatives were used to generate seven new service applications.

Seven new services

Explorer logs all journeys and 'greys' out parts of the map you have not visited, encouraging you to discover new places. PeerSteer allows places on a virtual map to be bookmarked so friends can share personal knowledge of local areas and recommend shops or restaurants to each other.



Figure 33. PeerSteer shows recommendations from friends and family

Traces allows pictures of those recommendations to be shared so you can see where your friends have been.

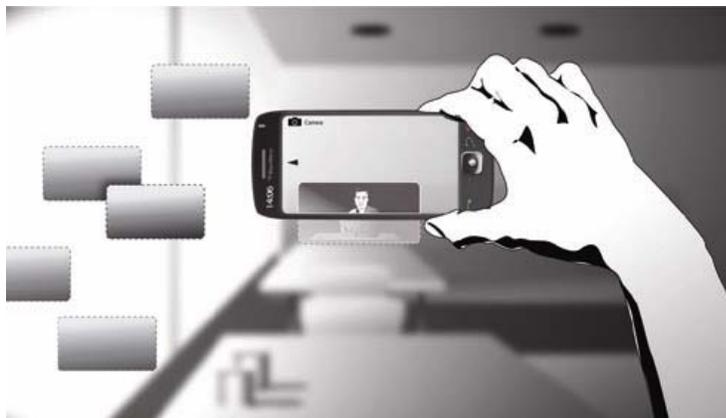


Figure 34. Visualisation of the Traces system

Wildfire is a system that spreads information from person to person – mobile devices automatically communicate as people pass close by each other spreading messages around the city. BlackBox is a flight recorder for your life as well as a digital repository for personal media – it can reconfigure a hotel room to feel like your own living room. Footfall gives an ambient experience of another person’s movement even though they are at a remote location, allowing active participation in their daily routine. Quiet Time filters incoming communications, making it possible to create a quiet personal space away from constant digital interruption.

These concepts have been brought to life in short films, showing how they can create a more seamless work-life blend for different users. Together they suggest new ways of building on the traditional stronghold that BlackBerry® technology has in the business arena, encouraging wider engagement with the consumer and lifestyle market.

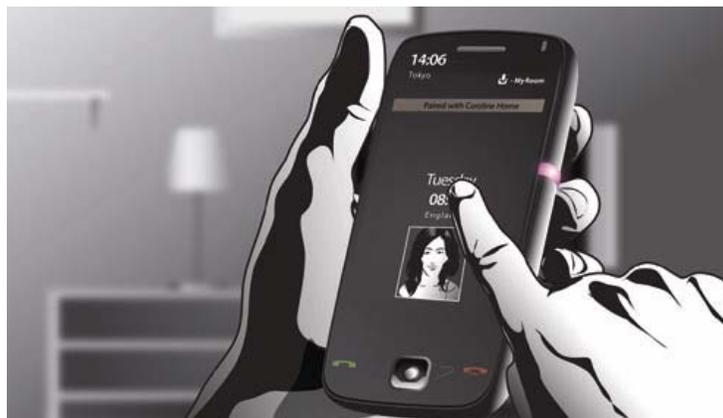


Figure 35. Screenshot from the short films showing the seven new services in use

Project 9: Inside it's raining

Natural elements to support the older worker



Research Associate: Catherine Greene

Department: RCA Design Products

Research Partner: Designing for the 21st Century

Many offices are sterile and exhausting places. This project addresses the use of natural interventions to create the effect of falling rainwater inside the workplace, as part of a larger study into the environmental needs of knowledge workers aged over 50

This project began as a Masters study in the Department of Design Products at the RCA, looking at ways to introduce more natural elements into office interiors. Most of us spend considerable amounts of time at work in environments that are sterile and exhausting. How would people feel if natural elements like rainwater could be channeled inside an office space to bring nature closer to the work environment?

Initial design concepts demonstrated how this could be achieved, and this line of enquiry was introduced to a Helen Hamlyn Centre research project 'Welcoming Workplace', looking at ways to improve the office environment for people facing extended working lives. An ageing workforce requires fresh stimulus to remain productive in the knowledge economy. Desk research revealed that closeness to nature and an awareness of the world outside were factors in combating the fatigue that the ageing body feels when faced with sitting for hours at a time in an artificial environment.

Three knowledge industries

Catherine Greene joined the Welcoming Workplace research team as a research associate, and incorporated her natural design study into the broader project, which is funded by the Designing for the 21st Century research initiative. The research methodology involved conducting in-depth interviews with corporate employees aged over 50 and working in three knowledge-based industries – pharmaceuticals, technology and financial services – in the UK, Japan and Australia. Managers responsible for their welfare from such disciplines as occupational health, human resources and facilities management were also interviewed. In all, 80 people worldwide participated in the study.



Figure 36. Sketch showing a contemplation space for workers to work quietly

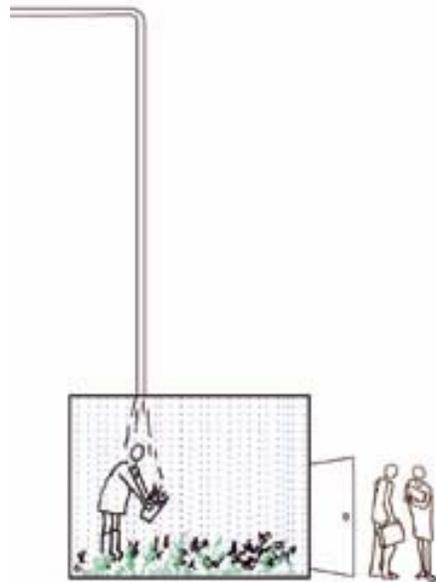


Figure 37. Bringing nature into the office using gardens



Figure 38. Temporary rooms for meetings

This global research was achieved through partnerships with the University of Kyushu in Japan and the University of Melbourne in Australia. Issues raised in the interviews were followed up with a series of design interventions prototyped by the research team with industry partners in selected office spaces in the UK and Japan. These interventions altered key aspects of the environment, including lighting, acoustics, furniture and technology. A natural intervention was also introduced – the Rain Curtain, a visual and acoustic space divider measuring 2m x 2m that uses water to create a very different atmosphere from that which we normally associate with an office.



Figure 39. Rain Curtain prototype installed in an office for user testing

Contemplation space

This design intervention was developed to test people's interest in natural elements that help to create 'contemplation space' capable of aiding concentration and supporting recuperation at work. The Rain Curtain was viewed by many as making the environment less oppressive.

The Welcoming Workplace research is ongoing and the project team is working with furniture manufacturer Kinnarps to unveil further natural elements such as a Planted Partition as part of Designers Saturday on 26 September 2008, during the London Design Festival. The full study findings will be discussed at the Worktech conference at the British Library on 17-18 November 2008. What is clear, however, is that a refreshing alternative to open plan

office space is required to enable older knowledge workers to remain productive for longer. Those facing extended working lives want a 'surrogate home' away from the collaborative hum of the office to think and recuperate during the working day, in an environment that is natural and soothing.

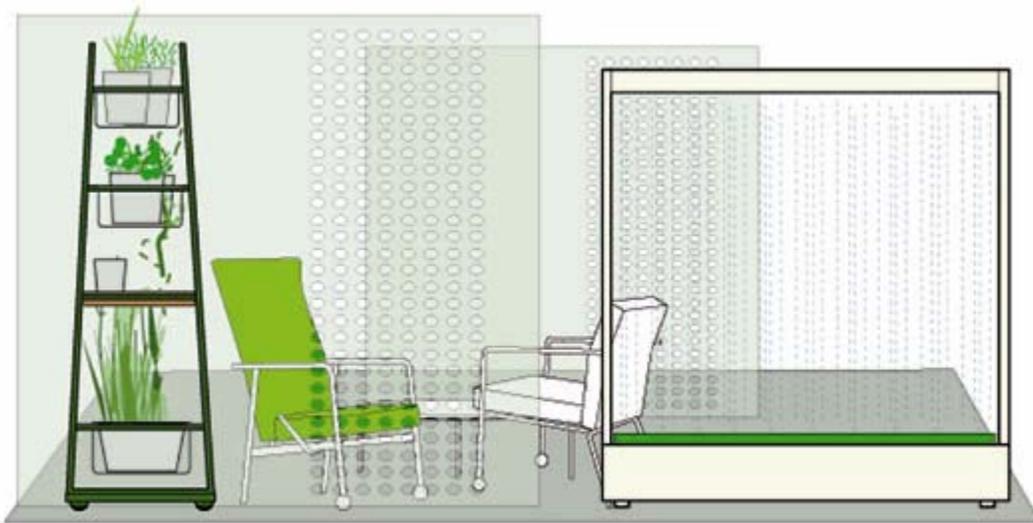


Figure 40. Rain Curtain shown as part of a spread of ideas from the Welcoming Workplace research

Research Associate profiles

Stephanie Chen



Stephanie Chen is a designer and engineer. She began her career as an aspiring astronaut, completing a BSc in Aeronautics & Astronautics from the Massachusetts Institute of Technology in 2000. Working in the aerospace industry, she designed and built experimental hardware for the International Space Station. Looking for an opportunity to put her engineering background toward more tangible and socially relevant endeavours, she studied Industrial Design Engineering at the Royal College of Art, graduating with an MA in 2007. Since then Stephanie has been working at the Helen Hamlyn Centre on a project for Nokia focused on service design for older people in transition periods. Previous projects include exhibition, interaction and textile design, large-scale installations, and medical products.

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Paul Clarke



Paul Clarke is an architectural designer, researcher and filmmaker with a Masters degree in Architecture from the Royal College of Art. He has an avid interest in the extraordinary and unforeseen implications of future technologies, as well as socio-economic and demographic change. Paul suggests a way of understanding future worlds, the psychologies of society and its inhabitants through narrative futurology. It is critical design approach that provides a creative tool to explore alternative horizons. JG Ballard once described this process and its outcomes as 'creepy truths' Paul has exhibited his work at the Architecture Foundation's 'Best in Show' in 2006. Paul has also worked for architecture practice Project Orange, on private residences, boutique hotels, bars and restaurants.

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Catherine Greene



Catherine grew up in Ireland and studied Textiles in Dublin at the National College of Art and Design (2000 BDes Hons). Moving to London after finishing her studies, she worked as project manager for a media start-up company where she was involved in the creation of brand identity, exhibition design and design of the office space. Catherine then came to the Royal College of Art to study Product Design, graduating with an MA in 2007. She is now pursuing her research through the 'Welcoming Workplace' project at the Helen Hamlyn Centre. Catherine also freelances for Totem Design, most recently working on a workbook called Sustainable Building for Cambridgeshire Council.

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Sally Halls



Fully trained as an engineer, Sally Halls graduated with a Masters in Mechanical Engineering at Bristol University. She then went on to study Industrial Design Engineering at the Royal College of Art, where she developed an interest in medical design. Her graduation project looked at ways in which incubators could be humanised to allow more contact between mother and child. This received a Dyson development grant and a Design for our Future Selves award for health and patient safety. Since graduation Sally has worked at the Helen Hamlyn Centre, where she was involved in the development of the Resus:station, which recently received two Medical Futures Innovation Awards for Best Medical Device and Overall Winner in the Anaesthesia and Critical Care category.

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Maja Kecman



Maja Kecman is an industrial design engineer with a Masters degree in Industrial Design Engineering from the Royal College of Art and an undergraduate degree in Manufacturing Engineering from Cambridge University. Her design experience ranges from medical devices and consumer products to factory layouts and processes. Maja has won a number of awards including first prize in the Helen Hamlyn Design for our Future Selves Awards 2005 and she was also shortlisted for British Female Inventor of the Year 2006. In addition to being a Helen Hamlyn Research Associate, Maja has provided consulting services to several companies, including healthcare and medical devices consultancy Pearson Matthews.

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Chris McGinley



Chris McGinley is a Scottish-born designer based in London. His qualifications include a MEng from Strathclyde University, and an MA from the Royal College of Art. Chris received the Anthea & Thomas Gibson Award two years running based on scholarly achievement, and the Most Outstanding Team Design Award from the Royal Commission of Design Engineers. Chris has worked in a design and research capacity for groups such as Strathclyde University and the Central Research Laboratories (CRL), and has experience in giving presentations and running workshops in the UK, USA and Japan. He has developed a robust understanding of inclusive design and the sensual and experiential needs of the user. He has held creative roles in groups such as Joseph Duggan Photography and DooD Design, and exhibited graphic and product design work internationally.

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Cian Plumbe



Cian completed his first studies at the University of Bristol where he earned a Masters degree in Mechanical Engineering. After graduation, his desire to work more directly at the interface between people and objects led him to the Royal College of Art, where he graduated in 2004 with an MA in Industrial Design Engineering. This is his second project at the Helen Hamlyn Centre, having completed a project for BT last year looking at bringing broadband to older non-computer users. He continues exploring his interest in the interactions between people and technology in his latest project entitled Seamless Mobility, for Research In Motion (RIM). In this conceptual project he examines scenarios for how future technologies can enable life in the work/life blend.

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Tomek Rygalik



Tomek Rygalik grew up in Poland. He studied Architecture in Lodz, and then Industrial Design at Pratt Institute (1999 BA Hons). After completing his studies, he worked with several design consultancies in New York. Tomek then came to the Royal College of Art's Design Products postgraduate programme, graduating in 2005. Since then he has worked as a research associate and also runs his own design practice. Tomek has won many prizes and awards including First Prize Award in the 2006 International Bombay Sapphire Martini Glass Design Competition, BSI Environmental Design Award 2005, and Rosenthal Design Award 2004. Two of his furniture pieces were part of the British Council's Talent/Talento selection in 2005. In recent years his work has been exhibited in London, Milan, New York, Tokyo and Valencia.

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Lisa Stroux



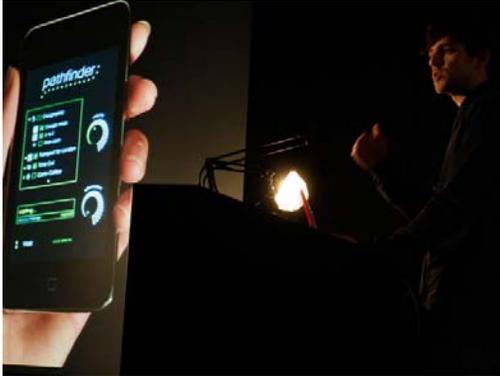
Lisa Stroux has a broad and multi-disciplinary background in both design and engineering. After completing her BSc at Delft Technical University she gained an MA from the Royal College of Art in Industrial Design Engineering. She then provided R&D services for several leading design consultancies in London before joining the Helen Hamlyn Centre in 2007. In addition to being a Helen Hamlyn Research Associate, Lisa is also a visiting tutor in the Industrial Design Engineering department at the Royal College of Art and she is pursuing the commercial application of her graduation work in conjunction with InnovationRCA.

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David Sweeney



David Sweeney grew up in Ireland. He graduated from University College Dublin where he studied Electronic Engineering (2004 BEng Hons). After working at the MIT Media Lab Europe in Dublin he came to study on the Royal College of Art's Industrial Design Engineering programme and graduated in 2007. He has recently worked with Olympus and for Panasonic in Japan and does ongoing work as a freelance designer. In 2006 he was awarded the Dyson Centenary Scholarship.

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Living Independently – Inspirational Kitchen and Bathroom Design for Older People



Rama Gheerawo, Research Fellow and Leader, Research Associates Programme



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ABSTRACT

This paper discusses the Helen Hamlyn Centre's (HHC) Research Associates Programme where new Royal College of Art (RCA) graduates collaborate with industry and voluntary sector partners on year-long design research projects. Each project addresses an area of interest for the partner organisation, where an inclusive design approach can be practically implemented within a 'real world' business context. Between 1999 and 2006 the HHC has worked with over 60 companies from the corporate and voluntary sectors.

The paper will discuss work done with research partners in the field of independent living, looking at how the traditional remit and definition of independent living can be expanded to enable us to live more independently and have more choice in the products, services and environments around us. The focus will be on work done with major European companies looking at bathrooms and kitchens for older people. The design outcomes and research methodologies will be discussed and presented in the context of user-centred design.

It will be of interest to design practitioners, educators, students and decision makers and also to business decision makers, innovators or anyone involved in commissioning design.

KEYWORDS: *Inclusive design; independent living; kitchen; bathroom; older people.*

INTRODUCTION

Inclusive design has been recognised by the UK government as a potentially important driver of change; it is described as 'a process whereby designers ensure that their products and services address the needs of the widest possible audience' (UK Department of Trade and Industry, 2000).

Designing in a manner that includes the needs of marginalised users can significantly increase corporate competitiveness and value whilst acting as an innovation trigger for designers to think laterally and invent new solutions that address the needs of groups excluded by mainstream design. A central area of inclusive design focus at the HHC is the perceivable phenomenon of population ageing which is set to grow and continue across the world.

Older people aspire to active participation within society, and reject the dependency and institutionalisation that were the standard for most of the last century (Coleman, 1997a). They are beginning to assert themselves as consumers who control significant amounts of disposable income and as participants in the knowledge economy with valuable expertise and experience to offer. Such new expectations offer a rationale for design that is 'inclusive' rather than exclusive, and more closely aligned to contemporary social expectations.

This drive towards design for a more inclusive society is today most commonly described in Europe as 'inclusive design'; in the United States and Japan, the term is 'universal design'. Both names reflect a similar set of ideals, although different cultural, historical and political factors in different parts of the world have influenced the precise way in which these ideals have been interpreted and expressed by professional designers.

COMMERCIAL OPPORTUNITIES

Inclusive design targets the needs of those groups of people in society who are excluded from or marginalised by conventional design practices, primarily due to age or disability. It links directly to the desirable political concept of the inclusive society, but its importance is increasingly being recognised not just by governments as a focus for social equality but also by business and industry

as a tool for commercial growth. This is because, for the first time, rapidly ageing populations are shifting the consumer balance of power away from the young towards the old. Amid sweeping demographic change, companies can no longer ignore the needs of older spenders, many of whom hold most of the financial assets in developed countries despite products and services being marketed at younger age groups (Myerson, 2001).

POPULATION GROWTH

There is considerable statistical evidence to prove the growth in population. By 2020, close to half the adult population of Europe will be over 50 (Coleman, 1993), while

one third of the inhabitants of the United States will be over 55 (Mueller, 2003). Two things are driving this unprecedented change. One is the accumulated impact of scientific, medical, technological and welfare developments that, at the start the 21st century, has given those living in the developed world an unprecedented extension to life expectancy. The second is the equally dramatic reduction in fertility rates that has taken place over the last 50 years. In 1950, over 99% of the world's population was reproducing at above replacement levels; 50 years later the figure was just 50% and falling fast toward zero, with the real possibility of world population peaking before the end of this century and declining thereafter (Myerson, 2005).

The result of these two trends is dramatic population ageing, seen in its most radical form in Japan and northern Europe, but also evident in China, India and other developing countries. The UK was the first European country to exhibit visible signs of the growing number of older people (Coleman, 2003) and Japan currently has the most rapidly ageing population (Kose, 2003). However, the real growth will be in countries such as India and China. By 2025, there will be 290 million Chinese over 60 or the 160 million Indians over 60, who will represent 20% and 12% of their respective populations (Myerson, 2005).

INDEPENDENT LIVING

Independent living has traditionally focused on age and disability, on making buildings more accessible and products and services more usable for disabled people and elderly

people living in care. Type 'independent living' into any internet search engine and the results largely consist of resources and advice on adapting homes and environments for people with disabilities.

However, the principles and themes of the independent living approach can have a far wider impact. At the HHC, independent living focuses on creating wider choice for people, regardless of age or ability by delivering innovative, mainstream design that is inclusive of their needs. It is about improving quality of life and does not just limit itself to addressing issues of physical need or a going through a mechanistic response to building regulations. Importantly, it also focuses on personal aspiration and emotional connection with design, something that people still value as they get older (Audit Commission, 2000).

There can be special application in using this approach when designing for older people. With age, people change physically, mentally and psychologically. For most people, these changes involve multiple, minor impairments in eyesight, hearing, dexterity, mobility and memory (Haigh, 1993), all of which have significant implications for design that is mismatched to their ability (Laslett, 1998). However, design for seniors, whilst focusing on this functional decline, rarely takes into account some of the more inspirational desires that older people still have. People do not lose their taste or individual preference for products and services as they grow older and correspondingly, design should not just address younger people in terms of desirability and product

empathy. The case studies outlined in this paper demonstrate the value of addressing ideas of what 'luxury' and 'indulgence' might mean to older people in the context of the kitchen and the bathroom two areas where design for seniors is limited to considerations of safety and accident prevention.

WORKING WITH INDUSTRY

The Helen Hamlyn Research Centre works on the practical aspects of inclusive design with three distinct communities – students, new graduates and design professionals. The Research Associates (RA) Programme works by taking new RCA graduates from a range of design disciplines and partnering them with an industry organization to work on year long design research projects. Basing them within the RCA design studios allows them to draw on the creativity of the RCA whilst developing user-centred design skills through the Helen Hamlyn Research Centre network. By maintaining close contact with the research partners, the industry relationships grow as innovative design research partnerships rather than goal-directed, problem solving design consultancy.

Between 1999 and 2006 the Centre has undertaken projects with more than 60 companies from the corporate and voluntary sectors. These include:

- large multinationals including Levi Strauss, Philips and Ford
- architecture and design firms including IDEO, Geoffrey Reid Architects and Pearson Matthews

- technology firms including Hewlett-Packard and mobile network company Orange
- charities including the Laura Ashley Foundation and the British Heart Foundation
- public sector bodies such as the National Patient Safety Agency
- international pharmaceuticals such as GlaxoSmithKline

The RA Programme operates on an annual basis, running from October to October. Each year ends with a symposium and exhibition launch event for research partners and collaborators. Around 300 people attend the symposium, and there are more than 1000 visitors to the exhibition. As well as realising the design concepts and exemplars for the research partner, each young design researcher produces an extensive report describing and cataloguing the research process and project results. The programme maintains a core interest in working with older users under its independent living theme.

WORKING WITH USERS

Designers often find it easier to design for themselves, to their own aesthetic values and to their own likes and dislikes, and this often leads to design exclusion (Moggridge, 2001). Designers have to step outside of their own ego and work with real users as nothing can really replace the value of this process (Warburton, 2003). A key part of the Research Associates programme is to involve users within

the process so that projects move from being ego-centric expression of design expertise to having social relevance and value for the end user. This is especially important when a young designer attempts to design for a user who might be more than 50 years older. Projects employ a diverse range of design research methodologies to identify and include the needs and requirements of older people including questionnaires, expert consultation, user diaries, interviews, observation 'in situ', testing with prototypes, and research 'kits' requiring a range of responses from photographic to emotive. Working closely with small groups of users encourages empathic bonding between designer and user, creating a space where they can both act as equals to address the problem in hand. Bonding with the older user helps the designer understand lifestyle and aspirational factors that are all too often overlooked, moving beyond ergonomic problem solving into an area of creative thinking and user-facilitated innovation (Coleman, 1997b).

CASE STUDY 1 – KITCHEN TALES

This design study, conducted between October 2004 and October 2005 explored what 'luxury' might mean to buyers of kitchen furniture in the UK. The user group focused on single person households which consist of large numbers of older people who are newly divorced or widowed. The research partner, MFI are a leading UK furniture company who design, specify and install a broad range of kitchens. MFI wanted to move away from a functional look at the older person's kitchen in terms of safety and ergonomics, and focus instead on desirability, design excellence and

emotional impact. Over one third of people in Britain currently live by themselves. The single household is a fast-growing market segment (nVision, 2005) and an increasingly influential spending group, cutting across all ages, cultures and social backgrounds. Concurrent with this demographic shift, kitchens are becoming smaller. New-build houses are up to 44% smaller than most 19th century dwellings, yet consumer aspirations for the home are greater than ever before (Nishi, 2005). The twin trends of more single households and smaller homes in the UK acted as the main drivers for this project.

The research began by mapping a range of social and cultural trends against a simple definition of luxury as a combination of function and desire. The researchers conducted desk research to analyse past and present kitchens and establish the historical and cultural iconography of luxury. Conventional views of the kitchen were interrogated through a research process entitled 'Kitchen Swap' where people were challenged to cook a familiar meal in an unfamiliar kitchen. On-site interviews and video ethnography captured the difficulties encountered and started to outline what role the kitchen played in people's everyday lives and the value individual users attached to their kitchen.

The project then focused on eight users living in single households in London covering a range of age, background, social status, culture and gender. People were interviewed and filmed whilst in their own kitchen space and asked to

complete weekly diaries. Filming people in their own house gave insight into the way they lived and into what was important for them in a kitchen space. Leisurely interviews also meant that the researchers could probe personal definitions of luxury and translate them into the design brief.

The insights from the research resulted in four design scenarios for four single households that individually represent four personality types. The research indicated that older people did not want to be categorised separately because of their age so people were divided according to personality types and the resultant kitchen designs reflect that. Each design represents multi-generational ambition and perception of luxury.

Scenario 1: Precision Kitchen



Figures 1 and 2: Precision kitchen prototype and detail

The Precision Kitchen is for the user who likes to be in control, who wants their kitchen to perform efficiently like clockwork and convey a sense of functionality. This sense of order gives them a sense of pleasure and the feeling of luxury comes from the pride and comfort in the amount of control that they have. Each design element is a researched response to user need and this design relates to a 'hygenist' personality through to the simple, white aesthetic. Rulers and measuring scales embedded into the surfaces allow precise measurement of ingredients and carefully crafted storage spaces contain and order potentially messy items like sugar, salt and flour which are used on a daily basis. Large countertop areas store frequently used or new bottles, and deep storage units set within the carcass provide space for the nearly empty bottles to be placed upside down so that the very last drop can be consumed.

Older users had problems reaching the top shelves in cupboards and conversely, could not bend down to reach the bottom drawer, making both these spaces redundant. The bottom drawer in the Precision kitchen therefore pulls out to form a sturdy step to access high cupboards, and a lid on the step can be lifted to reveal storage space for items that are infrequently used.

Information is a crucial element as the kitchen is the control centre of the house. A large LED display highlights the time of day, but can be used to set cooking times, or task reminders as well as store and display recipes. Many older people take medication or vitamin supplements, and the

kitchen becomes a makeshift place to store multiple packs and bottles. A dedicated medicine cabinet set at chest height subtly displays items behind a frosted glass door balancing a visual reminder to take medicine with privacy needs.

Scenario 2: Authenticity Kitchen



Figures 3 and 4: Authenticity kitchen prototype and detail

The Authenticity Kitchen was created for users who were interested in a lifestyle that is sustainable, food that is organic and recipes that are authentic. The main challenge was to see how design issues associated with such large aspirations could be realised within a small kitchen space typical of the UK kitchen. Users of this personality type range in age and luxury for them meant having natural ingredients and organic components. Luxury was also

perceived by these users to also be about time, so this design allows the single user to take time and care in preparing, cooking, and sharing food.

Handmade Terracotta wall tile pockets allow the user to grow their own plants and herbs for cooking and mosaic tiles create a tactile surface that lines the kitchen. A small, pivoting table is stored under the bamboo worktop and hinges out when needed to create more space. Bamboo was selected for the work surface as it is sustainable. The supporting cantilever structure provides a hanging space for utensils, such as a garlic crusher or potato peeler, creating more space on the shelves for cookbooks, ingredients, pots and plants.

Scenario 3: Flux kitchen



Figure 5: Flux kitchen design drawing

The Flux Kitchen was created for the fashion-conscious user on a limited budget and who might want to change the kitchen to suit the seasons, or create a mood for different occasions and guests. Luxury for this user is the feeling of exclusivity and change. For the older user it provides an inexpensive way to show personal tastes or to create a new look after a change in life circumstance.

The surfaces of the kitchen cabinets are interchangeable allowing the look to be updated easily and inexpensively. The upper cabinet and bottom carcass have aluminium-framed doors with clear Perspex panels to filter light. The hinges on the doors are secured by clips so they can be easily removed and stored. The backing panels then unscrew and digitally printed PVC panels that form the visible fascia can then be swapped over. By collaborating with different designers, artists and photographers, different collections and limited editions of prints can be made available. Users can even print their own fascias, creating a personal, intimate and reassuring space, something that was very important for the older users. The tiles on the splashback wall are also interchangeable as they are not permanently fixed. They are made from heatproof rubber with a resilient magnetic backboard securing them to the wall. The tiles can be taken off the wall and used as placemats or chopping boards, further blending the architecture of the space with user need.

Scenario 4: Masquerade Kitchen



Figures 6 and 7: Masquerade kitchen prototype and detail

The Masquerade Kitchen is a response to the architectural trend of the kitchen merging into living room, where the kitchen has to act as a showpiece rather than as a purely functional, separate space. Some users turned this to their advantage, filling the kitchen with many designer items that were never used but only there as a showpiece. Luxury for this type of user was the ability to exhibit their cooking

proceed to a gathering of dinner guests whilst having their latest gadgets on display in an opulent, welcoming environment. Newly divorced or recently widowed older men were particularly included in the design of this kitchen as they moved back into entertaining and dating.

As the kitchen and the living room converge, materials can start to be shared, and aesthetic and function became combined. The glass worktop acts as a showcase for beautiful utensils on the velvet case below and is toughened so it that functions as a chopping board. The side of the unit is upholstered leather, inviting guests to lean against whilst talking to the cook creating a tactile, ambient environment. It also positions them in the perfect place to view the objects that the owner has placed in the glass showcase below. The upper cabinet can be used to display favourite objects but it pivots to hide the things that the owner want to keep private, allowing them some level of curation in shifting the kitchen from a functional space to one of entertainment.

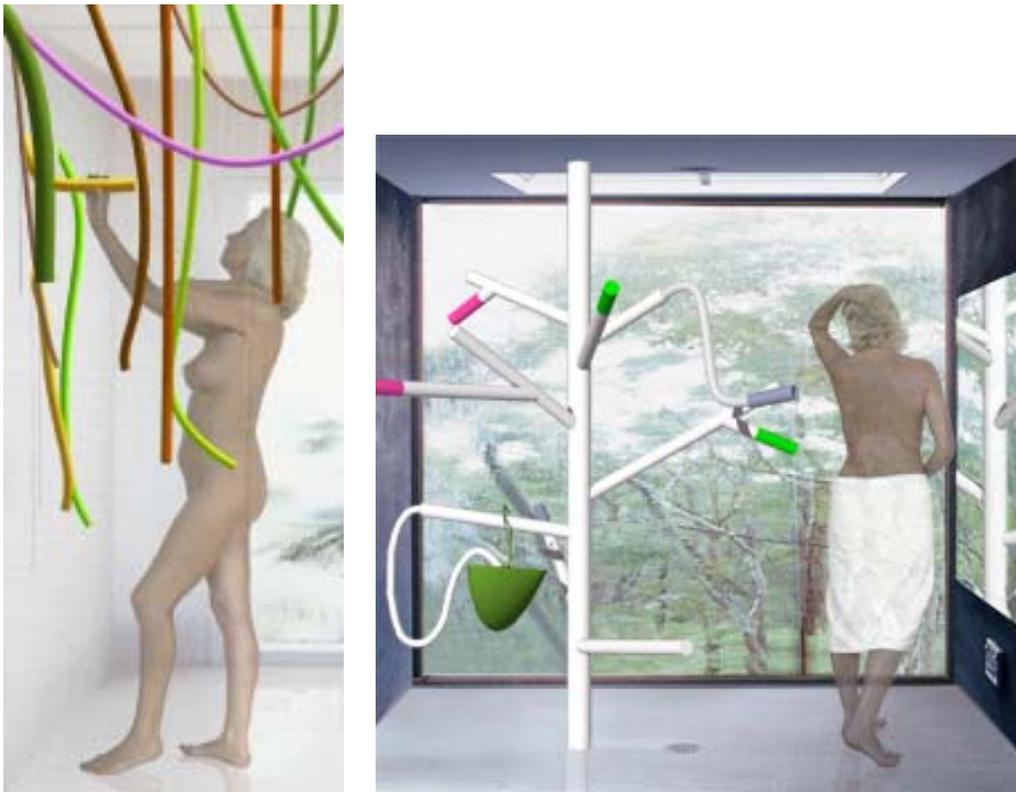
CASE STUDY 2 – INDULGENT BATHING

This study, entitled 'Indulgent Bathing', focused on the aspirations of the over 50's and explored what luxury and indulgence in the bathroom might mean for this age group. Ideal Standard, the research research partner, is a leading manufacturer of bathrooms and serves the UK market with sister companies Armitage Shanks and Trevi Showers. The company produces complete bathroom solutions including

sanitaryware, baths, complete showers, brass fittings and storage furniture. The project aimed to move away from the current emphasis in bathroom design for older people which concentrates on safety, the result being functional environments that are devoid of character that do little to inspire. The work explored the growing interest amongst older consumers in a bathing experience where water, light, aroma and sound combine to create an idyllic, stress-free environment, something that is currently far removed from the current experience of using a UK bathroom. The research partner wanted 'upstream' design suggestions that were more inspirational than factual so that they could outline new concept direction for the in-house design team.

The project was set against a background where 'wellness' or 'well-being' have begun to change cultural attitudes to bathing, but where products aimed at the older market sector are generally driven by low cost and utility and rarely deliver possibilities to delight and indulge. At the start of the study, ten users aged 50-70 were interviewed and photographed in their own home. Metaphorical and suggestive images of water, bathrooms and bathing were used to elicit responses from people about their own daily bathing rituals and to help them articulate their personal aspirations in the bathroom. This was more effective and inspirational to the design brief than trying to provoke response by using a static list of questions. Users ranged in ethnic background, social status and gender and had a spread of visual and physical ability. Some users were in relationships and some were single, either by desire or due

to recent death of a partner. Two users had experience of extreme bathing environments, one from long stays in hospital and the other from time in prison and this gave different perspectives on aspects of the domestic bathroom that we take for granted, such as privacy, seclusion and personal control. Each user had a unique story that was specific to their experience and these became narratives that directly fed into the design brief. The concepts described below collectively capture the users' aspirations towards indulgence.



Figures 8 and 9: Concept Jungle and Concept Tree

Concept Jungle uses the metaphor of the garden hose and people's love of gardening to create a network of hoses with changeable heads that can stream water for bathing, blow

hot air for warming or create suction for drying. The concept addresses current difficulties in a complete bathing solution and encourages older people to indulge themselves in the space for longer.

Concept Tree applies the same principles around a freestanding tree-shaped unit complete with branches that turn into showerheads or act as seat supports. Many older people wanted to sit in the bathroom and take time to relax on a daily basis and this concept allows a customisable approach to each day's bathing experience.



Figure 10: Concept Waterdrop with older user



Figure 11: Concept Extension

Many users found current bathroom designs sterile, hard and difficult to relax in. Concept Waterdrop landscapes the floors, walls and ceilings of the bathroom into a rich, organic surface. Rolling curves form washbasins, bathing areas and storage space. The bathroom looks like a complete solution rather than a collection of disparate pieces trying to work in harmony, something older users disliked about current bathrooms.

Concept Extension addresses the desire most people have for more bathing space by creating a semi-permanent structure made up of sections of timber and glass that takes the bathroom into the garden and surrounds the bathing experience with nature. This is especially applicable to many

suburban UK houses built after the 1930's which have small bathrooms but substantial garden space.

FINDINGS AND LEARNINGS

Independent living can be about more than creating accessible buildings. It can include approaches on creating accessible lifestyles by giving older people more choice and addressing their needs as well as aspirations. The approaches described here go beyond problem solving by creating designs that are informative, inspirational and indulgent. The research also found that older people do not want patronising products or designs that single them out as 'special need' cases. They want design that is supportive of their choices and engages them at an emotive level. What is applicable for older people also applicable for other groups. Multigenerational design is easier to realise when older people form the lead user group than when younger users lead the design study.

Working with end users can bring inspiration to the design process as well as information for the design brief, and in both projects, the users gave important insights that directly impacted on the resultant designs. It is important for the designer to value those insights and to step outside of their own ego and work with real users. Designers might feel that they are letting go of control, but it is only by respecting the user as co-creator that an empathic engagement can form and a system of trust develop. This technique of iterative and close engagement with select users moves the designer

from proposing solutions that are self-generated to working with the user in a design space that is relevant and beneficial to both their needs.

It is important not to cluster people aged over 60 into one group with homogenous needs and with very little variance between them. A 60 year old is very different to an 80 year old in terms of general ability but more importantly in terms of life experience, and it is imperative to note both similarities and differences between older people of different ages.

Understanding users can bring inventiveness to the design process and open up new markets for business by future-proofing products for new consumer groups. Industry needs to make an early response to the growing number of older consumers and one of the most robust and 'upstream' ways of doing this is by re-evaluating the design offer they present. Inclusive design techniques and methods can engender ways of visualising new design directions and testing them with potential markets to ensure suitability and take-up.

CONCLUSION

None of these concepts are meant to be market-ready, but they represent a solid way of approaching subtler aspects of design such as people's aspirations and attitudes and bringing them as valuable insights into design and business contexts. The rise of the multi-generational society is a major global change but does not have to be seen as

threatening – it can have positive impact. The tendency to refer to 'the elderly' as if they form distinct groups outside the mainstream is today being challenged by a growing trend to recognise age as something we will all experience as part of the normal course of life, but more has to be done to be truly inclusive in our approaches and to not treat design for seniors as special case design that is separate from mainstream design influence. The emphasis should now be on creating a level of independence and choice in the products and services for older people that address their needs as human beings rather than as design subjects and brings them closer in both practice and understanding to the centre of the design process.

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Packaging for people – user-centred innovation



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Our relationship with packaging

Packaging surrounds us. It is an integral part of our lives. It houses the products we buy, wraps the goods we purchase and keeps our letters and correspondence safe. However, even though packaging is ever present, it rarely ever steps out of the background. We take it for granted, just expect it to function and never question how it should look or how it should work. Packaging design is generally an unnoticed area of design, usually restricted to being an afterthought. We focus instead on the design of the product and forget about how it is packaged.

This can have negative impact. Our first, tangible contact with a brand is often an item of packaging and this can influence how we view the product thereafter. In areas such as hospital medication or prescription medicines the pack becomes even more critical. Accessing it correctly and understanding the instructions printed on it can literally mean the difference between life and death.

There are many roles that packaging plays beyond the obvious one of just holding items. It keeps things safe in transit, preserves perishables and once in the shop, dictates how a brand is displayed and selected. In today's malls, shopping centres and supermarkets, the amount of packaging competing for attention is phenomenal. Consumers often make choices about a brand or a product based on the 'shelf presence' of the pack and design can be an important factor. The individual then has to take the item

they have purchased home and the weight, size, shape and the ease with which the pack can be carried all play a significant role.

Once in the home, packaging takes on different purposes. It can be used for display as with liqueur bottles or perfume containers, but more importantly it is also used to store and access. This is especially true of foodstuffs and medicines where the life of the container sometimes needs to exceed the lifetime of the product.

Designing to include people

Whilst much packaging research has focused on environmental sustainability, there is a strong case for turning attention towards social sustainability and for addressing the needs and aspirations of consumers in the designs we create. Quite simply, people have difficulties with packaging whether consciously or subconsciously. Perhaps one reason for this is that the consumer voice has got lost in the design process.

This is the central premise of inclusive design which looks at placing people's needs and aspirations at the heart of the design process. Inclusive design has been recognised by the UK government as a potentially important driver of change. It is described by the UK Department of Trade and Industry in 2000 as 'a process whereby designers ensure that their products and services address the needs of the widest possible audience'.

Inclusive design targets the needs of those groups of people in society who are excluded by conventional design practices, primarily due to age or disability. It links directly to the desirable political concept of the inclusive society, but its importance is increasingly being recognised by governments as a focus for social equality and by business as a tool for commercial growth. Designing in a manner that includes the needs of marginalised users can significantly increase corporate competitiveness and value whilst acting as an innovation trigger for designers to think laterally and invent new solutions.

This drive towards design for a more inclusive society is today most commonly described in Europe as 'inclusive design'. In North America and Japan, the term is 'universal design'. Both names reflect a similar set of ideals, although different cultural, historical and political factors in different parts of the world have influenced the precise way in which these ideals have been interpreted and expressed.

The rise of the silver shopper

A central area of inclusive design focus at the Royal College of Art's Helen Hamlyn Centre in Britain is the perceivable phenomenon of population ageing – something that is set to grow and continue across the world. Older people aspire to active participation within society, and reject the dependency and institutionalisation that were the standard for most of the last century. They are asserting themselves

as consumers who control significant amounts of disposable income and as participants in the knowledge economy with valuable expertise and experience to offer. Such new expectations offer a rationale for design that is 'inclusive' rather than exclusive, and more closely aligned to contemporary social expectations.

For the first time in history, rapidly ageing populations are shifting the consumer balance of power away from the young towards the old. The numbers are considerable for any industry. Half the adults in the pre-enlargement EU will be aged over 50 by 2020 and one third in the US will be over 55. Amid sweeping demographic change, companies can no longer ignore older spenders, many of whom hold most of the financial assets despite marketing being directed at younger people.

Older people have problems with packaging but 'difficult' packaging is by no means an age-specific issue. We all struggle at times to open and access, to store and decant, to understand usage and to dispose and recycle packaging. We wrestle with bubblewrap, sticky tape, glue, jam jars and crisp packets on a weekly basis and when frustration sets in, we resort to dangerous techniques. Many of us, for example, routinely use scissors or sharp knives to skewer cellophane or cut through resistant cardboard. Hospital emergency rooms report that a significant number of injuries result from this type of activity.

However, it is a biological fact that our bodies will change and our sensory, physical and cognitive skills will be affected as we age. Older people experience multiple, minor impairments in eyesight, hearing, dexterity, mobility and memory, and design issues such as 'hard to read' information on packs, 'difficult to access' containers and branding that overpowers therefore become even more important to address (see Figures 1-3). Packaging can be currently mismatched to their ability, especially when it is designed by a young designer who can be forty or more years younger than the people they are designing for.



Fig. 1: 'Hard to read information on packaging



Fig. 2: 'Difficult to access' packaging



Fig. 3: Branding that overpowers other information

Because older people are the fastest growing consumer group, the implications for the packaging industry become more significant with each passing year. A bad experience with a particular package can turn away potential older buyers who, once lost, are that much more difficult to regain. Research by the UK Design Council found that 2.7 million people aged 55 or over have stopped buying products due to difficulties opening them (see Figure 4).



Fig. 4: Physical and visual impairment that occur with age make packaging more difficult to open

But the packaging industry should be aware and sensitive to this age group as this can yield financial benefits. Older people are the newer consumers and the 'Silver Shopper' will dominate our high streets. The same UK Design Council study averages that the over 55's spend £13.7 billion on food annually – a significant market to design for. And embracing inclusive design principles is not about producing age-exclusive designs. Designing for the old does not mean discarding the young. A twenty-something year old will not complain that a container is too easy to open or that the instructions are too easy to understand. Age-friendly design benefits everyone.

Our approach

Understanding older consumers is important at the Helen Hamlyn Centre. We urge our designers to empathise with end users throughout the design process. A key vehicle is

the Research Associates Programme run by the Centre which takes new Royal College of Art design graduates and partners them with an external industry organisation. Between 1999 and 2008 the Centre has undertaken projects with 66 organisations from the corporate and voluntary sectors including many household names. Much of the work has looked at packaging design for older people.

Projects employ a diverse range of methodologies to identify the needs and requirements of older people including methods that do not require the designer to be present such as sending out questionnaires, consultation with experts and asking users to record diaries of their experiences. Of more direct benefit are processes that require the designer to be present. These incorporate interviews, observation 'in situ', testing with prototypes, and research 'kits' requiring a range of responses from photographic to emotive. Working closely with small groups of users encourages empathic bonding between designer and user, creating a space where they can act as equals to address the problem in hand. Bonding with the older user helps the designer understand lifestyle and aspirational factors that are all too often overlooked, moving beyond ergonomic problem solving into an area of creative thinking and user-facilitated innovation (see Figure 5).



Fig. 5: Working closely with older people helps young designers to innovate

Our work

A study in 2000 conducted by Helen Hamlyn Research Associate Frank Philippin for the Packaging Solutions Advice Group looked at improving 'on-pack' information. Older supermarket shoppers were placed at the centre of the design brief. Corporate branding and imagery are given the prominent 'real estate' on the pack surface, often to the detriment of mandatory information such as ingredients or dosage which are usually in small, unreadable typeface placed in inaccessible areas. The projects assessed a wide range of typical, everyday food packaging with groups of older people with the aim of creating a series of user-centred guidelines for packaging designers. The results showed that older people wanted a more balanced approach – branding was important in reassuring them that they had bought a reputable product from a trusted company, but

they did not feel that logos should be placed on every surface. They wanted key information displayed in a format that was more obvious so it could be accessed easily when needed. 'Use by' dates for food and dosages for 'of the shelf medication featured prominently. The designer also produced exemplar designs for a milk carton and supermarket paracetamol. The paracetamol designs in Figure 6 show before and after designs. The redesign holds all the same information as before but has increased font size, legibility and still retains a strong element of branding.



Fig. 6: Balancing branding with key information.
Original on left and redesign on right

A project in 2002 by Edward Goodwin and Richard Hartshorn with UK supermarket chain Waitrose looked at the 'openability' of common types of food packaging to

improving the physical, cognitive and visual clues that their current packaging offered. Although this was seen as something that would improve the designs for customers of all ages, older people were the driving force behind the work. Working with a group of 65-75 year olds, many of whom had arthritis and reduced sight, revealed many hidden problems with current packaging. One user struggled for over ten minutes with ironically labelled 'easy peel' bacon packaging before giving up. Many users accepted these difficulties as a normal part of the grocery experience and the challenge for the designers became to design against this culture of accepting bad packaging design as standard. Designs that gave better visual and cognitive clues for opening were developed for five of the most problematic pack types: bacon packs, fresh soup pots, ring-pull tins, jam jars and sardine tins. The approach was evolutionary rather than revolutionary with each innovation designed to build on existing user understanding and create maximum improvement with minimal disruption to current manufacturing processes or pack design. Figure 7 shows 'easy peel' bacon packaging with an integral thumbgrip and larger piece of cellophane to pull. Figure 8 illustrates improved 'ring pulls' for tin cans – the original, smaller type is shown in the background. Figure 9 shows a jam jar with a vacuum release tab that once removed, significantly reduces the force needed to open the jar.



Fig. 7: Easier to open bacon packaging



Fig. 8: Improved 'ring-pull' for cans



Fig. 9: Jam jar with vacuum release tab

Understanding how to open and use packaging can also mean the difference between life and death. Older patients take three times the number of drugs as the general population and over half take their medication incorrectly. This accounts for 40 percent of all hospital admissions and contributes to 125,000 deaths per year. Three projects looked at the different issues here.

The first, carried out with pharmaceutical giant GlaxoSmithKline from 2003-4 by Richard Mawle and Chris McGinley, looked at how medication packaging can actively encourage people to take medicine correctly. It moved the cardboard box that holds most medication away from being a static, throwaway container to being an integral part of the patient's life. In-depth interviews with older pill takers uncovered several areas where the pack design was failing them. All were linked to lifestyle aspirations and each person's desire to be more independent. The first looked at

opening the pack and successfully 'popping' a pill into the hand. The second was around remembering to take the pill without needing intrusive devices or several alarms to be set throughout the day. The third dealt with the problem of needing to take medicine whilst on the move. People did not want to draw attention to themselves by taking out a large cardboard box in public. Three different designs directly resulted from these insights. The Access pack (see Figure 10) has a built-in receptacle that allows arthritic hands to 'pop' a blister pack pill and uses a matchbox style of opening for more security and visibility of contents. The Remind pack (see Figure 11) uses a variety of strategies such as stickers that can be placed on the fridge or on the television schedule to help people remember to take their medicine – once the evening news starts, for example, a person can be prompted to take a pill by a 'stuck-on' reminder on the TV guide. Finally, the Moving pack (see Figure 12) comes with a branded, mini-pack inside so that patients can discreetly take their daily dose with them on their travels. All key information is replicated on the mini-pack.



Fig. 10: Access Pack



Fig. 11: Remind Pack



Fig. 12: Moving pack

The second project by Thea Swayne in 2005 was conducted in partnership with the National Patient Safety Agency, a department set up by the UK's National Health Service to reduce error and improve patient safety. Research identified bad pack design as a critical area for improvement and the ambition of the project became to create graphic design guidelines that could be communicated to all designers involved in medication packaging. The complexities of information to be displayed, the diversity of companies producing different packs and the lack of existing standards all proved a challenge. Once again, working with users gave direction and brought clarity in navigating through these issues. Older people with long term illnesses on complicated medicine regimes formed the lead user group and interviews with pharmacists and hospital staff brought in the expert angle. The resulting guidelines (see Figure 13) are written for designers rather than clinicians and illustrate the problems whilst suggesting solutions that can be copied. Areas addressed include use of colour, type size, type style and hierarchies of information, all of which can lead to confusion and error if used indiscriminately. The book promotes best practice and provides coherency pack design in the health sector. It was made publicly available in both electronic and printed format at the close of the project.



Fig. 13: Guidelines to improve medication packaging

The third project in the medical set created more guidelines. This was done by Sally Halls in 2007 also in partnership with the National Patient Safety Agency. Injectable medicines are particularly susceptible to medical error and again, the information on the pack influences accuracy and performance. The bewildering range of designs where branding often dominates and dosages are presented in a variety of ways means that it is more likely for an overworked ward nurse to make a mistake and administer the wrong dose or even the wrong drug. Improving the graphic information on the packaging could vastly reduce the incidence of errors. Whilst the primary 'user' for this project was the hospital staff who administer the injection, older people form the majority of patients. The designer worked closely with a user group of healthcare staff at all levels – from nurses and pharmacists to anaesthetists and

procurement managers – to discover how medicines are stored, prescribed, dispensed and administered. The aim was to establish what information was vital for staff to be able to give the medication safely. Findings from the user study were then distilled into separate design points and each formed an illustrated double-page spread in a publication similar to the one produced in 2005. The focus here was on all forms of injectable medicines packaging including ampoules, syringes and infusion bags. As before, the guidelines were aimed at designers across the health industry.

What we have learnt

Working with end users can bring inspiration to the design process as well as rich information into the design brief. In all of these projects, the users gave important insights that directly influenced the resultant designs. It is important for the designer to value those insights, to step outside of their own ego and work with real people. Designers might feel that they are letting go of control, but it is only by respecting their users as co-creators that an empathic engagement can form and a system of trust develop. This technique of iterative and close engagement with select users moves the designer from proposing solutions that are self-generated to working with the user in a design space that is relevant and beneficial to both their needs.

These projects describe some positive effects that design can have when users are consulted in the process, but they

are in no way meant to be comprehensive or prescriptive in preaching a 'one-stop' solution. Companies have to be creative in finding an individual way of being age-inclusive rather than age-exclusive. The suggestion put forward here is that design inspired by user need and aspiration can be a powerful tool in understanding consumer perspectives and seeding socially responsible design innovation.

The high street of tomorrow will look very different with the rise of the older shopper and the multi-generational society is a major global force for business and industry to listen to. But this does not have to be seen as threatening – it can have positive impact. The tendency to refer to 'the elderly' as if they form distinct groups outside the mainstream is today being challenged by a growing trend to recognise age as something we will all experience as part of the normal course of life. Designing for a multi-generational society also means designing for ourselves.

To be truly inclusive, approaches have to be developed and implemented that do not treat design for seniors as special case design that is separate from mainstream design. Older people do not want patronising packaging design that singles them out as 'special need' cases. They want design that is supportive of their choices and engages them at an emotive level, enabling life, choice and independence. What is applicable for older people is also directly applicable to other age groups and understanding this can help build stronger, more meaningful relationships between a company

and its customers through better pack design – and this is true of all customers, regardless of their age or ability.

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“Designing with users, how?”

Investigate users involvement tactics for effective inclusive design processes



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Abstract

This paper aims to extend the view of Inclusive Design through looking at the practice of design. The main ethos of inclusive design developed at the Royal College of Art (RCA) Helen Hamlyn Centre is to encourage design for social inclusion through different forms of user involvement. Based on the flux in design and design research, user involvement becomes an essential part of the design process. However, this paper urges the attention to the *intention, implication* and *impact* of user involvement in design. The focus of this paper is to introduce three tactics that aim to encourage designers to involve users in their processes and to be inspired to create more inclusive and sustainable designs for all. These tactics are *recruiting, engagement* and *representing* which are developed referring to general user-designer interaction processes, as well as working with the codes of ethics in research in general. Each tactic is illustrated by examples from authors' personal research studies and Masters student design projects from the Inclusive Design education programme, '*Design for Our Future Selves*' an annual competition, lead by Lee at the Royal College of Art. The paper concludes that design research with user involvement should consider more innovative and fluid approaches such as '*ethics-as-process*' to reinforce mutual participation and affirmation between

research participants and researchers, users and designers. Although investigating a diverse range of directions, this paper addresses the main research question of how to transform design processes through social inclusion and transform design thinking to everyday life activities.

Introduction

The populations of the industrialised world are aging at an unprecedented rate, escalating welfare and pensions costs. Concurrently, moves towards a more inclusive society aim to bring disabled people into mainstream life and employment. People's varied capabilities and a wider change of attitude, therefore become the ethos of the development of 'Inclusive Design' in the UK context. This obliges responses from different involved partners including governmental policies to address reduced social exclusion, industries to produce products that are more inclusive and accessible, services and innovation opportunities with older and less able people in mind and also with the design community, who need to develop creative design practice to make good design that is inclusive and subsequently sustainable.

The philosophy of Inclusive Design proposes that users' needs and abilities change throughout the life-course, and should be taken into account during the design processes and design outputs. Such considerations can improve the design of products, environments and services for the majority of customers in ways that are not associated with negative perceptions of age or disability. In addition, such

contemplation can be good for business development, enhancing a company's reputation for care and customer service and extending markets and profitability without necessarily adding to costs (Coleman, 1994). During the last decade, similar advances in design approaches have been made including; studies of aging (Smith, 1990; Fisk 1997 and Fozard 1993), universal design (Kose 1998) and trans-generational design (Pirkl, 1988). However, these initiatives only raised the awareness of Inclusive Design (DTI 2005) and not necessarily enabled its *practice*.

The primary barrier for companies and designers to incorporate an Inclusive Design approach is the perceived increase in design development time and subsequent financial cost for what is believed to be a small cost/benefit ratio. In addition, inadequate access to users to consult and ultimately include in the design process, as well as inexperience in dealing directly with users, further restricts the uptake of an inclusive approach. Such negative perceptions often result in commissioners of design not requesting an Inclusive Design perspective.

However, this situation is changing because of regulations and social pressure in design. Sanders' cognitive collage (fig.1) of design research space clearly shows that user participation or involvement has become an essential part in design research development. The concept of '*involving people*' in design processes exists in most design research activities but there are different levels and intentions. Its

vertical dimension describes the impetus of the design research approach where design research methods and tools have been introduced into practice. Its horizontal dimension is between the mindsets of experts and people, i.e. between the design-led to the research-led. Sanders includes four main groups of design research which are mapped in the collage and indicated in different positions. For example, 'User-Centred Design' is still a practice based on the experts' mindset, which is not reflected in its name. At the other end, there is 'Participatory Design' with strong co-design approach.

In addition, there are contrasting hierarchical systems to classify the levels and intentions of user involvement. Many refer to Arnstein's 1969 'ladder of citizen participation'(fig.2). It classifies the level of user involvement through the effect of activities and its degree to which users are related to the ultimate final output. It defines eight rungs of participation that are grouped into three types of progressing participation that the degree of user involvement ranges from being manipulated by experts to becoming involved in decision-making in a partnership relationship with the others, including different experts:

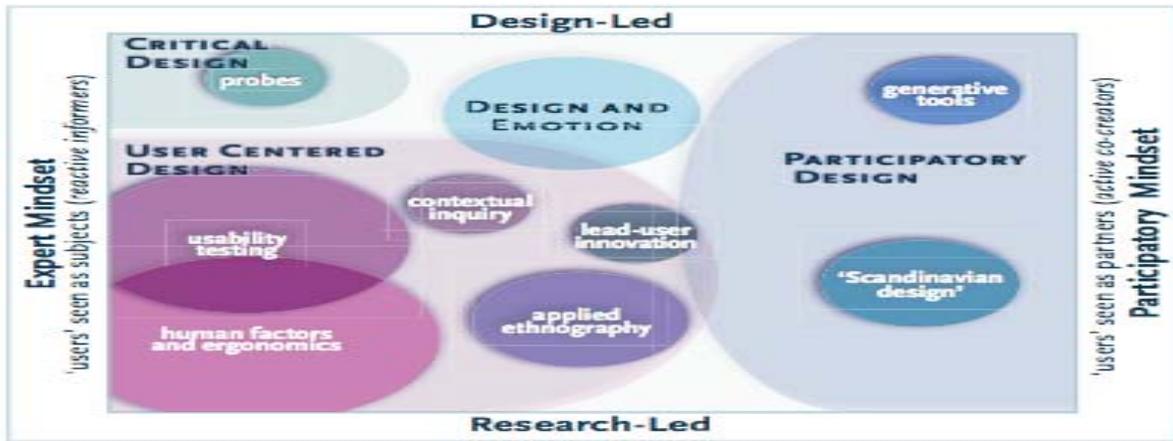


Fig.1 Topography of Design Research by Sanders (2006)

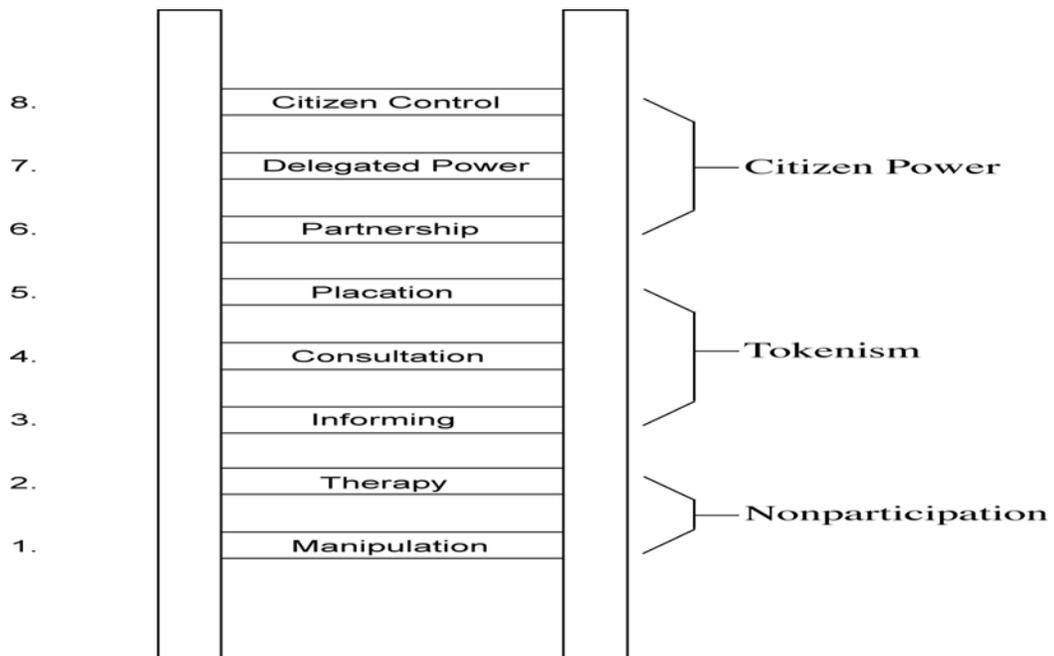


Fig.2 Eight rungs on the ladder of citizen participation. (Arnstein, 1969, 1996: 247)

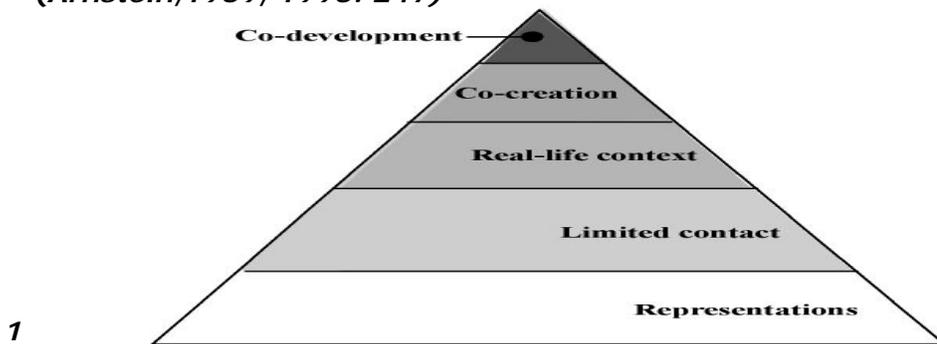


Fig.3 Christina Lindsay's pyramid of user-led design

1. *Nonparticipation* – “ Their real objective is not to enable people to participate in planning or conducting programmes, but to enable powerholders to ‘educate’ or ‘cure’ the participants” (ibid, 246),
2. *Tokenism* - “When they are proffered by powerholders as the total extent of participation, citizens may indeed hear and be heard. But under these conditions they lack the power to insure that their views will be heeded by the powerful” (ibid. 246),
3. *Citizen Power* – “levels of citizen power with increasing degrees of decision-making clout” (ibid, 247).

Almost three decades after Arnstein’s ‘ladder of citizen participation’, social scientist Christina Lindsay (2003) of Philips Design introduced another tool titled ‘pyramid of user-led design methodologies’ (fig.3). This aims to illustrate the relationship between user research methods, the kinds of information obtained through using them, and the relationship of the designer to the users in the process. At the lowest level of the pyramid, designers use ‘user representation’ and ‘I methodology: design for themselves’. These are the most common types of user representation, in which the designer projects an imagined user from his or her own experience or assumptions. As one proceeds ‘up’ the pyramid, the level of user involvement is raised, by introducing qualitative research methods such as short interviews and ethnographic observation. Thus, users are treated as ‘valued colleagues’ in the design processes. Lindsay is not satisfied with the co-creating process and her final goal is to put users at the centre of the process. This ‘co-development’ mode is the beginning of the collaborative design process.

For many designers, user research is already an essential part of design, and this is the result of pioneering and

groundbreaking work of designers and design researchers that have brought the issue to the forefront. This paper urges designers and researchers to continue this work but to stimulate a more in-depth discourse of user involvement in design. Although some innovative methods such as 'Cultural Probes' were self-criticised for a lack of formal analysis (Graver and Dunne, 1999), they set good exemplars of how to draw the attention of designers to the importance of user involvement and start the dialogue between the users and designers (Mattlemaki, 2006:60). The other level of concern lays in the actual process of user involvement, i.e. design inclusively 'for' or 'with' users? (Thackara, 1995 and Lee, 2007) Therefore, based on the codes of ethics in research, and drawing from social science research methodology and methods, this paper aims to introduce ethical codes as the framework of 'proper' and creative user involvement.

Three User Involvement Tactics

Like Christians' (2005: 144-45) 'codes of ethics' comprising informed consent, deception, privacy, confidentiality and accuracy; Liamputtong's (2007: 32-41) three moral and ethical issues in researching vulnerable people are obtaining informed consent, keeping confidentiality and ensuring safety. In this next section, a holistic and practical framework is shown as a principle for designers to understand the value of user involvement and making it as part of their practice. It contains three user involvement tactics that aims to make designs and design processes more inclusive. Apart from exploring how to

engage with users during the design process, this section will discuss the realities of procuring the right users/people to participate in design and investigate different ways to interact with them.

In addition, a range of case studies will illustrate how users can be recruited for a variety of design projects. Most of these projects are from an annual Inclusive Design educational Awards scheme¹ that aims to introduce inclusive design principles into mainstream design education so that they can become part of the designers practice and diffuse out into industry – over 90% of RCA students enter professional practice upon graduation, often rising to very senior positions. Student projects run throughout the final 2nd year, giving a lengthy period during which Inclusive Design can be explored and practiced without detracting from the students studio work. Those who take part in the competition are directed to work in two ways; firstly, to address the powerful social changes that surround them and to think about their 'future selves' and secondly, to empathise with users. The students are attracted by the chance to creatively problem-solve for a 'real life' situation based on user research rather than speculative design. The projects cover a range of disciplines at the RCA from Industrial Design Engineering to Ceramics & Glass. Between 2000 and 2005, 467 students have applied with 331 being shortlisted. More than £20,000 has been given out in

¹ Design for Our Future Selves, organised at the Helen Hamlyn Centre for Royal College of Art masters students

research bursaries to each shortlisted project and in total £40,000 in prize money from industry and voluntary sector sponsors has been awarded. Over the last five years, the projects have focused on very specific problems experienced by people, but have done so in ways that were both practical and life enhancing. These case studies demonstrate the design innovation and social potential of student work that was developed with groups of 'critical' users, who could challenge the design briefs and stretch the creative envelope as well as affording the designers to build relationships with 'users' and develop designs together that reflect and improve peoples lives.

1. Recruiting – contextualizing the design idea

In order to encourage social inclusion through design, it is essential to arouse an internal transformation from the design community. Historically, design has been practiced as an egocentric processes, with the designer looking within their creative selves for answers that address a problem. Each designer tackles a design brief using their own aesthetic values and their own likes and dislikes because it is much easier (Moggridge, 2001), but can often, through it's singular approach, lead to design exclusion. This directs designers to not design from their own assumptions but to understand the local and cultural context as part of the big picture (Myerson, 2007). In order to work inclusively designers need to contextualise the design ideas or design questions as a first step towards the recruiting process. This is followed by the need for designers to define the social

situations of their projects. Thus, when starting to recruit 'users' there are three key factors to be considered (Yelding and Cassim, 2007):

- a. *"Who and where are your users? Existing users of products or future users who might give relevant insights?* This sampling process depends on what issues are being explored. Lee (2006) explains how interaction design student, Sohui Won designed 'Weird Objects' for autophobics and those who experience loneliness. Won started her user research by empathising with autophobics through reflecting on her own personal experience of being alone. Won joined an on-line phobia group and participated in on-line discussions as both a participatory observer and a user. This enabled Won to explore her own situation as well as discuss the issues of fellow phobics and possible future users of her designs.
- b. *How many of them? Large-scale survey or small-scale discussion for sufficient stimulus for ideas?* The important factor is how representational is the group. It is better to have a diverse sample, even if it is small, in order to cancel out biases. This leads to the ideas of 'working with extreme users', which can arouse different discussions from our own peer groups. Apart from working with older and people with disabilities, designing specific user engagement processes between different groups is also a way to work with small groups but get a higher representative profile. For example, originally, a design team named *dot^o* wanted to work with a group of eight to ten year old children but had no experience of working with children. Lee, as an inclusive design

researcher (Lee 2007) was able to advise and help them set up a collaboration with a high school. Instead of working directly with primary school children, the design team worked with an education project manager and five high school students (fifteen and sixteen years old). The collaboration between the school and the design team ran two design workshops each with a group of twenty-five school children (Fig.4). In total the design team engaged with over 50 participants.



Fig. 4. Perception Workshop. Three physical games represent three elements of game: team leading, predictability and interactivity (from left to right). All games designed and produced by the Dot° team. Photos by Yanki Lee

C. Where to recruit? Approaching organisations is recommended as the best start. Other researchers also put advertising through different media. For design students or academic projects, there is often not as much resources available compared to commercial market research or Research & Development projects that can afford to find people by population screening. In recruiting a large number of varied users, Bichard (in Hanson, 2007) placed articles in user group newsletters to recruit people for toilet design

research. This strategy reached a large proportion of perspective users as well as gave newsletter editors articles for publication. If inclusive design is going to be practised over a long term period, the building of a network of users may save time repeatedly trying to attract potential users. This has been practiced by the Royal College of Art Helen Hamlyn Centre (RCAHHC) for a number of years. The centre now operates as a facilitator in encouraging designers to design with users. Its 'users data base' currently contains over 78 users comprising older and people with disabilities. However, there remains fundamental issues of this approach within the inclusive paradigm in that designers do not learn the fully engage with users and often the designs are still designer-led and therefore design *'for'* and not necessarily *'with'* people. Users are often testing objects and giving input into existing design ideas and therefore have passive roles in the design process. A further issue with such a data base is that it has become extremely popular with designers and is heavily used and consequently a number of are continually invited to participate in different projects. These users shift into 'professional users' since they become very familiar with the processes and their comments may no longer be as representational of their group.

2. Engaging – obtaining informed consent, incentive and confidentiality

After locating and recruiting the 'users' for projects, the next step concerns the actual interaction. Liamputtong's (2007:

32-41) discussion about the moral and ethical issues of researching with vulnerable people stresses that obtaining informed consent from participants is essential in conducting any research with people. In addition, special sensitivity is required when working with most groups of vulnerable people. Compared to social science research areas, design research tends to be more about practical subjects opposed to deeper personal investigations and aims to explore everyday life situations that stimulate the development of new design ideas. One of the best examples of how designers engaged with users was the 'Cultural probe' study developed by a group of design researchers from the Royal College of Art's Design Interactions Department (formally Computer Related Design). Cultural probes consisted of packs containing disposable cameras, maps with instructions, stickers and pre-stamped postcards that were to be used by research participants to record their interaction with the research. However, besides an agreement to participate, no formal informed consent was sought. Instead agreement to participate in the research was given through the return of completed Cultural Probe packs. Since the Presence project (1995), this innovative research method has become very popular in field of design research and has been applied to both experimental studies and business projects.

However, the role of users in the probe studies is still remains passive. In order to encourage more active engagement between designers and users and fulfil the four

criteria of morally valid consent: disclosure, understanding, voluntarism and competence (Bosk, 2002:5-65), in the case of the RCAHHC, we arrange face-to-face meetings for our design students and 'design partners'. Generally, this type of meeting follows a 'focus group' format, with six-eight people discussing a specific topic. However, the RCAHHC call these meetings 'user forums' since they usually unmediated in the traditional sense to encourage free but stimulated discussions between designers and users. It is a forum for all participants including both users and designers to discuss and brainstorm new ideas that encourage design *together*. For users who are interested in design, the experiences of these dynamic and interesting discussions, about design, and with designers are the best incentives for them to participate. As one of our long-term users, who is visually impaired and a trained textile designer, comments that she "really enjoy[s] the intellectual engagement" with design students and is "glad to be part of their creative process". This user has worked with different design students on a voluntary basis to provide both advice from the perspective of an ex-designer *and* a person with visual impairment. The users reward was from seeing how her comments and input influence the final design, as well as the enjoyment from meeting and engaging with fellow designers. For commercial user forums, monetary incentives from around £25 per day with travelling costs can be seen as an average payment for a few hours participation in a user forum (Yelding and Cassim, 2007:156).



Fig. 5 forum. Tongue Sucker and its pack (left) and user with older users, photo by Yanki Lee (right)



Throughout the engagement process with users, the crucial issue concerns confidentiality. Liamputtong's (2006: 32-41) makes a very precise point that the most disturbing and unethical harm research can have is when the participants are damaged by the full disclosure of their private world. In our cases of design research, the participants cannot refer to either the designers or fellow users. This is actually related to both intellectual property rights and legal protections of privacy such as the UK's Data Protection Act (1998). This often presents a dilemma for the RCAHHC as on one hand we are encouraging our design students and designers to work with users and on the other hand, the stipulations of intellectual property law are guiding them to not show their ideas to others in order to protect their inventions.

How can this dilemma, of confidentiality, can be solved? The RCAHHC suggests that the promotion of 'designing with

people' where 'respect and trust' are built between the two parties maybe an initial start. We also propose to use the term 'collaborators' for equal exchange in the processes. Our practice is to make both parties aware of necessary consent forms as well as forms that cover confidentiality. A case study of the RCAHHCs experience of this matter can be seen in the process of designing the 'Tongue-Sucker' (fig 5), the winner of INDEX award to improve people's lives. 'Tongue-Sucker' was designed by a group of design engineering students, it is a simple, effective life-saving device that allows an untrained bystander at an accident scene, to secure the airway of an unconscious casualty. After consulting experts and conducting simulated stress conditions with a range of people, the important part of user involvement in the project was to work with a group of older and experienced users that were recommended by a user researcher (Lee, et al. 2006). This special user forum was used to reinterpret different emergency situations and how this new device could change people's responses in an emergency especially from older and experienced users. The result was a new package with *inclusive* display instructions, which gave greater access to those who may be called upon to use of this new emergency device. Before the user workshop began, all the people who were invited to this design processes needed to sign both consent and confidentiality forms. Thus, with the paperwork in place protecting the users and the designers, the designers felt free to discuss their developing ideas to outsiders. However, the designers were also moderated by user research

facilitators to avoid any questions that invaded the users' privacy and bring the focus back to the issues raised by the design concept in relation to their everyday life. This 'two-ways' or mutual relationship in design research is becoming more common and needs more attention for further studies.

3. Representing – accuracy and translating into design

Finally, all the findings from interacting with users are brought back to the design processes by designers. According to the '*Research Governance Framework for Health and Social Care*' published by the Department of Health in the United Kingdom (2005:7), "*the dignity, rights, safety and well-being of participants must be the primary consideration in any research study*". This framework is developed for medical research and applied to those being researched i.e. both medical staff and patients. When this framework applies to design researches especially when designers translate the findings and present the design outputs, there is another dilemma: people become co-designers and need to be acknowledged, but at the same time, this recognition might cause harm for the privacy of individual in public domain.



Fig. 6. Alison with Laura's prototype (left) and one of the final outcomes (right) photo by Laura Perryman

This discussion can refer to the discourse of the Data Protection Act: *what counts as personal data and what is covered by the Act?* Guide to the Act (Gould, 2006:5) suggests the use of 'codes/identifiers' to represent those who are researched and store their pseudonymised information relating to the research project. Pseudonyms rather than real names are used to present the verbatim explanations of those being researched (Liamputtong's, 2007: 37). For design research that adapts an inclusive design approach, the situation is different. For example, Laura Perryman (Printed Textiles, RCA graduate 2007) asked 'Can printed textile designs improve people's quality of life but still have aesthetic value?' She initiated an aesthetic study starting with experiments with patterned textile surfaces placed on a variety of tactile surfaces and forms. Based around a suggestion from her user research tutor,

Perryman chose visual impairment as the main investigating area. Her rationale for this choice focused on people losing vision relying on their sense of touch to carry out many day-to-day activities. A One-to-one design partnership was initiated with Alison Julal, a trained fashion knitwear designer, who had recently become visually impaired and was currently learning strategies to help maintain her independence. Instead of starting with functional questions, the discussions were focused on Alison's personal preferences. Towards the end of this project, with more developed design ideas, a detailed layout study was carried out on Alison's home, which identified more applications for the design. The process also helped Alison to rethink and improve her living environment whilst helping the development of the student's design. This case shows that within the design research process a two way mutually beneficial relationship was developed, yet due to the one-to-one nature of the research the 'users' identity needed to be brought to the forefront of the design process as part of the development of the design and in recognition of their particular expertise. However, objectivity within the design research is also needed to separate the personal and focused on the specific experience in relation to the design topic.

Conclusion and next steps – Ethical Design Education

Concern about the practical issues of user involvement in design from the three introductory tactics, the challenge for Inclusive Design practices can be extended to other levels.

These explore issues like ethical design education and design awareness exercises for the public. This further development can be referred to as an *'ethics-as-process'* approach (Ramcharan and Cutcliffe, 2002) that views design research as a process with its own unique ongoing and negotiated ethical dimensions. It concludes from the same logic of this paper that 'user involvement' is a two-way interaction between designers and users, and that sometimes third party agents might need to facilitate, moderate and translate between actors.

Inspired by Dreyfuss, Papernek and other humanitarian design practitioners, many organisations such as the Helen Hamlyn Centre and the Centre for Adaptive Environments, are working as agents of change to provide platforms to let user participation happen. As the same time, they also insert the 'code of ethics' into creative design processes to protect users.

In addition, educating and helping designers to work with users can produce better and more sustainable design for everyone. However, the biggest challenge currently facing Inclusive Design practice is how to recapture the aesthetic process of design whilst also considering the production of better designs for 'sustainable development' (Brundtland, 1987). As Scrivener (2007) commented, 'design' is separating with traditional art and design domains, and moving into the areas of engineering and service-oriented design, which is process and function oriented. The aesthetic element of design, which is shared with art and craft, is still

the core knowledge of the design professions but is not being further developed and involved in the discourse of Inclusive Design. This echoes Szenasy's (2007) discussion about the Ethics of Design or as she has identified it Ethical Design Education. She probes with her students around the concerns of the social responsibility of designers and how designers can become active holistic participants to work inside a 'web of relationships' and connect to the 'web of life' (Szenasy, 2007:21). Such an approach requires self-reflection within the design community.

Finally, the issue of public awareness of design is crucial for a review of user recruitment and needs all parties' co-operation. Designers need to step out of their comfort zones and explain to the public how they create things that will affect their lives. As Dreyfuss reminds us, there is a considerate, sympathetic thought behind every great object (in Szenasy, 2007:23). This empathic design should be embedded within a design thinking which relates to everyday activities of public and is not limited to designers only.

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The Welcoming Workplace:

Meeting the challenges of office design for older knowledge workers



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Abstract

This paper explores the challenges faced by design managers in planning and designing office environments, in the context of two major shifts: a progressive ageing of the workforce and a move towards the knowledge economy.

Rapid demographic change in industrialised nations has shifted the age balance of the workforce. It is estimated that, within the EU, one in two adults of working age will be over 50 by 2020. Such changes in the population profile will be coupled with a shortfall in pension funding, requiring many people to continue to work for longer. There is a growing management realisation that wider organisational knowledge and experience can be lost when a worker retires, so there is a growing desire by managers to retain this knowledge. In addition, new age and disability legislation will provide more legal protection for people wishing to extend their working lives.

Change is also taking place in the type of work we do. Much of the activity that takes place in offices has moved away from repetitive, supervised process work, towards work based on collaboration, expertise and initiative, a common term for which is 'knowledge work'. Initially, doctors, lawyers, academics and scientists were among the first identified as 'knowledge workers'. But the term, first coined in 1960 by the economist Peter Drucker, is now considered to extend to most executive, managerial and marketing roles as well as 'knowledge technologists' such as computer

technicians, software designers, clinical lab analysts and paralegals. As such, many economists and social forecasters now consider the world of work as the world of knowledge work.

Many knowledge workers are, by definition, older workers because these are the people who have amassed the experience and expertise over many years. But their needs and aspirations are not considered in the design of most current workplaces. Not only have these offices been primarily designed for what economists have described as the 'family formation workforce' aged 20-45, but they have retained many of the original scientific management traits belonging to the Taylorist office that emerged with the bureaucratisation of industry at the start of the 20th century.

As an approach, Taylorism was based on the organisational template of factory design; it emphasised management efficiency and supervised hierarchy at the expense of individual comfort, social interaction and personal initiative. Today, its echo of the era of mechanistic labour could be considered counterproductive to both knowledge work and the needs of older workers.

This paper sets out the background to the twin challenges facing office design managers and introduces the emerging

findings of the Welcoming Workplace² study in the UK, Japan and Australia, that is exploring the work environment needs of knowledge workers over 50. The paper concludes with discussion of the observation that this growing and important group will not only require workspaces for concentration and collaboration, but will require 'think' spaces for contemplation and recuperation too.

An office for the 21st century

In early March 2008, the search engine provider Google invited the BBC to report on its new offices in Zurich³. This new office, built in consultation with the engineers who work there, capitalises on company policy of a worker never being more than 100 metres from food by installing mini kitchens, snack bars and a full restaurant within its offices. Novel ways of travelling between floors have been installed, including an aluminium slide and a fire pole. Hard-working software engineers can relax, on site, in a number of themed rooms including an 'old English' style library and a water room complete with tropical fish and massage chairs.

Google prizes itself on putting the needs of its staff first; and in providing spaces to be creative as well as relax, it has clearly thought hard about what its knowledge workers, who are operating at the leading edge of the web industry, require to be productive. However, the average age of staff

² We gratefully acknowledge the Designing for the 21st Century initiative jointly funded by the Arts and Humanities Research Council (AHRC) and the Environment and Physical Sciences Research Council (EPSRC) for their support of this research. Grant number AH/E507948/1

³ <http://news.bbc.co.uk/1/hi/technology/7290322.stm>

in the Zurich office is 30, a fact reflected in the use of chutes and fire poles that are hardly age-friendly. If Google's workforce were to become progressively older, then the company's current rule that staff should not "slide down the [fire] pole with your laptop" would need to be revised and extended.

The design of Google's new Zurich office can be seen as far removed from the majority of current developer office stock, which takes neither knowledge-working nor ageing into consideration. Concrete, glass and steel monoliths still dominate most cities, whose interiors reflect the factory floor as opposed to the 21st century office. Such design legacy is widely accepted to echo the engineer Frederick Taylor's (1856-1915) legacy of time and motion studies, shifted from the factory to the office plan.

Based on Taylor's drive to develop 'superior methods and machines' by standardising the tools and environments of work, the turn of the 20th century saw efficiency and productivity as the drivers for office design. In Taylor's wake followed such Modernist practitioners such as Mies van der Rohe, architect of the Seagram Building in New York, whose dictum that the office is a 'machine for working in' reflected a Taylorist bent. Modernist interior office design twinned with a management agenda geared primarily to maximising the efficiency of the worker under a supervised hierarchy proved surprisingly resistant to change during the 20th century. Today, however, both the demographic curve towards ageing populations and the emergence of the

knowledge economy has put that most enduring of alliances – between Modernism and management efficiency – under pressure.

An ageing workforce

In February 2006, *The Economist* reported that the first batch of baby boomers had reached retirement age. The report lamented that in some highly skilled areas such as aerospace and defence, up to 40% of the workforce would be leaving in the next five years, taking a lifetime of expertise with them. Also in 2006 the UK professional body City & Guilds predicted that in four years, the number of young people reaching working age would fall by 60,000 every year, fundamentally changing the shape of the workforce (Humphries, 2006). Between 2010 and 2020, the UK will need 2.1 million new entrants to the adult workforce. This demand that can only be met through a combination of most adults extending their working life and a huge increase in the number of adults re-entering the labour market (ibid, 2006). In Britain, the Office of National Statistics (2007) has predicted that by 2011 the average age of the population will exceed 40 for the first time. By 2017-18 it is predicted that there will be more people over 40 than under 40.

Fundamental change is not limited to the demographic picture. Within the UK, recent legislative initiatives have resulted in more protection for older and disabled workers. The Employment Equality (Age) Regulations (2006) includes protection for older workers against forced retirement

before the state retirement age. Additionally, the regulations also make it possible for workers to extend their working life past the state retirement age. Coupled with the guidelines for the Disability Discrimination Act (1995, 2004), age and varied abilities should be considered in the physical design of and access to the workplace.

These shifts are not unique to the UK but a phenomenon across the industrialised world. Healthier lifestyles and advances in medicine mean that most people in the developed economies are living longer active lives. In 2002, the United Nations unveiled the International Plan on Ageing. This protocol not only recognised the rights of older people to continue to work, but also emphasised the wider social benefits of employment of older workers. This included not only relieving the burden of state pensions, and possible other benefit payments, but also maintaining knowledge and skill within a company or sector – and retaining important social capital.

Healthy ageing and declining birth rates present many previously unforeseen challenges for society. Many older people will remain active in the workplace and will be protected by legislation to ensure their needs are catered for. Design managers within organisations will thus be required to address through the design the inevitable physical effects of ageing in the workforce, such as declining sensory, physical and cognitive functions. Ageing employees require special attention in terms of physical access, lighting, acoustics, air quality, furniture ergonomics, spatial

arrangements, material finishes, assistive technology and so on. Failure to address these issues could impact on the employer in terms of legislative processes or lost productivity.

A knowledge economy

Ageing is an inevitable process and human biology does not fundamentally change. But information and communication technologies do – frequently. In recent years the emergence of new technology has driven a wider change in the type of work we do. Much of the activity that now takes place in offices has moved away from repetitive and supervised process work – previously undertaken by armies of clerks but now largely done by computer – towards work based on collaboration, expertise and initiative, a common term for which is ‘knowledge work’.

Knowledge work is not a new phenomenon. The economist Peter Drucker originally coined the term in 1960. Initially, it extended to those who worked as lawyers, doctors, academics and scientists. However, as the sphere of knowledge has shifted into the ‘information age’, so have the professions of knowledge workers. Drucker (2001) identified a new cadre of ‘knowledge technologists’ such as computer technicians, software designers, analysts in clinical labs and paralegals and these categories will only increase. Drucker proposed that this increase in the ‘knowledge economy’ and its supportive workforce is resulting in knowledge becoming the key resource of the 21st

century. As such, many economists and social forecasters now consider the world of work to be the world of knowledge work.

Yet whilst the importance of knowledge workers is accepted by innovation-hungry businesses, what has eluded many design managers of work environments is how to design a space that maximises this group's potential. Davenport et al (2002) found that managers and researchers have great difficulty in identifying 'what makes knowledge workers tick', so much so that they often resort to 'bribing' knowledge workers with high wages and expensive settings.

Davenport's observation echoed that of Drucker (1999), who at the turn of the millennium commented that current management knowledge of what made a knowledge worker productive was the equivalent of the understanding in 1900 of what made a manual worker productive. Manual labour productivity rose during the 20th century due to changes in factory and process design, but there remains today a haze of uncertainty as to what kind of work environments will enhance knowledge worker productivity. This is because the labour, if thought of in a traditional sense, is largely invisible, taking place inside the knowledge worker's head, as opposed to comprising a set of repeating manual tasks.

Martin & Moldoveanu (2003) argue that knowledge workers are offered high salaries and expensive settings to work for particular companies. Although high wages and state-of-the-art offices may be highly desired at the beginning of a

career, as both work and life responsibilities increase with age, the picture changes: Morrison et al (2006) found that many knowledge workers in mid career were beginning to feel frustration with their careers, reporting that amongst employees aged 35-54 nearly half reported feeling 'burnt out', 'bored' and 'bottle-necked'.

Morrison et al (2006) coin the term 'middlescence' to describe the sense of frustration, confusion and alienation felt by mid-career knowledge workers for whom a high salary just is no longer ample reward for working. In addition, Morrison et al suggest that restlessness amongst mid career professionals will escalate into a long-term problem if issues of retention are not addressed by businesses soon. Companies may experience 'brain drains' as people with essential skills, capabilities and knowledge decide that the conditions of work are not conducive to a happy and healthy lifestyle, especially when the physical requirements of the ageing worker are not addressed.

'Getting it right' in terms of creating the optimal work environment has eluded many design managers and organisations. Davenport et al (2002) reports that many companies experiment with the design of their workplace without understanding if such changes improve levels of work satisfaction or performance. Davenport found that whilst many companies had designed 'informal' spaces such as indoor streets and coffee bars to encourage interaction between the workforce, often such designated social spaces were empty or used for conventional meetings. Whilst open

planned offices encouraged information flow between employees, many reported that open plan was not conducive to work that required full concentration, so they stayed at home to work.

This last point is important in showing that knowledge workers are not tied to the corporate office building or campus, and are thus harder to manage in terms of design. In fact, as Myerson & Ross (2006) explain, knowledge workers tend to work in a distributed way across a continuum of physical spaces – including the home and employer's office but also public space interfacing with the customer and neutral settings for professional networking with peers. In their book *Space to Work*, Myerson and Ross offer guidance for those required to manage the design of spaces for knowledge workers by identifying four key realms: the corporate realm of the 'Academy'; the professional realm of the 'Guild'; the public realm of the 'Agora'; and the private realm of the 'Lodge'.

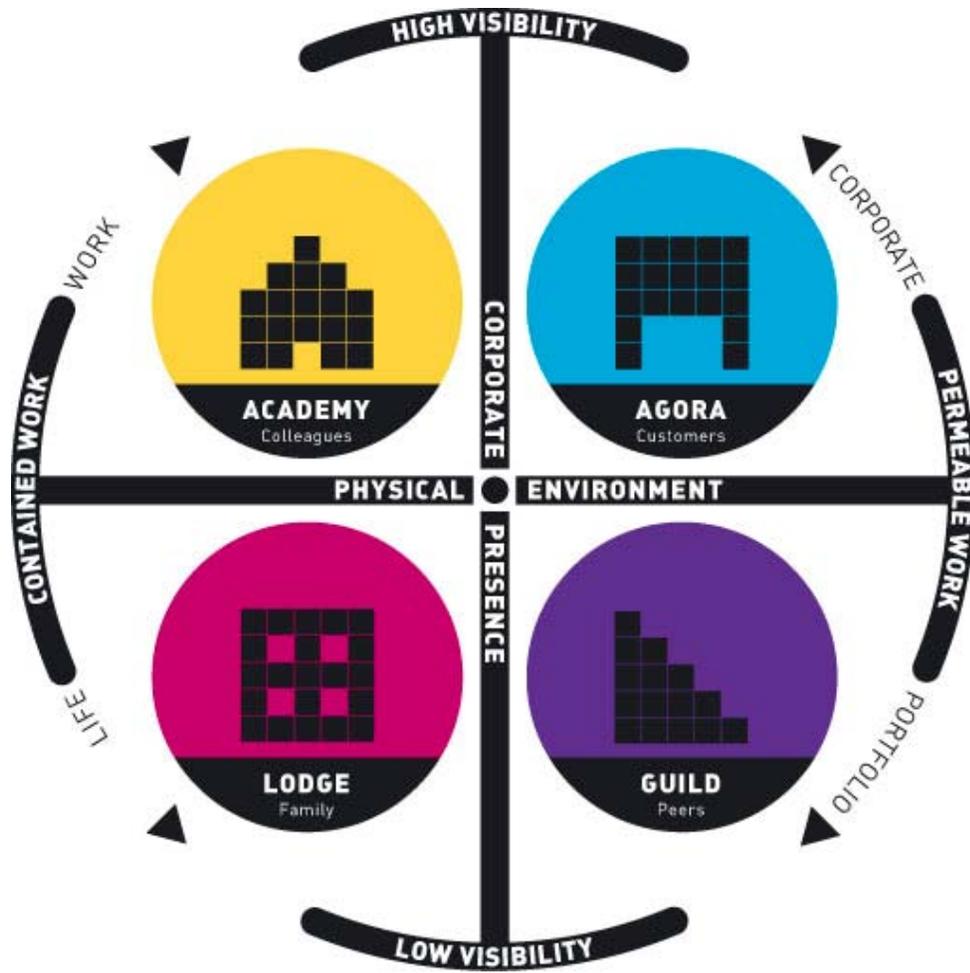


Figure 1: Tensions at Work: Space Strategies for Knowledge Workers (Myerson & Ross, 2006)

The realisation that knowledge workers are as likely to spend their time working at home, in a wireless coffee shop or at professional seminar, as opposed to toiling in the corporate HQ, mirrors an observation of Drucker in 2001, who noted that knowledge workers tended to identify themselves by their knowledge type as opposed to the organisation they work for. Myerson & Ross placed all four realms of knowledge work within a matrix signifying whether the work setting has high or low corporate

visibility, and is contained or permeable. Their 'Tensions at Work' framework raises a number of challenges facing knowledge workers, such as balancing work and life and balancing a corporate career with a portfolio one in which reliance on one's own knowledge and expertise comes before allegiance to a particular employer.

Older knowledge workers

Whilst current research on the productivity of knowledge workers may be sparse, research focusing on the ageing knowledge workforce as a discrete category has been practically nonexistent. Studies that have specifically focused on a generalised older workforce have shown that older workers need a range of sensory and ergonomic solutions for comfortable and healthy working, especially within the office environment. This includes consideration of the effects of lighting to accommodate the degeneration of eyesight commonly associated with ageing, wellbeing and energy levels (Knez & Kers, 2000), and age-related hearing loss (Jensen et al, 2005). The ergonomic needs of an ageing body should be considered in the design of chairs and desks for an ageing workforce that may have a heightened sensitivity to musculoskeletal problems (Gay, 2005).

Each of these factors may, individually or in conjunction, contribute to an older worker's discomfort in the workplace. They can therefore be seen as essential elements in designing a successful and productive workplace for an ageing workforce. Indeed, the design of the work

environment has been identified as one of the leading factors to be considered in scientific models of 'workability' of the ageing workforce (Ilmarinen, 2001)

Since 2003, researchers at the Royal College of Art Helen Hamlyn Centre in London have investigated the needs of the older worker within a design context and in partnership with industry collaborators. Such investigations, working under the banner 'Office Age', have explored architectural and product-based solutions that have been conceptualised and developed through direct engagement with 'users', namely older knowledge workers themselves. Through direct engagement with users, the design researchers explored the physical needs of the ageing working body but also emotional desires within the working environment. Older workers expressed a desire for décor and surfaces that were not hard and technological but were more organic, with environments giving access to natural light and green spaces. A variety of spaces offering flexibility of use within the working day was requested by the older worker.

Welcoming Workplace

In January 2007, a new two-year study entitled Welcoming Workplace⁴ was set up to look especially at the work environment needs of *older* knowledge workers over 50. This is a global research involving site work in three knowledge industries – pharmaceuticals, technology and

⁴ The authors would like to thank their fellow researchers on Welcoming Workplace for their support in developing this paper. Dr Alma Erlich, Dr John Smith, Matthew Harrison MA(RCA) and Catherine Greene MA(RCA).

financial services – on three continents. The Faculty of Architecture, Building and Planning, University of Melbourne, Australia and the User Science Institute, University of Kyushu, Japan are participating with the RCA Helen Hamlyn Centre on the research, and the work is ongoing.

As part of this study, in September 2006, older knowledge workers from a large pharmaceutical company in London were interviewed regarding their needs. Using the responses from these interviews and existing knowledge from previous studies, the research team used a rapid-response design methodology to build and install design interventions that reflected the issues the interviewees had discussed. The interviews had revealed a number of design issues that the research team would attempt to address. These included the need for a work environment that was sensitive to issues of ageing, but that also recognised some of the major factors of knowledge work such as the need to do highly focused private work and the need to share with others.

In response to these findings, work environments encompassing a number of design interventions were set up on site, on a single floor of the office building. These environments consisted of three workspaces called 'Collaborate', 'Concentrate', and 'Contemplate'.



Figure 2: View of all three intervention zones

Concentrate was based on a typical open plan desk arrangement, and tested the effectiveness of hot-desking arrangements as participants would share desks and use the space for a few hours of concentrated work. The desks included special ergonomic keyboards and highly adjustable chairs as well as a new noise-masking technology, which disguised the chatter and disruptions of a busy open plan office as birdsong or musical chords.



Figure 3: Design intervention 'Concentrate'.

Collaborate was a flexible meeting space, where furniture could be re-arranged, AV projector and sound equipment was provided, and interactive light setting could be set and adjusted by your computer. This was intended to be a new type of meeting space, facilitating a wider range of group activities by allowing greater levels of user-manipulation of layout, ambience and facilities.



Figure 4: The design intervention 'Collaborate'

Contemplate was intended to be an entirely new type of workspace, based on the aspirations of those interviewed at the site. Its typology was set somewhere between a library and a home-study. It is a shared space where individuals can go to concentrate in peace, either working at a height adjustable desk or reading in the 'lounge' area. The emphasis on the space is on tranquillity within which high productivity can be achieved on individual work, away from the noise and the distraction of the open plane office.

Particularly relevant to older workers, it is a space to gather and recuperate from the high-energy buzz of the contemporary office, and was proposed as an alternative to the traditional 'break-out' areas. Key features included foliage and water features, including a mechanical 'Rain Curtain' screen with working pump. Care-home furniture capable of enhanced comfort, but disguised with new fabrics for the corporate setting, was also included in the Contemplate setting.



Figure 5: Design intervention 'Contemplate'

These three settings were initially monitored for a two-week period in the UK as groups of users occupied them. Scaled down versions were then taken to Japan and placed in a national technology company, and Australia, where the interventions were evaluated by a series of focus groups in two Melbourne banks. In all, more than 100 knowledge workers and professionals in human resources, occupational health, facility management and design charged with their care were consulted.

From the intervention sites, the research was able to identify that current workspace design provision is not doing the whole job for older knowledge workers. While many of the challenges of designing spaces for concentration and collaboration have been met to a greater or lesser extent, there is a third dimension to knowledge work that older knowledge workers have articulated but struggle to find. This is cognitive space to 'think', to recuperate and recharge the batteries during the course of the day. Much knowledge work requires individual time to reflect, be creative and maintain well being, tasks that knowledge workers over 50 described as difficult to achieve in busy collaborative and open plan areas.

National variations emerged through the study. In Japan, the older knowledge workers reported that they found themselves looking for an alternative space to work so that they could experience a more stimulating environment for collaboration, whereas in the UK the emphasis was on getting away from working directly with colleagues. In

Australia, older knowledge workers complained that active encouragement to undertake concentrated work at home was not suitable for everyone's individual circumstances and that the design of the office environment should make adequate provision for concentration as well as contemplation space.

However, across the board, the message emerging from the research was that there is a missing dimension to current office environments that design managers should address if they want to meet the complex and demanding requirements of a growing knowledge workforce, which also happens to be ageing. Without creative adjustment to the way we plan and design offices, there could be major implications for the performance, productivity and culture of tomorrow's workforce. As the first baby boomers reach retirement age, now it the time to think afresh. Google in Zurich are sending their knowledge employees down an aluminium chute, but they won't be able to do that forever.

Acknowledgements

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Book Review:

Universal Design in Higher Education

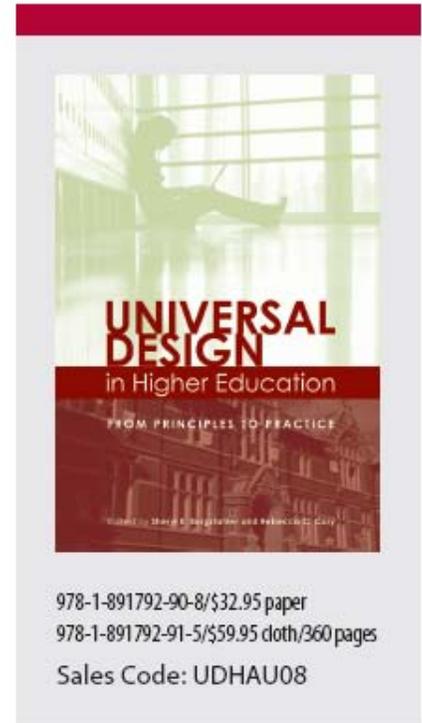
From Principles to Practice

**Harvard
Education
Press**

**Edited by Sheryl E. Burgstahler
and Rebecca C. Cory**

Universal Design in Higher Education is a comprehensive guide for researchers and practitioners on creating fully accessible college and university programs. It is founded upon, and contributes to, theories of universal design in education that have been gaining increasingly wide attention in recent years. As greater numbers of students with disabilities attend postsecondary educational institutions, administrators have expressed increased interest in making their programs accessible to all students. This book provides both theoretical and practical guidance for schools as they work to turn this admirable goal into a reality. It addresses a comprehensive range of topics on universal design for higher education institutions, thus making a crucial contribution to the growing body of literature on special education and universal design. This book will be of unique value to university and college administrators, and to special education researchers, practitioners, and activists.

Universal Design in Higher Education looks at the design of physical and technological environments at institutions of higher education; at issues pertaining to curriculum and instruction; and at the full array of student services. It concludes with a thorough consideration of how to institutionalize universal design at higher education institutions.



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Groundbreaking Book on Universal Design

Harvard Education Press has published a new book *Universal Design in Higher Education: From Principles to Practice*. This book showcases the perspectives and expertise of forty-one students with disabilities, practitioners, and researchers that represent twenty-six postsecondary institutions and other organizations in the United States. The authors illustrate how the application of universal design can create inclusive instruction, student services, physical spaces, and information technology. The broad scope of experience shared by the authors makes this book appropriate as a guide to campus leaders and as a textbook for college and university courses that explore current disability, diversity, design, special education, and related topics. Most of the content can be generalized to precollege education, employment, employment, and community activities as well.

In the Foreword, Mark A. Emmert, President of the University of Washington in Seattle, notes, "We see the practice of universal design, the topic of this book, as a promising approach that reflects the value we place on diversity . . . This approach leads to educational products and environments that are welcoming, accessible, and inclusive and that address all aspects of diversity, including

disability." Other university leaders document the value of the book content as well:

- **Inclusion has come to higher education! [This book is] a primer on how universal design in education can improve university and college life for everyone.**

Douglas Biklen, Dean of the School of Education, Syracuse University

- **A groundbreaking, comprehensive text that brings together all the best information about the theory and practice of universal design (UD) and its potential in higher education. As a paradigm of inclusion, UD offers a model for addressing issues of equality, accessibility, and social and intellectual integration. Demonstrating the breadth and depth of this powerful model in higher education, this text covers the application of UD in campus design, student services, faculty development, instructional technology, academic administration, and classroom instruction, from first-year courses to advanced study."**-Brenda Jo Brueggemann, Professor of English & Disability Studies, The Ohio State University

- **It is wonderful to have one book that explains and gives illustrations of universal design in one fell swoop! I've read and re-read descriptions of what UDL is, but am always left wondering how to put it into action. This book answers that question.**

-Judy Elimelech, Coordinator of Disability Services, Missouri Southern State University

This book was developed as part of the *AccessCollege* project, which was funded by the U.S. Department of Education Office of Postsecondary Education (grant #P333A050064), and the *AccessSTEM* project, which was funded by the National Science Foundation (grant #HRD-0227995). These projects are directed by the international DO-IT Center in Seattle. DO-IT stands for Disabilities, Opportunities, Internetworking, and Technology. DO-IT has a long history of promoting universal design of technology, instruction, and services and hosts The Center for Universal Design of Education at

www.washington.edu/doiit/CUDE .

This new book can be purchased from DO-IT, Harvard Education Press, or on-site and online bookstores.

NEWS:

1

Students develop cheapest solar car model

A group of students from a city based institute, who have developed a solar car, are representing India at The South Africa Solar Challenge, a unique competition in solar-powered cars.

The car has been developed by a group of 20 students from Netaji Subhash Institute of Technology (NSIT) here. The car of NSIT is the cheapest model in the competition, which has participations of teams from all over the world.

The car boasts of an inverted tail dragon design with two fronts and a rear tyre. It has been designed as per the parameters of the competition that aims at collaboration among students, industry and government in designing solar cars, sources said.

The car can run a top speed of 50 km per hour and can run at a stretch for about four to five hours on fully charged batteries, they said.

Solar cars are powered by sun's energy and help immensely in energy conservation. The main component of the car is the solar panel which collects energy from the sun and converts it into usable electricity energy.

Among the students who have designed the car are Shriram Narayanan, a third year Mechanical Engineering student, Abhisekh Monga and Ankur Gupta.

Such solar cars from different countries are participating at the international event started last week in South Africa. The competition will continue till October 8.

As per the norms of the competition, teams will have to build their own cars, design their own engineering systems and race those machines

2.

In this issue:

Chief Scientist Kath Straub, PhD, CUA, discusses the importance of measuring where people do, and don't, look. The Pragmatic Ergonomist, HFI's CEO Dr. Eric Schaffer, gives practical advice.

YOU WON'T SEE WHAT YOU DON'T LOOK AT...
USING EYETRACKING TO EVALUATE ENGAGEMENT AND
CLICK LIKELIHOOD LITTLE-KNOWN TRUTHS ABOUT
LINGUISTICS PAPERS

Papers on linguistic theory -- I used to read a lot more of them -- have an interesting characteristic: the real adventure is often not in the main part of the paper. It's in the foot notes. Once you figure that out, reading them becomes much more productive and entertaining. Web pages can work that way too. Visual designers use

design hierarchy parameters (e.g., size, saturation, surround) to move people's attention to key parts of the page but not others. It's the "but not others" part that is the problem. We worry a lot about getting people to the logo, the tagline, the value proposition... and in so doing we risk relegating the real action -- the links -- to the footnotes.

This is a conundrum. Your visual design / composition needs to be stunning so users engage emotionally. But you also really want visitors to notice the range of what is presented on your pages (Heatmap 2, as opposed to Heatmap 1 - see images in Web version). Otherwise, why is it there? How do you know if your visual design is drawing attention away from the desired content and actions?

IF THEY DON'T SEE IT, WILL YOU NOTICE?

One problem with answering this question is that there is no effective way to directly ask it. If you retrospectively ask usability test participants what they looked at, their response will be influenced by their memory of what you asked them to do. You can ask them what they noticed, but self reporting of this sort is notoriously inaccurate -- if you ask people to point to what they look at, and meld that with an eyetracking overlay of where their eyes actually went there is a startling gap. Anyway, we would be more interested to know what they didn't look at. And how do you ask that?

If you are willing to work with indirect data (and a slew of assumptions), you might look at your analytics. But looking at clicking patterns to deduce where people looked seems a stretch, too. And again, we are just as equally interested in where they didn't look. Is it reasonable to assume that if they didn't click they didn't look? It turns out, that assumption may not be as far fetched as it sounds.

HOW THE GOOGLE CHECKOUT ICON CONNECTED GAZING WITH CLICKING

A recently reported marketing research study (SendTec, 2008) applied eyetracking methodologies to measure the attention-drawing effects of new and newly modified elements of search results pages. In and of itself, the study is not that interesting. Mostly it reports null or inconclusive results:

- Does putting a Google checkout icon in the right rail of a search result increase looking? No.

- Does placing a Google checkout icon in AdWord position 1, 3 or 5 increase viewing? Not for positions 1 and 5 maybe for 3, but the current study was inconclusive. A lot more data is needed.

- Does the icon draw peoples' eyes to itself (measured as fixations on) or induce increased clicks? No and no, respectively.

- Did changing the background color of the sponsored ads from blue to yellow increase the likelihood that people would look at them? Nope. Although, soothing background

color notwithstanding, longitudinal analysis over studies appears to indicate that people are becoming more willing to interact with sponsored ads.

However, mentioned as what seems to be an aside and detailed in the appendix (ok, not the footnotes, but...), the study also reports that there is a strong correlation where people look and where they click on search results pages. OK, perhaps they didn't feel like they should amplify a finding that seems, well, obvious. But it's really the other side of their finding that is more important to designers: People are less likely to click where they don't look. Still seems too obvious?

It's interesting to watch people look at eye-tracking findings. They look a bit like hurricane maps. People get most excited about findings where the gaze patterns are highly organized... and look a bit like a well-formed hurricane. "See, the key element grabbed and drew participants' attention. They lingered there. They were really drawn into the message. The visual design works!"

Maybe, if you are doing eyetracking analysis for print advertising. Think about it this way: The goal of a print ad is to convey one clear message. So print designers strive to draw you to and through one path (as was discussed in a previous newsletter). The eyetracking analysis of a print ad should look like a hurricane map: hot and organized.

In contrast, the goal of a website is to convey the range of information/interactions that provide value. So, the visual design objective of a website is to draw your attention to move around the page. As such, eyetracking results for a well-formed web page would look less like a hurricane and more like scattered (albeit intense) showers.

Hot spots -- concerted looking -- are good. But well distributed green spots -- exploratory gazing -- are equally important. Because, as the SendTec team points out, if you never look at a link, you are rather unlikely to click it.

Figures, footnotes, and references for this newsletter are posted at:

<http://www.humanfactors.com/downloads/sep08.asp>

The Pragmatic Ergonomist, Dr. Eric Schaffer

Having worked with eyetracking data since 1976, I am both very familiar and profoundly skeptical of its value. We can't tell if people are processing what they "see" and we can't tell what they feel by where they scan. But Kath points out an outstanding value for eyetracking. If there is no fixation we cannot possibly process the content. If there is no fixation we can't be influenced. Amazing, but the part we should pay attention to in our eyetracking results is probably the area that is NOT highlighted!! Fantastic insight Kath!

Find out more about the dynamics of Persuasive Design

<http://www.humanfactors.com/PETcourse.asp>

Putting Research into Practice - our regularly updated seminar on recent research and its practical application.

<http://www.humanfactors.com/training/annualupdate.asp>.

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3.

The Robotic Wheelchair is an advanced autonomous machine that relies on pre-registered location information to wheel a user around. Unlike the joystick-controlled automated wheelchairs that we see today, the MIT machine takes vocal commands from the user and follows them accurately. For instance, when a user requests to be taken to "his bedroom," the wheelchair does so without any additional input.



What's Innovative: The Robotic Wheelchair offers a high degree of customization to suit the user's unique voice

characteristics and the environment. Additionally, it programs itself like how humans remember directions and locations. A built-in Wi-Fi system enables the wheelchair's location map, which is then stored onto its memory. Watch This: Technology has always been progressive. The Robotic Wheelchair is a significant development in the design of autonomous robots that make our lives easier. The vocal command navigation abilities of this wheelchair opens up avenues to a promising future.

Designers: MIT researchers Nicholas Roy and Seth Teller

4.

British Standards Institute Publishes Tourism Training Guide

The British Standards Institute has published "BS EN 15565:2008 Tourism services. Requirements for the provision of professional tourist guide training and qualification programmes". The 20-page guide (costing 80 British Pounds), is available as a downloadable document or in hard copy from the BSI website.

BSI writes: "Tourist guides are able to help travellers understand the culture of the region visited and the way of life of its inhabitants. They have a particular role on the one hand to promote the cultural and natural heritage whilst on the other hand to help ensure its sustainability by making visitors aware of its importance and vulnerability.

"Tourist guides are representatives of the cities, regions and countries for which they are qualified. As it depends largely on them if visitors feel welcome, want to stay longer or decide to come back, guides therefore contribute considerably to the perception of the destination.

"BS EN 15565:2008 specifies minimum requirements for the provision of professional tourist guide training and qualification programmes.

"It emphasises the importance of area-specific tourist guides to high quality provision of tourism services, while still supporting European Union efforts to facilitate free movement of provision of services within its member states. This will be achieved by a common high standard of qualification for tourist guides in all European countries.

"BS EN 15565 specifies competencies and outlines a framework of appropriate training programmes. It recommends the common skills and knowledge guides should have and the conditions under which they should work. BS EN 15565 also specifies the practical training and assessment procedures tourist guides should undertake."

With this guide, BSI sets a benchmark in Europe by providing an authorised national Standard for training in tourism services provision and related qualification programmes. This may be seen as a strong national contribution towards achieving the goal of "...a common high standard of qualification for tourist guides in all European countries

5.

19 September 2008 in London when Indian designer Siddhartha Das was named the International Young Design Entrepreneur* 2008 in an event at 100% Design, the UK's foremost contemporary interiors show.

Siddhartha received the award from 100% Design Exhibition Director Peter Massey. He received the physical IYDE award prize of a bespoke piece by the renowned glass designers Gillies Jones Glass, a one-off print by design artists from Design Science, and a financial prize of £7,500 to be spent on a project with the British Council.

Delhi-based Siddhartha is the Director of Siddhartha + Spaced Out Productions, a cultural professional who works through art and design. As a designer, he plans, designs and implements projects often by forming a network of professionals. He largely works with cultural, heritage and public spaces with a focus on branding and publications. He has a strong interest in developmental issues addressed through design and works with various traditional craft communities across India. As an entrepreneur he aims to create links between traditional craft communities and urban markets, be it India or abroad, through design that is modern, and a business model that provides a sustainable livelihood.

The judges for this year's award were: Janice Kirkpatrick, Founder, Graven Images, Glasgow (Chair); Kim Colin, Founder, Industrial Facility; Sigal Cohen, Founder, Oruga Films (Venezuela), winner IYDE 08; Peter Massey, Exhibition Director, 100% Design; Rebecca Walton, Head of

Arts Group, British Council

In their commendation the judges said: 'Siddhartha gave an excellent presentation, demonstrating a thorough knowledge of the local Indian design scene and proving that he plays an absolutely vital role in it. Both a designer and a design distributor abroad, he possesses a remarkable creative judgment and an acute knowledge of design processes from manufacture all the way into retail. A true agent of change, he has identified a value gap to be exploited and is determined to develop Indian craftsmanship by coupling it with high quality design skills.'

Celebrating its fourth year, the International Young Design Entrepreneur of the Year (IYDE) programme saw nine outstanding young people from Egypt, India, Lebanon, Malaysia, Poland, Slovenia, South Africa, Taiwan and Turkey come to the UK to celebrate their creativity and enterprise in design in their own country and to network with people from the UK business. The nine finalists took part in a UK tour of the London and Glasgow design industries, meeting key people from the UK business, making contacts, promoting design from their own country and attended 100% Design and the London Design Festival.

You can view photos from the award ceremony at:

<http://www.theimagefile.com/?skin=365&Action=VC&id=17835602&ppwd=190908>

*** The International Young Design Entrepreneur of the year award is part of the British Council's International Young Creative Entrepreneur programme which also includes recognition schemes for entrepreneurship in Publishing,**

Music, Screen, Fashion, Visual Arts, Communications and Interactive.

Project Manager

British Council

6.

It's good to have AARP now officially at our side proclaiming the importance of Visitability with a 117-page policy paper.

The paper is posted on the AARP website, and is soon to be a booklet.

It discusses the history of the movement, the impact of home barriers on people's lives, which strategies work best to make Visitability a reality, and several other topics.

To access the full text of the article, go to

[http://www.aarp.org/research/housing-](http://www.aarp.org/research/housing-mobility/accessibility/aresearch-import-741-2002-03.html)

[mobility/accessibility/aresearch-import-741-2002-03.html](http://www.aarp.org/research/housing-mobility/accessibility/aresearch-import-741-2002-03.html)

OR

[http://www.aarp.org/research/housing-](http://www.aarp.org/research/housing-mobility/accessibility/inb163_access.html)

[mobility/accessibility/inb163_access.html](http://www.aarp.org/research/housing-mobility/accessibility/inb163_access.html)

Click on "Full Report PDF"

Not to be missed are the interviews in Appendix B with 5 builders of visitable houses, 5 residents of visitable homes, 5 advocates who have worked toward making it happen, and 7 public servants/policy makers who have taken initiative.

Quotable quotes:

From a Georgia homebuilder of a Visitable community: "It's very powerful for me to drive through our neighborhoods

and see one person walking, another one jogging, another person using a walker, another one with an electric wheelchair. "

From an Arizona advocate who brought about the first ordinance in the U.S. mandating access in every new house: "Early on we started out by planning some voluntary initiatives... But we soon realized that wasn't going to lead to anything substantial. Then a Council person suggested we work on impacting the small percentage of homes,,,— around 50 per year. If we had gone with that, we'd have a total of only a couple of hundred houses by now....as opposed to the thousands we're getting through the ordinance."

From the Commissioner of Development, City of Milwaukee WI: " When people have to leave the neighborhood because their house no longer meets their need, it's unnecessary. It's a forced migration in a sense."

7.

Dear Dr. Sunil,

this is Holly from Taiwan.(AUDN)

it's your blessing, that the meeting in Taiwan was quite good.

By the way, who attended this meeting, please see the attached file.

Best Regards,

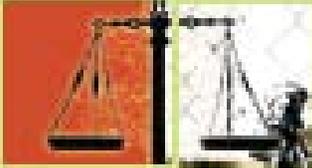
Holly

List of Participants in meeting of Asian Universal Design Network

No.	Nationality	Organization	Title	Given Name	Family Name
1	Japan	University of Tokyo (tripod design Co., Ltd)	Professor (, founder)	Satoshi	Nakagawa
2	Japan	Nikkei Business Publications, Inc. Nikkei Design (magazine)	Editor-in-Chief	Takehiko	Katsuo
3	Japan	Toyota Co., Ltd,	General Manager	AKIHIRO	NAGAYA
4	Korea	Yonsei University	Professor	Ryung	Choi
5	Korea	DESIGNNET (magazine)	Editor-in-Chief		Kim
6	Singapore	DesignSingapore Council	Manager	Chee Hou, Lawrence	Wong
7	Singapore	>60 Design Center (greater than 60, National design center for aging)	Director	Chiat Chang,	Wong
8	Philippines	University of the East ,College of Fine Arts	Dean	Santiago	Celino B
9	Taiwan	Taiwan Design Center	CEO	Tony	Chang
10	Taiwan	Free Universe Education Foundation	Chairman	Dan	Tang

On the request of Taiwan Design Center Prof Lalit Das of Design For All Institute of India has designed two posters representing activities of Universal/ Design For All in India in the exhibition of Asian Universal Design Network held in Taiwan on 3-7 October 2008

Ministry of Social Justice & Empowerment
<http://socialjustice.nic.in/>




CITIZEN CHARTER

Ministry of Social Justice and Empowerment aims to facilitate the integration and empowerment of marginalized socio-economic lesser privileged and disabled social and economic groups through the identification and analysis of issues and enactment of appropriate Government of the implementation of the following:

- 1) Protection of Civil Rights Act, 1955
- 11) The Battered Child and Scheduled Tribes (Protection of Rights) Act, 1986
- 12) National Trust for the Welfare of Persons with Autism, Mental Retardation & Multiple Disabilities Act, 1999
- 13) Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995
- 14) Rehabilitation Council of India Act, 1992
- 15) Maintenance and Welfare of Parents and Senior Citizens Act, 2007

Other noteworthy initiatives including policy changes in consultation with State Government and the Civil Society.

Continued monitoring of projects in partnership with State Governments, NGOs and Local Self Govt. agencies and accountability for progress and implementation of the State Government.

A goal of awareness of rights and services.

ASSOCIATED ORGANISATIONS :

1) Aruna Jaye National Institute for the Hearing Handicapped (AI-AHH)
 A national Level Manufacturing Corporation of India (LACCO)
 Ex. Jeevika Foundation
 Institute for the Physically Handicapped (IPH), established as State Level Specialized Institute of Physically Handicapped
 International Institute of Mentally Handicapped (IIMH)
 International Institute of Visually Handicapped (IIVH)
 International Institute for the Physically Handicapped (IIPH)
 National Employment Promotions and Training Corporation (NEPCO)
 National Trust for the Welfare of Persons with Autism, Mental Retardation and Multiple Disabilities
 International Institute of Social Culture (IISC)
 International Institute for the Orthopedically Handicapped (IOH) established as Ex. Welfare Project Mahatma National Institute for Orthopedically Handicapped
 Office of the Joint Commissioner for Disabilities
 Rehabilitation Council India (RCI)
 Special Undergraduate Institute Rehabilitation, Training and Research (SUI-RTI)

DISABILITY ACT, 1995

The Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995
 No. 1 of 1995
 (18 January, 1995)

And of legal effect to the Proclamation on the Full Participation & equality of the People with Disabilities in the Asian and Pacific Region.

With the aid of the leading research that also and Pacific people of disabled People (1994/1995) consequently the International Council Commissioner for Asia and Pacific held in Suva on 14 to 16 November, 1993, adopted the Proclamation on the Full Participation and Equality of People with Disabilities in the Asian and Pacific Region.

A.D. 1993/1994 India is a signatory to the said Proclamation.

A.D. 1993/1994 India is considered necessary to implement the Proclamation also said. It is enacted by Parliament in the Fifty sixth Year of the Republic of India as follows.

BARRIER FREE ENVIRONMENT

It is for a key special privilege that independence feature?

COURT JUDGMENTS

Concessions in affairs for PwD and Vm
 Javed Akhtar vs. Union of India

Privileges in Examinations
 Dhruv S. Choksi vs Union of India & Ors
 Anshu vs. Rajiv Yaduvanshi and Ors
 Anshu Rajoor vs. Union of India and Another
 Parminder Pal Singh vs. Union of India & Another

Privileges in Railways
 Kavitha Mehta vs. Union of India and Others

Special Concessions
 Captain Gabe Singh and Ors vs. Lt. Governor of Delhi and Ors

Design for All Institute of India <http://www.designforall.in/>



A melting pot of creativity and care.

Join and share your thoughts, concerns and action

8. Symbiosis Institute of Design to host “Timeless De-tour”

Symbiosis Institute of Design (SID) has been established under the aegis of Symbiosis International University in the year 2004-05.

It is one of the premier design institutes of the country and offers Bachelor degrees in Design (B.Des.) with specializations in Communication Design, Product Design, Fashion Design and Fashion Communication respectively.

These programs are aimed at creating professional designers who can contribute to the highly dynamic and competitive world of Design.

The curriculum at SID offers an optimum mix of traditional skills, new media skills (with state of the art software) and soft skills.

The approach here is entirely project based. SID puts high emphasis on evaluating the students on the basis of continuous performance and projects.

The institute epitomizes the Symbiosis motto, "Promoting International Understanding through Quality Education" and is the alma mater to students from all across the globe, being privy to the Indian culture and hospitality.

Symbiosis is one of India's premier educational Institutions imparting quality education for over 30 years now. Symbiosis family today comprises of 33 academic institutions spread across 8 campuses in and around Pune & imparting training in diverse disciplines.

It has over 45,000 students who hail from all states of India and from 60 different countries. In 2002, the Ministry of HRD, Govt. of India conferred on Symbiosis, the status of an International University.

Padmashree, Dr. S. B. Mujumdar, the founder Director and Chancellor of Symbiosis International University (SIU) intends to strive towards setting up a Vishwa Gram, a Global Village on its University campus - where foreign and Indian students can live together in hostels, learn together in classrooms, play together on sports fields and eat together in cafeterias.

Today Symbiosis family is proud to announce the first ever fashion show "Timeless De-tour" at Symbiosis Institute of Design.

The institutional objective is to conserve and bring about a product diversification of the Indian textile crafts of different parts of India.

9.

Finance minister P. Chidambaram Friday said he would ensure 100,000 physically challenged people are provided employment by the end of the current financial year.

'I am here to ensure that we will employ 100,000 people with disability in the remaining six months of this fiscal,' Chidambaram said at a conference on engaging industry in employment of people with disability.

'Let me plead guilty, the scheme for disabled people that we launched in 2007 budget has made no progress so far,' he said at the conference organised by the Federation of Indian Chambers of Commerce and Industry.

'Till the latest review not a single employer has made a single application for the scheme, it shows how sensitive or insensitive we are towards people with disability,' he added.

'I know what question the media is going to ask me, the same usual stuff. All the Delhi newspapers are filled with the same news but there are other issues that need media attention, I'm not going to speak anything apart from this topic,' Chidambaram said.

His remark was directed towards the media questioning him on the current market situation - the benchmark index fell below the 10,000 points Friday - and the financial crisis that the country is facing

Appeal:

1.

Calling everyone interested in musical, artistic, spiritual calligraphy!

As part of the Kabir Project (www.kabirproject.org) being undertaken since 2003 by Shabnam Virmani, filmmaker and currently artist-in-residence at Srishti, we are planning a calligraphy studio set to the words, music and spirit of Kabir.

The outcomes would be incorporated (with due acknowledgement) into the various outcomes of the project (films, animations, CD & DVD packaging, posters, books, website, etc.) Dharmesh Jadeja, architect and an accomplished calligrapher will facilitate, along with me.

This is not a commercial project, so please do not expect remuneration as an incentive to participate. Rather, it will serve as a creative retreat and communion space for people interested in calligraphy, music and spirituality to share their gifts/talents. Do expect to meet interesting people and have plenty of interaction with young students.

The studio will run from 20 October (Monday) to 23 October (Thursday), you can choose to come for as long as you wish. If you are interested, please send me an email to this effect ASAP and your calligraphy portfolio, if available. If you have any ideas on exploring Kabir through calligraphy, do share them with me. Urdu calligraphers are welcome too!

**Srishti School of Art, Design & Technology Bangalore,
India**

www.srishti.ac.in

2.

HCI International 2009

**13th International Conference on Human-Computer
Interaction**

jointly with

Symposium on Human Interface (Japan) 2009

**8th International Conference on Engineering Psychology
and Cognitive Ergonomics**

**5th International Conference on Universal Access in Human-
Computer Interaction**

3rd International Conference on Virtual and Mixed Reality

**3rd International Conference on Internationalization,
Design and Global Development**

**3rd International Conference on Online Communities and
Social Computing**

5th International Conference on Augmented Cognition

2nd International Conference on Digital Human Modeling

1st International Conference on Human Centered Design

19-24 July 2009

**Town and Country Resort & Convention Center, San Diego ,
CA , USA**

<http://www.hcii2009.org>

Call for Participation

**HCI International 2009, jointly with the affiliated
Conferences, invite you to San Diego, CA, USA, to
participate in and contribute to the largest international
forum for the dissemination and exchange of up-to-date
scientific information on theoretical, generic and applied
areas of HCI.**

HCI International 2009 incorporates 11 Conferences / thematic areas, expecting to attract over 2,300 participants from all over the world. For more information about the topics listed under each thematic area, please visit the Conference website.

The Conference will feature: Plenary / Keynote Presentation(s), Parallel Sessions, Poster Sessions, Tutorials and Exhibition.

Important Deadlines

All submitted abstracts will be peer-reviewed by three independent referees from the International Program Boards. All submissions will be handled through the Conference Management System (CMS).

Summary of Submission Requirements & Deadlines

Papers:

Abstract Length: 800 words

Deadline for Abstract Receipt: Monday, 20 October 2008

Notification of Review Outcome: Friday, 12 December 2008

Deadline for Camera-ready Receipt: Monday, 16 February 2009

Posters:

Abstract Length: 300 words

Deadline for Abstract Receipt: Monday, 23 February 2009

Notification of Review Outcome: Friday, 13 March 2009

Deadline for Camera-ready Receipt: Monday, 6 April 2009

Tutorials:

Abstract Length: 300 words

Deadline for Abstract Receipt: Monday, 20 October 2008

Notification of Review Outcome: Friday, 12 December 2008

Deadline for Camera-ready Receipt: Monday, 27 April 2009
Proceedings

The Conference Proceedings, comprising the papers to be presented at the Conference, will be published by Springer in a multi-volume set in the LNCS and LNAI series (<http://www.springer.com/lncs>). They will be available on-line through the LNCS Digital Library, readily accessible by all subscribing libraries around the world. All Conference participants will receive in their registration bags the Conference Proceedings published by Springer in DVD format. This DVD will also include, in addition to the papers, the extended abstracts of the posters that will be presented during the Conference. As the DVD will have its own separate ISBN number, posters can also be easily referenced. The Conference Proceedings in paperback format will be available for purchase by Springer at a special discounted price for all Conference participants, authors and co-authors, both as separate volumes and as a full set.

Conference contacts

General Chair: Constantine Stephanidis, University of Crete and FORTH-ICS , Greece , Email: cs@ics.forth.gr

Scientific Advisor: Gavriel Salvendy, Purdue University , USA and Tsinghua University , P.R. China

Conference Administration: administration@hcie2009.org

Program Administration: program@hcie2009.org

Registration Administration: registration@hcie2009.org

Exhibition Administration: exhibition@hcie2009.org

Student Volunteer Administration: sv@hcie2009.org

Communications Chair and Editor of HCI International

News: Abbas Moallem, news@hcii2009.org

3.

Surface craft presents

“Spring summer 2009 Apparel line”

Invitation for buying agencies interested in female **casual**

wear Surface craft designed spring summer 2009 Apparel

line targeting female with the age group of 20-30

The leisure wear line is for day today life has International

Appeal with the touch of crafts, having feel of various

crafted surfaces including Floral prints & craft techniques

based on Theme..... Textured blossom.....

..enhanced by Textured - crochet craft, hand crafted tucks,

embellished surfaces, Blossom - hand block print & **screen**

prints

PI contact

Nishi Singh

9899905287

4.

Three successive years, Mumbai (2005), London (2006), and Copenhagen(2007) it's Mumbai again for Insight India 2008, a two day roundtable focused on elaborating Innovation Strategy for the Indian market, focused on 'Trends' approach.

Get answers to questions like-

1. How to read social trends and apply them in Product Innovation?
2. How are trends in India connected to global trends?
3. Why western methods of consumer segmentation do not work in India?
4. How to combine market research data with trends and user research insights?
5. How to find design directions and interpret them?

Do join us on 4th and 5th Nov. 2008, at the intellectually stimulating campus of Indian Institute of Technology,

Mumbai, on the banks of beautiful Powai and Vihar lakes. An array of speakers and Indian business leaders would surely provide a great networking platform as well! As usual our partner for this event is Style-Vision (France), a leading trend research company along with Industrial Design Center (IIT Bombay).

Speakers include Pradeep Lokhande MD- Rural Relations, Revathi Kant- Head of Design, Titan Watches, Bora Kim- Design Strategist from Korea, Harilein Sabharwal- Fashion Trend Designer from Mumbai and Prof Ravi Poovaiah - HOD- IDC, IIT apart from key facilitators- Genevieve Flaven, MD- Style Vision and Manoj Kothari- Director and Principal Strategist-Onio Design.

Participants till now include people from Nokia, Camlin, LG, HCL, WeSchool, IDC, Asian Paints and GDR Intelligence(UK). Check out www.oniodesign.com/roundtable for detailed brochure and registration. Hurry, last few days left before the registrations close.

Thanks for your time.

Deepti Pant

OnioNxt - Design Research and Trends Division

Please get in touch with Pratima on +91 904 985 6601 for registrations

Onio Design Pvt. Ltd.

Sense | Strategize | Design

Phone: +91 20 2729 2173/74 Ext- 402, 020-40789982

USA(O) +;1 -610-295-5179

www.oniodesign.com

Program & Events:

1.



Design Conference on

**Design Thinking, Process, Innovation and Design
Entrepreneurship FAQs & Latest News
Deadlines**

Full Papers

September 18, 2008

First Announcement: Call for Papers & Workshops Themes

The Conference covers five themes, which includes two themes for paper presentation, two themes for workshop and one for panel discussion

Themes for paper presentation:

- **Design Thinking, Process and Innovation**
- **Design Entrepreneurship**

Themes for workshop:

- **Green Design**
- **Design Intervention**

Theme for panel discussion:

- **Strategic Design**

2.

Dear Dr.Sunil Bhatia,

Social Media & The Enterprise

Personal computers changed the way we handled and processed data. Email and Internet revolutionized the pace of business and medium of communication. Also lives changed. Interacting and networking with people was no longer contrained to the same location, town, state or even country. One could locate like minded people 12000 miles away and express, interact and engage. Business happened at the speed of thought. The world suddenly became a very small place - a Global Village.

More recently, the advent of social networking websites has helped overcome the 'digital divide' that restricted older generations from being part of the Internet revolution. Social networks enable a virtual community for people to mingle with like-minded individuals. These have quickly moved beyond conventional meeting media to become arbiters of taste, music and politics.

Now this concept has evolved to enterprise and business environments creating Social Work-places and Social Market-places. Businesses can participate in these "destination" social networks or even create, manage and sponsor their own using Web 2.0 tools and technologies. We are on the verge of defining new categories of discreet knowledge applications within and outside of business enterprises.

-The Social Network model is being used by businesses to build online communities connected by loyalty to it's products and desire to market it

-Blogs, wikis are employed to overcome barriers to efficient collaboration posed by a distributed workforce spanning geographies and time zones

Come listen to industry experts on exciting trends and prospects of Social Media and The Enterprise. Also witness exciting panels on roles played by digital media in Internet 2.0, Mobile Social and Enterprise Search. Panelists include

investors in Facebook, CxOs from Mobile enterprises & Communication industry and leading Market research organizations.

REGISTER

Date: Saturday, Nov 8, 2008

Time: 8:30 AM - 4:00 PM

Location: HP Auditorium, [View Map](#)

3000 Hanover Street, Palo Alto, CA 94304-1185 USA

Pricing: (Earlybird ends Oct 15th)

Members - \$19.00

Non-Members - \$39.00

Event + Annual SIPA Membership - \$59

You have received this email because you are on the mailing list for Silicon Valley Indian Professionals Association. If you would like to remove yourself from the mailing list, please [click here](#):

<https://www.123signup.com/Member?PG=17222183900&P=1722213237724000>

For further information contact

Silicon Valley Indian Professionals Association

Email: contact@sipa.org

<http://www.sipa.org>

3.

A very short notice, to inform you of an opportunity for students enrolled in ergonomics graduate programs in Indian to apply for the IEA Student Award. Awards for two deserving students will be conferred during the IEA World

Congress that will convene in Beijing in August next year. A PDF file describing the award, and application instructions, is attached.

The application deadline is Oct. 6, but Prof. Carayon may be willing to grant a short extension, if there are students in India that may be eligible for the award and interested in applying.

I apologize for this short notice---I was not aware until reading your reply below of the prominence that ergonomics enjoys in India.

Thomas J. Smith, Ph.D., CHFP
Chair, IEA Professional Standards and Education Committee
Member, IEA K.U. Smith Student Award Committee
Research Associate
Human Factors Research
School of Kinesiology, 226 Cooke Hall
University of Minnesota
1900 University Ave SE
Minneapolis, MN 55455
Phone: 651-688-7444
Fax: 612-626-7700
Email: smith293@umn.edu

4.



- Usability Broadcast Network

Why usability is no longer enough:

The need for Persuasion, Emotion, & Trust (PET design™)

- [Special re-broadcast by popular demand - Free!](#)
Wednesday, October 8th
3:30 - 4:45pm ET (US)
- This re-broadcast features the complete presentation, including the original Q&A session from Sept 25th. You'll still have the opportunity to submit new questions,

and selected ones will be answered by Dr. Schaffer on his blog: [Beyond Usability](#).

[Free white paper available now](#)

The next wave of the Information Age is about designing for persuasion, emotion, and trust (PET design™).

You still need good usability – if people can't find something they can't be persuaded by it – but soon usability will no longer be the key differentiator it has been. It's often not enough to design a website that is easy to navigate, understand, and transact on. Just because people *can* do something doesn't ensure that they *will*.

The future of design is about creating engagement and commitment to meet measurable business goals. Whether your site is e-commerce, informational, or transactional, you must motivate people to make decisions that lead to conversion. This could be getting people to:

- buy a product
- sign-up for a newsletter
- donate to a cause
- ask their doctor about a drug
- vote for a candidate
- invest in your company



Dr. Eric Schaffer



Dr. Susan Weinschenk

The interactive online environment offers far more opportunities to influence decision making than traditional advertising or marketing channels. Yet understanding people's subtle emotional triggers requires a rigorous set of new techniques, the results of which can even conflict with classic usability best practices.

This webcast offers a strategic overview of the science of persuasion, based on HFI's new PET design methodology. Learn how you can apply research-based techniques to influence online behavior through persuasion, emotion, and trust.

5.



Dossier: Communication Design in Germany

[Communication Design in Germany - An Overview](#)

For a long time, German communication design has been leading a shadowy existence.

The concept of corporate design stands for a comprehensive visual image.

[Typography: That Bashful Beloved](#)

Erik Spiekermann on typography past, present and future.

[The Newest Discipline: Digital Media Design](#)

Over the past ten years it has played the most innovative part in communication design.

[An Interview with Editorial Designer Mike Meiré](#)

The designer has made a name for himself with magazines like *brand eins*, *kid's wear* or *032c*.

[Signage and Wayfinding Systems](#)

These systems help us find our way through all sorts of places.

[Design trends](#)



Articles on recent German trends in design, portraits, projects, links

Contact:

Goethe-Institut e.V.

Online-Redaktion

✉ online-redaktion@goethe.de

🌐 www.goethe.de

6.

Dear friends,

I am happy to announce Weekend Workshops on User Experience Design- Winter 2008, on behalf of Design Incubator R&DLabs Pvt Ltd, India

(Please visit: http://designincubator.com/training_current.htm).

These workshops aim to impart training in areas of User Interface Design, User Research Methods, and Usability Engineering to I.T., Web and Software professionals. Professional involved in User Interface Requirements Engineering, Architecture, Visualization, Design, Development and Testing; from different roles like Project / Product Managers, Usability Engineers, User Interface Designers, Web Designers, Graphic Designers, Software Developers, Software Architects, Business Analysts and Software Testers will find this workshop beneficial.

Five workshop modules are offered over weekends spanning from 22nd Nov '08 to 11th Jan '09. Participants can choose to attend the Full Course, Core Design Courses or Individual Modules.

- > UXD 01 - Introduction to User Experience Design (22, 23 Nov 08)
- > UXD 02 - User Requirements Engineering (6,7 Dec 08)
- > UXD 03 - User Interface Visualization and Interaction Design (13, 14 Dec 08)
- > UXD 04 - Graphic Design and User Interface Aesthetics (20, 21 Dec 08)
- > UXD 05 - Usability Testing (10, 11 Jan 09)

For more details about Fees, Discounts and Course Structures,

Please visit: http://designincubator.com/training_current.htm

Write to us at: [training\[at\] designincubator. com](mailto:training@designincubator.com)

Call us at: +91 (0 22 6552 9069 (speak to Rohit)

Download Brochure: [http://designincubator.com/Weekend% 20Workshops% 20on%20User% 20Experience% 20Design% 20Winter% 202008.pdf](http://designincubator.com/Weekend%20Workshops%20on%20User%20Experience%20Design%20Winter%202008.pdf)

Facility and Infrastructure support for this workshop is provided by Mphasis UET.

We look forward to your participation,

Thanks & Regards,

Atul N Joshi

(Communication Designer- NID, India,
Design Research Scholar- Fabrica, Benetton, Italy)
Design Incubator (R&D Labs Pvt Ltd India)

Mail to: [atul.joshi\[at\] designincubator. com](mailto:atul.joshi[at]designincubator.com)

For more information please visit : <http://www.designincubator.com>

7.

UMO is happy to announce the competitions for the year 2008 on the occasion of World Usability Day and is also thankful for the numerous participation for the past years. Expecting the same for this contiguous year and wishing you all the best for your participation.

UsabilityMatters. Org -Boycott Bad-Design Contest08

UMO is holding this competition for identifying Bad-Designs as part of our activities towards the World Usability Day-2008.

Participation is open to everybody from every country in the world, and from any background- designers and design sensitive consumers!

Theme for the Competition:

Break-down - Experiences with bad designs and services in transportation

http://usabilitymatters.org/Boycott_Bad_Design_2008.php

UsabilityMatters. Org - International Cartoon Contest08

The UMO-4th International Cartoon Contest'08 is organized by UMO towards the World Usability Day2008.

Participation is open to all cartoonists from every country in the world.

Theme for the Competition: *The wheel rolls on*

http://www.usabilitymatters.org/International_Cartoon_Contest_2008.php

Get Involved as UMO2008 Volunteer

http://www.usabilitymatters.org/entry/1158/umo2008_volunteers&t=entrypage_template.html

Thanks & Regards,

Jagdish

Team UMO

09848861432

be a part of www.usabilitymatters.org

8.



International conference :

Accessible tourism – in theory and practice

Date/time: Friday November 7th, 2008

**Conference venue: Royal Institute of Technology,
Teknikringen 56, Stockholm**

Auditorium: K1 (Metro: Tekniska Högskolan)

10.00 Welcome

Mr Torbjörn Friede, President of Access Sweden

**10.15 Break the barriers – strategies to make Sweden
accessible for all**

**Mr Carl Älfvåg, Director-general at Handisam - the Swedish
Agency for Disability Policy Co-ordination**

**10.45 Accessible Tourism for all in Germany – Success
Factors and Actions**

**To improve Quality Dr Peter Neumann, Institute for
Geography at the University of Münster**

11.45 Plenary Discussion with Speaker Panel

12.15 LUNCH

13.30 Flags of towns and cities for all

Mr. Francesc Aragall Clavé, President and founder of Design for All Foundation

14.15 Accessibility in practice – working together for a destination for all:

Municipality of Askersund

Mr Kjell Hedenström, Head of Technical Administration / Municipality of Askersund

Mr Adam Holmes, Association for Trade and Enterprises in Askersund

14.45 Plenary discussion with Speaker Panel

15.00 Coffee break, and time to visit the exhibition

15.40 PTaccess – Public Transport Systems' accessibility for people with disabilities in Europe – experiences from a pilot project

Mrs Michaela Kargl and Mrs Ursula Witzmann, FGM –AMOR Austrian Mobility Research

16.10 Air passengers rights – experiences from Arlanda Airport

Mr Lennart Oscarsson, Head of Department Passenger Service, Arlanda Airport

16.40 Working together for Accessible tourism in Europe

Mr Ivor Ambrose, General Secretary of ENAT (European Network for Accessible Tourism).

17.20 Plenary Discussion with Speaker Panel

18.00 Closing of conference

9.

Conference on Advances in Usability Engineering

(CAUE – 2008) 27-28 November 2008

Auditorium of International Convention Center (ICC),
Senapati Bapat Road, Pune – India

CAUE 2008 at International Convention Center, Pune

For details visit : <http://www.viitcaue.in/venu.html>

10.

***60 days to transform India.**

*PanIIT, an association of all the IITs, has planned a conference at IIT Madras during December 19th-21st, 2008. In partnership with PanIIT, AIDI is pleased to announce a design competition '*60 days to transform India*', in the run up to the conference.

The theme of the conference and competition is *To Inspire, Innovate and Transform*,

*Innovate *with what you know – which means we are not only looking for blue-sky anything-goes sort of entries, but ones that have constructive thought and look achievable in the foreseeable future.

*Inspire *new Narratives – Our lives are driven by stories. Some stories are more powerful than the others and these are the ones that bind communities and customers together. An entry has to have a compelling story

*Transform *India – Designs and design solutions should be in a context of a changing India, and the design idea should enable a positive experience.

Award winning entries will have an empathetic approach that binds communities and customers together to deliver real-world outcomes. The twin objectives of contemporary relevance and social impact in an Indian scenario will put thinking designers in the driver's seat of social change.

The purpose of the AIDI-PanIIT Design awards is to:

- Expand national understanding of design as an essential resource for solving the problems around us and

envisioning new prosperous futures

- Introduce innovative ideas to business that can take these ideas towards conclusion

- Demonstrate how investment in design potentially impacts overall business success

- Highlight the critical role of design in enhancing quality of life in India

Designs for practically anything may be entered so long as the solution fits into the theme of the competition. Categories represent 'Contexts' and there is no distinction between 'product' and 'service' ideas due to the blurring of boundaries between the two.

The categories are

1. Work and Productivity
2. Home
3. Infrastructure
4. Healthcare
5. Entertainment and Media
6. Leisure and Personal
7. Automobiles and Transportation

Registration and submission information will soon be available at design.paniit2008.org

<<http://design.paniit2008.org>> <<http://design.paniit2008.org>> (site under construction).

Important Dates are:

October 13: Competition opens

November 15: Open for registration and accepting entries on the website

December 11: Last date for submission of entries

December 12-13th: Jurying process

December 13th: Invitation to finalists to attend Pan-IIT 2008 conference

December 21st: Announcement of Best of Category winners.

Sneha Koshi

AIDI Co-ordinator

www.aidionline.org

11.

[World Usability Day](#), [Pune](#) 2008

[Photo Essay Competition](#) on the theme of

'Usability in Transportation'

The participants of this competition are expected to highlight usability problems and difficulties faced by people using a series of photographs and apt description of possible solutions.

The photographs have to be focusing on any of the usability problems pertaining to transportation in terms of design of vehicles, transportation systems, traffic signals, road signage systems and communication, journey booking systems, etc. It should also touch upon design, engineering, social, cultural and ergonomic issues related to transportation.

Attractive Cash Prizes and Certificate will be awarded to the first three winners of competition!

First Prize : Rs. 15,000/-

Second Prize : Rs. 10,000/-

Third Prize : Rs. 5,000/-

Register for competition:

Send an e-mail expressing your interest to participate in the competition as soon as possible to <photocomp.caue.wud@yahoo.in>

Submission of entry:

Submit your entry in PPT or PDF format as an attachment to e-mail to <photocomp.caue.wud@yahoo.in>

Last date of Submission:

November 10, 2008

For more details visit: <http://www.viitcaue.in/photoessay.html>

**12. Include 2009 Inclusive design into innovation:
transforming practice in design, research and business**

International conference on Inclusive Design Royal College of Art, London, UK 5-8 April 2009 Sponsored by Audi Design Foundation

We are pleased to announce that Include 2009, our fifth international conference on inclusive design will take place at the Royal College of Art, London UK from 5 to 8 April 2009, beginning with a welcome reception on Sunday 5 April.

Include 2009 builds on the previous four Include conferences by exploring how inclusive design practice in design, research and business can lead towards innovation in people centred design.

The programme for Include 2009 will comprise a series of professional designer workshops, design debates, paper and poster presentations on the theme of Inclusive design into innovation: transforming practice in design, research and business.

We welcome papers from all areas of the inclusive design community including: designers; design managers; design researchers; academic researchers; design educators and design commissioners. In addition, we welcome papers on user experiences of design practice, process and outcome from voluntary sector organisations and policy makers and commentators.

This conference offers the inclusive design community a moment of critical reflection on inclusive design, what are its achievements, where has it missed crucial opportunities, where does it go from here?

Timetable

- **1 October 2008: deadline for all submissions. Deadline extended until 15 October**
- **8 December 2008: announcement of reviewed papers**
- **19 January 2009: conference registration opens**
- **26 January 2009: authors deadline for amended submissions**
- **5 April 2009: opening Reception**
- **6-8 April 2009: Include 2009**

For more information go to:

http://www.hhc.rca.ac.uk/1345/all/1/include_2009.aspx

Job Openings:

1.

We need web designer with following skills with at least 2-3 yrs experience –requirement is in Mumbai

For some short 1-2 months project on tight schedule –

HTML/CSS, Dreamweaver, Flash, Photoshop, CorelDraw,

If knows PHP, JavaScript, Action Script or any other language then it will be great.

Please reply at email "Virendra Singh" virendrabigidea@yahoo.com

2.

- FLEX Developers

- Technical:

- Key Technologies: Adobe Flex builder 2.0/3.0, ActionScript 3.0, Adobe Integrated Runtime environment (AIR)

- Tools: Eclipse, Rational Clear Case

Optional skills

- Key Technologies: CSS, XML & XSL

- Tools: Jira

- Java 5+, JUnit, Hibernate, Javascript, SQL

- Functional:

- 3+ years of software engineering/ development experience, specifically at least 2 years of experience in development of rich internet applications, user interface design and enterprise-class web based applications

- Experience with the complete software development

lifecycle; experience with agile methodologies (SCRUM, XP)

- Experience with test driven development(TDD), continuous integration. Experience building rich internet applications a plus.

- Experience with the complete software development

lifecycle; experience with agile methodologies a plus

- Good verbal and written communication skills.

- Knowledge and/or experience the HR benefits domain a plus
Experience collaborating with senior technical staff.

- Please write with your interest to savitha.kr@in.ness.com

3.

A fast growing IT Solutions Company in New Delhi is looking for a Web Designer - Male, Female, Shemale etc, anyone can apply. Should have done minimum 3-4 websites on their own on Dreamweaver, Flash, HTML etc
Education no bar. Salary would be paid in Indian Currency only. They are in web proprietary products as well with a client base of Discovery Channel, Animal Planet, Barista, Electrolux etc. Interested ones can mail their details directly to : bitsinbin@yahoo.com

Dig more into the company at:
<http://www.bitsinbin.com>

4.

Placement at Verve magazine.
Group HR & Admn Manager at Verve Rachna Subherwal sent in this request.
They are currently looking for good Graphic Designers. Suitable persons respond to Rachana by email at rachna@verveonline.com or on her mobile no 9967175577.

5.

Research Scientist – Human Computer Interaction

HCI researcher whose expertise includes demonstrated creativity in designing new interaction techniques and user experiences, ability to design and conduct laboratory experiments and usability studies of all genres, and analytical skills for analyzing usability data and for modeling user behavior.

Role

- o Research new models of gestural and multimodal interaction for the next generation of computing systems
- o Work with user researchers, interaction designers and partner institutions to design experiences and interactions
- o Conduct user studies, prototyping and empirical evaluation in support of the above

Requirements

- Advanced degree in HCI
- Basic degree in Computer Science, Electrical Engineering, or closely related field
- Understanding of the state of the art and limitations of technologies such as face, gesture and speech recognition

- Passion for technology and future human computer interfaces
- Experience with doing user research and empirical evaluation of concepts
- Excellent programming and prototyping skills
- Concrete understanding of UCD, usability and HCI principles and techniques
- Track record of HCI research, and patents and publications in top-tier HCI conferences
- Visualization and visual design skills a plus

About HP Labs India

HP Labs India (www.hpl.hp.com/india) was established in February 2002 with the principal focus on creating new technologies for addressing the IT needs of the next billion customers for HP. A large majority of these new customers arise from rapidly growing markets such as India with distinct technological, social and economic characteristics. By understanding this context deeply, HP Labs aims to create new and relevant technologies.

The Intuitive Gestural and Multimodal Interaction project at HP Labs India aims to carry out multidisciplinary research into new and compelling experiences for personal systems that use natural input modalities such as pen, touch and visual hand gestures in combination with context, adaptation, and other complementary modalities. As the world's largest maker of personal computing and printing systems, HP offers an unparalleled opportunity to impact future interfaces and interaction. The technology vectors of this project include robust interpretation of pen, touch and hand gesture input, and multimodal integration of speech, gesture, other modalities and context.

We also have opportunities for post-doctoral positions and internships. All positions are in Bangalore, India.

Interested candidates for any of these positions may send their CV to [srig AT hp DOT com](mailto:srig@hp.com) or vinnie.jauhari@hp.com with the subject line "HCI Research Scientist/Postdoc/Intern(choose one)".

6.

MRM worldwide is the leading digital and CRM agency and a part of McCann world group, MRM is looking for a flash/web designer with 3-5 yrs of work experience, the salary is directly related to the talent, interested people can apply or submit their resumes directly at the following e-mail ids:

punit.kapoor@mccann.com

kunal.majumdar@mccann.com

7.

Need [communication designer](#) from NID. Suitable person will get time to time freelance assignment.

key skills....

Talented and intelligent , Respect deadlines , hardworking , Committed and result oriented Passion in art and design

technical skills

3d studio max , Flash , coral draw and photoshop .

PI reply as soon as possible. fresher can also apply

email at: surfacecraft@yahoo.com, nishysingh@yahoo.com

contact : Nishi singh 98 9990 5287

Surface Craft

T...E...A... M

8.

Titan design studio has a opening for senior [visual merchandise designer](#). Person should have at least 3-5 years of related work experience. Knowledge of [new materials](#) and trends will be essential requirement. He/ she will be responsible for creation of new innovative differentiated VM solutions for all our brands.

Interested people could write to badalsuchak@hotmail.com

Mahendra Chauhan

Senior [Industrial Designer](#)

Titan Design Studio

9.

Company: Titan Design Studio

Location: Bangalore

Job Level: Industrial Designer

Field: Product Design

Job Functions: Industrial Design, Product Development, Design

Research, Styling, Project Management

Description

This is a world class opportunity for a high caliber Product Designer to join Titan Design Studio team. TDS is a dynamic studio made up of an energetic group of innovative designers. This is an opportunity which is best suited to a designer with essentially a broad background across a number of different product categories. As a Designer, you will be tasked to help create innovative solutions with strong sense of Manufacturability and cost and communicate simple and intuitive solutions through cross functional team. The ideal candidate will be able to combine traditional brainstorming/ideation abilities with the latest computer tools to create fresh, innovative, ground breaking

proposals.

We are ideally searching for candidates who have a reputation for creativity, strategic direction and the power to influence innovative products through their project and team management skills.

Candidates will need to be with a degree in industrial design or equivalent.

You'll also need a minimum of 2-3 years hands-on experience in Consumer goods/accessories segment.

We are particularly interested in seeing how you arrive at previous solutions & would like to see any evidence of your design process skills.

PI mail your portfolio and resume to me at Rajesh.Sangewar@gmail.com.

Design Manager
Titan Design Studio
ph - 080- 66609803

10.

Thoughtworks India Pvt. Ltd, is on the lookout for 3-4 Flash developers at its Bangalore office.

The position is on contract with a strong possibility for one permanent position offer. Duration of the project is around 6 months.

Please find the profile requirements below:

Required skill set:

Flash/Flex Rich Internet Applications developers.

Proven portfolio designing animations in flash (instructional software, portfolios, promos, etc)

Hands on Action script 2.0, OOPs, XML, FMS.

Expert know how of HTML, DHTML, XML, Javascript & Ajax.

Knowledge of frameworks like PureMVC, **Adobe** AS3/Flex, etc

Flash knowledge of embedding videos, etc techniques.

Working knowledge of PHP, JSP & ASP will be welcome.

Other:

You are aware of the **software development life** cycles and have been working closely with designers.

An exposure to **user experience design practices** and accessibility principles is a must.

You must be comfortable working in a fast paced team driven work culture.

The requirement is ASAP.

For more on Thoughtworks, visit <http://www.thoughtworks.com>

Designer-User' s **Experience**
www.thoughtworks.com

Bangalore 560 047
+91 9740073112

11.

Inviting a resourceful and enthusiastic Creative Associate to come on board a multi-media and multi-community artistic project exploring contemporary expressions of the 15th century mystic poet Kabir - through films, music CDs, web, print/books, graphic novels and workshops & events. See a profile of the project at www.kabirproject.org

a.. Skills: Graphic, web/interactive, film - skills & experience desirable, but even a working/basic knowledge with enthusiasm to learn on the job is good enough.

b.. Language: familiarity with Hindi essential.

c.. Location: The job is located at Srishti in Bangalore.

d.. Salary offered: Between Rs.15,000 & Rs.25,000 per month (based on skill/experience)

e.. Contact: [thekabirproject\[at\]gmail.com](mailto:thekabirproject@gmail.com) or [shabnamvirmani\[at\]gmail.com](mailto:shabnamvirmani@gmail.com).

Shabnam Virmani

Artist in Residence

Srishti School of Art, Design & Technology

P.O.Box 6430 Yelahanka New Town

Bangalore 560064 INDIA

www.srishti.ac.in | www.kabirproject.org

Tel: 91-80-40447000

(More Jobs are in our website www.designforall.in)

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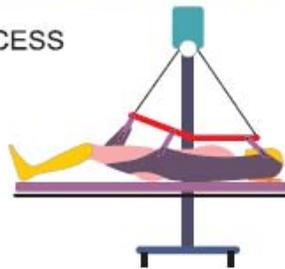
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IMPORTANT NOTE: THIS PRODUCT IS MEANT FOR PEOPLE WITH TEMPORARY OR PERMANENT MOTOR DISABILITIES AND SHOULD BE USED WITH CARE AND PROPER CONSULTATION



or contact us by any of the following means

Phone : +91 93425 29324

e mail: marketing@uttejna.com

URL : www.uttejna.com

UTTEJNA TECHNOLOGIES, 216, 1st Main, Singayanapalya, Mahadevapura Post, Whitefield Rd
Bangalore - 560048 INDIA

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Erratum:

We have failed to publish the bio-data along with photo of contributor of article of ECUADOR, A BARRIER FREE COUNTRY in our special issue of September 2008 vol-3, No-9 edited by Ms Jani Nayar of SATH, USA



Sandra Esparza Jácome

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