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Chairman's Desk

Dr. Sunil Bhatia

We are receiving congratulatory notes from our all our well wishers from those places from where we were expecting but our circle of such notes has expanded beyond on the occasion of celebration of 100th issue of April 2014 Vol-9 No-4 with Guest Editor Ms Valerie Casey of The Designers Accord and it gives us tremendous pleasure and it is the biggest award anyone can enjoy. We are thankful to all who made this event special and helping whole heartedly during our journey. Once again thanks. It is team work for making this to happen and future of publication has stored many colorful such events and it is possible only with continual support for social movement.

Modern designers are unlike artisans with contentment, do not enjoy confidence in what they do and have lack of experience about rural culture. They are more manipulative and least concerned for social values live in dilemma of different world of design and are facing biggest challenge for creating compatibility to be commercially successful. One is to cater the demand of urban & rural people and another is how to meet the challenges of feminine as well as masculine mind set avoiding any conflict while designing products. They live under the grip of fear that any minor conflict can ruin the prospect of commercial gains of product in market driven society. Success

gives the feeling of intelligent & smartness. They in fact live the lives of ignorance and encountering fear with any kind of failure may snatch their luxuries. They do not know that defeat teaches more compared to victory. Those designers who believe in the concept of universal design are deliberately avoiding any minor conflict reason for it may eventually lead to strangulate the basic idea of it and a history of setback for the social movement should not mark in their name. Each step inching towards the universal design demands special attention, ethically correct and should not set wrong precedence. Irony is modern people are adopting short cut for quick success & recognition and more & more people are indulging in manipulative practices because of wrong education that gives confidence that for money power is biggest to enjoy social respect. Ideals, social values, sacrifice are foregone word and Jesus personality of ultimate sacrifice is irrelevant for them. Our designers are not socially educated about geographical changes that attract different needs and these minor changes are responsible of change in our cultures. We would have not faced such worst scenario what modern people are facing. Sometime these cumulative minor changes makes one culturally advanced state and other lagging behind or backward prove to be reason for civilization clashes. Primary characters of human beings are universal from the days of primitive but modern person is gradually evolving for betterment and making life stable, comfortable unlike ancient people's life of unpredictable & tough. Ancient people lived the lives on mercy of others for survival for every moment and were to live with alertness. They could not think of peace & rest and lives were completely action oriented. Mentally alert person learns quicker and support of action made the better human who helped the progress of human race. We are trying to use the same concept in school curriculum by encouraging physical exercise along with education for achieving the ancient people character for innovations with physical along with mental alertness. Action oriented persons are responsible for disturbances & never prove catalyst for permanent change in

culture compared to those who are secure & live with less of physical actions have capability to change the thought processes of human race . That were the reason ancient people lived in fear of survival and it was their culture for many centuries unlike modern person who is secure, experiencing quick change in technological culture every decade. Ancient person experienced that change in technology brings change in behavior and ultimately affect the culture. Stone Age tools had evolved a new man out of primitive and Iron Age had completely transformed the ancient person characters because of better technologies was evolved. Person gradually transformed & we came out of Dark Age because of invention & discoveries of new technologies. That is how modern person has evolved. His priority has shifted from not mere survival but to next level of human beyond something .Technologies has in-built character that has evolved a modern person who is insensitive and self centered. Modern person rational mind is gradually moving away from religion, political thoughts and innovations and curiosity to create new out of existing materials around and lives under the grip of basic character of lethargy of human is dominating his life style. Electricity or wireless communication or computer has worked as catalyst in changing the orientation of modern man. New technologies are surfacing to satisfy human universal needs are core area because it is focusing on optimization of commercial gains not in social uplift and in this attempt promote those technologies what masses can afford. It has added a new dimension in thought process for optimization and targeting inclusive growth. Those technologies are receiving worldwide recognition and result is local cultures are replaced by universal human patterns. Internet, search engine like Google are working in this direction and promoting local culture along with rest of culture of the world. As common man realization will come to the point he is living a life of frog in a well and has inner desire to do something for society has to forego his local culture and embrace the culture of masses. Main stream culture is prevailing and local cultures are assimilating

into it & appear lost. Mobile phone, refrigeration, air conditioner, toilet soap and many more have universal appeal and reason of popular among masses. Their presence is not hurting the sentiments of local culture but allow them to understand popular culture of masses beyond their culture and gradually they wishfully embrace better technology of product out of other's culture. What has Apple Company designed the smart phone it is copied by other countries so called technologies companies. Is it not attempt of embracing popular culture? We should not focus on what is rural or urban or feminine or masculine rather consider an individual a universal entity and what are common senses prevailing in them. Google is leader because it is helping inclusive growth and technology is entirely based on common sense. Similarly Apple devices do not distinction feminine or masculine or rural or urban and works smoothly in child hand as in adult. Why these companies succeed in achieving huge presence worldwide and without it we feel handicapped is area of exploration? History of progress of rural or urban contribution in our present civilization will help in understand what factors decide the feminine or masculine traits in products / services for inclusive growth.

It is my beliefs products cater to urban population superficially appear that it has distinct features from rural but reality is different. Generally urban concepts are based on rural ideas but in rare occasion I have noticed it is vice versa. Why do most of the basic design comes from rural background and extensive applications are designed & developed for better functionality is from urban? Wheel is not urban concept & it is definitely product of rural thoughts but fewer applications are designed by rural people to make their lives better but they could not exploit as extensively as urban people did. The way urban people have used the wheel in their design it has taken that height it was impossible for rural mind. It is amazing people with meager resources in rural are contributing more for basic design compared with much more resourceful of urban people.

Innovation demands simplicity and it is feminine character that is clearly visible in rural people and it is not widely popular among urban population. Design of rural area is close to nature and definitely women in history had designed it with sensitivity & care. They did not encourage design of axe by man because of their mind with faculty of sixth sense of visualizing the future. Design of axe has in built character & it will invite violence. Urban mind is complex because it is surrounded by piles of information that never allow reaching the truth and it is masculine mind that always tried to prove superiority and has desire to control the nature. Petroleum was discovered by rural mind and it was practice among people of applying that to counter dryness of skin what we call in modern time petroleum jelly or use over the wound for further damage by infections what we call antiseptic. Mass scale exploration and various stages of refinement provide different products out of it definitely urban knowledge and its applications appear masculine. It is surprising how person of urban background developed the simple idea of experiment of flying kite by using silk threads at the time of thunder for invention of electricity. Electricity is urban design and masculine character is ruling compared to oil lamp or earthen oil pots or candle made with beehive wax that are feminine. It is only product that is making its presence from urban to rural .Rural design is delicate, simple and gives the impression it is a product of environment and helping environments to grow naturally. Other side urban design concepts are deep rooted with rural concepts but somewhere it loses its feminine character and gives the impression as masculine and fighting against the environment and wish to control it. Rural people have designed the steps by placing mud and let it dry in that shape or ladder made with bamboo is truly feminine but design of escalator by urban people is typically masculine in character. Why it is so? Is rural design scale at smaller level gives us soft feelings? Look at the design of hut by rural people that gives impression of owner simple humble and no desire to conquer the nature & other side

skyscrapers in urban boost its inflated ego and desire to conquer nature is reflecting. Mass transportations with high speed are part of urban life style reflect the basic nature of urban population where rural people enjoys slow movements by using animals carts for transportation are the reason it appears humble & differently. Even storage of water is in pond, lake, well are in smaller scale and does not reflect masculine design in rural as we designed dam in urban exhibiting masculine nature. Similarly rural women's contribution is much more compared with urban but modern women does little for the society but keep trumpeting with high volume to compel others to acknowledge her contributions. Rural woman's mind is set in such a fashion that it works with universal character as it has neither been helped nor corrupted by the growth of advancing civilization. What they do for diverting the mind of crying child by pointing toward moon by calling it is maternal uncle and keep saying uncle will bring sweets for crying child is universal character. Why maternal uncle is associated with moon? Other side sun is associated with masculinity because of its nature is harsh, highly warm and difficult to stay longer under the sun. Moon is associated with cool, calm and anyone can look at moon as long person wishes is definitely feminine. Why do they segregate solar system in gender design is mystery for us? Why we have adopted the solar sign for representing male from Mars and female from Venus?

Design is not gender based but our mind associates. An owner of hut gives the impression as humble and feminine touch is visible. Owner of concrete house in urban area does not reflect such feelings. Design of weaving the clothes with handloom represents it is an attempt to move along with environments and feel emotionally attach to it other side textile mills in first sight gives the impression as it has desire to crush and fighting against environments and masculinity is visible in every action. Emotional association with mills is missing. That is the reason marketing is required for creating artificial emotional bonding

between products and consumers. If it succeeds in winning the loyalty of consumers it can be cashed for commercial gains. This emotional disconnect & feeling of cheated by others constantly irritates the back of mind of urban people. Rural people do not believe in cheating and in return do not like to be cheated by others and emotional bonding keeps them at peace. They emotionally grow their food grains, cook and serve with emotional involvement they feel connected and this feeling does not allow them to be agitated. When we design at smaller scale it appears it is designed by women and it is stable and will not invite any major untoward incidents and attempt to be in larger scale is highly unstable and sitting on time bomb for disaster is clearly an attempt of men. The basic difference is rural people do for betterment of society and their contribution becomes a part of life style. Other side urban people do for commercial gains and for satisfaction of greed their exploitation turns so cruel & does not affect adversely their personality. As time passes or better designed products come, earlier contributions to meet that objective appear irrelevant in market and it fades from the memory of users. Users never exhibit their emotional affiliation with fading products because they live the life of tug of war of exploitation for own benefits or exploited by others and feel loser. Typewriter is killed by better and efficient technology of computer. It has not disturbed the mind of urban. Similarly bulbs are gradually replacing LED or better efficient bulbs but we never experience emotionally agitated. Bicycle is designed by urban people initially keeping in mind the male driver and for stability & robust design man had used triangular basic steel frame. While designing for female they have simply removed one bar of triangle assuming female won't lift leg backward for sitting on seat & to protect her limitation as male can. To maintain the privacy of woman they have made slight change in design and it was signal of beginning of era of universal design concept for accommodating more customers for commercial gains. Bicycle is feminine design but

automobiles are definitely masculine and new breed of automobiles are designed for making gender neutral.

We believe the design of bigger, larger & mass production is contributing in growth of gross domestic product and gives the impression of masculine action. Other side smaller and at individual level to make self sufficient act where no commercial exchange is occurring is consider feminine. Best example of action of rural woman at individual level by using household items to remove unwanted hair by applying the ash of cow dung or wood or coal in such forceful manner it takes away hairs along with it without experiencing much pain is clearly feminine design. The same purpose of removing unwanted hair by chemical in urban women is commercially viable and earning is contributing in GDP growth and it is masculine. Similarly rural women prepare kajal by placing a pot over the flame of lamp of clarified butter for collection of carbon. Collected carbon powder is then mix with few drops of butter or clarified cow's butter as binding agents. It prevents burning sensation & smudge in eyes. Urban woman buys commercially prepared that does not smudge for long time. Its sale is contributing in GDP where rural preparation is helping sustainable growth. Lipstick was worn around the lips to form a cupid's bow from the ancient times by crushing gemstones. It was the Arabic people they had developed modern stick of perfumed lipstick and further improved for commercial viable by western world for commercial gains is nothing but masculine. We have made our every action money oriented and simplicity in design is missing .Simplicity is real asset. Why does our need drive us to control and dominate? Is a dominance masculine trait that is associated with survival? We are no more hunter and living in uncertain environments that is better control and think of better technologies compared to primitive times but ancient ethos are still intact in a large majority of modern people. Other side women need collaborative community, driven by a desire to protect vulnerable children who are only safe when the entire community is caring for them. A shift to a more balanced design

basis that embodies feminine principles would mean moving from dominance to harmony, from exclusivity to inclusivity, and from individual success to community success. The concept of sanjha chulha(community cooking) is the best example where women of the same community live nearby & assemble for cooking bread in one place and in turns saves wood so protect the environments .It also generates community sense of belongingness. Alta or Rose Bengal is a red dye which women in India apply with cotton on the border of their feet during marriages and religious festivals is community function. Holi (festival of colors) is community festivals but Deepavali (festival of lamps) is family function. Christmas is community festival and it has masculine character but Easter is family function has inbuilt feminism. Family festivity reflects feminism where community masculinity. This arrangement suits the mind of an individual because live in community but independently & individuality is protected. Even apply of turmeric paste to bride and groom at the time of marriage ceremony is community ceremony. Successes of Apple devices are because it is marketed in such a sharp way that it is creating feminine touch in their product .Apple's success also demonstrate that make women happy, make everybody happy. This thinking was practice among automobiles manufacturers and designed the products where women can comfortably drive with ease. Motorcycle or jeep or land roller reflects masculine design and need power to handle where scooter or car is adopting feminine character by introducing the side stand or self starter or power steering and it is diminishing the monopoly of man .

No specific product gender is identified because the product preferences among the users are not significantly different from one another. It gives us the hypothesis that designer should not focus on gender or cultural base design otherwise it will be waste of time. We should design the product with concept of universal design because it is helping in gaining optimize social gains. There is no truth that people prefer the product designed

by female. There was story and how far it is true I am not aware. It was long practice of preparing the cigar of special brand was marketed that it was rolled over the thighs of female. What is the role of thigh of female? It was myth and we should not encourage such thing in design. Children in initial years of life behave with feminist characters irrespective of gender and our commercial people wherever they feel they can afford the wages of adult women but greed of more profits they employ Child labors for low wages. I have noticed blowing of glass is preferred by child , handmade carpet need soft knot forcefully employ child, in brick kiln industry employ the child for same reason. In USA Tobacco industry they can legally employ child of age 7-14 as labor and there are reports of health hazards. It is unethical and exploitation for commercial gains should be curbed & stopped immediately because it will affect adversely entire generation prospects. There may be some truth that users' especially female appreciation enhances the prospects of product for commercial gain in no time. The users' preference toward the products designed by female designers is also significantly higher than that designed by male designers. Reason is women are delicate by nature and subconsciously that phenomenon features surface in their design. The design by female and appreciation by female gives quick market success that is the reason certain areas of design experience dominance of female. However, if a design problem is to be framed gender-neutral, then some important gender considerations with regard to the perceptions of the product and task would be neglected. It is our studies, so far, have shown a large potential for making advanced technological products more beneficial and relevant for female users. Our advertising media depicts sports and action as masculine, garden and flowery background as feminine and rugged landscape as masculine it is stereotype thinking and reality is our modern person have evolved beyond this point of font and color of masculine or feminine . Modern person is visualizing for developing the technology of invisible man or transporting human body with the help of transforming

it into light. It is my advice that these gimmicks are of no use and we should devise the true method that evolves true genuine human. A universal man is evolving that is not feminine or masculine and we are unnecessary creating border when in reality it is blurred. Can a room be masculine or feminine? We've occasionally been known to describe space this way. Leather is considered associated with hunting so it is masculine. Soft pillow with fiber gives idea of feminine because close to environment. Male and female are not opposing forces rather these are complementary to one another that interact to form a dynamic system in which the whole is greater than the one part masculine a feminine. Urban development is illusionary in nature and people are unaware about what it means. Where rural development improves the human material & works in direction of inclusive growth.

We are thankful to Prof Rachna Khare of SPA for accepting our invitation of Guest Editor for special issue and did her meticulous planning to make our publication at par with international standard. We are happy that her efforts have proved fruitful and our readers are most benefited with her articles from different authors.

With regards
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Forthcoming issues

June 2014 Vol-9 No-6

Josyane Francis the Director of the common Department of International Affairs for the Cité du design and Saint-Etienne higher school of art and design (ESADSE). France

July 2014 Vol-9, No-7

MITZI BOLLANI Architect, Sculptor & Product Designer. She runs her own Architectural & Design Practice based in Piacenza since 1978, and focuses her work on the research of the psychological well-being for the users of her projects, acting as a primary target accessibility and safety for all individuals.
Mitzi Bollani is one of the founders of the "Design for all" concept that she applied the first time in Genoa: "CivisAmbiente – Accessible mobility in the Historical Centre": starting from the needs of people with activity limitation such as physical, sensory and mental or cognitive limitation, spaces, buildings and products were designed to be easily accessible to all, without losing the aesthetic value and above all without incurring in additional costs.

August 2014 Vol-9 No-8

Ms. YasmeenAbidMaan, Assistant Professor, City and Regional Planning Department, LCWU Lahore College for Women

University (LCWU), Jail Road, Lahore, Pakistan, is nominated as a Guest Editor and key Note will be by Prof Atiq Ur Rehman . Ar.YasmeenAbidMaan. Assistant Professor at Department Of City & regional Planning, Lahore College for Women University, Lahore, Pakistan.(Registered Member , Pakistan Council of Architects & town Planners.

With over ten years' experience in architectural design, I have exceptional skills and experience in planning, detailing, designing and coordinating projects both in the public and private sectors. My communication, problem-solving and leadership skills, combined with knowledge of theory and practical subject teaching, make me a highly valuable instructor in both Architecture and City & regional Planning department.

September 2014 Vol-9, No-9

Prof Lylian Meister, Dean of the faculty of design at Estonian Academy of Arts, Estonia, will be the Guest Editor. This issue will be about Design for All field research and outcomes in Estonia.

October 2014 Vol-9 No-10

Isabella Tiziana Steffan is an architect, and a certified European Ergonomist member of the executive board of the Italian Society of Ergonomics (SIE), expert in Ergonomics and Design for All. She works in the field of accessible design and Ergonomics for public and private customers, focusing on mobility and safety of weak users and on urban furniture. She performs teaching activities for several Institutes, among which Politecnico di Milano, UniversitàCattolicadelSacroCuore di Milano and UniversitàdegliStudi di Milano-Bicocca, where she leads the workshop "Accessible Tourism".

In 2012 she has published two volumes of Design for All. She is co-founder of ENAT (European Network for Accessible Tourism).

November 2014 Vol-9 No-11

ANNAGRAZIA LAURA joined CO.IN. (Cooperative Integrate Onlus and then ConsorzioSociale COIN), an organisation involved in creating job opportunities for people with disabilities, also through accessible tourism, with the responsibility of developing the Tourism Dept. at national and international level.

She is presently responsible for Int.'l relations and European projects and represents CO.IN in several EU funded projects will be the Guest Editor.

December 2014 Vol-9 No-12

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

Guest Editor's Desk

Rachna Khare
Professor
School of Planning and Architecture Bhopal

As working professional, I seldom worked alone. Most of the time I worked in groups and surprisingly, I always had more men than women in my groups. I am working in the area of 'universal design' for quite some time, but focused on 'functional limitations' and 'age' more than 'gender'. Though as a social issue, I am very sensitive about gender and have debated on equal opportunity many a times, but rarely followed them in design.

When this opportunity to edit "Design for all by women editor" issue came to me, I did not know what it would be like. I head a Center for Human Centric Research & I thought, as editor, I would showcase the work of the center, as is done in past some issues of 'Design for All' newsletter. I started casually by asking articles from friends and colleagues who work in the area of universal design. When I read some of the past issues edited by 'women designers', it made me think that how would it be when I will have my own. To make it on women in India, when I searched, I realized that there are not many designers who work on issues related with women. Then I searched women designers who work for vulnerable populations in India and I

found so many. I realized that I can even edit one full issue on the women who run different centers in the country to support such populations. Overwhelmed with abundance and spoilt by choices, I have this issue where contributors are 'women' designers, writing on their work for 'vulnerable populations'.

The initial articles are on disability, design education and practice by women designers. Then there are articles by the women who are architects and designers, and at the same time they run centers to work in the area of universal design/ accessibility. Later articles are by women designers, faculty and students, who have contributed on their work in the focussed area.

Women as designers are more sensitive to the issues of community. Not only they connect better with people but they themselves are focus of their families. They need no 'sensitization' when issues connect them as 'mothers' 'daughters' or 'sisters'. A lot of them, who have experienced the limitations of any kind, are brave fighters. They try and give the community what community failed to provide them. I salute their strength and their large heartedness.

Guest Editor's Brief:

Rachna Khare is a Professor and Associate Dean of Doctoral Programme and Faculty Development at School of Planning and Architecture, Bhopal. Prior to this she was a Senior Research Fellow with Jamsetji Tata Universal Design Research Chair at National Institute of Design, Ahmedabad and taught at Birla Institute of Technology, Mesra. Starting her career in early nineties as Exhibition Officer cum Designer in Jawahar Kala Kendra, Jaipur, she practiced for nine years in the field and then taught architecture for almost twelve years.

Rachna is a recipient of the prestigious Fulbright Fellowship and was affiliated with Georgia Institute of Technology, Atlanta, USA during her PhD. Her research interests in the field of 'Universal Design' and 'Designing for Special Needs' have earned her grants and awards nationally and internationally. Apart from Fulbright award, she is recipient of IMFAR-2009, Professionals from Developing Country Award, Chicago; Friends of Fulbright India Grant-2008, Lewisburg; Universal Design Award for Working professional-2011 by NEPEDP-MPhasiS, India and R&D projects from All India Council of Technical Education and University Grants Commission in India.

She has lectured extensively on Inclusive Design all over the world and has many papers in various National and International journals and conferences to her credit. Her papers appeared in the publications like Taylor and Francis, Sage, HFES, EDRA, RESNA and Archnet MIT. Her book 'Designing Inclusive Educational Spaces for Autism' published by Institute of Human Centred Design, Boston, USA was released in 2010 at 'Build Boston', the book received 'Certificate of Merit' in ArchiDesign Award-2010. She has also edited special issues of internationally refereed journals called 'SPANDREL'on 'Social sustenance' in 2012 and 'ABACUS' on 'Architecture for All' in 2007. Some major events organized by her are 'Universal Design Workshop' and National Student Design Competition (NSDC-211) on 'Universal Design/Design for All'-2011 in collaboration with National Institute of Orthropaedically Handicapped, Kolkata and NSDC-2012 on 'Universal Design for Exploring World Heritage Sites in India' in collaboration with Archaeological Survey of India and UNESCO. She is one of the authors of Universal Design India Principles developed at National Institute of design, Ahmedabad in 2011. She serves as reviewer in many publications like EDRA, HFES, The Design Journal, and was also a jury member of Berkeley Prize Essay Competition-2013, endorsed by UC Berkeley, USA.

Rachna is well known as an activist and is a founder member of an NGO called 'Movement for Intervention, Training and Rehabilitation of Children with Autism' (MITRA). She also stayed convener of Kislaya Vidya Mandir for several years, a school for underprivileged children supported by 'Asha' Stanford. She currently member secretary of DRONAH Foundation, Development and Research Organization for Nature Arts and Heritage in India.

In her current position at School of Planning and Architecture, other than her regular teaching and research, Rachna is coordinating a Centre for Human Centric Research (CHCR) that aims to build a body of knowledge that responds to the design needs of diverse human population otherwise marginalized in the past design practices.

01

Product Design for Disability: The Missing Link

Shilpa Das

Design of products for disability has typically based itself on the medical approach to disability. Objective facts about impairment hold pre-eminence expressed through, for instance, orthopaedic aspects such as the use of bracings, casts and other devices, followed by surgical procedures and the paediatric approach based on encouraging children to reach for developmental milestones. The behavioural analyses underlying the design product are definitely centred on the physiological, and every so often, do not seem to be validated against any actual observations of disabled people themselves.

A quick survey of the field reveals a plethora of assistive design products used to improve the functional capabilities and independence of disabled people such as mobility aids (wheelchairs, walking sticks, crutches, walkers and toileting aids). Industrial designers typically look at such projects as an opportunity to simplify the technological aspects, work on ergonomical aspects, and sometimes, to improve appearance. Usually for persons with severe disability, the effectiveness of

design follows a functional category. It prioritizes the medical domain and aspects of form, selection of material, ergonomics, technical detailing, motion dynamics, conformation with standards, and so on. The final product would typically uphold as its USP aspects such as "provision for disassembly", or "modularity of parts, ease of maintenance, storage and transportability, structural strength and ruggedness, accessibility and ease of operation, and comfort and feature enhancement."

However, there are several problems with such products. Firstly, the approach itself may be very 'designerly'; the emphasis of the product being on the generation of an innovative design solution. But this can be a two-sided coin in the view of the end-users. The area of work is definitely one that needs some attention, especially in the light of our context: economic constraints and complex terrain in developing countries. Secondly, the emphasis is quite obviously on the appropriate application of technology. Such a laborious analyses and evaluation of each technological innovation may be appreciable; and the special attention paid to the independence of the wheelchair user in basic activities, such as picking up dropped objects, sitting at tables: small areas that are not normally considered, be praiseworthy; and, the ability to draw precise inferences and apply them directly to the final design may be a good thing; Sometimes, the project may have gone through multiple iterations, and the product itself may have incorporated many interesting features. The user testing may also seem to have been reasonably positive, and the product a definite improvement over the existing models. The final features of the design are obviously informed by these, but they sometimes lack a spatial analysis. Again, is the product intended for domestic interiors? For outdoors use? Has the usage environment been considered? Where are the ramps and kerb cuts in our built environment? Has a thorough analysis of this with a systems level approach been undertaken? For projects of

such nature, this is really unfortunate, and seems to negate the laborious detailing, and the potential that the product holds.

It must be underscored, however, that technology itself in terms of machines, gadgets, appliances and prostheses will not necessarily lead to greater satisfaction levels for the disabled people as users of these aids and appliances, or even for the health care domain if you eclipse the user/disabled person in the design process. Again, considering the aspect of 'care' that is important to us in our socio-cultural context: the way we are looking at design right now, while it is good for us to keep in mind that we wish to ease the user's needs for mobility/assistance or whatever, it depersonalizes the objective of the design product and may be invalidating of disabled persons themselves. In fact, we may be actually taking a step in the wrong direction by doing too much of what Zola calls "an over-technicalization of care." Zola remarks in this regard: "Technology can do too much for those of us with disabilities. The machines that technology creates may achieve such completeness that they rob us of our integrity by making us feel useless."

If there is a 'user study' as such it is often limited. The user may have been completely reduced to design-specific data (ergonomics, space utilisation etc), and may have disappeared in the process! Gender differences are only considered through anthropometric data in the ergonomics study. The position of the user study is invariably rigorously functionalist and primarily concerned with strictly functional problems: manoeuvring, stability, physical fatigue of the user, and bodily safety. These are no doubt critical concerns, but psychological or social aspects are not considered and studies on disability models or in-depth interviews with disabled persons to understand the phenomenological aspects of disability are missing. These might have had a bearing on a number of aspects of design, not least the aesthetics. There is usually, a techno-

medical feel even in mobility aids that are designed for the needs of children with disabilities. Such devices have straps and ties, and multiple parts. No effort is made to humanise the aesthetics. At a formal level, it is at the same level as crutches and callipers: an association many disabled people and especially, disabled children will perhaps not fail to make. This has obvious consequences with regards to the perception of people with disabilities, but little has been done to mitigate this.

Even when a project begins by question prevailing attitudes about disabilities, and lamenting the lack of awareness and sensitivity, it actually throws into question the standpoint from which aids are designed for the disabled. The assumption still seems to be that there is a universal standard for the performance of that activity. Why can't the disabled person's performance, in toileting for example, be an equally valid one? Designing aids essentially is an act of 'filling up' a person's deficiencies so they can fit in with the environment that is convenient for an able society. One wonders if it might not be better to direct one's efforts at creating an environment that is meaningful and affirmative for disabled people. (Perhaps we need toilets where precise aim and containment are not necessary, thereby negating the need to maintain 'correct' posture). When designers look at disability through the lens of the medical establishment, the problem is that they are laying the onus of the restrictions that disabled people experience at the doors of the disabled people themselves. It is as if they are saying that disabled people are circumscribed because of the functional or psychological limitations imposed by their individual impairments rather than by the social restrictions imposed by society. When designers look only at the clinical aspects of disability in designing for the disabled, they are designing for the impairment and the person with the impairment rather than holistically looking at the shortcomings of the societal framework that impede the lives of disabled people. What effectively happens is that the everyday lived

experience of people with disabilities is erased leading to a lack of realistic perspectives and poor understanding of disability. At the same time, the normative identity is sustained, attributed with positive value, and thus empowered. The economy of visual difference creates a cultural self and a cultural Other. These cultural images, says disability activist and social scientist Mike Oliver, "violate the actual experience of disability, do not provide role models for people with disabilities, and perpetuate prejudice." They also limit culture intensely because neither do they depict people with disabilities in the course of their ordinary daily lives nor do they include the accounts of their struggles, feelings and thoughts that might lead to fuller accounts of the human experience and enable the non-disabled to understand and respect the contribution of the non-disabled to culture.

What disabled people may challenge in terms of design are designers' inability to consider the social conditions and relations in which such encounters take place, the enveloping of their identity in medical terms, the importance of their voices being heard and a much more effective participation in decisions which affect them. But if they were to follow the approach of disability studies and keep a disability rights' perspective, then the medical model's shortcomings could be considerably reduced, they would be able to reinterpret disability as a political category leading to a more holistic and humane approach. The other thing to do would be to just invert the binary of designer-as-expert with user/disabled person as expert. Such a scheme of things, would be 'user' centric, in this case, disabled-person centric, would incorporate a fuller account of the disabled situation, and be greatly enriched for it. Since the 'user/disabled person' would be the expert and not the designer, the conceptual shift would be greatly empowering of disabled people who would use or be affected by the product. This would also be a paradigm shift in terms of design practice.

In the main, the problem seems to be of restricting design mostly to the level of assistive design and not going on to the next level. Is the next level that of universal design? It is definitely an approach that seems to go beyond the medical model of disability and fits in with the social model of disability. In catering to the requirements and needs of different user groups within one system, you are inclusive and socially conscientious in your approach, design process and outcomes. Consequently, to a large degree you are able to make differences in terms of abilities unnoticeable. This is a significant transcendence over even accessibility design that yet manages to draw attention to difference. Such a philosophy of design almost certainly would lead to good design. Besides, with universal design you are working on generalizing grounds, you are as if disembodying the body, so that it could be any body that's in focus: a short statured body, an ageing body, a disabled body, an obese body and so on. So, it may help substantially raise self-esteem, homogenize identities and erase the marker of disability as something different. It may alleviate stigmatization and remove constraining barriers to perception.

Auther's brief

Shilpa Das teaches in and heads the Science and Liberal Arts programme at NID. Her areas of interest include art, Indian philosophy and aesthetics and contemporary literary and cultural theory involving semiotics, communication studies, women's studies, and disability studies. She has many published papers in journals and chapters in books in these areas. She also heads the Publications Department and Faculty of Interdisciplinary Design Studies at the National Institute of Design (NID), Ahmedabad. She is the Editorial Head of D/Signed a biennial magazine of design and The Trellis, a biennial research newsletter, both published by NID, and on the Board of advisors to Pool, a design magazine published from Pune, India.

02

Humane Design : Approaches to Design Education

Gayatri Menon

As an industrial designer, I have often wondered if the term 'industrial' or 'product' really qualifies the approach to design? Is design only about 'industries' , 'products' or is it essentially about making a difference in the lives of 'people' and a humane approach to the making of the man made world? If the vision to bring about a change is there, then the products, services and systems to make it happen will follow. Design and design thinking over the years from the times of industrial revolution to today has evolved and this also needs to reflect in the design education of today.

I would like to share some of the reflections based on my experiences in this sector both as a designer and educator to bring forth some pertinent points regarding the same. There is no clear cut framework but some of the approaches mentioned could become an integral part of the experiences of design education for design students.

1. Empathy and a participatory approach to design

While designing toys for mentally challenged children, I found that modification of existing toys to enable the children to use them was not sufficient. It was through playing with the children and empathetic observation that I found how difficult to was to make these children exercise with exercising equipment and how the same exercises became fun through playful experiences and toys. This led to designing of a set of therapeutic toys which would help them exercise and which would also motivate them to play with parents, care givers and siblings. Empathy was certainly an important criteria ; empathy not only towards the children but also towards the parents. Many of the parents, especially the mothers felt dejected and hopeless. This led to modifications to make the same designs as a do-it-yourself kit and conducting workshop for parents so that they could make these therapeutic toys themselves from locally available materials. This not only made the toys low cost but also helped them to customize the toys for their child and gave confidence that apart from therapists they also could be actively involved in helping their child.
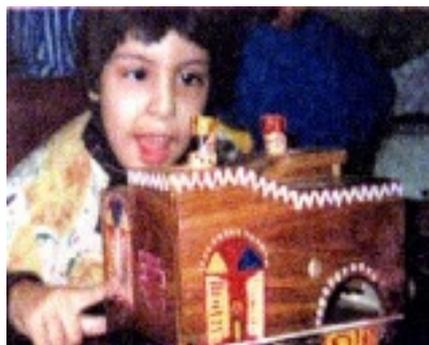
2. Expanding the scope of universal design

As a design educator, I have felt that when students work with communities their perception towards design changes. As a course faculty guiding students on 'Design for special need

project', I have experienced how the boundaries of the brief have expanded from designing for specific needs of physically, sensorial, mentally challenged people to include other areas. Some of the good examples of students works from this 4 week project include universal design of medicine bottles keeping the elderly in consideration, aids for pregnant ladies, sitting device for spastic children etc. While we were identifying and discussing the various potential projects which could be taken up as part of the course, one of the student came up with an interesting question 'Why can't we design considering the needs of animals and birds?" This led to the design of bird carrier to be used to save birds injured during the kite flying festivals when thousands of people traditionally fly kites with glass threads injuring many birds. In the course of evolution we have through our designs of spaces and products made life comfortable for ourselves without considering its impact on other living creatures and the environment. Responsible design needs to look into these aspects. It is the experience of working closely with communities and having dialogues about the need and impact of design which is critically required in design education.

3. Collaborative platforms

This was the same experience when I was invited as a tutor to international creativity workshops organized by Fordern durch spielmittel, FdS with UNESCO-German commission in various parts of Europe. Soegfried Zoels , the founder of FdS has developed this unique model wherein designers, therapists,

sociologists etc from across the world stayed together with a community for 15 days during which they conceptualized and prototyped designs for them. This experience of working in multidisciplinary teams from different countries while keeping in close contact with the user throughout the process and iteratively developing the design often brought about remarkable changes in the participants towards their approach to design. We need more forums and more such collaborative platforms which are action oriented and in order to bring rich experiences into mainstream design.

4. Building bridges between the industrial and social sectors

As one of the faculty members invited to south Africa to guide students on a project, I realized how design students need to be equipped to deal and understand the complexities of a nation. As a young country just out of apartheid, they wanted design education to equip the design students to not only work for industries but also for society as a process for building bridges between communities and nation building. This was the basic premise on which the course was developed wherein final year design students worked with Ethembeni home of orphan children to develop designs for them. Throughout the course there was a lot of interaction, discussion and constructive debates which resulted in the students trying to make connections with the rich cultural tradition, the needs of the ethembeni home and industrial requirements. The range of designs they made reflected the sensitivity and understanding of the issues pertaining to the same.

We find that universal design and much of what constitutes universal design is still perceived as designing for social needs vs designing for hard core needs of corporate sector, dealing in competitive markets and profit making. Designing for the social sector is somehow perceived as lower than designing for the corporate industrial sector. Unless the issues and concerns constituting universal design are seen to be as critical and relevant as market needs, we will continue to have the same approach in design education. We need to break the division between designing for industrial/social needs. We need designers who are equipped to understand and deal with complexities of the industry and the market realities as well as social problems and complexities. An inclusive approach to design as an integral component of design education will help in more responsible designs and hopefully a better world for all!

Author's brief:

Gayatri Menon did a two-and-a-half-year postgraduate course in Product Design at NID after completing her graduation in engineering and a short stint in the industry. Having worked for two years in the field of creativity and universal design for children, she returned to her alma mater in 2001, as an industrial design faculty.

Gayatri enjoys taking courses in Design Overview, Design Methods, Colour and Form, Play and learning design, Toy and game design, Creativity and Innovation, Material and Mechanism, Craft Documentation, Design Research Methods, Design for special needs, guiding students on Design projects

and teaching senior industrial students the Systems Thinking and Design course. She has worked as a project head and designer/consultant for several industries, public sector design, institution building, craft heritage and socially-relevant projects, while shouldering responsibility in academic areas such as curriculum development, student evaluation, admission and interview and networking with industries.

She has headed projects such as the Asian paints Kids room project, UNIDO-sponsored design intervention for capability development of Indian toy industry and design intervention possibilities for Madhya Pradesh Craft Cluster project, G.I. for craft cluster– Kerala state etc. She has presented papers at ICCP conference in Germany, ITRA conference in Greece, MX design conference in Mexico and DETM, India. She was elected as a board member of the International Toy Research Association, ITRA in 2009. Gayatri has helped organise the National Design and Creativity camp, with the British Council, for introducing design education in schools and the First Asian Creativity workshop supported by UNESCO. She has been invited as a tutor to International Creativity Workshops in Italy, UK and Germany, to conduct workshops in Japan and to teach at design schools in South Africa and Canada.

Over the years, her interest in creativity and design has increased. She likes to constantly explore the boundaries of Systems Thinking and creativity in design. Gayatri is pursuing research in the field of 'Opportunity Mapping in Design' and has conducted several generic workshops for industries in areas pertaining to ' Creativity,Design strategy and opportunity mapping in design', "Introduction to design : issues and methods" etc. and customised workshops for industries and organisations such as Hindustan Unilever ltd. and Tata Institute of Social Sciences.

03

User Centric Design Using Full Scale Simulation Tool

Rachna Khare
Sandeep Sankat
Sushil Kumar Solanki

Abstract

This short paper is on a Universal Design workshop conducted for Architectural students at School of Planning and Architecture, Bhopal India. This workshop was organized by Center for Human Centric Research at SPA Bhopal under a larger annual event called National design completion (2014). This workshop was accomplished with the conclusion of functional environment design for Indian Elderly, while accessing the residential kitchen and lavatory through user centric approach using fully dismantlable full scale simulation tool.

1. Background

User-Centered Design (UCD) is a user interface design process that focuses on usability goals, user characteristics, environment, tasks, and workflow in the design of an interface.

UCD follows a series of well-defined methods and techniques for analysis and design. The UCD process is an iterative process, where design and evaluation steps are built in from the first stage of projects, through implementation.

Full scale simulation is a user centered participatory method that uses real life people to learn about how environment contributes to safety, usability and independence, and it has been used successfully in environmental design research, in facility planning, and in accessibility (Mullick 2012; Danford and Steinfeld 1999).

Increasing urbanization, modernization, commercialization, changing demographics, changing social scenario, depleting joint families and increasing numbers of nuclear families is resulting in exclusion of the Indian Elderly. Moreover poor implementation of accessibility guidelines and insensitive designs of designers, architects and planners has made the life of the elderly difficult in urban India. The current study employed full scale simulation to understand the elderly in physical environment focusing on usability goals, user characteristics, environment, tasks, and workflow in design needs and demands, for better understanding of design.

The current paper presents this academic exercise in brief and summarizes the lessons learnt for creating inclusive enabling environment for Indian elderly.

2. Intent

The aim of the exercise was to study, understand and identify the problems faced by Indian elderly; and to create enabling environments in kitchen and lavatory based on the identified issues.

3. Objectives

i. To understand and identify the problems (issues), limitations faced by Elderly in their physical environments.

ii. To analyze and synthesis the identified issues to generate design considerations.

iii.To develop Architectural design solutions based on identified design considerations.

iv.To reconfirm the design solutions using full scale simulation.

v.To validate the design solution using standard access audit tool.

4. Methodology

Literature review to understand Universal Design, Accessibility, Enabling environment and Indian elderly.

⬇

Problem Identifications for Indian Elderly by panel discussion and discussion with experts.

⬇

Analysis and Synthesis of the identified issues to generate design consideration.

⬇

Design of physical environments based on Identified design considerations using full scale simulation tool.

⬇

Reconfirming the design by converting it to physical environment to test with full scale simulation tool.

⬇

Validating the design by access audit tool.

⬇

Final Design solution.

Before commencing the workshop, the School of planning and Architecture, Bhopal; provided literature resources concerning universal design, Accessibility, Enabling environment and Indian elderly prior to the commencing of design workshop. Also, the students were advised to refer literature for the same. The workshop started with the aim to identify the problem areas of Indian elderly while using their physical environment for the activities of daily living (ALD'S). For this, a panel discussion along with invited Elderly and experts of the field was

organized. The Elderly shared their experiences of problems faced while using their physical environments for ADL'S. Further students developed a comprehensive list of issues faced by Elderly in their physical environments for ADL'S.

This comprehensive list in discussion with accompanying teachers was analysed and synthesised by the students to generate the design considerations to solve the issues for the design. These generated design consideration guided the students to develop their designs for Indian elderly. For every identification of the elements of the design; the students very efficiently used the full scale simulation tool for their design. The student's designs were converted into full scale physical design environment by using the fully dismantlable full scale simulation tool. The students were supplied with few standard access audit tools. Based on their designs the students were required to opt for the best suited access audit tool for validation of their design. After validation for the same, the designs were finalized. The whole design process was documented and presented by the students in the National design completion (2014).

5. Fully dismantlable Full scale simulation tool

It is difficult to understand and comprehend the physical environment while designing at full scale. The developed fully dismantlable full scale simulation tool provided an opportunity to the designers to visualize and experience their design ideas in actual physical form in 1:1 scale.

The fully dismantlable full scale simulation tool also provided an opportunity to create physical environment flexible enough to dismantle and erect easily; and to place design elements in the spaces with ease and convenience; as per desired placement in the 3 Dimensional environments.

6. Photos of workshop

Elderly in panel discussions with students	Elderly Discussing with students
Stdents Designing using full scale simulation tool	Stdents Designing using full scale simulation tool
Stdents Designing using full scale simulation tool	Stdents Designing using full scale simulation tool

7. Results

This workshop provided a systematic understanding of the Indian elderly through interactions and investigated how enabling environments for them can be achieved through evidence based user centric methodological process. By using fully dismantlable full scale simulation tool for kitchen and lavatory; analytical user centric data were well executed on accurate form.

This workshop provided an intense and experiential design understanding to the students for the designing of kitchen and lavatory. However, the fully dismantlable full scale simulation tool can be used for designing any kind of physical environment.

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Author's brief:

Rachna Khare, Sandeep Sankat and Shushil Solanki are faculty members at School of Planning and Architecture, Bhopal. They work together for Centre for Human Centric Research (CHCR). Committed to produce socially aware architects and planners, the multidisciplinary research hub 'Center for Human Centric Research' is housed at SPA-Bhopal. CHCR propagates inclusive and multidisciplinary problem solving approach to optimize the environment for the population who does not have power to influence the design and planning process. To attain its objectives, the center functions in four major areas, 'Identification of Research Priority Areas and Networking', 'Education and Training', 'Research and Design Development' and 'Dissemination'.

I. Identification of Research Priority Areas and Networking: CHCR conducts think tanks to brainstorm and identify the areas of research priority with the core resource group with similar interests. It also connects all stakeholders to address these priority areas. The center regularly organizes special lectures workshops, public exhibitions, conferences and awareness campaigns on the concerning areas. In recent past it has organized several national level events in collaboration with national and international organizations like Archaeological Survey of India, National Institute of Orthropaedically Handicapped, Arushi, DRONAH, Ability Unlimited, UNESCO.

II. Education and Training: CHCR acts as a resource center to facilitate researches addressing people centric studies in the built environment at local, regional and national level. The center offers specialized academic courses in the related subjects and organizes training workshops and student competitions. Some national level training programme includes hands-on workshops and national student design competitions on the theme of 'Inclusive Design' and 'Universal Design for Exploring World

Heritage Sites in India'. At international level, the center recently conducted an international elective at National Institute of Design on 'Designs for Elderly' and design studio on 'Universal Design for Cultural Interface in Sacred Site of Ujjain' in the upcoming year under Berkeley Prize endorsed by Department of Architecture, University of California, Berkeley, USA.

III. Research and Design Development: CHCR Initiates and supports faculty and student projects in the identified priority areas at School of Architecture and Planning, Bhopal. It also supports undergraduate, postgraduate projects/studios and PhD research on the theme and sponsor faculty projects. Some of the projects include low-cost disabled friendly toilets in Anganwadi centers in association with Arushi and UNICEF, Universal Design India Project in collaboration with NID, Ahmedabad etc. Some current PhD researches include, 'Rethinking Architectural Design to create Enabling Environments for the Indian Elderly', 'Working with leftover: Spaces, Material, People', 'Planned evolution of Vernacular Architecture to meet Needs of Urban Poor' etc.

IV. Dissemination: CHCR brings out publications on the subject for information sharing and developing a body of knowledge to help architects, engineers, planners, designers and other stakeholders, who work in this area. The center has published SPANDREL, an international refereed journal on 'Social Sustenance by Social Equity' to address needs of the vulnerable groups like persons with disabilities, children and elderly. It has also published an annual calendar on universal design to disseminate Universal Design India Principles and a monthly periodical for Design for All Institute of India. The center is developing user friendly guidelines with illustrations on barrier-free schools in Hindi, in association with an NGO Arushi. Another publication of CHCR 'Uniting Differences' is based on winning entries of a Design Competition on Inclusive Design.

This publication of DFA Newsletter is done under CHCR to disseminate the universal design education and practice, to optimize the physical environment for everyone.

04

Old Age Home at Amritsar

Karishma Bansal

Abstract:

This undergraduate thesis is done at School of Planning and Architecture, Bhopal. While a detailed design was attempted for an Old Age Home in the project, this paper would present the site planning considerations only.

1. Introduction

In today's scenario where technological advancement has led to increment in age expectancy and nuclear family trend being adopted by the society, the people are forced to think in the direction of enhancing the quality of life of elderly in older years. It becomes the responsibility of architects and designers to create a model which fits the needs of elderly. As physical environment plays key role for healthy living of elderly, the present study aims at building an environment for elderly which best suits their needs. This B.Arch. final year research and design project aims at finding limitations of older people and how a good physical environment can cater their requirements.

2. Methodology

The methodology used to carry out the study has three steps:

Step 1- Literature Study

Step 2- Field Study

Step 3- Universal Design Standards

A thorough literature study was done and the limitations of elderly were underlined. Then a study of the existing scenario was done which included visiting old age homes and talking to elderly, their needs, their problems etc. Then both the above mentioned steps were compared with the standards. Keeping in mind the present situations, the expectations of elderly and existing standards helped in laying the foundation for further design.

3. Outcome of the Study

Above mentioned steps helped in analyzing critical areas of consideration while designing a habitable space of elderly. The critical parameters could be listed as:

a. Variety And Choice

b. Autonomy And Independence

c. Sense Of Usefulness

d. Personalization

e. Control In Changing Environment

f. Access To Community Services

g. Activity Spaces

h. Orientation And Wayfinding

i. Safe Environment

j. Outdoor Areas

All these elements are executed on site and building level. Here shall I will discuss their application on site level only.

4. Elements Used

a. **Radial planning** was adopted as it helps in way finding and orientation.

b. **Transition areas** were available between major indoor and outdoor areas. These acted as halfway zones, offering seating and viewing opportunities and easy, direct access to indoor and outdoor areas. Protection from weather and gore was also available.
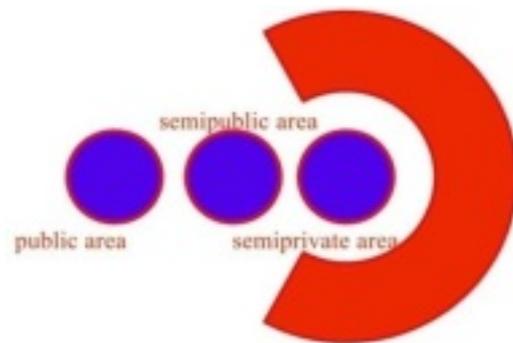
c. **Defined zones** of activities with a focal point for development, promoted a sense of community and ownership while enhancing way finding.
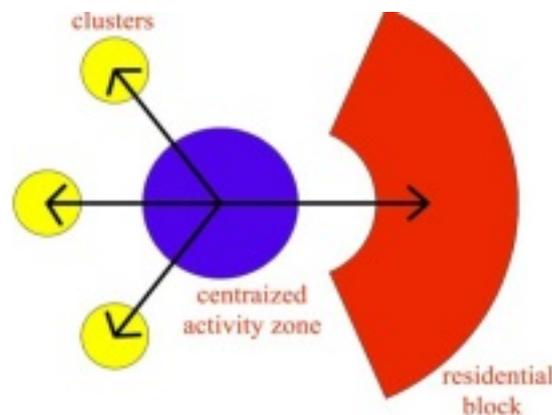
d. **The landscape and planning** was done such that series of smaller and larger areas are planned. Seating under banyan tree at all possible street nodes had been given to maximize the opportunity for interaction.

e**. Frequently used outdoor areas** were located for physical safety between two sides of an L-shaped building and enclosed within a cluster. Such areas often appreciated by older people, promote use by offering a sense of security and safety.

outdoor space enclosed
by building

f. **Pathways** were developed as feeder system, collecting people on route to major activity centers and maximizing opportunity for social interaction. A hierarchy of routes, from private to public, enhances privacy and a sense of community, within the larger project. It assisted in way-finding as well.

clusters

main activity area

pathway
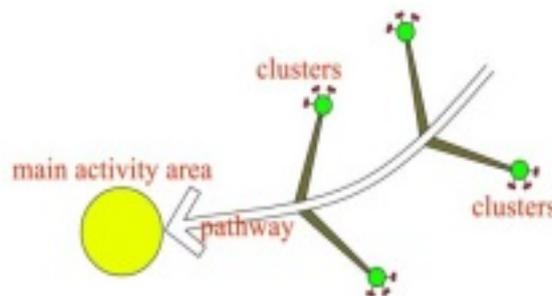
clusters

g. **Spaces** were identified with a unique features or focal points and were supported by other design elements. This includes architectural detailing unique to each housing cluster, and changes in the color, texture, and sound of the surrounding landscape. It provided sensory clues supporting way-finding.

• Access identified l
directional clues

• One dominant focal area
• Vertical landmark
• Visible from other areas Smaller Areas:
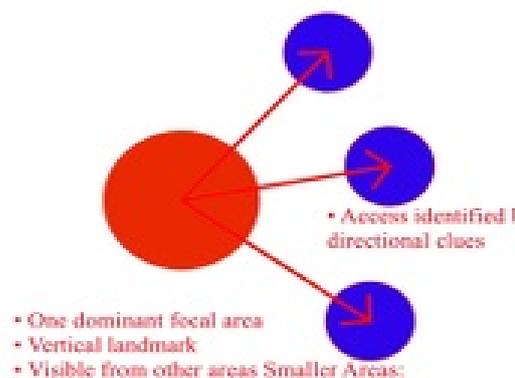
5. Implementation of Critical Issues in Site Planning

The site planning was done such that it fulfils the critical parameters of consideration.

Outdoor space located near administration so that it allows visual surveillance.

A variety of routes to outdoor areas with combinations of shorter and longer routes are provided for access.

An inwardly developed community provides a sense of security within the campus such that it is easy to identify. All the facilities are located such that it could be used with ease

Spaces like their own gardening space, bird feeder space, pits for rabbits and vegetable gardens have been provided in accordance to their desire.

Outdoor space is located such that it allows visual surveillance by the residents. The space is enclosed by the building which gives them a sense of security and safety.

Transitional areas cum lounge are provided so that it creates a buffer between -major indoor and outdoor areas.

Spaces should be identified with a unique feature or focal point and supported by other design elements, such as architectural detailing unique to each housing cluster, and changes in the color, texture, and sound of the surrounding landscape. It provides sensory clues supporting

Nursing block is located in quieter zone.

Sitting spaces with a combination of formal and informal spaces have been provided he outdoor spaces vary in size which gives elderly a sense of control. Sitting under banyan tree at every junction of footpath increases the opportunity of social interaction and helps in creating variety of space.

Author's brief:

Karishma Bansal completed her bachelor degree in architecture from School of Planning and Architecture, Bhopal in 2013. Her thesis topic was Old Age Home where she concentrated on site planning. Currently she is working in a Delhi based landscaping firm, where she worked on many small and large scale projects.

05

Accessibility of Visually Impaired Visitors in a Heritage Site : Case Study of Ellora Caves

Kavita Murugkar

Abstract

People with vision impairment have the right to participate fully in the community and take advantages of the privilege of experiencing the Heritage sites as all others. But it is observed that heritage sites are seldom visited by the people with vision impairment due to poor accessibility within heritage sites. To identify the barriers in a Heritage Site, the Ellora Caves were selected and a walk and talk access audit was conducted with the help of a visually impaired volunteer. Both physical and intellectual barriers were identified through this exercise. Certain solutions are recommended to help eliminate the barriers.

1. Introduction

One of the key requirements for an inclusive and sustainable society is that everyone should be able to participate in and enjoy the social, economic and cultural assets of that society.

Historic buildings and places are a significant asset, a unique and irreplaceable resource which reflects a rich and diverse expression of past societies and forms an integral part of local, regional and national cultural identity. Historic buildings and places, important in themselves for their intrinsic cultural heritage value, are also significant because of their uses as places where people work, live and enjoy everyday activities. Making the built heritage more accessible in an appropriate and sensitive manner can increase awareness and appreciation of its cultural, social and economic value.It assists in meeting society's requirement to protect its architectural heritage, whilst also meeting the need to provide equal inclusive access for all.

But it is observed that heritage sites are seldom visited by the underprivileged sections of our society like the people with disabilities. This is most often becauseof accessibility issues in such sites, for example-existing barriers which make visiting and using historic buildings places difficult or sometimes impossible for the people with disabilities. The purpose of this study is to evaluate the accessibility status and identify access issues in a well visited Heritage Site, the Ellora Caves with respect to people with vision impairment through empirical research.

2. Disability and Accessibility

Disabilities are of different kinds which include physical, intellectual, psychiatric, sensory and neurological. According to Census 2001, the total population of India is 1,028,610,328. The total disabled population is 21,906,769, i.e. 2.1%. Out of which visually impaired population is 10,634,881, i.e. 1% of total population and movement impaired population is 6,105,477, i.e. 0.6% of total population.

Since visually impaired population is increasing, it is important to cater to their needs of accessibility with priority. Hence,

vision impaired visitor group is selected in particular for analysis of their accessibility to heritage sites.

The term 'vision impairment' is often used interchangeably. Vision impairment is defined as 'visually impaired in both eyes (visual acuity <6/12)'. Hence, the term 'people with vision impairment' or 'persons with low vision' includes people who have permanent blindness. In this paper, the term 'visual impairment' will be used to include all people with vision impairment and blindness.

Literature review of past research on this subject suggests that accessibility of visually impaired people to a space/structure/site, is most affected by physical and intellectual barriers like non-directional paths, lack of ramps, railings, signage, Braille print, adequate spacing, slip resistant flooring etc. Hence the study has mainly focused on identifying the physical and intellectual barriers in the heritage site of Ellora caves.

3. Ellora Caves

There are 22 cultural world heritage sites and 5 natural world heritage sites in India, amongst which four sites are located in Maharashtra (India), which includes the Caves of Ellora. Ellora Caves are 260km from Pune, situated 30kms from Aurangabad, having the largest population of visitors compared to any other world heritage site in Maharashtra. The Kailashnath Temple, which is cave no. 16 in The Ellora Caves, has become the main attraction for tourists and pilgrims. Also, as The Ellora Caves are situated more close to the city and within the route of most of the tourist circuits, it gets higher number of visitors than the other world heritage sites.

The Ellora Caves are magnificent group of rock-cut shrines of Ellora, representing three different faiths: Buddhist,

Brahmanical and Jain were excavated during the period from fifth to the thirteenth century AD. The Buddhist Caves (1 to 12) were excavated between the fifth and the seventh centuries AD, when the Mahayana sects were flourishing in the region. The Brahmanical Caves numbering 13 to 29 are mostly Shaiva.Kailasa (Cave 16) is a remarkable example of rock-cut temples in India on account of its striking proportion, elaborate workmanship, architectural content and sculptural ornamentation. There are two dhvaja-stambhas or pillars with flagstaff in the courtyard. The grand sculpture of Ravana attempting to lift mount Kailasa, the abode of Siva, with his full might is a landmark in Indian art. The Jain Caves (30 to 34) are massive, well-proportioned, decorated and mark the last phase of the activity at Ellora.

4. Objective of the Study

The purpose of this study is to investigate the current accessibility condition of the heritage site of Ellora caves with respect to the needs of the visually impaired visitors. A walk and talk access audit was conducted at the site with the help of a visually impaired volunteer. Both physical and intellectual barriers to visually impaired visitors were identified through this exercise. Certain solutions are recommended at the end to help eliminate the barriers.

5. Methodology

Two step methodology was adopted to conduct this field based research. First a detail survey and audit of the entire site was conducted with respect to accessibility provisions and issues for visually impaired visitors. For this purpose a visually impaired volunteer was invited to the Ellora caves from a local NGO and a walk and talk audit was conducted through the entire site with him. The entire walk with the volunteer and the site was closely observed and noted in an access audit format with

remarks. The standard access audit checklist was modified and revised keeping in mind a visually impaired visitor in a heritage site. The entire act was also video recorded which helped to reconfirm the observations made during the walk.

The next step was to conduct focused discussion and interviews of the staff and caretakers at Ellora caves to investigate more about visually impaired visitors at the site and also about the existing visitor management provisions for them. The discussion was audio taped as well as noted textually.

6. Analysis and Findings

I. Findings through the Access Audit: The findings of the access audit conducted with the help of a visually impaired volunteer have been documented in the form of a chart (refer chart-1). The chart also includes preliminary responses for solutions to problems identified. The charts are prepared for the entire journey sequence of a visitor in Ellora from parking to individual caves of interest.

II. Apart from the findings, feedback from the visually impaired volunteer who participated in this study, about the barriers he faced in the entire journey were also noted. As per which, important aspects to bekept in mind for designing inclusive and accessible heritage sites for visually impaired visitors are as follows –
a. Physical accessibility and way finding, e.g. tactile pavement from the entrance of the site, sound notifications at the entrance and audio and large print signs for direction.

	ENQUIRIES	Y	N	COMMENTS	SOLUTION
	INFORMATION COUNTER				
1	Are the counters easily identifiable ?		✖	Temporary scaffolding added outside the counter which makes access difficult	Remove any obstacles in the access path
2	Is there any consideration in terms of entry fee for disabled person?		✖		
3	Is there a vertical, visible signboard near the counter?		✖	No tactile signboard (just written on glass)	Tactile signage which should be easily identifiable
4	Are there tactile maps of the heritage structure for visitors at the counter?		✖		Create tactile maps which will help visually impaired also
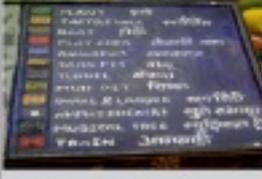
Chart-1: Access audit of Ellora with findings

b. Multisensory display and engagement with sculptures and architectural elements
eg. Allowing touch and using haptic technology for experiencing the site features.
c. Perceptible information on the heritage site and guiding signage e.g. Braille and large print brochures, audio guides.
d. Assistance and interpretation support by staff and volunteers, e.g. trained guides for visually impaired visitors and offering interpretation of the site through a specially designed heritage walk.

Fig 1 : Images of Walk and talk access audit with the visually impaired volunteer at the Ellora caves

III. Findings through the Interview of the existing staff and caretakers : Of the 2% people with disabilities visiting the heritage site, 1% of the visitors are visually impaired, mostly students of blind school or organisation who visit the heritage site along with their own caretakers. At present there are no visually impaired visitors observed who visit the caves on their own. The above information is based on interviews of the guides and security guards on duty at the caves. Apart, from the security guards, the cleaning staff members were also interviewed, who also mentioned that very rarely visually impaired visitors were observed on site. Also they were reluctant to provide help to such visitors if required.
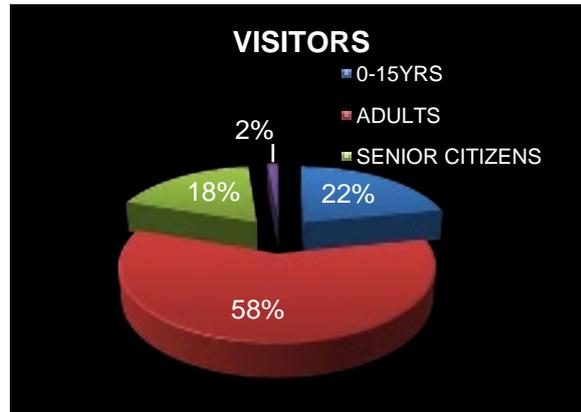
Fig 2: Typology of visitors at the Ellora Caves as per field survey.

The discussions with the caretakers/staff/guides also pointed out that currently, there are no measures taken to facilitate the visually impaired visitors. There are no trained guides or audio compass to facilitate communication with the visually impaired visitors. There are no future plans make technological or architectural provisions like warning signals or tactile flooring which would help in facilitating easy and safe physical accessibility for the visually impaired visitors.

7. Conclusion

The study indicates that the heritage site of Ellora caves is not easily accessible for the visually impaired visitors and requires intervention and immediate steps to make the existing physical environment and visitor management more inclusive.

Based on the above study, below mentioned recommendations can be implemented to reduce the barriers, both physical and intellectual, in the existing site of Ellora caves.

For Physical Access:-
a. Segregation of vehicular and pedestrian movement -

• Restricting vehicular movement before the interpretation centre leading to a cleaner and safer environment for the visually impaired visitors and

• Battery operated coaches provided for accessibility till the caves for safe mobility and reduced environmental pollution.

b. Designing access path for exploring the heritage site keeping in mind easy way finding for the visually impaired visitors.

c. Detailing of pathways, steps, ramps, parking and common facilities to ensure levelled, obstacle free and self-guiding spaces by using tactile tiles, railings etc.

d. Provision of trained guides and heritage walk to cater to the visually impaired visitors.

e. Provision of audio warning signals at accident prone locations

For Intellectual Access:-

a. Provision of Signage, both audio and braille, tactile maps/ models for easier and quick way finding and communication

b. Provision of Braille Information brochures and audio / tactile interpretative panels at all strategic locations

c. Provision of Assistive technology like audio guides/compass for intellectual guidance on the heritage site regarding it's history, architectural style, construction technology etc.

d. Provision of Virtual experience by touch and audio simulation of important architectural elements

Above solutions can be applied to any heritage site to enable a visually impaired visitor to experience the heritage site more effectively and independently.

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Author's brief:

Kavita Murugkar is a practicing architect and associate professor teaching at the B N College of Architecture (BNCA) in Pune. After graduation in architecture, she pursued her interest

in history and completed her Masters in Archaeology from the Deccan College, Pune.

She has written articles and research papers on various subjects related to architectural practice and education. She has also been very active on the social front and taken lead role in organisations like IIA, PCERF, INTACH and AESA. She is also a recipient of the AVISHKAR AWARD for best research project in humanities faculty at the Maharashtra state level-inter university research competition. Currently she is pursuing her PhD on a subject which focuses on the experience, perception and interaction of persons with disabilities with the built environment. She has set up a Centre for Universal Design at BNCA for promoting people centric and inclusive design education and practice.

Establishment of BNCA's Universal Design Research and Training Centre is a step initiated by Dr. Bhanuben Nanavati College of Architecture for Women in Pune, towards integrating socially inclusive design education and practice that responds to needs of all sections of the society. The center aims to take leadership in promoting universal design approach for creating inclusive products and environments through four principle activities –Research, Training, Awareness and Service. It's inception started in 2011, and since then a wide range of activities and efforts have been undertaken successfully under the leadership of Prof. Kavita Murugkar guided by Dr. Abir Mullick and Dr. Anurag Kashyap, principal of BNCA . The centre was formally inaugurated this year on 14th February in the institute courtyard at the hands of esteemed Universal Design experts Dr. Abir Mullick and Dr. Rachna Khare in presence of Prof. S. Balaram. A variety of activities, projects and events have been successfully organized through this centre by team of faculty members and students in the past two years. More information on the above is available on the centre's blog – www.universaldesigncentrebnca.blogspot.com

06

Nature and Nurture

Parul Kumtha

Abstract

All designers are shaped by their life-experiences and I am no exception. My journey with architecture started with my involvement in social cause and activism involving inequalities of gender, caste and economic backgrounds. My passion for trekking and my 21 year old son with Autism Spectrum Disorder further steered me towards a work ethic involving the conservation of natural heritage and universal design, which culminated in the design team "Nature-Nurture". Nature-Nurture has today a team of young women and men who are unabashed about their commitment to green and accessible design interventions in everything we do. Nature and Nurture Architects and Planners are committed to designs that conserve natural heritage and allow barrier free access to all sections of society, this team of young and upcoming architects collaborate on many projects to achieve their goals. With the dictum 'Change is Constant', the team applies the experiences gained through run-of-the-mill professional practice to make a difference where it matters. The current paper would present some of our achievements together as a team.

1. The need for Disabled-Friendly Infrastructure and Universal Accessibility

"It's not the disability that defines you; its how you deal with the challenges the disability presents you with."   - Jim Abbott, (Former Major League Baseball pitcher born without a right hand.) As a society we must reflect upon our responsibilities to bring about equitable access to every individual. When spaces are barrier-free, it not only gives the differently- abled a sense of independence, but it helps change the discriminatory attitudes in the general population.

Adapting built spaces to suit the needs of the disabled, has been the general methodology of bringing about accessibility in buildings. But aren't retrofit solutions a make-shift way of getting things done? Don't they reflect the negative attitude of the masses towards accommodating the disabled? Nevertheless, the Retrofitting model can be adopted to bring about accessibility to spaces that were insensitively designed whenever they were built, possibly in eras where accessibility was not considered or was even unheard of.
The real challenge lies with the society, designers and architects, to design spaces and buildings with inclusive access as the highest priority right from the conceptualizing stage of the building or space.

In fact the most ideal way of bringing complete accessibility in a building would be considering the needs of all users. This would include the disabled, senior citizens, children, pregnant women, even able bodied people and people from different economic and cultural backgrounds. This perspective of addressing the needs of all is termed as 'Universal Design'. The adoption of the model of 'Universal Design' encompasses and accommodates every individual in the society, considering all on one plane. It is therefore crystal clear that Disabled- Friendly

infrastructure should be one of the highest priorities while designing spaces.

Nature Nurture architects and planners has been a part of several projects that focus on this very aspect of bringing equal access to ALL in all spheres with special focus on disabled friendly infrastructure. Below, we focus on some of our work with the NGO Access4All Foundation in Nasik, Maharahtra, India, to bring to light the need for universal design in different walks of life like educational, recreational, transportation and public utilities.

a. Educational

The need for equal access to education is without a doubt, most crucial. All children are entitled to equal opportunities in their learning environments. Educational architecture and Infrastructure should thus be designed with this aim. Nature Nurture have conducted an accessibility audit at an existing Girls' school in Nasik viz. Government Girls' Shasakiya Vidhyalaya and have come up with various design solutions to achieve the same. Some of the recommendations are:
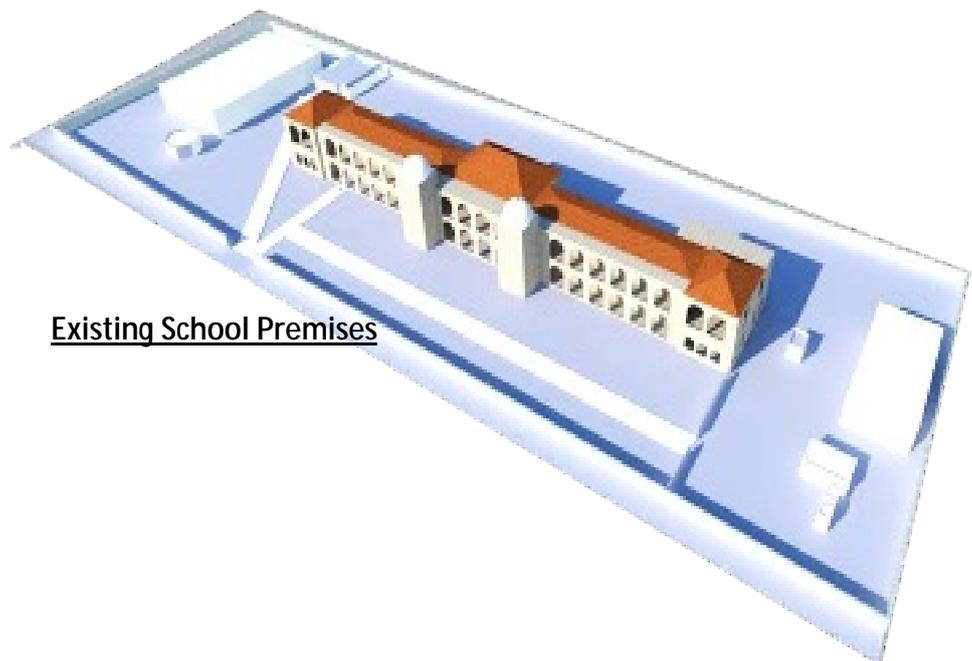
Existing School Premises
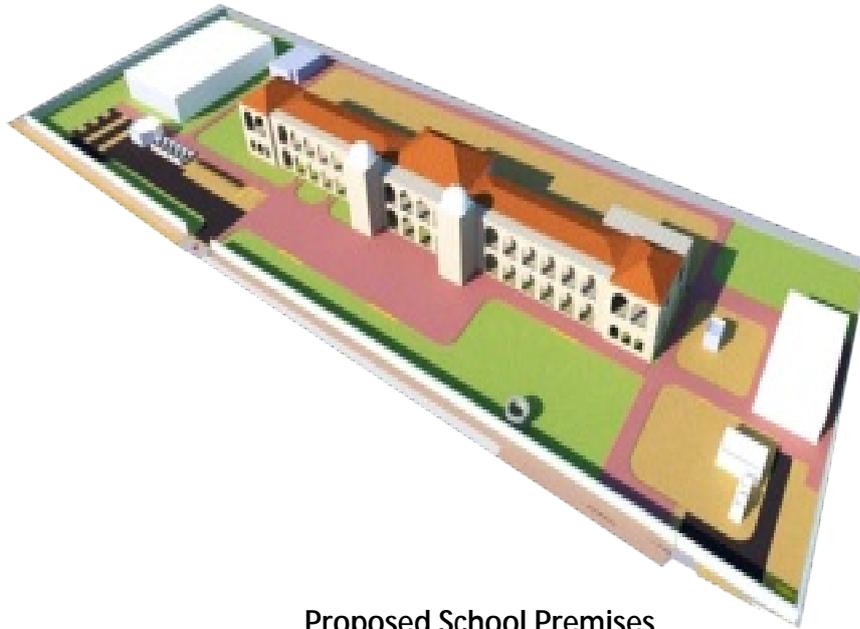
Proposed School Premises

a. Circulation networks of Vehicular and pedestrian were separated and made more safe and student friendly.
b. The Random parking on site was addressed and planned with additional handicapped parking lots.
c. Ramp access to the stepped entrance was proposed for wheelchair access.
d. Tactile markers were proposed to the staircase inside the structure to aid the visually impaired and a lift shaft proposed within the stairwell for wheelchair access to the upper floors.
d. Footpath outside entrance was provided with curb ramps.
f. Various other issues related to accessibility were addressed in, and outside the campus like redesigning toilets, utilities, Bus stop outside the school etc.

b. Recreational

Recreational spaces need to provide stress free environments to all, especially because they are visited by people with the intention of unwinding and de stressing from the daily grind. This is the most imperative reason of making these spaces completely obstruction free in order to negate all environmental stresses, which are generally amplified for persons with disabilities. A recreational auditorium, Kalidas Kalamandir

receives visitors in large numbers, but had a lot of issues in providing disabled friendly access. Some of the solutions provided by Nature Nurture are:
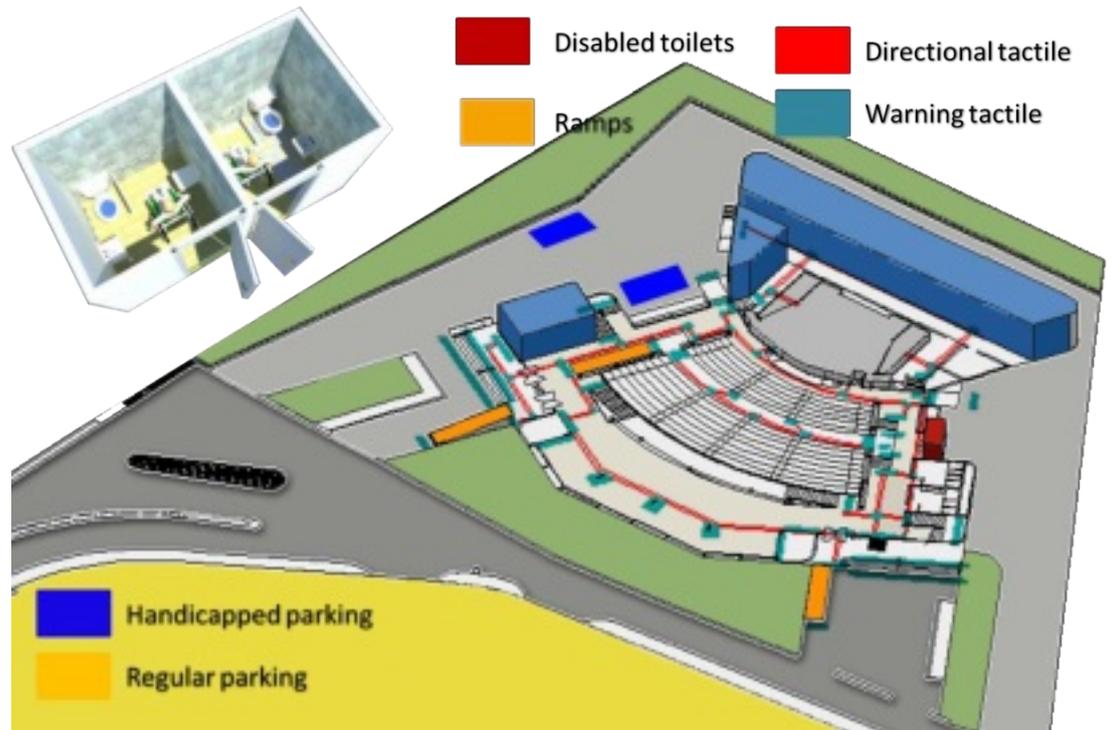
Tactile markers proposed

No ramp to enter the Auditorium from the lobby
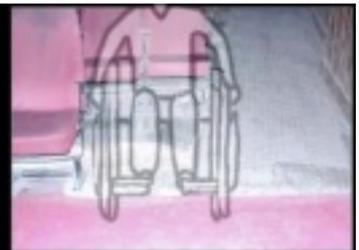
Wheelchair parking spaces

Existing Signages not as per Universal Design standards.
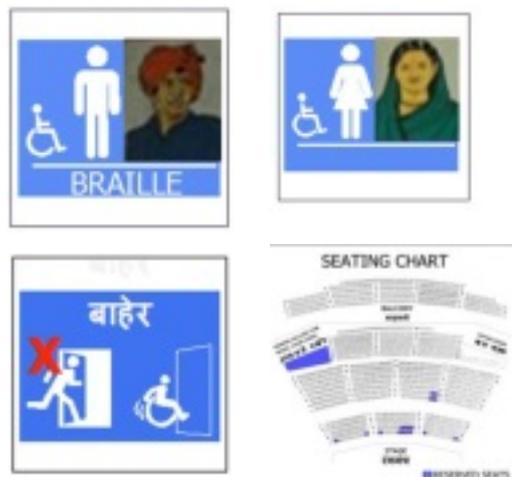
Proposed Signages adhering to UD standards.

c. **Religious**

India, being a country with varied religions and cultures, Religious sites are the next in the list of one of the most important typologies that require to be made completely accessible. A lot of faith and devotion attracts huge numbers to various pilgrimage sites which makes these places very vulnerable to unfortunate mishaps and accidents. Thus the infrastructure in these sites has to be addressed with utmost detail and sensitivity, respecting all religious sentiments.

Ramkund is one of the most crucial projects that we have been involved with. Some of the issues and solutions proposed by us for the precinct are as under:

Complicated circulation networks render the space inaccessible

Floating Bridge proposed instead of the current stepped bridge.

Space saving trinket shop modules designed to free current encroachment of shops.

Changing rooms with temporary partitions, an example of adaptive functions assigned to existing spaces.

Addition of water fountain at an accessible location

Kaak Sparsh module proposed as opposed to current inaccessible kaak sparsh on terraces of buildings

Proposed conceptual design solutions

Model by 3rd year students of Sir J.J college of Architecture.

d. Transportation

"A developed country is not a place where the poor have cars, it's where the rich use public transportation" – Enrique Penalosa, (Mayor of Bogota).A globalized India, must improve the state of affairs of its public transportation in all respects including independent accessibility to its each and every individual. We did complete re-organization of vehicular and pedestrian networks. Additional accessible toilets, seating, street furniture, adequate lighting, utilities designed for user comfort and completely barrier- free spaces proposed with respect to all kinds of disabilities were designed.

Photographs of the existing random and disorganized premises of the Central Bus Depot at Nasik.

MELA Bus Stop

ST Bus Parking

Proposed Auto Stand

Proposed Share auto stand

Existing Mall

COMMERCIAL ZONE

Proposed Design of Central Bus Depot,

e. Public Utilities

Maximum development in a nation can only happen if the people of the nation are efficient in their respective fields. The surroundings and public infrastructure play a major role in determining the efficiency of the people. It is therefore the responsibility of the designer to provide for maximum user comfort and most importantly to open public infrastructure to all. Some prototype designed by us include toilet prototype, bus stop prototype, crossing prototype etc.

DISABLED TOILET   GENTS' TOILET   LADIES' TOILET

Toilet Prototype
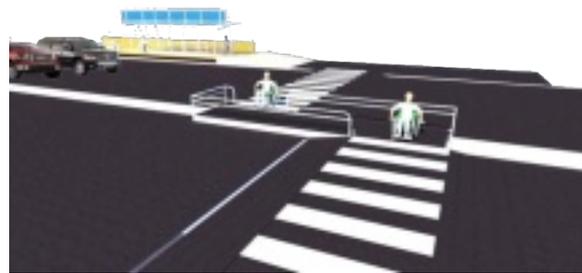
Crossing Prototype
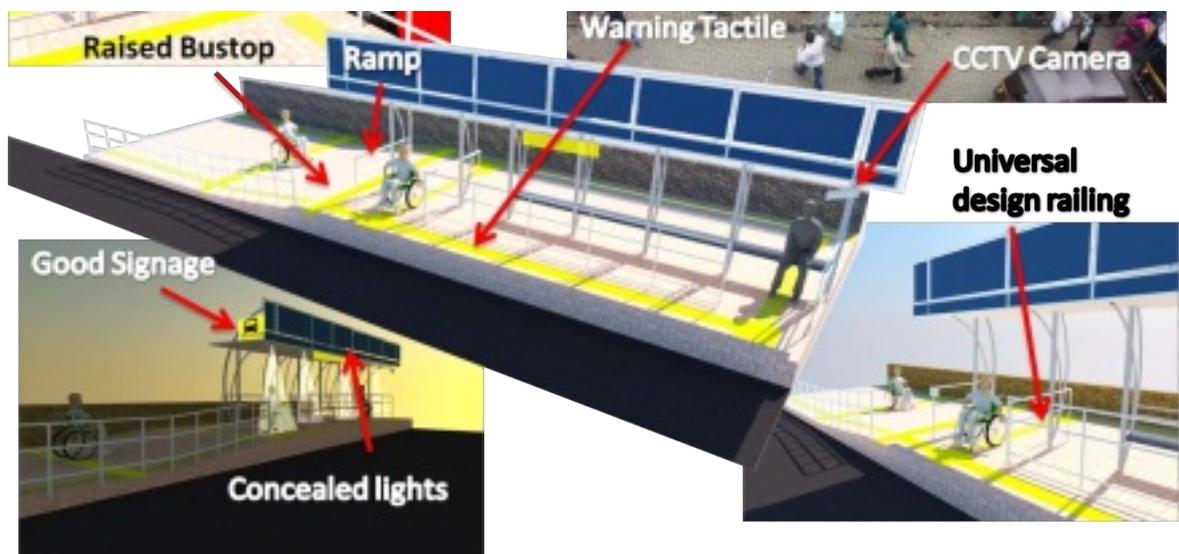
Bus stop Prototype

f. Others

The Nature and nurture has also worked for universal access in Urban interventions, Heritage buildings and Accessibility in New designs. Nature and nurture organized workshops and seminars for students of all relevant streams to spread awareness about Universal Design.

2. Universal Design is about Inclusion

At Nature-Nurture we believe in respecting the natural order of things through our Conservation of Natural Heritage and celebrate differences through Universal Design. Our client list includes special persons with intellectual challenges, on wheelchairs, visually and hearing impaired, seniors ... in fact, us all, thereby driving home the point that a barrier free access can be achieved only through universal acceptance and respect to all.

Author's brief

Parul Kumtha has a Bachelors in Architecure (with Honours) from the University of Mumbai. She has diversified her qualifications by studies in Conservation of Biodiversity from the Bombay Natural History Society and Built Heritage Conservation Studies with the Mumbai Metropolitian Region-Heritage Conservation Society. She is also a trained counselor in Mental Health & Narrative Practices.Her present pursuits include:
•Principal Architect, Nature-Nurture Architects & Planners.
•Coordinator, CitiSpace, Greater Mumbai.
•Visiting Lecturer, Sir J.J. College of Architecture teaching courses in Urban Studies, Conservation of Natural Heritage and Universal Design.
 •Editorial Panel of the interior design bi-monthly 'The Design Source'.

07

Beyond Disabilities- Infinite Possibilities

Anita Narayan

Abstract

Imagine a world without barriers, where none of us has to fight for what is ours already - the right to access - education, employment, entertainment, barrier free spaces; barrier free travel…everything the 'normal' world takes for granted. Our aim is to work towards making our world less exclusive and therefore more inclusive. Each of us is an important part of the whole and must be acknowledged and accepted as such. We, at EKansh, believe that the first step towards inclusion is awareness.

1. Sensitizing Students to Ensure a More Inclusive Built Environment

At EKansh, we believe that every human being is intrinsically an inclusive and social animal. This being the truth, there must be no EXCLUSION. However we live in a world where EXCLUVISE is a more respected term than INCLUSIVE. We explore, with others around us, how we can work towards

removing barriers that stop People with Disabilities from reaching their full potential as self respecting, dignified and contributing members of society.

EKansh Trust, Pune, began with a Seminar August 2009 on Barrier Free Architecture and was the conclusion of a competition held on the same topic. We had teams from different colleges participating and our Judges panel consisted of advocates and experts in inclusion and barrier free architecture. Since then we have organized several events focusing on Awareness, Acceptance, Sensitization and Inclusion. Our work includes employment and training drives, support group help, early intervention advocacy, sensitization for corporate employees, children, teachers, etc.

We believe that once a person is AWARE, he or she will act on that knowledge at some point. Our process is therefore strictly in order - Awareness, Acceptance, Sensitization and finally Inclusion. It is important for Students of Architecture to understand how their designs for built spaces affect the life of a human being from before birth right up until death. Architecture affects access to the following:
a. Social Interaction
b. Recreation
c. Interpersonal skills
d. Education
e. Employment
f. Medical/legal aid
g. Travel
h. Dignity

The fact that people do not have access to education and employment affects their rights to making choices in their lives. They become dependent on and answerable to others for their sustenance. Their self esteem and dignity are compromised. They are not considered consumers or buyers and therefore not

taken into consideration when products and concepts are designed and launched. There are several physical, emotional, psychological and sociological repercussions of our apathy and ignorance.

If we look at it from the economics point of view, there is a whole huge mass of consumers out there waiting to be targeted. Empowering them and giving them the wherewithal to earn their living makes them equal stakeholders in a progressive society thereby removing the need for allowances and subsidies. We sometimes fail to understand how built spaces actually influence our attitudes just as they are influenced by our attitude. We overlook the extent of damage we do by not taking into consideration millions of people with disability in our country. We reduce them to non-entities, not recognizing their rights to access which MUST be the same as ours. We do not acknowledge those we do not see…and we do not see children on wheelchairs in play areas, People with Visual Challenges in restaurants, People with Hearing Challenges in movie halls. Instead of indulging in a blame game, EKansh Trust reaches out to students, teachers and professors, even professionals in the fields of Architecture, Management, Design, Social Work, etc and sensitizes them, hoping that they will change the way the country looks today. The change has already begun. We know that Students and Professors of Architecture in Pune and outside have been influenced by the workshops we have held and hope that this will become a trend that cannot be reversed.

I would like to end with an old blog-post of mine:

Pas e Aaina [On the other side of the mirror]

There is a thin line between stupidity and insensitivity. I think I crossed it the day I said "I have to go, it is getting dark outside" to the child I was reading to, in the Blind School in Delhi. "What is 'dark'?", he asked very casually. This question has stayed with

me for longer than I can remember. It haunts me still. I had tried to explain that I meant 'late', but I had meant 'dark', hadn't I? What is 'dark'? And why did it scare me more than it did him?

Somehow, it is really not about having special places for special people. That would be racism of a sort, wouldn't it? It is about being able to share the whole world with them. They have as much right to it as we do. Yet we decide what is best for them because we refuse to tap our hearts and intellect for ways to deal with their needs. We refuse to learn the languages they speak. Instead we try and come up with devices to make them as much like us as possible. We would do well to introduce Braille and sign language as optional subjects in school. We could have interactive workshops in schools and colleges where special children mingle with 'normal' children. But we'd rather skim the surface and do what we can, comfortably. I call us emotionally handicapped.

There is a world on the other side of the mirror but we prefer not to look. Perfect images, made to order, please our eyes so much more that we force parents of special children to sweep entire entities under the carpet with our insensitivity. We almost never see these children at malls and cinemas and birthday parties and parks. Why? I know they enjoy everything 'normal' children do, maybe differently, but definitely as much. Why do parents of these very special children rather they live in isolation or confinement than bring them out to face the world? What do these people fear?

….Us…..

…..And that, I think, is a shame.

Author's brief

Anita Narayan is guest lecturer at MIT - College of Design, Loni, Pune, India. She has organized/conducted several workshops/sessions as resource expert at BNCA, IIT Rourkee, NASA [Arch]- North Zone Convention, West Zone convention, NICMAR, NIASA, Symbiosis School of Economics, MICA, etc. She has also mentored students interested in Barrier Free/Disabled Friendly Architecture/Design. She leads the team in sensitization sessions for companies/corporate houses that are [or are looking to be] equal opportunity employers.

A double graduate in Law and Psychology/Sociology, her prime focus is an inclusive society where People with Disabilities are empowered. After many years of volunteering with NGOs around the country and working with people with different disabilities, she founded EKansh and works personally on every project from conception to conclusion. She ensures that EKansh has a holistic approach to disabilities and related issues. EKansh is recommended by the Disability Commissioner of Maharashtra to conduct access audits for Government Buildings in the state, and EKansh extends this service to other organizations also.

08

Inclusive Design for Women with Disability in Indian context

Smita Suryavanshi

Persons with Disability Act 1995, enacted in India in year 1996, to provide equal opportunity to the disabled people in India. As per the census 2001, the disabled population of India is 70 million, which comprises 2.1% of the total population of that time. Out of the total population of persons with disability, 48% are women with disability (WwD). In Indian context women are generally not considered as decision maker in a family as she has been always dependent on the male members of family in terms of finance and facility both. This scenario was observed in most of the parts of country as the literacy level of women was very low till late 20th century. Impact of globalization and industrialization made Indian women more aware about their rights, which lead to the improvement in literacy level by women in India in 21st century. The Indian women are now capturing all the sectors from space scientist to CEO of company with improved educational policies for women/girls lead by government.

To empower women with disabilities accessible education, employment and built environment at residence plays key role. Evidence based studies states that the person with disability can lead to better quality of life if they are provided with equal opportunities in all aspects of life. Education is one of the most important opportunities which help human being to become independent and confident. Realization to this, education is given importance in PwD Act 1995. It says about non-

discrimination on the basis of gender and ability in education system from primary to higher education level.

Due to 3% reservation policy in education by government of India, the enrollment of girls with disability is increasing. In disabled population, girls with orthopedic disability are enrolled in more number than vision impairment. While the enrollment by girls with hearing impairment and mental disability is negligible as they have special needs in learning environment. Government should initiate awareness programs about various educational schemes and finance assistance for higher education, especially in rural areas where enrollment is comparatively lower than urban areas. As facilitators, educational institutes need to assess the built environment to accommodate various needs of women with disabilities.

Courtesy: A BPO in Bangalore is run by people with physical disabilities. The Vindhya Infomedia BPO in Bangalore. (Photo: MANJUNATH KIRAN)

http://www.openthemagazine.com/node?page=525

Education leads to better employment opportunities to make WwD more independent, without being a "burden" on family members. As per the rehabilitation policy of Indian government, 3% reservation in government and public sector in identified jobs helps the WwD to contribute in the economic growth of country. The research on the employment of WwD, reveals that as education level increases, awareness about the various schemes/ facilities/ policies for them increases. In work

environment inclusion in terms of built environment, information technology and administrative aspects should be reviewed by private sector employers. Improvement in economic status of WwD, leads to inclusion in social life. They become more aware about their rights and availability of technology which helps in improving their output at work places.

Courtesy: Rehabilitation Aids Workshop by Women with Disabilities (RAWWD) http://www.ddpuk.org/rawwd.html
2. Second section's heading

Inclusive Design is the design which includes all the varied needs of people without discriminating on the basis of age, gender and ability. The varied needs and use of space for women in Indian context are different because of the culture, traditions and Indian outfits. Apart from social and attitudinal barriers the Indian women with disabilities faces physical barriers of built environment which does not accommodates their varied needs of the activities of daily life. Few examples are given to understand the varied needs of women with disabilities.

Most of the Indian women including women with disabilities wear traditional cloths. WwDs need more space inside the toilets to accommodate themselves (with traditional cloths) and assistive technology they use. Eg. Crutches, way finding sticks, prosthetic limb or arm etc. This requires in-depth research by architects and designers. In work environment the space requirements of WwDs differs from the able bodied women. The designer need to consider space needed for varied assistive

technologies used by WwDs in Indian context to accommodate them with dignity.

Inclusive design at educational and working places will boost the confidence of women with disabilities to come in mainstream life. These opportunities help to lead quality of life without being dependent on any family member. Giving accommodation to women with disabilities through their design becomes responsibility of architects, designers and planners.

Courtesy: A Life Help Centre for people with disabilities in Chennai formerly Madras.
http://www.dandc.eu/en/article/consequences-disability-india

The scope of inclusive design is wider, as it is applicable in product design, furniture design, built and un-built environment, city planning etc. Design of built and un-built environment decides the inclusion or exclusion of wider range of people from using it. Inclusive design approach, encompassing the needs wider range of women with or without disability empowers social inclusion of women with disabilities in mainstream life.

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Author's brief:

The author is an Architect and Associate Professor in Architecture College, Pune. Completed B.Arch. from Pune University and post graduated in Architecture. She worked as an architect in the rehabilitation work for earthquake affected areas near Killari, Maharashtra with NGO Mashal. Also worked with Savali Architects, Pune on various architectural projects like housing, hotels and bungalows. She had completed various architectural projects of hospitals, bungalows and interior projects as a chief architect of self proprietary firm Srushti. Her research work in the form of seven research papers are presented as well as published in national and international conferences. She is currently pursuing her doctoral studies in 'Universal Design in Educational Institutes of India' from Indian Institute of Technology Roorkee as a full time research scholar from 2012.

09

A Foldable Multi – Purpose T- Square for Designers

Haimanti Banerji

Mayank Choudhary, Mayank Baliyan, Mohd. Shahrukh Shaikh, Mudit Sharma, Nancy Charaya, Naved Saeed

Abstract

This paper is based on 2nd year product design studio, a part of ergonomics course, directed by Dr. Haimanti Banerji at Indian Institute of Technology, Kharagpur. She has authored her paper with her students.

1. Use of the Product

A T – square is a T-shaped ruler used in mechanical drawing, consisting of a short crosspiece, which slides along the edge of the drawing board, and a long horizontal piece: used for drawing horizontal lines and to support set squares when drawing vertical and inclined lines. The edge should preferably be transparent and must be free of nicks and cracks in order to provide smooth, straight lines.

2. History of T - square and development over period of time

During the Renaissance, architects like Filipo Brunelleschi, used geometrical instruments to make building plans on mirrors to create perspective. This was the time when Leonardo da Vinci studied the geometric theories of Pythagoras and Euclid. However, need for mass scale drafting was not felt significantly until the 19th century. The only tools that were needed earlier were a drawing surface and instrument, but the development of the mathematical principles increasing complexity of engineering drawings enhanced the need for more sophisticated drawing tools. With widespread acceptance of computer aided drawing software and innovation in drawing reproduction techniques, these tools have started losing their importance but they still happen to be quite useful in creative design studios.

3. The study

This study is a class exercise by 2nd year students as a part of their Ergonomics and Product design course. The study has started with identification of the target group and their particular anthropometric details and data on mode of usage, present problems, desirable add – on facilities. The target group have been designers, architects, engineers and students.

4. Components of a T – Square

The major components of a T – square are:
a. Head
b. Blade
c. Drafting edge
d. Hole for hanging

It was observed that while using old T-squares and set squares the gaps which between the T-square and the edge of the board
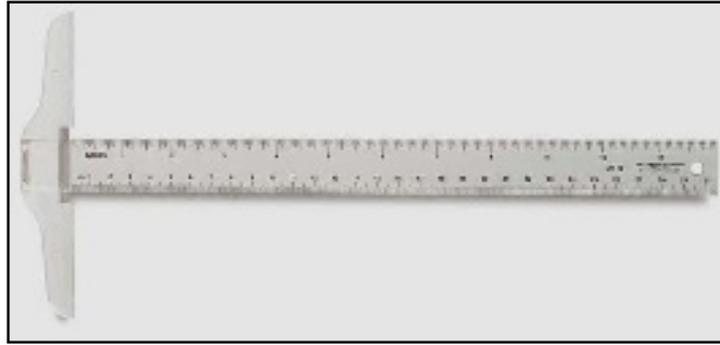
or the set square and the T-square were primarily responsible for erroneous drafting. Another problem in earlier T – squares was inconvenience due to the opaque nature of the T-square since they were primarily made of wood. This problem was however solved by the development of polymer based transparent or translucent T-squares.

Carrying a T – square from home to work or college was another problem because of the odd shape of the same.

5. Survey and Inference

The team of students conducted a survey of approximately 90 people in order to understand the way people use it, what are the existing negative points with the models currently available in the market and what additional features would users prefer to be integrated. The following questions were put forward and the feedback noted.

Q.1) Would you like architectural templates to be embedded in the t-square?
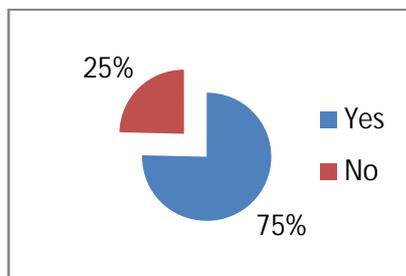
Q.2) Would you like to carry all your drafting instruments in a single kit?
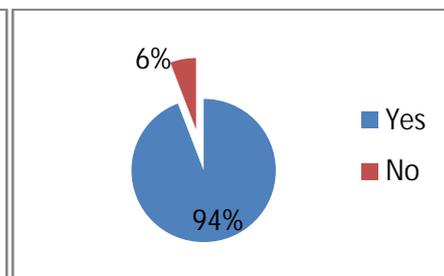
Q.3) How often do you use you T-square's edge for cutting purposes?
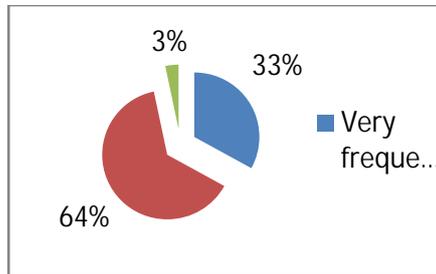
Q.4) What drafting instruments do you use for Engineering/Architectural
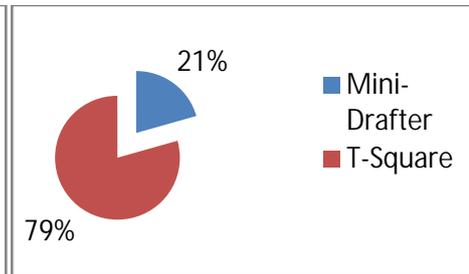
Q.5) What are the reasons for replacing your T-Square
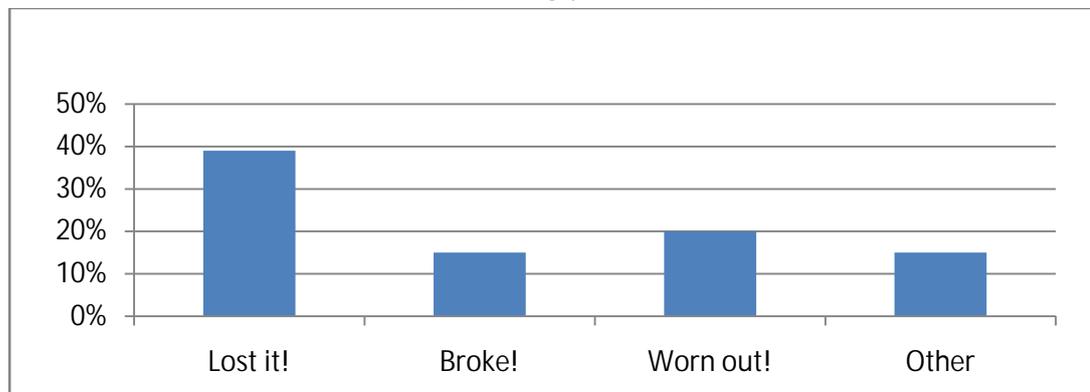
Q.6) How would you comparing a mini-drafter with a t-square?
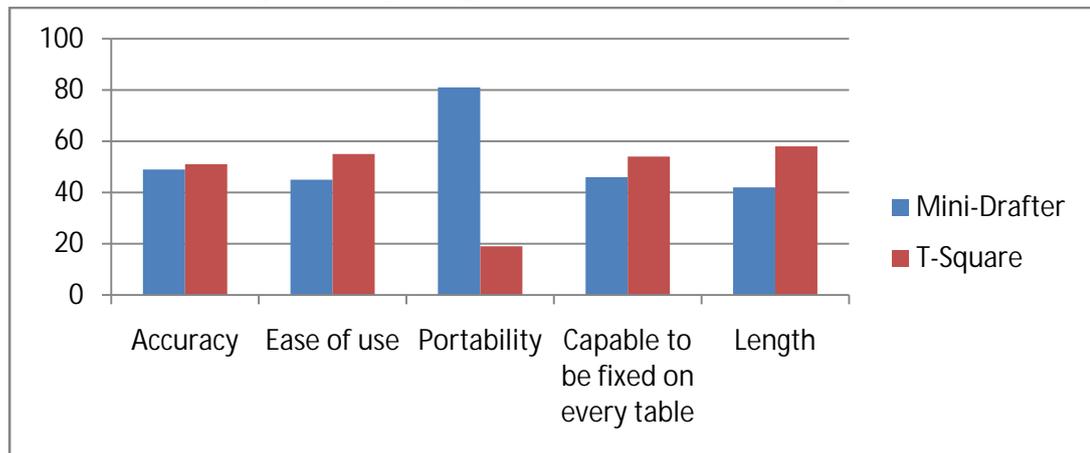
Inferences:

i. More than 95% of the people have quite often used T-square for cutting purposes

ii. Most of the architecture students use a T-Square rather than a Drafter

iii.Portability is one of the biggest problem of existing models of T-Squares

6. Product Innovation

The current product has been proposed with the following innovations.
i. Foldable so that the product is easy to carry
ii.Embedded furniture templates
iii.Metallic cutting edge
iv.Detachable geometry box
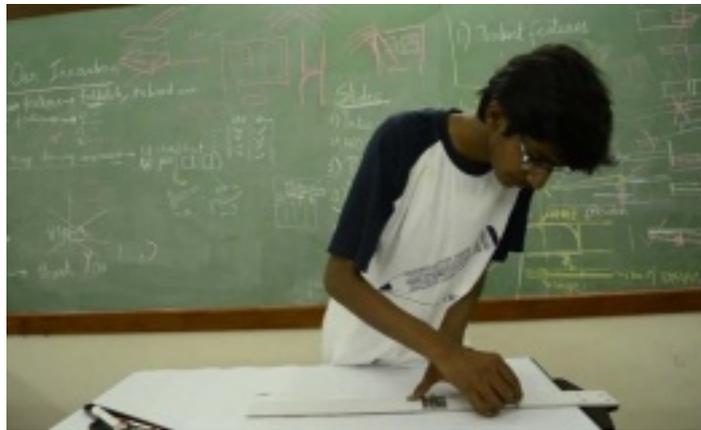
Fig. 1.0 Normal use of drafting edge

7. Mechanism for folding

It was observed that users are reluctant to carry a t- square since they cannot be accommodated in any bag. Hence, attempt has been made to make the product foldable without any compromise on the performance. This is made possible due to the unique way the drafting edge from one discrete foldable arm of the T-square merges tangentially into the drafting edge of the other discrete part. The two discrete parts are joined with a hinge at the junction point.

Fig. 2.0 Hinge at the junction point
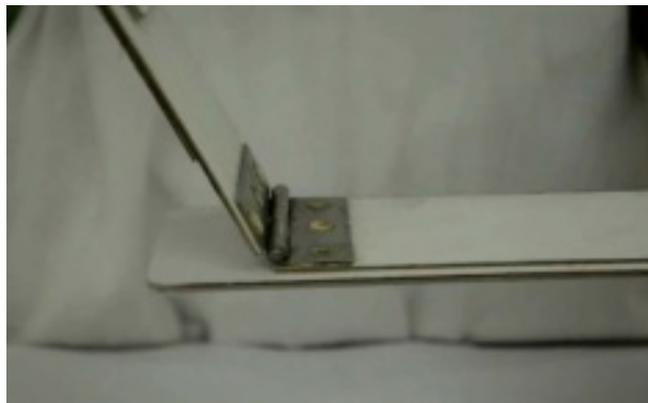
Fig. 2.1 How it gets folded
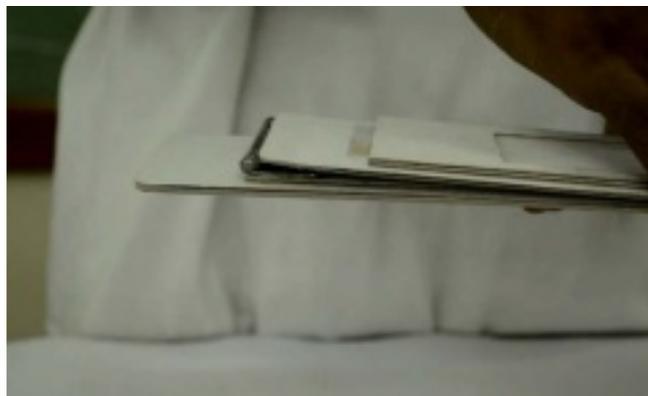
Fig. 2.2 Final form after folding to make it portable

8. Details of the detachable component

A detachable component which is similar in shape to the head is there, where the user can keep small drafting instruments like pencil eraser, etc. along with T-square. It has been made detachable since at the time of drafting, this could be kept on the drafting table for easy use.

This component is attached using magnets.
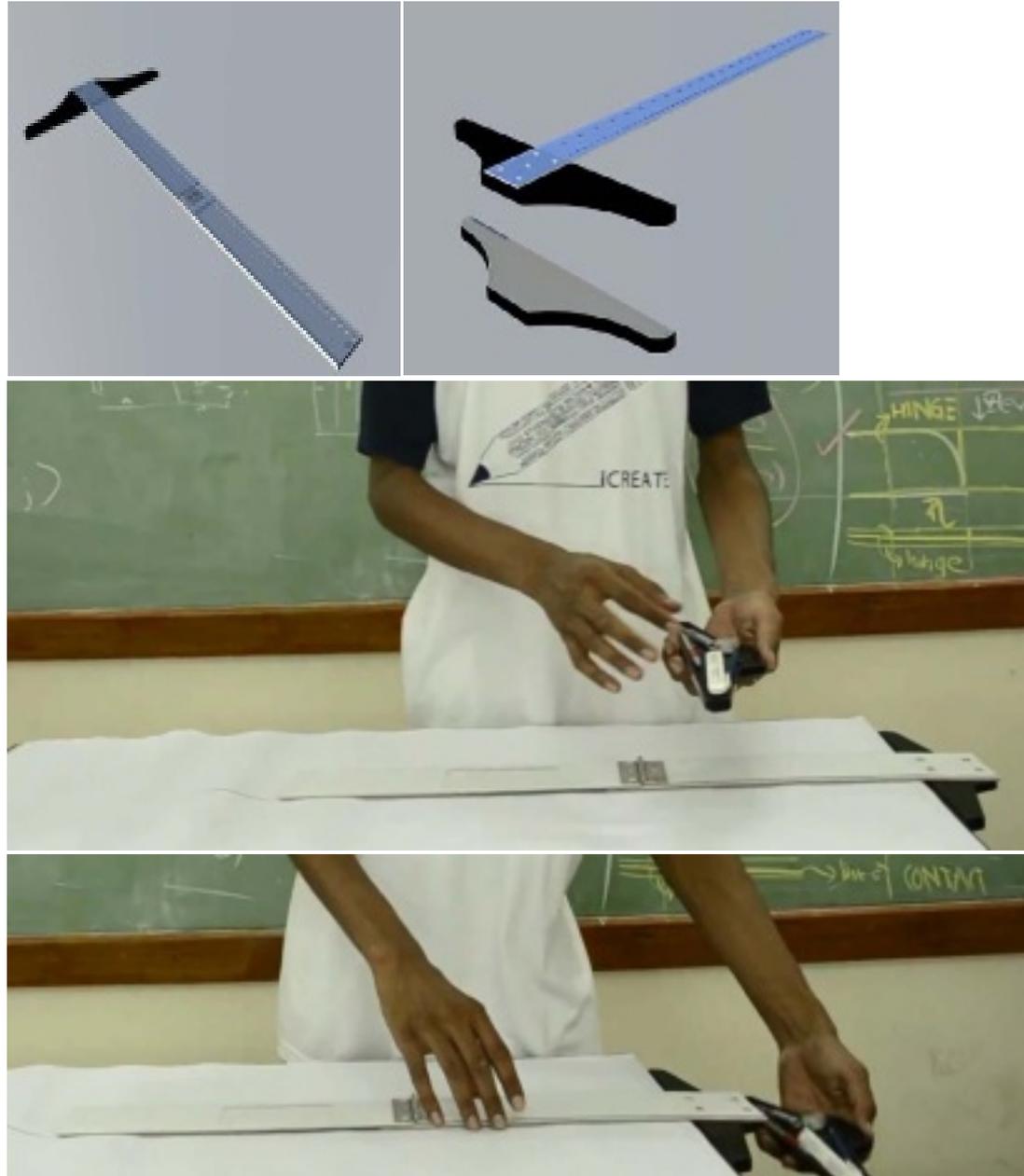
Fig. 3.0 Details of detachable component

It was observed from the survey that, many users especially students use the edge for cutting mound boards for making model which obviously destroys the edge. This product has a very unique design in which a metal strip has been provided in the lower edge foe ease in cutting.

Fig. 4.0 Use of metallic edge for cutting

9. Materials

Choice of material is very important for such a product the following comparison has been done to arrive at the appropriate material.

MATERIALS	TRANSPARENCY	STRENGTH	DEFORMATION	WEIGHT	COST	DURABILITY	ASTHETICS
WOOD	0	2	4	3	1	2	1
PLASTIC (ACRYLIC)	2	1	5	2	2	1	2
ALUMINIUM	0	5	1	5	4	4	3
IRON (PORTABLE)	0	4	2	4	5	5	5
WOODEN ACRYLIC	1	3	3	1	3	3	4

The most suitable material for the T-square is acrylic.

Author's brief:

Dr. Haimanti Banerji is currently working as Assistant Professor in the Department of Architecture and Regional Planning, Indian Institute of Technology, Kharagpur. She completed her graduation in Architecture from Bengal Engineering College, Shibpur in 2002 and subsequently obtained her Master degree in City Planning and PhD from IIT Kharagpur in 2004 and 2007 respectively.

Dr. Banerji had completed her PhD dissertation on delineating A Psycho – Stimulating Environment for Physically Disabled People with Impaired Mobility (PDIM). Her main interest had been to identify and remove the various psychological and attitudinal barriers within the built environment to enable productive inclusion of people with disability in the society.

Haimanti Banerji is a Co- author of Universal Design India Principles (UDIP) led by Jamshetji Tata Universal Design Chair at NID. Her other research interest include Behavioral Architecture, Ergonomics and Product Design, Medicare Planning, Settlement System Planning and Urban Design. She has a number of research papers in national and international journals. As part of her professional consultancy work, Haimanti is involved in number of planning consultancies.

Students' details:

The students involved in the design of the Foldable T-Square were Mayank Choudhary, Mayank Baliyan, Mohd. Shahrukh Shaikh, Mudit Sharma, Nancy Charaya and Naved Saeed, who are currently undergraduate students of architecture at IIT Kharagpur. The product was developed in their second year while studying the course Ergonomics and Product Design under Dr. Haimanti Banerji.

10

Designing at the Grass Root, an Elevating Experience

Shuchi Mathur

After graduating from my design school, I was looking forward to move to happening cities, where I presumed the design world was flourishing. I was in, for some startling revelations at the beginning of my career. These brought in insights into how elevating the process of design could be at the grass root level. Clarity that design was not always a job to be performed in a plush office with abundant resources but a process with deep connections to the context it was being undertaken for.

As a student often my interaction with designers ended up in my being floored up by them. Glossy pages of design books blew me away into a fairy tale feeling of the possibilities of design. All these misrepresented the design to my impressionable mind and disconnected me from real world working. My first project as a Product designer broke the barrier of myths and helped me connect with design from the most insignificant level of perception.

The project involved designing a low level wheel chair for a lower limb disabled inmate of a destitute home. Incidentally it was an initiative to help for charity and hence had no qualms of the glossy design world attached to it. At the onset, the confidence of my design education was at its best, but this project had something else in store. It pushed me to be practical, work with limited resources and be at my creative best with available things instead of dreaming of the unreachable.The first few unlearning lessons in Design began… and as I worked the myths were broken:

1. The first myth broken- Limited resources are not as glamorous but very gratifying

The project was low budget so I needed to source out everything locally. It was certainly not as glamorous as it would seem to the reader now. It took days of waking early in the morning to plan, sweating in the sun all day to source and, going into every small detail to study for better decision making. I counted petrol cost for every market trip, and checked prices of the same component at many different places from the local Kabadi market (flea market) to the biggest store in town. There was no money to splurge. Every penny was usefully utilized bringing incomparable happiness. Every time I found appropriate things at low costs, it was gratifying.

2. The second myth broken- Designers can design only in big cities

The view that one may not find the right things in a smaller city, was a figment of my imagination…While I visited people and markets, I found crowded areas where skilled people ran mini scale industries in the confines of small houses and rooms, hitherto unknown to us urbans. I met traders sitting in small shops doing business in crores, professionals who didn't have a branded company yet had established their identity far and

wide. Lal Singh lathe wala (The turning machine shop), Puja loha Bhandar (The iron pipe store) etc…They were like landmarks and everybody knew them. Things were available…One just had to find them…

3. The third myth broken- Formulating design Ideas is not the only area one needs to be at their creative best

Challenges and situations pushed one to be creative all the time. Striking a deal with vendors and finding better ways to streamline the fabrication process set my head rolling to find creative solutions, not only for the product but also the process…Innovative thinking surely needed to be part of the attitude and was not a one time job..

4. The fourth myth broken- Everything is not always a phone call away

The first time I tested the prototype with the user, the foamed rubber tyre used in wheels could not take the load. Since most of the fabrication was finalized I had to find an alternative which fitted this new situation..Thus began the search again. Off I went scanning through market places. To my relief and delight I found a quiet, almost unapproachable, narrow lane, where men were skillfully carving out rubber slippers with used truck tyre. There I was, what could be a sturdier replacement for a foamed rubber tyre than a truck rubber tyre.

5. The fifth myth broken- Nothing is also something

There were also services and components I could not find. Not every fabricator could bend any pipe to any diameter and getting a die specifically made for the job was out of budget. Some smaller unavailable components also had to be specifically designed due to lack of availability. These were things I had

little options with and hence the design had to be worked around the missing links.

Figure: Low level wheel chair for a lower limb disabled patient at a destitute home

The project was finally completed. The completion bore testimony to the number of times I had started, and restarted all over again. The wheelchair was now ready to be presented. In contrast to the effort that went into its making, there was no big celebration or event to commemorate the receiving. When the chair was presented to the destitute user he beamed with a smile of gratitude and in his acceptance, laid the connect of real world designing being an elevating experience.

Years have gone by. Perceptions have formed and been broken every day, with every project and experience. The beauty of it all lies in the openness to unlearn and move with what life and circumstances have to teach. There is much out there. It is finally about being amenable to change; though this doesn't come easy.

I was lucky to have built this tacit understanding in my design education.
Unlearning is learning…

Author's brief:

Shuchi Mathur is an Industrial Designer from the National Institute of Design, Ahmedabad, with specialization in Product Design. Shuchi has over a decade of experience in a variety of areas from designing mobility aids and assistive devices for special needs to Design Education in premier design institutes of India.

Shuchi has also worked immensely in the social sector in the area of Health & Sanitation, using design thinking approaches to develop communication material, products and training programs. In 2013 she was selected fellow as part of the Goldman Sachs -10000 Women Initiative. Shuchi is the founder of Ekadha, a studio, which provides design services for Products, Communication and Training Programs.

11

What Has Menstrual Hygiene Got To Do With Toilets

Pushplata

1. Problem

An estimated 600 million Indians lack access to adequate sanitation and defecate in the open. Lack of adequate sanitation hits the 93 millions urban poor the hardest, as they lose approximately 10 per cent of their income on health-related impact of sanitation. Also major cause behind malnutrition amongst children below 5, the lack of proper urban sanitation is chipping away at India's human capital.

Quite often the only sanitation infrastructure available for the urban poor is community toilets and public toilets which are either built by Municipalities or NGOs like Sulabh. However, most municipalities and NGO's have focused on creating infrastructure (community toilets etc) and have failed to focus on how users interact with this physical space. Through our extensive 3 year research across 5 cities in India we have found that almost all public toilets in urban slums in India are dirty,

unhygienic and challenged by issues like –water issues, vandalism, inadequate ventilation etc.

But there is one more major issue associated with public and community toilets that we just cannot ignore because of its wider implication on women's health as well as on the proper functioning of these toilets. The issue is that the female toilets are littered with dirty and used menstrual rags. Women living in slums to dispose used menstrual rags and pads in public/community toilets in a very unhygienic manner, often stuffing them into the ventilators or any other crevice available inside toilet stalls.

Figure 1: Typical view of a female toilet stalls a public toilet

2. This got us thinking

i. Why do urban poor female use public/community toilets to dispose their used sanitary rags/napkins?
ii. Why are the central dustbins provided in these toilets not used to dispose sanitary rags/napkins?

3. This is what we found

Imagine living in a 10ft x 10ft single room house (without a toilet) with 5-7 other male and female members. Now imagine

that you are having your periods. Where will you get privacy to change your pads? Houses in urban slums are tight spaces. Menstruation is private, often taboo, subject for women and young girls, and they require privacy for changing and disposal of sanitary napkins and rags. Most women have no option other than the nearby public/community toilets to change sanitary napkins. But most public toilets lack dustbins to discard sanitary waste. Even if few dustbins are provided, these are usually located outside toilet stalls and are not regularly emptied.

Even though, toilet stalls offer complete privacy they require for changing sanitary napkins; in the absence of dustbins in stalls, different places in the stall like the window sills, separation walls, floors and toilet pans are used to discard sanitary napkins. Dustbins located in public places of the toilet are not helpful for disposing sanitary napkins; they do not offer the privacy women need in disposing napkins. Dustbins are also important for toilet cleaners. Cleaners are also human beings and cleaning the unwrapped used napkins is very unhygienic for them.

The evidence related to the disposal of sanitary napkins underscore the need to provide dustbins individual toilet stalls. These dustbins must be low-cost, well designed, easy to use (should allow easy disposal of napkins, emptying and cleaning)

4. Broader Issues

Also, we cannot ignore this data that around 23% of adolescent girls in the age-group 12-18 drop out of school after they begin menstruating because of lack of toilets and inadequate menstrual disposal system. Those who do remain in school cannot attend school for an average of five days a month during their periods. For example – during our research in a village school in Maharashtra, we found that although it has a toilet, the cleaner denied disposing the used pads. Due to this reason female teachers have to carry their used napkins back to their

homes for disposal. Many girls hate to do this and don't come to school during their periods.

5. Design Challenge

The design of dustbins for disposal of sanitary napkins presents many challenges:

a. Firstly, due to the small size of stalls, location and placement becomes critical as the dustbin should take into account the existing use behavior while not interfere with toilet usage and cleaning
b. Secondly, because human beings are involved in emptying and cleaning of dustbins, it becomes critical to minimize human contact
c. Thirdly, the design should convey the usage and take into account the existing behavior.

The solution to our hygiene/sanitation issues is not just to build a toilet for girls; there is a need to design a proper disposal system that takes the user, the cleaner and the environment into account. On top of this, creating awareness is very important among slum women and girls because their menstrual practices are very unhygienic.

6. Our Theory of Change

We have found that in order to create sustainable social impact with respect to sanitation and waste management issues we have to do 3 things:
a. Change the Environment
b. Change the Behavior
c. Build a Sustainable System
Samagra's holistic model incorporates the "change framework" into its DNA. With respect to sanitary waste disposal issue, our approach can be shown as follows:
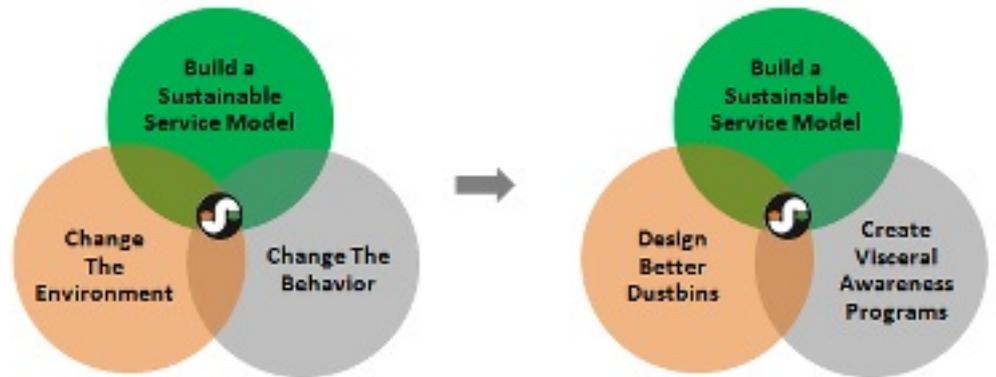
7. Our Solution for Sanitary Hygiene and Waste Management

i. Changing the behavior → Creating visceral awareness programs

In order to enable the adolescent girls talk openly about their periods and to teach them best practices regarding sanitary hygiene we organized a workshop for girls. In order to make the experience visceral and fun, the girls were divided into groups and were asked to write about their menstrual experiences and practices and to present these to other groups. In order to promote understanding of the female reproductive system, we used props and diagrams. We devoted a large chunk of our practical training how on usage and disposal of dustbins.

Figure 2: Menstrual Hygiene workshop with adolescent girls

Figure 3: Different groups writing and sharing their experiences and practices

Figure 4: Props and diagrams for awareness and training

ii. Changing the environment → Creating better dustbins

Taking all the above mentioned constraints into account, we built a low cost prototype of a dustbin and started testing it with our users. This placement also reduced stench because of proximity to the windows. In order to promote positive social norms, we also placed informational posters regarding sanitary waste disposal. After a week of testing, we observed 70% reduction in open disposal of sanitary pads/rags. Further research revealed that there was a height issue with our dustbins that prevented low-heighted users from using them. We came with several low cost prototypes and after few rounds of testing we finalized the design for appropriate dustbins for community toilets.

Figure 5: Girls are using low-cost dustbins

8. Impact

Our dustbin designs have worked so well that they are now being adopted by the Pune Municipal Corporation as the standard for all the community and public toilets across Pune. Our Menstrual Hygiene awareness methodology has been adopted by few NGOs and we are continuously working on continuously work on improving our programs by using conventional media like audio and comics.

Author's brief:

Pushplata leads the Design Research team at Samagra. She is a design graduate from National Institute of Design (NID) with specialization in Design Research, Material Research and Industrial Design (ceramic and glass design). She has done extensive research in Universal Design of Public Toilets and co-

authored a seminal paper in area of design of Universal Public Toilets.She also holds several patents in toilet and sanitary appliance design. Pushplata also holds a Diploma in Pottery and Ceramic Technology from Visva-Bharati University, West Bengal and has completed 2 year certificate course in Design from Visva- Bharati, Shantiniketan Kala-Bhavan, West Bengal.

Prior to Samagra, Pushplata was Associate Reseracher at NID where she conducted breakthrough research in the area of slum sanitation under the guidance of her esteemed mentor Prof. Abir Mullick. At Samagra, she has worked with the team of Engineers, Social Workers, and Business Professionals on the design a customer engagement platform that motivates the urban poor for adopting hygienic behavior while creating revenues for sustainable toilet operations. She is also working on designing low cost toilets for rural areas and an entrepreneur-driven demand generation model for toilets.

An avid potter herself, Pushplata spends her weekends conducting pottery training sessions for the kids, the blind and the disabled. Pushplata believes in applying ethnography, systems thinking and human-centered design to create products and services that improve human lives

12

Shaping City Environment for Aging Population

Vasudha Gokhle

Banani Banerjee

Abstract

The quality of life in a city depends on its capacity to generate, maintain, and increase the well-being of its citizens, a major portion of which is elderly people in India. In the present context, the city environment should be capable to respond to growing social and care service needs of elderly population. Architects, planners should be aware of the importance of intergenerational relationships, which build a stronger and more socially equilibrated society. This paper put forth issues related to living environment in cites with reference to aging population. Existing status of architectural attributes which are responsible for design and development of living spaces in city of Pune is presented, which are supposed to be reshaped in a socially sensitive and sustainable ways. The challenging role of architects planners and policy makers in enriching the experience of aging in today's society is discussed leading to a graceful aging.

1. Emerging Changes in Age Structure

It has been estimated that, during the 1998-2025 period, the world's elderly population (ages 65 and above) will more than double. The most rapid rise in the elderly population is taking place in developing countries, where the increase in the number of people 65 and older is more than double the rate in developed nations. It is projected that the elderly population of the world will cross the one billion mark by the year 2020. By that time over 700 million old people will be living in developing countries.

2. Indian Scenario

By the year 2001, India will be inhabited by about 76 million elderly people, who would constitute 7.7 per cent of the country's population. By 2020, over 700 million old people will be living in developing countries. In India, around 11 per cent of its population will be 60 years and above. The economic, social and health status of the fast-growing elderly population poses a great challenge to all sectors. Studies conducted in India and other countries of the Region show that a majority of the elderly population are not in a position to lead an economically-independent life after their retirement. Indian cities are not designed considering needs of senior citizens.

3. Safety and Mobility of Elderly in City Environment

The benefit of regular physical activity is associated with reduced risk of numerous diseases and premature mortality (Booth 2000). Although some data suggest that the prevalence of physical inactivity is declining, sedentary behavior remains pervasive (Bennett 2006).

Figure 1   Figure 2

Walking is the most frequently adopted as regular physical activity by elderly, particularly among some middle and middle higher income groups (Figure 1,2) (Ford 1991) . Feeling unsafe may also diminish confidence in the ability to be more physically active (Crespo 2000). Both of these factors may limit the effectiveness of physical activity promotion strategies delivered in similar settings (Boslaugh 2004). A study was conducted n which the respondents asked to answer the question about their safety while walking through city in the daylight and walking alone after dark. About 80% people said they did feel safe during the day, but there was no association between daytime safety and physical activity. 76% of the people in the study felt unsafe in the night-time. There was no association between perceived night-time safety and physical activity among men, but women who reported feeling unsafe at night (Humpel 2002). This study used a randomized cluster design with 12 urban residential locations in Pune as the primary sampling units. Initially, a sample size of 500 individuals was drawn. With an overall 48% response rate, this ranged from a low of 29% to a high of 84% across the selected residential units. The questions are designed to capture citizen's perceptions of neighborhood safety and as such, may reflect

views on a variety of factors (e.g. crime, traffic, green space, etc.) (Harrison 2007).

a.   Presence of Parks and other Green spaces:

Such spaces are highly required as a place to sit, relax, gossip, exercise for senior citizens which must be located in the vicinity and designed considering special need of elderly (Figure 3, 4). In addition to parks and open spaces neighborhood temples are identified as most comfortable and lively spaces for spending time for senior citizens particularly women..
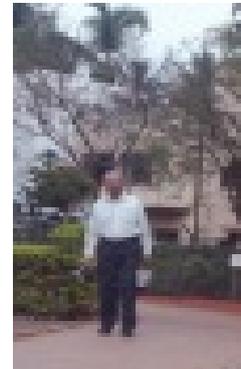
Figure 3   Figure 4

b.   Street Furniture

Elderly people often need place to sit on the way to the destination. Presence of urban props like benches along the streets is a welcoming feature (Figure 5, 6).

Figure 5   Figure 6

c. Roads and walkways

The condition of roads and walkways has an obvious impact on the ability to walk in the local area. Narrow footpaths, walkways which are uneven, cracked, have high curbs, are congested or have obstructions present potential hazards for elderly people (Figure 7).

d. Safe pedestrian crossings

Chaotic traffic in addition to poorly designed crossing adversely affects the elderly people's ability to cross the road safely (figure 8).

Figure 7   Figure 8

e. Adequate public toilets

The availability of clean, conveniently located, well-signed, handicap-accessible toilets are essential as far as age friendly built environment in cities is concerned.

4. Vulnerability of Elderly in Home Environments

A structured interview was conducted in reference to demographics and home safety issues with 250 people aged 60 years and older living in Karve Nagar, Pune. The results are shown in figure 9 and 10 with reference to the type and number of hazards for vulnerability of elderly population in the study area. It is noticed that a large number of older people are living

in potentially hazardous environments (Figure 11). They are exposed to various forces that affect their well being in addition to a number of disabilities (Figure 12).
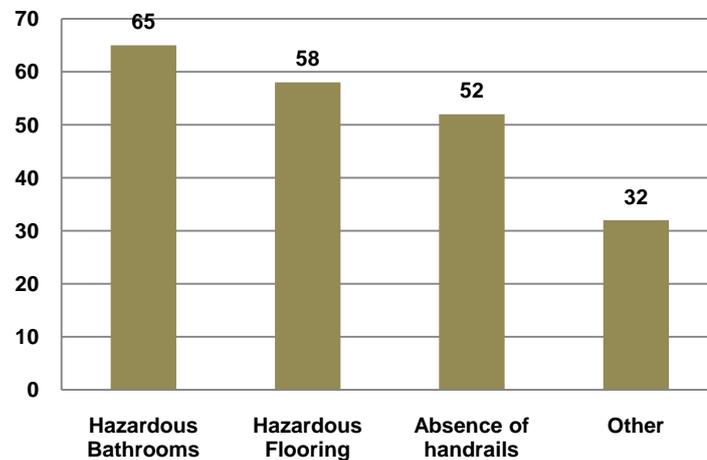
Figure 9
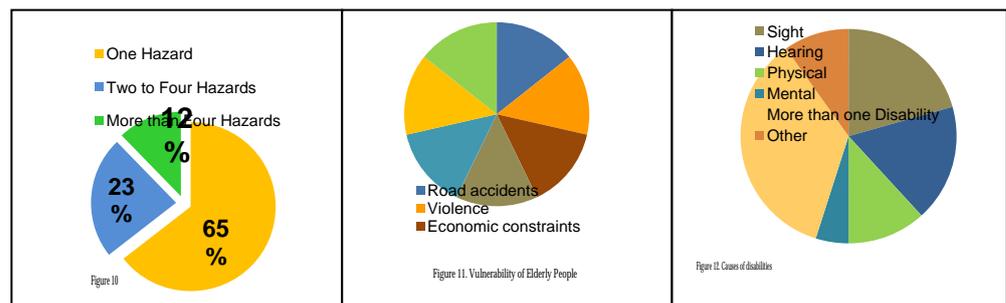
a. Housing needs for elderly are different which should be taken into consideration (Figure 13). The main objective is to create a stress-free living environment for the senior to cater for their special needs (figure, 14, 15, 16, 17.)

Inclusive Design

Physical needs	Psychological needs	Social needs	Sensory needs
health, safety, shelter, water, cleanliness, employment	security, identity, a sense of belonging, a sense of individuals being able to affect their own destinies	opportunities for interaction and social ties	exposure to stimulatory, learning environments
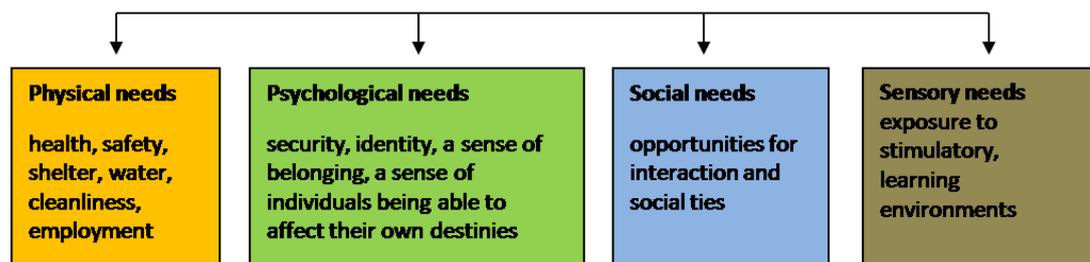
Figure 13. Housing needs for elderly

Figure 14. Security measures

Figure 15. Landscaping features

Figure 16. Common areas

Figure 17. High parapets and video surveillance

5. Conclusion

Pune, like other major cities in the India has experienced an increase in violent crime which impact physical activity practices in the community as a whole. The neighborhood safety impacts not only physical activity, but also self-efficacy (Lewis 1993). While we advocate for the use of green space, parks, and recreational facilities for physical activity for elderly they must be rendered safe and secure (Lim 2005). Neighborhood streets are the most common venue for walking and walking as a behavior is increasing among aged people (Tudor 2005). The data obtained in this research provide preliminary, albeit cross-sectional, evidence that perceived neighborhood safety may serve as a barrier to physical activity for elderly people. The causal relation between perceived safety and physical activity indicate that there is a need for safety measures for neighborhoods, to create environments that are suitable for physical activity (Piro 2006).

Social integration and the strength of social ties are profoundly important predictors of well-being and longevity for elderly people. The physical environment is to be designed to promote older adults' social integration with their neighbors which affects the quality of life of elderly (Ozsen 2008). The existing literature suggests that neighborhood open space may play an important role for older people in maintaining and enhancing their quality of life (Romero 2005). Health security is one of the basic prerequisites of an enjoyable life for elderly people. But health in old age depends on people's lifestyle and behavior during their life-span. We have to advocate that people consider preparing for their health when they are old. Emotional security is another essential aspect for the wellbeing of elderly persons. Mere physical health would not be indicative of a person's happiness. People, particularly in old age, need continued social interaction, due respect, affection and spiritual satisfaction. It is important that elderly people are not taken as a burden on society, but rather as an asset. For this, an inter-generation approach should be pursued with increased role for the mass media, education and religious organizations. Our cities are to be reshaped considering special needs and aspirations of elderly population. For this all the stakeholders of building industry and professionals from allied fields have to play a crucial role.

6. References

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13

How Child Centric are Our Urban Schools? Preview of a Doctoral Enquiry

Smita Khan

1. Introduction

Collaborative design helps increase trust and confidence of users and provides them with a chance to voice their opinions, making them involved and instilling in them a sense of belonging (Sanoff, 2006). Lack of such an effort, can bring about marginalization of sections of society, whose voices, experiences, needs and concerns are never redressed.

While the phenomenon of marginalization affects humanity at large, its impact on the growing young is significant. As an integral part of society, children have never been given due importance. This surmise is especially true in the designing of spatial environments, where considerations for their special needs are overlooked or discounted.

Childhood memories of being intimidated by the sheer size of spatial volumes of public spaces, of a sense of feeling lost & over powered by bare stretches of 'maidans'/playgrounds that dot housing colonies, to uneasiness & apprehension in use of public facilities such as toilets & staircases are random examples of

some memories tucked in the deep recesses of human mind; awaiting to be forgotten. Indian society despite all its advancements, still discounts this phase of human life assuming simplistically 'they shall grow out of it' & 'it is only a transient phase'. Attitudes such as these are writ large on most physical designs sadly underestimating this most sensitive & impressionable phase of human life. While researches and debates on this issue are emphatic in the academia, actual conception of physical environments from public places, housing colonies, recreational spaces & educational facilities are inclusive in the least.

'The influence of our surrounding environs is subliminal & so very potent. And children have less defenses against this than adults. Environment both nourishes & inspires. It shapes human behavior' (Day, 2007).

Keeping in view the deep influence of the environment, & the sheer lack of attention given to their child friendliness, we can say the child is indeed a marginalized one. In a world designed by adults, they are special users, since the development of their spatial imaging abilities is strongly influenced by the surrounds within which they grow. (Piaget and Inhelder, 1967) A cognizance of its spatial environment is an integral & significant phase of early learning experience of a child. 'Learning refers to acquisition & retention of specific facts about a particular space. Development, on the other hand, describes changes in the organization of behavior, including learning, that produce a capacity to understand space' explain La Gory & Pipkin (1981).

2. Genesis Of This Enquiry

My interest in building performance assessment came to life with a school building that I had designed way back in 2009. The special nature of users makes school design a special

project. This doctoral enquiry initiated with an investigation into what makes a child centric learning environment.

The foremost preoccupation of the child is initiated in school. It sees the growing child through the major stages of development. Attending school is a daily routine that is 6 to 7 hours long. It is a sustained preoccupation that initiates as early as 5-6 years of age & continues until school leaving at 16-17 years of age. The support & inspiration from built environments of school are understated.

Very unfortunately, studies carried out on learning environments across many nations have concluded negatively. In India also, cursory observation points towards children being marginalized users even in the very environments meant for them. With the exclusion of select 'play schools' for the very young, most regular schools wherein children spend best part of their day, and most of their impressionable years, have an environment lacking in many vital aspects. Owing to its vast demographic scale, the country has a large school going population mostly concentrated in its urban centers. This study thus assumes great significance in our context.

3. The Aim

Schools that exemplify learning environments, have to be particularly responsive to the child user. This research enquiry aims to investigate critically the status of child centricity in Indian urban schools through Post Occupancy Evaluation (POE) by students so as to determine the nature and magnitude of gap for which guidelines are necessary to be framed.

4. Objectives

i. To identify the parameters those contribute towards enabling child friendly   environment.

ii. To assess the performance of Indian urban schools with respect to child centricity by major users.

iii. To design/ customize POE for Indian conditions & student respondents.

iv. To identify status of child friendliness of urban Indian school environments.

v. To identify vital, yet understated aspects of child centricity for which guidelines/ regulations are essential to be framed.

5. Methodology Of Research

In order to design an appropriate framework for the research enquiry, the methodology revolves around following three major aspects:

i. Understanding ground scenario of school education at large and   identifying ground concerns of urban school environments.

ii. Study of child centric parameters and customization of Post Occupancy Evaluation (POE) for ground conditions.

iii. Analysis of data and a holistic evaluation of school environments, both by student users as well as by researcher.

Literature study brought forth various contributing aspects of this study and created the necessary background. It helped in identification of gaps that exist in the research arena.

This enquiry required extensive field work. A reconnaissance survey and pilot study initiated the first phase leading to a detailed noting of issues and concerns of an urban school that research would need to address. The pilot survey was instrumental in designing an appropriate methodology. Conjoined with literature study, it also helped identify requisite child centric parameters as basis for performance assessment of schools. (Refer figure 1).
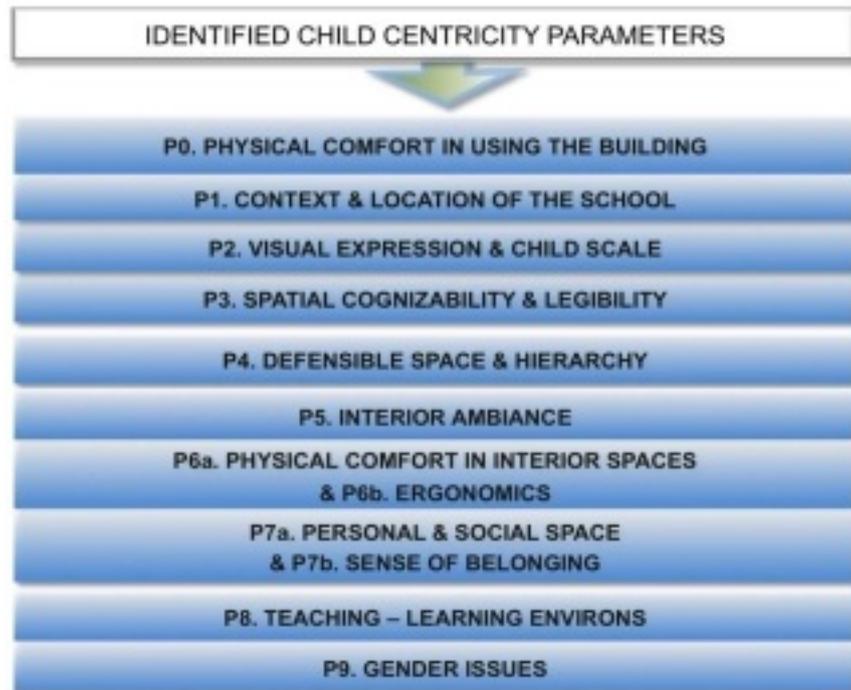
Figure 1: Identification of Child Centric Parameters
Source: author

The second phase entailed selection of sample schools & identification of respondents. Study is restricted to fourteen Central Board of Secondary Education (CBSE) schools, since they are ordered by stringent and common nationwide regulations. A multi pronged strategy is applied for holistic understanding of the environmental scenario. Refer figure 2.
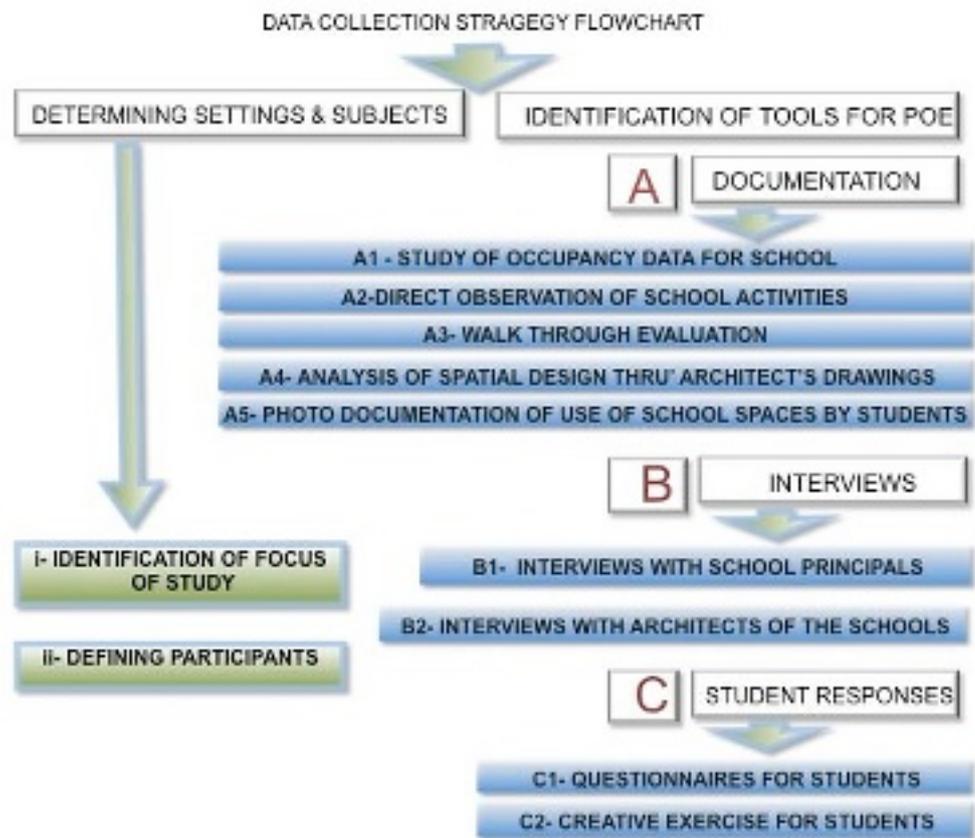
Figure 2: Flow Chart of Data Collection Strategy
Source: author

6. Conclusions

Stage 1 of conclusions addresses each child centric parameter; its significance in context of our schools, categorical analysis, inference & supports from creative task and researcher's assessment explaining performance of each school concerning the parameter with requisite tools & explanatory addendum. A brief conclusion deliberates on the learnings from POE (refer figure 3) & exposes gravity of child centricity in ground situation, through the eyes of the learners.
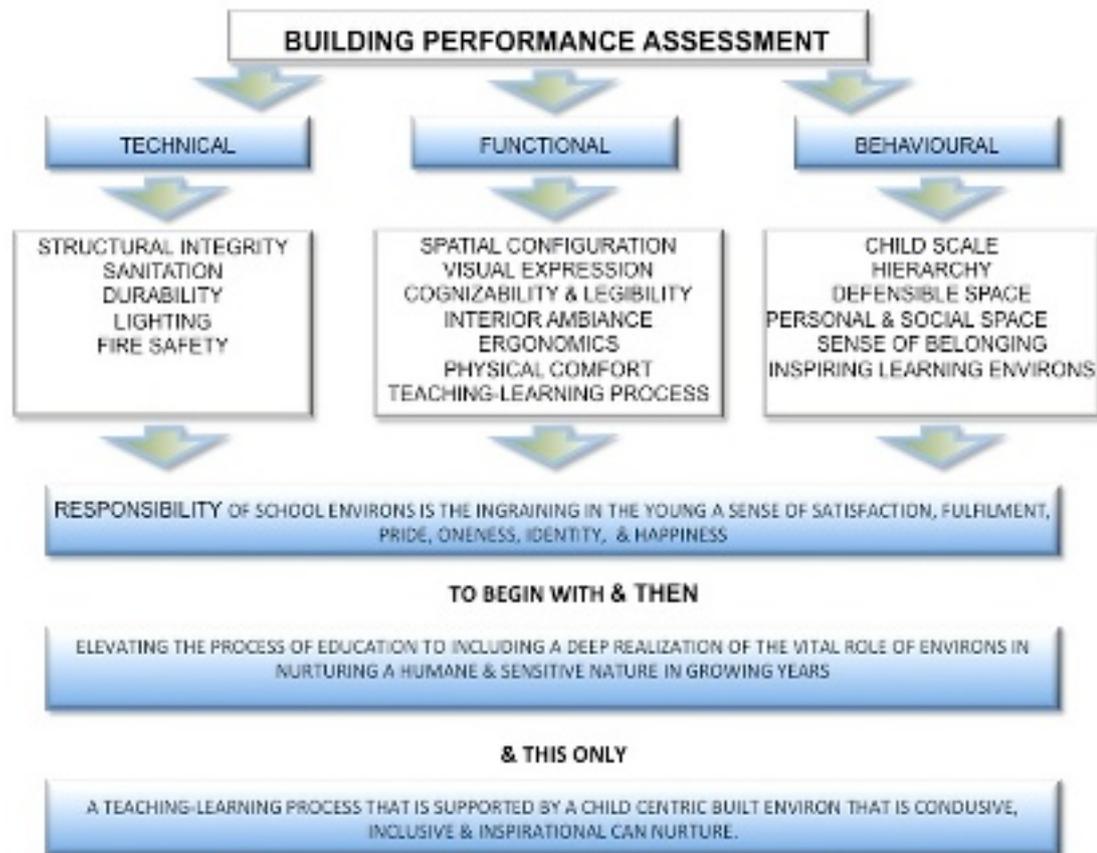
Figure 3: Learning from the POE

Source: author

Although the POE is a school centric assessment, this enquiry focuses on status of parameters on a comparative basis for all schools under study. It is a very straightforward observation that aspects of spatial configuration that are essential for basic use & comfort within a built environmnet fare well in performance. Users acknowledge this fact. These are also aspects that are regulated by building bye-laws &educational frameworks. Figure 4 is a diagrammatic summmery of findings of the POE.

#	CHILD CENTRIC PARAMETERS	RATING WISE CLASSIFICATION OF SCHOOLS		
		POOR LEVEL	AVERAGE LEVEL	VERY GOOD LEVEL
1	Spatial Configuration	-	11	3
2	Visual Expressions	-	7	7
3	Child Scale	4	10	-
4	Spatial Cognizability and Legibility	-	6	8
5	Hierarchy & Defensible Space	11	3	-
6	Interior Ambiance	1	12	1
7	Physical comfort in interior spaces	7	5	2
8	Ergonometric	2	10	2
9	Personal and Social Space	10	4	-
10	Sense of Belonging	1	11	2
11	Teaching- Learning Environs	2	11	1

Figure 4: Status of Child Centric Parameters by POE
source: author

Conclusions stage 2 addresses a wide spectrum of implications that can be informed by this enquiry. Three focuses are the child user, the regulatory statutes and the need for participatory design as basis for responsive practice & pedagogy. A matrix of recommendations tabulates stakeholders against the issues and puts forth critical contributions in each case. Positive proactive contributions of all such individuals and agencies can create the vital synergy required to make built surrounds of schools child centric and thus responsive to the student users. This research enquiry provided a significant contribution towards a holistic process of devising child centric regulations for school environments in the Indian context.

7. Scope And Limitations

The study is restricted to Nagpur city as it is typically representative of a Grade II metropolitan city of India. Only

CBSE schools are selected as they share a level ground for comparison due to common affiliation. The process of POE finds limitations in the nature of young student respondents, time allocated by schools, and complex nature of enquiry.

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Smita Khan is currently faculty at the Visveswaraya National Institute of Technology VNIT at Nagpur. She is involved in teaching architectural design & theory, visual arts, history of architecture, contemporary architecture & criticism and environ-behaviour studies.

She also partners an architectural practice that believes in the creation of an identifiable and humane architecture through the application of traditional wisdom of climate control and skills of construction. It lays deep emphasis on use of local and natural materials in deriving an appropriate and responsive architectural expression. The practice also endeavors to involve the use of local craftsman and artisans in a bid to revive the dying arts.

She strongly believes that while technology contributes towards making life comfortable and work more efficient, its mindless application to creating the built is resulting into a serious alienation of people and their architecture, adversely affecting the man- environ relationship. She was recently awarded the doctoral for her thesis of child centricity in the learning environments of urban Indian schools.

14

Universal Access in Qutb Minar

Kritika Singh
Urwashi Baghele
Abhinav Agarwal
Sameer Sharma

1. Introduction

Center for Human Centric Research in School of Planning and Architecture Bhopal organized two National Student Design Competitions on Universal Design (NSDC) together with Hands-on Workshops in 2011 and 2012. The competitions were organized to explore alternative methods for teaching universal design and accomplish student motivation for the subject. The overall aim of the student competitions was to generate design solutions that optimize the whole living environment so that everyone in the community regardless of his limitations can participate equally. For NSDC 2012 'Universal Design for Exploring the World Heritage Sites in India', students attempted design interventions in one of the twenty two protected world heritage sites in India (cultural). The students were encouraged

to think 'out of box' to develop imaginative solutions for universal usability, retaining original fabric of world heritage sites. The workshop was organized in collaboration with Archaeological Survey of India (ASI), UNESCO (United Nations Educational, Scientific and Cultural Organization), DRONAH (Development and Research Organization for Nature, Arts and Heritage) Foundation and National Association of Students of Architecture (NASA). The institute received outstanding response for this competition from architecture and design schools with about 170 registrations and 56 design entries. The present paper is based on a design solution by SPA students for Qutub Minar.

2. Context

Built in the early 13th century a few kilometres south of Delhi, the red sandstone tower of Qutb Minar is 72.5 m high, tapering from 2.75 m in diameter at its peak to 14.32 m at its base, and alternating angular and rounded flutings. The surrounding archaeological area contains funerary buildings, notably the magnificent Alai-Darwaza Gate, the masterpiece of Indo-Muslim art (built in 1311), and two mosques, including the Quwwatu'l-Islam, the oldest in northern India, built of materials reused from some 20 Brahman temples.

3. Aim

i. Make inclusive design solutions in world heritage sites to facilitate diverse users visiting the sites.
ii. Making public services user friendly by making it more interactive and easy to grasp.
iii. Developing a design/ propose a system which requires minimum level of physical installation on site.

4. Methodology

| Followed Activity Protocol |

| How to reach? |

Tourism facilities
- Transportation
- Fares
- Accommodation
- Package contents and guides

Public facilities
- Recreational areas
- Toilets
- Seating
- Dustbins
- Parks

Data Collection

Measurements
- Important stairs
- Error points
- Important lanes
- Existing provisions

Complex analysis
- Area distribution
- Density

Signage
Each type to be marked on map
Analysis

Survey

User Experience

Inferences

Design Considerations

Design Solutions

For survey, the four-person design team was divided into two teams analysing and working on their respective studies. Survey participants were the guards at the parking area and tourists. Team two probed about user experiences in the arena regarding various issues mentioned as under-

a. Problems faced during reaching.

b. Locating the parking and accessibility.

c. Location of ticket booths and user friendliness

d. Entry Toilets - accessibility, location and sanitation

e. Entry System/Ticket Checking

f. Finding out the standard circulation

g.   Audio Guide experience

h. Calculation on time between junction points.

i. Identifying the main complex areas.

j. Analysing the approx. density and proportional distribution among alternate areas.

k. Local public circulation within areas and identifying the attraction points.

l. Use of public facilities during the circulation period for - drinking water, seatings, canteen, dustbins, toilets

m. Location of toilets, dustbins, drinking water, canteens, seating and their accessibility.

n. Analyzing the above points in proper circulation and signage.

o. Location of signage and readability.

p. Public misuses / threat to monument.

q. Information brochures and volunteers.

r. Analyzing the user experience of side users.

5. Inferences

a. The site has a very good potential to install universal access systems.

b. The recreational zones can be enhanced.

c. The site has a potential to become an international picnic hub.

d. Signage if properly installed can lead to generalised circulation.

e. Shaded if properly utilised can lead to a good seating systems.

f. There are many open areas which can be utilised as museums, galleries, etc.

g. The site can also serve as a public place to host various activities.

h. The lanes are already wide enough for new treatment and facilities.

i. Eco-friendly measures like smart card technology can be installed.

j. Transportation system can be made more users friendly.

k. Adequate potential to install universal access technologies.

6. Design Solution

A. Concept

The main concern while giving the design solutions has been to give such solutions that they are adoptable for any World Heritage Site in India, considering that all the sites in India face similar, if not same, problems in terms of approach and accessibility. Following solutions have been adopted –

B. Ramps

An alternative to steps for better connectivity and circulation between various zones

i. Ramps are provided wherever there are steps or level difference so that the basic circulation remains the same for everyone.

ii. The material of the ramps is changed to aluminium because of its one time installation, durability, and easy-to-uninstall properties. The ramps are such that they blend in with the surroundings and yet remain easily identifiable (Refer sheet-4) .

C. Restrooms

Convenient to locate, access and use

i. Restrooms are re-designed so as to make them accessible to all, without demarcation.

ii. Separate accessible toilets are designed in both male and female restroom for comfortable access.

iii. Facilities like baby changing prams, automated faucets and fixtures, foot pedal flush systems et cetera that make the restrooms more convenient to use are introduced.(Refer sheet no. 4)

D. Parking

Redesigned with proper circulation to ensure accessibility

i. Parking is re-designed with proper parking lines, pre-defined circulation, ramps, tactile markings along the curb lines, et cetera, in such a way that it is universally accessible.

ii. A separate drop off area is also provided near the entrance to avoid unnecessary hindrance on the main road, which also makes it convenient for the visitor as well as the driver.(Refer sheet no. 4)

E. Ticket counter

Incorporated with other utility counters to provide one-stop facilities

i. The original ticket counter is introduced with additional features of baggage counter, additional external aids (wheelchair, baby prams, blind guide stick, etc) counter, audio guide issuing, et cetera, for the convenience of the visitors as they get everything they require for the visit at one place itself.

ii. Queue-rails are installed to keep the public on check and in proper order (Refer sheet no. 5).

F. Entrance

Accessible and manage the public efficiently without manpower

i. The management at the entrance is re-designed in a way that it is independently approachable, and has minimal chaos that was earlier caused due to the manual procedure of checking the tickets and the visitors themselves.(Refer sheet no. 5)

G. Lanes and pathways

Levelled and marked, virtually as well as physically, to provide convenient circulation

i. Pathways are designed and altered at requires points in such a way that the surface throughout the complex is even and allows easy movement.

ii. The lanes are also demarcated by handrails and continuous running tactile markings so that a single circulation can be maintained, and yet the connectivity between different zones remains undisturbed to make sure that the local and general circulation remains unhindered.(Refer sheet no. 5)

H. Signages

Signage are installed at appropriate locations for the following purposes -

i. To direct the visitors in a proper direction of circulation

ii. To make the visitors aware about the facilities in the vicinity and to guide them

iii. To give information about the monuments and a small brief of its history (Refer sheet no. 4)

iv. Water fountains and bottle fillers

v. An alternative to bulky water-coolers

vi. Easy-to-use water fountain and bottle filler stands are installed at various locations throughout the complex so that the visitors have drinking water available at the shortest reach possible.

vii. Multiple fountains and stands, of varying heights, are placed at every marked location so that it is conveniently usable by all.

viii. Public ticketing system

ix. Optimised Public Ticketing System Brings Greater Flexibility, Reliability and Convenience to the Travelling Public.

x. The new system features a smartcard – a durable plastic card – that is technologically superior to the paper-magnetic stripe

tickets. Passengers are able to store value on their cards using self-service machines, the telephone, the Internet or retailers. Their fare is deducted by simply scanning the card each time they use the public transport system. (Refer sheet no. 2)

xi. Public transportation system

xii. Optimised Public transportation System for Universal access and user friendliness encourages public to use public systems over personal vehicles.
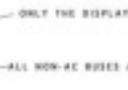
xiii. Each route can be made easier to understand by allotting a unique colour to it. It will thus help the public to quickly identifying the stops it covers and which route to follow.

xiv. All the buses, bus stops, seats should be colour in the specific colour of the route on which it travels, making the travelling more user friendly and interactive to every age group.

xv. Other solutions such as volunteer help, information brochures, et cetera are also introduced, to make the visit of the tourists further more comfortable and informative.(Refer sheet no. 2)

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CASE STUDY

The Qutb Minar is an array of monuments and buildings at Mehrauli in Delhi, India. The construction of Qutb Minar was intended as a Victory Tower, to celebrate the victory of Mohammed Ghori over Rajput king, Prithviraj Chauhan, in 1192 AD. After the death of the commissioner, the Minar was added upon by his successor Iltutmish and much later byFiroz Shah Tughlaq, . Sultan of Delhi in

The Qutb Complex has following main attractions –
* Qutb Minar
* Alai Minar
* Quwwat ul-Islam Mosque
* Alai Darwaza
* Iron Pillar
* Tombs of Iltutmish, Alauddin Khilji and Imam Zamin

PARKING

THE PARKING AREA IS NOT UNIVERSALLY ACCESSIBLE

THE CIRCULATION IN THE PARKING IS CONFUSING

THE SIGNAGES ARE INSUFFICIENTLY INFORMATIVE

CURB RAMPS CONNECTING PARKING SPACE WITH THE SIDE CURBS ARE ABSENT.

TACTILE MARKINGS ARE PROVIDED BUT NOT IN CONTINUATION

DROP OFF AREAS ARE ABSENT

DISTANCE FROM THE COMPLEX	16 METER
CAPACITY	100 CARS 50 TWO-WHEELERS 5 BUSES
PEAK HOURS	SATURDAY : 10 AM – 11 AM SUNDAY : 10 AM – 12 AM
FARE	RS 5 – TWO WHEELER RS 10 – FOUR WHEELER RS 50 – BUS

SIGNAGES

ABSENCE OF INFORMATORY MAPS AND DIRECTIONAL SIGNAGES

SIGNAGES INDICATING MAIN ATTRACTION ARE MISSING

MAPS

ZONING MAP

P. PARKING T.TOILETS C-TICKET COUNTER G- ENTRY GATE M- WATER COOLERS

DUSTBIN

SEATING

POPULATION DENSITY

OVERLAY MAP SHOWING SEATING, DUSTBINS , AND POPULATION DENSITY

OVERLAY MAP SHOWING STANDARD CIRCULATION AND WHEELCHAIR CIRCULATION

→ STANDARD CIRCULATION
→ WHEELCHAIR CIRCULATION

ANALYSIS

PATHWAYS

TACTILE PATHWAYS ARE ABSENT

PATHWAYS ARE CONFUSING

DO NOT ALLOW STANDARD LOCAL CIRCULATION

SURFACE OF THE PATHWAYS GETS IRREGULAR AT CERTAIN LOCATIONS

PATHWAYS WITH IRREGULAR PATHWAYS

PATHWAYS CLEAR OF STEPS AND STAIRS	NO
GUIDING LINES ALONG LINE OF TRAVEL	NO
WARNING BLOCKS AROUND OBSTRUCTIONS	YES
SMOOTH AND NON SLIPPERY SURFACE LEVEL	NO
EDGE PROTECTION ALONG PATHWAY	NO

HANDRAIL AND RAILINGS

HANDRAILS ARE NOT AVAILABLE AT ALL THE PLACES

EXISTING HAND RAILS ARE NOT AT COMFORTABLE HEIGHT FOR WHEELCHAIR RIDDEN PERSON

HANDRAILS DO NOT HAVE EASY GRIP

HANDRAILS WITH CONTINUOUS OBSTRUCTIONS

RAILINGS

HANDRAILS EXTENDING HORIZONTALLY AT TOP AND BOTTOM OF EVERY STAIR AND RAMP	NO
HANDRAILS PAINTED IN CONTRASTING COLORS	NO
TACTILE STRIP IDENTIFICATIONS ON THE HANDRAILS	NO
ADDITIONAL HANDRAILS FOR WHEELCHAIR RIDDEN PEOPLE	NO

TICKETING SYSTEM

3 DIFFERENT COUNTERS ARE PRESENT –
ONE FOR GENERAL CROWD
ONE FOR FOREIGNERS
ONE FOR PHYSICALLY CHALLANGED

PAPER CARD TICKETS ARE ISSUED

TICKET IS CHECKED ONLY ONCE AT THE MAIN ENTRANCE

QUE RAILS ARE ABSENT WHICH CAUSES CHAOS NEAR THE COUNTER DURING PEAK HOURS.

ENTERANCE

SINGLE ENTRY GATE WITH SINGLE SECURITY GUARD WHICH CREATES TRAFFIC LOAD DURING PEAK HOURS

SECURITY CHEK IS DONE ONLY ONCE

BAGGAGE CHECK COUNTER IS ABSENT

SINGLE ENTERANCE AND EXIT LANE

MAIN ENTRANCE ACCESSIBLE	NO
STEPS AT ENTRANCE	NO
RAMPS	NO
CLEAR ENTRANCE WIDTH 900 MM	YES
ENTRANCE DOOR TO BE OPERATED INDEPENDENTLY	NO

SECURITY CHECK AT ENTERANCE

RAMPS AND STAIRS

STAIRS ARE NOT IN COMFORT ZONE

ONLY ONE WAY RAMPS

RAMPS ARE NOT AVAILABLE AT ALL THE REQUIRED LOCATIONS

ONE WAY RAMPS

CONVERTED RAMPS WITHOUT HANDRAILS

MINIMUM WIDTH OF STEPS 800MM	NO
HANDRAILS ON BOTH SIDES OF STEPS	NO
WARNING BLOCKS AT BEGINNING AND END OF STEPS	NO
TREAD HEIGHT OF STEPS IN COMFORT ZONE	NO

NSDO 2012

NSDO-III/UD/056

TICKET COUNTER

- PROPER HANDRAILS ARE INSTALLED MANAGE THE CROWD. SAME COUNTER HEIGHT IS PROVIDE FOR EVERY VISITOR.

- ADDITIONAL FEATURES
  - BAGGAGE COUNTER IS PLACED NEXT TO THE TICKET WINDOW FOR CONVINIENCE
  - AUDIO GUIDE ISSUED FROM MAP COUNTER ITSELF
  - EXTERNAL AIDS LIKE WHEELCHAIR PRAMS, EYE STICKS.

ENTERANCE

EXIT   ENTRY
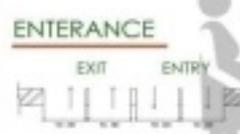
- TWO LANES EACH OF WIDTH 900 FOR ENTRY AS WELL AS EXIT.
- SECURITY CHECK SYSTEM IS INDIA JUST AT ONE LOCATION , ENTRAN

- TICKET CHECKING SYSTEM IS INSTALLED AT THE ENTRANCE AND EXIT
- AUTOMATED FARE COLLECTION BY CARD SYSTEM INSPIRED BY DELHI METRO.
- SINGLE CHECKING COUNTER AT THE ENTRANCE THROUGH X-RAY BAGGAGE CHECKING MACHINE

INFORMATION SERVICES
1. Dedicated Websites
   - online bookings
   - tour planning
   - virtual maps
   - information brochures
2. Tourism/Booking Agents
   - tour planners
   - packaged tours
   - advising/guiding
3. Customer Care Helpline
   - dedicated helpline
   - 24x7 online chat

SECURITY
1. Technological
   - CCTV
   - Sensors
   - Alarms
   - Check Posts
2. Police/ Guards [distribution]
3. Dedicated helplines

RECREATIONAL SERVICES
1. Eating joints
2. Shopping points
3. Parks/Museum/Zoo etc.
4. Clubs/Cinemas
5. Accommodations

PUBLIC SANITATION
1. Public Toilets
2. Dustbins
3. Garbage Treatment
4. Sewage network
5. Disease control

ARCHITECTURAL
1. Space considerations
2. Circulations
3. Units
   - Stairs
   - Ramps
   - Levels
   - Rails
   - Pathways, etc.
4. Anthropometrical considerations
5. Services
6. Lightings
7. Signage

TRANSPORTATION
1. Means of travel
   - Metro
   - Airlines
   - Trains
   - Bus
   - Taxi
   - Rented
2. Stations
3. Traffic management
4. Road/Rail network
5. Circulation

EMERGENCY
1. Hospitals
2. Ambulances
3. Fire Fighting
4. Disaster Management
5. Life Guards
6. Dedicated helplines

TICKETING SYSTEM
1. Counters
2. Management system
3. Cash Cards

LANES AND PATHWAYS

VIRTUAL LANES

BLUE LINES ARE VIRTUAL LANES.

- TACTILES
  NATURAL GUIDE LINES AND GUIDE STRIPS (TACTILE STRIPS) ARE USED TO HELP IDENTIFY TRAVEL ROUTES FOR SIGHT-LESS PERSON.

GUIDE STRIPS

- CURBS
  CURB HEIGHT OF 100MM IS GIVEN EVERYWHERE, ALONG THE PATH RAILINGS SIDEWAYS THE PATH WAY.

- SURFACE
  THE SURFACE IS LEVELLED BY CONCRETE LAYERING ON THE GRAVAL PATH WAY FOR PERMANENT ALTERATION OR CLAY LAYERING AS TEMPORARY SOLUTION.

SIGNAGES AND INFORMATION GUIDE

- DIRECTION MARKERS ARE PLACED AT APPROPRIATE LOCATIONS TO CLARIFY THE CIRCULATIONS.

- UNIVERSAL ACCESS SIGNS ARE PLACED WHEREVER RELEVANT FACILITIES ARE PROVIDED. BRAILLE SYMBOL MARKERS ARE ALSO GIVEN ON THE HAND RAIL ITSELF FOR VISUALLY IMPAIRED.

- A KEY MAP IS HANDED OVER TO EVERY INDIVIDUAL FOR ACKNOWLEDGING LOCAL CIRCULATION AND TO HIGHLIGHT THE MAIN ATTRACTIONS.

APPROPRIATE SIGNAGES ACCORDING TO THE FACILITIES PROVIDED IN THE VICINITY.

A SMALL SCALE REPLICA OF THE MONUMENT IN REFERENCE TO THE HUMAN SCALE IS PLACED NEAR RESPECTIVE MONUMENTS ALONG WITH THE INFORMATION SIGNS IN BRAILLE AND OTHER WISE.

BABY CHANGING ROOM   DRINKING WATER

SEATING PROVISIONS

SEATING ARRANGEMENTS ARE MADE AT REQUIRED PLACES IN SUCH A WAY THAT IT IS INTERACTIVE RATHER THAN BEING CHAOTIC.
DUST BINS ARE PROVIDED NEAR A VERY SEATING AREA AND ALSO AT DIFFERENT INTERVALS THROUGH OUT THE SITE.

TAKING THE CASE OF IRON PILLAR ZONE WHICH LACKS IN SEATING AND PUBLIC INTERACTION SPACE, WE HAVE ORGANISED SPACES IN SUCH A WAY THAT THE SEATING DESIGN BLENDS WITH THE SURROUNDINGS AND DOESN'T DISTURB THE ORIGINAL STRUCTURE.
AND DUST BINS ARE PROVIDED AT VARIOUS LOCATIONS ACCORDING TO THE REQUIREMENT.

SEATING DESIGN

DRINKING WATER SYSTEM

HEAVY WATER COOLER SYSTEM ARE REPLACED BY WATER FOUNTAINS AND BOTTLE FILLERS FOR MAKING DRINKING WATER READILY AVAILABLE AT VARIOUS LOCATIONS. THE WATER FOUNTAINS ARE VARYING HEIGHTS FOR UNIVERSAL ACCESS.

DRINKING WATER PROVISION AT MAIN ENTRANCE   WATER FOUNTAIN   BOTTLE FILLERS

nSDC 2012

nSDC-III/UD/056

Regular Features

Book Received

Warm Greetings!

access **ability**

*I am very excited and happy to share my upcoming novel 'No Looking Back', a memoir based on my life experiences. I hope you have the time to read it and share your thoughts with me! Look forward.*

What happens when your life is turned upside down in the blink of an eye?

Twenty-two-year-old Shivani had thrown a party one evening and awoken the next morning in hospital, her spine and her dreams shattered by a car crash. Paralysed and then wheelchair-bound, it took Shivani years of pain, struggle and determination to regain control of her life and her body, to demand and receive respect from the world, to gain acceptance from within and without, to find love and happiness. Then tragedy struck again. As the newly married Shivani drove to Manali with her family, an oil tanker collided head-on with the car, bedridden once again, she watched helplessly as first her father-in-law and then Vikas, her husband, succumbed to their injuries. And yet, Shivani refused to surrender she would not let her inability to walk keep her from achieving her ambitions.
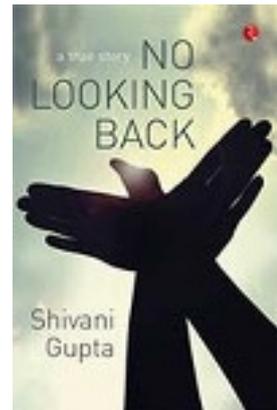
NO LOOKING BACK
A TRUE STORY (PAPERBACK)

No Looking Back is a deeply moving and inspiring narrative about surviving the challenges of disability in a country that takes little account of the daily difficulties and indignities faced by approximately fifteen per cent of the worlds population, whether in terms of infrastructure, legislation or awareness - a country that appears to believe that disability equals invisibility from the public discourse. Undeterred by the hand fate had dealt her, Shivani Gupta has chosen to champion the cause of the disabled everywhere and is today one of Indias best-known accessibility consultants. Her life is an extraordinary testament to true courage and the indomitability of the human spirit in the face of overwhelming odds.

The book can be ordered online from **Flipkart** and **Amazon**

A New eBook from UniversalDesign.com

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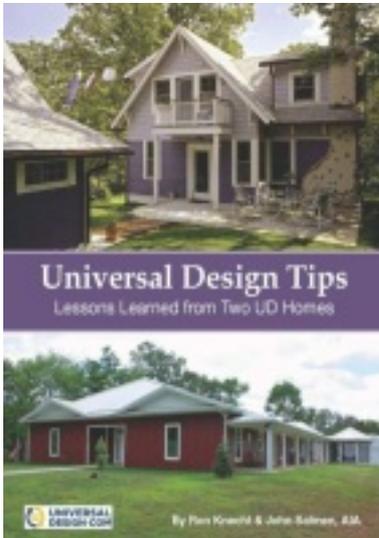
This new electronic book from UniversalDesign.com is filled with tips and ideas that will help guide anyone through the process of designing and constructing their own Universally Designed home. The book was co-authored by John Salmen, AIA, the publisher of Universal Design News and founder of UniversalDesign.com,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

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

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

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

to explore Salmen's home in even greater detail and apply his experience to their own Universally Designed home projects.

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

Knecht and Salmen were mutually impressed with the thoughtful Universal Design details present in each other's homes, and eventually they decided to co-author a book that would draw from their experiences to provide guidance for anyone planning to build or remodel their home for enhanced safety, comfort, independence, convenience and aging in place. The eBook is available from UniversalDesign.com as a downloadable PDF, for $20. A short excerpt of the book is also available for preview prior to purchase. To buy the eBook or view the preview visit UniversalDesign.com.
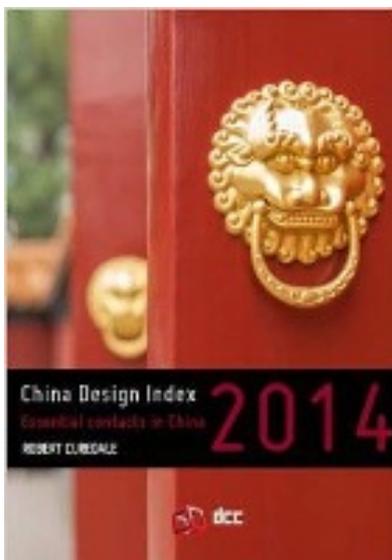

China Design Index 2014: The essential directory of contacts for designers Paperback – February 1, 2014

by Robert A. Curedale (Author)
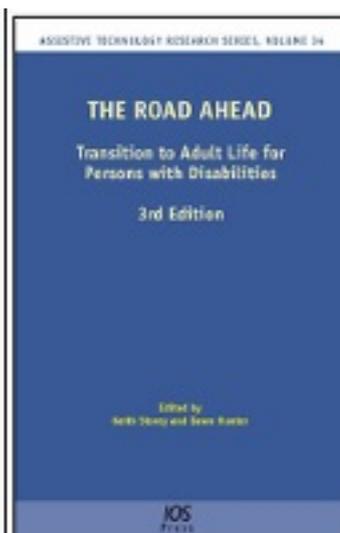
The Road Ahead
Transition to Adult Life for Persons with Disabilities

Volume 34 Assistive Technology Research Series
Editors: Storey, K., Hunter, D.
December 2013, 318 pp., hardcover (revised 3rd edition)
ISBN 978-1-61499-312-4 (print)
ISBN 978-1-61499-313-1 (online)
Price: €69 / US$100 / £59

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

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

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

Luigi Bandini Buti

■ **DESIGN FOR ALL**
AREE DI RISTORO | Il caso Autogrill |

politecnica

MAGGIOLI
EDITORE

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

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

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

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

Edmonton Architect Ron Wickman launches his first book, titled: *Accessible Architecture: A Visit From Pops* at the City Room in City Hall, Tuesday, March 18 at 5 p.m. Ron, son of the late Percy Wickman, MLA Edmonton-Rutherford 1989-2001, is a story written on the focus of Percy and his 3 grandchildren. Ron is best known for his accessible design. His most recent endeavor published by Gemma B. Publishing draws on this knowledge. Edmonton draughtsman Jared Schmidt illustrates with wit and precision the need for a house to be visitable by everyone.

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

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

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

Visitability principles include

- the front entrance must have no steps;
- all main floor doors must be at least 3⁄4" wide;
- an accessible washroom must be on the entrance floor.

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

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

Accessible Architecture: A Visit From Pops ISBN978-0-891697-0-8 sells for $20.

– 30 –

For additional information, contact:
Ron Wickman
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780-430-0335
E-mail: rwickman@shaw.ca

Written By: Ron Wickman
Illustrated By: Jared Schmidt
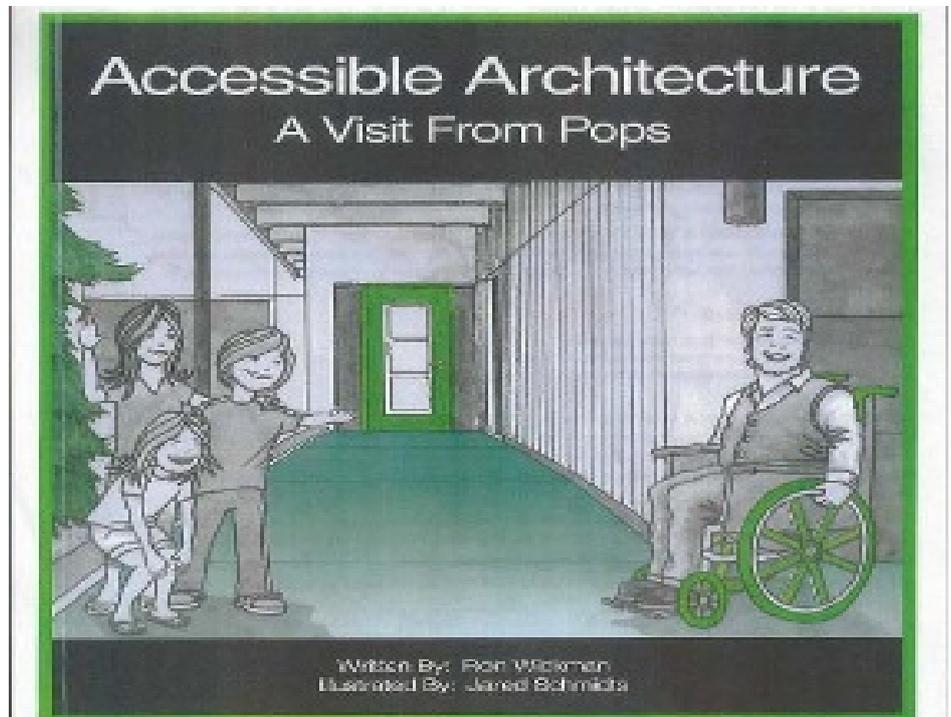
Appeal

Dear friend,

We are happy to enclose two documents on the €Design-Project for your attention. The first one is a test of alternative ways in which firms might be asked about design to quantify its benefits as an economic factor of production. The second one presents findings on how available statistical data on industrial design registrations provide a proper understanding of design as a distinctive element in economic competition. These papers are the third and fourth deliveries of the €Design Project, an initiative that aims to identify and establish guidelines for measuring design as a factor of economic production and its impact on GDP.

€Design counts with the participation of six European partners: BCD Barcelona Design Centre, Coordinator (Spain); Copenhagen Business School (Denmark); designaustria (Austria); Hungarian Intellectual Property Office (Hungary); SVID Swedish Industrial Design Foundation (Sweden) and the University of Cambridge / Design Management Group (United Kingdom).

The project, co-financed by the European Commission, ENISA (Spanish Ministry of Industry, Energy and Tourism), the Swedish Agency for Economic and Regional Growth and the Austrian Federal Ministry of Economy, Family and Youth, with a budget of one million euro, will analyse and define the conceptual framework of design in the economic context, in order to measure it as a tool for user-centred innovation and as economic factor of production. The objective is to obtain tangible results that demonstrate the importance of design as a crucial element to enhance the innovative capabilities of Europe

and increasing economic growth and business competitiveness in the global market.

The initiative is part of the 1st Action Plan of the European Design Innovation Initiative, a commitment of the Innovation Union Europe 2020 flagship to exploit the full potential of design for innovation and to reinforce the link between design, innovation and competitiveness.
Please feel free to disseminate this document as well as previous ones available on project website www.measuringdesignvalue.eu amongst your associates or colleagues, as well as through your website.
We are particularly interested in receiving your feedback. Please send your comments to: EuroDesign@bcd.es

With regards,

Isabel Roig
Project Coordinator

News

The Sixteenth Annual Berkeley Undergraduate Prize for Architectural Design Excellence 2014

Winning Essays

Winners of the Sixteenth Annual BERKELEY PRIZE Essay Competition are announced by Professor Raymond Lifchez, Chair of the Berkeley Undergraduate Prize for Architectural Design Excellence. This year there is one First Prize, one Second Prize and two Third Prize Winners.

First Prize
Tazrin Islam, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh: "Livability vs. Lovability" (5000USD)

Second Prize
Nipun Prabakar and Sukruti Gupta, School of Planning and Architecture, Bhopal, India: "Spaces to Grow: A Comparative Study of Two Orphanages" (4000USD)

Third Prize (tie)
Aparna Ramesh, Visvesvaraya National Institute of Technology, Nagpur, India: "The Architecture of a Healthful Learning Environment" (3000USD)
(Source Berkeley University)

SCG showcases design trends for the future
by Tet Andolong

A COUNTRY like the Philippines, which is notoriously prone to natural calamities such as typhoons, earthquakes and floods, has much to learn in terms of disaster-proofing residential and commercial properties.

In the recent Architect Fair 2014, which was held at the Impact Muang Thong Thani in Bangkok, Thailand, this writer was introduced to solutions that could help home and property owners in mitigating the effects of disasters.

The Architect Fair featured exhibits by home builders; design and construction companies; home furniture; appliance vendors; home building and decorative-materials providers; home electronic and high-technology equipment providers; garden and landscape vendors; and real-estate vendors.

One of the participants in the Fair was Asean conglomerate Siam Cement Group (SCG), which presented its remarkable products and services under its "Universal Design" concept that inspires creativity in all walks of life.

The Universal Design concept takes into account the different styles and needs of different people.

"SCG's exhibition at Architect Fair this year is developed under the Universal Design concept, which SCG utilizes as a key concept to develop products and services of the company. The Universal Design is a design for everyone, answering people's different needs, especially those of children, expecting mothers and elders. Apart from developing products and services in line with the Universal Design concept, SCG has also conducted an analysis on the different societies and way of life. Through this analysis, SCG concluded four design trends for homes and building materials in the future," said Anuvat Chalermchai, SCG brand director for cement-building materials.

The four design trends for homes and building materials include Urban-East—designs that reflect a fusion of urban living with East Asian culture; Lullaby—simple and friendly design that lives on technology that reflects playfulness, warmth and vitality from one's childhood; Experiment—designs that are a merging of art and science which creates a new definition of utility; and ReVALs—a new definition of design, of which values are placed on inspiring new thoughts, creativity and social responsibility.

At the fair, SCG also displayed its solutions for the future, which was the highlight of its exhibition. Products under this exhibit were The Nest—the future sustainable home and the first Energy Plus House in Asean, as well as the SCG Eldercare Solution, which aims to help the elderly in society.

 "The SCG Eldercare Solution, which reflects the development of Universal Design concept, is an SCG service that prepares for the growing elder society through the creation of residences and other basic infrastructure that will improve their quality of life, supporting their independence, self-sustainability and safety," Anuvat shared. "The Nest, on the other hand, is a sustainable

home for the future. It is the first Energy Plus House in Asean, which produces more energy than its consumption. It is the ideal sustainable home for living in the tropics with its Smart, Eco and Care technology. Technology balance is also applied to fully utilize the home's energy performance.

SCG also showcased the latest designs that answer all types of lifestyle needs, such as the Tra Chang concrete roof tile and fiber-cement board SmartWood; Cotto bathroom products; Cotto Italia ceramic; SCG HEIM; Tiger cement for decoration; Winsor shading system and vinyl; and other creative inspirations for home building and living at the SCG Experience.

SCG Experience is a knowledge center for home building, as well as a consulting service in Klongton Nua, Wattana in Bangkok. The center provides free services about building and renovation by its experienced architects and interior designers. It also has a library and designer club with a great collection of international books and magazines about architecture, interior design, etc., for professional groups, including architects, designers, decorators and university students majoring in related fields.

"SCG has remained committed to its vision to become a sustainable business leader in Asean. We believe that through the continual development of products and services under our trend and design concepts, we will be able to address the needs of our customers in the Asean region." Anuvat added.

In the Philippines SCG has more than 1,000 employees and has been operating since 1993 through its seven subsidiaries, including United Pulp & Paper Co., Mariwasa Siam Ceramics Inc., CPAC Monier Philippines Inc., SCG Trading Philippines Inc., Green Siam Resources Inc., Green Alternative Technology Specialist Inc. and SCG Marketing Inc.

SCG has been contributing to the development of the Philippines's economy, environment and society via numerous CSR activities. One of them is the SCG Sharing the Dream scholarship program, where over 800 scholars have benefited since the program was introduced in the country in 2008. The company also provides donations, as well as conducts sustainable development activities such as tree-planting and barangay cleanup in its adopted communities.
In Photo: Material Gallery and XP consulting service
(Courtesy: Business Mirror)

Program & Events

Transportation connects us all

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

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

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

Registration is now open

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

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

The Biennale Internationale Design SaintÉtienne 2015

The 7th International Symposium on Visual Information Communication & Interaction

5 - 8 August 2014 | Sydney Australia

Visual communication through graphical or sign languages had been conducted among human beings of different backgrounds or cultures, and in recent decades between human and machine.

Welcome to VINCI'14

The 7th International Symposium on Visual Information Communication and Interaction (VINCI 2014) provides an international forum for researchers and industrial practitioners to discuss the state of the art in visual communication theories, designs, and applications. VINCI has been previously held in Shanghai (VINCI'2000), Sydney (VINCI'2009), Beijing (VINCI'2010), Hong Kong (VINCI'2011), Hangzhou (VINCI'2012) and Tianjin (VINCI'2013). VINCI '2014 will be held on August 5-8, 2014 in Sydney, Australia.

LYON CITY DES!GN

CALL FOR PROJECTS

LYON CITY DES!GN 2015

Final date for submission of applications: 7th May 2014

CII
Confederation of Indian Industry

P R E S E N T S

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providers / facilitators / users forging knowledge-business and knowledge
solution partnerships in the areas of

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• Science & Technology • Research & Development
• Design • Higher Education
• Innovation & Entrepreneurship • Intellectual Property Rights

▲

2014 CORE77 CONFERENCE
JUNE 19, 2014
BROOKLYN, NY

2014 Core77 Conference
Core77
Thursday, June 19, 2014 from 9:00 AM to 5:30 PM
Brooklyn, NY

EU Stakeholder Conference on Accessible Tourism. "Mind the Accessibility Gap"

05/05/2014

6 JUNE 2014

MIND THE ACCESSIBILITY GAP! CONFERENCE

VENUE: CHARLEMAGNE BUILDING (DE GASPERI ROOM)

The European Commission, DG Enterprise and Industry, is organising a conference for tourism stakeholders where the results of three specially commissioned studies on Tourism Accessibility in Europe will be presented and discussed by a distinguished panel of tourism practitioners and stakeholders.

Location: Building Charlemagne Building, Rue de la loi 170 - 1000 Brussels

International Summit on Accessibility 2014

The 2014 International Summit on Accessibility, Making it Happen: From Intention to Action will be held in Ottawa, Ontario, Canada, 12-15 July, 2014.

Job Openings

1.   Job Description

At SmartCues we take design seriously and it is more than just a creative process. A visual designer at SmartCues must be quick to take and understand instruction but also confident enough to contribute ideas to the team that are his own and present them well.

Our products and solutions rely heavily on smooth and delightful consumer experiences that are simple and yet synchronized to brands when necessary. Our customers expect flawless simplicity and effectiveness in the interfaces we offer. Therefore we expect you to learn on the job and produce frameworks which you can present including typography, colour palettes, and visual style. You will be working closely with the team, and other interaction designers and visual designers as you collaborate and evolve product requirements into compelling visual experiences.

Qualifications:

We are looking for individuals with

• 1-2 years of experience in Visual Design

• Experience designing mobile web, and/or on-device mobile applications

• Good communication skills

• The ability to rationalize and present design frameworks

• The ability to work creatively in a collaborative environment

• An affinity to branding and promotions

• Attention to detail

• The zeal to keep up with UI trends and apply them

About the company

SmartCues is a start-up raring to succeed phenomenally in the world of mobile and proximity marketing. Over the short span of a year the company has built itself from being an in-store promotional solution provider to an enterprise level full service

mobile marketing platform working with disruptive technologies. We create solutions and products for our customers that delight and enable them to meet their overall business goals.

SmartCues operates under the house of Pramati Technologies Private Limited.

What we expect from you

You should be a self-starter, and be able to realistically plan and estimate your work in relation to project and roadmap requirements. We expect you to know how the design process works and to start contributing autonomously as soon as you join us.

What you can expect Working with us:

• A great team that loves working together
• An atmosphere that is constantly challenging but never mundane
• A world where you actually get to create and execute your very own ideas along with what is asked of you.

If you would like to work with us, we would love to hear from you.

Mail a link to your portfolio to dinudey@smartcues.com

2. We are an early stage start up and are looking for a UX head to join us. We are based out of Bangalore and very close to launching our product.

The purpose of this position is to ensure that the virtual product being made by the organization wows the user from design perspective.

Product should be intuitive for the user. Every touch point of the product should be user centric and tested with ample usability research.

Key Responsibility Areas

1) Improving the user engagement with the product by implementing a design engineering methodology
Usability Metrics
Design of App & Website
User Research
General Management

Job Perks
Experience of working in a start up.
Development of multidisciplinary skill set like sales, operations etc.
Salary and stock options for the right candidate.
Contact person : Satya Vyas (Co-founder & CEO) - Orobind
Mobile Number : 09739697210
Email : satya@orobind.com

3. Mutual Mobile is looking for an Art Director for our Hyderabad office. Mobile lovers gets + 😊. Interested people can send their CV at sunil.shrivastav@mutualmobile.com or biraj.patnaik@mutualmobile.com

Company:
http://www.mutualmobile.com
http://www.mutualmobile.com/company

Description
You love clients and getting to be a conduit for communication. You love what feels like magic when something beautiful is created to solve a business goal and meet a user's need. You love working with other designers across a variety of projects. You don't shy away from difficult conversations, and you are a natural mentor.

Creating visual designs in a fast-paced environment means bringing a strong voice, an efficiency of speed, and an eye for critiquing. Our environment calls for extreme communication, enthusiasm and empathy. As the Art Director, you understand

that we have no time for divas or wannabe superheroes. You understand that success is determined by the strength of your team as a whole, and it's essential each member carry his/her weight.

As the Art Director, you'll work closely with clients across a variety of verticals in both the consumer and enterprise space. These projects should push you outside of your comfort zone, while your industry experience will be utilized to help shape the future of Mutual Mobile's design team.

You'll keep busy by:
- Leading work across 1 - 2 key accounts
- Defining projects in terms of scope, schedule and roadmap with other Account team leads
- Promoting and perfecting the integration of agile techniques into the design process
- Working with diverse teams to divide work and stay focused on the big picture
- Participating in Business Development pursuits and pitches
- Working to help define the design process
- Coaching and mentoring other designers to help them progress their career development

Requirements
We want you if you have:

- 4+ years of interactive visual design experience
- Strong conceptual skills and the desire to solve complex design problems
- Enough technical experience that you can comfortably express and react to the technical and user interface limits of mobile and touch interfaces
- Experience working with a Lean UX process in an agile environment
- Expert level knowledge of relevant industry tools
- Strong ability to guide and mentor junior designers

- Strong communication skills to effectively interact with clients and internal teams
- Ability to work autonomously under tight deadlines on multiple projects
- Experience to set the look and feel for large-scale mobile applications

Not required, but more than useful:

- 2 years as an Art Director at a top digital agency or similar role
- Interaction Design skills (prototyping, research)
- Basic HTML, Javascript and CSS skills (for prototyping)
- Experience managing and mentoring other designers

Applicants must provide a portfolio with examples of mobile work.

Benefits

Why work for Mutual Mobile? We craft beautiful mobile interfaces and solve complex software challenges. Clients such as Audi, Cisco, Jaguar Land Rover and Google come to us for our deep experience in mobile--from establishing a mobile strategy that provides impactful business value, to building those solutions from the ground up. We bring together the brightest minds in creative, engineering, and business to deliver solutions that actually matter.

o   This requirement is for a UX specialist in NetElixir, India (www.netelixir.com). The company is looking for a candidate with around 3 years' experience to improve the usability of the platform and the tools. The candidate has to work closely with Development and Operations team located in India and USA.

Headquartered in USA, NetElixir is in the business of providing a platform, tools and services in the area of Search Engine Optimization/Paid Search Advertising to improve the online marketing performance of their clients. Company has around 50 employees in India and has a facility in Hyderabad.

Please contact directly on the email id: hr@netelixir.com

o   SAP Labs India Pvt. Ltd., Bangalore is looking for passionate Ux developers to work with the Business Intelligence User Experience design team.

Position : Ux Developer

Roles and Responsibilities

- 4-5 years of relevant experience in jQuery, HTML 5, CSS3, JavaScript and JSON
- Ability to quickly prototype UI designs and convert Photoshop and Illustrator files to workable html5 and css3 prototypes.
- Solid experience writing hand code using Javascript & JQuery.
- Experience in designing responsive HTML 5 applications
- Experience creating pixel-perfect implementations across different browsers.
- Work closely with User Experience and Visual design team members to get knowledge transfer on the design elements and execution.
- Must be able to describe problems and solutions in a concise and objective manner
- Experience in understanding style guides and design documentation
- Strong written and verbal communication skills

Qualifications / Skills:

- Requires a Engineering or a Bachelor's degree or equivalent
- Knowledge of usability, human factors, and UX process

Should be a design thinker
- Interested candidate may apply with their updated CV and portfolio to sujit.ramesh.a@sap.com with the Subject line <Ux Developer >

o   Fiserv India is looking for "Usability Analyst" to join their "User Experience Center of Excellence" (UXCoE) at Pune locations.

Position details : Usability Analyst
Industry experience: 2 to 4 years

Responsibilities:

- Work with Business analysts, product management, software developers to produce a world class user experience for Fiserv products.
- Translate high level business requirements into tangible user interface proposals that integrate the latest standards in interaction design and trends in visual design
- Create low-fidelity and high-fidelity task flow mockups and prototypes while integrating feedback from the product teams and our end-users
- Develop detailed interaction and visual design specifications and work closely with the development teams to implement them
- Influence and educate the product teams in user-centered design principles and development processes
- Help define standards and best practices for consistent user experiences across Fiserv products

*Skills:
- Formal education in Human computer interaction design, Industrial design, Communication design from reputed institutes like IDC, NID or similar

- Strong conceptual skills and demonstrated ability to rapidly prototype and design
- Must demonstrate strong interaction design skills and have a solid understanding of usability principles and user centered design process
- Experience with working on various mobile platforms (iOS, Andriod, Windows Phone 7, etc) will be an added advantage
- Good understanding of user interface technologies (HTML/CSS, Silverlight, Flex,etc)
- Ability to work independently and prioritize and manage work to meet project timelines
- Must have an eye for detail and be able to quickly put ideas into a tangible form
- Has internalized a rigorous design process and is able to tailor it to the needs of different types of projects
- Must have a good understanding of visual design and hands on visual design skills is a plus
- Must have experience working closely with development teams on implementation of designs

 Send your resume with a link to your online portfolio to
 kunal.pimplikar@fiserv.com

o   Tech incubator in India is looking for UX designers for the summer. They are bringing in 25+ software engineers for a 2-month long app development program.The are looking for UX Interns to work with the tech and management team to visualize and make the working prototype in 2 months duration. You can find the details below.

   Interested people can email at hello@rovoltlabs.com

o   Endeavour Software Technologies - The Mobility Company
   http://www.techendeavour.com
   One of the fastest growing UX team in Mobile UX world. We work in Mobile UX (iOS, Android and Windows) and Web UX

(Responsive and Traditional) for Enterprise and Consumer products and services. We are looking for designers who practice principles of Lean UX and Agile UX for our Bangalore (J.P.Nagar) based UX Lab.
Interaction Designer (2 position): Required 2+ years of experience in UX design field.

Essentials,

• Requirement gathering and analytical skills, Understand and define business objectives, market opportunities to align project scope and schedule.
• Conceptual thinking and working expertise in usability and interaction design principals.
• Expert level knowledge of interaction design tools (Like Balsmique, Illustrator etc.) and prototype tools for low and high fidelity.
• Strong written and verbal communication with the ability to present your work and rationale to the team.
 Skills to work autonomously under tight deadlines.
 Degree in HCI, Interaction design, UX / UI / iA / Usability design from reputed design school or relevant experience.

    Added advantage,

• Working experience in Mobile UX and Responsive web.
 Visual design skills.
• Visual Designer (3 position): Required 2+ years of experience in visual design filed.

Essentials,
• Understand wireframe interaction / layout and brand guidelines to deliver desirable visual experience.
• Conceptual thinking and working expertise in delivering visual design mood board, layouts, icons and asset creation.
• Expert level knowledge of visual design tools (Like Photoshop, Illustrator etc).

- Strong written and verbal communication with the ability to present your work and rationale to the team.
 Skills to work autonomously under tight deadlines.
- Degree in visual communication, fine arts, design from reputed design school or relevant experience.

Added advantage,

- Working experience in Mobile UX and Responsive web.
- Basic HTML, CSS
Please send your Portfolio and CV to
uxjobs@techendeavour.com

9.   Center for Study of Science, Technology & Policy (CSTEP), Bangalore is looking for Graphic design interns. Interested students/ designers can contact amol@cstep.in, bhawna@cstep.in or visit Welcome to CSTEP | CSTEP for more information.

10. Philips Design is looking for Interaction designers, Data Visualizers and Front-end Developers.
Philips Design is the in-house design agency of Philips working across multiple domains in healthcare, lighting and consumer lifestyle. One of 7 branch locations of the global agency, we are located in Gurgaon and Bangalore. Philips Design plays a key role in proposition creation process right from facilitating design thinking workshops to conceptualizing and implementation of design solutions. Over last few years, Philips Design India has grown aggressively to address local as well as international market needs.
The interested candidates should have suitable design educational background and have experience of 2-8 years.
For developers, proficiency in Android, iOS platforms and HTML 5 would be mandatory.
All vacancies are for our studio in Bangalore.
Please apply to our design
director, abhimanyu.kulkarni@philips.com

11.   Designer - 3D Modeling Expert (Job requirement - 1)
Job description
Job Purpose
We are looking for a qualified product designer specialising in 3D design. Strong with conceptual design and visualisation but also very competent when it comes to manufacturing processes, materials and finishing.

Deliverables
- Work closely with designers and project leads to create high quality 3D visual assets
- 3D modeling and rendering in software- Solidworks, Rhino, 3DSMax, Maya, Alias, AutoCAD, Revit etc(whichever suits your proficiency)
- Create realistic renders for packaging, POP related materials, layouts, spatial planning
- Produce efficient designs in line with budgets and expectations
- Understand the materials and finishing specifications and able to provide wise advice
Desired Skills and Experience
Knowledge/Skills:
- Ideally would have experience working in retail and with global brands.
- Understand current retail trends, furniture specifications, materials and finishes
- Strong visual competencies
- Strong manufacturing skills across all disciplines
- Detail oriented, ability to follow strict brand guidelines
- Knowledge of 2D and 3D software
- Creative skills with a strong visual eye
- A team player, passionate and self-motivated
- Ability to work quickly and under tight deadlines
And please, if you do not fit the above criteria please do not apply. Freshers are welcomed to apply for this job position.

Interested applicants may apply by sending in your updated resume to career.thinkingbug@gmail.com and include the following:

- Portfolio
- Notice period/Availability

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News@designforall.in

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Readers are requested to express their views about our
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Feedback@designforall.in

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