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Design for All

Guest Editor : Prof. Mugendi K. M'Rithaa

Content of February 2015 ol-10 No-2

Other regular features

Chairman's Desk:

Dr. Sunil Bhatia

Fire is everywhere around us in various forms and shapes. A few are known to mankind and some are still lying under the mystery of nature .There is strong hypothesis that initially earth was a fireball and gradually it turns to habitat after million years. 'How long man can escape from fire?' Man has special bonding with fire and it has become integral part of growth of humans. Volcano, lightening is nature's gift to mankind and it has played a significant role in development of human psychic. We cannot imagine our lives without fire. Fire was before the evolution of man and why humans took million years for its use, is still mystery. How did modern man evolve from primitive man has millions of years of discontinuity in modern history of development of humans because there was absence of fire in their lives? History can be defined in two parts before the discovery of fire and after fire as turning point in progress. What did make the man to control fire? Other living beings were merely acting as mute spectators and were just helpless to manage the fire for benefits of their communities. There are some efforts shown by Chimps otherwise they were victims and continued to live with similar mind set 'never dare to control fire'. They lived with fear of

fire because it was dangerous for their survival. Survival only allows them to avoid it otherwise they turned its victim and invited its consequences. 'Why animals could not think beyond survival as man could do it? How did make the primitive man used fire in his life? Why did he think of use of fire for development of mankind and it definitely helped in designing modern civilizations? The discovery of fire or more precisely the controlled use of fire was one of the earliest discoveries and made the way from the Stone Age to Iron Age to present Nuclear Age. 'Was it evolution of man's brain that required for cooked foods led to remove the deficiency of carbon or some kind of minerals intake in their foods by cooking in fire? I have noticed that pregnant woman with the deficiency of calcium or say some other minerals ate soil to meet those requirements. When I observed our sleep pattern I found we wake up after dark are deeply rooted with after discovery of fire. It is my belief that fire led to the foundation of development of modern civilization. We are using various form of fire like petroleum, hydro and organic as well as inventing new technique for exploiting the solar energy in place of fire. Our ancestors were wise and their wisdom forced them to learn the art of fire management and interested in that it should be under their control. 'Is it man's job to start the fire and the woman's job to keep it burning?' In early nineteen century in absence of matchsticks my grandmother used to hide the burning coal under the ash for simmering and it blocked the air contact for avoiding any eventuality because of coal fire.

There are two forms of burns. One is because of heat and another is from cold items. Cold burns are because of ice like products and lacks heat and light like fire and it is not exploited by man as he did with fire. It was confined to limited use of management of vegetable

produce. There are two ways to manage the fire. One was direct contact with fire or its heat and another was indirect where direct contact is blocked by some material. Man began with direct contact and it was responsible of weeding out grasses for preparation of fields when idea of agriculture struck in their minds. This exercise had affected our environments and changed the natural landscape, flora and fauna. That fire was responsible of killing insects, plants and other animals who were unable to escape. Our landscape would have been different in absence of fire. Agriculture made the man to think of cooked food to avoid some associated diseases with edible produce. They did experiment with fire and designed cooked foods by baking or roasting that unknowingly lower the cause of diseases. Another people who realized direct use of fire can give some benefits but for optimum exploitation we should design something that should control its direct heat. Indirect heat was responsible of designing "tawa" (Iron sheet) or other utensils for better management of benefits of fire. Initially it began with terracotta for putting up the fire and as our technology improved they used iron, brass, aluminum and stainless steel for utensils. History of Indian civilization reveals that they were aware about use of direct heat and it was developed around this concept. Potters or ironsmiths or goldsmiths still use direct heat techniques for baking, molding and melting. In domestic front every household was having primary design fix earthen stove in U shape made with local clay or secondary design mud mobile stove was designed in Iron Age by using iron cylinder like structure covered inside with mud and cow dung for burning cow dung cakes or coal for cooking that with three wedge for resting cookware for cooking technique for baking, roasting, boiling and frying for preparation of foods. Concept of

boiling and frying was nowhere in their minds because of absence of concept of indirect heat. It was mainly depending on wheat preparation and aware about grinding with stones. As man discovered rice and a found binding agent like wheat after adding water was missing they thought of concept of boiling that made it easily digestible. By that time man was aware that our body is designed for easily digesting the vegetarian foods not other items. How boiling did strike in their minds is not my area but they learnt this art. It was indirect heat that led to design of various cookware that can hold fluids in form of oils for frying or water for boiling or use of lid for pressure cooking.

It is still mystery for me that role of fire came too late in human development. Fire has mysterious power and why did it took long time to man for understanding its benefits. It has both light as well as heat and it was present before the evolution of man. What was the reason man could not use the fire in early developments? Ancient man observed that volcanoes heat so strong that going near might finish its existence. He learnt the art of keeping safe distance from it. Volcanoes are not ubiquitous but fire culture was witnessed in every part of the world. What did make the fire culture in every part of the world? I believe lightning was the reason that attracted the mind of people around the world. It strikes hundred times in a second and billionth times in a year was responsible of spreading fire throughout the world and affected the human thought processes of any areas of all the generations. It might be possible like other animals human might have experienced initial helplessness but man thinks beyond survival that led them to use this natural phenomenon for their benefits. Man of every generation was attempting to control the fire with their own designed experiments and somehow they

succeeded in somewhat in their approaches. Forest fire was because of natural disturbances that attracted their minds to realize the art of management of fire. Some might have thought to use its heating property and some used its character of light . Perhaps it allowed the ancient people to feel more secure and safe under the fire light in dark night from wild animals. They might have designed the torch by taking the log with one end of fire. They might have understood with trial and error method that one end of log with fire can be transported by holding other end where heat was not affecting. The first manmade designed with the fire was torch with burning one end of log and holding other end. Modern torch with battery still has same design of focusing from one end and holding from other end with on off switch. Man had learnt the art of transportation but still grouping in dark for ignition of fire, use as they wished and it should be under their controls to avoid any untoward incidences associated with fire. They designed bonfire by placing many logs for burning. That collective concept of putting log had come to their mind for prolonging the burning period. As wind blew fire flames were wavering and sometime it extinguished. They found effect of air plays some role that could control heat and flame .They designed the earthen stove with local clay in U shape and open end for pushing the log as well as allowing passing of air for burning. They might have inspired of such stove from borrowing the concept of hunting with fire. They burned the surroundings of possibility of presence of animals for food and left one place for its escape and waited for killing with spear. Later on they might have introduced three wedges of small height of one inches for resting of cookware for uniform heat as well for smoke management.

'How did they think to ignite fire?' Natural causes of fire ranges from lightening, sparks from falling rocks, volcanic activities and spontaneous combustion of plants materials and other organic materials. They were with scientific minds and realized mystery is lying with these products. They also realized that dried grass catches fire easily compared to green. Why one is green and other is dried grass led them to think that sun is responsible for it and later on people used the solar power by using glass for focusing its rays to initiate fire. Green grass allowed them to think that water in plant that does not allow fire. It means water can extinguish the fire. Modern people are struggling hard to exploit the solar energy that is abundant as a natural source. They collected dried grass and allow it to burn either by striking of two stone or took some fire debris of volcanoes or using plants that can produce fire when rubbed with other branch or whatever might be the reason of sparking but they succeeded in burning. Later on they had noticed that smoke envelope could also extinguish the fire but that needed proper attention. That gradually allowed them to think of design of various types of chimneys. The ability to control fire is one of humankind great achievement.

Thinking of ignition of fire developed two concepts of fire in one place i.e stationary and we call chulha and another that can move from one place to another i.e mobile. Torch was movable and bonfire was stationary. Movable fire helped in designing the stove with handle and we Indian called it angithi . Tandoor, pottery furnace, ironsmiths or goldsmiths were using stationary fire. Angithi modified version is used in winter to counter cold that hung close to belly with string holding around neck for keeping human body warm where ever they go. The journey of ignition from natural to

manmade safety matchsticks to gas lighter is interesting and need the attention of designers for further studies. Matchsticks or extended form that is lighter is nothing but attempt of carrying fire in safe mode. Extension of concept of earthen stove is design of automobiles. All automobiles burns the petroleum or inflammable products to create the desired pressure for movement of the valves as designed by James Watt for movement by locomotive engine. Modern thermal power or nuclear power plant is extension of earthen stove. Even to dispose of the dead we designed furnace and it is nothing but one kind of extension of earthen stove. Fire was used with care and closely respects by human what animals lack in respecting others. Close observation of battery indicates us that it is nothing but extension of earthen stove. Bombs, granites, bullets are nothing but extension of earthen stove where we use releasing of pin for ignition of hand held explosive to destroy enemies or use pistol or gun for releasing fire.

Fire has some mysterious power. Fire helped in controlling dieses and use for killing insects and mosquitoes. Fire was also use in the form of communication. If some one is lost and wishes to receive the attention for help they use smoke signal for SOS help .During my college days the political parties used to express their solidarity on some particular policy or expressed their anguish they marched their procession in the street by holding fire torch. Fire is used for making tools. It has revolutionized the concept of Iron Age and designed the tools for agriculture as well for war weapons for protection from enemies. Latest weapon uses fire as primary element and are known as firearms.

Fire was applied as medicine. Most of the skin diseases were cured by burning affected areas and protected from foreign elements and

allowed it to replaced with new skin . This practice is still used by our practitioners and they apply other chemicals that gradually burn the upper affected skin layer and allow to replaces with new one.

Man faced the challenge with fire in three areas- how to safely ignite the fire, where to put the fire and how to extinguish. Ignition has started a new venture of producing fire from stone to match stick to electronic lighter. Basic objective is same but application of technologies is different. Red phosphorous match stick was result of our chemical knowledge, gas lighter is because of knowledge of inflammables material like petroleum and electronic is product of our semiconductor knowledge. Future may be with solar. Our ancestors were aware about potential of solar power but lack proper knowledge for proper exploitation. They experimented with glass for focusing the sunrays for producing fire. Why did we fail in exploiting the solar power till this date is a mystery . Next is where to keep fire – it started with bonfire and they realized earth surface is resistant to heat to our man made earthen stove to concrete structure of nuclear plant. Last phase has contributed for fire resistant technology of extinguish by putting soil, water to fire resistant cream . We have designed a specific fire brigade department that is equipped to handle unwanted fire consequences. Fire has added new words and phrase in our vocabulary and expression. Fire in heart may be expression for passion or intellect or revenge. Man without fire indicates cold toward particular topic. Fire confirms strength and force both inside and outside of the man.

Fire has property of heat and sudden appearance from lightning might have not given chance to man to escape from its effects been responsible of faster evolution of man. It cannot be ruled out that fire made the man for quick actions and adrenal gland supported us

in faster running and cumulative effects with other factors allow man to stand and run. We have balancing mechanism within our ear in the form of liquid and probably other animals' lack. It indicates that man was equipped for standing but some reason he was unable to do so. It was the fire that worked as catalyst and pushed him for standing .Fire has affected our vision and helped in looking beyond our sight in dark that led to think further improved by designing binocular to see beyond our capability. Our physical strength was limited to carry on our backs but fire that is responsible of thinking carts, automobiles enhanced our capability. Weapons designed were revolutionized after discovery of fire. It has made the man more secure but sorry to say it helped in designing mass destruction fire arms. Fire can destroy as well as create new. It is the human mind how it uses it .

Prof Merandi of South Africa is the first distinguished Guest Editor who has great passion for design and worked hard for benefits of the society. It is our honor that he has accepted our invitation and it will be our first special issue from Africa continent by African with modern education but roots are with local ground.

With regards

Dr. Sunil Bhatia

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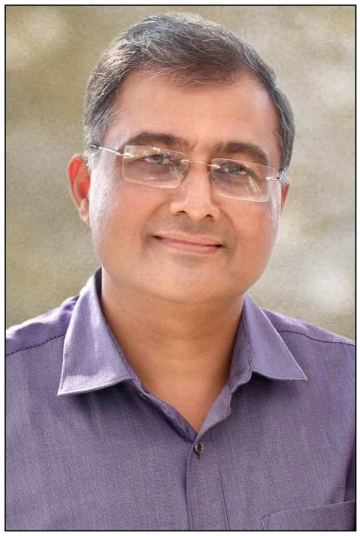
Forthcoming issues

March 2015 Vol-10 No- 3

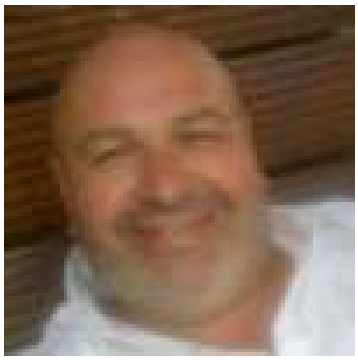


Dr. Puneet Tandon , Dean, Planning & Development, Professor of Mechanical Engineering ,Professor of Design PDPM Indian Institute of Information Technology, Design and Manufacturing Jabalpur ,IIITDM Jabalpur (An Institute established by Ministry of Human Resource Development, Government of India) ,Dumna Airport Road, Jabalpur. 482 005 India will be the Guest Editor.

April 2015 Vol-10 No-4

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

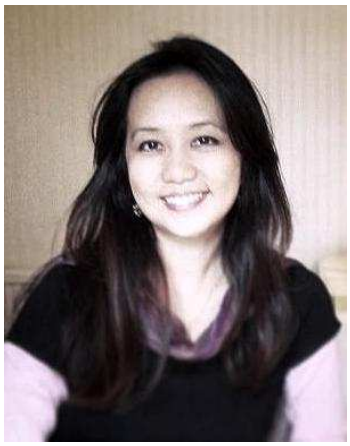
May 2015 Vol-10 No-7



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

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

June 2015 Vol-10 No-7



Dr.Antika Sawadsri is a full-time lecturer in the School of Interior-Architecture at King Mongkut's Institute of Technology Ladkrabang (KMITL). She received a PhD from the School of Architecture, Planning and Landscape, Newcastle University, UK. She has qualifications on interior Architecture and Planning and is a specialist in an interrelationship between social construction of 'disability' and the designed environment. Her academic interest focuses on inclusiveness in the process of creating living spaces. Recently, Antika has taken parts in both the State's agencies and non-government's

movement in mobilising equal access to the buildings and city of disabled and ageing groups in Thailand.

July 2015 Vol-10 No-7

Humaniteam is a design laboratory which focuses on Health and Disability-related issues. We believe that the practice of a sport is conducive to enhancing the skills of people in disability situation in their everyday life environment.

Design acts as a bridge between each pole of expertise, thereby creating a common language and translating it into objects or services. HUMANITEAM is really passionate by design for All. Many projects of UD are ongoing. Ms Claire Fauchille will be the Guest Editor.

August 2015 Vol-10 No-8

Dr. Bijaya K. Shrestha received Doctoral in Urban Engineering from the University of Tokyo, Japan (1995-'98), Master in Urban Design from the University of Hong Kong, Hong Kong (1993-'95) and Bachelor in Architecture from the University of Roorkee (now Indian Institute of Technology), India (1983-'88). Dr. Shrestha has got working experiences of more than two decades. He had already served to the Department of Housing and Urban Development, Ministry of Housing and Physical Planning, Government of Nepal, United Nations Centre for Regional Development (UNCRD), Japan and various architectural schools in Nepal before taking the present job at Town Development Fund (TDF). He has initiated a new master program in Urban Design and Conservation at Khwopa Engineering

College, Purbanchal University, where he served two years as Head of Post-graduate Department of Urban Design and Conservation.

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

September 2015Vol-10 No-9

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

October 2015 Vol-10 No-10

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

November 2015 Vol-10 No-11

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

GUEST EDITOR:

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

Guest editor:

Prof. Mugendi K. M'Rithaa

Advancing Universal Design/Design for All in Africa

It is gratifying to observe the widespread diffusion of design strategies that seek to include and accommodate as wide a population as possible. Through the growth of allied designerly disciplines like Design for All (DfA), Inclusive Design, and Universal Design (UD), the needs of all end-users (whether they be from vulnerable or mainstream populations) are addressed in a non-stigmatising, humane and empathic manner. Whereas my research and professional practice is informed by Principles of Universal Design, I embrace every expression of socially conscious design.

I owe my passion for socially conscious design to the influence of my erudite professors when I was pursuing a Masters in Industrial Design degree at the Industrial Design
Centre of the Indian Institute of Technology in Mumbai just over two decades ago. I thus consider this opportunity to as a Guest Editor a singular honour, and a humble form of intellectual homecoming.

I have lent considerable energy over the last ten years on efforts at mainstreaming UD/DfA thinking in Africa. The continent is the second largest continent and home to about a billion people speaking over 2,000 languages. The challenges associated with such a vast and complex geopolitical terrain cannot be overstated. The fact that much of sub-Saharan Africa still suffers from extreme levels of poverty, as well as the debilitating impact of the HIV-Aids

scourge and widespread conflicts only exacerbates the matter further.

Notwithstanding, Africa is also an amazing place abuzz with innovative people pursuing an innovative spirit and superior work ethic akin to that of *jugaad* as expressed in Hindi. It is against this backdrop of rapid industrialisation, high GDP growth potentialities, and an increasingly literate and connected populace that we pursue efforts at demonstrating the efficacy of UD/DfA thinking. Additionally, the influence of the humanising philosophy of Ubuntu informs a decidedly pro-human rights form of design advocacy and activism amongst the denizens of this creative continent.

Africa has recently benefitted from the opportunity to host global mega-events such as the FIFA 2010 World Cup in South Africa, and more recently, Cape Town's designation as World Design Capital 2014. Such events have provided a unique platform for Africa to show its positive attributes, not least its people. Subsequently, many of the socio-economic challenges facing myriad populations on the continent have also come under the spotlight and demand urgent and concerted effort for redress. Associated 'wicked' problems also invite the participation of designers, engineers, architects, ergonomists and allied professionals role of socially inclusive and empathic strategies for advancing universal accessibility for all. Further, from our experience, there should be a strong link between 'design for all' and 'design by all' (Participatory or Co-Design).

In an attempt to showcase some of the UD/DfA activities and initiatives in Africa (such as automotive or 'driving for all', and

domestic applications or 'cooking for all'), we invite readers to join us as we reflect on efforts to design for extreme affordability in majority world (or industrially developing) contexts poverty and resource constraints abound. Further, we commend the Editor and Contributors to this important DfA journal for according us this opportunity to share our own stories so as to facilitate robust intellectual discourse on a subject of utmost importance: "I am because we are"…

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***Mugendi** is an industrial designer, educator and researcher at the Cape Peninsula University of Technology. He studied in Kenya, the USA, India and South Africa and holds postgraduate qualifications in Industrial Design and Higher Education, as well as a doctorate in Universal Design. He has taught in Kenya, Botswana and South Africa and is passionate about various expressions of socially conscious design, including Participatory Design; Universal Design; and Design for Sustainability.*

He has a special interest in the pivotal role of design in advancing the developmental agenda on the African continent. He is associated with a number of international networks focusing on design within industrially developing (or majority world contexts). He is also the President-Elect of the International Council of Societies of Industrial Design (Icsid) and much of his work focuses on the importance of Icsid in supporting the aspirations of younger designers.

Mainstreaming Universal Design in Cape Town: experiences at a university of technology

Prof. Mugendi K. M'Rithaa

Abstract

This article interrogates some contextual issues relating to efforts at mainstreaming Universal Design (an allied discipline of Design for All) within a majority world context. Cape Town, though a city of great natural beauty, has to overcome the exclusionary legacy of apartheid in its spatial planning and infrastructural provisions.

Additionally, the paper (which draws on the author's doctoral research, a number of applied research projects in which he has been a principal investigator, and past experience with student projects) presents the state-of-the-art in Universal design thinking at the Cape Peninsula University of Technology where Universal Design has been mainstreamed into the institutional and pedagogical ethos.

Keywords: ***Cape Town; mainstreaming; majority world contexts; Universal Design***

1.0 Introduction

South Africa's progressive constitution enshrines the rights of all its people to information and environmental access, social participation and inclusiveness (through embracing diversity) (South Africa, 1996). The country has eleven languages (plus South African Sign Language) – it is second only to India (which has 23) in the number of official languages recognised in the country. In the Western Cape Province (with Cape Town as its administrative capital), the official

languages are Afrikaans, isiXhosa and English (in rank order). The growing complexity of urbanscapes and the increasing number of foreigners visitors continues to demand an inclusive and inspired response to the diverse needs of visitors with varying degrees of visual as well as general literacy (Vrooman, 2007). Cape Town has an imperative to become more open, 'legible', and inclusive to evolve into a truly universal city (M'Rithaa & Futerman, 2007). Such aspirations have been bolstered in the city by the hosting of important mega-events and globally recognised designations such as the FIFA 2010 World Cup, and the World Design Capital 2014.

2.0 Definitions of Disability

There are three important and distinct aspects of the disability process as defined by the WHO (2002):

- ***Impairment*** **is any loss or abnormality of psychological, physiological, or anatomical structure or function**
- ***Disability*** **is any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being**
- ***Handicap*** **is a disadvantage for a given individual, resulting from an impairment or a disability, that limits or prevents the fulfilment of a role that is normal (depending on age, sex, and social and cultural factors), for that individual.**

Further, impairments and disabilities may be visible or invisible, temporary or permanent, and progressive or regressive. Further, there are two main 'models' with respect to disability; the *medical* 'model', and the *social* 'model' (Oliver, 1990; 1996; Jönsson & Certec, 2006). By placing the problem of disablism within societal responses, the following definition by the *Disabled People South*

Africa **(DPSA) adopted from the British Council of Organisations of Disabled People reinforces its affinity towards the social model of disability (DPSA, 2004):**

> ***Disability is the disadvantage or restriction of activity caused by a society that takes little or no account of people who have impairments and thus excludes them from mainstream activity.***

The influential *White Paper on an Integrated National Disability Strategy* (INDS) in South Africa (in keeping with similar trends internationally) adopts the social model of disability (ODP, 1997):

> ***One of the greatest hurdles disabled people face when trying to access mainstream programs is negative attitudes. It is these attitudes that lead to the social exclusion and marginalisation of people with disabilities.***

More recently, the *biopsychosocial* 'model' proposed by the WHO (and attributed to George L. Engel) seeks to reconcile the two often-opposed views of the *medical* versus *social* ones (Pasha & Pasha, 2006). DePoy and Gilson (2004:3) refer to these schools of thought as the "*medical-diagnostic* phenomenon and disability as *constructed*". From a theoretical point of view, DePoy and Gilson (2007) advance the *Explanatory Legitimacy Theory* as a more unified and conciliatory (as opposed to a divisive dichotomous) view of disability. The Explanatory Legitimacy Theory is also congruent with the basic promise of the biopsychosocial model of disability and underpins the fundamental premise of *Universal Design* As Coleman (1999) argues, Universal Design as a specialist sub-discipline addresses design in the context of needs for all people – of all ages

and abilities and is associated with Design for All, Design for the Broader Average, Design for Disability, Inclusive Design, Kyoyo-Hin, and Transgenerational Design (these related concepts shall be deemed analogous with Universal Design in the context of this article).

3.0 Prevalence of Disability

Whereas the global prevalence of disability as observed by the World Health Organization (WHO, 2007) averages 10-12 per cent of a given population, the data availed through the South African national Census 2001, approximated 5% of the population as reporting a "serious disability" (Stats SA, 2005). The figures elicited from the 2011 Census however tend to paint a different picture – some 11.1% of the population reported that they experienced "at least some difficulty" in performing everyday activities of daily living (such as seeing, hearing, communicating, climbing stairs, remembering or concentrating, and taking care of themselves) (Stats SA, 2012). It should be noted that the manner in which the questions were framed and posed to respondents in the two censuses had a significant impact on the quality of responses. Possible reasons for the higher figures in the latter census could have resulted from less stigmatising questions, as well as the expectation of social welfare grants and similar assistance associated with such disclosure. Indeed as it stands, some 12.5 million people – about a quarter of the country's total population benefit from one or more forms of social grant on a regular basis, including that for disability (South Africa, 2008).

Apart from more explicit impact of disability, the net effect of the HIV/Aids pandemic on health and life expectancy in sub-Saharan

Africa has been nothing short of devastating (Edries & Triegaardt, 2004). For example, in the 38 most-affected African countries (the majority of which are in the SADC region), nearly 10 years of life expectancy will have been lost by 2020-2025 (UNDP, 2005). Universal access to treatment, such as through the highly regarded *Anti-Retroviral Therapy* (ART) is presently the most practical means of prolonging the lives of people living with HIV/Aids. Despite an initial response of official denialism on the link between HIV and Aids, the South African government has since committed itself "to the 2006 United Nations High Level Meeting on HIV/Aids, to scale up towards HIV prevention, treatment, care and support by 2010" including "providing universal access to antiretroviral treatment and to services to prevent mother-to-child transmission of HIV" (UNAIDS, 2008:9).

4.0 Categories of Disability

Disability is typically classified by its severity on an individual's capacity for independent functioning. Traditionally, the vast array of responses have emanated from the need for biomedical or social welfare interventions to facilitate the individual's need for autonomy (ODP, 1997). The medical model categorises disability into two broad categories:

- **physical/sensory:**
  - ***locomotor (e.g. ambulatory impairment);***
  - ***hearing (e.g. deafness, hardness of hearing);***
  - ***visual (e.g. blindness, macular degeneration, cataracts, poor sightedness);***
  - ***speech (e.g. speech disorders, language disorders); and***
- **mental/intellectual (e.g. dementia, autism, cerebral palsy, Down Syndrome).**

Disabilities of the locomotor type (ambulatory aid/device users including wheelchair-dependent disabled persons) are the most visible and by far, the most prevalent in any given population and is occasioned by a variety of causes. Whilst respecting the great heterogeneity within this category, this paper focuses on the tacit or experiential limitations brought about by the diverse forms of disability, and not on any specific expressions of individual disabilities – this aligns with the Universal Design Principles' ethos of inclusion (CUD, 1997). Subsequently, Universal Design seeks to profer design solutions for all people – it places special emphasis on accommodating the access needs of diverse vulnerable populations, including the disable, the elderly, women, children, foreigners and visitors (ibid). Many of these categories of end users actually overlap. For example, the correlation between ageing and disability is confirmed by Stats SA (2005:17):

> ***There are striking differences at the younger ages (below 30 years) where 63% of non-disabled persons belong in this age range compared to 35% of disabled persons. This in itself implies that a higher proportion of disabled persons are older. Of the non-disabled population, only 12% were 50 years or older, while 37% of the disabled were in this age category.***

The challenges of resource allocation and prioritisation of funding impact on care and provisions for vulnerable populations markedly. Education is often viewed as a long-term investment by a country and thus as being a lower economic cost than that of supporting the elderly – this often leads to neglect of the needs of the elderly in favour of the youth. Additionally, Barnett and Whiteside (2002:196) argue that orphans and the elderly are the two main categories of

dependants brought about by HIV/Aids [in sub-Saharan Africa] and that the epidemic "has altered and will progressively alter the demographic structure of many societies; [leading to many] children-led households; [with] grandparents as primary care-givers due to absence of parents; [and instances wherein] some children and elders also get infected (not just effected) by HIV/Aids".

Apart from its association with Aids, disability is also linked to violence and war (OSD, 1997). Armed conflict is a major contributor to disability on our continent. For example, anti-personnel landmines have orphaned and maimed many children as a result of the protracted armed struggles in the southern African countries of Angola and Mozambique – despite dedicated efforts by many actors and agencies, vast sections of these two countries are yet to be declared mine-free and subsequently safe for civilian habitation. An inclusive response to the accessibility needs of the young in South Africa would most likely be benchmarked by its immediate neighbours in the SADC region with similar socio-political challenges. Such responses must of necessity adopt a multi-generational (or transgenerational) perspective to ensure success. This is particularly true for African populations which have lost the bulk of their working population to the ravages of war, disease, poverty and related social ills.

5.0 Disability-specific Legislation

The *Promotion of Equality and the Prevention of Unfair Discrimination Act* (hereinafter referred to as the *Equality Act*) follows the spirit of the pioneering ADA of the USA, as well as the DDA of Australia and the United Kingdom (M'Rithaa, 2006). The

Equality Act **takes cognisance of two important factors (South Africa, 2000:6):**

> ***(a) The existence of systemic discrimination and inequalities, particularly in respect of race, gender and disability in all spheres of life as a result of past and present unfair discrimination, brought about by colonialism, the apartheid system and patriarchy;*** **and**
> ***(b) the need to take measures at all levels to eliminate such discrimination and inequalities.***

The *Equality Act* draws on recommendations of the *Integrated National Disability Strategy* to spell out the legal obligations and implications of the Act on all role players in the public and private domains (SAHRC Report, 2002). Further, the *Equality Act* provides for the establishment of 'equality *courts'* to determine 'fairness or unfairness' within the ambit of the Act (South Africa, 2000:8). The courts seek to determine culpability based on discrimination on 'prohibited grounds' (*ibid*). As discussed previously, exceptions are made if there is proof that 'the discrimination is fair' – such as in the legally sanctioned transformational measures of affirmative action to redress gender, race or disability imbalance in employment equity (South Africa, 1998; 2000). The *Equality Act* (South Africa, 2000:7) also prohibits potentially discriminatory practices by the design professions such as by:

> ***(a) denying or removing from any person who has a disability, any supporting or enabling facility necessary for their functioning in society;***

(b) contravening the code of practice or regulations of the South African Bureau of Standards that govern environmental accessibility; **and**
(c) failing to eliminate obstacles that unfairly limit or restrict persons with disabilities from enjoying equal opportunities or failing to take steps to reasonably accommodate the needs of such persons.

The need to promote *universal access* is clearly inferred as one of the objectives of this Act (SAHRC Report, 2002:8). The mandate to provide 'reasonable accommodation' through relevant *South African Bureau of Standards* codes and regulations fails given the rather generalised and unenforceable phrase that "every effort be made to provide such facilities" (South African Standard, 1990:152). Notwithstanding, there has been an attempt in *Part S: Facilities for Disabled Persons* at providing professional architects with guidelines on access provision in buildings (South African Standard, 1990). Other requisite standards and building codes have been developed to complement *Part S* (South African Standard, 1993; South African National Standard, 2004). Recent revisions of ambiguous language and pertinent technical guidelines vis-à-vis national building codes and regulations appear to have removed the legal loopholes that previously frustrated efforts at implementation of universal access.

To date there has been only one recorded case of successful litigation through an *equality court* in South Africa in which a police station in Port Elizabeth was sued for being inaccessible to people with physical disabilities. There may well have been a much larger number of cases reported, yet never litigated. The low visibility of such court cases may be attributed to complainants agreeing to

settle such matters out of court as is the case in the USA and United Kingdom (Dong, Keates & Clarkson, 2003). By agreeing to settle out of court, disability and accessibility activists are denied vital ammunition to effectively counter such discriminatory practices which consequently continue unabated thereby further excluding disability concerns from the mainstream (Peters, 2000).

Koncelik (1998) asserts that emphasis on legislative compliance often leads to the adoption of the bare minimum requirement as the law is seen to be punitive in spirit – a more proactive approach would be to use incentives (as opposed to the threat of the law) to encourage voluntary compliance (Coleman, 2006). This latter approach is a more sustainable one that lends additional support for the 'business case'. Other disability-specific legislation include the *Employment Equity Act* of 1998 which sets a minimum benchmark for designated organisations to have 4% of all their employees as being people with disabilities – *i.e.* those with "long-term or recurring physical or mental impairment[s] which substantially limits their prospects of entry into, or advancement in, employment" (South Africa, 1998:10; 2003a:8). The Act (*ibid*) and supplementary *Technical Assistance Guidelines for Employment of People with Disabilities* (South Africa, 2003a) legally enforces 'reasonable accommodation' wherein employers take "affirmative measures consistent with the purpose of this Act" – *ipso facto* in redressing equity imbalances in the workplace (South Africa, 1998:14).

Whereas the imperative for transformation in employment equity through *affirmative action* is an urgent issue for the country, the nobler objectives of the *Broad-Based Black Economic Empowerment*

Act **(BBBEE) of 2003 are compromised by the failure to take cognisance of long-term 'side-effects' on the national repository of intellectual and human capital (South Africa, 2003b). A more creative (and sustainable) strategy is required – a critical review of achievement of transformational goals achieved thus far, as well as an extrapolation of present trajectories by factoring in alternate scenarios – such as the potential benefits of *mentorship* and proactive *succession planning* in *performance management* systems for incumbent employees irrespective of their racial profiles (Macpherson, 2001).**

With regards to education, UNESCO (2003) promotes the provision of *inclusive* educational modes of learning over the traditionally dichotomous practice of so-called 'mainstream' versus 'special' schools. Impetus for *inclusive education* through 'full-service' schools and colleges (to accommodate students with disabilities) is found in *The Higher Education Act* (South Africa, 1997). Importantly, this Act encourages co-operation between public Higher Educational Institutions so as to share and benefit from best practices (ibid). Integral to this co-operation is a critical examination of the physical environment as well as the philosophy and practice of teaching and learning (Howell, 2006; Inclusive Education Western Cape, 2006). In mainstreaming inclusive education over a twenty year period, e-learning, smart technologies, and distance learning options would need to be incorporated for greater accessibility, consequently reducing the number of (excluded) students requiring *special education* interventions to learning – a system which has its roots in the *medical* model of disability (South Africa, 2001).

6.0 Political Implications

Historically, the needs and rights of previously politically marginalised, socio-economically disenfranchised and vulnerable sections of society were neglected by the apartheid regime in South Africa (Howell *et al.*, 2006). Further, the apartheid dispensation left behind "a discriminatory and weak legislative framework which has sanctioned and reinforced exclusionary barriers" (ODP, 1997). Subsequently, DPSA aligned itself with the political struggle for self-determination of blacks in the country as they shared kindred political and moral aspirations (Rowland, 1984). Upon the advent of democratic rule in 1994, the DPSA successfully lobbied for its agenda to be included in all official policy formulation – a fact that was strengthened by the *Office on the Status of Disabled Persons* (OSDP) being integrated into the *Office the Deputy President*, Thabo Mbeki (ODP, 1997; OSDP, 2003; Matsebula *et al.*, 2006). DPSA's pervading influence has led to the formation in May 2009 of the new *Department of Women, Youth, Children and People with Disabilities* headed by Ms Noluthando Mayende-Sibiya; as well as the appointment of "the first person with a disability in Cabinet as Deputy Minister for Public Works" Honourable Henrietta Bogopane-Zulu. The influential *Integrated National Disability Strategy* was proposed to guide the implementation of the ideals of equity and inclusiveness as enshrined in the *Bills of Rights* by countering "the key forms of exclusion responsible for the cumulative disadvantage of people with disabilities [namely] poverty, unemployment and social isolation" (ODP, 1997). When Thabo Mbeki succeeded Nelson Mandela as president in 1999 the disability desk concurrently moved to the *Office of the State President* thereby consolidating the

political power it had gained from its propinquity to the powerful office in the land (Matsebula *et al.*, 2006).

South Africa's political commitment to the disability movement led to the establishment of the Secretariat for the *African Decade for Persons with Disabilities* (APDP) in Cape Town (OSDP, 2003) whose mandate was recently extended by the *Africa Union* for an additional decade till 2019. Disability continues to enjoy growing recognition and integration into the majority of local/municipal, regional/provincial and national/state legislation and policy formulation. *The Declaration of Bamako* on Inclusive Education acknowledges the fact that the New Partnership for Africa's Development (NEPAD) omitted specific mention of the promotion of people with disabilities and seeks to remedy the situation (Inclusion Africa, 2002).

Notwithstanding, the mainstreaming of disability issues should be achievable provided there are clear, measurable goals set by the NEPAD Disability Desk within the framework of ADPD's extended tenure – given the Secretariat's track record of effective high (Ministerial) level lobbying for the successful implementation of disability-specific policies in Africa thus far (USAID, 2005). The APDP is also a key actor in a number of international initiatives, including the *New EU-Africa Strategy* that was finalised in December 2007 (DPOD, 2008). According to DPOD (*ibid*), "the strategy pays particular attention to persons with disabilities in the fields of health and education. The adopted strategy gives recognition of the need for full access to health and education services for women, children and men with disabilities as well as in the context of the Millennium Development Goals".

7.0 Efforts at mainstreaming Universal Design in Cape Town

In 2005, the author initiated a Universal Design module in the Department of Industrial Design at the Cape Peninsula University of Technology (CPUT) that fed directly into the undergraduate National Diploma in Three-Dimensional (3D) Design. The small yet dedicated cohort of product and industrial students emerging from this pioneering group have since demonstrated the efficacy of Universal Design thinking in diverse applications. In 2007, Rael Futerman completed a Masters degree entitled *"Inclusive fitness: participatory design approaches for active ageing"* (and is presently completing his doctoral studies in *design for participation*); Guillaume du Toit is pursuing a Masters in Universal *Design for Disability* (his article is included in this publication) (http://www.cput.ac.za/newsroom/news/article/1546/cput-breaks-ground-with-british-council-in-south-africas-first-africa-knowledge-transfer-partnership); and Colette Fransolet is completing a Masters entitled *"Universal Design for low-cost housing in South Africa: an exploratory study of emerging socio-technical issues"* – all in Cape Town. In August 2014, Ms Fransolet also co-organised and hosted the first international Universal Design conference on African soil as part of Cape Town's World Design Capital 2014 activities (http://www.theevent.co.za/cape-town-hosts-africas-first-universal-design-conference/).

A *Universal Design Audit Checklist* (Levine, 2003:212-225) was deployed to carry out an accessibility audit at Kirstenbosch Botanical Gardens in 2007. Figures 1 to 4 show accessible elements observed in situ at the botanical gardens. These include an audio system called *My Guide*™ that uses radio technology may be rented on

request at the *Ticket Office*. The system falls into the category of *electronic travel aids* (ETAs). My Guide™ is presently available in two languages (namely *English* and *German*) and comprises a handset (Figure 1) that receives radio frequency transmissions via radio beacons (Figure 2) identified by red markers placed along the *Braille Trail* (Figure 3). The trail is designed in such a way as to return the visitor to the point from which the journey began. The system is one-way and therefore limited in terms of user interactivity needs – one can only access a pre-set menu.

Figure 1: My Guide™ handset in use

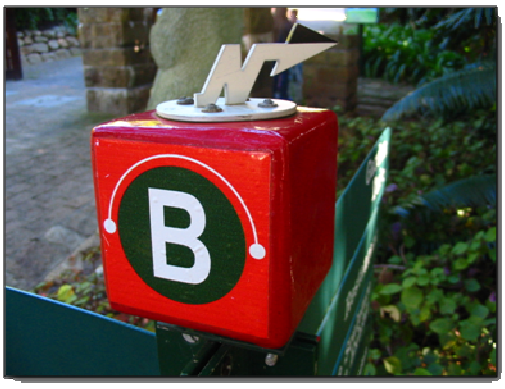

Figure 2: Beacon for My Guide™ with cardinal direction

Figure 3: Braille Trail

The *Braille Trail* (Figure 3) was specifically established to cater for people with visual disabilities and uses a contrasting red guide rope with information boards located along it that explain the different aspects of the trail. Each board is clearly marked by a large red block that is located along the route – the actual information is displayed on the front in a visual and text format and on the top in Braille. The trail itself offers a multi-sensorial experience of nature in the form of aural and tactile activities and information relating to the immediate environment of the small forest area. The start and finish of the *Braille Trail* are located very near to each other on the same main pathway and directly opposite the *Fragrance Garden* (Figure 4) to reduce the distances visitors need to traverse to access these amenities. The *Fragrance Garden*, with its array of smells from the indigenous *fynbos* (*Afrikaans* for 'fine bush'), has been designed to appeal to visually disabled visitors as well as the general public for an enhanced experience. It offers reasonably support via a sturdy guide and support rail and information boards, which have both text, images and Braille, posted along the path. The plant bed is also

raised to (standing) waist height in order to facilitate greater interaction between visitors and the flora.

Figure 4: Fragrance Garden

Recently, two industry-initiated Universal Design-led interdisciplinary projects have been realised at CPUT. These projects have brought together postgraduate students and their supervisors from industrial design, mechatronic and adaptronic engineering, product lifecycle management, and human performance/applied ergonomics at CPUT. The first entitled *"Driving Dreams"* (http://www.cput.ac.za/newsroom/news/article/2545/driving-dreams) involves the design of a drive-by-wire vehicle controls and displays for a driver without hands and is being implemented in collaboration with Nicky Abdinor (https://www.youtube.com/watch?v=oJV9LG9-Vp0) of Nicky's Drive. The second project is entitled "UD@Home/Cookable" (see Figure 5) – it is the development of a modular set of kitchen appliances for one-handed use and was inspired by Hekkie Brink, a self-taught inventor (http://betterlivingchallenge.co.za/finalists-udhome/). Both projects received wide recognition, the former as an

official Word Design Capital 2014 project (http://www.icsid.org/news/year/2015_news/articles1966.htm), and the latter as a finalist at the Better Living Challenge (http://betterlivingchallenge.co.za/better-living-challenge-announces-finalists/). The latter also received a significant boost via funding from the Ackerman Family Trust (http://www.cput.ac.za/newsroom/news/article/2569/ackerman-donation-boosts-universal-design-home-project).

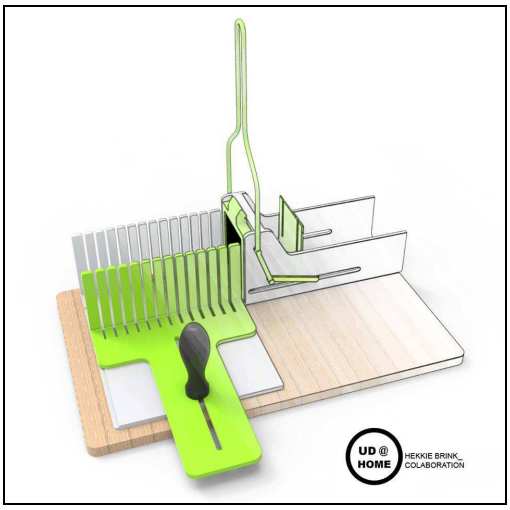

Figure 5: UD@Home one-handed use kitchen appliance

8.0 Conclusion

Universal Design impacts communication, manufacturing, education and the built environment, to name a few sectors. As a specialist discipline, it has been steadily gaining support and recognition in Cape Town over the last decade through a combination of committed support, advocacy and design activism of a small group of actors. A number of key projects have aided in the promotion of the concept first amongst design educators, students and practitioners; and then within broader societal discourse and engagement. As the global phenomenon of ageing populations takes root, the importance of adopting such an inclusive and transgenerational approach to the

design of products, services, and systems will grow in strategic and economic import.

Lessons learnt by the author and his associates indicates that tangible, demonstrable projects have a far greater impact on helping engender support and appreciation for Universal Design than merely offering it in its 'purer' didactic and pedagogic offerings in higher education institutions. Additionally, linking Universal Design thinking to the developmental agenda, as well as to local and regional aspirations and priorities, has proven efficacy in the real world.

Finally, a poly- and potentially trans-disciplinary approach to projects and initiatives involving multiple technical disciplines as well as the active participation of industry partners (through funding support) portends well for the growth and mainstreaming of the field. Such progressive and productive collaborations have already yielded benefits for academia, civil society industry, and governmental agencies and hold promise of further growth in the years ahead.

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ADVANCING THE *BUSINESS CASE* WITHIN CAPE TOWN'S DISABILITY SECTOR

Keneilwe Munyai

Prof. Mugendi K. M'Rithaa

ABSTRACT

This article interrogates traditional forms of production that promote inclusiveness by encouraging the active participation of people with disability in gainful economic activity. Such participation enables people with disabilities to enjoy a certain degree of economic independence and personal freedom, as well as giving them a sense of responsibility. Universal design is an inclusive form of design, and becomes particularly important when the craft products themselves are manufactured by people living with disability as this gives them an opportunity to express themselves as well as use the skills that they have to earn a living.

This article offers valuable insight into potential strategies for shifting the disability sector from the prevailing *social welfare* paradigm to that of a *business model*. The former views people with disabilities as *passive recipients* and dependents of social largesse, whilst the latter sees them as *active contributors* to economic activity provided they are empowered through appropriate skills and opportunities.

This article presents a case study of the *Cape Town Society for the Blind* (CTSB). The organisation has been in existence for more than 50 years and have been using methods of producing artefacts out of natural fibres. The production process of various items employs local knowledge and expertise. The CTSB offers the visually impaired members of the society opportunities to use their embedded knowledge and skills in craft production employing natural materials and traditional skills such as textile weaving and knitting, cane weaving and advanced cane weaving – these activities inform efforts to mainstream a business model driven by collective efficiency and productivity.

In Africa and other developing countries, people with disabilities are often vulnerable and susceptible to social exclusion, stigmatisation, discrimination and economic disadvantage. Further, people with disabilities are often excluded from participating in the rights and opportunities that are guaranteed to every member of society as enshrined in most countries' Bills of Rights. In South Africa, the government is keen to enforce the rights of all its citizens and is evolving progressive strategies to address issues of equality, access and inclusion. It is against this backdrop that the advancement of business model in the disability sector is investigated.

Keywords: ***Cape Town Society for the Blind; disability; eco-design; economic empowerment; local knowledge; sustainable development.***

INTRODUCTION

This article discusses one case in Cape Town wherein people with disability play a significant role in advancing the sustainable development agenda. Specifically, the said initiatives offer valuable insight into potential strategies for shifting the disability sector from the prevailing *social welfare* paradigm to that of a *business model*.

The traditional meaning of social welfare referred broadly to a state of human well-being, contentment and prosperity which was linked to families, communities and societies meeting their needs through maximising social opportunities (Mastry, 2008). According to Streak and Poggenpoel (2005:4-5), after 1994 South Africa was faced with the task of transforming and extending the social welfare system to reach the majority of South Africans who had not benefited during the apartheid government. The democratic government's need to change the system was implicit in policy promise and human rights obligations. Social welfare is central to the concept of development. However, currently the term *social welfare* in contemporary society is equated with *charity* (Maistry, 2008).

However, sustainable development has brought rapprochement between concepts such as ecology, economy and social equity in the process of fostering growth (Sachs, 1993). Social equity is critical since unjust societies are unlikely to be sustainable in the environment or economic terms in the long run, social equity represent the social aspect of sustainable development

and is seen as a criteria for environmental justice and encompasses various concepts such as the environment, social equity focus on quality of life, equal economic distribution, freedom and democracy, public participation and empowerment and economic justice (Haughton, 1999). In this regard, *Design for Sustainability* (DfS) is "a design practice, education and research that in one way or another, contributes to sustainable development" (Vezzoli, 2007:39). Additionally, DfS is a critical ethos for unlocking latent creativity, as well as for enhancing social equity and cohesion (Vezzoli & Ceschin, 2008; Vezzoli & Manzini, 2008).

Encouraging economic participation by people with disability might help to overturn social exclusion and for them to be viewed as differently abled (Barnes & Mercer, 2004). According to the NDA (2012) people living with disability feel that having a full time job was regarded as a positive factor, it gave them freedom, and independence.

Sustainability put emphasis on the realisation of human needs through development. Sustainability is therefore an environmental logo while development is an economic one is known as sustainable development merges all the three concepts (Jabareen, 2006; Ferraro, White, Cox, Bebbington & Wilson, 2011). Sustainable development has become a critical issue for many countries around the globe and has many concepts that include the ethical paradox, which refers to the environmental modification, and requires deep intervention in nature that reduces the actions that depletes natural

resources. In this context sustainability focuses on ecology maintaining the ecosystem's potential to for subsisting overtime. Development was added to move away from only focusing on the environment but to include social equity and the economy (Reboratti, 1999:207-9). Social equality refers to a situation were all people have the same status in certain respects, it includes equal rights [...] and equal access to social goods and services including access to economic opportunities (ibid).

People with disabilities are often vulnerable and susceptible to social exclusion, stigmatisation, discrimination and economic disadvantage. Further, people with disabilities are often excluded from participating in the rights opportunities that are guaranteed to every member of society as enshrined in most countries' Bills of Rights (RSA, 1997). In South Africa, the government is keen to enforce the rights of all its citizens and is evolving progressive strategies to address issues of equality, access and inclusion (ODP, 1997; RSA, 1997; Schneider, 2006). Disability is based on the formula of someone with a physical or mental impairment that has a substantial adverse impact on their ability to carry out normal day-to-day activities on a long-term basis.

DISABILITY IN CONTEXT

Disability is an umbrella term covering impairments, limitations and participation restriction; impairment is a problem in body function or structure while activity limitation is difficulty

encountered by individuals in executing a task or action (WHO, 2011). However, disability is not just a health problem but, a complex phenomenon that often reflect the interaction between features of person's body and features of the society in which they live (TUC, 2011). People with disabilities face difficulties that require interventions to remove environmental and social barriers (ODP, 1997). Society cannot be equitable if people with disability are not empowered to fully participate in society's activities such as economy, being socially included. This study adopts a *biopsychosocial model* in alignment with the *business case* for disability to interrogate the issue of inclusive employment at the CTSB. Broadly speaking, there are a number of different *models of disability* as well as *cases for disability* are identified (M'Rithaa, 2011:44-56):

- ***The Medical Model* – known as the *individual model* as it focuses on the physical limitations to functioning of the person with disabilities;**
- ***The Social Model* – locates the problem of access and independence (leading to exclusion, discrimination and stigmatisation) as residing in social structures and attitudes towards people with disabilities;**
- ***The Architectural Model* – this informs responses to efforts at 'reasonable accommodation' by experts in the fields of products and built environments;**
- ***The Biopsychosocial Model* – this is the holistic view of the needs to people with disabilities and accommodates the medical (bio-psychological), social, as well as environmental factors in seeking redress;**

- ***The Legal Case*** **– enforces laws and policies that have been formulated to prohibit discrimination on the grounds of disability;**
- ***The Human Rights Case*** **– as enshrined in the Bill of Rights as inalienable rights for every human being;**
- ***The Welfare Case*** **– seeks to support people with disabilities by providing sheltered employment via protective workshops, as well as social grants in aid for beneficiaries; and**
- ***The Business Case*** **– advances the case for inclusive employment and participation in the world of work for people with disabilities.**

From an African point of view those barriers that people living with disability face include, segregation, and less or no access to employment opportunities. Access to employment opportunities was also identified as a challenge in other parts of the world (NDA, 2012). However, in the South African context the government has been trying to redress the challenges at a national level over the past two decades. It made strides in developing several legislative documents that are aimed at promoting the inclusion and economic integration of persons with disabilities. The documents include the Constitution of the Republic of South Africa (RSA, 1997); The White Paper on an Integrated National Disability Strategy (ODP, 1997); The Promotion of Equality and Prevention of Unfair Discrimination Act (UDA) (RSA, 2000); Employment Equity Act (EEA) (RSA, 1998); and the Code of Good Practice on Employment of People with Disabilities (CoGP) (RSA, 2002).

Additionally, the Technical Assistance Guidelines on the Employment of People with Disabilities (TAG) DoL, 2002) and the White paper on Transformation of `Public Service and the Skills Development Act (DoSS, 1994) elaborate further on these imperatives. However, there is still no noticeable change with regards to the participation of people with disability to the economic activities, there has been a challenge in the enforcing the policies (Brynard, 2010; Smit, 2012). One of the reasons given by various employers in the manufacturing industry for not employing people with disabilities is that of the low levels of literacy and numeracy, inadequate job skills, as well as a general dearth of facilities that can accommodate different levels of functioning and abilities.

At a local level, the City of Cape Town has identified economic development as one of the key themes under aegis of the city's disability policy in which it seeks to develop practical interventions designed to increase employment and entrepreneurial opportunities for persons with disabilities ready to enter the workforce (City of Cape Town, 2010).

The South African government has established a national benchmark for the gainful employment of disabled personnel by requiring that at least 2% of all employees in a company to comprise of people with disabilities. Notwithstanding these noble intentions, practical challenges arise on how best to implement the constitution (which encourages equality with people with disabilities without neglecting the many young

South Africans who are also in search of employment opportunities), whilst concomitantly balancing the need for a highly motivated, skilled and productive labour force (Schneider, 2006). However, the strategies put in place do no entirely solve the problem as a result different strategies are required that enable the participation of people living with disabilities. The development of small enterprises that produce hand-crafted items are another aspect that needs to be given attention. Craft production is an easier way for people with disabilities to access economic opportunities.

THE CONTRIBUTION OF CRAFT TO ECONOMIC DEVELOPMENT

Craft is defined by Adamson (2009:3) as the "application of skills and material-based knowledge to relatively small-scale production". The knowledge, the skill and material-based knowledge are linked to local knowledge which exist within communities where crafters come from and forms part of the non-formal oral tradition which is passed down generations (Munyai & M'Rithaa, 2011). It is also connected to the way humans create and interpret life with culture and social relations with use of relationship with natural materials, their environment and within livelihood on broader economic opportunities and offers leverage points with links between economic and educational models and pathways that are associated with sustainability.

Therefore, the use of materials and the production processes contribute towards sustainability. The craft sector in different

capacities contributes to the social, economic and cultural preservation in South Africa. It is estimated that that 1.2 million people in South Africa earn their living through craft, however, there is still a lack of support to help the crafters develop self-sufficient businesses (Venti, 2010). Most crafters sell their products through established shops in order to promote their business, which result in them earning half the commission (ibid).

The concept of ecological design is not a new one particularly in the craft sector in many industrially developing countries, for generations people used the principles of ecological design to shape their environments in accordance to the functions of nature and to meet their basic needs such as shelter, clothing, and food (Munyai, Maina & M'Rithaa, 2011). For example in many indigenous communities it is common practice to use what is locally available and to reuse certain materials. From a developing world context preserving resources and reusing has been part of their culture and daily living for generations. Whereas in the developed world eco-design first surfaced after the Second World War at the height of industrialisation upon realisation that available resources for manufacturing were depleting at an accelerated rate, it only gained significant traction and recognition in the 1960s.

As consumers' needs and preferences continuously change, the focus is increasingly on individual preference as opposed to a leaning towards mass-produced products. This shift in consumer demand offers an opportunity for production systems

to focus on small-scale, yet high quality products, which enables the craft sector to play a significant role in servicing emerging niche markets including people living with disabilities (Creative & Cultural Skills, 2009; Tung, 2012). However, due to the fact that craft falls under the informal sector despite the fact that it contributes 7.1 % to the country's gross domestic product, much of the actual contribution might not be fully acknowledged (Davids & Thurlow, 2009; Munyai & M'Rithaa, 2010). Therefore, there is also a need for government to acknowledge the contribution of crafts to the economy as well as social and personal well-being of many citizents. This dynamic sector does arguably provide opportunities that include small enterprises with a possibility for formalisation as well as small-scale and survivalist mechanism for crafters (Davids & Thurlow, 2009).

Craft production offers an opportunity for regional competitiveness through cultural industry and developing production based on local knowledge and skills to help reinvigorate local economy. The products in one way or another reflect local identity, highlight cultural values and offer some form of differentiation in the saturated market (Moalosi, Popovic & Hickling-Hudson, 2007; Tung, 2012). Craft also plays an important role by offering myriad opportunities for imbuing products with aesthetics, characteristic, and adapting features from local culture to differentiate and create self-expression which is also important for the marginalises members of society such as those living with disabilities. When local cultural assets such as skills, and material knowledge receive

the attention they warrant, the resultant multiplier effect could contribute towards greater economic resilience and profitability for participating actors (Tung, 2012).

For a considerable length of time, design and crafts practice have been understood from the realm of aesthetic enquiry though cultural anthropologists, sociologists, historians, art curators and those steeped in similar traditions. However, there has now been a shift to focus on the holistic approach of development to help unfold complexities using strategies that are will also be effective at grassroots level (Bhatt, 2007). Encouraging economic participation by people with disabilities could mitigate social exclusion and associated stigmatisation by perpetuating the view that they are 'differently abled' (Barnes & Mercer, 2004).

METHODOLOGY

There is a dearth of empirical studies on the participation of people with disabilities in the Cape Town economy, and the need to understand the benefits of advancing a business model within the disability sector in Cape Town in order to foster independence and a sense of ownership and responsibility. This paper is underpinned by the hypothesis that disability business models can contribute to a more ecologically friendly and environmentally responsible design through craft while offering economic independence to the people with disabilities. Income generation remains a vital concern particularly to people with disabilities as it advances their freedom and determines their access to food, shelter, and clothing.

Whereas this paper initially set out to investigate two cases of organisations that promote economic independence through empowering people who are differently abled, access to requisite study sites was only granted by the CTSB. The study's focus was on the need to establish what initiatives offered valuable insight into potential strategies for shifting the disability sector from the prevailing *social welfare* paradigm to that of a *business model*. The social welfare paradigm views people with disabilities as *passive recipients* and dependents of social largesse – a fundamental conviction by the authors is that people with disabilities can become *active contributors* to gainful economic activity provided they are empowered through appropriate skills, opportunities, and reasonable accommodation in the workplace.

There is commitment through progressive policy in Cape Town for including people with disabilities within the mainstream economy. However, the craft sector (which employs large numbers of people with disabilities) needs to be revamped to allow disabled workers opportunities to play a more meaningful role in society. The objective of this study is to bring to the fore the promising cases of organisation where people with disabilities are already making a positive contribution to the economy, to the revival and preservation of traditional skills and local knowledge and preservation of the environment and have been doing so for decades. This paper is delimited to visual impaired people at the *Cape Town Society for the Blind* (CTSB) which was founded in 1929. The craft artisans at CTSB in Cape Town, South Africa have been using

methods of producing artefacts out of natural fibres through a production process employing various items by harnessing their local knowledge and expertise.

Semi-structured interviews with three crafters from the CTSB out of a total of thirty-four crafters. Three members of the management team (which included their Chief Executive Officer (CEO), the sales and marketing manager, and the production manager) were also interviewed to discuss the strategies they had in place to ensure that people with disabilities participated meaningfully in the economy. A qualitative approach adopting a combination of interpretivist and constructivist paradigms was used as a complement of a document analysis of current policies on disability. The interviews produced rich data; the guiding questions for the interviews were divided into two sections. The first section focused on the business case for the disability sector, while the second section of the questions focused on the role of creativity and design in the disability sector.

FINDINGS AT CTSB

The CTSB has four different departments with a total 34 crafters, six craft crafters who do cane repairs on old furniture. The re-caning department deals with repairs, clients of the society bring in their old damaged furniture to be repaired or re-caned to make it look the same way it did before it got damaged (see Figures 1).

Figure 1: Crafter in the re-caning department repairing a chair. Source: Munyai (2013).

The crafters in this department use their hands to feel the design before they start the re-caning process. This department is one of the busiest in the society, and there is a renewed interest in refurbishing old furniture with materials such as cane. There are four crafters working in the textile-weaving department. They specialise in products such as floor rugs, bags and yoga mats.

All the crafters that were interviewed have been working with at the organisation for the past 20-25 years, some of the crafters at the organisation have been weaving cane and other natural materials for more than forty years. Cane is produced from rattan; it is cut into strips known as skin, which is referred to as peel. The material has been used for generations and is resilient; it is generally handcrafted on a loom to

produce webbing, which is secured on the furniture. Cane has superior properties such as toughness, strength, flexibility and elasticity.

The organisation uses natural materials such as cane, banana leaf, sea grass, water hyacinth, which are all materials that are ecologically friendly and encourages conservation of forests as a companion crop that grows amongst existing trees. The materials are woven into products such as household furniture, lampshades, shopping baskets, baby cradles, gift baskets, and other household products. The visually impaired crafters cane handcrafting provides sustainable income to many crafters involved in the process. Some crafters work as a family, which involves mobilising the mother, father and children to produce various woven products (see Figure 2).

Figure 2: A crafter working with his son on an order for the CTSB. Source: Munyai (2013).

The process of weaving cane is labour-intensive, and can be

complicated, and generate employment (Wright, 2008). According to the Participant 3 (2013), the organisation specialises on "household and décor items, designer pieces and bathroom linen woven by loom weavers using natural yarns".

ADVANCING THE BUSINESS MODEL AT CTSB

The crafters are independent small business owners who rent the space and buy materials from the organisation and produce products on behalf of the society and their clients. All the crafters work as individuals and do not collaborate with each other. The crafters work for the organisation's premises to due to the fact that there is a monitoring system for quality of the products and the crafters who are not completely blind assist those who cannot see their products. The crafters are given freedom to be as independent as they need to be, and generally work at their own pace.

The CTSB produces about 50 different products per department per annum with a total profit of ZAR 735 000 (USD 83 340) for the year 2012.

Figure 3: Cane light by CTSB crafters. Source Munyai & M'Rithaa (2013).

The crafters act as suppliers of the finished product to the CTSB. However, the organisation supplies logistical support, marketing, and empowers the crafters with life skills and courses such as computer literacy, business management skills, and public speaking.

The products made by crafters are mainly sold to "hotels, guest houses, members of the public who prefer environmentally friendly and authentic products (Participants 1 & 3). 95% of the output produced by the society is, sold locally, whilst 5% is exported to Namibia. Arguably, the use of cane by the local retailers, agricultural industry as well as home-owners, offers an opportunity for the organisation to be more sustainable in its operations.

BARRIERS IDENTIFIED IN THE STUDY

The crafters suggested that they wished they could get more work so that they will be able to generate more money.

- ***In terms of organisational barriers included the fact that the crafters never collaborate, they prefer to work as individual small businesses, this has proven to be challenge to the CTSB as this makes coordinating a large order difficult. As a result more work is given to those who are known to have the ability to work faster and more proficiently.***
- ***The crafters also feel that they need to explore other materials and techniques (Participant 5).***
- ***The psychosocial adjustment includes adjusting to their disability by responding to life's demand depending on their individual experience (Schinazi, 2008). Most crafters have adjusted to the development of a positive self-concept and managed to overcome the consequences of disability. However, there are some personal barriers amongst the senior crafters attitudinal barriers included crafters believing that since they have been working at CTSB, therefore they have little motivation to move on (Participants 3, 4 & 5).***

The following key issues were raised:

- ***Financial incentives – the amount of money earned by the crafters depends on each individual crafter's ability to produce products.***
- ***Psychosocial support – the organisation is a space where the crafters can come and work as well as interact with other people form various backgrounds and races, learn various life skills.***

- ***Risk aversion – the crafters are risk avert as they make products and the organisation has to deal with the marketing aspects of the products, sourcing of materials and at times coming up with designs for the crafters.***
- ***Resistance/resilience – because the crafters are small business units, they are competing with each other and therefore do not understand the potential of collaborating with other small business units in order to meet the deadlines and receive more orders*.**

DISCUSSIONS

The organisation has established a model that has been proven to work for this particular organisation. Crafters prefer to work as individual business units under the guidance of the CTSB organisation. The organisation offers logistical support to the crafters such as finding customers for the products they produce, showcasing the products at expos and exhibitions around the city. The crafters are also empowered with life skills that they use to contribute to the economy using other means such as obtaining an office job or starting an independent business outside of the CTSB. The organisation has some success stories of crafters who have become independent of the organisation through the help and skills they received from the organisation. Encouraging and supporting the kind of model that the CTSB is using could help more people with disabilities to effectively wean themselves from the welfare model of state dependency. This more progressive and sustainable *business model* encourages independence, inclusion and empowerment.

CHALLENGES IDENTIFIED

One of the key challenges identified was the pressing need for the deployment of pertinent eco-design strategies (such as waste minimisation and a significant reduction in material utilisation). Addditionally, the research reinforced the view that changing the prevailing business culture would require a sustained, phased-in and long-term intervention (that would include ideation, product development, and incubation support, particularly for younger disabled artisans who are keen on exploring novel methods, tools and solutions

The crafters the CTSB space as a peer support space where they can spend time with like-minded people and share personal information. There is also social services support offered by the organisation to those who are struggling to deal with their disabilities or other circumstances. Many crafters are faced with challenges resulting from society's insensitivity towards people living with disabilities. For this reason, some of the artisans were weary of the inhumane treatment by able-bodied members of society who should be more supportive and empathic towards their plight. The case can therefore be argued that society at large needs to be sensitised and re-educated on not only the challenges people with disabilities face on a regular basis, but also their collective hopes and aspirations at bettering their lives. A promising (though arguably unique) case is the disabled-friendly town of Worcester (located about 100 kilometres from Cape Town) that is recognised for its universal accessibility and the economic opportunities it offers people with disabilities (who make up a

sizeable proportion of the local population there).

CONCLUSION

This research focused on establishing whether the disabled peoples' organisations actively encouraged economic independence for the latter or merely focused on perpetuating the welfare model that is typically propagated by government. As discussed herein, the welfare model does not ensure the sustainability of many companies. Whereas the government has put many progressive policies in place to encourage companies in South Africa to ensure that at least 2% of their employees are people with disabilities, the reality is that the vast majority have not complied with this requirement for a host of reasons.

In a country where the prevalence of unemployment is at an all time high, attaining this stated goal may prove to be utopic in the short- to medium-term (given that people with disabilities conservatively make up at least 5% of the general population). More pragmatic strategies such as that of the CTSB offer a practical support system – this form of logistical support to people with disabilities advances similar national aspirations at attaining desirable levels of social equity and cohesion. Finally, as Cape Town prepares to celebrate its designation in 2014 as the first *World Design Capital* within an industrially developing context, its design community will be tasked with promoting more inclusive, participative and transformative modes of socially concious design – both in discourse, and in practice.

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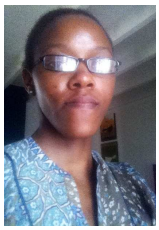

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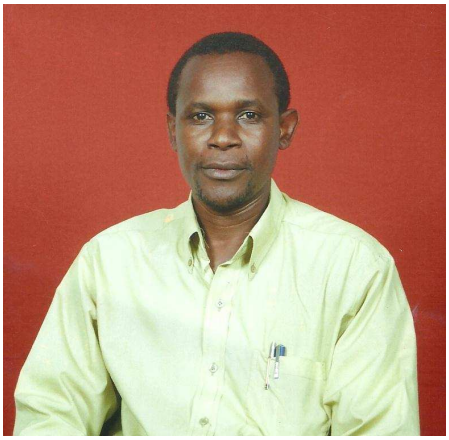

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Synthesis of the "eco" and product design

Samuel Mwituria Maina

Abstract

This paper postulates that current local and global environmental ethics in product development policies in Nairobi within ever growing customer demands are inadequate. It cites the current urgent need for appropriate product design structures, practical tools and eco-awareness among all stakeholders in the product development process and throughout the entire product life cycle.

It highlights the growing emphasis on incorporating eco-ethics in design for consumers and for design and production strategies. Eco-design ethics analyses and probes why and how manufacturers and designers are developing new products and services to fit sustainable environmental expectations.

In respect of the above, Issues dealing with environmental degradation due to lack of eco-ethics within design related sustainability studies and effects are probed. The study sought to anchor on a solid eco-ethical philosophy to suggest a methodology for a sustainable future. Applying desk and field research approaches, it concludes with a recommendation for integration of eco-ethics into design and production.

Key words: ***eco-design, eco-production, ethics, design***

Introduction

Wangari (2004) was the first Kenyan to win the coveted Nobel Prize. This was in recognition of her lifelong championing for the conservation of the environment. In her acceptance speech, Wangari (ibid) said that people are exposed to many human activities that are devastating to the environment and societies. In her view, these include widespread destruction of ecosystems, especially through deforestation, climatic instability, and contamination of the soils and waters that all contribute to excruciating poverty. In Wangari's words

> ***"In the process, the people involved discover that they must be part of the solutions. They realise their hidden potential and are empowered to overcome inertia and take action. They must come to recognize that they are the primary custodians and beneficiaries of the environment that sustains them"*** **(www: \wangari maathai - Nobel Lecture.htm).**

According to Wangari, entire communities also come to understand that while it is necessary to hold their governments accountable, it is equally important that in their own relationships with each other and their environment, they exemplify the leadership values they wish to see in their own leaders, namely ethics, justice, integrity and trust. Wangari's points are given credence by ideas from the Brundtland report, Our Common Future, from the UN World Commission on Environment and Development (WCED) which was published in 1987.

Towards wangari's goals, designers have a huge role to play. Their processes possess innumerable opportunities to intervene for the benefit of the environment. Such interventions would result in sustainable products.

Theory

Sustainable Production

Quantities of products are not dependent on an industry's production capacity anymore. Cheap and disposable products (Manzini, 1989) are widely available in our societies. Even if we long thought the expansion of consumption would augment chances to have a better quality of life around the globe, the results are however unequivocal: social instabilities, inequalities and environmental tribulations are direct consequences of this situation.

Products that possess good price for their quality fulfil basic needs, but the market of necessary products, products that fulfil primary needs, is saturated. Hence, competitiveness is now installed in what Manzini (1989) calls "replacement products" markets. Ezio Manzini, Italian designer and renowned eco-product design author, argues that these products are unnecessary. They are only fashionable and sold because of marketing efforts and publicity. It is also because the power of communication is increasing and able to greatly influence consumption. Production activities and market share competition is thus providing consumers with superfluous products that engender unsustainable consumption patterns, generate waste, and where products inherent qualities such as aesthetic and design are no longer valued.

This has lead designers to rethink their role in the market economy, where innovation quality constantly reduces, and is creating a constant technical, physical and aesthetic stress. Such stress (Leigh Peter (2005) puts a strain on companies without producing any substantial evolutionary refinement. Nowadays, many authors, scientific communities, businesses and consumers agree that these problems reside in what products are consumed, the quantity that is produced, and their qualities.

The shift that is remarked within the corporate sector, according to this researcher, from end-of-pipe solution toward prevention of environmental impacts, reflects the will of manufacturers to focus on the source of these impacts.

Eco-Materials, Eco-Components, Eco-Products, And Eco-Services

The prefix "eco", meaning habitat or environment, comes from "ecology", the branch of science concerned with the interrelationships between organisms and their environments. Eco has long been used in such compound forms as ecosystem and ecocide. More recently, (Yamamoto, 2007) this prefix has been used in combination with "materials ","products ", or "services" to indicate that they take into account environmental impacts through the entire life cycle.

Eco-Materials

Professor Ryoichi Yamamoto and colleagues at the University of Tokyo first introduced the term "eco-materials" in Japan in 1991 as a proactive measure in response to the sustainable development movement. Eco-materials (Kun-Mo

Lee, 2005) are defined as those that can improve the environment throughout their life cycle, with accountable performance. Eco-materials encompass one or more of the following six factors:

1. ***Avoiding and/or reducing the use of non-renewable or scarce resources;***
2. ***Enhancing the material closed loop by recycling and reusing waste;***
3. ***Increasing resource efficiency including that of energy and materials;***
4. ***Using more durable materials with fewer maintenance requirements***
5. ***Promoting the use of renewable resources and energy; and***
6. ***Minimizing adverse impacts on biodiversity and eco-systems.***

In other words, eco-materials form a key concept in material science and technology to minimize environmental impacts, enhance the recyclability of materials, and increase energy and material efficiency. Eco-materials, according to Kun (2005) also contribute to the development of eco-products and promote the green procurement movement in Japan and elsewhere. Eco-materials have relatively better ecological, economic, and efficiency features and are currently classified into groups based on similar proper ties, similar processing routes, and similar applications. The result is a data book that classifies them into seven categories: metals, polymers, natural materials, foams, ceramics and glass, composites, and others (Taylor & Francis, 2001).

Eco-Components

The term "eco-components" in this thesis refers to those used as components or parts of eco-products. Eco-components can be essential, functioning parts of a subsystem or equipment, or a combination of parts, assemblies, attachments, or accessories of an eco-product (Park 2005). They are sometimes called semi-products and used as inputs in eco-product manufacturing. Similar to eco-materials, eco-components are produced taking into account their environmental impacts through the entire life cycle. As a result, (Park, 2005) the six factors involved in eco-materials can also be applied to eco-components. Eco-design or life cycle design concepts, methodologies, and tools are used in the production of eco-components. In addition, eco-components can contribute to the manufacture of eco-products through eco-design for disassembly, design for upgradeability, and design for waste prevention.

While eco-components are defined as components or parts of eco-products, (Kun, 2005) they are naturally related to the industrial sectors making them. Based on the major product categories, eco-components can be classified into seven groups: construction components, electrical and electronic components, semiconductor manufacturing devices, machine parts, automobile parts, packaging, and others. (Tanaka et al, 1991)

Eco-Products

Eco-products are designed according to eco-design concepts and principles to have environmentally friendly

features. Life cycle concepts and engineering play a very important role during the development phase of eco-products. Eco-products are made from improved raw materials (Matias, 2005), including recycled or biomass materials. In addition, during the production process, minimal energy and water resources are used with less waste and fewer pollutants. In the consumption phase, the use of eco-products can lead to energy and water savings, minimal emissions, and reduced waste and subsequent need for waste treatment. Eco-products are also designed to ensure the ability to recycle and recover materials and components.

Do you ever inquire where materials will be disposed after life of product?

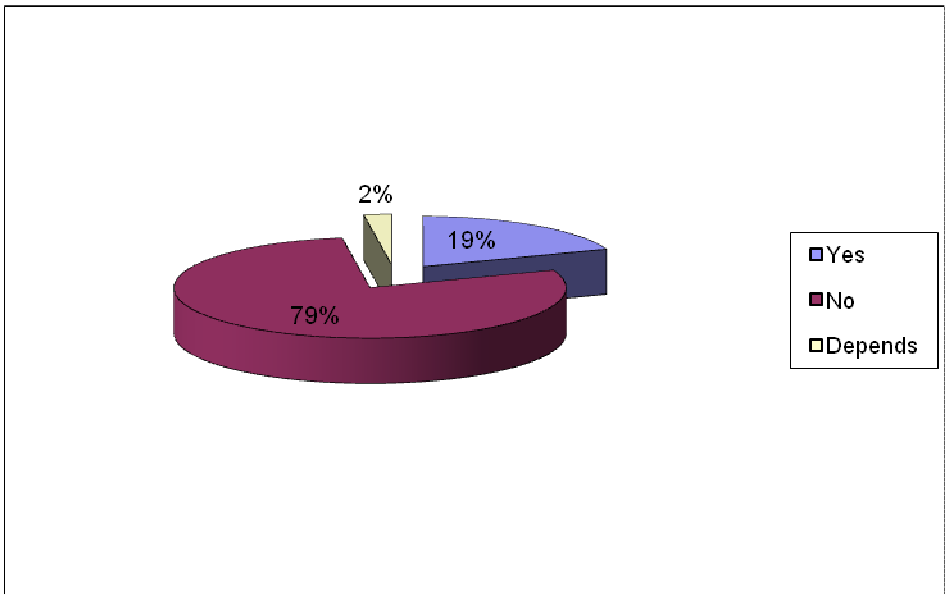

Figure 1: Designer interest in protecting the environment, Source; the researcher

The figure above shows the results of a research conducted in Nairobi to ascertain whether designers really care as to what happens to their waste. The chart clearly shows that a majority (79%) of designers interviewed do not know what happens to the waste of their creations. This demonstrates a very sorry state for Kenya. In Japan, (Yamamoto et al, 1991) eco-products generally bear eco-labels, which are type I, type II, or type III according to ISO14020 standards. In addition, those products listed in the database of the Green Purchasing Network are also considered eco-products.

In this database, eco-products are classified into nine groups following the conventional industrial product categories. Among commercial products on the Japanese market, these are home electric applications/lighting, carriers/automobiles, IT equipment, office furniture, apparel/fabric products, commodity/outdoor goods/housing kits, building and civil engineering equipment, machines and equipment, and some other eco-products not relevant to the above eight groups of eco-products (Yamamoto et al, 1991).

Eco-Services

Eco-services are defined as those designed to shift traditional business from designing and selling products as physical objects into designing and selling product or service functions to meet the needs of customers (Charter, 2001). This new business is based on the life-cycle concept to ensure consideration of environmental issues. The use of eco-services (Shidi et al, 2007) can enhance the eco-efficiency of customer activities. A number of similar concepts have been proposed, such as Product Service Systems, Sustainable Service Systems,

and eco-efficient services in Europe, and "servicizing" in the USA (Charter, 2001).

While the economy is shifting from goods production toward service provision, eco-products can be transformed into services to improve resource productivity and eco-efficiency. Eco-services have great potential to bring about huge changes in production and consumption patterns that will accelerate the shift toward a more sustainable society. Eco-services are generally classified based on actual business scenarios. The great diversity of eco-services has led to varying classifications according to Carter (2001), and no single standard yet exists. Based on examples in the Japanese market, eco-services are classified into six categories:

1. ***Product-related services, including maintenance, upgrading, repair, reform, etc;***
2. ***Reuse and recycling-related services;***
3. ***User services, such as consumer leasing, rental, or product sharing***
4. ***Outsourcing services, such as those provided by some professional companies in the form of pay- per-service waste treatment, hazard control, chemical handling, or facility management;***
5. ***Management-related services, such as consulting, certification, diagnosis, assessment; and***
6. ***Other services outside the above categories.***

These six categories may cover most eco-services, from traditional industrial services to new services and businesses. According to this researcher, the classification of eco-services can be modified into four groups:

1) Product-related services,

2) Reuse and recycling-related services,

3) Management-related services,

4) Others.

Environmental Ethics: A Historical Overview

As a systematic and focused field of intellectual inquiry (Callicott, 2007), environmental ethics was conceived after broad recognition in the 1960s of an impending "environmental crisis." Developing embryonically during the 1970s, environmental ethics came into being in 1979 with the publication of the journal, *Environmental Ethics.*

The growth of environmental ethics, according to Callicott (2007) was heavily influenced by cultural factors. During the mid-twentieth century, environmental degradation reached crisis proportions after technologies, developed for war, became redirected to peaceful uses. *A Sand County Almanac,* written by Aldo Leopold (1949), had prophetically anticipated the emergence of an environmental crisis and proposed the evolution of a "land ethic" as the only appropriate remedy to these complex environmental problems (Callicot, 2007).

In a widely reprinted and extremely influential article as quoted by Callicott (2007) and published in *Science,* "The Historical Roots of Our Ecologic Crisis" (1967), Lynn White, Jr. set the agenda for future environmental ethicists. White (1967) points that to change what we collectively do depend on changing what we collectively think. White's specific analysis of the biblical roots of the environmental crisis was cavalier

and simplistic at best, but his initial, more general intellectual analysis was compelling.

First, White believed that one had to identify and criticise the inherited attitudes and values regarding the characteristics of nature, human nature, and the relationship between humanity and nature that underlie and subtly shape our behaviour toward the natural world. Second, White believed that one needed to re-interpret or revise one's inherited attitudes and values regarding the traits of nature, human nature, and the human-nature relationship. Ecologically minded biblical scholars working with White's critiques, for example, later re-interpreted the human-nature relationships sketched in Genesis (Miller, 2005). Third, White believed that one must develop and defend a new environmental ethic in order to guide and restrain anthropocentric environmental degradation.

As scholarly discussion in environmental ethics developed (Hume, Leopold 1951), a major theoretical cleft between anthropocentrism and non-anthropocentrism became apparent. Anthropocentrists upheld the conservative Western view that only human beings are morally significant.

For anthropocentrists, polluting or destroying various aspects of the environment is morally wrong because human beings are adversely affected. Non-anthropocentrists countered that an anthropocentric environmental ethic is inadequate, because, in some cases, the extinction of some scientifically unremarkable and commercially worthless species would not materially harm human beings. Philosophers (Hume & Leopold, 1951) committed to the Western tradition of moral philosophy have

attempted to theoretically extend anthropocentric ethics in order to create a non-anthropocentric ethic. Not all human beings, however, are functionally rational. Thus, if anthropocentric ethical theory were applied even handedly, infants, developmentally handicapped persons, and victims of Alzheimer's disease, would fall outside the moral pale. They would be no more morally considerable than non-human non-rational beings, and therefore would be treated with callous disregard. To include non-rational people within the pursuit of an anthropocentric ethic, we must lower the bar of moral considerability. It is, however, a way to begin extending moral consideration to the environment.

Biocentrism has become the end-point in this project of extending traditional Western ethics to wider and wider circles of entities. The main problem with including all living beings within the purview of ethics is not the plausibility of the theoretical project, but that most of our environmental problems remain unaddressed by this approach.

The individual welfare of each and every bug, shrub, and grub is just not very high on the list of environmental concerns. We are concerned, rather, about air and water pollution; soil erosion; global climate change; and, probably more than anything else, about species extinction or the catastrophic loss of biodiversity at every level of biological organization. If environmental ethics is to be connected with our perceived environmental concerns, thereby allowing constructive responses to the crisis that gave birth to environmental ethics, then we must work toward a more holistic environmental ethic.

Aldo Leopold's seminal "land ethic" has this crucial holistic quality. Leopold writes, "a land ethic changes the role of *Homo sapiens* from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community as such" (emphasis added). Indeed, when Leopold states the summary moral maxim, the golden rule of the land ethic, no mention whatever is made of "fellow-members"; only that the community as such is the beneficiary of environmental moral concern: "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community" (Callicott, 1987).

A Western precedent for ethical holism can be found in Charles Darwin's account of the origin and evolution of ethics in the *Descent of Man,* from which Leopold seems to have borrowed heavily. The major theoretical problem (Skolimonski, 1981) with Leopold's land ethic is how to balance its holism with the individualism of our precious humanitarian ethics. Surely, we cannot agree that a thing is right only if it tends to preserve the integrity, stability, and beauty of the biotic community; and that it is wrong if it tends otherwise. What about basic human rights? What are we to do when respecting human rights conflicts with preserving the integrity, stability, and beauty of the biotic community? Leopold did not intend the holistic land ethic to replace individualistic human ethics, but rather he wanted it to supplement them. However, he did not, as noted by this researcher, provide any guidelines for resolving conflicts between human rights and environmental integrity.

As environmental philosophy has matured (Murray, 1971), a number of green ideologies emerged that united environmental ethics with various political movements. Eco-feminism, for example, unites environmental ethics with feminist politics. First, that the dominance of nature by "man" and the dominance of women by men are similar in form. Second, eco-feminists believe that in Western thought, all the way back to the ancient Greeks, women have been cognitively associated with nature. The Greeks identified material nature, which they regarded as chaotic, erotic, recalcitrant, and irrational, as a female cosmic principle while they identified immaterial form, which they regarded as disciplined, ordering, and rational, as a male cosmic principle. Similarly, social ecology unites environmental ethics with a more or less Marxist critique of capitalism, consumerism, and free-market economies (Murray, 1971). Here the key to solving our environmental problems is engaging in the dismantling of the capitalist economy through the disempowering of multinational corporations. Environmental justice focuses on the unequal distribution of environmental "bads," which are disproportionately visited on the poor and women and children of colour. It is therefore the view of this researcher that, environmental justice unites environmental ethics with political concerns about economic and racial inequities.

Among the various ideological schools of environmental philosophy (Padmavathi, Viswanathan, 2005), deep ecology retains its own unique perspective. Deep ecologists hold that all of our environmental problems stem from our anthropocentrism. Furthermore, deep ecologists do not believe

that resolutions to environmental problems can be completely fashioned from the field of ethics alone. Rather, if the deeper lesson of ecology—that all things are connected—is absorbed viscerally, the distinction between self and nature will be blurred and this ambiguity between self and nature will permit people to identify with nature, thereby allowing them to perceive the destruction of nature as self-destruction. The most radical challenge to mainstream environmental ethics (Padmavathi Viswanathan, 2005) has emerged from a pragmatist perspective. Pragmatists claim that environmental philosophy has been too preoccupied with internecine disputes that are virtually unintelligible to non-philosophers.

According to pragmatists, the arcane philosophical debates about what set of entities have intrinsic value and thus moral consideration; the war of words and name-calling between deep ecologists and eco-feminists about whether the core problem is anthropocentrism or androcentrism; even the distinction between anthropocentric and non-anthropocentric environmental ethics—all are irrelevant to real-world environmental problem solving and policy making. Environmental ethicists, the pragmatist environmental philosophers argue, should not be in the business of generating a one-size-fits-all theory, but instead are engaged in casuistry. It rejects the binary notion that all environmental ethics should be one thing or the other—all theory or all pragmatic casuistry—and permits the complementary interaction of both top-down theory and bottom-up problem solving (Padmavathi, Viswanathan, 2005).

In the span of scarcely a quarter of a century, from humble and scattered beginnings, environmental ethics has grown explosively into a multi-faceted and sometimes fractious field of inquiry. Indeed, it has overflowed the banks of ethics to constitute a more general field, "environmental philosophy."

First, far from being "solved," the environmental crisis is only getting worse, with the increasing rates of species extinction and the onslaught of global climate change. Second, despite the pragmatist's efforts to redirect it, environmental philosophy is more than an "applied ethics," it is a largely theoretical inquiry and thus subject to an ever widening and deepening dialectical development of its theoretical foundations (Eco-ethics International Union, 2005).

Quoting gershbein (2014) designers must know that the things we put into the world have and generate consequences. Design is not neutral; it is intensely political, and intensely social. We bear the responsibility of our creations – both their inception and their realization. Design as a profession must not be satisfied as the blind tool of technology and commerce, and those within the practice must mature into thought leaders and provocateurs. Designers are, after all, applied ethicists. As such, we must move beyond the how, into the why.

Methodology

The target population of this research was practising designers and manufacturers of car seats, sofas and bags. Tabulation of the findings indicated the total population of this research to be 196 designers/manufacturers. This research used a census

method to determine the right sample. The research used stratified random sampling method. In this method subjects were selected in such a way that the existing subgroups in the population are more or less reproduced in the sample. The researcher used several tools to collect data. The major one was desk research. Others were a questionnaire, ethnographic observation, focus group discussion interviews and the internet.

The collected quantitative data was analysed using the statistical package for social sciences-SPSS for windows, while qualitative data was analysed through thematic analysis method.

Conclusion and recommendation

Universal design

How to create a universal solution is to integrate lifestyles to universal design. Universal design is an approach to the design of all products and environments to be as usable as possible by as many people as possible regardless of age, ability, or situation. It is a design concept that recognizes, respects, values and attempts to accommodate the broadest possible spectrum of human ability in the design of all products, environments and information systems. For the purpose of this paper, universal design was incorporated to enable as many people as possible in mitigating environmental degradation. It is an effective marketing tool as well as a design concept since products and spaces that are more universally usable are marketable to nearly everyone. Thus, the application of universal design principles can create a greater market for

consumer products and spaces. When well implemented, universal design is virtually invisible, safe and physically and emotionally accessible to most users. In simple terms, universal design is user-based "good design" (http://www.ncsu.edu/). Universal design encourages an integrative approach rather than multiple separate solutions which ultimately benefits everyone (Marie Lid, 2015). It improves independence, affordability, marketability, and user image and identity. By applying the principles of universal design, designers can do much to improve quality of life, minimize environmental footprint, and make homes and communities more resilient. The timing of environmental decisions in the design process is central to universal environmentally conscious design; - the environmental profile of a product is affected the most in the very early stages of the design process, particularly in the pre-specification stage, where tools for environmentally conscious design decision-making are lacking. An enthusiastic approach, driven by an environmental champion with a universal outlook, is key to environmentally conscious design.

Integrating environmentally conscious universal design into product development starts with motivation, leading to widening communication and information flows and finally to whole-life thinking. In Kenya, universal design should be adopted to mitigate environmental degradation.

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The Advantage of Design in a Disability focused Social Enterprise.

Keywords: ***Appropriate Technology, Design for Disability, Participatory Design, Universal Design***

Introduction

For the last decade the influence of design has broadly been harnessed to great effect within the disability sector, specifically in mobility and postural support devices. In the industrially developed world a company can no longer be competitive without integrating design methods into the development of their products. The market place demands it. The annual 4 day REHACARE expo in Düsseldorf, Germany is testament to this demand drawing more than 800 exhibitors from all over the world to display the latest in innovative products catering exclusively to the disability sector. Wheelchairs, posture support buggies and related devices have all been designed to the highest standard both functionally and aesthetically and using the latest in materials and production techniques.

On the opposite side of the disability coin the influence of industrial design methods has had very little input in the development of appropriate devices for the same mobility disabilities found in under resourced rural and peri-urban contexts. The problems here are no less pressing and in many respects more critical due to poor access to appropriate health care services and education.

This article will explore the manner in which the introduction of professional design practise and expertise has influenced and benefited Shonaquip, a South African social enterprise specialising in paediatric wheelchair development and services, in the aforementioned contexts. A product named the Madiba2Go Buggy will serve as the example for this overview and how it has benefited and contributed to the company, not only in sales figures, but in changing people's perceptions of disability devices locally towards social inclusion.

Design in the field of mobility disability.

When one considers the design of a wheelchair one can be forgiven for only focusing on the mobility aspects of the transportation and the manner in which the user propels the device. Mobility is after all the primary reason for a user to be

using a wheelchair. There is, however, a great deal more to a wheelchair than getting from Ato B.

The World Health Organisation (WHO) describes the minimum requirements of an appropriate wheelchair as one that meets the user's needs and environmental conditions; provides proper fit and postural support; is safe and durable; is available in the country;

and can be obtained and maintained and services sustained in the country at an affordable price (WHO 2013).

A wheelchair is "a body orthosis on wheels" - BengtEngstrom

The average wheelchair user spends the majority of their waking life seated, on average 14 hours per day.This places a burden on their muscular skeletal and vascular systems. Specialised seat cushions and back supports, along with self regulated pressure relief routines must be undertaken by active wheelchair users in order to prevent the development of pressure sores.

There are, however, many wheelchair users with more severe postural disabilities who aren't able move independently to adjust and correct their posture.

These users require what is known as intermediate or advanced level seating. This is described in simple terms as any additional postural support needed for users to sit upright, who can't otherwise sit up by themselves (WHO 2013).This level of seating is commonly found in devices such as posture support buggies, which cater for children and young adults.

As mentioned in the introduction the example used in this article will focus on one such device, the Madiba2Go buggy, which was developed at Shonaquip for the purpose of updating it's range of products.

A posture support buggy is a mobility device similar in size and basic function to a baby stroller, but fitted with complex posture support features and a robust base frame to provide a user with specialised seating support for extended periods of time. The end-users are not able to propel themselves and have in the majority of cases limited ability to help themselves, requiring 24 hour care and supervision.

The seating system is critical. An appropriate set up will help to reduce and prevent the development of serious life threatening secondary health complications and facilitate easier breathing and feeding. It also enables better socialisation and inclusion improving quality of life.

Designing such a device requires a great deal of time spent considering a myriad of trade-offs at every stage of development. Further more developing a device to work in low resourced rural contexts adds an additional level of constraints that need to be factored in.

Participatory design and on-going field testing with end-users are critical activities to the success of a new design. Seating specialists are consulted at every phase of development in order to maintain focus on the primary requirements around seating adjustment, safety and comfort of the end-user.

Incorporating universal design principles is an integral part of the development of products at Shonaquip, as they are both directly and implicitly required by the users and the context.

Unlike the majority of useful consumer products, which only have a single user, multiple users are involved in enabling a buggy to serve it's intended purpose.

One is always designing for *equitable use* to make the buggy usable for the primary user group, comprised of 3 unique users, each with different abilities, expectations and needs.

- ***First and foremost is the end-user, the child seated in the buggy.Through flexibility in use they must be accommodated in a manner that offers them the best postural support in order to minimise the previously mentioned risks to their health. Their immediate and long term health is dependant***

on the support that the device can offer, provided that it is easy to set up and maintain.

A device that is easy for the seating practitioner and care-givers to work with can even reverse a several deformed posture over time with constant attention, adjustment and daily maintenance.

- *The seating practitioner, the second user, is directly involved in this latter point, the set up of the device. The end-user can only be seated as effectively as the seating practitioner is able to translate their skills and knowledge into setting up the device. Therefore the seating system needs to be designed in such a way that the adjustments and modifications are simple and intuitive to use when working to create a personalised solution.*

- *After the set up of the seat has been completed usability shifts towards maintaining the new postural position in daily use, and it's effectiveness over the long term by the care- givers. These functions are less technical and complex than are required for the seating practitioner, but are non the less essential for daily life, such as attaching and removing the posture tray or removing the seating system*

in order to fold up the base frame for transportation. These functions need to be robust and have a tolerance for error for the safety and health of the end-user, especially in low resourced contexts.

The off-road environment common to low-resourced rural settings necessitates that a buggy be very robust and able to overcome the terrain. Heavy usage also means that maintenance and repair is another crucial aspect in the chain of the device's design. Having components and mechanisms that are ease to clean, repair or replace mean that the device can carry on operating where access to a new one is limited. In Lieu of proper components make shift repairs are what can sustain the functioning of a device. Thus it should also be possible to use general low tech parts to repair it.

Aesthetics and styling in the disability market, as with any modern design object, is what draws people to a product. The difference is that in this field the function can in no way be compromised by the appearance. This is one of the designers greatest challenges.

Shonaquip introduction and context

Founded in 1992 by Shona McDonald in Cape Town, South Africa, the organisation is an internationally acclaimed and award-winning Social Enterprise with a hybrid structure

consisting of Shonaquip (Pty) Ltd and it's not-for-profit foundation, Uhambo. Shonaquip is Africa's leading paediatric wheelchair services provider and strives to influence this sector in its shift from charity and pity to medical responsibility through the design and manufacture of innovative mobility devices and seating solutions for users living in under resourced and rural regions. Uhambo Foundation conducts research, provides training, acts as an advocacy for special interests group and builds partnerships (Shonaquip 2013).

Shona's one daughter was born with Cerebral Palsy and it was for her that she worked to develop the first posture support mobility devices, due to the lack of adequate solutions at the time. Shonaquip was established from these early solutions to fulfill the need for locally appropriate devices and to raise awareness at all levels in society to the need for people with disabilities to access the correct services and devices.

From the humble beginnings in Shona's garage the company has grown to a full-time staff of over 47 people, 1 in 4 living with disabilities, working in 3 branches across South Africa. The head office has an in-house clinical services team and design department, as well as a factory where assembly and product customisation take place.

The company is currently expanding its reach through building the capacity of local technical and clinical partners in support services hubs in Zimbabwe and Kenya. Through

these hubs and three outreach seating clinics Shonaquip continues to grow and support young wheelchair users across Southern Africa.

Product Development at Shonaquip

As previously indicated product innovation has been an important aspect of Shonaquip from its inception. The urgency to meet the critical needs of end-users with complex postural disabilities has always driven the development of appropriate low-cost locally appropriate solutions.

Product development was initially undertaken in an ad hoc manner on a case-by-case basis, with lots of time and energy spent on customising unique solutions to each individual client and their needs. Shona would visit a local bio-medical engineer, discuss the concepts and then a prototype frame would be welded together on the spot. The appropriate seating and components were then added back her garage workshop. Often these prototypes ended up being sold, with only a photo left for reference. As demand grew for these products and services it became evident that a simple replicable product had to be developed.

Lessons learnt from the development of these initial devices were translated into a simple robust padded fibre glass bucket seat design, which was attached to a basic box frame with chunky off-road wheels. This first low volume replicable product was named the Madiba Buggy,

in honour of the great man himself Nelson Mandela, and his children's foundation who sponsored the first batch of these buggy's to be used in the field. It has been Shonaquip's flagship product and the bulk of product output over the last 21 years enabling the company to carry out the work it has.

The Madiba Buggy was created through this same ad hoc solution process. It's rudimentary robustness and simplicity are the hallmarks of it's success. This simple device can be seen in clinics across the country with some examples having been in use for more than 15 years, with upholstery replaced and repairs made as required.

In a formal design process the Madiba Buggy as it exists would have only represented an early prototype for testing certain ideas from which the knowledge gained would be used to inform further design and ultimately a final product.

Impact of introducing professional design at Shonaquip

Shonaquip's design department was formally established in 2010 with the hiring of the company's first in-house

designer, the author, through an initiative of the British Council called the African Knowledge Transfer Programme (AKTP).There are no institutions were one can study wheelchair design or more broadly design for disability in South Africa. All knowledge was gained first hand from working in the field under the guidance of Shona, the clinical team and technicians in the factory.
It took some time to get to grips with the technical complexities and constraints of working within this field, along with finding a place within the culture and processes of the company.

A key challenge lay in changing the company's internal culture of ad hoc product development to a more formalised design process co-ordinated and managed from the design department. It was important not to loose the spontaneity of the ad hoc solutions that technicians produced, as their very direct approach would at times yield novel solutions appropriate for use in the local contexts. These have been documented as well as possible. The ultimate purpose of taking ownership of the product development process was to maintain production quality and product consistency and creating field tested solutions that could be relied upon in the field.

The Madiba2Go Buggy.

The Madiba2Go was born out of 3 push factors, all concentrated on the need to start making the Shonaquip product range more competitive in the market.

Alarge percentage of the company's annual turnover is derived from the supply of devices on the National GovernmentTender, to hospitals and clinics across the country, and it was important to maintain and grow market share.

New understandings within the field of wheelchair seating also began to challenge the norms that the Madiba Buggy's seating was originally based on thus the need for a new design, coupled with the desire to make a cost effective, flat-packable, export ready device.

One could consider the development of the Madiba2Go Buggy to be the culmination of a design process which started 20 years ago.

The Madiba2Go Buggy consists of two core parts.Alight weight modular seating system, which can be fine tuned

through multiple adjustments in depth, width, height and angle in order to effectively manage and improve the posture of each unique end-user.

A rugged base frame with thick hard wearing wheels offers a sturdy and foldable foundation onto which the seating system attaches via quick-release plates. The frame folds completely flat for easy storage and transportation, while still maintaining it's strength and maneuverability.

Along with postural support, the seating system's structure has been designed in such a way that the thin profile of the seat structure becomes almost invisible once the child is seated, shifting the visual focus to the child, enabling better socialisation and inclusion.

User Benefits:

- ***The seating system of the Madiba Buggy relied on the shaping of blocks of covered foam within the fibreglass bucket seat to sculpt an appropriate posture for the client. This has proved problematic in hot and humid regions due to the lack of any ventilation in the seat. This has often caused discomfort for the end-user and rapid deterioration of the covers and foam. To overcome this the Madiba2Go has an open system of padded panels that are fastened together and adjusted with a spanner to create the desired seating solution.***

- ***A reduction in the set up time of a device is not only a saving in money, it also enables seating practitioners to seat more users during an outreach clinic in a rural area as time is usually limited. A user can now be seated in as little as 1hr30min in the Madiba2Go Buggy in comparison with anywhere past 6hours that it would take in other devices.***

- ***The seating system has many additional holes which enable the seating practitioners to mount additional hardware and straps if required, without the need to physically cut or drill into the product, as was the case with the Madiba Buggy.***

Company Benefits:

- ***Courier costs are calculated in volume and have been almost halved due to the economical flat packing of the device. The is a great improvement over the bulky packaging of the Madiba Buggy.***

- ***A key selling point of the Madiba2Go Buggy is the improvement of it's appearance. Many clients have ordered it over the competition for this simple reason.***

- ***Sales number for the buggy have steadily climbed and were on par with the company's flagship, the Madiba Buggy, at the end of the year with volumes set to increase in 2015.***

- ***2014 has been an important year for the Madiba2Go Buggy as it has garnered a lot of attention through design competitions and the media. It was recently selected as a Good Practice 2014 project finalist for the International Design For All Foundation Awards 2015 taking place in March. Earlier in 2014 it was also honoured with the 2014 Design Indaba Innovation Award and was later exhibited during the London Design Week as part of an exhibition curated by the design consultancy Priestman Goode. The buggy was also selected as an official project and exhibited in various events as part of the 2014 World Design Capital hosted in Cape Town.***

Technical Device comparison

	Madiba Buggy(Small size)	Madiba2Go Buggy(Medium size)
No. of sizes	5 sizes	4 sizes
Set up Time	> 4 hours	< 90 minutes
Transportation	Detach seat from base	Detach seat from base & fold
Max. user weight	60kg	60kg
Back rest recline	non	up to 20 deg
Posture Tray	Removable no adjustment	Removable height adjustable
Tilt in Space	12º range	27º range
Seat adjustment	Shaping of foam	Mechanically adjust panels &
Seating position	Enclosed/tucked within seat	Open/on top of seat
Seat Weight	12kg	8kg
Overall Weight	22kg	20kg

Comparative table of Madiba and Madiba2Go Buggies, before and after upgrade.

Conclusion

Through the introduction of the design process an exceptional product has been further honed to one that has garnered much attention of late. In the words of Shonaquip's founder. "Acknowledgement of the simplicity of this design in terms of it's addressing complex clinical, functional and social challenges, which have significant impact on the lives of the children it was designed for has elevated the importance of this locally appropriate innovation and has assisted us in shifting disability from it's history in charitable giving and pity to one of celebrating social inclusion."

I hope that this article has offered some insight and inspiration into a unique field and a very special business, and the way in which design has helped to shape it's path towards a sustainable future in working towards it's vision to provide an inclusive society, without barriers, for persons with mobility disabilities.

References

C. Khasnabis&K.Mines. 2013. Wheelchair service training package: Intermediate Level.
Geneva : World Health Organisation.

2013. Shonaquip Business Plan. Cape Town : Shonaquip PTY Ltd

Guillaume du Toit is the head of design at Shonaquip PTYLtd. and a postgraduate scholar in the Department of Industrial Design, Cape Peninsula University of Technology.

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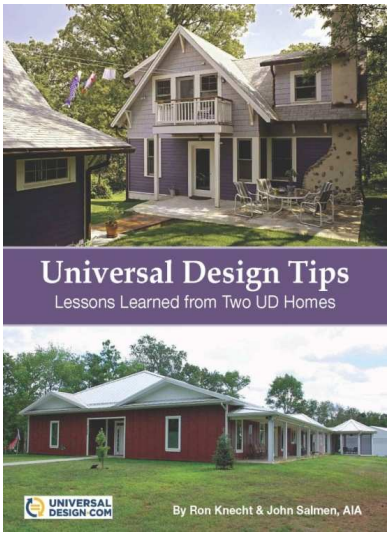
BOOK RECEIVED:

1.A New eBook from UniversalDesign.com

Universal Design Tips: Lessons Learned from Two UD homes

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



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

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

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

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

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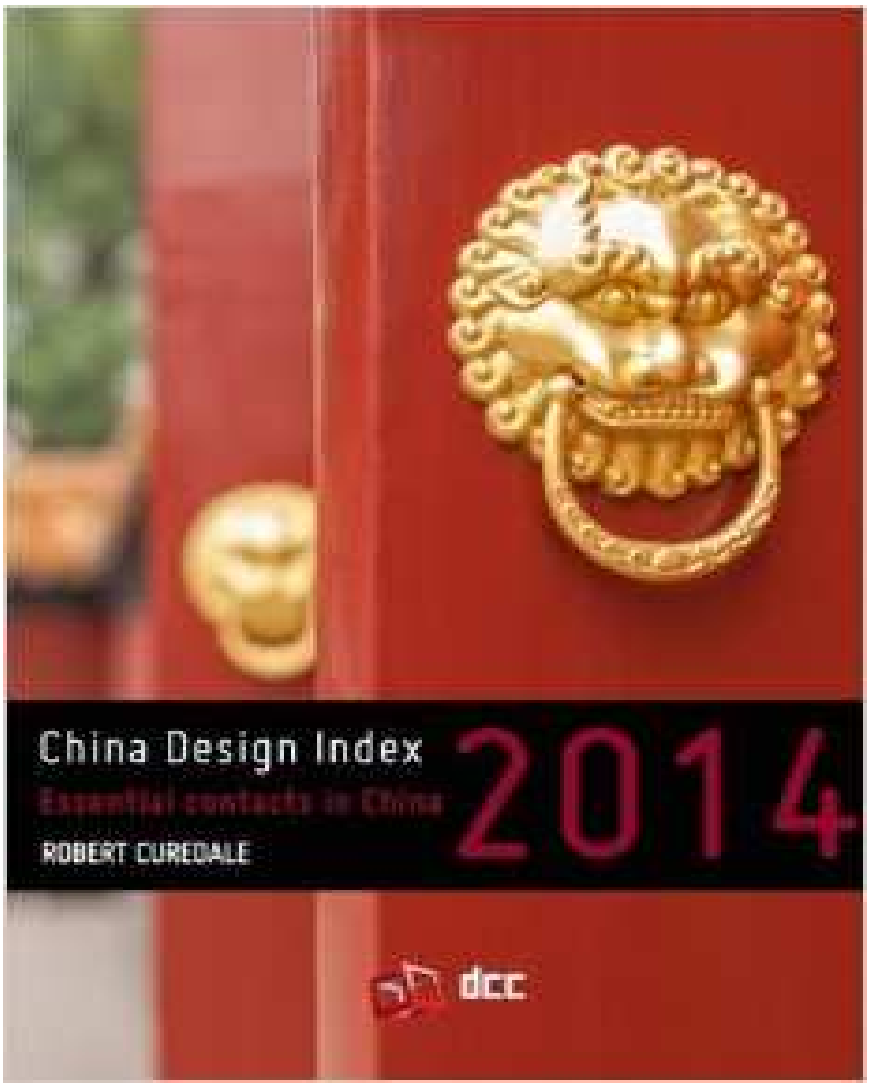
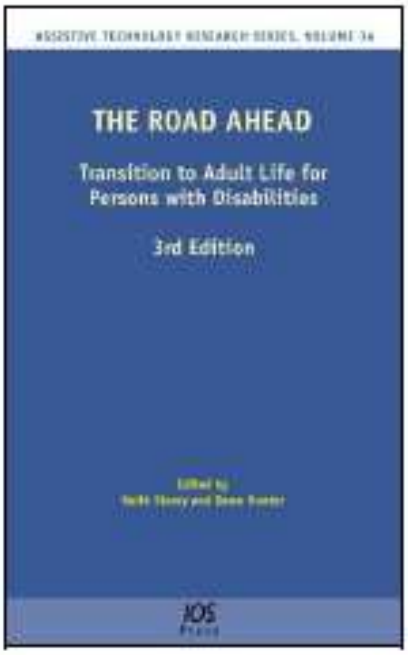


China Design Index 2014: The essential directory of contacts for designers Paperback – February 1, 2014 by Robert A. Curedale (Author)

3.



The Road Ahead

Transition to Adult Life for Persons with Disabilities

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."

4.

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

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

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

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

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

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

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

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

Visitability principles include

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

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

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

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

– 30 –

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

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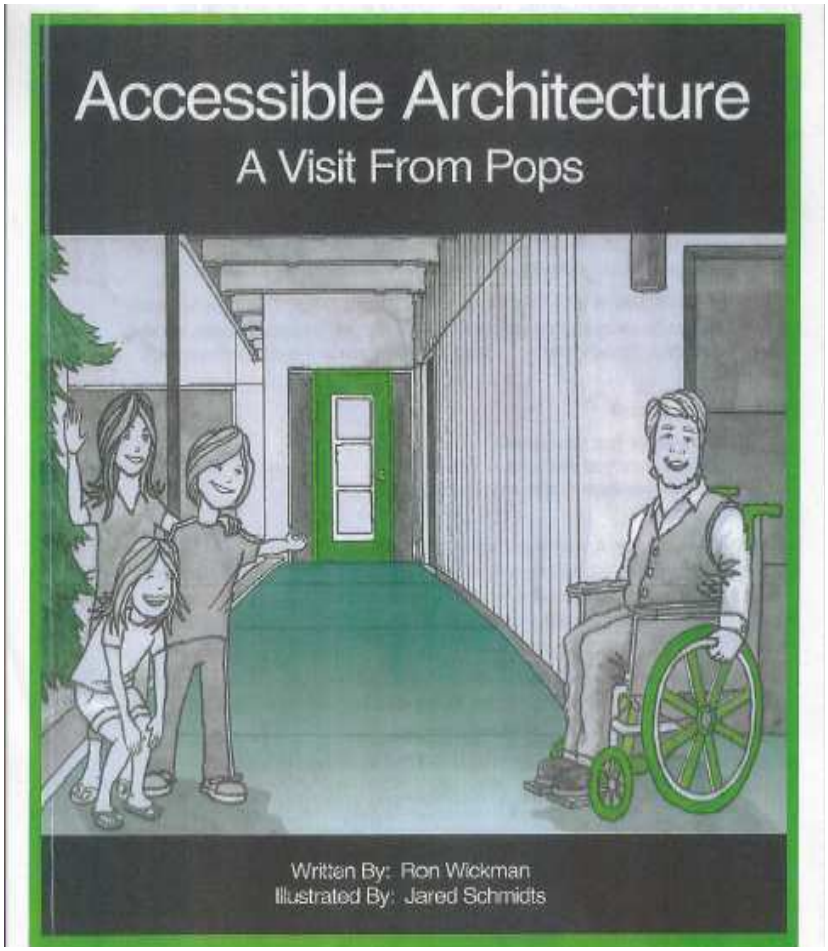

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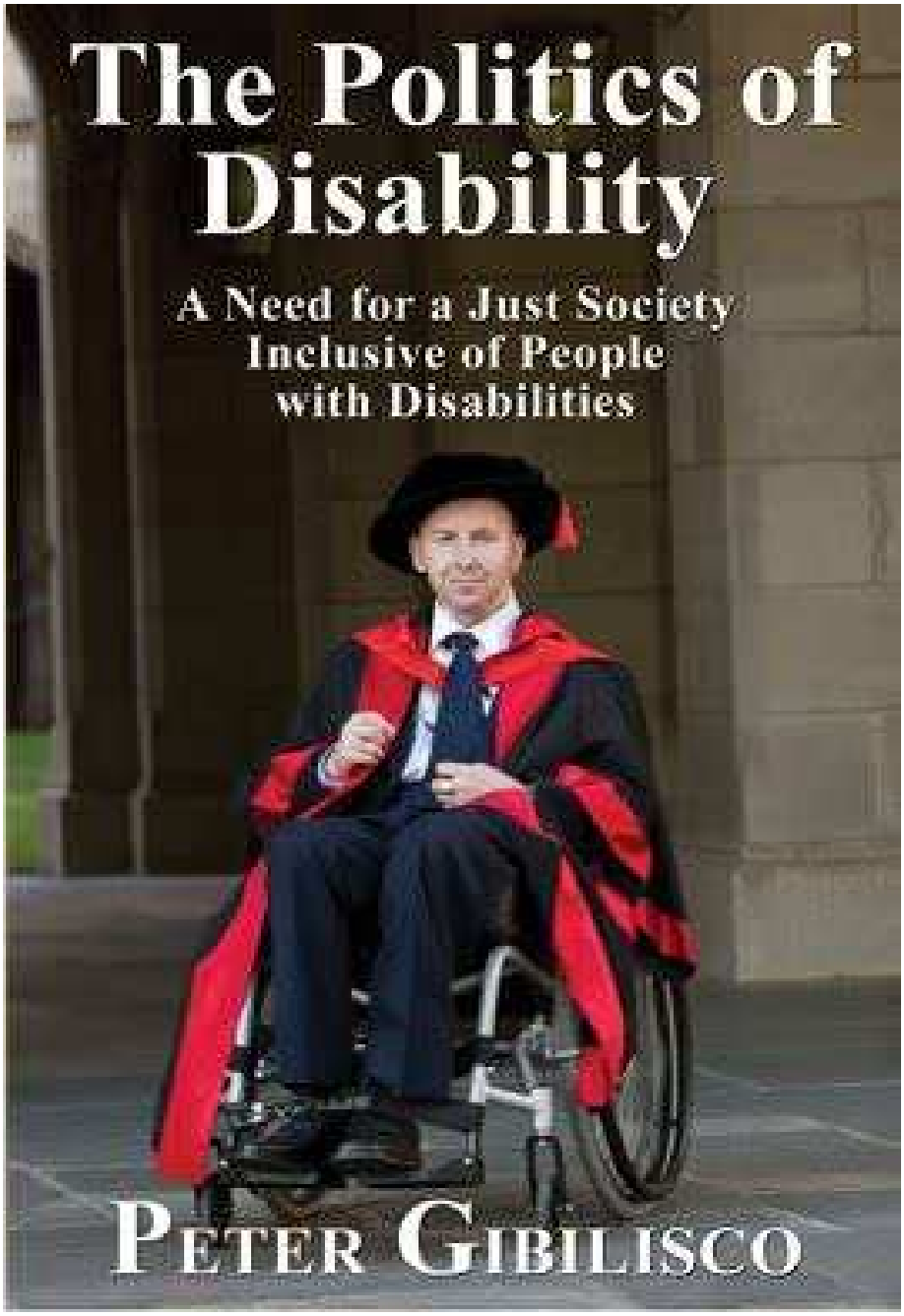
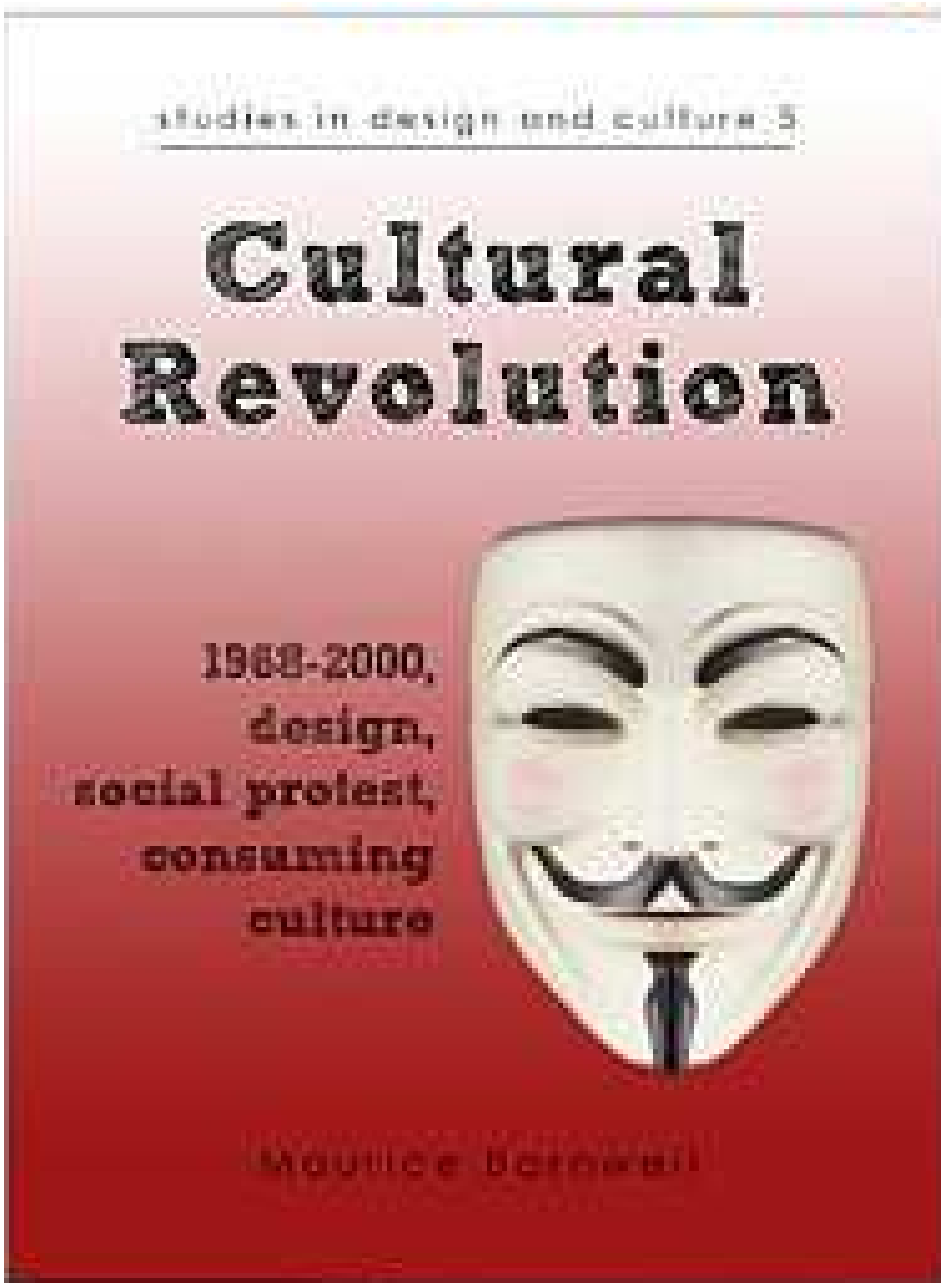


This book will retail for a recommended price of $19.95 USD ISBN 978-1-77143-155-2, with an ebook version also available at a recommended price of $7.95 USD ISBN 978-1-77143-156-9. You'll be able to buy it from all the usual places - Angus & Robertson, Bookworld, Fishpond, Amazon, Kobo, iBookStore, and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

7.

Maurice Barnwell (Author)



8.

Design for All — the project for everyone. Methods, tools, applications.
Volume 1- 2 (Steffan, 2012)

The publication highlights the multidisciplinarity and cross-disciplinarity of the Design for All approach, both in terms of issues addressed and of field of application. The accessibility of places and objects is nowadays a minimum requirement: it is only the starting point to allow their use by the widest range of people possible. Through professional experience and research, the paper tackles problems, methodologies and working tools, benchmarks.
The first volume covers the main areas of research and presents some examples at urban scale; the second volume illustrates examples of architectural design, products, services, university education.
The lack of compliance of the built environment and of the products, with needs that can be very different, causes a state of handicap. The lack of ability is a handicap only if the project has not taken it into account.
With these books we intend to stimulate debate, in-depth research, specialized studies, so that Design for All can be increasingly known and applied in more and more research and professional areas.

Published in Italian in December 2012 by Maggioli Editore (Santarcangelo di Romagna RN, Italy).
http://ordini.maggioli.it/clienti/product_info.php?products_id=8832 Volume 1
http://ordini.maggioli.it/clienti/product_info.php?products_id=8831 Volume 2
The on-line English version is also available since October 2014:
http://www.maggioli-editore.it/ebook/tecnica/design-for-all-the-project-for-everyone-first-part.html
http://www.maggioli-editore.it/ebook/tecnica/design-for-all-the-project-for-everyone-second-part.html

"Ideas, even good ideas, flourish only when practitioners commit to sharing their experiences, perspectives and aspirations. By organizing this publication and convening a distinguished international group of contributors, Editor Isabella Tiziana Steffan helps to establish the current state-of-the-art and affirms the significant potential of Design-for-All. She also delivers fresh inspiration to an expanded audience critically important to engage if Design-for-All/Universal Design is to realize its promise in the coming years.(...)We salute Editor Steffan for her passion, focus and hard work to bring this valuable contribution to fruition." (Valerie Fletcher)

APPEAL:

1.

CHI 2015 Local Heroes

This year our conference Theme Program is preparing a 'Local Heroes' exhibition. 'Local Heroes' will feature outstanding Asian HCI researchers and/or products during the conference. This will be done with a series of self-standing banners positioned in the lobby of the conference venue.
The purpose of 'Local Heroes' is to introduce and promote hidden historical gems of Asian researchers and products within HCI fields to the CHI society. With your recommendations, selected researchers and products will be shown on these banners with a short introduction and an image. We believe this will exhibit and recognize special achievements from the Asian HCI society.

We are kindly asking you to recommend HCI researchers and products within your local chapter who have been part of or behind outstanding achievements. Please use the following form for your recommendation. To recommend more than one persons/products, submit a separate form per person/product.

Thank you for your support and we will look forward to seeing you in Seoul.
(The Deadline of your recommendation is February 15th, 2015)
https://docs.google.com/forms/d/1Mm60B1JBr_oPxO5oukCf6zlh7i32IeV9mabFW9VRH4w/viewform
Kyle Hyunsuk Kim
Conference theme chair of CHI2015
Professor at Hongik University, Seoul, Korea
kylekim@gmail.com

NEWS:

1. AMA Could Be More Creative With These Churches

I find the current practice of churches holding services in basic public schools to be a potentially profitable avenue for our metropolitan, municipal and district assemblies that own and operate these schools. Consequently, I find the recent directive issued to churches to desist from using these public facilities for their services to be woefully bereft of entrepreneurial acumen (See "AMA Bans Churches from Worshipping in Classrooms" Citifmonline.com / Ghanaweb.com 1/22/15).

We are told that the directive follows several incidents in which worshippers have damaged classroom furniture. In other words, these Christian worshippers - or devotees - have become a quality-of-life nuisance to the schools whose operatives have allowed them the use of such facilities. I am assuming that the use of such public property attracts rental fees, which could be used in effecting badly needed maintenance and repair works for which Assembly revenue may neither be forthcoming nor readily available.

If the preceding observation has validity, then it appears to me that stringent rules ought to be laid down to govern the disciplined use of such facilities and rigidly enforced by, for instance, hiring building superintendents and/or monitors to ensure that furniture in these mini-academies is handled with appreciable care. Failure to do so could then be profitably punished in the form of reasonably exorbitant surcharges. I am quite certain that these public facilities are also regularly rented out for non-religious activities, while they are not in active use for the purposes for which they were constructed.

All that needs to be done here, as well, is for facility managers and/or their assigns to take stock of the furniture and document their general condition at the time of rental. And then billing the renters for the cost of any property damage or abuse that may be clearly ascertained to have occurred during the course of the usage of the same. Collectively punishing the users of these facilities with wholesale summary prohibition does not seem to me to be very progressive, justifiable and business savvy. Instead, each group of worshippers ought to be treated on a case-by-case basis, according to how responsible a particular group of worshippers conducts itself.

The various levels of Assemblies or Districts may also do well to consider having these schools re-designed or ones being newly-built designed for multi-purpose uses, so as to make these bona fide public properties communally more useful and profitable as well as functionally relevant. This is what the progressive and utilitarian concept of "Universal Design" and "Modernism" are about. Of course, universal design also implies the user-friendliness of these facilities by the physically challenged or handicapped.

It is about time our community leaders and local politicians kept themselves abreast with the utilitarian tide of the times, or we risk ossifying ourselves out of positive and foresighted societal functionality. A word to the wise....

.

PROGRAM & EVENTS:

1.

2.

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!

3.

The Biennale Internationale Design SaintÉtienne 2015

4.

5.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INFO@MONEYDESIGN.ORG
Take a chance to travel for educational or professional purpose and tourism to the beautiful region of Provence. Improve your poster design practice and exhibit it with a selection of internationally renowned graphic designers in a European Capital of Culture.

6.


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AIM and MANAGE for INCLUSIVE ACCESS
Rosário Macário
Chair TRANSED 2015
IST, Instituto Superior Técnico, Lisbon Technical University
TIS.PT, Consultores em Transportes, Inovação e Sistemas, s.a.
WCTRS, World Conference in Transportation Research Society
Presented in New Delhi (13th TRANSED), Sept 17-20, 2012
Aim and Manage for Inclusive Access
14th TRANSED CONFERENCE – Lisboa – 28 to 31 st July 2015
Rosário Macário
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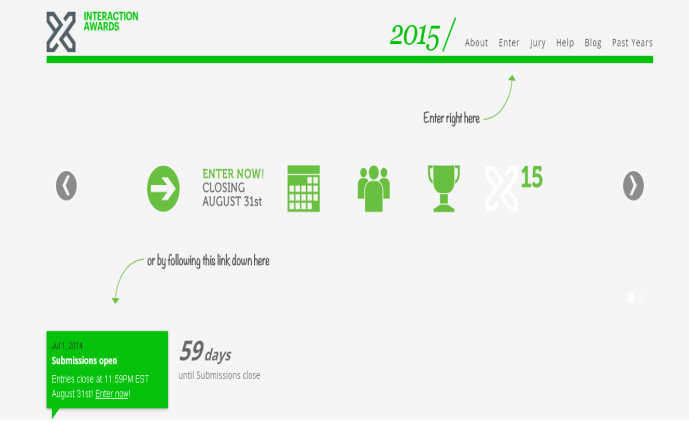
INTERACTION AWARDS
2015 /
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15
or by following this link down here
Submissions open
Entries close at 11:59PM EST
August 31st! Enter now!
59 days
until Submissions close

8.

The voice of blind and partially sighted people in Europe

The Vision for Equality Award

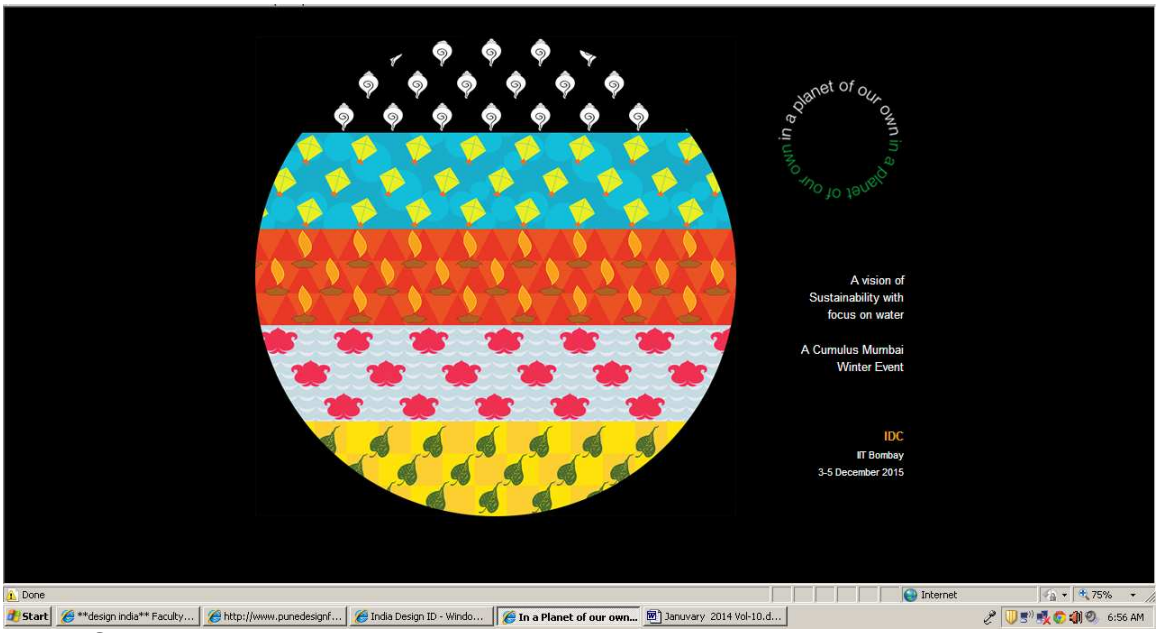
The EBU Vision for Equality Award is given to European organisations, institutions, policy makers, enterprises or individuals in recognition of their commitment to protect and promote the rights of blind and partially sighted people and to improve their living conditions. The Award, which consists of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

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

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

9.

10.



artoon Competition

We invite you to participate to showcase your ideas on sustainability during the Cumulus Mumbai 2015: In a planet of our own - - a vision of sustainability with focus on water' by submitting a Cartoon created by you.

Design Cartoons on the theme of Sustainability with focus on Water

We invite cartoons which humorously communicate the seriousness of the theme, by rethinking sustainability with respect to water in terms of conservation, preservation and recycling. Rethink situations, rethink water, life, thirst, cleanliness, greenary, energy resources and everything else we use day in and day out to keep going. Rethink and depict how the saving of water that can fully give a new lease of life by either going back to nature or going back into the design process as a new paradigm that can affect our world..

Cartoonists are invited to interpret the theme of the event 'In a Planet of Our Own – a vision of Sustainability with focus on Water' as representations through designing of Cartoons.

The Winning Entries:

1. The winning cartoons will be displayed as an exhibition during the event. We expect the exhibition to travel to other places as part of other events.
2. The winning entries will also be published as part of a book to be released during the conference in December 2015.
3. Each of the winning participants will receive 5 copies of the book.
4. The winning participants will also be given the 'Certificate of Winning the Cartoon Competition'.

Partnership:

This competition is done in partnership with Usability Matters.Org

The Jury and the Judgment Criteria:

The jury will be well-known professionals and socially active personalities. The names will be announced in due course.

For judgment, the jury will use criteria such as creativity, humor, visual communication, presentation, persuasiveness, originality, cleverness, relevance of content and execution.

Submission Guidelines:

Entries : up to 5 cartoons per person

Size (hard-copy): A4 (210 X 297 mm) or A3 (297 X 410)
Size (digital): 300dpi and in dimensions of A4 or roughly 2500 x 3500pixels
Please make sure the resolution is 300 dpi so that it is suitable for printing

Technique: free - can be either hand drawn or digital using any medium

and email these with the subject line 'Cartoons' to:
contact@inaplanetofourown.net

or snail mail to:
Cartoons - in a planet of our own

IDC, IIT Bombay
Powai, Mumbai
400076
India

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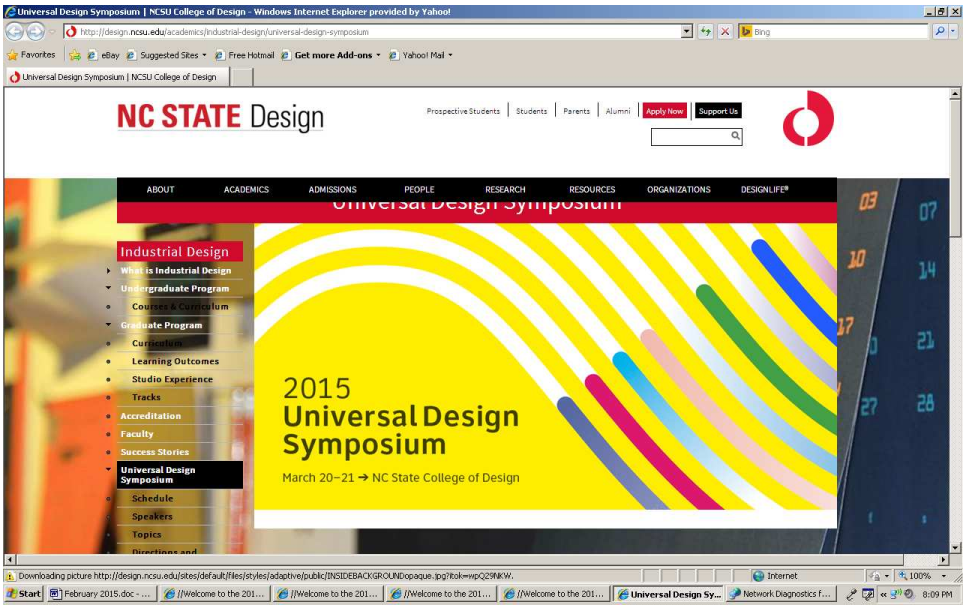
Universal Design Symposium | NCSU College of Design - Windows Internet Explorer provided by Yahoo!
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RESEARCH
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Courses & Curriculum
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Curriculum
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Tracks
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Speakers
Topics
2015
Universal Design
Symposium
March 20–21 → NC State College of Design

JOB OPENINGS:

1.

looking for a junior graphic designer at Chumbak who will be in charge of photography and all marketing collaterals for Chumbak. Please send across your resumes to rajath@chumbak.in

The detailed JD is below:

Role & Responsibilities

As a Junior Graphic Designer your main responsibilities will be to design and build collaterals for products, marketing campaigns and the website. Working within a small but fast paced team, you will have to work towards tight deadlines. Your main responsibilities will include:

- **Photograph, design and create all marketing campaign collaterals**
- **Photograph and update high quality product images**
- **Maintain consistency of the company brand across all designs**
- **Come up with creative ideas for store and web banners**

Additional Information

Type: Full-time

Experience: 3-4 Years

Reporting to: Digital Marketing Head/Design Head

Location: Indiranagar, Bangalore

About Chumbak

Chumbak is an innovative, design led consumer products company HQ'd at Bangalore. At the core of Chumbak is a distinctive 'India inspired' design philosophy depicting modern India.

With presence across both online as well as offline channels, the Chumbak brand is fast attaining cult status, and is already a market leader in its segment. We are a young, vibrant organization looking for like-minded people to build a global company. The company is growing at 300% YoY, and has been funded by Seedfund and Matrix.

2.

Tata Elxsi, one of the leading Design house in India is searching for Industrial Designers for its Pune Studio.

Industrial Designer -

Qualification: Engineering / Architecture Graduate with Post Graduate in Industrial Design with relevant experience of 2-3 years in the field of, Consumer Electronics, Home Appliances, Packaging Design, Consumer Research or Medical devices.
sandeepthombre@tataelxsi.co.in
+919822202982

3.

UniKwan, Bangalore is looking to expand its team of Motion Graphic Designers.

Key Qualifications

Skilled with standard graphic and motion design tools, including but not limited to Photoshop, Illustrator, InDesign, and After Effects

- **Experience with 3D animation a plus, particularly with Cinema 4D**
- **Ability to learn new technologies and systems quickly**
- **Ability to work cooperatively in a team environment**
- **Ability to adapt to a constantly changing technology environment and tight timelines**
- **Ability to learn new skills and assume new responsibilities**
- **Ability to independently design and implement creative solutions**
- **Ability to give and receive constructive criticism**
- **Ability to work in a fast-paced environment**
- **Ability to manage multiple projects simultaneously**
- **High energy and a positive attitude**
- **Experience with other creative disciplines such as photography and videography a plus**
- **Ability to work well with others on all levels. Must be a team player.**
- **Able to work flexible hours (OT and Weekends may be required).**

Kindly send in your portfolio of work that demonstrates the above.
For more information and our sample work please visit:
www.unikwan.com
http://vimeo.com/94929295

4.

Zynga India is looking for UI designers at multiple experience levels- interns, associate and mid-level. Please send in your resume and online portfolio to bsaraswat@zynga.com if interested.

5

Divami is looking for UX designers at entry to mid-level (0-4 years). We have multiple positions open.
Please find the details below and send in your resume and online portfolio to navinboyini@divami.com.

About Divami:

Divami (www.divami.com) is a boutique User Experience (UX) services firm, based in Hyderabad, India. Our services include UX Strategy, Interaction Design, UX Review, UI Design and UI Development – essentially, UX is pretty much what we do, and all we do. Over the last 6 years, we have provided UX services to large ISVs like SAP, IBM, and TIBCO as well as

small and medium startups and post-startups like Novatium, MarketShare, and Pivotal (formerly known as Greenplum). We have worked in a variety of domains and technologies including Financial Services, Business Intelligence, Analytics, and Databases in the enterprise space, as well as e-commerce, social platforms, cloud OS, and retail banking in the consumer space.

Our growing team of designers and developers are passionate about UX, Design & Quality. UX Strategy, User Analysis, Information Architecture, Interaction Design, UI Design, Usability Analysis and UX Review are our specialties in Design Services. For UI development, we rely on HTML, CSS, AJAX, JQuery, Angular, extJS, Sencha, Flex/Flash, iOS & Android technologies.

Our Requirement:

At Divami, User comes first! As a UX designer, you are expected to lend an ear to the perspective of the User and mould the design accordingly. In addition to this empathetic approach, we also look for the following

☐ Experience in UX/User Centered Design areas (0-4 years)

☐ Work with business teams to capture requirements from the stakeholders.

☐ Knowledge in capturing User requirements, User and task analysis, creating user personas and usage scenarios.

☐ Be able to define information architecture, create interaction models to effectively communicate UI interaction and design ideas.

☐ Experience in creating wireframes, storyboards, visual mock-ups and prototypes to help define and communicate product/project experience to cross functional teams

☐ Should be able to provide detailed documentation on the designs done.

☐ Have a strong understanding of the aspects pertaining to the design in terms of typography, colours, shapes and forms. Should have an eye for a pixel-level attention to detail for creating delightful visual designs

☐ Proficient in Omnigraffle or Balsamiq or any other wireframing tool.

☐ Hands on with Photoshop and illustrator.

☐ Should have good oral and written communication skills

6.

looking for professional website designers to do my company's website. We are a electronics manufacturing company by the name of Elcom International Pvt Ltd. (our current website www.elcom-in.com)

The website should not only look and feel good but should also work well on mobile devices and tabs. It should be able to improve our product presence on the internet/google. And, our products should be easy to browse and search as we have many of them.

Please email us any details at mihirvaze@elcom-in.com

7.

Xlucid Design Studio is looking for full time 3D Visualizer / Interior Designer, Graphic Designer and Product Designer.

The designers are expected to generate concepts and visualise them in 2D and/or 3D.

1. 3D Visualizer / Interior Designer:
Candidates with proficiency in 3DS Max (Rendering and Editing), AutoCAD / Revit (Drawings), Photoshop/CorelDraw.

2. Graphic Designer:

Candidates with proficiency in hand illustration, Photoshop, CorelDraw and Illustrator will be preferred.

3. Product Designer:

Sketching skills, 2D Renders (Photoshop/Sketchbook) and proficiency in 3D tools such as Autodesk Alias and SolidWorks will be preferred.

Interested candidates may send their CV and Portfolio at: hr@xlucid.com

8.

Cogwheel Studios™ - A creative multi-disciplinary design studio founded in the year 2012 by an alumni of NID, is looking forward to expand its team of designers in Bengaluru.

Further to the opening, we are currently on look out for a super talented, fun & engaging VC / Graphic Designer from School of Design, to join our success party. Moreover we are looking at a long term associate who can contribute, build and carry forward the legacy, the studio has achieved in its last two years of serving niche client briefs across India.

An ideal candidate can be a fresher from school with an amazing portfolio willing to;

• Handle key responsibilities of the day to day activities of the design studio,
• To get inspired and inspire other team members through developing world class design solutions,
• Learn and seamlessly use new designer tool sets required for effective management of the proposed design solutions,

• Effectively multi-task across multiple projects and work in a fast-paced environment at times to meet project dead lines.

Cogwheel Studios™ was conceived on a visionary platform to develop meaningful design solutions for our diversified society, yet still positioning the overall on a global design benchmark system for the benefit of our client investments. We think strategically and simultaneously develop creative yet practical solutions under one roof to effectively administer our proposed solutions. We are not bound by the corporate structure of work culture but look forward to have the best of creative industry work standards in the studio premises.

If it sounds exciting to be part of our forth coming journey, do feel free to write to us along with your web links / portfolio to info@cwspost.com

9.
Lookout for a Graphic Designer for our Mumbai Office

Pineapple Consulting is a Multidisciplinary Strategic Design Firm, operating from Mumbai, Dubai and Kuala Lumpur.

We're looking for someone who brings a deep understanding and skills in Design processes. Passionate about brands and have a strong point-of-view which reflects in the body of work. Ideally somebody with at-least 3 years of work experience in areas like Branding, Print & Online Communication, & Packaging. Would be great if this is coupled with well-articulate presentation skills, and a flair for presenting to teams outside the design studio.

All interested candidates/ references can be sent to Info@pineappleconsulting.biz

more information about us is available at www.pineappleconsulting
11.
Think Design Collaborative is expanding its presence in Mumbai and setting up a Design Studio at Andheri.
Following are the immediate openings for the Mumbai Team:
Role: User Experience Designers (3 Vacancies)
Location: Mumbai Area, India
Experience: Junior and Mid-Senior level
Send your CV & Portfolio Link to: hr@thinkdesign.in (cc bobby@thinkdesign.in)
Job Description:
Think Design Collaborative has exciting opportunities for Visual Designers to help design with a primary focus on user experience for Online Sites and Mobile applications.
Expectations from User Experience Designer:

- **Ability to understand a product's vision, and translate it into unique design solutions in collaboration with internal & external teams.**

- **Capability to communicate with clients, provide insight into UX decisions and collaborate with project team.**

- **Work collaboratively with User Experience Strategist & Project Manager to create cutting edge experiences for Consumer/Enterprise applications across wide range of domains.**

- **Communicating ideas, best practices and guiding principles for creating world-class user experiences.**

- **A deep understanding of current technologies and design trends, and the desire to innovate using digital platforms.**

- **A strong eye for detail.**
- **Work well in a participatory, team-based environment.**

- **Positive and enthusiastic with a drive for continuous learning and skill development.**
- **Candidate should be willing to travel for on-site project executions for short/long durations in India and abroad.**

- **Candidate should be open to temporary/permanent relocation within Think Design's studios in India.**

Responsibilities of User Experience Designer:□

- **Supporting project discovery and visioning workshops.**
- **Presenting concepts to clients, stakeholders and project teams and effectively communicate research findings, conceptual ideas and detailed design rationale both verbally and visually.**
- **Work closely with development and design teams to ensure that design specifications are implemented**

- **Work closely with UX Design Leads, Design Strategists at Think Design and Product stakeholders and Developers at Clients' end.□**

- **The UX Designer needs to negotiate with and help Visual Designers and Front-end delivery teams and provide support**
- **Articulate and track project milestones, deliverables and risks with the Project Manager, in addition to communicating progress**

- **The UX Designer will be responsible for delivering all or some of the following, depending on the project:**
  Competitive landscape analysis,
  Task analysis, User requirements specifications,
  Personas, Storyboards, Scenarios,
  Information Architecture,
  Wireframes and Design concepts

Usability testing,
Interactive Guidelines,
Design Specifications,
Click through Prototypes

☐Basic Qualifications of User Experience Designer:

- **A Bachelor's Degree/Diploma, or equivalent experience in design, preferably from a HCI discipline**
- **Demonstrable inclination towards User Experience design and User Centered Design process**
- **2+ years of experience developing interactive products as an Information Architect, Interaction Designer, User Experience Designer or User Interface Designer**
- **Portfolio should demonstrate knowledge of UX design for iOS, Android and web (mobile/desktop/responsive).**
- **Fluency in Photoshop to generate quick layouts/ grids**
- **Fluency in Powerpoint as a wireframing tool and demonstrable skills in making power point presentations**
- **Excellent written, oral and presentation skills in English**

Preferred Qualifications of User Experience Designer:

- **Basic knowledge of HTML5, CSS3, JavaScript**
- **Illustration and drawing skills**
- **Highly organized and capable of working on simultaneous projects to meet tight deadlines**
- **Able to effectively collaborate with a team as well as take initiative and work independently to solve problems**

What Think Design Collaborative is offering:

- **Challenging, exciting, future-ready projects across multiple domains**
- **Good remuneration consummate with talent**
- **Team & Individual Learning and Development is part of Think Design Culture**
- **Open & communicative work environment**
- **Potential Career Growth to Leadership role for high performers**

About Think Design Collaborative

We collaborate with visionary organizations to identify, build and materialize innovative products and services. With Design Thinking at the core of our practices, we make those products and services relevant to the people who use them. We work at the intersection of technology and human emotion; and serve clients across domains and industry verticals.□□Since 2004, we've designed every aspect of human interface across touch points and technologies. We will continue to be in the space where customers are interacting with businesses ... for consuming information, carrying out daily tasks, making decisions, or for buying things.□□□

You can learn more about us at:
http://thinkdesign.in/
https://www.linkedin.com/company/think-design |
https://www.facebook.com/THINK.DESIGN.COLLABORATIVE

11.
MathWorks India is hiring a Sr. UX Specialist in the Bangalore office. More details about the job description here:

http://www.mathworks.com/company/jobs/opportunities/senior-user-experience-specialist-13957

I have been working with MW for a little over 7 months now, and I can try and answer any questions you might have about the position and role, if any of you are interested.

Do send in your questions/queries back to me.

You will be working on products in the Simulink Platform:
http://www.mathworks.com/products/simulink/

Why Choose Mathworks?

Mathworks is listed in Glassdoor's top 10 tech companies to work in 2015 at no 6.

Also, at 19, on the employee choice in the top companies in 2014.
You will be working with some of the best engineers and scientists trying to push the boundaries of mathematical computing and simulations. The UX team is 60 people strong mostly in the US office but we are growing globally too.
Other global UX positions: http://matlab.my/UXJobs2015
12.
WANTED !
VISUAL COMMUNICATION DESIGNER
GladMinds is a technology product startup based out in Bangalore.
Our portfolio of consumer and enterprise products allows brands and consumers to be constant connect. We have built a curated set of services that makes the product exciting and simplify lives for all stakeholders – including ours !

GladMinds is looking for a 'Visual Communication Designer' with atleast 3-5 years of experience to join us. We are looking for a smart, enthusiastic and happy individual to be part of our team to move with us towards an exciting future.

What You Can Expect
... Info Curation + Info Collection + Visual Communication
... Digital Comm Material + Social Media Content + Some Print Design
... Looking at Big Picture + Working on Finest Details
... Brainstorming + Debates + Presentations + Workshops
... The StartUp Vibe : Passion + Action + Transformations + Co-Working
& most importantly,
... People, Place & Pay that will keep you in good cheer

What We Expect
... Aptitude for visualization + Skills to suit (thinking & technical)
... Heart for aesthetic quality + Obsession for simplicity
... Love for info/knowledge + Interest in storytelling (verbally & visually)
... Self Driven Workaholic + Active Team-mate
... Energy + Agility + Versatility
& most importantly,
... Individuals who believe in & are excited about our Idea & Story

If you are excited, connect with us to start a conversation.
Mail Us : contact@gladminds.co
Call Us : +91 9845 320 684

Advertising:

To advertise in digital Newsletter

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Acceptance of advertisement does not mean our endorsement of the products or services by the Design for All Institute of India

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