



### FLUX: Design Education in a Changing World

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## A City in Flux: Cape Town's Search for an Inclusive Future

### **Abstract**

The anticipated hosting of the 2010 FIFA World Cup™ events has provided significant impetus to opportunities for mainstreaming Universal Design in Cape Town. Other cities have been benchmarked to demonstrate the efficacy of Universal Design, albeit in markedly different contexts and using different approaches to effect change. Cape Town stands to benefit from the experience of such cities that have hosted similar mega-events or wherein similar challenges for promoting greater inclusiveness obtain. The issues highlighted in so doing could potentially inform Cape Town's quest to become a sustainable Universal City- in which accessibility, equity and ubuntu form the inherent characteristics of its engagement with its residents and visitors.

**Key Words:** 2010 FIFA World Cup™; Accessibility; Equity; Fédération Internationale de Football Association (FIFA); Inclusive Infrastructure; Mega-Events; Participatory Methods; Social Responsibility; Universal Design (UD).

### Introduction

The forthcoming FIFA World Cup™ is expected to be the most profitable event ever for FIFA the governing organization of international soccer with US\$ 3.1billion in corporate sponsorship and broadcasting rights (from Europe and North America) already secured for the period 2007-2010 (SAInfo, 2006a). This will be the first time in the game's history that an African nation will host the mega-event and South Africa is expecting upwards of 400,000 visitors (SACN, 2005) which is more realistic than the 3 million tourists expected by the Airports Company South Africa (ACSA) (SAInfo, 2006b). South Africa is ranked as a middle-income country and has many features associated with more developed economies such as arguably the best-developed financial, legal, communications, energy and transport sectors as well as the most advanced telephone system on the continent (World Factbook, 2007). If properly managed, the country's vast natural resources could sustainably provide and maintain inclusive infrastructure for all its 44 million people.

Additionally, the secretariats of continental bodies including the New Partnership for Africa's Development (NEPAD) and the African Decade for Disabled Persons (ADPD) Secretariats are hosted in South Africa. Whereas NEPAD enjoys significant political goodwill and exposure, the more relevant organ for the promotion of inclusive strategies is the ADPD whose mandate covers the years 1999 till 2009. The country has not held a mega-event (such as Olympic Games or a FIFA World Cup<sup>TM</sup> tournament) yet, but expects to reap significant intangible psychological benefits and immense goodwill from the global community as was the case when it successfully hosted the 1995 Rugby World Cup and Africa Cup of Nations to celebrate its re-emergence as a new democracy (Kearney, 2005:3; Matheson, 2006:5).

The 2010 projects, particularly in Cape Town, have met with skepticism and cynicism with questions about the long-term economic value and environmental sustainability of the event when viewed against more pressing needs such as provision of adequate housing, provision of employment and containing crime (Contact, 2007:1). This created an air of uncertainty as to whether the event would be hosted, inviting the personal intervention of FIFA president, Joseph Sepp Blatter, who gave assurances that the FIFA leadership "expressed a vote of confidence in South Africa as early as 2000" during the bidding process for the 2006 games, losing a single vote to Germany (SAInfo, 2006b). The opposition to the building of the Greenpoint Stadium in particular should be seen as a healthy democratic process. The country prides itself in its "rich history of community involvement built during the struggle against apartheid" (Roaf, van Deventer & Houston, 1996:21), such experiences provide occasion to solidify such credentials. Indeed according to Gary Cox (quoted by COHRE, 2007:195): "participation strategies need to fully recognise that there will be a range of winners and losers in hallmark events". To this end, marginalized groups (including disabled persons and the elderly) should not shirk from engaging in activism to secure their interests and protect them from potential non-inclusive "discriminatory and disproportionate effects" (COHRE, 2007:197).

### **Majority World Context**

Universal Design (UD) is defined as "an approach to the design of all products and environments to be usable by everyone, to the greatest extent possible, regardless of age, ability, or situation" (Center for Universal Design. 2006). Sandhu (2002) argues that "social responsibility is integral" to UD. Further, he asserts that UD "not only provides a framework for action but is an approach that values and celebrates human diversity" and that ... "inclusive design can restore equity and enhance citizenship". Sandhu (ibid) refers to this as "the politics of sustainability and civic rights". Majority world contexts (where the vast majority of humanity subsists) often have similar challenges albeit from very unique social, cultural or political sources. Sandhu (2002) compares the historic systemic segregation and resultant social exclusion and discrimination engendered by slavery, the caste system and apartheid in the USA, India and South Africa respectively. Sports offers opportunities for empowerment to many in the USA and India alongside intangible benefits of social cohesion.

South Africa's apartheid legacy was so deeply entrenched that it led to sports segregation whereby rugby and cricket were associated with the dominant minority, whilst the black majority identified with soccer. The FIFA games offer an opportunity for social transformation wherein the privileged elite and impoverished masses rally around a common theme, at least for a month, thus celebrating the "Rainbow Republic's" great diversity. Like many other sub-Saharan countries, South Africa must grapple with the socio-economic challenges posed by HIV/AIDS, widespread poverty and a high income gap, illicit drugs, crime, and refugees from regional states. These challenges demand a robust and integrated socially responsible design response such as the one discussed further on in this paper.

#### From Exclusion to Access

In South Africa, the Integrated National Disability Strategy (INDS) of 1997 proposes means by which the ideals of equity and inclusiveness that are enshrined in the Bills of Rights can be implemented (ODP, 1997). The Promotion of Equality and the Prevention of Unfair Discrimination Act of 2000 (Matsebula, Schneider & Watermeyer, 2006:87) drawing on recommendations of the INDS spells out the legal obligations and implications of the Act on all role players in both the public and private domains (SAHRC Report, 2002:16). The need to promote universal access (SAHRC Report, 2002:8) equality is stated as one objectives of this Act (South Africa, 2000:5). The Promotion of Equality and the Prevention of Unfair Discrimination Act follows the spirit of the pioneering Americans with Disabilities Act (ADA) of 1990 (Koncelik, 1998:118) and the United Kingdom's Disability Discrimination Act of 1995 (Coleman, Bendixen, & Tahkokallio, 2003). Further, there has been an attempt in Part S: Facilities for Disabled Persons at providing professional architects with directions on access provision in buildings (South African Standard, 1990). One must however keep in mind historic and geopolitical realities when benchmarking other contexts. To this end, the USA contrasts sharply with Europe when one considers such issues as common currencies, legislative frameworks and diversity (Coleman et al. 2003:289). Europe's diversity and focus on social inclusion are closer to our own aspirations (ibid) whereas UD in the USA the principle drivers are of a commercial nature.

There is strong endorsement for the 'business case' for UD (Mace, 1998; Danford & Tauke, 2001). Jordan (1999:174) defends inclusive design for its ability to "eliminate much of the social stigma associated with products for use by the disabled". Imrie et al see inclusive design as advancements on the principles of UD and liken the approach of the former to that of Sommer's (1983, in Imrie et al, 2001:18) conception of social design. Whilst admitting that UD and Kyoyo-Hin are roughly based on the same premise, the latter claims to "stress features as products in the phases of supply, distribution, and sales" in contrast, UD "standards emphasize considerations of development, design, and other parts of the planning and development process" (Kyoyo-Hin, 2001:8). By definition Kyoyo-Hin and Kyoyo services "are designed to be used by as many people as possible, including the elderly and those with disabilities" and evolved out of a need to provide effective services to its aging population and its interventions are therefore directed accordingly (ibid). Philosophically, Design for All (or the European Concept for Accessibility) is more amenable to Koncelik's (1998:149) concept of design's response to aging as it facilitates mass-customization, market segmentation and niche marketing, and more importantly contains the breakthrough clause of including "supplementary provisions where appropriate" (Goldsmith, 1997:121). The terms Inclusive Design, Design for All, Kyoyo-Hin are for the purposes of this paper treated as being synonymous with Universal Design (UD) (Center for Universal Design, 1997; Design Council, 2006; EDeAN, 2006; Kyoyo-Hin, 2001:7) as they all espouse a non-exclusive agenda for design intervention.

The social model of disability as articulated by Oliver (1990:22) is based on the belief that the circumstances of people with disabilities and the discrimination they face are socially created phenomena and have little to do with the impairments of disabled people. The disability rights movement believes, therefore, that the 'cure' to the 'problem' of disability lies in restructuring society as opposed to the *medical* (or individual) model that tends to isolate the individual with disability (Oliver, 1990:6, ODP, 1997). Zola (1994) draws parallels between disablism and racism, whilst Healey (1994) presents a phenomenological reflection on age and ageism. Weisman (1992) and Whiteley (1993) argue from a feminist perspective against sexism in the provision of public amenities for women. The general consensus internationally is that "disability is a social construct and most of its effects are inflicted on people by the social environment" (SAHRC Report, 2002:9). The International Classification of Functioning, Disability, and Health (ICF) takes cognizance of this factor by accommodating the biopychosocial and environmental factors in the classification of disability:

ICF puts the notions of 'health' and 'disability' in a new light. It acknowledges that every human being can experience a decrement in health and thereby experience some disability. This is not something that happens to only a minority of humanity. ICF thus 'mainstreams' the experience of disability and recognises it as a universal human experience. By shifting the focus from cause to impact it places all health conditions on an equal footing allowing them to be compared using a common metric – the ruler of health and disability (ICF, 2002:4).

Though the City's Human Resource Director Sihle Msengana claims that Cape Town has a "solid strategy in place" for addressing issues of universal accessibility, much still needs to be done to achieve the ideal of a truly inclusive city (Contact, 2006:8). Accessibility however is only one aspect of UD- such a narrow view contradicts the vision of a 'universal city', whereas a more comprehensive and far-reaching UD strategy transcends the notion of an exclusive ambit limited to accessibility. In contrast, New York's integrated approach to UD intervention targets five general building issues: using circulation systems; entering and exiting (or ingress and egress); wayfinding; obtaining products and services; and using public amenities (Danford & Tauke, 20001:12). The same issues are pertinent to Cape Town's quest to become a "city-for-all" its three million residents, the difference being complicated further by lower literacy rates and multi-lingual milieu in our local context. The complexity of having eleven official languages and South African Sign Language (Howell, Chalken & Alberts, 2006), presents unique challenges for information design. Wayfinding systems would thus need to be multi-sensorial- employing visual symbols and tactile features to compliment textual ones. There are plans for a benchmarking exercise between Cape Town and Munich for "promotional as well as learning purposes" to enable the former to offer inclusive world-class infrastructure (City of Cape Town, 2007:48).

### **Ensuring that Everyone's a Winner**

The anticipated mega-event should incorporate 'intangibles' such as the unifying power of the universally applicable anthropocentric philosophy of *ubuntu* as reflected in the isiZulu saying: "*umuntu ngumuntu ngabantu*" which literally means "a person is a person through other persons" (Mbigi, 1997; Creff, 2004; Bhengu, 2006) or "I am because of you" (Design Indaba, 2007:47). Whilst *ubuntu* is seen as the continental *zeitgeist*, at an operational level, *batho pele* (which literally means "people first") is a "practical implementation strategy for the transformation of Public Service Delivery" as adopted by the national and provincial governments embracing the philosophy of servant leadership (South Africa, 1997a). As Creff (2004:8) states: "the extent and importance attributed to values shared by ubuntu and servant leadership are significant" and can only be fully realized in the context of an inclusive society (SAHRC, 2002).

The relative cost of hosting the mega-event in Cape Town will be higher than it was for the Olympics in Atlanta and World Cup™ in Los Angeles as the former has to build the Greenpoint stadium and other 2010-related projects from scratch whereas the two USA cities inherited and revamped existing facilities (Roaf *et al*, 1996:230). Matheson (2006:21) cautions against blind optimism and over-reliance on predictive *ex ante* analyses on costs and benefits accruing to mega-events. Further, he states that whereas "the gross impact of these huge games tournaments is undoubted large..., the net impact of mega-events on real economic variables such as taxable sales, employment, personal income, and per capita personal income in the cities is negligible" (Matheson, 2006:19). Unemployment stood at 17.3% in 1994 (Roaf: 1996:16) and presently stands at 25.5% in the entire country (World Factbook 2007). Local taxpayers are in effect subsidizing the mega-event, and need the assurance that their 'mega-investment' will secure them a legacy of realizable tangible and intangible benefits.

The challenge to provide affordable housing in Cape Town has never been more urgent. Despite the Reconstruction Development Programme's concerted efforts, the city had a housing backlog of 100,000 houses as far back as 1996 (Roaf *et al*, 1996: 13; COHRE, 2007:194). This figure is growing by the day as more people; particularly of the lower-income category continue to immigrate to the city. COHRE reports of fears over possible negative impact on "*enjoyment of housing rights for many*" in all the host cities in South Africa in the run-up to the World Cup™ (COHRE, 2007:28).

Cape Town will host nine World Cup™ events- the highest number in any host city in the country. A cost-effective way of engaging the public would be the use of FanFests. These are "fan parties hosted in close proximity to the football stadia, with live broadcasts, enabling home fans and visitors from around the world to share a unique experience at the FIFA World Cup™" (Design Indaba, 2007:33). These events would allow Cape Town to offer a unique cultural extravaganza to all whilst simultaneously affording residents access to cost effective entertainment. All the local host cities are expected to host two such mega-parties. Mega-events also provide for technology transfer on an international platform as well as opportunities for showcasing pioneering technology such as the technically sophisticated roof of the Greenpoint Stadium that will reputedly be a "first" in South Africa (City of Cape Town, 2006:10; Contact, 2007:11). Bovy (2002:6) documents the increasing levels of technological sophistication as one of the key features of recent mega events. These new developments ultimately should translate into beneficial projects for residents so as to justify their high initial costs.

The improved transportation infrastructure developed for 2010 FIFA World Cup™ Games is expected to offer sustainable accessibility to residents of Cape Town as the city takes advantage of the scale of the event to mobilize funding that would have been difficult to justify under normal circumstances – this is the true legacy of the event (Contact, 2007:12; City of Cape Town, 2007:5). Similarly, innovative features such as *companion seating* and other accessible facilities developed for the 1996 Olympics Games in Atlanta, Georgia became *"accessibility benchmarks"* for similar facilities elsewhere in the world (Beasley & Davies, 2001:47.3). A positive legacy of the 1996 Atlanta Olympics and Paralympics is the former Athletes' Village that was taken over by Georgia State University as student dormitories (Koncelik, 1998:122; Beasley & Davies, 2001:47.3; Roaf *et al*, 1996:11). The city of Barcelona commenced on a plan for full accessibility in 1996- a mere four years after it hosted the 1992 Olympics (Coleman *et al*, 2003:302). Evidence of long-lasting intangible benefit to the city came via a very public commemoration of the tenth anniversary of the Games by some 40,000 people (Kearney, 2005:1).

### The Role of Design Education

Cities that have formed tripartite partnerships with higher education institutions and professional design bodies have proved the sustainability and efficacy of such strategic thinking. In the case of New York, the office of the Mayor collaborates with the local chapter of the American Institute of Architects and the Centre for Inclusive Design and Environmental Access (of the State University of New York) to research, implement, and promote UD strategies in that city (Danford & Tauke, 2001). A similar model is found in the city of Curitiba, Brazil during the tenure of Mayor Jaime Lerner between the mayor's office, professionals (including engineers), and *Instituto da Pesquisas and Planejamento Urbano da Curitiba- IPPUC* or the Institute of Research and Urban Planning (Campbell, 2006:17).

South Africa hosts two of less than half-a-dozen industrial design schools in sub-Saharan Africa. Whereas the need to address design for development initiatives is imperative for such institutions, Margolin (2007:112) argues that such initiatives must be linked to national development strategies peculiar to their contexts. The ultimate contribution of UD lies in its alignment with national priorities devoid of condescending and patronizing associations with low-technology grassroots projects. Whereas the process of hosting the 2010 FIFA World Cup™ is admittedly complex, host countries (and in this case, cities) must define their long-term priorities and expectations beyond the immediate interests of their external partners. Whiteley (1993:119) thus proposes *socially responsible design* as a way of dealing with the dilemma of prioritizing design endeavour in developing countries. Design educators and students within the South African context should address the imperatives of creating technologically sound design solutions within a majority world context without compromising sound social ethics. Whiteley (1993:119) further argues that "a product or process which does not grow out of the habits and customs of a country or region is unlikely to be successfully integrated into the society's culture".

The implications for UD teaching (at least at the Cape Peninsula University of Technology (CPUT)) is a need to adopt similar strategies and partnerships as Kennig and Rhyl (2002:34) illustrate with the example of the San Francisco State University's (SFSU) Department of Industry and Design wherein there is a "successful integration of the principles of Universal Design in the design process and teaching". As opposed to a dedicated course on UD, UD principles are integrated into various projects and complimented by specialists or "user-consultants" in the world of work (*ibid*). UD has potential for growth as seen in the case of the Industrial Design Society of America (IDSA) where the UD chapter began as a special interest of a handful of people in 1993 and grew to a significant membership within a decade (Mueller, 2003:319) - the key to sustainable growth lies in interesting present design students who become future professional members. The newly launched Industrial Design Association of South Africa offers an ideal vehicle for South Africa to join the International Association for Universal Design and make a unique contribution to current debates and promote the practice and visibility of UD at home (Tsutatani, 2005).

### The Legacy of an Inclusive Future

Kearney identifies society; sports; and environment as the three keys areas of concern for a host to build a lasting legacy (Kearney, 2005:2). By adopting an integrated approach, a model such as that of socially responsible design can promote multi-sectoral and transdisciplinary teamwork as it includes among its eight tenets; government- at national, regional and local levels; social inclusion-through UD (and ubuntu in the context of this paper); and education- through higher education institutions such as CPUT with pedagogic offerings to future designers and planners (Davey, Wooton, Thomas, Cooper, & Press, 2005:5). South Africa must engage with the arduous task of redressing past inequalities and the concomitant negative impact of poverty and rampant crime. If unabated, crime could cost the country more than just potential earnings- (such as in the case of Greece where Matheson (2007:12) reports that more than US\$1.5 billion was spent specifically on security during the 2004 Summer Olympics there)- it could well define long-term ex post impressions of the country. Other pressing challenges include housing provision, employment creation, adequate infrastructure, and safe and accessible mass transport.

The City of Cape Town needs political stability and pragmatic leadership as opposed to the present state of volatility. The Executive Mayor, Helen Zille is also the leader of the Democratic Alliance (the Official Opposition) party at a time when the Local Government needs conscientious servant-leaders and value-driven champions to secure an inclusive legacy (Creff, 2004; Thomas, 2006). This consolidation of political power gives the Mayor unprecedented clout to influence future agenda on strategies for greater inclusiveness at various levels of government. The next national elections will be held a year before 2010 mega-event. Indeed with so much riding on the 2010 World Cup™, the mega-event may well become a pivotal election agenda for all concerned parties as performance on issues such as housing, mass-transit/transport systems (including the commuter taxi recapitalization programme), infrastructure development (such as the ongoing expansion of Cape Town International Airport at a cost of R1.16 billion (SAInfo, 2006b)), crime and employment are brought into sharp focus.

To promote sustainability of the investment in all the 2010 projects, an integrated transdisciplinary approach must be adopted to ensure accessibility, equity, and usability. UD can and should inform these and related concerns if it is driven for an appropriate office such as that of the Executive Mayor's. Higher education institutions (HEIs) need to prepare adequately for the kind of tripartite collaborations (mentioned elsewhere in this paper) that are rooted in real-world needs and applications. This approach can be effectively bolstered by a form of academic activism (Lorenzo, ka Toni, & Priestley, 2006). Consequently, HEIs will not only justify their existence, but guarantee it. As Sandhu (2002) states, "design for sustainability and social responsibility, or to put it more bluntly, design for our future survival is an enormous professional challenge". This calls for a paradigm shift towards more participatory approaches to design for a sustainable and inclusive future.

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### References

- Beasley, K.A., & Davies, T.D. 2001. Access to Sports and Entertainment. pp. 47.1-47.16 in: W.P.E. Preiser & E. Ostroff (Eds.), *The Universal Design Handbook*. New York: McGraw-Hill Inc.
- Bhengu, M.J. 2006. Ubuntu: The Global Philosophy for Mankind. Cape Town: Lotsha Publications
- Bovy, P. 2002. Transport and Exceptional Public Events: Mega Sports Event Transportation and Main Mobility Management Issues. Lausanne: Economic Research Centre.
- Campbell, T. 2006. IPPUC: The Untold Secret of Curitiba. www.UrbanAge.org [13 March 2007].
- Cape Times. 2007. We're Still SA's Murder Capital. Cape Times Newspaper. Cape Town: Independent News & Media. 4 July 2007.
- Center for Universal Design. 2006. Principles of Universal Design © 1997 the, NC State University Raleigh, North Carolina. http://www.design.ncsu.edu/cud/about ud/docs/English.pdf [1 September 2006].
- City of Cape Town. 2006. 2010 Football World Cup™: Cape Town and the Western Cape Business Plan. 31 October 2006.
- City of Cape Town. 2007. 2010 Football World Cup™: Strategic Plan for the Provincial Government and the City of Cape Town. 22 January 2007.
- COHRE. 2007. Mega-Events, Olympic Games and Housing Rights. Geneva: Centre on Housing Rights and Evictions. <a href="http://www.cohre.org">http://www.cohre.org</a> [13 July 2007].
- Coleman, R., Bendixen, K. & Tahkokallio, P. 2003. A European Perspective. pp. 288-307 in: J. Clarkson, R. Coleman, S. Keates and C. Lebbon (Eds), *Inclusive Design: Design for the Whole Population*. London: Springer.
- Contact Newsletter. 2006. We Are Accessible. City of Cape Town: No. 23 March/April 2006. p. 14.
- Contact Newsletter. 2007. A stadium for 2010- and beyond. City of Cape Town: No. 24 March/April 2007. p. 1.
- Contact Newsletter. 2007. The bigger picture- improving the facilities around the stadium. City of Cape Town: No. 24 March/April 2007. p. 12.
- Contact Newsletter. 2007. *The stadium is set to go!* City of Cape Town: No. 24 March/April 2007. pp. 10-13.
- Creff, K. 2004. Exploring Ubuntu and the African Renaissance: A Conceptual Study of Servant Leadership from an African Perspective. School of Leadership Studies, Regent University. <a href="http://www.regent.edu/acad/sls/publications/conference-proceedings/servant-leadership-roundtable/2004pdf/cerff-exploring-ubuntu.pdf">http://www.regent.edu/acad/sls/publications/conference-proceedings/servant-leadership-roundtable/2004pdf/cerff-exploring-ubuntu.pdf</a> [1 March 2007].
- Danford, G.S., & Tauke, B. (eds.). 2001. Universal Design: New York. New York: Center for Inclusive Design & Environmental Access, University at Buffalo, The State University of New York.
- Davey, C.L., Wooton, A.B., Thomas, A., Cooper, R., & Press, M. 2005. Design for the Surreal World? A New Model of Socially Responsible Design. *Proceedings of the 6th International* Conference of the European Academy of Design, EAD06, University of the Arts Bremen, 29– 31 March 2005. Bremen.
- Design Council. 2006. Inclusive design education resource. <a href="http://www.designcouncil.org.uk/webdav/harmonise?Page/@id=40&Section/@id=1354">http://www.designcouncil.org.uk/webdav/harmonise?Page/@id=40&Section/@id=1354</a> [25 August 2006].
- Design Indaba. 2007. Fan Your Passion 2010. Design Indaba magazine 2<sup>nd</sup> Quarter 2007.
   Cape Town: Interactive Africa. pp 33-71.
- European Design for All e-Accessibility Network (EDeAN). 2006. *Design for all: glossary of terms*. <a href="http://www.education.edean.org/index.php?filters=f37">http://www.education.edean.org/index.php?filters=f37</a> [5 August 2006].
- Howell, C., Chalken, S. & Alberts, A. 2006. A History of the disability rights movement in South Africa. pp. 46-83 in: B. Watermeyer, L. Swartz, T. Lorenzo, M. Schneider, and M. Priestly, (Eds), Disability and Social Change: a South African Agenda. Cape Town: HSRC Press.
- ICF. 2002. Towards a Common Language For Functioning, Disability and Health: ICF The International Classification of Functioning, Disability and Health. Geneva: World Health Organization.
- Imrie, R. & Hall, P. 2001. *Inclusive Design: Designing and Developing Accessible Environments*. London: Spon Press.

- Jordan, P. 1999. Inclusive Design. pp. 171-181 in: W.S. Green and P.W. Jordan. (Eds).
   Human Factors in Product Design: Current Practice and Future Trends. London: Taylor &
   Francis
- Kearney, A.T. 2005. Building a Legacy. Chicago: A.T. Kearney Inc. <u>www.atkearney.com</u> [13 July 2007].
- Kennig, B., & Rhyl, C. 2002. Teaching Universal Design. AAOutils 2002 Project. http://anlh.be/aaoutils/ [4 May 2006].
- Koncelik, J.A. 1998. Design, Aging, Ethics and the Law. pp. 113-150 in: R. Roth and S.K. Roth (Eds), Beauty is Nowhere: Ethical Issues in Art and Design. Amsterdam: Overseas Publishers Association.
- Kyoyo-Hin. 2001. The Kyoyo-Hin White Paper 2001. The Kyoyo-Hin Foundation. http://kyoyohin.org/ [4 July 2005].
- Lorenzo, T., ka Toni, M., & Priestley, M. 2006. Developing a Disability Studies programme: engaging Activism and Academia. pp. 179-191 in: B. Watermeyer, L. Swartz, T. Lorenzo, M. Schneider, and M. Priestly, (Eds), *Disability and Social Change: a South African Agenda*. Cape Town: HSRC Press.
- Mace, R.L. 1998. A Perspective on Universal Design. Proceedings of the Design for the 21<sup>st</sup>
   Century: An International Conference on Universal Design, Pratt Institute, 19 June 1998. New
   York
- Margolin, V. 2007. Design for Development: Towards a History. *Design Studies.* **28**: 111-115.
- Matheson, V.A. 2006. Mega-Events: the effects of the world's biggest sporting events on local, regional, and national economies. Worcester: College of the Holy Cross. http://www.holycross.edu/departments/economics/website [12 July 2007].
- Matsebula, S., Schneider, M., & Watermeyer, B. 2006. Integrating Disability within Government: the Office on the Status of Disabled Persons. pp. 85-92 in: B. Watermeyer, L. Swartz, T. Lorenzo, M. Schneider, and M. Priestly (Eds), *Disability and Social Change: a* South African Agenda. Cape Town: HSRC Press.
- Mbigi, L. 1997. *Ubuntu: The African Dream in Management*. Randburg: Knowledge Resources.
- McGuire, J.M., Scott, S.S., & Shaw, S.F. 2006. Universal Design and its Applications in Educational Environments. *Remedial and Special Education*, 27(3):166-175, May/June 2006.
- Mueller, J. 2003 Universal Products in the US. pp. 318-335 in: J. Clarkson, R. Coleman, S. Keates and C. Lebbon (Eds), *Inclusive Design: Design for the Whole Population*. London: Springer.
- ODP. 1997. White Paper on an Integrated National Disability Strategy. Pretoria: Office of the Deputy President.
- Oliver, M. 1990. The Politics of Disablement. New York: Palgrave Macmillan.
- Roaf, V., van Deventer, K., & Houston, C. 1996. *The Olympics and Development: lessons and suggestions.* Observatory: Development Action Group.
- SACN. 2005. The Implications of Hosting International Big Events on Municipal Governance and City Economic Footprint. South African Cities Network. <a href="https://www.sacities.net/2005/world-cup-seminar.doc">www.sacities.net/2005/world-cup-seminar.doc</a> [13 July 2007]
- SAHRC Report. 2002. Towards a Barrier-Free Society: A Report on Accessibility and Built Environments. South African Human Rights Commission: November 2002
- SAInfo. 2006a. 2010 a Record Earner for FIFA. 18 July 2006. http://www.southafrica.info/2010/2010-revenue-130706.htm [27 June 2006].
- SAInfo. 2006b. SA Airports Gear Up for 2010. 21 July 2006. <a href="http://www.southafrica.info/2010/airports-210706.htm">http://www.southafrica.info/2010/airports-210706.htm</a> [27 June 2006].
- Sandhu, J.S. 2002. Some Contextual Considerations When Designing for the Majority World. <a href="http://www.udeducation.org/teach/course">http://www.udeducation.org/teach/course</a> mods/sandhu/index.asp [3 June 2006].
- South Africa. 1997a. Department of Public Service and Administration. The White Paper on Transforming Public Service Delivery (Batho Pele), no. 1459 of 1997. Pretoria: Government Gazette
- South Africa. 1997b. Higher Education Act, no. 101 of 1997. Pretoria: Government Gazette.
- South Africa. 2000. Promotion of Equality and the Prevention of Unfair Discrimination Act, no. 4, 2000. Pretoria: Government Gazette.
- South Africa. 2001. Department of Education. *Special Needs Education: Building an Inclusive Education and Training System.* Pretoria: Department of Education.

- South African Standard: SABS 0400:1990: Part S: Facilities for Disabled Persons. Pretoria: South African Bureau of Standards.
- Thomas, A. 2006. Design, Poverty and Sustainable Development. *Design Issues.* **22** (4): 54-65.
- Tsutatani, K. 2005. Introduction to International Association for Universal Design, Fujitsu Science and Technology Journal, 41 (1): 47-53, April 2005.
- Weisman, L.K. 1994. Discrimination by Design: A Feminist Critique of the Man-Made Environment. Urbana & Chicago: University of Illinois Press.
- Whiteley, N. 1993. Design for Society. London: Reaktion Books Ltd.
- Zola, I.K. 1994. Communication Barriers between the Worlds of 'Able-Bodiedness' and 'Disability'. pp. 159-164 in: R. Schmitt and T.E. Moody (Eds), Key Concepts in Critical Theory: Alienation and Social Criticism. New Jersey: Humanities Press.



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in use.

Previous projects: Non-motorised transport (bicycles) for sustainable rural applications

during the ICSID-endorsed InterDesign workshop in April 2005.

### **DEFSA Conference 2007** Cape Town

# A City in Flux: Cape Town's Search for an Inclusive Future

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## universal design (UD)

\* "UD is an approach to the design of all products and environments to be usable by everyone, to the greatest extent possible, regardless of age, ability, or situation. It serves people who are young or old, with excellent or limited abilities, in ideal or difficult circumstances. UD benefits everyone by accommodating limitations"





# divergence in UD

Concept	Definition	
Inclusive Design (mainly UK)	"Inclusive design is not a new genre of design, nor a separate specialism, but an approach to design in general and an element of business strategy that seeks to ensure that mainstream products, services and environments are accessible to the largest number of people"	
<b>Design for All</b> (Europe; India)	"Design for All is a process whereby designers, manufacturers and service providers ensure that their products and environments address users irrespective of their age or ability"	
Kyoyo-Hin and Kyoyo Services (Japan)	"Kyoyo-Hin and Kyoyo services are designed to be used by as many people as possible, including the elderly and those with disabilities"	
Transgenerational Design (mainly in the USA)	"The practice of making products and environments compatible with those physical and sensory impairments associated with human aging and which limit major activities of daily living"	
Gerontechnology (mainly in USA and Europe)	"Concept developed at Technical University of Eindhoven, NL, with US and Finnish colleagues. Combines human factors, social sciences, gerontology and engineering. Applying technology to address age-related factors. Consumer/market oriented approach"	





## principles of UD

- 1. **Equitable Use**. The design is useful and marketable to people with diverse abilities.
- 2. **Flexibility in Use**. The design accommodates a wide range of individual preferences and abilities.
- 3. **Simple and Intuitive**. Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
- 4. **Perceptible Information**. The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
- 5. **Tolerance for Error**. The design minimizes hazards and the adverse consequences of accidental or unintended actions.
- 6. Low Physical Effort. The design can be used efficiently and comfortably, and with a minimum of fatigue.
- 7. **Size and Space for Approach and Use**. Appropriate size and space is provided for approach, reach, manipulation, and use regardless of the user's body size, posture, or mobility.





## 2010...

- ❖ 2010 FIFA World Cup™ is expected to be the most profitable ever
- US\$ 3.1billion in corporate sponsorship and broadcasting rights secured
- first time to be held on the African continent
- South Africa is expecting upwards of 400,000 visitors
- South Africa fast-tracking 2010-related projects to improve communications, energy and transport sectors in preparation
- the country expects to reap intangible psychological benefits as was the case when it successfully hosted the 1995 Rugby World Cup and Africa Cup of Nations
- 2010 projects, particularly in Cape Town, have met with opposition





## majority world context

- majority world contexts- where the vast majority of humanity subsists- have similar social, cultural or political challenges
- historic systemic segregation and resultant social exclusion and discrimination engendered by apartheid in South Africa
- South Africa's apartheid legacy led to sports segregation- rugby and cricket were associated with the dominant minority, whilst the black majority identified with soccer
- pressing socio-economic challenges such as provision of inadequate housing, high unemployment, rampant crime, HIV/AIDS, widespread poverty and a high income gap, illicit drugs, and refugees from regional states
- sports offers opportunities for empowerment as well as intangible benefits of social cohesion and transformation





### from exclusion to access

- Integrated National Disability Strategy (INDS) of 1997 proposes means by which the ideals of equity and inclusiveness be enshrined in the Bills of Rights
- ❖ Promotion of Equality and the Prevention of Unfair Discrimination Act of 2000 spells out the legal obligations and implications of the Act on all role players in both the public and private domains
- ❖ Part S: Facilities for Disabled Persons at providing professional architects in South Africa with directions on access provision in buildings
- the 'business case' for UD eliminates social stigma associated with products for use by the disabled
- the social model of disability is based on the belief that the discrimination of people with disabilities is socially created





## from exclusion to access2

- similar parallels drawn between disablism, racism, ageism and sexism
- the general consensus internationally is that "disability is a social construct and most of its effects are inflicted on people by the social environment"
- the International Classification of Functioning, Disability, and Health (ICF) takes cognizance of the biopychosocial and environmental factors in the classification of disability
- ❖ Cape Town presently embraces a limited view on universal accessibility- much yet to be done to achieve the ideal of a truly inclusive city complicated further by lower literacy rates and multi-lingual milieu in our local context
- ❖ a more comprehensive and far-reaching UD strategy transcends this limited notion of accessibility.





## ensuring that everyone's a winner

- unifying power of ubuntu: means "a person is a person through other persons" or "I am because of you"; whilst batho pele puts people first in public service delivery
- ❖ Cape Town will host nine World Cup™ events- the highest number in any host city in the country
- a cost-effective use of FanFests- to afford residents access to cost effective entertainment and cultural events
- mega-events showcase pioneering technologies and innovative features (e.g. companion seating in Atlanta Olympics)
- ❖ 2010 could provide the impetus for full accessibility of Cape Town (e.g. Barcelona after it hosted the 1992 Olympics)
- long-lasting intangible benefit to the city via public commemorations of future anniversaries of the 2010 megaevents





## the role of design education

- ❖ in New York- the Mayor's office collaborates with the American Institute of Architects and the Centre for Inclusive Design and Environmental Access (State University of NY)
- ❖ in Curitiba, Brazil- partnership between the mayor's office, professionals, and *Instituto da Pesquisas and Planejamento Urbano da Curitiba (IPPUC)*
- South Africa hosts two industrial design schools- opportunities for collaboration with the cities of Cape Town and Johannesburg
- implications for UD teaching- need to adopt strategies and partnerships wherein UD principles are integrated into various projects and complimented by specialists in industry
- ❖ UD has potential for growth- the Industrial Design Association of South Africa (IDEASA) offers a vehicle to promote the practice and visibility of UD at home





## the legacy of an inclusive future

- adopting an integrated approach can promote multi-sectoral and transdisciplinary teamwork at all levels of government thus ensuring accessibility, equity, and usability for all
- social inclusion- through UD (as well as ubuntu), and education- through higher education institutions such as CPUT with pedagogic offerings to future designers and planners are key elements of a sustainable strategy
- South Africa must engage in redressing past inequalities and the negative impact of poverty and rampant crime
- need for political stability and pragmatic leadership- the next national elections will be held in 2009
- UD should be driven by a champion in an appropriate office
- HEIs need to be more proactive in initiating mutually beneficial partnerships





## the legacy of an inclusive future2

INCLUSIVENESS

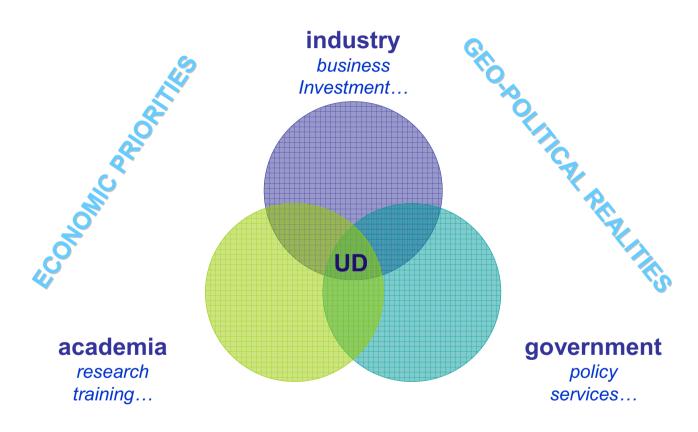
insular	participatory	collaborative
intra-disciplinary divergence special education simplistic	cross-disciplinary convergence inclusive education eclectic	trans-disciplinary transcendence universal design for learning holistic
isolation cynicism disablement medical model people then	information pragmatism empowerment social model people now	transformation optimism emancipation biopsychosocial 'model' people always

PAST PRESENT FUTURE...





## UD: an integrated approach...



### **SOCIO-CULTURAL SENSIBILITIES**





