Universal Accessibility – the People Oriented Approach

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Universal Design is for everyone. The built environment must be barrier-free and accessible to all including those with physical mobility, visual, and auditory challenges, and the aged.

Design must be "inclusive" for all people, rather than exclusive for some. WHO (World Health Organization) statistics indicate that at least 10% of the industrialized world's population has some form of disability. The aged segment is also increasing—Hong Kong's population will consist of about 25% between the age of 60 and 65 within the next decade. Problems associated with the latter include declining vision (glasses), mobility restrictions (canes, walking frames, wheelchairs), and hearing difficulties (hearing aids).

Are present buildings capable of accommodating this growing group of users?

Additionally, the average Asian cityscape does not accommodate people with disabilities - dropped kerbs at pedestrian crossings, wide footpaths, ramps, street lighting, user-friendly telephone booths and public transportation, and similar provisions are typically missing or inadequate. Well-designed barrier-free and accessible buildings are of little value if users cannot get to them.

Universal Design Guidelines and Principles that should be considered include the following:

1. **Equitable Use -** it should be useful and marketable to people with diverse abilities.

2. **Flexibility in Use -** it should accommodate a wide range of individual preferences and abilities.

3. **Simple and Intuitive in Use -** 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.

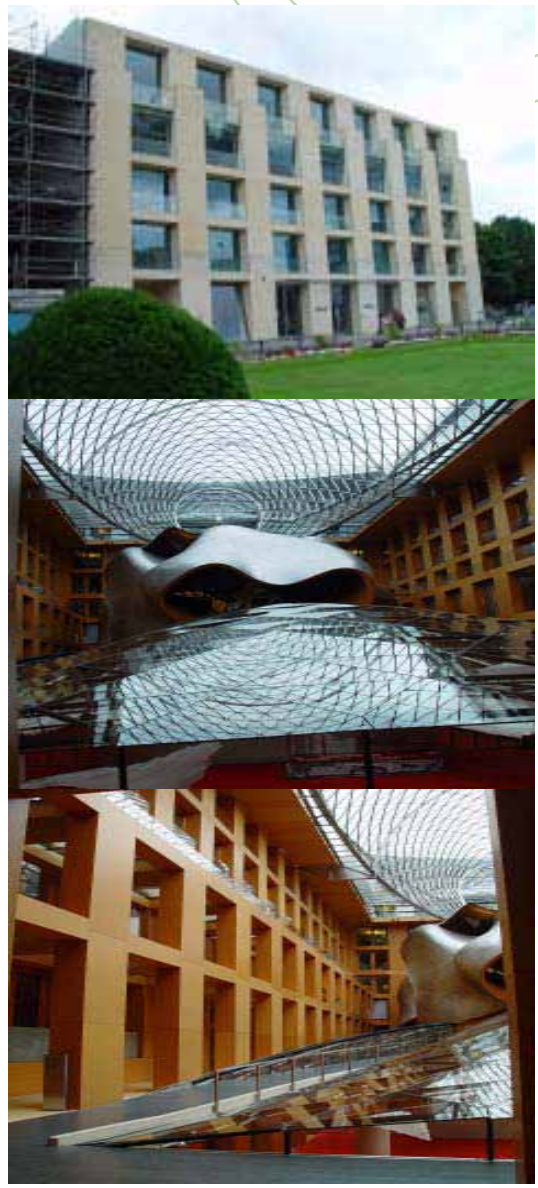
6. **Low Physical Effort -** the design can be used efficiently and comfortably.

7. **Size and Space for Approach and Use -** appropriate space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Buildings should eliminate all potential hazards or unfriendly impediments to the elderly and people with disabilities. Examples of poor design include projecting windows at low level, heavy doors, poorly designed hardware, inadequate signage, inaccessible operating devices (buttons, etc.), and similar elements.

The new Parliament Building in Berlin, Germany is a fine example of Universal Design. A dome within a dome, its interior use of a ramp is commendable in affording easy access to all and free views of the main chamber from above. A ramp cannot of course be a major feature in all building designs, but it was artfully used in this case to good effect.

Another good example is Frank Gehry's nearby DZ Bank building, which also uses ramps effectively. Other skillfully designed elements include street furniture, telephone booths and bus stops can be found throughout the new Berlin.



Existing technology can be effectively used in barrier-free design, as it is not necessary to “reinvent the wheel.” A design can be adapted for everyone’s use.

As well as people with disabilities, the young, the less averaged, the aged should be included in accessible design.

Designs can include multi-functional components. The Berlin bus shelter employs glazed side-panels as transparent weather-sheltering elements, thereby not obstructing views.

China, with about 100 million people with disabilities, is facing a large challenge. Many universal design principles are emerging, such as in Shanghai's use of ramps at underground train entries, tactile guide paths along the footpaths of Shanghai's famous Bund, a new accessible telephone booth system in Shenzhen, dropped-kerbs in Hangzhou, and other similar accessible elements being explored. The 2008 Beijing Olympics is a welcomed catalyst for this universal approach.

The Shanghai Museum commendably employs stairs with adjacent ramps at the Main Entrances is providing alternative access to a host of visitors with varying abilities, yet at the same time to minimize their visual impact on the design.

Sydney is a fine example embodying universal design guidelines.

The 2000 Sydney Olympics fueled this approach, which includes street furniture (tactile traffic signal buttons, tactile guide paths, drinking fountains, etc.), Stadium access, wide turnstiles and gates, dropped-kerbs, transportation systems (low-floor buses and user-friendly trams, ferries, etc.), dedicated vehicular parking zones, accessible toilets, and exiting facilities among others. Additionally, the barrier-free logo and well-designed signage (letter type, size, contrasting color, etc.) identify all such facilities and equipment.

Many people benefits when universal design guidelines are followed. For example, wider gates at ferry terminals, in addition to wheelchair users, also accommodate families, parents with baby prams, people with luggage, and others requiring greater physical clearances.

Attention has been paid to the ATM machines which facilitate use by the blind and the low-vision by means of a raised dot on the number “5” of the keypad, as well as Braille on the command keys and other features. Signage and barrier-free logos clearly identify various destinations and facilities.

The BIG–I building in Japan admirably demonstrates the universal design principles. These are embodied in all aspects of the structure - and beyond. Transportation systems, vehicular circulation/parking, building access, main lobby, conference, entertainment and related facilities, building egress, circulation routes and spaces, vertical movement systems, vending machines, signage and identification systems, and user accommodation (including toilets/ showers/bath tubs, eating, sleeping, and other activities) are all carefully considered.

A high degree of care is reflected in every detail - even two-level viewing eyes are provided in bedroom doors; and corridor floor lighting guides occupants to an exit under smoke conditions in a fire mode (similar to that provided in aircraft aisles for emergency deplaning).

Details are simple and well executed.

The design is very adaptable and accommodating, as for example with the auditorium. Stage access, wheelchair seating and parking, and other aspects are carefully integrated into the fabric of the building to avoid any feelings of self-consciousness for the wheelchair user, as could have occurred for example, with

stage accessing. The required ramp gradient to access the stage from the auditorium floor would have necessitated a very long ramp of about twelve meters. This was overcome by providing direct stage access from the side rather than the auditorium floor proper. The dignity of the disabled users was thus considered and respected.

In addition to the obligatory requirements, other innovations and features are provided in the toilets. Door entry actuates the room lights, which are on a five-minute timer, thus simplifying operation for the user and ensuring energy is not wasted when the toilet is unoccupied.

Consideration is also given for parents carrying babies. In addition to a diaper-changing table, a well-designed wall seat comfortably restrains their baby while they use the facilities themselves. This is undoubtedly much appreciated as otherwise an undesirable alternative, the floor, would have to suffice.

Even consideration has been given to keeping handbags off the floor by providing a recess at the end of dining room tables which also functions as a slot to rest a cane or a walking stick which otherwise would be placed on the floor becoming a potential tripping hazard for others.

As the cases just discussed demonstrate, the concerns of all users are best served by a ***People-oriented Approach*** employing Universal Design which requires less effort if incorporated at a project's inception and which caters to a wider range of the population irrespective of their age and disabilities.

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Mr. Joseph Kwan is an architect who received his architectural training at the Queensland University of Technology (1976) and later studied a M.Sc. in Environmental Psychology at the University of Surrey (1979). He has practiced architecture in Brisbane, Australia and in London, England and was an architectural and environmental design consultant in Paris, France (1980-1984). He has been the Director of the Environmental Advisory Service of the RehabAid Society since 1987.

Mr. Kwan is a Member of the Hong Kong Government's Rehabilitation Advisory Committee's Sub-Committee on Access, a Member of the Transport Department's Working Group on Access to Public Transport by Disabled Persons, and a Member of the Advisory Committee on Barrier Free Access of the Buildings Department. He is also the Co-Convenor of the Ocean Park Disabled Advisory Committee and was a Resource Person to the Asia Training Centre on Aging (ATCOA) at the University of Chiang Mai, Thailand of HelpAge International, U.K.

He was a Consultant to the United Nations – Economic and Social Commission for Asia and the Pacific (UN-ESCAP), Social Development Division, Bangkok, Thailand, on the preparation of a Technical Guideline on the "Promotion of Non-Handicapping Environments for Disabled and Elderly Persons in the Asia – Pacific Region".

He is the UIA Region IV Director of Work Programme on "Architecture and the Disabled" since 1999.

Mr. Kwan is the author of a number of papers and articles on various aspects of designing for disability and has extensive lecture experiences in this field at the local, regional and international level.

He was a Recipient of the Excellence in Contribution to the Community Award of the 1999 QUT (Queensland University of Technology) Outstanding Alumni Award; The AIA (American Institute of Architects) Hong Kong Citation 2000 "in recognition of distinguished achievement as a community based consultancy service in promoting and implementing barrier-free accessible environments for the elderly and people with disabilities in Hong Kong"; and on 1st July 2001, he was awarded the "Medal of Honour" (MH) by the Hong Kong SAR Government in the Annual 2001 Honours "for his valuable contributions in improving a built environment that caters for the needs of people with disabilities".