

## A Universally Designed Room

### Problem

1. International conferences for persons with disability are not being held in India because there are not adequate accessible accommodations that can be booked for the participants.
2. With the upcoming Commonwealth Games, there will be a large influx of persons with disability who will require accessible accommodation
3. It may not be economically viable for the hotel industry to actually have more than a certain number of accessible accommodation as the use of these room is very sporadic
4. Moreover a non disabled guest may not appreciate a clutter of aids in their shower room.

Considering that these are the practical problems faced by the industry, the following is a concept note in developing a Universally Designed Guest Room (UDGR), which can be used by all guests, irrespective of there physical strength, age or ability.

The advantages of this UDG room will be in its flexibility to adapt to the needs of the guest, and the low turnaround time needed to provide adaptations. For the hotels this may mean;

- low cost (saved by not having to invest on rooms designed specially for disabled guests or maintaining them)
- Scalability (Number of rooms being available for both able bodied and the disabled guests increase)
- Higher Occupancy (If any UDG room is available, disabled guests can be accommodated, availability is not limited to the specially designed accessible rooms)
- Increased Customer Satisfaction
- Increased Market Share (catering to a much larger segment of consumers)
- Socially Responsible Hotel
- Low chances of turning away business

This will prove to be a winning situation for both the Hoteliers and the guest with special needs.

### Points to consider

- Persons with sensory impairments may not need to use the accessible room if remote aids are provided in the room they are checking into. A well planned policy will be very beneficial in catering to guest with sensory impairments.
- Needs of person with mobility impairments vary drastically. Persons with a lower degree of disability may be easily accommodated in a universal room

- There are some facilities that are (till now) being provided only in the accessible room but in fact must be provided in all guest rooms and public areas (like the visual emergency alarm)
- Having a UDG room does not undo the requirement of having an accessible room as some people may have some additional requirements that an accessible room can provide them

### **What is Universal Design?**

Universal design, which is related to "inclusive design" and "design for all," is an approach to the design of products, services and environments to be usable by as many people as possible regardless of age, ability or circumstance. Universal design is a relatively new concept that emerged from "barrier-free" or "accessible design" and "assistive technology." Barrier free design and assistive technology provide a level of accessibility for people with disabilities but they also often result in separate and stigmatizing solutions, for example, a ramp that leads to a different entry to a building than a main stairway.

The main principle of universal design are:

1. Equitable use
2. Flexibility in use
3. Simple and intuitive
4. Perceptible information
5. Tolerance for error
6. Low physical effort
7. Size and space for approach and use

Keeping these principles in mind if we look at a design element as simple as 'Lever handles for opening doors rather than twisting knobs' we realize how universally it is designed.

1. All whether non disabled, children, person with luggage in hands, disabled and the elderly are able to use the lever more comfortably whereas a knob may not be easy to use by most.
2. It can be operated by the user in various ways. Either by the hand, elbow or even a fist. In fact bilateral arm amputees who may use there foot to do things will also find level handles easy to operate.
3. It is so designed that any person irrespective of there mental capabilities will know how to operate it.
4. A movement of a lever handle provides a clear indication of the door being opened.
5. A lever type handle is very safe in use with high tolerance to error.
6. The physical effort required to operate it is minimal.

7. A lever handle put at the right height can be operated by all users.

## ‘Universally Designed Guest Room’ - Concept

### Structural

Fundamental requirements for a room to be accessible

- Minimum opening widths for doors to the room and the shower.
- The minimum dimensions of the room to provide adequate maneuvering space for a wheelchair
- The minimum dimensions of the shower room or bathroom to provide ease in use for a person on wheelchair
- Be accessed by an accessible route and be close to all facilities
- The room should be so located that evacuation in case of emergency is easy

For a UDG room these minimum structural requirements should be the same as an accessible room.

### Finishes

S.No	Accessible Room Requirements	UDG room Recommendation	Aids recommended
1.	All amenities in an accessible room should be the same as in a non accessible bedroom	This may remain the same for the UDG Rooms designed	
2	All card operated entry system or the vertical carp swiping system should be at a height of 900-1100mm from the floor, and if required be 200mm from door frame on latch side	This may also remain the same for the UDG Rooms designed	
3	The security latch and the keyhole provided at lower level	The keyholes should be provided at two levels. Children will also benefit from a lower keyhole. Security latch to be at height recommended for accessible room	
4	The entry door should require no more than 20 Newton force at the	This may also remain the same for the UDG	

	leading edge to open it and have magnetic door stops	Rooms designed	
5	Door handles lever type or similar and should contrast in colour from the door	This should be a standard in all rooms, not just UDG Rooms Designed	
6	Room identifying numbers should be in embossed characters and in Braille	This should also be a standard in all rooms, not just UDG Rooms Designed	
7	Should have an interconnecting room connecting door for companion	Need not be provided in a UDG room	
	<b>CONTROLS</b>		
8	Have emergency assistance alarm & reset buttons, operable from bed & adjacent floor area, installed at the height of 100mm and ranging from 800-1000mm from the floor	UDG Rooms may not have these installed permanently, instead remote wireless alarms can be provided at check in to the disabled guest	Remote alarm bell
9	Fire alarms in the room should be both visual and audible	This should also be a standard in all rooms, not just UDG Rooms Designed, to enable a person with hearing impairment to be accommodated in any room with provision of some aids	
10	All sockets in the room should be placed at a height of 400-1000mm from the floor and be minimally 350mm from corners with on/off indicator	This should also be a standard in all rooms, not just UDG Rooms Designed as this will help all who have difficulty bending	
11	All light switches and AC controls should be at a height of 900-1100mm from the floor and the switches should contrast in colour from the back ground	This may remain the same for the UDG Rooms designed	
12	The Door bell should be both audible and visual	Can be available to be used in the room where	Remote audio visual door

		a hearing impaired guest checks in	chimes
13	Lights/TV/Telephone operated from prone position in bed	This may remain the same for the UDG Rooms designed	
	<b>FURNITURE/FURNISHINGS</b>		
14	There should be a wheelchair turning space in the room and an unobstructed route to all furniture/fittings minimum of 900mm width. There should be adequate space between beds	This may remain the same for the UDG Rooms designed	
15	Bed height should be between 480mm to 500mm from the floor. This includes the height of the mattress. The legs of the bed may be height adjustable	This may remain the same for the UDG Rooms designed	Have height adjusting blocks readily available
16	All furniture in the room to have rounded edges	This may remain the same for the UDG Rooms designed	
17	There should be clear space in front of the open wardrobe. With clothes rail that are height adjustable	This may remain the same for the UDG Rooms designed	
18	The study table should be 900mm wide X 700mm deep x 760mm high from the floor. There should be 700mm h knee recess under. There should not be knobs used but handles on all drawers	This may remain the same for the UDG Rooms designed	
19	There should be a full length mirror in the room between the height of minimum 400mm w to a maximum of 1800mm height	This may remain the same for the UDG Rooms designed	
20	The floor should contrast with the wall and the wall to contrast with the ceiling. Complicated patters may be avoided on the floor. Avoid long pile carpets	This may remain the same for the UDG Rooms designed	
	<b>COMMUNICATION</b>		
21	Availability of a telephone with adjustable ring-tone and flashing call notification light. The	Can be available to be used in the room where a hearing impaired guest	Appropriate instrument

	instrument should be compatible to hearing aids	checks in	
22	Availability of vibrating alarms	Can be available to be used in the room where a hearing impaired guest checks in	Vibrating alarm

### ACCESSIBLE EN-SUITE SHOWER/BATHROOM

S.No	Accessible Room Requirements	Universal room Recommendation	Aids recommended
1	The door should open outwards or be sliding type.	This may remain the same for the UDG Rooms designed	
2	There should be a 1800mm X 1800mm wheelchair turning space	This may remain the same for the UDG Rooms designed	
3	There should be adequate colour contrast within the shower/bathroom	This may remain the same for the UDG Rooms designed	
4	The flooring should be slip resistant	This may remain the same for the UDG Rooms designed	
5	Emergency alarm with reset button to be provided with the space	This may remain the same for the UDG Rooms designed	
6	Minimum lighting should be 150 lux	This may remain the same for the UDG Rooms designed	
<b>EN-SUITE SHOWER</b>			
7	The clear shower area should be 800mm x 800mm	This may remain the same for the UDG Rooms designed	
8	The entry to the shower should be step free	This may remain the same for the UDG Rooms designed	
9	Towel rail available at the height of 900-1200mm from the floor reachable from shower seat	May be provided at both levels	
10	Availability of a shower seat with appropriate grab bars	Availability of a shower chair with wheels. Can	Shower chair with wheels

		be provided in case a mobility impaired guest uses the room	
11	Provision of shower head at a lower height	Adjustable height shower head	Adjustable height shower head
	<b>EN-SUITE BATHROOM</b>		
12	Appropriate tub with a transfer seat and grab bars be provided	Availability of a bath board that can be provided in case a mobility impaired guest uses the room	Bath board/bath seat
13	Availability of a slip resistance floor mat in the tub	This may remain the same for the UDG Rooms designed	
	<b>SANITARYWARE/FITTINGS</b>		
14	Clear transfer space to side of wc 900mm wide	This may remain the same for the UDG Rooms designed	
15	Horizontal support rail adjacent to wc	Can be a vacuum grab rail that is used which is provided incase a guest with mobility impairments uses the room	vacuum grab rail
16	vertical grab rail 470mm from center line distance from the wc	Can be a vacuum grab rail that is used which is provided incase a guest with mobility impairments uses the room	vacuum grab rail
17	Backrest to be available at the wc	This may remain the same for the UDG Rooms designed	
18	The wc seat height should be 480mm to 500mm	This may remain same for the UDG Rooms or hook in seat raisers may be available.	Hook in seat raisers
19	Flush to be on the transfer side	This may remain the same for the UDG Rooms designed	
20	Wash basin height to vary between 720-740mm from the floor, with clear knee space	This may remain the same for the UDG Rooms designed	

- |    |   |   |
|----|---|---|
| 21 | Taps to be automatic or lever type                              | This may remain the same for the UDG Rooms designed |
| 22 | Mirror over wash basin to be low or tilted forward from the top | This may remain the same for the UDG Rooms designed |
| 23 | All accessories/fittings 750-1200mm high from the floor         | This may remain the same for the UDG Rooms designed |

### Further Research

This concept has been developed keeping in mind our present knowledge and understanding as a result of the 10 ITC Welcomgroup properties that we have audited. This is just a beginning or a base of a further intensive research that needs to be undertaken with inputs from the hotel industry to make it perfect. Additionally a sample universal room needs to be developed and appraised for accessibility by us to reach more conclusive results.

Moreover a study to look at identifying rooms in the existing properties that can be adapted to be more universal in the cliental they can cater to needs exploration.