Thursday Afternoon

LUNCHEON SEMINAR; CHAIR: TO BE DESIGNATED

Adult incontinence product: the users and the product transition

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Adult incontinence is a problem we've got to face when we talk about aging. P&G has developed and marketed products for adult incontinence for more than 25 years, based on getting deeply in touch with the consumers. Here I would like to address the environment for adult incontinence product, more specifically, the consumers, the market and the product based on our business experiences in Japan.

POSTER SESSION

Effects of signalling instructions on comprehension of operational procedures for home equipment by older adults

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Older adults should be supported in learning to operate new equipment in the home because their cognitive functioning is restricted by aging. Instructions play an important role as instructional support to learn to use them. However, because the structure of instructions is implicit, it is difficult for older adults to comprehend. Accordingly, this study examined signals that highlight the structure of instructions have an effect on structural comprehension by older adults. 60 adults aged from 65 years old to 74 years old were assigned to one of two groups; one was required to read instructions with signals and the other without them. In a sentence arrangement task featuring 10 sentences describing 10 procedural steps, the subjects were requested to arrange them in a normal order, after being presented with each of them in a random order. After this task, some questions about the top-level structure were asked. Compared with data collected from 60 college students, the signalling effects on older adults showed that signals promote organizational strategies during the opening period of comprehension processes, but didn't promote them during the middle and last periods. These results suggested the nature of signalling effects on structural comprehension of instructions by older adults.

Ageing in place: Re-configuring the home

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In Australia accidents are the major cause of hospitalization for the aged population. The accessible home therefore becomes critical in allowing one to continue to live independently. This can only occur if the home is barrier free and supports physical frailties. Renovations are required in the majority of homes to prepare for an ageing occupant. Simple changes to joinery design can alleviate the potential for accidents and encourage independent living. This paper will present design ideas that support ageing in place.

Accessibility of private hospitals for the Malaysian elderly: A GIS-based assessment

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With the rapid growth of the older population in Malaysia, greater demands for health care services are to be expected. Private hospitals and health centers play an important role in reducing the strain and dependency of the public on government-aided medical institutions. However, planning for the set-up of private health facilities remains inadequate as needs assessment of the locals is few and far in between. This study illustrates the distribution of private hospitals around the vicinity of the Subang Jaya municipality in the state of Selangor, Malaysia. A GIS-based approach to the assessment of health services takes into account the distribution of current and future populations which enables gradual optimization of resources for the respective target / age groups in an area. Application of the geographical information system allows researchers to analyze the delivery and reach of private health care services at a geo-spatial level. In the long run, such data will assist in achieving effective urban planning, good governance and sustainable development as census population data, road system and local information is merged.

Preliminary survey on computer use in older adults: Needs for computer training program

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Extending computer use has impacted on our daily life. Previous research has reported that computer use has the potential to improve quality of life in older adults. The aim of this study was to explore the interest, anxiety and perceived needs for computer use in older adults, to provide effective training programs on computer use for them. Questionnaires were mailed to older adults members of the Waikiki Community Center in Honolulu, Hawaii. Of the 800 questionnaires mailed, 138 were returned, representing 17.3% response rate (effective response rate was 82.6%). Respondents were 37 males and 77 females (mean age = 72.1 yrs). In addition, two follow-up focus groups were conducted. The results show that non-computer user had more anxiety for using computer than computer-user. They were interested in (i) accessing to the Internet, and (ii) learning the basics of using computer. The main purposes for computer use were: (i) communicating with family and friends by e-mail, and (ii) seeking travel-related or health-related information through the Internet. These preliminary results suggest that it may be helpful for older adults to provide training programs on using e-mail, accessing to the Internet and learning basic computer literacy for improving their quality of life.

Website algorithms

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The **purpose** of this randomized clinical trial of older adults (mean age 63.7, n=208) was to test home healthcare algorithms. These algorithms are home care steps to follow that are modeled from real-life situations and health professionals' disease management guidelines. The website algorithm approaches include illustrations, information, and step-by-step problem solving guides. The site used geragogy principles for educating elders and was accredited by the international watch group, Health on the Net Foundation. **Results**. An anonymous questionnaire with rating scales was used to evaluate patients' website experience. Seventy-three percent rated the website as beneficial to home treatments and 67% learned consequences of not following prescribed care. Patients highly ranked the solutions to 18 algorithm home care problems and the shared patient stories. Notably, 50% selected the highest response rating indicating the website was 'well-done'. Out of the total, 12% of the subjects had suggested to add information. Written data included: ''The site told me what I need to know; I shared a lot of what I learned with others; there were things I hadn't even thought of and it served as a reminder''. **Conclusion**. This website helped to support long-term home care.

Designing hierarchical menus for interfaces

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Especially older people benefit from numerous technical devices, which support our daily life. Thereby, the communication between human and device does mainly take place via menus. Goal of this study is the comparison of cognitive requirements of menu structures, whose hierarchic levels are coded spatial or in terms of color. Spatial coding can be complex and might have high scanning requirements. However, color coding can be disadvantageous especially for older people, who have problems to differentiate colors or are less contrast sensitive. The experiment was carried out as 2x2x4 within subject design with factor color code (color/no-color), spatial code (spatial/no-spatial), and target position. Participant's task was to search for specific information within the differently coded hierarchic menu structures. Eye movements and correctness and speed of search were measured. Results show that information search was most efficient when the hierarchic menu structure was only spatial coded. Using only color-coding was less efficient. Moreover, adding color to a menu structure with spatial coding lengthened information search. Hierarchical menu structures with spatial coding seem to have the least cognitive requirements for information search. Designers of interfaces should preferably implement spatial codes for menus instead color codes.

Changing the mindset of the design fraternity

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Architects and interior designers gain design awards in residential housing that reflect contemporary multi level minimalist design themes that presume the population will never age nor have any disabilities. As the future client will be within an older age bracket the bonus rests with the designer to create not only beautiful houses but also innovative, accessible housing arrangements that sponsor independence for the aged and frail occupant. This paper will examine what changes need to occur within the design industry to ensure universal design themes are addressed in new housing.

Age differences in retirement investment decision making

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As public policy shifts, it appears that the responsibility of retirement income is falling to the individual. Research shows that not only are people not saving enough for retirement, but also many people do not even think about retirement. Retirement planning research is important because the more people are prepared for retirement, the better they adjust to retirement. In the present study, sixty-four working adults (31 women) between the ages of 25 and 55 years were sampled to determine the relative importance of six demographic factors (i.e., age, gender, income, health status, marital status, and presence/absence of dependents) in predicting individuals' decisions on retirement investment. A policy capturing method was used to determine an individual's policy for making such decisions. It was found that all the six demographic factors were significant predictors of retirement investment. In addition, young and older adults did not differ in making decisions about the total amount of money individuals should invest in their Individual Retirement Account (IRA). However, older adults recommended individuals to invest more in retirement at a younger age. Young adults, on the other hand, suggested investing more as the age of individuals increased. These findings have implications for both individuals and organizations.

Comparison of foot shape in the elderly and young using 3-d scanner

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The objective of this paper was to compare the foot shape between young and old people anthropologically and to classify the type of foot shape. The foot shapes were measured by 3D scanner and Di plus analysis system. The results of this study showed that the foot shape was different between the old and young people. There were differences in foot shape between right and left feet, especially in foot width, angle heel bone, and so on. The foot shape was classified into three types.

Nexos: Remote rehabilitation using an intelligent exoskeleton

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Rehabilitation of the lower limbs is important to maintain or restore muscle function and control while moving the limbs passively can maintain soft tissue length and act to reduce pain for a range of clinical conditions. There are few examples of the use of rehabilitation robotics to assist in rehabilitation of the lower limbs but with continued time pressure on rehabilitation services and physiotherapists, there is a desire to develop robotic aids to assist in the repetitive nature of some exercises or Range of Movement tasks. This poster reports on the development of one such robotic aid that targets the lower limbs and can be operated in the users own home, super clinic or controlled via the Internet. The range of motion required has been established and a kinematic analysis carried out to identify possible geometrical configurations to achieve the desired motion profiles. The identification of key target groups is discussed along with the system definition, configuration, interfacing, and control. The control element is using a particularly novel approach using velocity vectors and tracking errors.

Validation of passive exercise equipment for improvement of insulin sensitivity

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A Passive Exercise Training Equipment (JobaTM, Matsushita Electric Works, Ltd., Japan) was developed as an attempt to imitate the passive movement of bending down and straighten up during a horse riding. The idea of 'Passive Exercise Training' was applied to the equipment that a user will be induced muscular contraction caused by physical stimulation without voluntary effort. In the present study, we examined the acute and chronic effects of passive exercise on insulin sensitivity in elder diabetic patients using this apparatus. The age of the diabetic patients ranged from 59 to 75 years old. The acute effects of passive exercise were examined by means of a single session of JobaTM riding that lasted for 30 min. Glucose infusion rates (GIR) abruptly increased immediately after starting exercise (145%; $p<0.05$). The chronic effects of passive exercise were studied by training the elder diabetic patients for 12 weeks, resulted in a significant increase in steady state GIR (144%; $p<0.05$), moreover, significant decrease in IRI (64%, $p<0.05$), triglyceride (72%, $p<0.05$), %fat (82%, $p<0.01$). On the other hand, did not change fasting blood sugar (99%, NS), HbA1c (102%, NS), total cholesterol (95%, NS).

Aging of body sway: A new test battery

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Aged people are easy to fall. There are no convenient criteria for the diagnosis. We had studied aging effects of body sway, and considered a new test battery to measure the body sway. Aged people had showed vertical oscillation around 5-8 Hz, correlated to aging. A subject was asked to stand upright for 5 s with eyes open, to stand with knee flexion for 5 s, to stand with knee extension for 5 s, stand with knee flexion for 5 s, and stand with knee extension for 5 s. We measured vertical oscillation of 57 healthy volunteers (21-85 y/o, mean 58 y/o), total power for 5 s at standing, mean power for 5 s with knee flexion, and mean power for 5 s with knee extension. Anterior half of the signals for 5 s were suffering from the motion, and the posterior half were suffering from the stability of the posture. Regression analysis between the power and the age for the anterior half showed correlation coefficients 0.3 at stand, 0.09 with knee flexion, and 0.2 with knee extension. The regression analysis for the posterior half showed correlation coefficients 0.3 at standing, 0.27 with knee flexion, 0.1 with knee extension.

Visual performance and body dimension characteristics of the elderly

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The purpose of this study is to supply the basic data to design products for the elderly. First of all, their visual performance and the sizes of body dimension were measured. The subjects were 100 older people (male and female) aged 60 or more and 100 younger people (male and female) in their age 20 to 30. The anthropometric data of subjects in two groups were measured and these data were compared between two groups. The anthropometric measurements were 22 items needed to design the products proper for sitting posture such as computer workstation. And, the characteristics of the elder's visual performance were measured. The stimuli were the color, size, and length of figure, and space perception generated by the computer program. As a result, there were significant differences between two groups. In the case of visual performance, the young took less time than the elderly but no significant difference in the accuracy.

The function of the Japanese geta clogs

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With a decrease in toe strength, a decrease in balance during gait and various foot deformities occur in the elderly. Geta (wooden clogs) have been used for about 1800 years in Japan and are still being used. When the Japanese used geta regularly about 50 years ago, there were few foot disorders. Although it is known that geta are good for foot health, little is known about their function. The purpose of this study was to investigate the efficacy in muscle strengthening of the toes by having the subjects walk 10 meters while wearing geta. An F-scan and 3-dimensional motion analysis were used. Toe pressure increased in the stance phase at toe-off. We confirmed that heel-geta contact is present at the beginning of swing phase. We also measured the distance between the heel and the geta, which increased from heel-off to toe-off and decreased from toe-off to mid-swing. The results showed that active toe movement occurs during geta gait, and the use of geta may contribute to preventing foot disorders.

A nutrition management system using mobile phones with built-in cameras

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An appropriate conduct for improving ingested nutrients is effective to prevent lifestyle-related diseases. We developed a nutrition management system to conduct subjects to improvement of ingested nutrients by grasping their dietary lifestyle. In the developed system, a subject takes a photo image of his / her meal, and sends the image to the system, using a mobile phone with built-in camera. A national registered dietician as a conductor estimates the amount of ingredients in the meal from the sent image, then inputs them to the system; the system computes the ingested nutrients included in the meal and accumulates these data. The ingested nutrients are periodically aggregated for each subject. The results and conductor's comments for them are reported to the subject via e-mail or postal mail regularly. In near future, we will add the function module that generates comments by analyzing ingested nutrients automatically. We have a plan to offer nutrition management service by the developed system in the west region of Aichi Prefecture, Japan.

An ultrasound urine sensor for the aged people suffering from failure of urination discharging

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In Japan, it is reported that four million people above 60 years old are suffering from urinary incontinence. Urinary incontinence is a serious problem that deteriorates the qualities of daily life for aged people. It leads certainly to a desperate feeling and the degradation of the social activities, because they may be difficult to know in advance their urination discharging. If the amount of urine can be ascertained in advance, it can help patients to discharge urination in time. To serve this purpose, we have developed an ultrasonic urine sensor recently. This device is small in volume and light in weight, thus permitting easy access by aged -people. It is expected that the ultrasonic urine sensor will appear on the market soon. We are sure that it will play an important part in nursing care of aged people and have a large impact toward the social welfare system.

Dementia onset prediction model with Stroop effect task

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In Japan the ratio of elderly population (age 65 and over) has exceeded 19%. The number of the demented elderly has been increasing with the ratio. It is urgent to find people with dementia as early as possible and make them change their lifestyle and rehabilitate intellectually. The authors have proposed a new test with Stroop effect to for dementia diagnosis and have shown strong correlation between dementia severity (HDS-R) and Stroop effect. In this study, 18 healthy elderly and 26 demented agreed to take part. They performed tasks with Stroop effect and the answer time was measured in two stages: the first half and the second half. There was a strong correlation between the Stroop effect and dementia severity. Although the correction for aging was necessary in healthy elderly group, the effect of aging was very small. The time ratio (the second half performance time / the first time performance time) was calculated. In healthy elderly group, the ratio decreased with age whereas it increased with age in dementia group. The results suggested that the turning point of the relationship between age and the ratio indicated the onset of dementia.

A study on the emergence of problematic behaviours of the walkable elderly with dementia

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For support of the elderly with dementia, it may be said practical use of technology. And the technology to be effective by a state of dementia may be different. We analyzed about the eruption of problematic behaviour of the elderly of two groups with the investigation date of long-term insurance (468 subjects) by calibration. Those state of dementia are mild (grade 2 and 3 by evaluation of the degree of independence of elderly with dementia in Japan). Every group is everyday life action is independent. The 2 and 3 are often put in the same category, but the burden of caregivers of 3 is heavier than that of 2 is presented. The result, in most items significant difference was recognized about the eruption of the problematic behaviour between two groups. In 2 there were connection in the state of reality orientation(season and place) and the impossibility of coming back alone and restlessness. And in 3 there were connection in the ability of communicate and understand, and confabulation, unclear behaviour and so on. So, in 2 a wandering detector such as GPS to supplement that reality orientation deteriorates and in 3 apparatus such as communication aid supplements communication ability are necessary.

The system to detect the demented elderly at the earlier stage

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One of the hot issues in the field of aging in Japan is the number of the demented. It has increased so rapidly that we are just in front of the stage to re-examine the framework of national care insurance policy. We know that at the earlier stage we can find the clients, the slower the progress is and the better we can treat. In this context, we have developed the screening test to detect the demented elderly as at the earlier stage as we can. Our system has 3 phases. An elderly is to answer the questions and the result is automatically fed backed to him. Then, those suspected as dementia will encourage the second judgment at the hospital. If more examination is needed, he can see a doctor in the mental hospital. By the system, we could successfully detect the clients at the earlier stage of dementia progression. Moreover, in the dementia, actually, found that that thyroid function decline and a depressed state are about 30% contained is the inside of the doubted aged people.

Readability under reading lights using white LED

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Recently, there have been many investigations concerning light sources such as LED's light source for elderly people. This paper deals with readabilities under reading lights as an in-vehicle reading lights. We mainly executed two kinds of experiments of the readabilities of in-vehicle lights. In this experiment, five light sources (Tungsten lamp, Fluorescent lamp, tri-coloured LED and two kinds of white LEDs) were used in order to evaluate the perceptual whiteness (as an Experiment # 1), the perceptual brightness (as an Experiment #2). The illuminance on the text paper is set to the 40.0±1.0 lx (constant). The illuminance same as the conditions of the in-vehicle. As a result of the experiment # 1, it is found that there is a coefficient between readabilities and the perceptual whiteness. From the results of the experiment # 2 between 4 kinds of light sources without coloured LED and preferences, we found that the white LED is the best light source for elderly peoples.

A study of optimal LCD display color for the elderly using cataract experience goggles

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With recent progress of information technology and digital multi-media devices, proper color scheme and screen design for the barrier-free environment of vision is strongly needed. In this study, our object is to evaluate the vision peculiar to elderly, by using cataract experience goggles and LCD display. We conducted the following experiments: (i) After the 10 minutes dark adaptation, a stimulus light circle at 30cm distance, 2cm diameter is shown on the LCD display. The task of the subject is to reduce HSV brightness of this circle and answer the threshold value when the circle is just dismissing. This procedure is repeated for 12 HSV hues.(30 degree interval); (ii) Next, the subject equips the cataract experience goggles. After 20 minutes interval for adaptation, experiment 1 is repeated. All the experiment was held in the darkroom, and 6 person were participated. From the result of the experiments, we calculated averages of the subjects corresponding to both the normal state and the goggle-equipped state. As a conclusion, it becomes clear that when equipping a cataract experience goggles, reduction of the sensitivity, mainly at B(blue) region is observed, and B-R-Y side has larger extent of reduction comparing to the B-G-Y side.

Research on the lighting display board for barrier-free which considered elderly people

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In Japan, aging is advancing quickly; therefore, the number of senile cataract persons accompanying aging is also continuing increasing. The visibility perceived by senile cataract persons is clearly different from the normal healthy persons, so it is clearly that a certain consideration for cataract persons is required. To improve the quality of life of elderly people, the research for these visually impaired persons became a very important subject. In the present experiment, the color visibilities in a multi-color Light Emitting Diode lightning display board were examined by a senile cataract false experience goggles, which was used to reproduce a condition of senile cataract. From the results, the study revealed that there was a big difference about color recognition from yellowish green to light-blue, in the condition of senile cataract vision than the normal vision; furthermore, the range and difference also were also quantitatively clarified.

LED traffic signal light which considered people of a low vision

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In recent years, with the utilization of blue Light Emitting Diode, the Light Emitting Diode element is beginning to be actively used in various scenes, and Light Emitting Diode is used even for traffic light now. The Light Emitting Diode traffic signal light has little power consumption as compared with the traffic signal light using the conventional electric bulb, and spreads to progress increasingly from now on. Because the discernment of the yellow of a signal light and red is difficult for sense-of-color unusual person, in the present signal light system, yellow signal light color is made somewhat brighter than red signal light. The aim of the present study is to collect the fundamental data for the display of the traffic signal light, which is easy to be recognized also by sense-of-color unusual persons. The results revealed that the optimal brightness of the yellow light from which a sense-of-color unusual person can distinguish the difference between yellow and red, i.e., 'vision barrier-free domain', is the area where yellow light is 2.8 times brightness of the red light.

Full analysis of human binocular fusional area in retinal fovea

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The limits of human binocular fusional area have been studied by many research groups early. Those studies, however, focused only on the horizontal and vertical meridian. For this reason, in this study we fully measured the limits of binocular fusional area in sixteen different directions from 0 degrees to 360 degrees by a step of 22.5 degrees in the retinal fovea, using a 3D display device. The following results were obtained: (i) the horizontal limit of binocular fusional area in retinal fovea is larger than the vertical limit; (ii) the limits of binocular fusional area are almost symmetrical about the horizontal meridian; (iii) the nasalward limits are obviously larger than the temporalward limits; (iv) In nasal side of retina, the limits increase in a monotonic fashion; however in temporal side, the limits have no obvious change.

Psychological influence of the elderly adults by odour stimulation

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Odour is something that we can find everywhere in our daily life. There are many kinds of odour and are gender, personality, age, environmental conditions, etc. as a factor which affects sensitivity evaluation of the human being of a odour. In this research, the results of both measurement of physiology signals, such as an electrocardiogram and GSR, and subjective evaluation were synthetically compared about between age groups. Subjects are 16 young persons and 18 elderly persons whose sense-of-smell functions is normality. The odours stimulus used for the experiment is six kinds of 100% of Basil, Jasmine, Lavender, Lemon, Sketole, and Ylang oil. The results are as follows. In the elderly age group, ''evaluating'' was mentioned as an evaluation factor of odours from subjective evaluation, and Lavender, Lemon, and Ylang were obtained as a large odour of 'activation'. From the result of measurement of a physiology signal, these odours were checked by GSR as the upward tendency and by R-R interval as the downward tendency. However, those relevance was not seen in the young age group.

Situation of elderly people: Identification of gap and policy and plan for aging people

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The elderly people have inherent right of independence, participation, care, self-fulfilment and dignity. The elderly population should not be viewed as a liability. They should be viewed as a productive and valued asset for all societies. Since the elderly people have acquired skills and expertise during their lives, the wise societies should provide opportunities to them to use their full potential of the knowledge. The community organization and local people could greatly benefit from the skills and services that older can provide on a low-wage or voluntary basis. The NGO's and other community-based organizations can provide supplementary support of the families, which are taking place. There has been a considerable increase in the life expectancy and length of a person's potential working life has also increased significantly. This gives the elderly population an opportunity to have a longer productive life before they reach the stage when they need great support. In view of the above situation there is a need of monitoring and evaluation systems for the implementation of the elderly policy and plans to deal with consequences of population aging and elderly population issues.

SYMPOSIUM 'UNIVERSAL DESIGN - TOWARDS MORE FULFILLING LIFE IN ONE'S LATER YEARS'; CHAIR: SATOSHI KOSE (JAPAN)

Universal design to add value to environments for seniors

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Standards of accessibility are being improved worldwide - through increased user-awareness as well as the demands of anti-discrimination legislation. But appropriate design measures must be applied at both macro and detail scale as a total system, for any built environment to be really effective. It must be sensitive to the needs of all users, especially the less able. But are designers aware of the priorities of a vulnerable ageing population and able to respond to its needs? Many older people have a number of impairments without considering themselves to be disabled and may be unwilling to use or demand the environments that they really need. Universal Design has the advantage of providing standards of usability for everyone, without being discriminatory or limiting amenity only to people with disability, in ways that are attractive to everyone. The paper outlines examples, both in research and in built environments, which achieve standards of aesthetic satisfaction and user-acceptability by the public. Positive initiatives such as the lifetime home concept must be supported by equally sustaining design measures in the public realm in order to allow all those who have reduced physical or sensory abilities the fulfillment that they deserve in their later years.

Universal design of dwellings: Who are the assumed residents?

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There is an old saying, ''One's house is his castle''. It means that dwelling is the basis of people's life. However, people rarely considered seriously about what are the fundamentals of dwelling design. Ideal condition must be that people can live there from cradle to grave without encountering serious problems. At least one should not be forced out from one's own dwelling against one's wishes. The reality is that people are quite often forced out because of reduced capabilities, linked to ageing in particular. To avoid this to happen in one's later years, the dwelling should have the adaptability to meet the changing needs of the residents. Universal design concept must be the basis, i.e., floor without unnecessary level difference, support for handrail installation, and width of crucial space dimensions. Only upon these basics, various building equipment and apparatuses coupled with specific design features will be effective in supporting the whole life of the residents. It must be admitted that not all dwellings will be able to house everybody, because some type and level of disabilities require more extensive arrangement, but for most people in most cases, the universal design will suffice.

Toyota's program for universal design in vehicle development

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This report contains the details of original indexes for Universal Design that were developed the process of user interaction development, and the details of the new product 'RAUM' which was developed as the real universal design vehicle. Universal design has been gathering more attention in society in recent years. It is defined as providing a service or designing an object or location in such a way that it can be easily used by many people, regardless of physical characteristics such as gender, age, or disability. The two indices, the 'ergo-index' and 'situational suitability', mentioned in the previous viewpoints were established at Toyota as a unique criterion and method for the purpose of objectively and subjectively evaluating the level of delight and user-friendliness achieved. Based on these two indices, an objective evaluation of hard aspects (ergonomic performance) and soft aspects (delight in usage situations) has become possible, which can also be applied to future model development. While developing the 'Raum', over 500 user dialogues were carried out with numerous people. Confirmations with users mainly focused on functional parts (such as meter audio and heater control) related to driving and ease of ingress/egress.

The role of multimedia in training the elderly to acquire operational skills of a digital camera

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Universal access has been a central issue in enhancing digital welfare for the elderly. The present study approached this goal by examining the role of multimedia as a training tool for older adults in learning to use a digital camera. Twenty-one older subjects, who aged over 65 participated in an experiment that employed multimedia training and task complexity as a between- and within-subject factor respectively. Displaying operation procedures with animation, narration and static pictures defined the three treatments of multimedia, while task complexity varied by simple, general and difficult levels of operations. Training performance was evaluated by the time required to successfully complete the operations and the number of request for help during the hands-on tests. Results indicated that the three media exhibited significant effects only when complex tasks were trained, with animation enabling the older subject to complete the tasks in the shortest time and with the least need for assistance. Narration and static pictures were equivalent to each other but both were inferior to animation in terms of the training measures. It was suggested that computer-aided training for the elderly should be towards the use of animated visuals particularly when complex tasks are to be learned.

Nomadic elderly: Design requirements for technologically enhanced traveling experience

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Studies were carried out within two projects: Nomadic media and Mimosa. In both projects we have addressed strong human-centred design (HCD) approach and used scenarios as a design instrument in the very early phase of concept definition and user requirements capture process. This paper describes results based on our scenario evaluations concerning future applications of technologically enhanced travelling experience. The results clearly bring up user requirements and needs for better travelling experience that could be fulfilled by utilising new technology and services. The basic user requirements for elderly travellers do not differ much from the requirements of other user groups. However, the more specific design of the applications for elderly citizens must take into account some special requirements and needs of this particular user group.