

CORRESPONDENCE

Persuasive gerontechnology in France

The editorial on Persuasive Gerontechnology¹ underlines the potential of IT technologies to promote deliberate change of the elderly attitude. As for example the effectiveness of re-socialization resulting from a computerlearning training by an Alzheimer patient at the early steps, living in a caring home, has been reported by a social research-student from Nantes University, showing that successful monitored learning achieved self esteem revalorisation and that the patient accepted to go out of his room and speak and meet with the others.

Persuasive technology offers specific application in the treatment of chronic diseases. Prof. Anne Sophie Rigaud, head of the geriatric department Broca Hospital Paris will demonstrate its expected benefits on cognitively impaired patient (early steps) behaviour in the Tandem² French funded and recently approved research project and in a future European project.

Other positive effects of such learning on the social inclusion and mental activities in a Caring home have been demonstrated by Michel Sider, manager of La Pommeraiie Residence in France³. Prof. A. Franco has also demonstrated the positive effects, in telemedicine experimentation at home, of using interactive video communication on patient relationship with the professional carers (Visadom⁴) with implicit use of persuasive technology.

So the editorial invites the gerontechnology community to adapt persuasive technology to gerontology instead of focusing on teens or pre-teenagers, and this deserves more attention!

Of course there are some limitations and obstacles: patient's ability and will, adapted interfaces, real effective monitoring and support, carers goodwill and training, ethics. Cost/benefit are to be assessed. More studies and cases are needed, good practice examples should be collected and published.

However, we think that more detailed adaptation of persuasive technology will be useful, with guidelines allowing to use safely the persuasive technology for a sustainable development of daily patient's quality of life and ADL via the gerontechnology applications.

References

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4. Visadom is a project developed with France Telecom; Info: Prof. Alain Franco, CHU Grenoble et Université Joseph Fourier; E: Afranco@chu-grenoble.fr

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BOOK REVIEW

Aarts, E. & Marzano, S. (Eds.) (2003). The new Everyday. Views on ambient intelligence. Rotterdam: 010 Publishers. ISBN 90-6450-502-0. Price: € 29.50 (VAT included)

The new Everyday discusses the opportunities in daily life of digital technologies. The copyrights of the book are in the hands of Philips Research and Philips Design. Aarts is vice president and Scientific Program director of Philips Research and Marzano is CEO and Chief Creative Director of Philips Design.

Ninety experts in technology, design, social science and business look ahead at future benefits as well as potential dangers, social and ethical issues. The editors place the discussions in a broad societal context. Artificial intelligence will cover all daily environments, home, car, office, public areas, etc. As compared to ubiquitous or pervasive computing the power of ambient intelligence lays in the inclusion of social and natural interaction with the intelligent environment.

Designing an intelligent surrounding is not hardware or data driven but event driven. Intelligent systems support our activities without dictating them. Each individual device in the ambient network has capabilities to learn, anticipate and play a role in a larger system. To prevent hyperactive systems, and to ensure that ambient intelligent systems are ethically appropriate, rules, roles, relationships, realities and response patterns are used

to understand relationships between different devices and human beings. The focus is on designing collective dynamics and symbiosis among devices and human beings in the larger system. Ambient intelligent is meant to achieve the full potency of each individual, not just for labour circumstances but certainly also for social purposes.

There are generally three phases in the design of interactive systems: (i) concept development, (ii) implementation of prototype, and (iii) evaluation through testing. To ensure aiming at serving the user, and not serving a specific technology, a user-centred design is required. This includes: (i) user involvement, (ii) empirical measurements, (iii) iterative design, and (iv) multi-disciplinary design teams. Human beings and technological systems may interact through several channels, with technology and visual technology as the main choices. Visual information is acquired and interpreted through sensing, information processing, coding and representing, and storing and transmitting. To get communication through spoken dialogues, speech recognition and variation as well as speech synthesis should match. The success of spoken dialogues as man-machine interface depends on the quality of the various technological components. If we compare it with a person-to-person human conversation, we miss elements such as facial expression, gestures and other channels of communication. To obtain a smart system and not just an exchange of information, it is necessary to understand and select the appropriate reaction. So the ambient intelligent system must have the potency to learn from us, to adapt to our needs, wants and preferences over time. In the design tools, simplicity, flexibility and sustainability are required.

To develop ambient intelligence, technology that interprets human behaviour and thinking is required. Both behaviour and thinking differ among people. After focussing on efficiency in the 80s of the twentieth century, we saw the focus of technology shift to innovation in the 90s, and to serving diversity in the 00s. Because a lack of knowledge on the backgrounds of certain cultures, it is still hard to develop the intelligent technology that suits the variation needs. Different cultures, people and values need to be in-

vestigated more fundamentally.

The key elements of ambient intelligence are embedded, context-aware, personalized, adaptive and anticipatory functions. Starting point for creating intelligence, are interfaces that support people with easy, intelligent and meaningful interaction. Therefore technology moves to the background and the user to the foreground. In the past computer design was based on the adaptation of users to the technology. The intelligent behaviour is meant to adapt the technology to the user. The ambient intelligent system is meant to assist us successfully day and night. Many activities of human beings are not connected to a specific local environment like home, working area, car, etc. Technologies linked to these activities should be moveable to use them when needed. Mobile techniques for informing and control are already included in modern mobile phones.

The combination of human communication modalities (such as speech, handwriting and gesture) and the systems ability to adjust to user needs (i.e. personalize) plays a major role in the design of novel applications and services. Ultimately, the self-adaptive capabilities of the system should be used to detect the users mood and to react accordingly. An example mentioned in the book is web-based education. In developing countries with low density of citizens, web-based education could be economically beneficial. Demolishing the barrier of distance will also narrow the gap between consumer and hospital, enabled and disabled society members, and improve the social cohesion among relatives, friends all over the world. An important issue in the book is privacy. Ethical aspects are constantly mentioned to focus the mind of the designer of intelligent environments.

Unfortunately, ambient intelligence is not applied to the extension of independent living up to a high age. Since ambient intelligence starts from supporting diversity, and increased diversity is one of the hallmarks of aging, it is obvious that intelligent environments may empower independent living, and improve social cohesion among older and younger members of society. Intelligent systems as described in this book, assist monitoring of location and assessment of personal

health conditions. It may help to determine the priorities in specific cases, and ease scheduling activities of care givers. Besides, ambient intelligence can play a role in the perception of safety through burglary alarm, personal alarm, etc.

Gerontechnology designers will find design ideas and design processes in this well-illustrated book. For policy makers answers are given to questions, such as 'What types of technologies do we want around us, and which roles may these play in our lives?', or 'What kind of opportunities and issues will ambient intelligence present?', and 'How do we ensure that ambient intelligence will improve the quality of our lives, rather than just improve efficiency?'. Business people will find an answer to the question 'What kind of opportunities and issues will ambient intelligence present?'. For researchers the book is less valuable, although it may help to oversee the options of digital technology.

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PEOPLE

Ronald L. Mace FAIA (1941-1998), inventor of Universal Design

The architect Ron Mace designed buildings and other products. In addition he was an educator whose design philosophy focussed on a more usable world¹. In this sense he was important for the development of Gerontechnology, although he never used this term, as far as is known, and probably did not know this young discipline.

Mr. Mace coined the term universal design to describe the concept of designing products, including the built environment to be aesthetic and usable for everyone, regardless of their age, ability, or status in life. He was also an advocate for the rights of people with disabilities.

Ronald Mace graduated from the School of Design at North Carolina State University in 1966 with a Bachelor's degree in architecture. After 4 years of practicing conventional architecture, he became involved in producing the first building code for accessibility in the USA. This code became mandatory in North Carolina in 1973, and served as a model for other states and nations. His pioneering

work in accessible design was instrumental in the passage of new legislation in the USA, such as the Fair Housing Amendments Act of 1988 and The Americans with Disabilities Act of 1990.

In 1989, Ronald Mace established the federally-funded Center for Accessible Housing, currently known as The Center for Universal Design, at the School of Design at North Carolina State University in Raleigh. He was Research Professor in the Architecture Department. Under his direction, the Center became a leading resource for research and information on universal design in products and the built environment. Projects directed by Ronald Mace included the development of house plans for a modular home company, new designs for a thermostat, an adjustable toilet, faucets, and a multi-use modular bathing unit. Under his direction, the Center was a co-sponsor of 'Designing for the 21st Century: An International Conference on Universal Design' held in New York in June 1998. Ron Mace gave his last speech at the 1998 international conference². Here he discussed the differences between assistive technology, barrier-free and universal design. Gerontechnology was not mentioned but can easily fit into this discussion.

Ronald Mace has also been active in the commercial sector as president of Barrier Free Environments, Inc. (BFE), an accessible design consulting firm. At BFE, Inc. he consulted on accessibility issues for The Kennedy Center and the Smithsonian Institution in Washington, DC, the design of a universal street toilet for J.C. Decaux of France, and the grounds and buildings at the University of Virginia in Charlottesville. While at BFE, Mr. Mace published *The Planner's Guide to Barrier Free Meetings* (1980), *The Accessible Housing Design File* (1991), *The Americans with Disabilities Act Accessibility Guidelines Tech Sheet Series* (1994-95), and *Highlights of the Americans with Disabilities Act Standards for Accessible Design Slide Show* (1993). The information in these publications bears relevance to the gerontechnology approach, especially when aimed at enhancement or compensation³. Ronald Mace was a Fellow of the American Institute of Architects and received the Distinguished Service Award of the President of the United States in 1992 for service in promoting dignity, equality, independence and employment of people with disabilities, including older persons.



He passed away on June 29, 1998 in his home in Raleigh at the age of only 56 years. To his remembrance, the Ron Mace Endowment has been established to help support design students with disabilities (http://ncsudesign.org/content/index.cfm/mode/1/fuseaction/page/filename/scholarships_giving.html).

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ISG BUSINESS

Japanese Chapter and the pleasantness of designs

AIST Gerontechnology Forum 2005 took place in December 16, 2005 in Tokyo. It focussed on usability as the one important principle in products design. When products or environments do not fit to human biological functions, users are stressed during use. Too many things are there in daily life that are difficult to see or hear, complex to understand, or hard to handle. This is also true for older people, in particular when they use modern IT devices that are spreading into our daily life rapidly. Usability is a key issue in Gerontechnology. The Forum was hosted by the Institute for Human Science and Biomedical Engineering of AIST, and was attended by about 80 Japanese researchers.

In his key-note lecture entitled *Older People and Usability, and Beyond*, Dr. Hiroyuki Umemuro of Tokyo Institute of Technology (TIT), gave an overview on theory and practices of usability in relation and applications in Gerontechnology. Since usability is a very wide issue, it is difficult to have one uniting theory. However, Dr. Umemuro succeeded in showing a clear picture how to consider and study usability by presenting 5 principles, i.e. (i) learnability, (ii) efficiency, (iii) memorability, (iv) few and non-catastrophic errors, and (v) subjective satisfaction. The most attracting point of his key-

note lecture was that he presented us a future issue that usability and Gerontechnology will have to challenge. He pointed out that the pleasantness or feeling of happiness in using products will be a key point in designing future products, much more so than is incorporated in the conventional idea of usability. Usability has been concerned with so far the effectiveness, efficiency, operating speed and so forth in product design, all being dependent on hardware abilities of the products. Dr. Umemuro said: "In the future we will probably like or have to enjoy using products by watching, hearing, touching in addition to experiencing their usefulness and convenience". This is the missing concept in current product design. The concept seems to be similar to 'Enhancement', one of the guiding concepts of Gerontechnology. The technology that can help older people to enjoy life will be much more required in the future, since Gerontechnology will not only serve to prevent aging disadvantages, or compensate decreasing human abilities.

The key-note lecture was followed by eight papers and one symposium. The symposium was arranged to discuss usability in practical industrial situations: designing computers and internet web design, ATM interface design, navigation design in automobiles, and information presentation at railway stations. All studies showed that more knowledge on cognitive ability of older people is necessary to develop products or environments with better usability. In the field of internet a number of excellent methods to increase usability have emerged and been applied successfully. It was recognized throughout the forum that the study on usability for older people is rapidly ongoing with much interest in the field of product design.

At the end of the forum, the International Society of Gerontechnology (ISG) was introduced to the audience from the organizing committee of the Forum with an invitation to the membership. It was announced that it is planned to establish a Japan chapter of ISG, now that the minimum of 25 regional memberships has been obtained. Next AIST forum on Gerontechnology in 2006 will be held in conjunction with the first meeting of the ISG Japan Chapter.

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WORLD NEWS

International conference on Design and Engagebility

Parallel to the 4th Nordic Conference on Human-Computer Interaction in Oslo, Norway (<http://nordichi2006.idi.ntnu.no/>) a design conference will explore how to engage excluded users groups. The conference takes place in October 2006 and is the 3rd conference organised on the topic. The themes of this year's conference are broad and cover everything from traditional design to interactive art. Many focus on engaging with minority groups such as elderly persons. Last year's conference included research on how design can exclude and stigmatise certain user groups. Mike Williams and Suzanne Begley of Public Life demonstrated how some websites for disabled people have a 'disability' visual style, which both marginalises disabled people and leads to disengagement. Through analysis of the website semantic the research was able to show an alternative aesthetic for inclusive design. Those interested to take part may contact the organizer *John Knight*.

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Gerontechnologists in France

In 2003 Alain Franco, Professor of Geriatric Medicine at the University of Grenoble, France, founded a scientific society for gerontechnologists as a special interest group within the French Society for Geriatrics and Gerontology (SFGG). Its mission is to promote optimal usage of new technologies that are likely to improve the quality of life of older people, of their caregivers (when the older person is sick or dependent), of their health and social care staff, and of their doctors. The Gerontechnology Group includes members of the SFGG working in geriatric medicine, computer science, psychology and engineering.

A scientific meeting of the Gerontechnology Group was organised by Vincent Rialle of the University of Grenoble in Paris on December 8th 2005. Gérard Cornet, Secretary of the Gerontechnology Group, opened with a reflection on the dynamics of this work group, as well as its progress and activities in recent years. Alain Franco (Group Chairman) focussed on some current needs and characteristics of intermediate and end users of gerontechnologies in France and internationally. Reviewing recent research experi-

ences of telemedicine (including teleconsultation, teleassistance and telemonitoring), he emphasised the importance of evaluating and organising family support and the patients social environment before installing telemedicine equipment or other forms of gerontechnology. Other invited speakers included Thérèse Bouchez (on behalf of Marie-Madeleine Bernard and Mathias Fruhwirth), who reviewed six years of experience of the Intergeneration Virtual Village (VVI) in Canada with the programme PACE 2000. VVI is an example of an intergenerational project, which uses videoconferencing to provide ongoing contact and support between elderly people and students. Pierre Lutzler reflected on the needs for gerontechnologies in rural areas, taking the example of the Hautes Alpes, a remote mountainous region in south-east France. Catherine Ollivet (currently President of the families and users association France-Alzheimer) and Vincent Rialle presented data from a recent survey of 270 families of patients with Alzheimers disease, which aimed to explore their needs, fears and expectations of new technologies. During the morning session, participants had the opportunity to see some technical demonstrations, including a rising toilet/WC bowl, which is powered by energy from tap water pressure; this system enables people who have difficulty sitting or rising to use the toilet independently.

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Current awareness in aging research and demographics

CAAR (Current Awareness in Aging Research) is a weekly email report produced by the Center for Demography of Health and Aging at the University of Wisconsin-Madison that helps researchers keep up to date with the latest developments in aging research: www.ssc.wisc.edu/cdha/pubs/caar.html. Also available is a general demographic current awareness report: CDERR (Current Demographic Research Reports), a weekly email report produced by the Center for Demography and Ecology at the University of Wisconsin-Madison that helps researchers keep up to date in demographics: www.ssc.wisc.edu/cde/library/cderr/subscribe.htm. Back issues are available from www.ssc.wisc.edu/cde/library/cderr/back_iss.htm. Both reports contain

selected listings of new reports, articles, bibliographies, working papers, tables of contents, conferences, data, and websites from all over the world. Subscriptions are free.

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E-learning for eldercare professionals - March and April 2006

Gerontechnology encourages continued life-long learning using modern technologies for all older adults, and also for those who provide services. Online learning is convenient and immediately applicable to older adults' health and social needs. One continuing professional education program is newly available globally using Internet resources. It is designed for eldercare professionals at all levels, in English, and offered freely. It uses minimal cost technology (teacher-facilitated discussions and community online). These E-Workshops focus on 'rural eldercare' and social service - empowering older adults with advocacy techniques, using research in evidence-based social work practice, and rural aging practice models and intervention skills. Each E-Workshop is interactive, encouraging knowledge building via real-time communications among experts and students. Participants 'tune in' via emails and the website when it fits into working schedules, with a minimum total participation of about 2.5 hours across three days.

Info: www.mainecenteronaging.org; Registration in advance online.

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World-wide news for professionals in aging

Created in Europe in 2005, [Agetimes.com](http://www.agetimes.com) (www.agetimes.com) stands as the portal for professionals on population ageing. It intends to be an information and services portal, dedicated to the community of professionals as well researchers, organizations, associations and anyone interested in this field. It recorded 140,000 visits in November 2005 alone. Half of these were from the USA. Professionals may place their own news for free.

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Technology for health and social care

In June 2005, the official journal of the French National Foundation for Geronto-

logy (FNG), 'Gérontologie et Société' published a special issue in French focussing on health and social care applications of technology for older people. The eleven papers in this issue are based on communications at the Institut Universitaire de Gérontologies study day held in Paris in May 2004, where speakers from France, Switzerland and Canada reflected on current developments and future applications of gerontechnology. This special issue brings together industrial, technical and clinical perspectives on gerontechnology to improve both home care and institutional care. Topics covered in this publication include the use of actimetric technology to measure 24-hour motor activity levels of frail elderly in-patients; the design of bracelet-devices for monitoring cognitively impaired patients, or those at risk of falling; the development of remote portable alarms for people at risk of heart attacks; the use of CCTV surveillance and internet-based communication systems for people living at home with chronic health problems. Although all the articles are in French, each one has an abstract in English. An annotated bibliography of over 70 French articles and reports about gerontechnology-related issues appears at the end of the journal, based on the resources held at FNG's library in Paris. While this list is not exhaustive, it indicates some of the areas that have received particular attention in France since the early 1990s.

Copies of this special June 2005 issue (Issue n° 113 'Technologies au service du soin') cost € 35, and can be ordered from Catherine Dumoutier, Fondation Nationale de Gérontologie, 49 rue Mirabeau, 75016 Paris, France;

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URL: <http://www.fng.fr>

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CALENDAR OF EVENTS

April 2 6, 2006

Geriatrics 2006: International Congress of Elderly Health
Istanbul, Turkey

Organizer: Turkish Geriatrics Society

Info: www.geriatrics2006.org

May 18 - 19, 2006

1st International Conference on Persuasive Technology for human well-being
Eindhoven, The Netherlands

Organizer: Technische Universiteit Eind-

hoven
Info: www.persuasivetechology.org

May 29 - 30, 2006

1st European Conference on Multiculturalism in European Aged Care: Consumer, Provider, Workforce, and Technological Perspectives

Brussels, Belgium

Organizer: IAHSa (International Association for Homes and Services for the Ageing) European Committee
Info: www.iahsa.net/brussels

May 30 June 2, 2006

8th Global Conference of the International Federation on Ageing
Copenhagen, Denmark
Organizer: International Federation on Ageing

Info: www.global-ageing.dk

June 8-10, 2006

International Symposium Satellite to ICOH 2006: Shift work and Ageing in Health Care and Community Services
Venice, Italy

Organizer: International Commission on Occupational Health (ICOH)
Info: http://www.icoh2006.it/second_announcement_venice.doc

June 11-16, 2006

Symposium Extending the Working Life: WORK after 60?
Milan, Italy

Organizer: International Commission on Occupational Health (ICOH)
Info: inlichtingen@adviesbureau-goedhard.nl

July 12 - 14, 2006

10th International Conference on Computers Helping People With Special Needs
University of Linz, Austria

Organizer: ICCHP
Info: www.icchp.org

September 7-9, 2006

The ageing jigsaw: Interdisciplinary approaches to old age
University of Wales, Bangor, United Kingdom

Organizer: British Society of Gerontology
Info: <http://www.bangor.ac.uk/csprd/bsg2006.html>

September 18 - 20, 2006

ICDVRAT 2006 - International Conference Series on Disability, Virtual Reality and As-

sociated Technologies
Esbjerg, Denmark
Organizer: Aalborg University
Info: www.icdvrat.reading.ac.uk

October 14-18, 2006

4th Nordic Conference on Human-Computer Interaction: Changing roles
Oslo, Norway

Organizer: Nordic forum for human-computer interaction research
Info: <http://nordichi2006.idi.ntnu.no/>

June 18 - 20, 2007

7th International Conference of IAHSa: The Global Ageing Network: Leading Change, Sharing Innovation, Enhancing Life
St. Julian's, Malta

Organizer: International Association for Homes and Services for the Ageing (IAHSa)
Info: www.aahsa.org/conferences/iahsa2007/call/

June 18-21, 2007

11th International Conference on Mobility and Transport for Elderly and Disabled Persons (TRANSED 2007/COMOTRED 2007): Benchmarking, Evaluation and Vision for the Future

Montreal, Canada
Organizer: Canada Transport
Info: www.tc.gc.ca/transed2007

June 16 - 19, 2007

Festival of International Conferences on Caregiving, Disability, Aging and Technology (FICCDAT)

Toronto, Canada
Organizer: Smart Move Training and Development Inc, Toronto, Canada
Info: www.ficcdat.ca

May 20-23, 2008

6th International Conference on Gerontechnology: Smart Technology for active Longevity
Pisa, Italy

Organizer: Scuola Superiore Sant Anna in collaboration with the Italian Chapter of the ISG
Info: g.nerdi@sssup.it or micera@sssup.it

Announcements of meetings and other events for the Gerontechnology Calendar should be submitted by e-mail to: j.e.m.h.v.bronswijk@gerontechnology.info.

See also www.gerontechjournal.net