Preface

This publication – “User Perception and Influencing Factors of Technology in Everyday Life” – comprises some of the best articles published in the International Journal of Technology and Human Interaction (IJTHI) during 2011. It is our purpose to offer the reader the most up to date research and discussions providing an overview of the trends and advances in this area.

IJTHI

The first issue of the International Journal of Technology and Human Interaction appeared in 2005 due to the increasing research being done in the area where technology and human meet. This area of research and practice emerged in the early 80s as a specialty area in computer science and has expanded rapidly since then, attracting professionals, researchers, and contributes from other disciplines. Till the late 70s the majority of professionals dealing with computers were information technology professionals, but this scenario has changed rapidly due to the explosion of personal computers, the challenge of personal computing, the development of the complexity of software engineering, and the application of technology in the so-called control domains (Carroll, 2009).

Originally the focus of human computer interaction was on usability mostly for productivity applications such as text editing and spreadsheets. Quickly it expanded to encompass visualization, information systems, collaborative systems, system development process, and areas of design. Nowadays it is taught in diverse departments such as psychology, design, communication studies, cognitive science, information science, geographical sciences, management information systems just to name a few.

This genesis and growth contributed to what Human-Computer Interaction (HCI) is nowadays. HCI has grown to be broader, larger and much more diverse than computer science. It expanded from individual and generic user behaviour to include social and organizational computing, creativity and accessibility for the elderly, the cognitive impaired, and for all people. It expanded from desktop office applications to include games, e-learning, e-commerce, military systems and process control. It expanded from early graphical user interfaces to include myriad interaction techniques and devices, multi-modal interactions and host of emerging ubiquitous and context-aware interactions (Carroll, 2009).

Today, HCI is seen as the study of how people interact with computers and to what extent computers are or are not developed for successful interaction with human beings. This perspective arose from the conclusion of several studies which argue that the success or even the failure of the implementation of technologies were not due to the technology itself but to the interaction between the technology and the user. Furthermore, and as stated above, this problem of technology and human interaction covers all the fields and aspects of our lives, such as education, profession, private, or leisure time, just to mention a few.
Taking this into consideration, the journal provides a platform for leading research that addresses issues of human and technology interaction in all domains. The journal aims therefore at publishing interdisciplinary research, including aspects from a wide variety of disciplines. These disciplines may range from more technical ones such as computer science, engineering or information systems to non-technical descriptions of technology and human interaction from the point of view of sociology, psychology, education, communication, management, marketing or even philosophy. The journal also aspires to provide a publication outlet for research questions and approaches that are original and may find it difficult to be published in established journals following a rigid and exclusive structure. It is open to all research paradigms, either empirical or conceptual, but it requires them to be accessible and reflected. We also encourage the submission of high quality syntheses across research in different specialties that are interesting and comprehensible to all members of the information systems community and related disciplines.

The journal is open to several topics that may include (but are not limited to) the following:

- Experiential learning through the use of technology in organizations
- Influence of gender in the adoption and use of technology
- Interaction and conversion between technologies and their impact on society
- Intersection of humanities and sciences and its impact on technology use
- Perceptions and conceptualizations of technology
- Relationship of theory and practice with regard to technology
- Social impact of specific technologies (e.g. biometrics, SCM, PGP, etc.)
- Social shaping of technology and human interaction research
- Technological risks and their human basis
- Value of intellectual capital in knowledge management
- And all other issues related to the interaction of technology and humans, either individually or socially.

INSIDE THIS BOOK

This book was prepared in such a way that the reader could find theoretical and empirical research falling into four major topics: behaviour and culture; mobile technologies and media, ICT and e-government and education, health and professional situations.

Behaviour and Culture

Behaviour and culture has been a popular topic throughout the years and has managed to keep up to date due to the rapid changes in the field of information technologies. How do we behave with technology? What kind of behaviour changes do technologies induce? In the first paper, authors explore insights from theories to help understanding information behaviour in organisations in a social science context. The second paper discusses ICT integration in Nigeria and the role played by it. Why are there some on-line shopping websites that are so successful while others do not attract clients? What affects on-line shopping? These are some of the questions addressed in papers three and four. Finally, in paper five, authors discuss the impact of national culture impacts in international IS projects.
Mobile Technologies and Media

In 2011, the journal published a considerable number of papers related to research concerning mobile phones, smart phones, mobile messaging services and other devices focusing on ubiquity and mobility. The issues addressed are related to automatic language translation, the usability of SMS and IVR as digital bank channels, the satisfaction of customer with alternatives to face-to-face interaction, the use of closed circuit television, the acceptance of mobile television advertising, the adoption of university smart card systems and the use of smart phones in a professional context.

ICT and E-Government

E-government is still an actual topic. In both papers in this section, authors discuss the barriers to e-government in Jordan as well as the role of partnership in e-government readiness. Results show the importance and influence of culture and knowledge stations as barriers or enablers to ICT implementation in e-government.

Education, Health, and Professional Situations

ICT can be implemented and used in different contexts. In this section, the reader will find researches done in the field of health, education and professional situations. What are the social impacts of ubiquitous ICT applications in the outpatient health sector in terms of social acceptance? What is the impact of email as a primary communication technology in a professional context? What is the effectiveness of computing in education? What factors can enhance employed job seekers intention to use social networking sites as a job search tool? How does subordinates’ motivation influence managerial behaviour? What factors influence purchase intention of early adopters towards online music? These are some of the questions addressed and discussed in the papers in this section.

BEYOND THE BOOK

It is a fact that the population (particularly in Europe) is getting older. Low birth rates and higher life expectancy will transform the shape of the EU-27’s age pyramid (Eurostat, 2012). This situation will also happen in the EUA, where life expectancy had increased by 0.1 year from 78.6 in 2009 to 78.7 in 2010 (NVSS, 2012). The share of older persons in the total population will increase in the coming decades, as a greater proportion of the post-war baby-boom generation reaches retirement. Moreover, people are getting more educated and highly educated men and women are likely to live longer (Eurostat, 2010). According to the statistics, it is possible to observe a systematic relationship between educational attainment and mortality meaning that at any age, life expectancy is lower amongst persons with a lower educational attainment and higher in better educated groups (Eurostat, 2010). In fact “mortality, health and the age that people die at are strongly influenced by socio-economic factors such as educational attainment, employment status and income level” (op.cit.).

This scenario will have a significant impact in our lives. As a matter of fact this represents an increased burden on those of working age to provide for the social expenditure required by the ageing population for a range of related services. However, one must be aware that this ageing population has
specific characteristics and cannot be compared to the same kind of population at the end of the 19th century. Nowadays, someone on his/her 65 or 70, although already retired, can still be healthy, energetic, dynamic and disposed to learn and contribute to the society as someone in his/her 40’s. We can say that they are still active, willing to spend their last years doing things, visiting places, meeting new people, and why not, using technology. This means new challenges for those dealing with the relationship and interaction between human and technology. What are the needs of this older population? What kind of technologies and services do they need and expect? How can technologies and services be adapted to them? And how can they learn the necessary skills in order to use the technologies and services? These are some of the questions that arise when we think about this binomial. Furthermore, as people get older, the figures for digital exclusion get also higher. This means that older people do not use technologies or have access to information as much as younger people. How can this situation be reversed?

**Some Projects and Initiatives**

There are already some projects and initiatives in order to promote the digital inclusion of older people. The following list is not exhaustive but allows us to have a picture of the situation in Europe.

- **EU-Project “Mapping Existing Research and Identifying Knowledge Gaps – MERI” in 2003 and 2004 (Austria):** This project focus on the situation of older women in Europe: gathering more knowledge about their specific living conditions and problems, improving the empirical foundations regarding their condition for scientific works and raising awareness of their situation among a broad public.

- **The activity programme “FIT and ACTIVE in old age” - especially for older people to train their cognitive, motor and sensory competencies (Austria):** It is an accepted fact among gerontologists that active use of the body, mind and senses protects people from premature ageing, and that even very old people, whose mobility is already restricted or has been completely lost, can regain their physical mobility with appropriate activity and can also improve their mental performance and employ their senses more consciously.

- **Seniors at the computer (Austria):** This project was created in cooperation with the Hernals region. Here, pupils help seniors to get rid of worries about using the computer while learning to be patient at the same time (http://www.informatikhauptschule.at/projekte/senioren/seniormain.htm)

- **ADD LIFE (Czech Republic):** This project means ADDing quality to LIFE through inter-generational learning via universities („Den Jahren Leben geben durch intergenerationelles Lernen an Universitäten“). The partnership has been established in order to create new offers for senior learners at university level and in an intergenerational learning setting.

- **Internet connects the generations (Czech Republic):** This project is a part of an EU project that supports the active life of seniors and has been financed by the PHARE programme. It has been organised by the school in Vrane and Vlatavou. Here, pupils of this Elementary School teach older people in the computer classroom. During ten hours (ten evenings), seniors learn Email, Word and Internet use. Both pupils and older learners gain intergenerational experience (http://www.ucitelskennoviny.cz/obsah_clanku.php?vydani=05&rok=05&odkaz=internet.htm)

- **EuCoNet Club (Spain):** EuCoNet Club - European Computer Network Club – this is a self-help initiative for introducing ICT skills developed at U3A University of Alicante, Spain from a Grundtvig learning partnership of the same name.
• **Teaching Basic PC Skills – an Alternative Approach (Slovakia):** *Teaching Basic PC Skills – an Alternative Approach* – is a course developed by the Library Dept. of Comenius University in Bratislava, Slovakia for teaching ICT skills to older people using open source applications and targeted training.

• **TownStories (Germany):** This is a Grundtvig learning partnership coordinated by Heimatmuseum Treptow, Germany, with self-directed virtual cooperation and face-to-face seminars aimed at enhancing creative writing, foreign language skills and cultural competence.

• **G&G - Grandparents & Grandsons (Italy):** *G&G - Grandparents & Grandsons* – is a European project from the eLearning program with an intergenerational approach to teaching ICT skills by young volunteer trainers, developing methods and materials, coordinated by the EnAIP FVG, Italy.

• **GERONET (Finland):** *GERONET* – is a project with much experience in teaching basic ICT skills in various locations in Finland, peer teaching models with target group-related methodology and tutor training, developed by UTA Jyväskylä, Finland.

• **SoLiLL – Self-organised Learning in Later Life (Germany):** *SoLiLL – Self-organised Learning in Later Life* – is a Socrates project exploring cooperative learning in virtual groups, developing methods for learning and virtual communication in international context, coordinated by ZAWiW, Ulm University, Germany.

• **TVL - Technical Basis for Virtual Learning (Germany):** *TVL - Technical Basis for Virtual Learning* – is a step-by-step moderated virtual course in online communication skills from ZAWiW, Ulm University, Germany, preparing for participation in thematic online courses AVL – Applied Virtual learning.

Finally, we would like to present the project

• **“Intergenerational ICT skills”:** This Grundtvig partnership was a unique opportunity to discover the potential of activities which help seniors to acquire ICT skills within the context of non-formal educational activities. The aim of the project was to find good practice in ICT learning possibilities for seniors and intergenerational learning examples. In the next paragraphs the most important results obtained and lessons learned in this project will be summarized. They can serve as inspiration for future work. But before that we ask ourselves,

**Why Intergenerational?**

Intergenerational means a relationship between two different generations where both learn from each other. An intergenerational learning is a process of storytelling, through which individuals acquire skills and knowledge, but also attitudes and values, from daily experience, from all available resources and from all influences in their own life worlds (EAGLE, 2007). It can be described as a process of a “by the way learning” while doing interesting things with interesting people.

What are the motivations among seniors to learn ICT?

There are several reasons to start learning ICT. The reasons may be individual and they often differ very much from person to person. They can be related with everyday life, entertainment, social activity, access to information, just to name a few. This variety of needs should always be taken into consideration before designing the contents of an ICT course for senior learners. The items listed below might be helpful while creating the structure covering different topics within one course.
• Interest in new inventions and machines
• Curiosity and more free time available after retirement
• To communicate with children, other family members or friends abroad that cannot be visited so often
• To present their own products (stories, pictures, products)
• To buy (books) and sell (e-Bay)
• Forced by circumstances (left a widow or widower)
• Tragic experience – car accident, etc. - need of sharing with people with similar story
• To do administrative work avoiding personal visits and standing in a cue at the office
• Post-production of digital pictures, scanning of pictures
• Looking for new friends
• Substitute for TV, radio or newspaper – news and newest gossip
• To look for information about hobbies – discussion boards, clubs, groups of interest, etc.
• To look for a new partner on-line
• To look for everyday practical information (train departure, menu in ones favourite restaurant, etc.)
• Medical interest – doctors, alternative medicine, health care web pages, etc.
• Professional interest – research
• Self-esteem

What are the benefits that both actors (seniors and juniors) would receive while engaging in this relationship?

Assumptions of the Juniors

Strengths

Many youngsters are curious about the life stories of their parents or grandparents. They also have great knowledge about the newest technologies. And success in teaching seniors helps them raise self-confidence. Moreover, some young people already have some teaching experience which helps them to avoid mistakes and understand the needs of seniors. Additionally, one can transfer certain competences from the older technologies to the new ones. For instance, some older people know how to type quickly at a typing machine. And this technical knowledge can be used in the new learning situation. Finally, in case of “a teacher from the family” one can easily laugh about the success and mistakes without being afraid of public embarrassment.

Weaknesses

Young people are often not patient enough and this lack of patience can be perceived as arrogance. Moreover, young family members are not available all the time, in particular when seniors need their help.
Opportunities

The interest in photographs from the past can be a good base for storytelling and the learning process. The interest in “how did people handle everyday problems without ICT technologies” is another good base for the story telling and learning process. These activities raise awareness about the meaning of intergenerational learning and its benefits on both sides. Such a learning cooperation can be an interesting supplement to usual family activities (or a substitute if there are not enough activities). It might make the communication flow within the wider family work. For instance, it is common and easy to share ones’ mood with the grandmother on Facebook.

Threats

The youngsters have different values which might cause misunderstandings during the ICT lessons. Many seniors have plenty of other activities which fill their time and which seem more important to them (hiking, meeting friends, etc.). There are certain family patterns which might influence the motivation and process of teaching (too honest reactions, hidden motivations projected into the lessons, power and role games, awareness of a secure relationship and therefore less motivation to hold on to the end). Another threat is the stereotypical image of “the right” role of a senior in the family and in the world (seniors should devote their energy to the needs of children and grandchildren). Finally, technologies develop faster and faster which might depress the seniors and create even bigger gap between them and the juniors.

Assumptions of the Seniors

Strengths

Affordable prizes of the computer equipment. Technologies are simpler every day. Rising offer on ICT courses for seniors. Post office services become more expensive. This means that stamps and envelops are more expensive and nobody answers a written letter; there is much more probability to get an email answered. Wide options of PCs and internet are a source of strong motivation:

- Comfort in doing diverse things at home
- Contact with people who live far away or cannot see each other
- Wide range of self-expression
- Creative satisfaction
- Possibility of sharing experience and opinions, etc.
- Experience of mastering computer makes the users more self-confident and brings a new “kick into life”

Weaknesses

The software is still not intuitively manageable. Sometimes, it is in English and seniors don’t know if it is possible to get a version in their language and how to do so. Clear guidelines with translation of the most common ICT abbreviation are missing or are not easily available. At some places there are still not enough competent and motivated trainers. Many seniors don’t know where to look for computer
courses. And not all courses are for free. Also, there is a media support stereotypical image of a senior as a person who is too old and not enough skilled to manage ICT. They still present a dynamic senior who uses the mostly modern technology as an exception.

Opportunities

Many seniors don’t feel old and the stereotypes in the society are slowly changing. A friend of a neighbour who manages his or her life from the comfortable armchair at home is a motivation. It is possible to train the trainers in a better way and make it possible to avoid prejudice and anxiety of seniors. The content motivates to master the form (If I want to satisfy my needs and hobbies I have to learn how to find it). Internet and PC fulfil an important need of expressing stories and experience, which in different ways is very important for the seniors. Internet and PC is a potential tool for conservation of knowledge and life experience. Finally, internet is an anonymous place where seniors can try out completely new things or identities.

Threats

Primal demotivation (I am too old, too stupid); Family patterns (I am the one who is always right and my child won’t teach me what to do); Loss of motivation after the first unsuccessful try; Psychical barriers to bother children or grandchildren with requests; There may be arrogant or incompetent trainers; Experience of embarrassment in front of other course participants; Life bitterness in general; Internet as an anonymous space can be a source of frustration and negative experience (rude people).

Benefits of Intergenerational ICT Learning

There is a variety of positive influences intergenerational learning can have on relationships within the family and on personal development and growth as well. In the process of learning from a younger family member and, on the other hand the commitment to teach a family member are important messages on the relationship level. Both of them mean “I want to spent time with you. I want to help you or I want you to be the one to help me”. These aspects should not be underestimated not only by the parents but also by teachers, trainers and all other experts involved in the educational system. Intergenerational cooperation should be more supported and included into the system of little projects and homework. The benefits can be divided into following basic levels:

Intrapersonal

The junior can experience the feeling of being useful and helpful while the senior can experience the acquaintance of new competences

Interpersonal

Primal benefits are ICT skills for the senior and life stories for the junior. Secondary benefit is consolidation and deepening of the relationship and possible motivation for other activities
Family Level

Members of different generations spend some efficient and creative time together. The family history will be conserved for next generations

Society Level

Learning from a family member comprises of many emotional elements which can facilitate the learning process and be a source of additional knowledge to the facts learned at school. This way of making and preserving stories is an important way how to retain different points of view or different interpretations of a certain historical period as a source for critical discussion and broadening of one’s perspective.

Finally, I would like to leave here some recommendations to set up an ICT course for older people:

• Inform seniors about all possible benefits of the ICT education
• Hold the courses in small groups (maybe a few friends)
• The biggest competence of the trainer is patience and tolerance to different values
• Be sensitive towards to the complexes of the seniors
• Stress all immediate benefits after mastering certain competences
• Praise each new competence
• Motivate to train some skills everyday
• Create a table of important abbreviations in a practical format
• Think about the possibility of private lessons at senior’s home for disabled people
• Teach one competence from diverse points of view so that seniors can become aware of various ways of using it
• Involve the course participants into little simple projects and team work
• Let them create - seniors love to write about their life experience
• Respect the variety of different hobbies and fields of interest
• Train the trainers

Learning in Reverse – Life Stories

Intergenerational learning always means a two-way process. This is a process in which both participating parties win and learn something new. Besides the ICT profit and new skills learned by the seniors, the main benefit for the juniors of the bilateral cooperation can be cultural and social learning realised in the way of storytelling. Within the Intergenerational ICT skills partnership the seniors became special story tellers; suddenly they were not only grandmothers, aunts or mothers any more. Now they were the treasure stories which happened decades ago. The change of attitude was obvious and juniors made a unique experience as they mentioned in evaluation interviews at the end of the project. Often they joined the project out of curiosity and none of them expected so much fun and such a deep emotional journey to the past of their older relatives. The stories themselves are a part of the project website and they can be found here www.intergenerational-ictskills.eu.
CONCLUSION

The *International Journal of Technology and Human Interaction* is concerned with research that explores the link between people and technology. Being the technology present in all the dimensions of our lives, it is natural that all sorts of disciplines can contribute for this publication. Besides that, one acknowledges that intergenerational learning might be a solution to overcome some of the problems related with senior learning of ICT. Storytelling and non-formal learning contexts can be enablers of ICT learning, promoting lifelong learning and avoiding digital divide.

*Anabela Mesquita*

*ISCAP / IPP & Algoritmi Research Centre, Minho University, Portugal*

REFERENCES


