EUROPEAN COMMISSION
Information Society Directorate-General and Media

ICT addressing Societal Challenges
ICT for Inclusion

Brussels, 18 March 2008
PB/Rie D(2008) /

Subject: FP7 consultation by ICT for Inclusion on 28/29 April 2008, Brussels

Dear Colleague,

In the context of preparing for the ICT work programme 2009/10, we will organise a two-day consultation meeting on April 28-29, 2008. The meeting will be held in Avenue de Beaulieu 25 – 1160 Brussels – Room S1. The two days will be dedicated to the following topics:

April 28, 2008
- Augmenting human capabilities through brain/neural computing interaction
- The virtual user simulation and validation

April 29, 2008
- Systemic solutions for Ageing Well introducing the integration of service robotics

The objective of both days will be to discuss current trends in research and applications and to provide strategic guidance on how to shape future research objectives in the above domains. The two days are organized individually.

The participants are expected to contribute to the discussions and to elaborate on the structure and content of possible future RTD work related to the above areas. The outcome should provide valuable input to the new WP2009/10, which will be published at the ICT2008 conference in Lyon (for further information see http://ec.europa.eu/information_society/events/ict/2008/).

Please find a preliminary agenda enclosed. For organisational reasons pre-registration not later than on the 21st of April is highly recommended since the seats are limited. Kindly send your confirmation to paula.ranne@ec.europa.eu (tel: +32 2 29 742 85). If you have any comments or you need more information, please do not hesitate to contact us.

Best regards,

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Head of Unit

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AGENDA

Monday, April 28, 2008

Consultation on
Virtual User Concepts //
Augmenting Human Capabilities

FP7 ICT WP2009/10 – Bu 25 0/S1 – Avenue de Beaulieu, 25 – 1160 Brussels

- 09h30 Welcome and FP7 introduction Head of Unit, Dir. H
- 09h45 Round of presentations
- 10h00 WP2009- the current state of play
- 10h20 Key note: BNCI Research and Human Augmentation
- 10h40 Key note: Methods for user simulation and validation
- 11h00 Coffee Break
- 11h20 Split into two groups
  (1) Open discussions incl. presentations on user simulation/validation
  (2) Open Discussions incl. presentations on BCI/Augmentation RTD
- 12h30 Lunch Break (1h)
- 13h30 Split into two groups (continued)
- 15h00 Coffee break
- 15h15 Summary for each sub-group, plenary discussion.
  Some suggested topics:
  - Inventory of areas and domains to be covered in RTD
  - Factors of exclusion for elderly people, key services
  - European stakeholders, critical mass
  - Expected Impact
  - Targets and ambition of possible proposals
- 17h15 Conclusive remarks – Wrap up rapporteur
- 17h30 Closing

AGENDA

Tuesday, april 29, 2008

Consultation on
Service Robotics for Ageing Well

FP7 ICT WP2009/10 – Bu 25 0/S1 – Avenue de Beaulieu, 25 – 1160 Brussels

- 09h30 Welcome and FP7 introduction Head of Unit, Dir. H
- 09h45 Round of presentations
- 10h00 WP2009- current state of play
- 10h20 Key note: Robotics Research
- 10h40 Keynote: Service Robotics Applications
- 11h00 Coffee Break
- 11h20 Presentations of participants / Open Discussion
- 13h00 Lunch Break (1h)
- 14h00 Presentations of participants / Open Discussion (Continued)
- 15h00 Coffee Break
- 15h20 Plenary discussion. Some suggested topics:
    - Inventory of areas and domains to be covered in RTD
    - Factors of exclusion for elderly people, key services
    - European stakeholders, a critical mass
    - Expected Impact
    - Targets and ambition of possible proposals
- 16h20 Conclusive remarks – Wrap up rapporteur
- 16h30 Closing

Rationale ICT restoring and augmenting human capabilities

From novel sensing towards new interaction and control paradigms

The emergence of new types of human computer interfaces (e.g. natural language processing, eye tracking and brain computer interaction) contributes to enhancing the accessibility of ICT devices for elderly and disabled. Future research could benefit from radically new ICT-enabled approaches to restore and augment the ability of people in their daily life in order to help overcoming hearing, vision, cognitive or motor disabilities.

Advances in non-invasive sensor and actuator concepts for brain/neuronal-computer interaction (BNCI), smart bio-sensors as well as electronics miniaturization, wireless communication, advanced control and signal processing could drive the penetration of brain/neural computer interaction in an ever broader range of applications. The purpose of the workshop would be to identify major challenges such as system design, programmability, customization, set-up and maintenance, predictable operation, safety, privacy etc.

Beyond the control of the cursor on a computer screen, the combination of multi-modal interfaces including BNCI, eye tracking, EMG switches, multi-channel FES, or bio-neuro-micromechanical activation (e.g. by means of exoskeletons) is expected to drive a large number of divers applications, and may lead to new user interaction paradigms. Its implications are massive, opening the possibility that one day people will be able to interact and control everything with an electronic interface through a natural interface tuned to their individual brain/neuronal capabilities.

Market evolvement is an important element, with crucial differences between markets for home automation, home appliances, home care, health and rehabilitation. However, market up-take could largely take advantage from mainstreaming technology advances that could be leveraged by the interest from the entertainment and gaming industry. The fact that an advanced fancy user interface can also be used for computer games would benefit from the dynamics of a most innovative and competitive market, with each company attempting to move a step ahead of its rivals through cutting edge technology (for example, witness the success of wireless control of Nintendo Wii).

Participants are invited to actively contribute to the workshop by addressing in their statements any radical new approaches that could encompass possible technology barriers and roadblocks to move BNCI from pure sensing to control and to allow wide spread market up-take.

Rationale Virtual user simulation and validation

ICT provides a major opportunity to integrate people at risk of exclusion and empower individuals to fully participate in the knowledge society. Currently people at risk of exclusion represent the most challenging users of ICT, leading to solutions that are often useful for all and add value also to commodity products.

The objective of the workshop is to explore opportunities to respond to these trends by 1) mainstreaming and 2) radically improving the accessibility, usability and cost-efficiency of new converging ICT products and services. Resulting ICT solutions should ensure a better adoption and acceptance of emerging ICT by people with disabilities, functional limitations or lacking digital competences, and may have a large spill-over effect to the wider society.

The workshop should explore how future ICT should meet user requirements and achieve wide acceptance, even before ICT products and services are developed. Any new approaches and opportunities should target support for developers in deeply embedding generalized accessibility support within future mainstream ICT-based products and services. This could be pursued through methods and tools based on computer simulation and a-priori validation of user interaction with stronger focus on the use of virtual environments, realistic user modeling and new interaction paradigms on the basis of the "virtual user" concepts (e.g. 3D, virtual, augmented reality). The area of early Embedding Accessibility of Future ICT could be extended beyond ICT application platforms and operating systems to cover accessibility through multi-media content authoring and convergence aspects.

The work shop should address possible significant improvements of ICT design for accessibility that should result from virtual user simulation and validation.

Rationale SERVICE ROBOTICS for Ageing Well

Improving the quality of life for Europe's increasingly elderly population is one of the most pressing challenges facing our society today. Innovative solutions in service robotics present opportunities to find new responses to the ageing challenge allowing people to be more independent at home, enhancing their quality of life as well as creating economic and business opportunities for an emerging technology area in Europe. Envisaged services should addressed by the workshop that clearly add value by assisting people and carers in their daily activities, thus prolonging independent living as well as facilitating the productivity of an ageing work force.

The area of service robotics has experienced considerable progress targeting autonomous, self-learning robotics solutions. Major questions still arise how the flexible integration of advanced yet mature robotics systems in a home or work environment can be adapted where necessary to meet the user requirements and to demonstrate user-robotic interaction and inter-working with other home and care services.

The research area is about progress in cognition and intelligent systems able to learn from experience and to adapt themselves to context and user states as well as the emerging maturity and viability of service robotics as a promising basis for independent living solutions. Envisaged solutions for Ageing could cover all relevant aspects of daily life at home, for instance, to allow sharing contextual information with other artefacts in the surroundings, navigation in unknown spaces, precise manipulation of relevant objects, and easy deployment of modular, scalable and highly interoperable applications and services.

WP2009/10 Workshop
ICT for Inclusion
Brussels, April 28-29, 2008

Registration Form
Please e-mail this form to paula.ranne@ec.europa.eu until the 21st of April.
The workshop is free of charge but registration is required.

Name, title	
First Name	
Address	
Organisation	
Street & Number	
Postal Code & Town	
Country	
Telephone	
Fax	
E-mail	
Which session do you wish to participate on the 28th of April?	☐ Virtual user concepts ☐ BNCI / Augmented Human
Do you wish to participate on the 29th of April?	☐ Service robotics for Ageing Well
Do you wish to give a brief presentation?	☐Yes If yes, addressing which topic. ☐ No
I agree that my e-mail address may be included in the list of participants.	☐ Yes ☐ No