

Human-Computer Confluence

ICT-2009.8.4, a FET proactive challenge in FP7 Call 5

- Budget: 15 M€
- Funding schemes: Integrated Projects only
- Web page on Cordis:
http://cordis.europa.eu/fp7/ict/fet-proactive/hcco_en.html
- Background documents:
ftp://ftp.cordis.europa.eu/pub/fp7/ict/docs/fet-proactive/hcco-02_en.pdf

ftp://ftp.cordis.europa.eu/pub/fp7/ict/docs/fet-proactive/hcco-01_en.pdf



Human-Computer Confluence Origins

- ‘Beyond-the-horizon’
 - Thematic Group 1: ‘Pervasive Computing and communication’, (March 06)
- Topical workshops
 - ‘Human Computer Confluence’, (Nov. 07).
- Public consultation, ISTAG FET group, ...
- related FET proactive initiatives in FP5 and FP6:
 - Presence I and II
 - Neuro-IT (eg ALG, Bio-I3)



Human-Computer Confluence rationale

- Today we have to assimilate massive amounts of data, and there is an ever increasing demand to expand this
- This objective seeks to find new methods of perception so that we can interact with large volumes of data in as natural a fashion as possible, and without undue stress.
- Methods for blurring the perceived boundaries between the real world and associated virtual artefacts are one aspect of this.



Human-Computer Confluence objectives

- **HCC researches new modalities for perception, action and experience in augmented virtual spaces, delivering unified experiences involving radically new forms of perception/action.**
- **proposals should address at least 2 topics from:**
 - **Perception and interaction with massive amounts of data (topic 1)**
 - **Seamless merging of real and virtual worlds (topic 2)**
 - **New forms of perception and action (topic 3)**



Human-Computer Confluence research topic 1

Perception and interaction with massive amounts of data

- New methods for “interfacing” with human senses so that large amounts of data can be communicated and understood.
- Could involve 1 or a combination of “normal” senses, or approaches using neuroprosthetics or brain-computer interfaces
- **Interaction:** a 2-way information transfer to aid data exploration is foreseen



Human-Computer Confluence research topic 2

Seamless merging of real and virtual worlds

- **New methods for removing perceived boundaries when a combination of virtual artefacts and the real world are involved.**
- **New methods for natural (life-like) interaction with virtual artefacts**



Human-Computer Confluence research topic 3

New forms of perception and action

- **Demonstration of new ways of perceiving (new senses) and interacting with the real world or virtual artefacts**
- **Involves using a novel combination of senses, possibly in conjunction with brain-computer interfaces**
- **The new “sense” should reinforces existing senses to augment awareness in virtual spaces**



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Expected impact

Better understanding of how sensory information is delivered to, and interpreted by, the brain

New methods and tools to merge real and virtual spaces

New ways for people to understand and interact with massive amounts of data



NCP meeting Brussels 12 May 2009

Julian Ellis, FET proactive



European Commission
Information Society and Media



Human-Computer Confluence interdisciplinarity and ethics

- **The topics in this objective require close collaboration between researchers in many disciplines from both technological domains and the life-sciences.**
- **Proposers should carefully read the “Guide for Applicants” before writing a proposal.**
- **Particular attention should be paid to the sections dealing with ethical issues.**



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