

# Computers in the Human Interaction Loop make everybody's daily life easier



It is a common experience for all of us to be overwhelmed by the complexities of technological artifacts, and by the attention they demand. Although technology provides wonderful support, it also gives rise to increased distraction and preoccupation with technology itself. But as humans we would rather attend to the dialog and interaction with other humans, than to controlling the machines that serve us.

Project CHIL (funded by the European Union under the 6<sup>th</sup> Research Framework Programme) turn the old human-machine paradigm on its head: Rather than humans attending to machines, we build machines that attend to humans: we put Computers in the Human Interaction Loop (CHIL). Much like a human butler, these machines are designed to provide personalized services proactively, discretely, and with minimal interference. Examples of such services are:

**The Connector:** A communication device that connects two people at the right time using the best media, bypassing phone-tag, rudely interrupting ring tones, and

wasted time to connect. How is it done? Perceptually aware computers judge the activities, environments and social relationship between two parties and connect when suitable.

**The Memory Jog:** A service that provides memory assistance during meetings. No more embarrassment forgetting your colleagues names or affiliations, or the key points from missed meetings. The memory jog maintains meeting records and serves up relevant info based on its understanding of participants' activity, identity & interaction. Personalized information is requested & provided with privacy and discretion via targeted audio speakers and silent speech input.

**Relational Report:** A service that evaluates participants' effectiveness in group meetings. Your meeting room is coaching you! Multimedia reports about relational behaviour are privately delivered as part of an automatic coaching system. An organization benefits from strengthening team effectiveness by improving participants' awareness and social skill during group activities.

**Collaborative Workspace:** A service to foster cooperation & communication among meeting participants. The Collaborative Workspace enables discussion, making ideas available on shared workspaces. The system could also monitor/manage the agenda and topics.

**Simultaneous Translation of Lectures:** Simultaneous translation to overcome the linguistic divide. Building on developments under the EC-Integrated Project TC-STAR, automatic translation of speeches now becomes possible. In the lecture translation service English lectures are recognized & translated into Spanish in real-time, and delivered individually via targeted ultra-sound speakers or "translation goggles".

CHIL services are only possible by way of considerable improvements in perceptual user interface technologies and an integrated service design. Perceptual technologies understand human-human interaction (who, what, where, whom and how) and thus enable human context aware computing.

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**To probe further:**  
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