

# Foreword

The Human Touch: Reflections on  $i^3$

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## The Machine-centred Mind Set

At the Chicago World Fair of 1933, the official motto was: “Science Finds – Industry Applies – Man Conforms”. To many of us today this seems quite shocking, yet it has been the driving force of much development in the last century.

In particular, if you look at the rise of computing over the last 50 years, you will see that, on the whole, development has been extraordinary, but fairly straightforward: it can be characterised as trying to make “faster and faster machines fit into smaller and smaller boxes”.

Starting from the time of the ENIAC, one of the colossal computers of the 1940s, most IT progress has been driven from the point of view of the machine. Since then things have changed – but perhaps not really that much. Even if computers can today calculate many times over what was possible a few years ago, and the machines have become somewhat less obtrusive, much of the “mind set” has stayed the same. It is the visions of huge calculating machines spanning massive rooms, trying to recreate an absolute artificial intelligence, that still haunt much of the thinking of today.

Clearly, it is difficult to shake off old mind sets.

## Alternatives

Alternatives to the idea of fitting computing into ever smaller boxes can mainly be attributed to Mark Weiser. In his paper, “The Computer for the 21st Century”, he outlined notions of how computing could become integrated into the fabric of everyday life by becoming completely distributed into the environment. In this way computing would become “ubiquitous”. More recently, similarly inspired work on “tangible media”, by Hiroshi Ishii has emerged from the MIT Media Lab. Apart from this, the technological revolution of GSM and the mobile phone has also had its share of making information technology come out of its “traditional shell”.

Alternatives to the machine-centred view to computing were also starting around the same time, such as the “anthropocentric” ideas proposed by Mike

Dertouzos at the MIT Computer Science Lab; and in a similar vein, cognitive scientist, Don Norman has been pointing out the lack of well-designed information environments.

Roughly at the same time, but from a different perspective, we started thinking about how to give technology more of a “human touch”. Now, in principle, this should not be that difficult, as technology is after all, made by humans. In practice, however, one has to go quite far to break down the machine-centred and box-centred ways of thinking.

We decided that the only way to attack the problem with any significance was to try to invert the picture completely – that is, to start thinking from the human point of view and work outwards. Our idea of “human centredness” was that it should nurture technological innovation but within a broader context of human values and aspirations. This was not the same as “user” driven, or “defined by user needs”, all of which tend to become stuck in improving the status quo, but not growing beyond it. At the same time, we also wanted to make sure to break out of the box-centred ways of thinking as much as possible and avoid doing “traditional HCI”, which was mainly involved in improving computers as they were.

Our ideas were designed to balance questions of technically “how”, with questions of “why?” and “what for?”. And the aim was to see if we could start restoring the balance between people’s inventiveness to make new machines, with the essence of being human. Our questions became rather: How can we reach a better and more fulfilling balance between technology and people? What could be new ways of thinking about the problems? What could be the new paradigms that could lay the paths for further research and development?

## The i<sup>3</sup> Research Programme

It is along these lines that we launched our first call for proposals back in 1995. Our general aim was to look at the relationship between people and information technology in the future: how could people access and use information, and exchange things with others using information technology as a medium?

A clear break was needed to get out of stale thinking. Therefore, we called for new *paradigms* of interaction and research on new interfaces between people and the world of information. We also asked how such work could intertwine human, societal and technological elements into one dynamic research activity. One of the main quotes from our call for proposals was:

The goal of i<sup>3</sup> is to research and develop new human-centred interfaces for interacting with information, aimed at the broad population (1996).

To help define a specific research agenda, we first had a competition for more specific visions of the future. “Connected Community” and “Inhabited Information Spaces” were selected as the two visionary themes on which we based a subsequent call for research projects. Even though it took some time

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to have an extra layer of calls for proposals, in retrospect it was better to “reculer pour mieux sauter”.

The two selected themes had similar yet contrasting underlying philosophies. The Connected Community theme, proposed by a team headed by Irene Mac William (Philips Design, Eindhoven) and Marco Susani (Domus Academy, Milan) asked: forget about virtual environments and trying to fit people into some artificial world – how can we help people in their everyday environment, and integrate technology into this? The idea is to understand how information and communication tools start making a difference when they are embedded in a real context, and start being more meaningful for actual people and communities. How can technology enhance these environments and activities, rather than replace them?

The other schema, Inhabited Information, proposed by a team headed by Tom Rodden (University of Nottingham) took a slightly different perspective. It stated: the Internet and the Web already represent a suspended reality, and people want to participate more in these spaces. Given that this is a reality, how could it evolve in the future? How could we make it more accessible to the broadest possible public, and make it socially interactive for large groups of people, in meaningful ways? And in similar spirit to the first theme, how can such environments link to the physical everyday world rather than be removed from it?

At a later stage, we decided to supplement the research with an emphasis on learning. We wanted to explore new relationships between learning and technology. The idea was that a lot could be learnt about designing new interfaces by looking at how children interact, play and learn. Similar ideas had been experimented in a Lego context by Seymore Papert of the MIT Media Lab. In 1997, we decided to have a call on experimental school environments (ese). This centred around learning for very young children, in fact, the 4–8-year-old age range. This age range struck us as being particularly challenging because at this stage children don’t have too many of the adult preconceptions of the world, and are still open to new things. Young children have a different kind of “language” – a form of communication and expression from which adults can learn a lot. From this we wanted to gain insights about how to design meaningful interaction tools for the population at large. The header of our call was:

The aim of i<sup>3</sup>-ese, is to research new kinds of IT-based tools designed to enable new approaches to learning, focussing on the age range of 4 to 8 (1997).

From each of these programmes we selected a number of individual research projects. Together these spanned many universities, research centres and companies across Europe, and involved a mix of people from many walks of life – artists, designers, computer scientists, game companies, technology companies, experimental schools, teachers and children, people in communities, etc. At the same time all these different outlooks were united by the common vision: of exploring new relationships between people and technology.

## Grains of the Future

In this book you will find some examples of work in particular from the Inhabited Information Spaces Grouping. It is interesting to see how some of these ideas are still “futuristic” and others have started to become part of mainstream thinking and made their way into products.

Some people say that you can find “grains of the future” in the present today – the only problem is, where do you start to look? One of the potential advantages of this book is that by looking at the research developments stretching out into recent past, one can identify how some grains developed into trends of the present, and other are still just emerging.

For those still interested in seeking out “grains of the future”, this book will be a valuable source.

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Jakub Wejchert grew up in Ireland, with a family background of artists and architects, of Polish origin. He studied natural science at Trinity College Dublin, specialising in physics, and holds a doctorate (modelling of non-linear networks) from the same institution. Later he worked in the USA with IBM research, working on computer graphics and interface design. He joined the European Commission in 1992. At the Future and Emerging Technologies unit, he set up and managed a number of research programmes such as i<sup>3</sup> – intelligent information interfaces; i<sup>3</sup> – experimental school environments; and the “disappearing computer”. He now works as an advisor on vision and strategy to one of the Directors in the Information Society Programme. Jakub lives in Waterloo, south of Brussels, with his wife and three sons.

The opinions expressed here are those of the author and do not necessarily reflect the position of the European Commission.

Inhabited Information Spaces

Living with your Data

Snowdon, D.N.; Churchill, E.F.; Frécon, E. (Eds.)

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