

ELSNET EDITORIAL SEPTEMBER 1993
DRAFT

The ELSNET Research Task Group's Strategy Paper proposes a research strategy which covers the middle ground between commercial product development and open-ended basic research. The strategy is called 'technology-driven' research. To IT research politicians, this must be plain wrong since research should, on the contrary, be 'user-driven'. Here are some afterthoughts linking research in HCI and in speech and language.

A somewhat partisan view of recent developments in the field of Human-Computer Interaction (HCI) research goes like this. Until about 1990, many researchers came to the field reasoning as follows: 'HCI has been recognised as being crucial to the development of usable IT systems. Since HCI can be seen as cognitive science writ large, so to speak, involving the interaction between IT systems and entire human cognitive systems of which rather little is known, and as my work concerns some aspect of human cognition, my research is as relevant to HCI as everybody else's'. Alas, in the '90s such researchers find themselves out of their (HCI) job because they did not deliver generalisable results which could be fed into improved IT systems design. HCI has now turned into a more mature applied science in which systems design needs impose their own requirements on the theoretical developments needed to support them.

In the language and speech area, just as in HCI, we find a large gap between the problems involved in incrementally improving the low performance of current systems and the open-ended agenda of basic research. In both areas, the goal of engineering usable systems is becoming a driving force in determining the agenda of theory development. Applied work no longer just sits there awaiting breakthroughs in otherwise unrelated basic research. Interestingly, in the language and speech area this process is heading towards partial fusion of the concerns of HCI and speech and language engineering: the latter now faces the challenge of building systems which not only incorporate increasingly intelligent functionality but are also usable from the point of view of the target end-users; the former always considered spoken and written language understanding and generation major factors in enhancing system usability.

In view of the above, the paradigm of developing theory to build the next generation of artifacts in some IT domain and demonstrate that they work with real users and tasks, seems to be a reasonable step forward. It fits the move towards more application-oriented ITT R&D in the EC's Fourth Framework Programme. Paradoxically, however, the paradigm may require both a longer time-scale, larger resources and a different and tighter organisation to implement in particular cases than is possible through standard, isolated three-year research projects. The promise, though, is that, if done properly, there will be less to worry about concerning end-user involvement, technology transfer and industrial uptake than in other known R&D schemes. Equally paradoxically, the paradigm is both technology-driven, user-driven, application-oriented and likely to generate new directions for longer-term research, but what is one supposed to call it?