Bavarian research & innovation

Forsip

Bavarian Research Cooperation for Situated,
Individualized and Personalized Human-Computer Interaction

"VIRTUAL ASSISTANTS" FOR EVERYONE

A paradigm shift in software development: people, with their desires and needs, are the focal point. Technology should detect intuitively what a person wants:

- as an individual personality (with preferences and dislikes)
- in different situations (at work or leisure)
- in different roles (as customer or managing director).

FORSIP's research field covers all the steps from detection of the environment and situation through to intelligent action and reaction of the system to the immediate requirements of its user. Intelligent computer systems are the goal. Systems that process images and language, from which they can reliably derive the best possible information about the user. Concepts that allow the system's reactions to be modulated on an abstract level for varying applications. "Thinking" databases must detect the preferences, the individual and situational wishes of the user, and make their electronic services available in a personalized form.

FORSIP's long-term goal is to develop individual modules that can be combined variously to form new applications. These modules must be able to detect and interpret different situations, diverse personalities and different personal features in various roles. On the basis of this complex information, they must be able to draw conclusions independently in order to react "correctly". And of course the user should be able to use these systems intuitively.
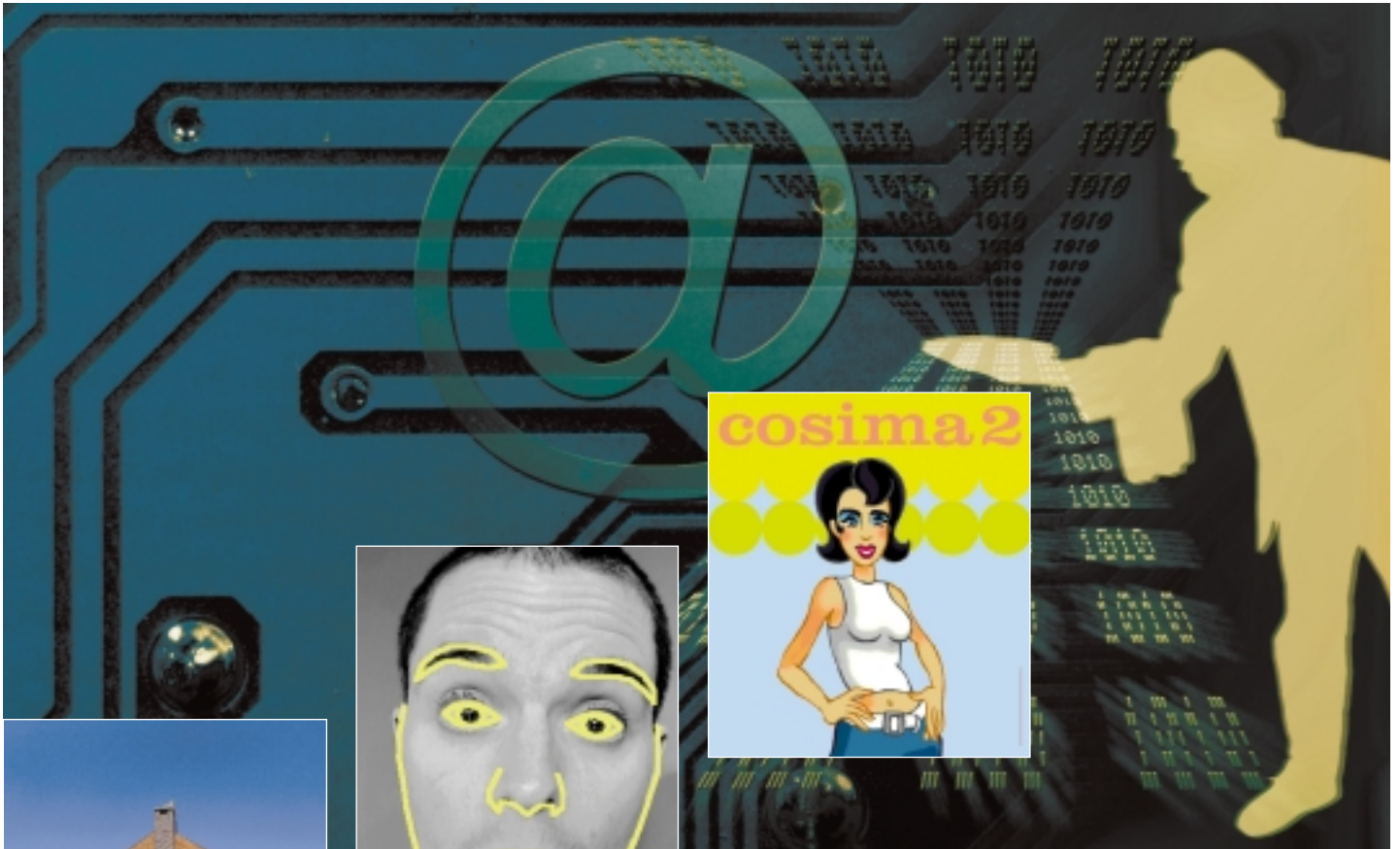

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RESEARCH TOPICS:

FORSIP is creating the scientific prerequisites for technology to meet human needs more appropriately and more individually, adapting to personal preferences, situations and roles. In this context, scientists are pursuing a holistic approach to man-machine interaction:

The **human environment** is detected through a variety of sensors (images, speech, keyboard, mouse, physical sensors etc.). This data must then be interpreted real-time in order, for instance, to detect locations or to determine emotions from gestures.

Human preferences and roles are modulated by situations and by individual personalities. Different roles and individual wishes, both at home and at work should be catered for as effectively as possible. Cooperative databases and search engines should provide better results.

Dialog with the machine is realized via talking avatars (personified Internet or software agents). These can express themselves convincingly, demonstrate emotions, and relate individually with the human dialog partner.

Autonomous software agents on the Internet give the dialog a more human character by reacting intelligently to the individual situation and the user's needs.

The innovative way of information processing in a more human-centered mode is being investigated. On the one hand, in **working environments** by modeling different roles, such as that of a controller, director or foreman, and in different company types, e.g. a medium-sized mechanical engineering firm or a global insurance company. On the other hand, customer-centered information systems are being used for investigations in the financial sector to model different types of customer (e.g. those who are willing to take risks, technology enthusiasts, those with a European orientation, investors or housebuilders) in order to improve relationships between customers and companies.

A new generation of products and advice systems will emerge from the research results, capable of detecting what their user wants and adapting themselves automatically to the current situation.

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