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## Pursuing enhanced communication with users

My research involves making computers easier to use. Communicating with a present-day PC still requires the user to interact with a machine. No personal computer offers users a natural mode of communication. Today's computers lack a certain something that makes communication natural to users.

## Using life-like characters and emotions

One of my research themes is developing an interface based on life-like characters. If a human-shape character appears on a computer screen and provides operating guidance, it helps achieve a more natural mode of communication with the user. By exercising ingenuity in designing gestures and facial expressions, I created a character that behaves almost like a human.

I think more profound modes of communication would be possible if we could understand user biosignals, like perspiration and body temperature, as well as eye movements, then design computer responses using that information. I analyzed eye movements and used the analysis results to understand the target of the user's interest. In my research, I asked people to select one of two objects presented to him or her. Using the method described above, I identified the item drawing the test subject's interest by examining the pattern of eye movements.

We can apply these technologies to various software programs, like e-learning, product presentations, and interactive entertainment.

## Toward automated presentations

I was involved in the research of artificial intelligence at the Graduate School of the University of Salzburg, but at the same time, I studied a wide range of academic fields, including psychology, linguistics, and literature. In 1998, I came to Japan to pursue research at the Ishizuka Lab at the University of Tokyo, which was headed by Professor Mitsuru Ishizuka, a foremost authority on life-like characters. In the field of informatics, active research also involves information extraction and search technologies. My research interest is how information obtained can be used effectively in presentations.

In the future, I'd like to develop a system that automatically analyzes information and uses it to make effective presentations. For example, if a news article describes two opposing viewpoints, this system would automatically give an effective presentation based on the text material by displaying on a screen two life-like characters expressing the two opposing viewpoints.

(Interviewed and summarized by Asako Murakami)