No frontiers: ushering in a new era of conferencing technology

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(PhysOrg.com) -- Poor image and sound quality is encountered all too frequently in the world of video and telephone conferencing, but powerful compression technologies are set to consign these problems to the past - even in the humble living room. At this year's IFA international consumer electronics exhibition in Berlin, Germany (September 4 to 9) Fraunhofer researchers will demonstrate the power and flexibility of these new technologies by holding games sessions in which players compete against each other via the Internet.

The TV program Jeux Sans Frontičres was highly successful in the 1960s and 70s. Several teams from different European countries competed against each other to demonstrate their prowess in various games of skill. Today, in the digital age, the program's English title, Games Without Frontiers, takes on a different connotation. Internet games bring people together from different countries, but in most cases the participants are not in direct contact in terms of seeing and hearing each other. The EU-funded project Together Anywhere, Together Anytime TA2 aims to change this situation.

Thirteen partners from seven countries have taken on the task of developing new technologies and concepts for simplifying and improving group communication via the Internet, e.g. by creating a situation in which participants who are a long distance from each other appear to be sitting around the same table. In our modern mobile world, people are moving all the time to different cities and countries for study- or work-related reasons. Many would appreciate the opportunity to enjoy

a [game](#) with their family or friends in the evening as if they were still at home.

One of the research partners in the project is the Fraunhofer Institute for Integrated Circuits IIS in Erlangen. The researchers there have the job of ensuring that the sound will be of high and consistent quality. To this end, they have developed the Audio Communication Engine, which consists of reciprocally-tuned components that vastly improve the sound quality and clarity of video and telephone conferences compared with present systems.

The key component in providing excellent sound is the MPEG Enhanced Low Delay AAC audio codec, which ensures low-delay hi-fi quality even at low bit-rates. An echo control eliminates troublesome echo so that users do not have to wear a headset and can move around the room freely. Sophisticated signal processing, which extends from enhancement of the microphone signals through to multi-channel loudspeaker reproduction, removes the barrier of distance between friends without incurring great installation expense. Moreover, the Fraunhofer scientists have already turned their attention to actual implementation by designing the technology for integration in TV sets, set-top boxes and hi-fi systems.

Visitors to the IFA international consumer electronics exhibition in Berlin will be able to experience the system's superb picture and sound quality - and even play games such as Memory, Battleships and Sorry! - at TecWatch technology forum in Hall 5.3.

More information: [EU-Projekt ta2](#)

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