



Personal hearing support in multimedia devices

Better hearing for more comfort and security

Consumer electronics and communication systems more and more merge into multifunctional multimedia platforms. Today, a strict differentiation between phone, PC or TV is not given any more. At the same time these multifunctional systems can be personalized by individual graphical themes, ring tones or additional applications – so called “Apps”, “Gadgets” or “Plugins”.

A special challenge is in the adaptation of the sound to the hearing ability and hearing sensation of the individual user. The Fraunhofer IDMT works on methods for the improvement of speech intelligibility and sound quality which can be adjusted by the user themselves and which adapt themselves seamlessly in recent multimedia systems (e.g., TV or smart phones).

Many principles of signal improvement, as for example noise reduction schemes or dy-

namic compression as they are known from the area of medical hearing devices, are applied. New questions arise from the influence of different loudspeakers or earphones as well as the acoustics. A central role plays the usability of user interfaces required to adapt the sound processing to the individual need without and with professional support, e.g., by an audiologist. At the same time it is important to examine and identify possible synergetic effects arising by the interlinking between different devices including the use of the Internet, e.g., in the areas of multimodal data fusion, distributed computing and the use of meta data. From this, the user can profit not only from a rehabilitative hearing technology integrated in the consumer electronics, but also from absolutely new technical possibilities.

The research and development in the combination of conventional audio devices with medical hearing support leads to new solutions and applications to support people of all age groups and with any hearing deficiencies in various hearing situations.

Fraunhofer Institute for Digital Media Technology IDMT

Project Group Hearing, Speech and Audio Technology
Branch Lab Oldenburg
Haus des Hörens
Marie-Curie-Straße 2
26129 Oldenburg, Germany

Contact Person
Dr.-Ing. Thomas Rohdenburg
Phone +49 441 2172-432
thomas.rohdenburg@idmt.fraunhofer.de

www.idmt.fraunhofer.de