

Mobile Multimedia Communication Systems and Networks

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Abstract

The MOTION project 'Mobile Multimedia Communication Systems and Networks' is a research program supported by the Belgian Science Policy Office through contract No. P5/11. The IAP-MOTION project focuses on next generation multimedia services and future Quality of Service (QoS) enabled mobile/wireless IP-based networks with reliable and bandwidth efficient wireless links. Novel concepts and generic technologies are developed for the support of future mobile multimedia networks, covering aspects from the application level down to the physical channel. The main topics related to applications are: software architecture for the negotiation between content providers and terminals using dynamic metadata, object-based, highly scalable wavelet video coding schemes and new display driver concepts. The main multimedia network related topics are: new data link, IP and transport protocols supporting mobility and providing QoS for fast moving portable devices in homogeneous and heterogeneous environments, QoS-enabled mobile ad hoc networks, traffic and performance models, queuing models. At the level of the physical channel, the following topics are studied: modulation and receiver algorithms for advanced modulation and transmission techniques such as MIMO (multiple input - multiple output), and innovative antenna designs such as smart antennas.

In this project 9 research partners from 7 Belgian universities (Ghent University, Université Catholique de Louvain, Université de Liège, Vrije Universiteit Brussel, Katholieke Universiteit Leuven, Université Libre de Bruxelles, University of Antwerp) have bundled their expertise at the different levels required for the development of future mobile multimedia communication systems and networks. The strength of the network resides in the close interaction of the partners within and between the different fields of expertise. Besides the research activities, the network also contributes to the training of PhD students, to courses in masters programs, to the organization of workshops, etc.

More information on the IAP-MOTION project can be found on <http://www.iap-motion.be/>.