

Title: Challenges toward Adaptive Behavior of Distributed Multimedia Systems

Lecturer:

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	17 February 2009
Time	16:00-18:00
Place	0-817 Dudich Endre

Abstract:

The multimedia community is pursuing, among others, the vision of Universal Multimedia Access (UMA). UMA denotes the concept that any multimedia content should be available anywhere, anytime, on any device, tailored to the user's needs and preferences, accessible for the user in a transparent and convenient way. Key to achieving this vision is to realize collaborative adaptive behavior of the involved distributed multimedia system components (server, media-aware network elements like proxies or gateways, and clients), based on intense metadata exchange and multimedia content negotiation, adaptation, or personalization.

This talk outlines the key challenges and the state of the art in achieving such adaptive behavior. The major challenges have been tackled recently and many of the building blocks of UMA have become or are becoming available from standardization groups, which are instrumental in this area to ensure interoperable use of the media and metadata items. However, making use of these standards in practical multimedia systems raises additional issues, both of conceptual nature and in terms of implementation. Based on years of contributions to ISO/IEC MPEG standardization efforts and of research work into adaptive multimedia systems, we will give an overview of these challenges, discuss the state of the art, and introduce an emerging principled solution for format-independent multimedia content adaptation.