

# Issues, Challenges, and Future Directions in Multimedia Research

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This panel is to discuss issues, challenges, and future directions in multimedia research, along the following three scale-oriented issues plus the one which is common to them.

## Issue "Mini": Mobile-Multimedia

### *Research Challenges*

- Resource-aware yet portable development, inclusion of context awareness
- Modeling of multimedia (starting from sound to graphics) particular in games
- Common software platform for smartphones
- Others

## Issue "Midi": Internet/Web/Home Multimedia

### *Research Challenges*

- Low Effort, high re-usability
  - \* Next generation metadata, based on latest-generation recognition, natural language processing, vision, etc.
  - \* More intelligent content repurposing
- Sophisticated multimodal interfaces
- Killer applications
- TV as a replacement of PC at home
- Others

## Issue "Maxi": Gigapixel Multimedia

### *Research Challenges*

- Scalability (taking human perceptual and/or cognitive limits into consideration)
- Hardware configuration
- Killer applications
- Interaction design
- Others

## Common Issue

### *Research Challenges*

- Bandwidth (making media content intelligent, adaptive to networks, devices and users with addition of personalization on top of context awareness)
- Management of content, including maintenance, distribution and consumption
- Security (encryption, authentication and control)
- Level of convenience, intelligence, and naturalness for the users