This course ...

• ... is held at Ifi, UiO ...
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Course Information

- Web page: http://www.ifi.uio.no/~infmkt/
- Handouts will be available
- Literature list

Literature

- Ming-Ting Sun, and Amy R. Reibman:"Compressed Video over Networks", Marcel Dekker, ISBN 0-8247-9423-0, 2001
Literature

• eliens@cs.vu.nl: "A (not so) gentle introduction to multimedia 2001, http://hush.cs.vu.nl/media/

Subjects I

• Overview on current standards
• Information Theory, Compression
• Image Compression, DCT, JPEG
• MPEG - Video and System
• MPEG - Audio
• Speech compression
Subjects II

• MPEG 4, MPEG 7, H.263
• Ogg Vorbis, Ogg Tarkin
• Wavelet compression
• IP, mobile networks, RTP, satellite-communication
• DAB, DVB, MHP, MIDI, ...
• Applications ...

Subjects

1 - Introduction + Information Theory
2 - Image Coding
3 - Video Coding
4 - Audio Coding
5 - MP3
6 - Speech Coding / OGG Vorbis
7 - Wavelet Coding / JPEG 2000
Subjects

8 - MPEG 4, MPEG 7
9 - Digital TV, DAB
10 - H263, Transmission, DivX
11 MIDI, Historic Music Coding

Pensum

• Selected chapters from literature list
• Content from handouts
• ...
Multimedia Standards

- http://viswiz.gmd.de/MultimediaInfo/

Standards, Standard Proposals

ATSC (Advanced Television Systems Committee)
IEC
H.261, H.263
HyTime
InteractiveMultimedia Association (IMA)
Internet (RFCs, drafts, standards, IETF)
IMA RFTs (Interactive Multimedia Association)
MHEG

MIME
National Multimedia Association of America (NMAA)
OMF
PREMO
RTF
SGML
MPC Level 3
MPEG 1
MPEG 2
MPEG 4
MPEG 7
MPEG 21
SMIL
VRML

+ many proprietary standards
MPEG History

• MPEG-1: video and audio (1992)
• MPEG-2: Digital TV and DVD (1994)
• MPEG-3: HDTV (withdrawn)
• MPEG-4: Multimedia applications (1998)
  (versions 3 and 4 currently in work)
• MPEG-7: MM search and filtering (2001)
• MPEG-21: Multimedia framework
MPEG-1 • ISO 11172

- Part 1: Systems
- Part 2: Video
- Part 3: Audio (Layer I, II, III)
- Part 4: Conformance
- Part 5: Software Simulation

MPEG-2 • ISO 13818

- Parts 1-5 as in MPEG-1
- Part 6: DSM-CC (Digital Storage Medium Command and Control)
- Part 7: NBC (Non-Backwards Compatible Audio)
- Part 8: 10-bit video extension (withdrawn)
- Part 9: RTI (Real-time interface betw. set-top box and head end server)
MPEG

Which parts are of interest for this course?
- Part 2: Video
- Part 3: Audio (Layer I, II, III)
- Part 1: Systems
- Part 6: DSM-CC

MP3

= MPEG-1
Audio Layer 3
!
Ogg Vorbis

- Audio streaming and compression
- Ogg: Streaming Wrapper
- Vorbis: Audio codec (uses MDCT, wavelets)
- Tarkin: Video Codec
- http://www.vorbis.com/

Ogg Vorbis is a completely open, patent free, professional audio encoding and streaming technology with all the benefits of Open Source.

Other TLAs

- H.263: Video Codec
- DAB: Digital Audio Broadcast
- DVB: Digital Video Broadcast
- MHP: Media Home Platform
- ...
The End of Part 1