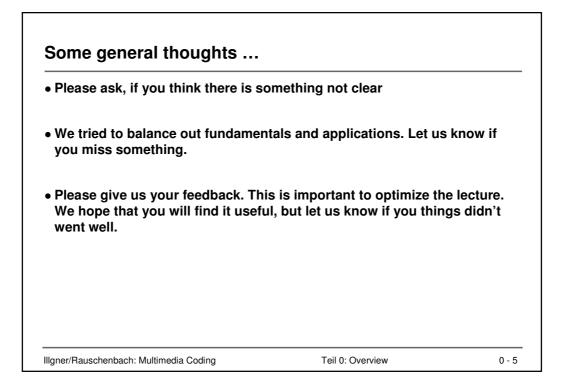
Compact Lecture

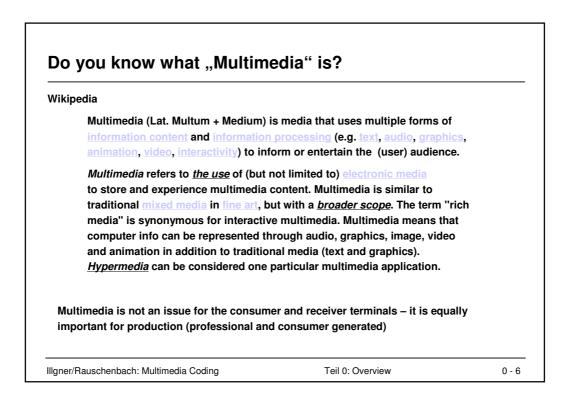
Multimedia Coding: Methods & Applications

Part 0: Overview

Dr. Klaus Illgner Dr. Uwe Rauschenbach

Date	Start	End	Duration	Room	Торіс	Lecturer
Wed 23 Apr	12:00	14:00	2:00	Z.1.29	Fundamentals of Signal processing	Illgner
	18:00	20:00	2:00	E.2.05	Fundamentals of Signal processing	Illgner
Thu 24 Apr	08:00	08:30	0:30	E.2.42	Fundamentals of Signal processing / Exercise	Illgner
	08:30	10:00	1:30	E.2.42	Audio Coding	Illgner
	14:00	16:00	2:00	V.1.01	Still Image Coding	Rauschenbach
	18:00	20:00	2:00	E.0.05	Still Image Coding / incl. Exercise	Rauschenbach
Fri 25 Apr	12:00	13:45	1:45	E.2.42	Video Coding	Illgner
	14:00	16:00	2:00	E.2.42	Video Coding	Illgner
	16:15	18:00	1:45	E.2.42	Video Coding / incl. Excercise	Illgner
Sat 26 Apr	08:30	10:00	1:30	E.2.42	Bearer Systems / Transmission Protocols	Rauschenbach
	10:15	12:00	1:45	E.2.42	Transmission Protocols / Service Enabler	Rauschenbach
	12:45	14:15	1:30	E.2.42	Service Enabler	Rauschenbach
	14:30	16:00	1:30	E.2.42	Broadcast Service & Business Landscape	Illgner
Fri 23 May	tba	tba	2:00	tba	Written Exam	





Some data rates of typical signal sources	Capacity of some transmission links: • ISDN 64kbps			
TV (SD): 720x576@25 Hz, 4:2:0, 8bit → 166 Mbps	DSL 1-3 Mbps (typical) up to 16 Mbps			
speech: 3.4kHz cut-off, 8 bit, mono → 64 kbps Audio: 20kHz cut-off, 16 bit, Stereo	 GSM 9.6 kbps (netto) / Edge N x 14.4 kbps UMTS typically ~384kbps (up to 10Mbps in HSDPA) WLAN: 54 Mbps (proprietary 108 Mbps) TV-cable: (862 MHz) DVB-C → ~4Gbps Satellite: DVB-S MUX → 38 Mbps / Transponde torage media DVB-S2 MUX → 56 Mbps / Transponde 			
→ 1.28 Mbps TV (HD): 1920x1080@25Hz (4:2:2), 8bit → 830 Mbps				
Capacity of some sto				
 PC hard discs (typical) USB Memorystick: up CD: 740 MByte DVD: 4.7 15 CBute 				
 DVD: 4.7 – 15 GByte Blue-Ray Disc / HD-D 	√D 25GByte (50 GByte dual layer)			

Transmission capacity not sufficient Possibly for a few parallel signals, but not for a large nu	mber of service	
Storage capacity is limited (and will remain Archiving of all digital material	it)	
Demand per service increases (N x HD + m Multiple services per home in parallel	ulitchannel)	
 Necessary processing steps digitization → "ingest" – feed the material to the "comput compression → reduction of data volume Storage / transmission decompression visualization 	iter"	
 Additional tasks by "multimedia" Combining various media or different signals (identical r functionality, which can be executed on the media and a Synchronization of different media Presentation of media in various contexts 	, ,	