Multimedia Information Systems

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Chapter 1

Introduction

1.1 Media types

- text
- images (graphics)
- audio (speech, music)
- video
- animation
- virtual reality
text is a linear medium...
terminology:

- monomedia object/document: object containing data of a single media
- multimedia object/document: object containing data of multiple media
- hypertext document: nonlinear text document (i.e. with links)
- hypermedia document: nonlinear multimedia document
document structures:

- logical structure
- layout structure
- content structure
- external attributes
IR networks heterogeneity effectiveness user friendly.

head title author chapter section section chapter

content structure logical structure layout structure

IR in networks J. Doe

creator="J. Doe"
crdate="19991201"
format="LaTeX"

attributes
characteristics of MMIS:

- digitized media
- managing data of multiple media
- large storage and bandwidth requirements
  - true colour image, uncompressed (20 Mpels): 60 MB
  - CD audio: 176 KB/sec ≈ 650 MB/h
  - MPEG-2 video (720*480): 0.5–1.1 MB/sec
    ≈ 4 GB/h
  - high-quality movie: 36 Mpels/frame=108 MB/frame
    ≈ 2.6 GB/sec = 9.36 TB/h
- continuous delivery
  (to avoid jitter)
- synchronization between several channels
  (e.g. between audio and video)
- content- and similarity-based access
- user-friendly interfaces
tasks:

- representation and transformation
- storage and compression
- communication and synchronization
- authoring and cooperation
- presentation
- content analysis
- browsing
- retrieval and filtering
- user interfaces
Course structure:

1. introduction
2. media
3. indexing
4. retrieval
5. implementation aspects
6. systems
Literature