MPEG-7

• MPEG-7 will specify a standard set of descriptors that can be used to describe various types of multimedia information.
  – Descriptors
  – Description Scheme
  – Description Definition Language (DDL)
• MPEG-7 represents information about the content, not the content itself (“the bits about the bits”)
Scope of MPEG-7

Feature Extraction → Standard Description → Search Engine
Different Types of Features

• Lower abstraction level
  – shape
  – size
  – texture
  – color
  – movement
  – position (where in the scene can the object be found)

Different Types of Features

• Audio
  – key
  – mood
  – tempo
  – tempo changes
  – position in sound space
Different Types of Features

• Highest Level Abstraction (semantic)
  – “This is a scene with a barking brown dog on the left and a blue ball that falls down on the right, with the sound of passing cars in the background.”

Other Type of Information

• The form
  – coding scheme (JPEG, MPEG-2)
  – size
• Conditions for accessing the material
• Links to other relevant material
• The context (e.g. Olympic 1996)
Search

• MPEG-7 data will be used to answer user queries.

• Music
  – Play a few notes on a keyboard and get in return a list of musical pieces containing required tune or images somehow matching the notes, e.g., in terms of emotions.

Search

• Graphics
  – Draw a few lines on a screen and get in return a set of images containing similar graphics, logos, ideograms,..

• Image
  – Define objects, including color patches or textures and get in return examples among which you select the interesting objects to compose your image.
Search

• Movement
  – On a given set of objects, describe movements and relations between objects and get in return a list of animations fulfilling the described temporal and spatial relations.

• Scenario
  – On a given content, describe actions and get a list of scenarios where similar actions happen.

Search

• Voice
  – Using an excerpt of Pavarotti’s voice, and getting a list of Pavarotti’s records, video clips, where Pavarotti is singing or video clips where Pavarotti is present
MPEG

- Go to http://www.csel.it/mpeg