MPEG: STANDARDS FOR DIGITAL VIDEO
MPEG ACTIVITIES IN BELGIUM

Introduction

The **Movie Picture Experts Group** (**MPEG**), a group of ISO/IEC in charge of the development of standards for coded representation of digital audio and video, was established in 1988. Several Belgian companies and universities rapidly joined the group that was to become the largest ISO group ever.

MPEG is a committee open to experts duly accredited by an appropriate National Standards Body (IBPT in Belgium). On average a meeting is attended by more than 300 experts representing more than 200 companies spanning all industry domains with a stake in digital audio, video and multimedia. On average also more than 20 countries are represented

14 years later, MPEG has released 4 standards, all related to digital audio and video:

- *MPEG-1* was targeted towards the coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s (at that time the largest bitrate for CD-ROMs).

- *MPEG-2* mainly supports products for digital video broadcasting (PAL/NTSC or HDTV equivalent signal). It is the format used for DVDs.

- *MPEG-4* was developed for interactive applications and multimedia content (natural and virtual) on band-limited networks.

- *MPEG-7* is dedicated to the description and search of audio and visual content.

A new activity was started in June 2000; it is named MPEG-21 "Multimedia Framework" and follows the standardization track.

Presentation of the papers

This issue of the HF journal presents 4 papers written by Belgian participants and contributors to MPEG.

The first paper by Jan DE LAMEILLIEURE reviews the MPEG-1 and MPEG-2 standards. It provides an excellent introduction to the standards and elaborates on the video compression part.

In the second paper, Gauthier LAFRUIT focuses on hardware issues and MPEG-4. It describes how MPEG-4 was designed to meet the coding of multimedia content through innovating ideas like shape coding, sprites, face animation, ...

The third paper reports on a European project funded by the IST program of the European Commission. This project was devoted on the distribution of interactive content in a broadcasting environment. The paper details the architecture that was developed by the European partners.

Compression was the major issue when MPEG was created, simply because compression techniques were not efficient enough at that time. The concern has moved today to the management of digital rights. In the field of copyright, the situation has even worsened because of the ease to copy digital content. The Napster/MP3 (which is nothing but part 3 of MPEG-1) affair is particularly significant of these concerns. In the last paper Prof. Benoît MACQ reviews a technique, called *watermarking*, that is thought to be able to deal with digital rights.

For many years the compression of multimedia content has been considered as a strategic issue by several Belgian companies and industries. It is still an active domain for the development of products and for research.

I am particularly grateful to authors whose contributions provide a global overview of many aspects of MPEG and raise questions that are still open.

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