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CODING OF MOVING PICTURES AND AUDIO**

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### **MPEG gets feature rich additions**

Montreux, Switzerland 2006 April 18 – The 76<sup>th</sup> MPEG meeting was held in Montreux, Switzerland from 3-7 April 2006.

#### **MPEG Video and Graphics News**

MPEG has begun work on a new part of the MPEG-C (ISO/IEC 23002-3) standard in Montreux. This new standard will support applications where additional (auxiliary) data is needed that will be closely associated with video content. This can be accomplished efficiently and it can be used by any of MPEG's video coding standards. To begin, two types of auxiliary video data will currently be specified targeting stereoscopic applications. Either a depth map or parallax data can be coded using an MPEG video coding standard, and then combined with another video stream to enable effective use of stereoscopic displays. The specification can be easily extended beyond depth and parallax to other data types. Support for the carriage of auxiliary data will be defined in an amendment to MPEG-2 Systems.

The first MPEG-4 3D Graphics Player for mobile devices has been developed by INT - Institut National des Télécommunications and IMEC - Interuniversity MicroElectronics Center. It is based on a reduced set of MPEG-4 BIFS (Binary Information for Scenes) nodes related to 3D graphics. The player supports the decoding and rendering of static and animated 3D graphics objects making MPEG-4 an excellent vehicle for representing 3D content such as games on mobile platforms.

A geographical map navigation system using an optimized MPEG-4 player was demonstrated at the Montreux meeting. It shows that MPEG-4 can be used in an application of view-dependent navigation having a large amount of geographical data in 3D that includes both terrain and city data. The underlying tool is part of an AFX (Animation Framework Extension) amendment to part 16 of MPEG-4 that will be complete in early 2007. The addition of such technologies to the suite of MPEG-4 tools opens the field to a large variety of interoperable applications where a common satellite/cadastral database can be augmented on-the-fly and visualized on demand in different applications.

## **MPEG Audio News**

At the Montreux meeting MPEG continued its ongoing work on MPEG Surround and is now exploring the potential for an amendment to the specification that will focus on two topics. The first is the modeling of room effects using the MPEG Surround framework to provide an efficient digital representation of the model of the reflections in a real or virtual room. The second is the flexible coding of audio sources or sound objects that will use the MPEG Surround framework to realize bit rate efficient coding of multiple sound sources at arbitrary positions in a sound stage or virtual environment.

The MPEG Symbolic Music Representation standard has progressed to Committee Draft (CD) status and will be finalized in July 2007. This new technology supports all the necessary functionality to allow high quality coding of symbolic music to be integrated with the existing MPEG-4 multimedia framework. Moreover, it will fill an existing gap between the digital representation of music and its use by the multimedia publishing industries. The new standard includes the definition of two new XML schema and additional binary information. The first, symbolic Music Extensible Format (SM-XL) enables the representation of music symbols composing a music score (main score and individual parts), as well as lyrics. The second, Symbolic Music Formatting Language (SM-FL) describes the insertion point and positioning of music symbols and will specify a formatting rule-based language and engine.

## **MPEG Systems News**

MPEG Systems has achieved a milestone in providing advanced tools for handling the complex multimedia environment we now live in. Four parts of a planned 7-part standard called MPEG Multimedia Middleware or M3W, as it is referred to, have achieved Committee Draft (CD) status. While its title is “middleware”, M3W is much more. It standardizes a system that includes Architecture, a Multimedia API, a Component Model and a Resource and Quality Management each of which have been elevated to CD in Montreux. The remaining components or parts, Component Download, Fault Management and System Integrity Management, will follow. Briefly, M3W is a multi-layer system comprising of an Application, Middleware and Platform layer. The Application layer is platform independent. The Middleware layer provides functionality to the Application layer and makes use of the Platform layer. Along with the functional parts there are “extra-functional” elements providing for instance resource, fault, and integrity management as well as download and terminal management. MPEG has provided a set of M3W white papers and a tutorial that describes M3W in greater detail. These are available on the MPEG website (see below).

Additionally, MPEG will provide support for JPEG2000 still images in an amendment to MPEG-4 Systems. MPEG-4 Systems is a feature rich standard that already supported standard JPEG images. With the added support for JPEG2000 new applications targeting content scalability are foreseen, including on-line game content and geographical navigation.

### ***Draft Call for Proposals on MPEG-7 Query Format (MP7QF)***

MPEG has issued a Draft Call for Proposals on MPEG-7 Query Format (MP7QF). The final CfP will be issued at the 77<sup>th</sup> MPEG meeting in Klagenfurt, Austria in July 2006. The goal of this work on a MPEG-7 Query Format framework is to provide industry with a unified and

standardized means of exchanging queries and responses for multimedia based searches from MPEG-7 databases. Extracting the features associated with multimedia content and applying it to search engines is becoming increasingly important especially for personal, as well as commercial audio and image media. It also becomes very practical with affordable consumer electronic devices such as MP3 recordable players, digital cameras, DV camcorders, and well-integrated smart phones in the marketplace.

### ***Digging Deeper***

Communicating the large and sometimes complex array of technology that the MPEG Committee has developed is not a simple task. The experts past and present have contributed a series of white-papers that explain each of these standards individually. The repository is growing each meeting so if something you are interested in is not there yet it may be shortly - but do not hesitate to request it as well. You can start your MPEG adventure at:

<http://www.chiariglione.org/mpeg/mpeg-tech.htm>

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### **Further information**

Future MPEG meetings are as follows:

- Klagenfurt, Austria 17-21 July 2006
- Hangzhou, China 23-27 October 2006
- Marrakech, Morocco 15-19 January 2007

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This press release and other MPEG-related information can be found on the MPEG homepage:

<http://www.chiariglione.org/mpeg>

The text and details related to the Call mentioned above (together with other current Calls) are in the Hot News section, [http://www.chiariglione.org/mpeg/hot\\_news.htm](http://www.chiariglione.org/mpeg/hot_news.htm). These documents include information on how to respond to the Calls.

The MPEG homepage also has links to other MPEG pages, which are maintained by some of the subgroups. It also contains links to public documents that are freely available for download by non-MPEG members.

Journalists that wish to receive MPEG Press Releases by email can contact Peter Schirling as shown above.