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AMENDMENT 1
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Information technology — Multimedia application format (MPEG-A) —

Part 3: MPEG photo player application format

AMENDMENT 1: Reference software for photo player MAF

Technologies de l'information —Format pour application multimédia (MPEG-A) —

Partie 3: Format pour application «MPEG photo player»

AMENDEMENT 1: Logiciel de référence pour lecteur photo MAF

Reference number
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Amendment 1 to ISO/IEC 23000-3:2007 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

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Information technology —Multimedia application format (MPEG-A) —

Part 3:
MPEG photo player application format

AMENDMENT 1: Reference software for photo player MAF

After Annex E, add the following new annex:

Annex F
(informative)

Reference software

The reference software consists of (a) functional components and (b) command-line programs.

A) The following components are provided

Functional unit	Software module name
I/O Subroutines and MPEG-4 File system	libisomedia
User Interface (command line or GUI)	(command line programs as below)
BiM encoder/decoder	ppbim
Visual D extraction engine	xmvisual

B) The following command line programs are provided

Name	Function
pp_itembuilder	Builds a Photo-Player MP4 file
pp_dataparser	Lists image collections contained in a Photo-Player MP4 file.
pp_getimage	Extracts image(s) and corresponding item-level metadata from a Photo-Player MP4 file

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Examples of usage:

```
pp_itembuilder collection.xml list.txt pp_item.mp4
```

This command builds a Photo-Player MP4 file.

- The first argument is a file containing collection-level metadata.
- The second argument is a file containing an image list. Each line of the image list should contain an image identifier followed by the image file name and item-level metadata file. They should be separated by commas or semicolons – for example, as follows:

```
1;image1.jpg;image1.xml
2;image2.jpg;image2.xml
```

The item-level metadata will be appended by visual features: Dominant Color, Color Layout, Color Structure, Edge Histogram, Scalable Color, and Homogeneous Texture. Visual features are extracted from the images. If the item-level metadata points to external (primary) resource, visual features are not extracted – that is, the external file is not accessed. Image identifiers should corespond to track identifiers (track_ID) in collection-level metadata. Each track id in collection-level metadata should have a corresponding image in the image list.

```
pp_dataparser pp_item.mp4
```

This command lists image collections contained in a Photo-Player MP4 file. The collection listing prints collection names, track ids of resources in the collections, the type of resource: internal/external, and media URIs of external primary resources.

```
pp_getimage pp_item.mp4

pp_getimage pp_item.mp4 2
```

The first command extracts all images and all item-level metadata files from Photo-Player MP4 file. The second command extracts only the image referenced in the MP4 file by a track identifier specified as the second parameter (track_ID=2), and item-level metadata corresponding to the image. The file names of the extracted image and its metadata are created by adding extensions ".jpg" and ".xml" to the track identifier.

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