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1. **Introduction**

This document contains possible defects on 23008-12 for which more discussion or more text may need to be provided.

Comments on specific defects, and proposals for how to address them, can also be made in between meetings in Github, see <<https://github.com/MPEGGroup/FileFormat/labels/HEIF>>.

1. **Defects under consideration**
   1. ***On redundant properties between items and tracks (derived from m54298)***

<http://mpegx.int-evry.fr/software/MPEG/Systems/ApplicationFormat/MIAF/issues/20>

#### Discussion

HEIF offers the possibility to store images as items and image sequences as tracks in the same file. In typical files, it is likely that some properties will be the same between an image item representing the track and the images in the image sequences in the track. For example, the same ‘colr’ box could be used (carrying a large ICC profile) or the EXIF metadata or the rotation… But today, one has to duplicate the information. It would be beneficial to have a unified approach to avoid repeating these properties. For EXIF or XMP metadata, this could be done by physically sharing the payload (i.e. matching file-level item offset with trak-level item offset) but this is hard to achieve and fragile.

#### Proposed approaches

1. Use the notion of unified space (‘unif’ brand) and associate properties with a track, by using the id of that track as the item\_id in the property association
2. create a new entity group (e.g. ‘bprp’ (base properties)) with the following semantics:
   * This entity group shall contain a single entity\_id that points to an item, and shall contain one or more entity\_ids that points to visual tracks. A track used in such grouping shall not be used in another grouping of the same type.
   * When used, it indicates that all of the properties attached to an item (from the following list: ‘colr’, ‘pasp’, ‘pixi’, ‘auxC’, ‘clap’, ‘irot’, ‘imir’, ‘clli,’mdcv’) and all metadata items of type ‘Exif’ or ‘xmp’ also apply to the track, unless the property is overridden in the track itself. For example, an item may have a ‘colr’ property. If this item is grouped in the same ‘bprp’ entity with a track, that track inherits the information from the ‘colr’ unless the track itself has a ‘colr’ property.
3. Use the Sample-to-item sample group 'stmi', but information would be within the track, not in the 'meta' box.

#### Open questions

Storing the track properties in the ‘meta’ box has the advantage of easily sharing them between items and tracks, and of making it easy for MIAF readers (they always expect a ‘meta’ box). However, existing readers of video/pict sequences are expected to find the properties in the sample description entry (or sample groups). Is this a problem?

* 1. ***Clarification on HEVC and ‘oinf’ (derived from m55193)***

There are two issues in the following sentence:

Image items originating from the same bitstream shall be associated with the same 'oinf' property.

Firstly, an HEVC bitstream may include multiple CVSs that may have different operation points. Secondly, this requirement itself is not checkable based on an HEVC image file, thus should not be a "shall" requirement.

Changing "shall" to "should" would be an improvement, but still not very good.

It is therefore proposed to just remove this sentence.

* 1. ***Clarification on essential bit***

Based on discussion at <http://mpegx.int-evry.fr/software/MPEG/Systems/FileFormat/HEIF/-/issues/9#note_9348>, it is proposed to change the sentence in 6.5.1:

“Descriptive properties are non-essential, unless stated otherwise in their specification.”

Into:

“Descriptive properties should be marked as non-essential, unless stated otherwise in their specification or derived specification.”