Exiv2 - Feature #668

"TIFF-safe" setExifData variant

03 Jan 2010 05:40 - Andreas Huggel

Status:	Closed		**Start date:**	03 Jan 2010
Priority:	Normal		**Due date:**	
Assignee:	Andreas Huggel		**% Done:**	100%
Category:	design		**Estimated time:**	0.00 hour
Target version:	0.20			

Description

For TIFF and TIFF-like images, there should be an interface which just "does the right thing".
Currently, a fair bit of special purpose code is required to achieve that.

See this discussion for details.

Related issues:

Related to Exiv2 - Feature #665: Write support for Olympus RAW ORF files	**Closed**	**29 Dec 2009**
Related to Exiv2 - Bug #831: For TIFF-like images, non-intrusive writing is n...	**Closed**	**04 Jul 2012**
Related to Exiv2 - Bug #1182: Exiv2 is unable to update any Exif.SubImageN.xx...	**Closed**	**02 May 2016**
Related to Exiv2 - Feature #992: Better raw file support and test	**Assigned**	**18 Sep 2014**
Blocked by Exiv2 - Bug #701: Nikon capture nx won't save a raw file which was...	**Closed**	**03 May 2010**

Associated revisions

Revision 2037 - 01 Apr 2010 09:20 - Andreas Huggel

#668: In TIFF and TIFF-like images, never modify 'image tags'. This patch implements the basic idea.

Revision 2046 - 04 Apr 2010 08:50 - Andreas Huggel

#668: Extended list of TIFF image tags. (It turned out that there are quite a few standard TIFF tags missing from the Exiv2. To be added separately).

Revision 2198 - 26 Apr 2010 07:06 - Andreas Huggel

#668: Fix copying of composite objects. (digiKam bug 235171)

Revision 2212 - 07 May 2010 04:48 - Andreas Huggel

#668: Fixed obscure issue when copying SubIFDs. (digiKam bug 236127)

History

#1 - 20 Feb 2010 09:35 - Andreas Huggel

In TIFF and TIFF-like images, some Exif.*.* tags are required to correctly display the primary image. These *image tags* contain image data rather than metadata.

When Exiv2 writes metadata, it must not add, modify or delete any *image tags*.

The Exiv2 write operation is a two step process:

First, it attempts *non-intrusive* writing, i.e., in-place updating of the image without re-writing the TIFF structure. The existing image is parsed into a TIFF composite tree and updated with the Exif tags from the Exiv2 Image. No tags are added or deleted in this step and **modifying of *image tags* must be avoided**.

Second, if *non-intrusive* writing is not possible, Exiv2 re-writes the TIFF structure. In this step, **all *image tags* from the original image must be copied to the new TIFF structure**. The Exif tags from the Exiv2 Image are used to complete the new TIFF structure. **They must not be used to add, modify or delete any of the *image tags* from the original image**.

It should still be possible to create TIFF or TIFF-like images from scratch. In this case (*intrusive* writing <u>without</u> an original image), the *image tags* set as Exif tags in the Exiv2 Image will be written to the TIFF structure.

#2 - 21 Feb 2010 02:29 - Andreas Huggel

Required is

- for each TIFF-like image format, a mechanism to determine if a tag is an *image tag*

- a way to access this mechanism from TiffParserWorker::encode and TiffEncoder
- logic in TiffParserWorker::encode to copy *image tags* from the original image to the new TIFF structure in case of *intrusive* writing
- logic in TiffEncoder::encodeTiffComponent to avoid adding, modifying and deleting *image tags* during both, *non-intrusive* and *intrusive* writing

#3 - 20 Mar 2010 01:50 - Andreas Huggel

- logic in TiffParserWorker::encode to copy *image tags* from the original image to the new TIFF structure in case of *intrusive* writing

That's turning out to be the messy part. Added a TiffCopier visitor and introducing a clone() function on TiffComponent now.

#4 - 31 Mar 2010 22:40 - Andreas Huggel

Getting there...

- eventually the "special purpose code" should be removed from the command line utility

#5 - 01 Apr 2010 09:22 - Andreas Huggel

- Status changed from New to Assigned

- Assignee set to Andreas Huggel

- % Done changed from 0 to 80

#6 - 25 May 2010 19:31 - Andreas Huggel

- Status changed from Assigned to Resolved

- % Done changed from 80 to 100

#7 - 29 May 2010 10:43 - Andreas Huggel

- Status changed from Resolved to Closed