DCMTK - Feature #829

JPEG decoder should use JPEG component identifiers to guess the color model used

2018-05-03 09:24 - Marco Eichelberg

Status:	New	**Start date:**	2018-05-03
Priority:	Normal	**Due date:**	
Assignee:		**% Done:**	0%
Category:	Library and Apps	**Estimated time:**	0:00 hour
Target version:			
Module:	dcmjpeg	**Compiler:**	
Operating System:			

Description

Most color JPEG images internally use the YCbCr color model. Unfortunately, in rare cases also JPEG baseline compressed color images that use RGB can be encountered, and DCMTK currently by default assumes that these are YBR_FULL and performs a color space conversion upon decompression, leading to an incorrect display.

According to information received from Dave Harvey, these rare RGB images which were produced by some Adobe tools can be recognized by the "ComponentIdentifier" numbers in the JPEG_SOF parameters. Normally these identifiers, which are arbitrary bytes, have the values 0, 1 and 2.

In the case of Adobe RGB images, however, they always use the numbers 82, 71 and 66, which are the ASCII codes for "R", "G" and "B", as hints that this is really RGB data.

Our JPEG decoder should specifically look for these component identifiers, and if found, assume an RGB encoding.

Attached is an example of a JPEG image with RGB encoding, with and without DICOM "wrapper".

Related issues:

Related to DCMTK - Feature #830: img2dcm should use JPEG component identifie...	**Closed**	**2018-05-03**

History

#1 - 2018-05-03 09:27 - Marco Eichelberg

- Related to Feature #830: img2dcm should use JPEG component identifiers to guess the color model used added

#2 - 2018-05-03 09:27 - Marco Eichelberg

- Related to Feature #830: img2dcm should use JPEG component identifiers to guess the color model used added

#3 - 2018-05-03 09:28 - Marco Eichelberg

- Related to deleted (Feature #830: img2dcm should use JPEG component identifiers to guess the color model used)

Files

rgb_example.jpg	2.47 MB	2018-05-03	Marco Eichelberg
rgb_example.dcm	2.47 MB	2018-05-03	Marco Eichelberg