



Exiv2 v0.26

C + + metadata library

Welcome to New and Existing Team Members

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- **New Team Members:**

- Ben (Canada)
- Sridhar (India)
- Raphael (France and USA)
- Troy (USA)

- **Existing Team Members:**

- Robin (England)
- Niels (Denmark)
- Alan (Peru)
- Thomas (Germany)
- Andreas (Malaysia)
- Mahesh (India)

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Headline Features

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I CMake Support

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- Robin strongly dislikes CMake with Visual Studio
- CMake/Visual Studio is wrapped by a 400 line batch file
- Robin use CMake on Mac/Xcode for development
- Daily build is performed by CMake (except MinGW)
- CMake/MinGW is in-complete with v0.26

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2 Build Server

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- <http://exiv2.dyndns.org:8080/> or <https://exiv2.dyndns.org:8443>
- Builds/tests on commit.
- Builds/tests daily for 16 platforms
Mac/Linux/Cygwin/MinGW
MSVC 2005/8/10/12/13/15 32bit and 64bit builds
- Daily Build Artefacts are published (and retested)

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3 File Debugging: exiv2 -pS (Structure)

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- 1221 rmills@rmillsmbp:~/gnu/exiv2/trunk \$ **exiv2 -pS test/data/Reagan.jpg**
STRUCTURE OF JPEG FILE: test/data/Reagan.jpg
address | marker | length | data
0 | 0xffd8 SOI | |
2 | 0xffe1 APP1 | 5718 | Exif..MM.*.....
5722 | 0xffed APP13 | 3038 | Photoshop 3.0.8BIM.....Z...
8762 | 0xffe1 APP1 | 5329 | http://ns.adobe.com/xap/1.0/.<?x
14093 | 0xffe2 APP2 | 576 | ICC_PROFILE.....0ADBE...mnrRG chunk 1/1
14671 | 0xffee APP14 | 14 | Adobe.d@.....
14687 | 0xffdb DQT | 132
...
15266 | 0xffda SOS
1222 rmills@rmillsmbp:~/gnu/exiv2/trunk \$

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3 File Debugging: exiv2 -pR (Recursive)

```
1222 rmills@rmillsmbp:~/gnu/exiv2/trunk $ exiv2 -pR test/data/Reagan.jpg
STRUCTURE OF JPEG FILE: test/data/Reagan.jpg
address | marker | length | data
  0 | 0xffd8 SOI
  2 | 0xffe1 APP1 | 5718 | Exif..MM.*.....
STRUCTURE OF TIFF FILE (MM): MemIo
address | tag | type | count | offset | value
  10 | 0x0100 ImageWidth | SHORT | 1 | 13107200 | 200
  22 | 0x0101 ImageLength | SHORT | 1 | 8519680 | 130
  34 | 0x0102 BitsPerSample | SHORT | 4 | 242 | 8 8 8 8
...
  214 | 0x8769 ExifTag | LONG | 1 | 792 | 792
STRUCTURE OF TIFF FILE (MM): MemIo
address | tag | type | count | offset | value
  794 | 0x829a ExposureTime | RATIONAL | 1 | 1254 | 1254/0
...
END MemIo
  226 | 0x8825 GPSTag | LONG | 1 | 1400 | 1400
 1422 | 0x0103 Compression | SHORT | 1 | 393216 | 6
 1434 | 0x011a XResolution | RATIONAL | 1 | 1498 | 1498/0
 1446 | 0x011b YResolution | RATIONAL | 1 | 1506 | 1506/0
 1458 | 0x0128 ResolutionUnit | SHORT | 1 | 131072 | 2
 1470 | 0x0201 JPEGInterchangeFormat | LONG | 1 | 1514 | 1514
 1482 | 0x0202 JPEGInterchangeFormatLeng | LONG | 1 | 4196 | 4196
END MemIo
 5722 | 0xffed APP13 | 3038 | Photoshop 3.0.8BIM.....Z...
Record | DataSet | Name | Length | Data
  1 | 90 | CharacterSet | 3 | .%G
...
  2 | 25 | Keywords | 8 | underway
 8762 | 0xffe1 APP1 | 5329 | http://ns.adobe.com/xap/1.0/.<?x
14093 | 0xffe2 APP2 | 576 | ICC_PROFILE.....0ADBE....mnrRG chunk 1/1
...
15266 | 0xffda SOS
1223 rmills@rmillsmbp:~/gnu/exiv2/trunk $
```

4 ICC Profile Support

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```
1224 rmills@rmillsmbp:~/gnu/exiv2/trunk $ exiv2 -pS test/data/Reagan.jpg
STRUCTURE OF JPEG FILE: test/data/Reagan.jpg
address | marker      | length | data
   0    | 0xffd8 SOI  |         |
   2    | 0xffe1 APP1  | 5718   | Exif..MM.*.....
 5722   | 0xffed APP13 | 3038   | Photoshop 3.0.8BIM.....Z...
 8762   | 0xffe1 APP1  | 5329   | http://ns.adobe.com/xap/1.0/.<?x
14093   | 0xffe2 APP2  | 576    | ICC_PROFILE.....0ADBE....mnrRG chunk 1/1
14671   | 0xffee APP14 | 14     | Adobe.d@.....
14687   | 0xffdb DQT   | 132    |
14821   | 0xffc0 SOF0  | 17     |
14840   | 0xffdd DRI   | 4      |
14846   | 0xffc4 DHT   | 418    |
15266   | 0xffda SOS   |         |

1225 rmills@rmillsmbp:~/gnu/exiv2/trunk $ exiv2 -eC --verbose --force test/data/Reagan.jpg
File 1/1: test/data/Reagan.jpg
Writing iccProfile: test/data/Reagan.icc
1226 rmills@rmillsmbp:~/gnu/exiv2/trunk $ ls -alt test/data/Reagan.icc
-rw-r--r--+ 1 rmills staff 560 Oct 17 10:19 test/data/Reagan.icc
1227 rmills@rmillsmbp:~/gnu/exiv2/trunk $ iccDumpProfile test/data/Reagan.icc | tail -3
    redColorantTag  'rXYZ'      500      20
    greenColorantTag 'gXYZ'      520      20
    blueColorantTag  'bXYZ'      540      20
1228 rmills@rmillsmbp:~/gnu/exiv2/trunk $
```

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5 Piping Metadata

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- trunk \$ `ls -alt test/data/large.icc`
`-rw-r--r--+ 1 rmills staff 1613600 Sep 15 15:15 test/data/large.icc`
trunk/ \$ `cp test/data/Reagan.jpg .`
trunk/ \$ `cat test/data/large.icc | exiv2 -iC- Reagan.jpg`
trunk/ \$ `exiv2 -eC- Reagan.jpg | wc`
4027 82066 1613600
trunk/ \$
- You can pipe using the insert and extract commands:
`exiv2 -eC- foo.image | exiv2 -iC- another image`
- Target modifier `-` is **stdin on insert** and **stdout on extract**
- Types of data to pipe are **e i a x C XX X**

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6 User defined lenses

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```
trunk/ $ exiv2 -pv --grep lens/i http://clanmills.com/files/DSC_0002.NEF
0x0083 Nikon3      LensType          Byte           1 14
0x0084 Nikon3      Lens              Rational        4 180/10 2500/10 35/10 63/10
0x008b Nikon3      LensFStops        Undefined       4 64 1 12 0
0x000c NikonLd3    LensIDNumber      Byte           1 146
0x000d NikonLd3    LensFStops        Byte           1 64
trunk/ $ cat ~/.exiv2
[canon]
247=Samyang 14mm f/2.8 AE ED AS IF UMC
[nikon]
146=Robin's Sigma Lens

[pentax]
# 3 255 0 0=another pentax lens

[minolta]
# 255=a sony lens

[olympus]
# 123=something
trunk/ $ exiv2 -pa --grep lens/i http://clanmills.com/files/DSC_0002.NEF
Exif.Nikon3.LensType          Byte           1 D G VR
Exif.Nikon3.Lens              Rational        4 18-250mm F3.5-6.3
Exif.Nikon3.LensFStops        Undefined       4 5.33333
Exif.NikonLd3.LensIDNumber     Byte           1 Robin's Sigma Lens
Exif.NikonLd3.LensFStops      Byte           1 F5.3
trunk/ $
```

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7 Documentation Enhancements

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- Web site makeover (Andreas)
- New Logo
- Exiv2 man page enhancements
- Ascii Art in ReadMe files

```

      @@@@@@@@@@@@@@eb      ;mm      /##Gilles###\
j###Robin",      Brad      /###Thomas####Q
###      \      ##      @###      |###
###      .iiii,      ,iiii,      ,iiii      ,iiiiP      .iii      7##      ]Alan
###      j###,      ]##/      '###      j###      ]^^      ;###"
###Andreas@C      "###p ###"      @###      j###p      @###      @###/
###^7"7%#\      ^#####~      Benb      l###      {##      s###
###      Niels      @###      @###Q      ]##      ;###/
###      ,#####m      @###      @###p      @###      ##C
###      ,/      s###      @###      @###      Volker      @Tuan@
]###Abhinav@ \      /###\      \###Q      @###Q      %###      /###Mahesh##
/#####\      /#####\      C++      Metadata      Library      /@Sridhar@@v0.26\

```

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8 Image Format Enhancements

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- WebP (Ben)
- JPEG2000 Enhancements
- -pR printStructure(kpsRecursive) for many image types
- -pS printStructure(kpsBasic) for more image types than v0.25
- ICC Support for TIFF, PNG, JPEG, WEBP, JPEG2000 and PGF

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9 XMP Enhancements

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- XMP Specification November 2014 updates (Alan)
- CRS and CRSS XMP namespace and properties (Alan)
- Target XX for “Raw XMP” extract/insert
- Target x for “internal XMP” extract/insert

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■ **10 Clearing Issue Back-log and Bug Fixes**

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- 200+ Issues closed for v0.26
- About 30 were 5+ years old
- We have about 25 v1.0 feature requests
- We have about 50 issues for v0.27
- 100 New Issues Reported and Closed in 12 months

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II User Support

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- 500 hours of work (10 hours/week)
- Regular updates to project status page: <http://dev.exiv2.org/news/2>
- Typical Response time is less than 24 hours
- Most new issues are closed within 7 days
- Test Suite is updated when issues are resolved
- Supporting Users AND Developing Features is very stressful
- Investigating User's Questions is very insightful

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12 Major Changes after v0.26

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- Project will move to GitHub
- MinGW msys/1.0 support will be discontinued
- Visual Studio 2003 .Net support will be discontinued
- Robin will retired from Exiv2 at the end of 2017

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