

darktable - Bug #11963

Problem with profiling sensor and photon noise for Panasonic DMC-GF6 camera

01/23/2018 09:20 PM - Alex Stepanov

Status:	Closed: upstream	Start date:	01/23/2018
Priority:	Low	Due date:	
Assignee:	Stefan Schöfegger	% Done:	0%
Category:		Estimated time:	0.00 hour
Target version:	2.6.0	bitness:	64-bit
Affected Version:	git master branch	hardware architecture:	amd64/x86
System:	other GNU/Linux		

Description

Hello!

I need some help...

I found information how to profile my camera in this place:

<https://www.darktable.org/2012/12/profiling-sensor-and-photon-noise/>

My **Panasonic DMC-GF6** camera hasn't a profile for '**denoise (profiled)**' module in Darktable.

I could not find the directories and executable files specified in the manual, so I had to download all from branch master

<https://github.com/darktable-org/darktable.git>

First of all, I tried the script on RAW files from the **Canon EOD 650d** camera and the script worked perfectly! I got a profile, graphs in PDF format and a full set of files. All is OK!

The next step was to do the same for Panasonic DMC-GF6. In accordance with the instruction, I took one shot for each ISO speed with a defocus. After this i run

```
~/darktable/tools/noise/gen-profile -d .
```

But, this time, the script does not work until the end and stops with an error.

The problem begins from this line in subr.sh file:

```
iso=$(get_image_iso "$image")
```

Full output to console:

```
@~/darktable/tools/noise/gen-profile -d .
```

```
====> Check for required tools
```

```
--> Check for images handling tools availability
```

```
--> Check for images export tools availability
```

```
--> Check for profiling tools availability
```

```
--> Check for internal tools availability
```

```
--> Build profiling tools
```

```
make: Entering directory '/home/alex/darktable/tools/noise'
```

```
make: Nothing to be done for 'all'.
```

```
make: Leaving directory '/home/alex/darktable/tools/noise'
```

```
--> Check for tethering tools availability
```

```
--> Check for pdf tools availability
```

```
====> Check profiling directory
```

```
====> List profiling input RAW images
```

```
--> Found ISO RW2 IMAGE 160 image: ./P1110094.rw2
```

```
/home/alex/darktable/tools/noise/subr.sh: line 22: ${var_images_RW2 IMAGE 160}: bad substitution@
```

I delete all files from the Panasonic camera and replace they (in the same place) by files from the Canon. I started the same script again and it worked successfully.

That is, the problem somehow concerns the RAW files ONLY from the Panasonic DMC-GF6 camera

Associated revisions

Revision a5703721 - 01/28/2018 06:15 PM - Stefan Schöfegger

noise profile: Add Panasonic DMC-GF6, refs #11963

Revision 7f573429 - 03/02/2018 06:38 PM - Stefan Schöfegger

noise profile: Add Panasonic DMC-GF6, refs #11963

(cherry picked from commit a5703721842c126e95ac3a3c58ccdbf0730a5cc6)

History

#1 - 01/27/2018 04:50 PM - Alex Stepanov

- File P1110095.rw2 added

One sample image from a Panasonic DMC-GF6 camera that causes an error

#2 - 01/27/2018 06:53 PM - Stefan Schöfegger

Your image does not trigger an error on my pc. This error is reported a few times now. It is fixed for Nikon in [#11580](#), I have a look into it.

What does

```
ls -al /bin/sh
```

output?

Please add one debug message

```
--- a/tools/noise/gen-profile
+++ b/tools/noise/gen-profile
@@ -65,6 +65,8 @@ fi
 echo "===> Check for required tools"
 missing_tool=0

+echo "--> Check shell: $SHELL"
+
 if ! image_info_tools_installed; then
     missing_tool=1
 fi
```

an paste output here

#3 - 01/27/2018 06:54 PM - Stefan Schöfegger

- Status changed from New to Triaged
- Assignee set to Stefan Schöfegger
- % Done changed from 0 to 20

#4 - 01/27/2018 07:25 PM - Stefan Schöfegger

Please also send the output of

```
exiv2 -g Exif.Photo.ISOSpeedRatings -Pt P1110095.rw2
exiv2 --version
```

Which distro do you use?

#5 - 01/27/2018 07:41 PM - Alex Stepanov

```
$ ls -al /bin/sh
lrwxrwxrwx 1 root root 4 Oct 30 02:19 /bin/sh -> bash*
```

```
@$ ~/darktable/tools/noise/gen-profile -d .
```

```
====> Check for required tools
```

```
--> Check shell: /usr/bin/fish version: 4.4.12(1)-release.
```

```
--> Check for images handling tools availability
```

```
--> Check for images export tools availability
```

```
--> Check for profiling tools availability
```

```
--> Check for internal tools availability
```

```
--> Build profiling tools
```

```
make: Entering directory '/home/alex/darktable/tools/noise'
```

```
make: Nothing to be done for 'all'.
```

```
make: Leaving directory '/home/alex/darktable/tools/noise'
```

```
--> Check for tethering tools availability
```

```
--> Check for pdf tools availability
```

```
====> Check profiling directory
```

```
====> List profiling input RAW images
```

```
--> Found ISO RW2 IMAGE 160 image: ./P1110094.rw2
```

```
debug iso: RW2 IMAGE 160
```

```
/home/alex/darktable/tools/noise/subr.sh: line 22: ${var_images_RW2 IMAGE 160}: bad substitution
```

```
@
```

#6 - 01/27/2018 07:47 PM - Alex Stepanov

Which distro do you use?

\$ *uname -a*

Linux 4.14.14-1-MANJARO #1 SMP PREEMPT Wed Jan 17 22:34:54 UTC 2018 x86_64 GNU/Linux

<https://manjaro.org/>

(Arch- based Distro)

\$ *exiv2 -g Exif.Photo.ISOSpeedRatings -Pt P1110095.rw2*
exiv2 --version

RW2 IMAGE

160

exiv2 0.26 001a00 (64 bit build)

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#7 - 01/27/2018 07:54 PM - Stefan Schöfegger

I think it's an exiv2 0.26 issue. It should return 160 not

RW2 IMAGE

160

Can you test downgrading to exiv2 0.25? In the changelog of exiv2 I found nothing that suggest such a change. <http://www.exiv2.org/changelog.html>

#8 - 01/27/2018 08:05 PM - Alex Stepanov

I changed the shell from the fish to the bash... but nothing changed!

```
~/darktable/tools/noise/gen-profile -d .
===> Check for required tools
--> Check shell: /bin/bash version: 4.4.12(1)-release.
--> Check for images handling tools availability
--> Check for images export tools availability
--> Check for profiling tools availability
--> Check for internal tools availability
--> Build profiling tools
make: Entering directory '/home/alex/darktable/tools/noise'
make: Nothing to be done for 'all'.
make: Leaving directory '/home/alex/darktable/tools/noise'
--> Check for tethering tools availability
--> Check for pdf tools availability

===> Check profiling directory

===> List profiling input RAW images
--> Found ISO RW2 IMAGE 160 image: ./P1110094.rw2
debug iso: RW2 IMAGE 160
/home/alex/darktable/tools/noise/subr.sh: line 22: ${var_images_RW2 IMAGE 160}: bad substitution
```

*I think it's an exiv2 0.26 issue. It should return 160 not
Ok, i will try.*

#9 - 01/27/2018 08:45 PM - Alex Stepanov

\$exiv2 --version

```
exiv2 0.25 001900 (64 bit build)
Copyright (C) 2004-2015 Andreas Huggel.
```

```
This program is free software; you can redistribute it and/or
modify it under the terms of the GNU General Public License
as published by the Free Software Foundation; either version 2
of the License, or (at your option) any later version.
```

```
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
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```

```
You should have received a copy of the GNU General Public
License along with this program; if not, write to the Free
Software Foundation, Inc., 51 Franklin Street, Fifth Floor,
Boston, MA 02110-1301 USA
```

```
$ ~/darktable/tools/noise/gen-profile -d .
```

```
====> Check for required tools
--> Check shell: /bin/bash version: 4.4.12(1)-release.
--> Check for images handling tools availability
--> Check for images export tools availability
--> Check for profiling tools availability
--> Check for internal tools availability
--> Build profiling tools
make: Entering directory '/home/alex/darktable/tools/noise'
make: Nothing to be done for 'all'.
make: Leaving directory '/home/alex/darktable/tools/noise'
--> Check for tethering tools availability
--> Check for pdf tools availability
```

```
====> Check profiling directory
```

```
====> List profiling input RAW images
--> Found ISO 160 image: ./P1110094.rw2
debug iso: 160
--> Found ISO 160 image: ./P1110095.rw2
debug iso: 160
--> Found ISO 200 image: ./P1110096.rw2
debug iso: 200
--> Found ISO 250 image: ./P1110097.rw2
debug iso: 250
--> Found ISO 320 image: ./P1110098.rw2
debug iso: 320
--> Found ISO 400 image: ./P1110099.rw2
debug iso: 400
--> Found ISO 500 image: ./P1110100.rw2
debug iso: 500
--> Found ISO 640 image: ./P1110101.rw2
debug iso: 640
--> Found ISO 800 image: ./P1110102.rw2
debug iso: 800
--> Found ISO 1000 image: ./P1110103.rw2
debug iso: 1000
--> Found ISO 1250 image: ./P1110104.rw2
debug iso: 1250
--> Found ISO 1600 image: ./P1110105.rw2
debug iso: 1600
--> Found ISO 2000 image: ./P1110106.rw2
debug iso: 2000
--> Found ISO 2500 image: ./P1110107.rw2
debug iso: 2500
--> Found ISO 3200 image: ./P1110108.rw2
debug iso: 3200
--> Found ISO 4000 image: ./P1110109.rw2
debug iso: 4000
--> Found ISO 5000 image: ./P1110110.rw2
debug iso: 5000
--> Found ISO 6400 image: ./P1110111.rw2
debug iso: 6400
--> Found ISO 8000 image: ./P1110112.rw2
debug iso: 8000
--> Found ISO 10000 image: ./P1110113.rw2
debug iso: 10000
--> Found ISO 12800 image: ./P1110114.rw2
debug iso: 12800
```

The script will use existing input RAW images for the profiling. No more shot will be taken.

```
====> Checking profiling RAW images correctness + Jpeg export
--> ISO 160:
    ./P1110094.rw2
```

Yeah! Thank you so much! Indeed, the problem was in packet [exiv2 version 2.6!](#)

You were right! Requires rollback to version 2.5 for this package

#10 - 01/27/2018 09:08 PM - Alex Stepanov

It turned out not so simple ...

There is no previous error with exiv2 version 2.5 and the script starts working. But stops working Darktable!

\$ darktable

darktable: error while loading shared libraries: libexiv2.so.26: cannot open shared object file: No such file or directory

In the end, I still can not get the profile for the 'denoise (profiled)' module in dt

#11 - 01/28/2018 04:49 PM - Alex Stepanov

- File *dt-noiseprofile-20180128.tar.gz* added

I sent a bug out to the developer exiv2. Has already received the answer. The developer submit this fix later today.

I got the correct profile for 'denoise (profiled)' module by this way:

>> *subr.sh* <<

```
get_exif_key() {
    local file key
    file=$1
    key=$2
    exiv2 -g "$key" -Pt "$file" 2>/dev/null | sed -e '1d' || :
}
```

Yes, is a very dirty hack, but working!

I created several sets of shots for profiling. I send the best (optimal) profile.

#12 - 01/28/2018 04:59 PM - Stefan Schöfegger

I sent a bug out to the developer exiv2

Thank you. I set up a chroot test environment to test exiv2 0.26 to reproduce this bug. I'll have a look on your profile later.

#13 - 01/28/2018 05:51 PM - Stefan Schöfegger

For the sake of completeness:
<http://dev.exiv2.org/issues/1334>

#14 - 01/28/2018 07:57 PM - Stefan Schöfegger

- % Done changed from 20 to 0
- Status changed from *Triaged* to *Closed: upstream*

Profile is added, thank you.
I close this issue with *closed:upstream* as the main issue must be fixed in *exiv2*.

#15 - 02/07/2018 09:30 PM - Roman Lebedev

- Target version set to *2.6.0*

Files

P1110095.rw2	18.5 MB	01/27/2018	Alex Stepanov
dt-noiseprofile-20180128.tar.gz	23 MB	01/28/2018	Alex Stepanov