

Re: C : how to export raw YUV to a file ?

Source: <http://coding.derkeiler.com/Archive/General/comp.programming/2004-10/0139.html>

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Date: 10/06/04

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-----BEGIN PGP SIGNED MESSAGE-----

Hash: SHA1

| Here's a question for you: Why do PGP signatures always wind up in the
| body text of Usenet posts? Hasn't someone written a PGP client that can
| put the ugly stuff in headers where I don't have to look at it unless I
| want to?

I use mozilla thunderbird, and it never show PGP headers, except when
they are commented as you just did :(

It simply notify valid or non valid PGP header somewhere above the
message by a specific icon.

| Okay, so you have two basic questions here: (1) How do I write an image
| to disk as a PNG-format file? (2) How do I deal with YUV images, as
| opposed to the more "canonical" (in most circles) RGB encoding?

I thought that some lib could directly export from YUV to png. Looks
like no.

~From that, I have a book which explains how to convert YUV<=>RGB. But
since I am learning clean coding, instead of doing by hand, I thought it
d be a good idear to use dedicated tools. => which lib can convert YUV
in anything else ?

| (1) Use libpng, a free PNG library available on the Web. There's a
| bare-bones example C source on my website:
| http://www.contrib.andrew.cmu.edu/~ajo/free-software/simple_png.c
| but depending on your level of expertise, it may be easier for you to
| read the libpng documentation yourself than try to figure out what my C
| routines are doing. ;)

160 lines example is what you call simple ... I dont want you to send me
a 'difficult' example ^^

I have read the man 3 libpng, and found a revealant section, but it
looks so big and complex, i guess I d make so many mistakes i d never be
able to make my code work properly.

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let study the content :

what

```
unsigned char (*data)[3];
```

exactly mean ? array of pointers ?

I do not really understand how you read the file, or more precisely, how you read the content of the picture.

```
oh : (*data) = malloc(*w * *h * sizeof **data);
```

that is interesting ... but I still do not understand what type is data :/

the part I am focussing on is:

```
~ for (j=0; j < h; ++j)
```

```
~ row_pointers[j] = (png_byte*)data[j*w+0];
```

so: data look to be an array of something, but I still do not understand how many dimensions it has : 1 or 2 ?

in the read func, why the hell do you read data ? I thought you would write it !

and in write, you also always read it ... what is the use of a var you always read ???

all that remains much fuzzy to me.

I d just need to understand which format WritePNG() expect RGB data to be. If i understand that, it is all done. – for now I dont.

| (a) Convert the YUV data to RGB data and write it to the file as RGB.
| You can find conversion formulas on the Web. This is a slightly lossy
| procedure, which means you won't be able to get back exactly the YUV
| values you started with. But that may not be a big deal.

I dont want to store RGB in file. I need a compressed format.

| (b) Just pretend YUV is RGB. For example, if you have a YUV triple
| [...] as you remember that R=Y, G=U, and B=V.

my YUV is completely different than RGB. I cant assume what you say.
y= light, U = green/red V=blue/red (IIRC)

| (c) Find an image format that supports YUV colorspace directly. AFAIK,
| the PNG format does not do YUV. I bet TIFF does, but TIFF is kind of
| cumbersome, in my opinion. Of course, you could also just dump the raw
| YUV data, if you didn't need to be able to see the pretty pictures
| outside of the application you're writing.

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I could _optionally_ write data to a .yuv file, but I do not find any documentation about their headers. I already learnt how to read headers of .wav . But if I have to export YUV to anything, I ll do it to RGB.

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DEMAINE Benoît-Pierre <http://www.demaine.info/>

o< apt-get remove ispell >o/

There're 10 types of people: those who can count in binary and those who can't

-----BEGIN PGP SIGNATURE-----

Version: GnuPG v1.2.5 (GNU/Linux)

Comment: Using GnuPG with Thunderbird - <http://enigmail.mozdev.org>

iD8DBQFBY1moGWSTLbOSw8IRAnQnAKC9G7M4GE4+2WORkU6997oFoYEUUQCfdMuR

ShCpSOSYwkn+BWhlsmoor0k=

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