
Subject: Putting plugin/png on a diet

Posted by [guido](#) on Mon, 11 Jun 2007 14:14:32 GMT

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Hi,

libpng is huge and up doesn't use half of its features.

So currently a lot of "dead" code is linked in.

Fortunately libpng offers fine grained build control, so we should take advantage of it:

options

- DPNG_NO_READ_EXPAND,
- DPNG_NO_READ_SHIFT,
- DPNG_NO_READ_PACK,
- DPNG_NO_READ_SWAP,
- DPNG_NO_READ_PACKSWAP,
- DPNG_NO_READ_INVERT,
- DPNG_NO_READ_DITHER,
- DPNG_NO_READ_BACKGROUND,
- DPNG_NO_READ_FILLER,
- DPNG_NO_READ_GAMMA,
- DPNG_NO_READ_GRAY_TO_RGB,
- DPNG_NO_READ_SWAP_ALPHA,
- DPNG_NO_READ_INVERT_ALPHA,
- DPNG_NO_READ_STRIP_ALPHA,
- DPNG_NO_READ_USER_TRANSFORM,
- DPNG_NO_READ_RGB_TO_GRAY,
- DPNG_NO_PROGRESSIVE_READ,
- DPNG_NO_READ_COMPOSITE_NODIV,
- DPNG_NO_MNG_FEATURES,
- DPNG_NO_READ_EMPTY_PLTE,
- DPNG_NO_WRITE_SHIFT,
- DPNG_NO_WRITE_PACK,
- DPNG_NO_WRITE_SWAP,
- DPNG_NO_WRITE_PACKSWAP,
- DPNG_NO_WRITE_INVERT,
- DPNG_NO_WRITE_FILLER,
- DPNG_NO_WRITE_SWAP_ALPHA,
- DPNG_NO_WRITE_INVERT_ALPHA,
- DPNG_NO_WRITE_USER_TRANSFORM,
- DPNG_NO_USER_TRANSFORM_PTR,
- DPNG_NO_WRITE_EMPTY_PLTE,
- DPNG_NO_EASY_ACCESS,
- DPNG_NO_READ_bKGD,
- DPNG_NO_READ_cHRM,
- DPNG_NO_READ_gAMA,
- DPNG_NO_READ_iCCP,

```
-DPNG_NO_READ_oFFs,  
-DPNG_NO_READ_pCAL,  
-DPNG_NO_READ_sCAL,  
-DPNG_NO_READ_sBIT,  
-DPNG_NO_READ_sPLT,  
-DPNG_NO_READ_sRGB,  
-DPNG_NO_READ_tIME,  
-DPNG_NO_READ_zTXt,  
-DPNG_NO_READ_OPT_PLTE,  
-DPNG_NO_INFO_IMAGE;
```

Adding above to png.hpp reduces executable size by 40k and plugin build time is cut in half (gcc-4.1/optimal).

Plugin overhead thus marginal, I suggest static linking on all platforms. Though libpng can be assumed on X11, ABI stability is a concern.

PS:

The included libpng is quite ancient. Should be replaced with a recent copy. There have been a number of buffer-overruns fixed at least. Also recent versions should be faster due to assembly/mmx routines.

Guido

File Attachments

1) [png.hpp](#), downloaded 327 times

Subject: Re: Putting plugin/png on a diet
Posted by [mirek](#) on Mon, 11 Jun 2007 18:01:04 GMT
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Thanks!
