

Package: libopenexr (via r-universe)

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Type Package

Title Static Library and Headers for 'OpenEXR' Image I/O

Version 3.4.12-6

Description Provides the 'OpenEXR' static library and 'C++' headers for high-dynamic-range image I/O (see <<https://openexr.com/>>) needed to link R packages against the 'OpenEXR' library, along with a basic R interface to load 'EXR' images.

Depends R (>= 4.3.0)

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LinkingTo libimath (>= 3.2.2)

Encoding UTF-8

LazyData true

SystemRequirements CMake, GNU make

RoxygenNote 7.3.2

Biarch TRUE

BugReports <https://github.com/tylermorganwall/libopenexr/issues>

Config/pak/sysreqs cmake make

Repository <https://tylermorganwall.r-universe.dev>

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RemoteUrl <https://github.com/tylermorganwall/libopenexr>

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read_exr	<i>Read an OpenEXR image</i>
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Description

Load an RGBA OpenEXR image into R numeric matrices.

Usage

```
read_exr(path, array = FALSE)
```

Arguments

path	Character scalar. Path to an ‘.exr’ file.
array	Default ‘FALSE’. Return a 4-layer RGBA array instead of a list.

Details

The ‘metadata’ list contains only metadata present in the file. ‘chromaticities’ is returned as a named list of ‘red’, ‘green’, ‘blue’, and ‘white’ xy vectors. ‘adoptedNeutral’ is returned as an xy vector, ‘whiteLuminance’ as a scalar, and ‘envmap’ as “latlong” or “cube”.

Value

A list with elements ‘r’, ‘g’, ‘b’, ‘a’ (numeric matrices), the integer dimensions ‘width’, ‘height’, and a ‘metadata’ list. If ‘array = TRUE’, the metadata list is returned as the ‘metadata’ attribute.

Examples

```
#Write the included data to an EXR file
tmpfile = tempfile(fileext = ".exr")
write_exr(tmpfile,
           widecolorgamut[,1],
           widecolorgamut[,2],
           widecolorgamut[,3],
           widecolorgamut[,4])
exr_file = read_exr(tmpfile)
str(exr_file)
```

widecolorgamut	Wide Color Gamut EXR Data
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Description

Wide Color Gamut numeric data in RGBA list format from the OpenEXR project.

Usage

widecolorgamut

Format

An array of four channels (RGBA) and a width/height

Source

<https://openexr.com/en/latest/test_images/TestImages/WideColorGamut.html>

write_exr	Write an OpenEXR image
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Description

Save RGBA numeric matrices to an OpenEXR file (32-bit float, ZIP compression).

Usage

```
write_exr(  
  path,  
  r,  
  g,  
  b,  
  a = matrix(1, nrow = nrow(r), ncol = ncol(r)),  
  metadata = NULL  
)
```

Arguments

path	Character scalar output file.
r	Numeric matrix, red channel.
g	Numeric matrix, green channel.
b	Numeric matrix, blue channel.
a	Numeric matrix, alpha channel.
metadata	Default 'NULL'. Optional EXR header metadata list with supported fields 'chromaticities', 'adoptedNeutral', 'whiteLuminance', and 'envmap'.

Details

‘metadata\$chromaticities’ can be a named list with ‘red’, ‘green’, ‘blue’, and ‘white’ numeric xy vectors, a 4x2 numeric matrix, or a numeric vector of length 8 in red, green, blue, white xy order. ‘adoptedNeutral’ must be a length-2 numeric xy vector, ‘whiteLuminance’ must be a numeric scalar, and ‘envmap’ must be ‘"latlong"’, ‘"cube"’, ‘0’, or ‘1’.

Value

None.

Examples

```
#Write the included data to an EXR file
tmpfile = tempfile(fileext = ".exr")
write_exr(tmpfile,
          widecolorgamut[,1],
          widecolorgamut[,2],
          widecolorgamut[,3],
          widecolorgamut[,4])
```

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