Package 'loder'

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Title Dependency-Free Access to PNG Image Files

Suggests testthat, covr

Description Read and write access to PNG image files using the LodePNG
library. The package has no external dependencies.

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Encoding UTF-8

URL https://github.com/jonclayden/loder

BugReports https://github.com/jonclayden/loder/issues

RoxygenNote 6.0.1

NeedsCompilation yes

Author Jon Clayden [aut, cre],
Lode Vandevenne [aut]

Maintainer Jon Clayden <code@clayden.org>

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R topics documented:

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inspectPng   *Read metadata from a PNG file*

Description

Inspect a PNG file, returning parsed metadata relating to it.

Usage

```
inspectPng(file)

## S3 method for class 'lodermeta'
print(x, ...)
```

Arguments

file	A character string giving the file name to read from.
x	An object of class "lodermeta".
...	Additional arguments (which are ignored).

Details

The LodePNG library is used to parse the PNG file at the specified path. The result is a string like
the input, but of class "lodermeta" and with several attributes set describing the file's contents.
There is a print method for these objects.

Value

inspectPng returns a character vector of class "lodermeta". The print method is called for its
side-effect.

See Also

readPng to read the pixel values.

Examples

```
path <- system.file("extdata", "pngsuite", package="loder")
inspectPng(file.path(path, "basn6a08.png"))
```

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readPng   *Read a PNG file*

Description

Read an image from a PNG file and convert the pixel data into an R array.

Usage

```
readPng(file)

## S3 method for class 'loder'
print(x, ...)
```

Arguments

file	A character string giving the file name to read from.
x	An object of class ″loder″.
...	Additional arguments (which are ignored).

Details

The LodePNG library is used to read the PNG file at the specified path. LodePNG can handle a wide
variety of subformats and bit depths, but the output of this function is currently standardised to an
integer-mode array with 8-bit range, i.e. between 0 and 255. Attributes specifying the background
colour, spatial resolution and/or aspect ratio are attached to the result if this information is stored
with the image.

Value

readPng returns an integer-mode array of class ″loder″. The print method is called for its side-
effect.

See Also

inspectPng to read only metadata from the file. In addition, the readPNG function in the venerable
png package offers similar functionality to readPng, but relies on an external installation of libpng.
By contrast, loder includes the LodePNG library.

Examples

```
path <- system.file(″extdata″, ″pngsuite″, package=″loder″)
image <- readPng(file.path(path, ″basn6a08.png″))
print(image)
attributes(image)
```

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writePng   *Write a PNG file*

Description

Write a numeric or logical array to a PNG file.

Usage

```
writePng(image, file, ..., compression = 4L, interlace = FALSE)
```

Arguments

image   An array containing the pixel data.

file   A character string giving the file name to write to.

...   Additional metadata elements, which override equivalently named attributes of
                image. See Details.

compression   Compression level, an integer value between 0 (no compression, fastest) and 6
                (maximum compression, slowest).

interlace   Logical value: should the image be interlaced?

Details

The LodePNG library is used to write a PNG file at the specified path. The source data should be of
logical, integer or numeric mode. Metadata attributes of the image will be stored where applicable,
and may be overwritten using named arguments. LodePNG will choose the bit depth of the final
image.

Attributes which are currently stored are as follows. In each case an argument of the appropriate
name can be used to override a value stored with the image.

range A numeric 2-vector giving the extremes of the intensity window, i.e. the black and white
    points. Values outside this range will be clipped.

background A hexadecimal colour string giving the background colour.

dpi A numeric 2-vector giving the dots-per-inch resolution of the image in each dimension.

asp The aspect ratio of the image. Ignored if dpi is present and valid.

text A character vector (possibly named) of text strings to store in the file. Only ASCII and UTF-8
    encoded strings are currently supported.

Dimensions are always taken from the image, and cannot be modified here.

Value

The file argument, invisibly.

See Also

readPng for reading images.

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