Package: readbitmap (via r-universe)

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License GPL (>=2)

Title Simple Unified Interface to Read Bitmap Images (BMP,JPEG,PNG,TIFF)

Description Identifies and reads Windows BMP, JPEG, PNG, and TIFF format bitmap images. Identification defaults to the use of the magic number embedded in the file rather than the file extension. Reading of JPEG and PNG image depends on libjpg and libpng libraries. See file INSTALL for details if necessary.

Version 0.1.5

URL `https://github.com/jefferis/readbitmap`

BugReports `https://github.com/jefferis/readbitmap/issues`

SystemRequirements libjpeg, libpng

Imports bmp, jpeg, png, tiff

Suggests pixmap, testthat

RoxygenNote 6.0.1

Config/pak/sysreqs libjpeg-dev libpng-dev libtiff-dev

Repository https://jefferis.r-universe.dev

RemoteUrl https://github.com/jefferis/readbitmap

RemoteRef HEAD

RemoteSha 9e4080ef73f4d689c616fde7a5530996580aea16

Contents

readbitmap-package 2
image_type 2
read.bitmap 3

Index **4**

readbitmap-package — *readbitmap: read standard bitmap image formats*

Description

The readbitmap package enables users to read the three main general purpose bitmap image formats (jpeg, png, bmp) without having to specify the image type directly. This is provided by a single function `read.bitmap`, which uses a second function `image_type`, which is also exported for users, to identify the image type of a file using appropriate *magic* values encoded in the first few bytes of the image header. Images can therefore have any file extension.

See Also

`image_type`, `read.bitmap`

image_type — *Identify the type of an image using the magic value at the start of the file*

Description

Currently works for png, jpeg, BMP, and tiff images. Will seek to start of file if passed a connection. For details of magic values for files, see e.g. `http://en.wikipedia.org/wiki/Magic_number_(programming)#Magic_numbers_in_files`

Usage

```
image_type(source, Verbose = FALSE)
```

Arguments

`source`	Path to file or connection
`Verbose`	Whether to write a message to console on failure (Default `FALSE`)

Value

character value corresponding to standard file extension of image format (i.e. jpg, png, bmp, tif) or `NA_character_` on failure.

Examples

```
jpegfile=system.file("img", "Rlogo.jpg", package="jpeg")
image_type(jpegfile)
jpeg_pretending_to_be_png=tempfile(fileext = '.png')
file.copy(jpegfile, jpeg_pretending_to_be_png)
image_type(jpeg_pretending_to_be_png)
unlink(jpeg_pretending_to_be_png)
```

read.bitmap — *Read in a bitmap image in JPEG, PNG, BMP or TIFF format*

Description

By default uses magic bytes at the start of the file to identify the image type (rather than the file extension). Currently uses readers in bmp, jpeg, png, and tiff packages.

Usage

```
read.bitmap(f, channel, IdentifyByExtension = FALSE, ...)
```

Arguments

`f`	Path to image file
`channel`	Integer identifying channel to return for an RGB image
`IdentifyByExtension`	Identify by file extension only (Default FALSE)
`...`	Additional parameters passed to underlying image readers

Value

Objects returned by `readJPEG`, `readPNG`, `read.bmp`, or `readTIFF`. See their documentation for details.

See Also

`image_type`, `readJPEG`, `readPNG`, `read.bmp`, `readTIFF`

Examples

```
img1=read.bitmap(system.file("img", "Rlogo.jpg", package="jpeg"))
str(img1)
img2 <- read.bitmap(system.file("img", "Rlogo.png", package="png"))
# nb the PNG image has an alpha channel
str(img2)
```

Index

∗ **package**
    readbitmap-package, 2

image_type, *2*, *2*, *3*

read.bitmap, *2*, 3
read.bmp, *3*
readbitmap *(*readbitmap-package*)*, 2
readbitmap-package, 2
readJPEG, *3*
readPNG, *3*
readTIFF, *3*