Package: devEMF (via r-universe)

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Type Package

Title EMF Graphics Output Device

Version 4.6

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Depends R (>= 2.10.1)

SystemRequirements fontconfig or zlib (only needed for platforms other than modern macOS and Windows)

Description Output graphics to EMF+/EMF.

License GPL-3

URL https://github.com/plfjohnson/devEMF

BugReports https://github.com/plfjohnson/devEMF/issues

NeedsCompilation yes

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Config/pak/sysreqs libfontconfig1-dev zlib1g-dev

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

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emf *Enhanced Metafile Graphics Device*

Description

'emf' starts the graphics device driver for producing enhanced metafile (emf+/emf) graphics, which can imported natively as vector graphics in both LibreOffice and Microsoft Office.

Usage

```
emf(file = "Rplot.emf", width = 7, height = 7, units = c("in", "cm", "mm"),
    bg = "transparent", fg = "black", pointsize = 12,
    family = "Helvetica", coordDPI = 300, custom.lty=emfPlus,
    emfPlus=TRUE, emfPlusFont = FALSE, emfPlusRaster = FALSE,
    emfPlusFontToPath = FALSE)
```

Arguments

file	character string giving the name of file.
width	width of plot.
height	height of plot.
units	units in which width and height are given. Must be one of in (inches, default), cm, or mm.
bg	plot background color. If transparent, no background color is painted.
fg	initial foreground color to be used.
pointsize	default font point size to be used.
family	default font family to be used (if you use non-standard fonts, consider setting emfPlusFontToPath=TRUE to ensure text looks correct on the viewing system).
coordDPI	DPI used for coordinate system (while EMF is a vector format, it (and R) use discrete coordinate systems).
custom.lty	logical: if false, approximate R line types with EMF standard line types (any program that imports EMF should support this). If true, use exact (custom) R line type, which is only supported by LibreOffice if using EMF+.
emfPlus	logical: whether to use EMF+ records or not
emfPlusFont	logical: if using EMF+, should text use EMF+ or EMF records?
emfPlusRaster	logical: if using EMF+, should raster images use EMF+ or EMF records?
emfPlusFontToPath	logical: if using EMF+, should text be converted to graphics paths and saved in file?

Details

The standard office suites support very few vector graphics formats for import. Enhanced Metafiles (EMFs) do tend to be supported, which is the purpose of this device. EMF+ is a newer format that is encapsulated within an EMF file and allows options such as partial transparency.

The EMF/EMF+ specifications do not allow for multiple pages; attempting to create multiple pages will result in a warning message and the output file will contain the different pages superimposed.

Also, note EMF/EMF+ does not support font embedding, so with the default options, any fonts used must be present both on the system that you use when you create the graphics file (i.e., when you run R) and on the system that you use to import/view the file. HOWEVER, the `emfPlusFontToPath = TRUE` option converts text characters into graphics paths and makes the resulting EMF+ files truly portable (although text strings will no longer be editable by downstream programs). This option is currently only implemented for Linux-type OS (with Fontconfig installed) and Windows.

EMF/EMF+ supports Unicode characters, and this package tries to maintain that support as well. However, font metric information is system dependent and on linux depends on Fontconfig being installed. Regardless, basic font metrics for the standard Adobe PostScript font families are built into this package.

Only EMF+ allows partial transparency (i.e., the only useful type – $0.0 < \text{alpha} < 1.0$); attempting to use a transparent color when `emfPlus = FALSE` will result in a warning message and the output will be completely transparent (invisible).

LibreOffice support for EMF+ was incomplete as of version 5, and, cannot handle EMF+ records with rotated text or raster images (hence the options to turn off EMF+ and use EMF instead for these types of records). devEMF defaults to EMF for these records to maintain compatibility, but quality is higher if EMF+ records are used.

Known limitations

- EMF (as opposed to EMF+) raster rendering does not support interpolation control.
- EMF (as opposed to EMF+) does not support an alpha channel.
- Path rendering is not implemented for EMF (as opposed to EMF+).
- The EMF/EMF+ specification needs logical bounds in integer units of mm, but needs the graphic frame bounds in integer units of 0.01mm. This discrepancy can create a small gap at the right and bottom edges of the graphic. If you need to make a graphic precisely full-bleed with no gap (and no cropping), set the logical DPI high (perhaps 1000) and specify figure width and height in integer units of mm. If using Microsoft Office to view the graphic, you'll need to shrink the bounds by a few 0.01mm (subtracting 0.04mm appears sufficient) to completely eliminate the gap.

Author(s)

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See Also

Devices

Examples

```
require(devEMF)
## Not run:
# open file "bar.emf" for graphics output
emf("bar.emf")
# produce the desired graph(s)
plot(1,1)
dev.off() #turn off device and finalize file

## End(Not run)
```

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