

The cairoDevice Package

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Title Cairo-based cross-platform antialiased graphics device driver.

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Depends R (>= 2.7.0)

Imports grDevices

Suggests RGtk2

SystemRequirements cairo (>= 1.0)

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Description Cairo/GTK graphics device driver with output to screen, file (png, svg, pdf, and ps) or memory (GdkDrawable). The screen device may be embedded into RGtk2 interfaces. Supports all interactive features of other graphics devices, including getGraphicsEvent().

Acknowledgements Lyndon Drake (based on gtkDevice), Brian Ripley (updates for R 2.7), Mikhail Kondrin (Adobe->UTF8 translation)

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Description

Open an R graphics device based on the Cairo vector graphics library

Usage

```
Cairo(width = 7, height = 7, pointsize = 10, surface = "screen", filename = NULL)
Cairo_pdf(filename, width = 7, height = 7, pointsize = 10)
Cairo_ps(filename, width = 7, height = 7, pointsize = 10)
Cairo_svg(filename, width = 7, height = 7, pointsize = 10)
Cairo_png(filename, width = 7, height = 7, pointsize = 10)
```

Arguments

<code>width</code>	The (initial) width in inches
<code>height</code>	The (initial) height in inches
<code>pointsize</code>	The pointsize of the font
<code>surface</code>	One of <code>screen</code> , <code>pdf</code> , <code>ps</code> , <code>svg</code> , or <code>png</code> , indicating the cairo backend to use (the output format). If missing, inferred from extension of the <code>filename</code> argument.
<code>filename</code>	The output filename (used only by file surfaces, not the screen). If a file surface is specified but no filename is given, the filename defaults to <code>Rplots.SURFACE</code> where <code>SURFACE</code> is the name of the current surface type.

Details

Creates an R graphics device that draws to the specified Cairo surface. By default, this will draw to a GTK+ window on the screen, but it also outputs to pdf, ps, png, and svg files, depending on the capabilities of your cairo installation.

This functions the same as any other R graphics device. You may use the conventional plot commands and expect essentially the same output, except that everything is anti-aliased (similar to other vector-based devices like Quartz). Alpha-blending is supported, as is enhanced interactivity via [getGraphicsEvent](#). The device should work the same across all supported platforms (Mac, Windows, and Linux).

Author(s)

Michael Lawrence

References

<http://www.cairographics.org/>

See Also

[asCairoDevice](#) for embedding the device in an RGtk2 interface.

asCairoDevice

Converting GTK+ widgets to Cairo graphics devices

Description

Allows one to convert an arbitrary realized GTK+ widget (usually a [GtkDrawingArea](#)) or a [GdkDrawable](#) (like a [GdkPixmap](#)) to a Cairo graphics device, so that R plot commands draw to the widget/drawable.

Usage

```
asCairoDevice(widget, pointsize = 10)
```

Arguments

<code>widget</code>	The realized widget or drawable to which the R graphics are drawn
<code>pointsize</code>	The default font size in the R plot

Details

The main purpose of this function is to allow the user to embed an R plot in a GTK user interface constructed with RGtk2. Please see the examples in the RGtk2 package.

Drawing to an offscreen [GdkPixmap](#) is useful for buffering and transforming R graphics. For example, one could copy the pixmap to a [GdkPixbuf](#) and add a watermark before saving as a gif, png, jpg, etc.

Note

In previous versions of the package (pre 2.0), it was possible to call `asCairoDevice` on a widget before it was realized. This should not have been allowed, because it is impossible to draw to an unrealized widget. Many published examples called `asCairoDevice` before realizing the widget, but they will now fail with an error. When calling `asCairoDevice` on a widget, first realize the widget, for example by adding the widget to a container where the top-level ancestor is visible.

Author(s)

Michael Lawrence

References

<http://www.ggobi.org/rgtk2> <http://www.gtk.org/> <http://www.cairographics.org/>

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