Package 'cairoDevice'

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Title Embeddable Cairo Graphics Device Driver

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Depends R (>= 2.12.0)

Imports grDevices

SystemRequirements cairo (>= 1.0)

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Description This device uses Cairo and GTK to draw to the screen,
file (png, svg, pdf, and ps) or memory (arbitrary GdkDrawable
or Cairo context). The screen device may be embedded into RGtk2
interfaces and supports all interactive features of other graphics
devices, including getGraphicsEvent().

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Duncan Murdoch (updates for R 2.12)

License GPL

NeedsCompilation yes

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R topics documented:

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asCairoDevice   *Converting widgets and more to a Cairo graphics device*

Description

Allows one to convert an arbitrary GTK+ widget (usually a `GtkDrawingArea`), a `GdkDrawable` (like a `GdkPixmap`), a GtkPrintContext or a `Cairo` context to a Cairo graphics device, so that R plot commands draw to the given target.

Usage

```
asCairoDevice(widget, pointsize = 12, width = 500, height = 500)
```

Arguments

widget	The `GtkWidget`, `GdkDrawable`, `GtkPrintContext`, or `Cairo` context, to which the R graphics are to be drawn
pointsize	The default font size in the R plot
width	Width in user coordinates, only used if `widget` is a Cairo context
height	Height in user coordinates, only used if `widget` is a Cairo context

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.

One may also pass a `Cairo` context as the `widget` parameter. This allows targeting arbitary Cairo surfaces. Note that the context state is for the most part not cleared before plotting, so transformations, etc, will remain in effect. Unlike Cairo, the R graphics system requires bounds to be specified, which may be done through the `width` and `height` parameters.

As a convenience, GtkPrintContext is also accepted as the `widget` parameter. This makes it easy to redirect R graphics to a printer selected and configured through the GTK+ printing dialogs.

Author(s)

Michael Lawrence

References

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

Cairo   *The Cairo Graphics Device*

Description

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

Usage

```
Cairo(width = 7, height = 7, pointsize = 12,
      surface = c("screen", "png", "pdf", "ps", "svg"), filename = NULL)
Cairo_pdf(filename, width = 7, height = 7, pointsize = 12)
Cairo_ps(filename, width = 7, height = 7, pointsize = 12)
Cairo_svg(filename, width = 7, height = 7, pointsize = 12)
Cairo_png(filename, width = 7, height = 7, pointsize = 12)
```

Arguments

width	The (initial) width in inches
height	The (initial) height in inches
pointsize	The pointsize of the font
surface	One of screen, pdf, ps, svg, or png, indicating the cairo backend to use (the output format). If missing, inferred from extension of the filename argument.
filename	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 Rplots.SURFACE where SURFACE 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.

Examples

```
Cairo()
plot(1:10)
dev.off()
```

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