

Guile Charting

version 0.1.0, updated 8 June 2007

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This manual is for Guile Charting (version 0.1.0, updated 8 June 2007)

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1 (charting)

1.1 Overview

[undocumented]

1.2 Usage

```
make-bar-chart [#:title = #f] [#:data = #f] [#:write-to-png = #f] [Function]
  [#:bar-width = 40] [#:group-spacing = 40] [#:chart-height = 360]
  [#:chart-params = (quote ())] [#:legend-params = (quote ())]
```

Make a bar chart.

The format of *data* is defined as follows:

data (group+)

group (group-label bar+)

group-label

A string, to be written to the X axis.

bar (height bar-params?)

height The bar height, as a number.

bar-params

A property list suitable to passing to [\[charting draw draw-bar\]](#), page 3.

This function returns the cairo surface. By default, `make-chart` will create an image surface, but you may override this by passing a `:make-surface` function in the *chart-params*. In this way you can render charts to any surface supported by Cairo, e.g. PS, PDF, SVG, GDK, etc.

The `:write-to-png` option will write the chart out to the PNG file that you name.

An example invocation might look like:

```
(make-bar-chart "Average Height at Iihenda JSS"
  '(("Grade 9" (150 "Boys") (140 "Girls"))
    ("Grade 10" (150 "Boys")
               (140 "Girls" (:y+-bracket 5 :y--bracket 4.5))))
  :write-to-png "/tmp/graph.png")
```

```
make-chart [#:title = #f] [#:chart-height = 360] [#:chart-width = 360] [Function]
  [#:font-family = "Bitstream Vera Sans"] [#:line-width = 1] [#:title-text-height
= 16] [#:axis-text-height = 12] [#:x-axis-label = #f] [#:y-axis-label = #f]
  [#:tick-size = 5] [#:y-axis-ticks = #f] [#:x-axis-ticks = #f]
  [#:y-axis-tick-labels = #f] [#:x-axis-tick-labels = #f] [#:chart-margin = 5]
  [#:margin = 5] [#:make-surface = (lambda (x y) (cairo-image-surface-create
(quote argb32) x y))]
```

Make a chart.

tick-labels is an alist of label-value pairs, where the value is given in chart height coordinates. The label can be `#f`.

This function makes the basic chart, setting up the basics like the title, axes, etc. You probably don't want to call this unless you are making a custom chart type.

This function returns a cairo context whose coordinate system has been flipped so that the origin of the chart is $(0, 0)$, with positive in the northeast quadrant.

2 (charting draw)

2.1 Overview

2.2 Usage

draw-axis-label [#:cr = #f] [#:text = #f] [#:text-height = #f] [Function]
 [#:axis-length = #f] [#:vertical? = #f]

Draw an axis label.

The label will be drawn such that the current position of *cr* is the closest corner of the label's bounding box.

draw-background [#:cr = #f] [Function]

Draw the background.

draw-bar [#:cr = #f] [#:height = #f] [#:scale = #f] [#:bar-width = #f] [Function]
 [#:series = #f] [#:decorator = (quote ())]

Draw a single bar.

cr is expected to have been placed at the lower left corner of where the bar should be. *decorator* is a property list that can be passed to [\[charting draw draw-decorator\]](#), page 3.

draw-bar-group [#:cr = #f] [#:data = #f] [#:bar-width = #f] [#:scale = #f] [Function]
 = #f]

Draw a group of bars.

data is a property list suitable for passing to [\[charting draw draw-bar\]](#), page 3. *cr* is expected to have been positioned along the x axis in the center of where the bar group should be displayed.

draw-chart-area [#:cr = #f] [#:width = #f] [#:height = #f] [Function]

Draw the actual box for the chart background.

cr is expected to have been positioned at the origin.

draw-decorator [#:cr = #f] [#:scale = #f] [#:y+-bracket = #f] [Function]
 [#:y-bracket = #f] [#:y-bracket = #f]

Draw a decorator.

A decorator is something drawn around a point, such as error bars. This function currently supports drawing error bars in the Y direction, which are specified individually as *y+-bracket* and *y-bracket*.

draw-legend [#:cr = #f] [#:expand-right? = #f] [#:expand-down? = #f] [#:text-height = 12] [#:series-list = (quote ())] [Function]

Draw a legend.

series-list is expected to be a list of series names. The *cr* is expected to be positioned at one of the corners of the legend; *expand-right?* and *expand-down?* control which way the legend will be rendered.

draw-tick-labels [#:cr = #f] [#:tick-labels = #f] [#:tick-size = #f] [#:vertical? = #f] [#:text-height = #f] [Function]

Draw tick labels on an axis.

tick-labels is an alist of label-position pairs, where position is in the current cairo coordinate system, along one axis.

draw-ticks [#:cr = #f] [#:ticks = #f] [#:tick-size = #f] [#:vertical? = #f] [Function]

Draw ticks on an axis.

ticks is a list of positions in the current cairo coordinate system.

draw-title [#:cr = #f] [#:text = #f] [#:font-size = #f] [Function]

Draw a title.

cr is expected to have been positioned at the lower boundary of where the title should be written, in the center.

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Concept Index

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