

Package ‘huito’

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Type Package

Version 0.2.5

Title Reproducible and Flexible Label Design

Description An open-source R package to deploys reproducible and flexible labels using layers.
The 'huito' package is part of the 'inkaverse' project for developing different procedures and tools used in plant science and experimental designs.
Learn more about the 'inkaverse' project at <<https://inkaverse.com/>>.

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URL <https://huito.inkaverse.com/>, <https://github.com/flavjack/huito>

BugReports <https://github.com/flavjack/huito/issues/>

Depends magick, cowplot, ggplot2, dplyr, R (>= 2.10)

Imports tidyr, tibble, purrr, sysfonts, showtext, qrcode, pdftools

Suggests knitr, rmarkdown, bookdown, gsheets, inti

VignetteBuilder knitr

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Encoding UTF-8

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Author Flavio Lozano-Isla [aut, cre] (ORCID:
<<https://orcid.org/0000-0002-0714-669X>>),
Inkaverse [cph]

Maintainer Flavio Lozano-Isla <flozanoisla@gmail.com>

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barcode_qr	<i>Barcode generator</i>
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Description

Generate bar codes using QR codes

Usage

```
barcode_qr(text, color = "black", alpha = 1, ecl = "H")
```

Arguments

text	text to convert to QR bar code
color	Bar code color
alpha	Intensity of the bar code color
ecl	Error correction level (percentage). "L" (7), "M" (15), "Q" (25) and "H" (30). Defaults to "H"

Value

plot

Examples

```
library(huito)

barcode_qr("LIMA-2021-11-03_15_3_4")
```

fieldbook*Fieldbook experimental design*

Description

The dataset were obtained using inti package. The data set is a randomize complete block design (RCBD) with three replications.

Usage

```
fieldbook
```

Format

A data frame with 24 rows and 5 variables:

barcode barcode for each experimental unit

plots Plot number

block Blocks (3): number of replication in the design

condition Factor with two levels: irrigated and drought

genotypes Factor with four levels: choclito, salcedo, pandela, puno

huito_fonts*Fonts import*

Description

Import fonts from Google fonts

Usage

```
huito_fonts(fonts = NA)
```

Arguments

fonts fonts names

Details

For more fonts visit: <https://fonts.google.com/>

Value

fonts

image_import	<i>Image import</i>
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Description

Import images and include R magick options

Usage

```
image_import(image, opts = NA)
```

Arguments

image	path or url
opts	R magick functions by layers

Value

image

include_barcode	<i>Barcode layer</i>
-----------------	----------------------

Description

Insert barcode in label

Usage

```
include_barcode(  
  label,  
  value,  
  size,  
  position = NA,  
  type = "static",  
  color = "auto",  
  units = "cm"  
)
```

Arguments

label	label output
value	column or path
size	image size
position	position coordinate
type	type of entry: dynamic or static
color	image color
units	units for the label options

Value

data frame

include_image	<i>Image layer</i>
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Description

Insert image in label

Usage

```
include_image(
  label,
  value,
  size,
  position = NA,
  type = "static",
  units = "cm",
  opts = NA
)
```

Arguments

label	label output
value	column or path
size	image size
position	position coordinate
type	type of entry: dynamic or static
units	units for the label options
opts	R magick funtions

Value

data frame

include_shape	<i>Shape layer</i>
---------------	--------------------

Description

Insert shape in label

Usage

```
include_shape(  
  label,  
  value = "hexagon",  
  size = 5.08,  
  position = NA,  
  border_color = "black",  
  border_width = 1,  
  background = NA,  
  units = "cm",  
  panel_color = NA,  
  panel_size = NA  
)
```

Arguments

label	label output (table)
value	type of shape (string: "hexagon")
size	shape size (numeric: 5.08)
position	position coordinate (numeric: NA)
border_color	image color (string: "black")
border_width	shape line width (numeric: 1)
background	background color (string: "red")
units	units for shape (string: "cm")
panel_color	panel color (string: NA)
panel_size	panel size (numeric: NA)

Value

data frame

Examples

```
library(huito)

label <- label_layout(data = NA
  , size = c(10, 2.5)
  , background = "yellow"
) %>%
  include_shape(
    value = "hexagon"
    , position = c(1.2, 1.25)
    , background = "red"
    , border_width = 1
    , size = 2.4
    #, panel_size = 2.4*1.157175
  )

label %>% label_print("sample")

ts <- label$opts
```

include_text	<i>Text layer</i>
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Description

Insert text in label

Usage

```
include_text(
  label,
  value,
  position = NA,
  size = 11,
  font = NA,
  type = "static",
  color = NA,
  angle = 0,
  opts = NA
)
```

Arguments

label	label output
value	column or string
position	position coordinate

size	text size
font	font type
type	type of entry: dynamic or static
color	image color
angle	angle of the text
opts	list arguments from draw_label()

Value

data frame	
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label_layout	<i>Label layout</i>
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Description

Generate labels options

Usage

```
label_layout(  
  data = NA,  
  size,  
  border_width = NA,  
  border_color = "black",  
  background = NA,  
  units = "cm"  
)
```

Arguments

data	data frame to build the labels
size	label size (numeric: c(10, 2.5))
border_width	border width (numeric: 0.5)
border_color	border color (string: "transparent")
background	background color (string: "transparent")
units	units for the label options (string: "cm")

Value

data frame	
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Examples

```
label <- label_layout(size = c(10, 2.5)
                      , border_color = "red"
                      , border_width = 1
                      ) %>%
  label_print()
```

label_print

Label print

Description

Generate labels based in a data frame

Usage

```
label_print(
  label,
  mode = "sample",
  filename = "labels",
  margin = 0.04,
  paper = c(21, 29.7),
  units = "cm",
  viewer = FALSE,
  smpres = 200,
  nlabels = NA
)
```

Arguments

label	Data frame to build the labels or n repeated labels (table/numeric)
mode	Label generation (string: "sample/preview", "complete")
filename	Labels file name (string: "labels")
margin	Labels margins. margin(numeric vector: t = 0, r = 0, b = 0, l = 0)
paper	Paper size. Default A4 (numeric vector: 21.0 x 29.7)
units	Units for the label options (string: "cm")
viewer	Visualization of the label (logical: FALSE)
smpres	Sample resolution if viewer = TRUE (numeric: 200)
nlabels	Number of labels to generate (numeric: NA)

Value

pdf

Examples

```
library(huito)

fb <- fieldbook

label <- fb %>%
  label_layout(size = c(10, 2.5)
               , border_color = "blue"
               ) %>%
  include_image(
    value = "https://flavjack.github.io/inti/img/inkaverse.png"
    , size = c(2.4, 2.4)
    , position = c(1.2, 1.25)
  ) %>%
  include_barcode(
    value = "barcode"
    , size = c(2.5, 2.5)
    , position = c(8.2, 1.25)
  ) %>%
  include_text(value = "plots"
               , position = c(9.7, 1.25)
               , angle = 90
               , size = 15
               , color = "red"
               ) %>%
  include_text(value = "Inkaverse"
               , position = c(4.6, 2)
               , size = 30
               , color = "brown"
               ) %>%
  include_text(value = "condition"
               , position = c(4.6, 1.2)
               , size = 13
               , color = "orange"
               ) %>%
  include_text(value = "genotypes"
               , position = c(4.6, 0.5)
               , size = 13
               , color = "#009966"
               ) %>%
  label_print(mode = "sample")
```

 shape_hexagon

Shape hexagon

Description

Hexagon geom shape for ggplot2

Usage

```
shape_hexagon(  
  size = 5.08,  
  border_width = NA,  
  background = NA,  
  border_color = "black",  
  units = "cm",  
  panel_color = "green",  
  panel_size = NA  
)
```

Arguments

size	hexagon size (numeric: 5.08)
border_width	line width (numeric: 1)
background	background color (string: "transparent")
border_color	border color (string: "black")
units	units for shape (string: "cm")
panel_color	panel color (string: "green")
panel_size	panel size (numeric: NA)

Value

geom

Examples

```
library(huito)  
  
shape_hexagon(border_width = 1  
  , background = "red"  
  #, panel_size = 5.08  
)
```

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