

Package ‘gWidgets2tcltk’

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Title Toolkit Implementation of gWidgets2 for tcltk

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Suggests testthat

Description Port of the 'gWidgets2' API for the 'tcltk' package.

License GPL (>= 2)

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'dnd.R' 'GComponent.R' 'GContainer.R' 'GWidget.R' 'dialogs.R'
'gmenu.R' 'gaction.R' 'gbutton.R' 'gcalendar.R' 'gcheckbox.R'
'gtable.R' 'gcheckboxgroup.R' 'gcombobox.R' 'tablelist.R'
'gdf.R' 'gedit.R' 'gexpandgroup.R' 'gfile.R' 'gformlayout.R'
'ggroup.R' 'gframe.R' 'gimage.R' 'glabel.R' 'glayout.R'
'gnotebook.R' 'gpanedgroup.R' 'gprogressbar.R' 'gradio.R'
'gseparator.R' 'gslider.R' 'gspinbutton.R' 'gstackwidget.R'
'gstatusbar.R' 'gtext.R' 'gtimer.R' 'gtoolbar.R' 'gtree.R'
'gvarbrowser.R' 'gwindow.R' 'icons.R' 'tk2tip.R' 'zzz.R'

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gWidgets2tcltk-package

gWidgets2tcltk

Description

The **gWidgets2** package provides a programming interface for making graphical user interfaces within R. The package is a rewrite of the **gWidgets** package, introducing a few external changes but a significant number of internal ones. The package relies on one of several underlying toolkit packages providing access to the graphical libraries. This package provides the implementation to interface with the underlying **tcltk** package.

Drag and drop in **tcltk** is not supported by any underlying toolkit functionality. As such, in **gWidgets2tcltk** we roll our own. The result is a little limited: a) you can't drop values from other applications b) drop targets aren't allowed to be picky about what they receive (not by mime-type anyways).

GComponent is a parent class for both GContainer and GWidget and inherits its primary interface from gWidgets2::BasicToolkitInterface.

The Gdf class provides a means to edit a data frame. We use the add on TK code provided by tablelist as the underlying widget

The main reference methods GTimer are start_timer and stop_timer

Arguments

... passed to constructor

Details

To implement drag and drop, we bind to the toplevel window the events: button1, motion and button1 release. The binding occurs not to to widget, but to the toplevel window containing the widget. This has some advantages, most importantly it is unlikely the binding will be overwritten by usual gWidgets2tcltk programs. (Recall tkbind will only allow one binding per widget per signal).

The gWidgets2 way of doing drag and drop is implemented here. You add a drop source with a handler that returns the value of what you want to pass via the dnd process. Then you specify a

widget as a drop target and give a handler. This handler receives the data through the dropdata component of the "h" argument. Here, the value is generated when the drop occurs, not when the drag initiates. Not sure this makes any difference, but it might.

Simply click on a row and the editor pops up as a modal dialog. The shortcut Shift+Enter will go onto the next case, saving changes provided the auto save feature is employed.

There is no undo/redo support here. There is no support for editing rownames (just lazy at the moment, holler if you would like that). No support to change the dimensions of the data frame or edit factors, ...

Methods

`is_watching()` Are we watching for a drag?

`add_drag_motion(handler, action = NULL, ...)` Called when motion over widget occurs

`add_to_parent(parent, child, expand = NULL, fill = NULL, anchor = NULL, ...)` Add a child to parent if it is a container and non null. Dispatches to `add_child` method of parent

`get_block()` Return surround block

`get_enabled()` is widget sensitive to user input

`get_index(drop = NULL, ...)` svalue; index=TRUE

`get_tk_id()` Return tk ID

`get_toplevel_tk_id()` return id of toplevel

`get_value(drop = NULL, ...)` Get main value of widget. From 'svalue' when index = FALSE or NULL

`get_widget()` Return widget (not block)

`is_tkwidget()` Is widget older style widget

`is_ttkwidget()` Is widget new style widget?. Override in subclass if not

`set_enabled(value, ...)` specify with logical if widget is sensitive to user input

`set_size(value, ...)` Set widget size (size request), value=c(width=-1, height=-1)

`set_value(value, ..., drop = NULL)` for 'svalue<-' when index = FALSE or NULL

`add(...)` add is just `add_child`

`child_bookkeeping(child)` Update parent property of child and children property of parent container

`get_widget()` Return widget (not block)

`connect_to_toolkit_signal(signal, decorator, emitter = handler_widget(), ...)` Connect signal of toolkit to notify observer

`remove_border()` Remove border by setting relief to none

`get_length(...)` Get length of object. Needed for supply.

`save_data(nm, where)` Save data set

`set_interval(ms)` Set the interval. Need to stop and start active timer to implement.

`start_timer()` Start the timer

`stop_timer()` stop the timer

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`.gmessage.guiWidgetsToolkittcltk`

toolkit implementation for gmessage

Description

toolkit implementation for gmessage

toolkit implementation for gconfirm

toolkit implmentation of ginput

toolkit implementation

toolkit implementation of galert

Toolkit constructor

Toolkit constructor

Toolkit constructor

Toolkit constructor

Toolkit XXX constructor

Toolkit constructor

Toolkit constructor

Toolkit constructor

Toolkit constructor

Toolkit gedit constructor

toolkit constructor

Toolkit implementation

Toolkit constructor

Toolkit constructor

toolkit constructor for ggroup

gframe constructor

Toolkit constructor

Toolkit label constructor

Toolkit constructor

Toolkit constructor

Toolkit constructor

Toolkit constructor

Toolkit constructor
Toolkit constructor
Toolkit constructor
Toolkit XXX constructor
Toolkit constructor
Toolkit constructor
toolkit implementation of gtext
S3 method for gtimer
Toolkit constructor
Toolkit constructor
toolkit constructor for gwindow
add stock icons
Returns list of stock ids
return stock id
return stock id from object

Usage

```
## S3 method for class 'guiWidgetsToolkittcltk'  
.gmessage(toolkit, msg,  
  title = "message", icon = c("info", "warning", "error", "question"),  
  parent = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gconfirm(toolkit, msg,  
  title = "Confirm", icon = c("info", "warning", "error", "question"),  
  parent = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.ginput(toolkit, msg, text = "",  
  title = "Input", icon = c("info", "warning", "error", "question"),  
  parent = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gbasicdialog(toolkit, title = "Dialog",  
  parent = NULL, do.buttons = TRUE, handler = NULL, action = NULL,  
  ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.galert(toolkit, msg, title = "message",  
  delay = 3, parent = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gmenu(toolkit, menu.list = list(),
```

```
popup = FALSE, container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gaction(toolkit, label, tooltip = NULL,  
  icon = NULL, key.accel = NULL, handler = NULL, action = NULL,  
  parent = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gbutton(toolkit, text, handler, action,  
  container, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gcalendar(toolkit, text = "",  
  format = "%Y-%m-%d", handler = NULL, action = NULL,  
  container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gcheckbox(toolkit, text,  
  checked = FALSE, use.togglebutton = FALSE, handler = NULL,  
  action = NULL, container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gtable(toolkit, items,  
  multiple = FALSE, chosen.col = 1, icon.col = NULL,  
  tooltip.col = NULL, handler = NULL, action = NULL,  
  container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gcheckboxgroup(toolkit=NULL, items, checked = FALSE, horizontal = FALSE,  
  use.table = FALSE, handler = NULL, action = NULL, container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gcombobox(toolkit, items, selected = 1,  
  editable = FALSE, coerce.with = NULL, handler = NULL,  
  action = NULL, container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gdf(toolkit, items = NULL,  
  handler = NULL, action = NULL, container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gedit(toolkit, text = "", width = 25,  
  coerce.with = NULL, initial.msg = initial.msg, handler = NULL,  
  action = NULL, container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gexpandgroup(toolkit, text, markup,  
  horizontal = TRUE, handler = NULL, action = NULL,
```

```
    container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gfile(toolkit, text = "",  
       type = c("open", "save", "selectdir"), initial.filename = NULL,  
       initial.dir = getwd(), filter = list(), multi = FALSE, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gfilebrowse(toolkit, text = "",  
            type = c("open", "save", "selectdir"), initial.filename = NULL,  
            initial.dir = getwd(), filter = list(), quote = TRUE,  
            handler = NULL, action = NULL, container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gformlayout(toolkit, align = "left",  
            spacing = 5, container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.ggroup(toolkit, horizontal = TRUE,  
        spacing = 5, use.scrollwindow = FALSE, container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gframe(toolkit, text, markup, pos,  
        horizontal = TRUE, spacing = 5, container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gimage(toolkit, filename = "",  
        dirname = "", stock.id = NULL, size = "", handler = NULL,  
        action = NULL, container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.glabel(toolkit, text = "",  
        markup = FALSE, editable = FALSE, handler = NULL, action = NULL,  
        container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.glayout(toolkit, homogeneous = FALSE,  
        spacing = 10, container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gnotebook(toolkit, tab.pos = 3,  
          container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.gpanedgroup(toolkit, horizontal = TRUE,  
            container = NULL, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'
```

```
.gprogressbar(toolkit, value, container,
... )

## S3 method for class 'guiWidgetsToolkittcltk'
.gradio(toolkit, items, selected = 1,
horizontal = FALSE, handler = NULL, action = NULL,
container = NULL, ...)

## S3 method for class 'guiWidgetsToolkittcltk'
.gseparator(toolkit, horizontal = TRUE,
container = NULL, ...)

## S3 method for class 'guiWidgetsToolkittcltk'
.gslider(toolkit, from = 0, to = 100,
by = 1, value = from, horizontal = TRUE, handler = NULL,
action = NULL, container = NULL, ...)

## S3 method for class 'guiWidgetsToolkittcltk'
.gspinbutton(toolkit, from = 0,
to = 10, by = 1, value = from, digits = 0, handler = NULL,
action = NULL, container = NULL, ...)

## S3 method for class 'guiWidgetsToolkittcltk'
.gstackwidget(toolkit, container = NULL,
... )

## S3 method for class 'guiWidgetsToolkittcltk'
.gstatusbar(toolkit, text = "",
container = NULL, ...)

## S3 method for class 'guiWidgetsToolkittcltk'
.gtext(toolkit, text = NULL,
width = NULL, height = 300, font.attr = NULL, wrap = TRUE,
handler = NULL, action = NULL, container = NULL, ...)

## S3 method for class 'guiWidgetsToolkittcltk'
.gtimer(toolkit, ms, FUN, data = NULL,
one.shot = FALSE, start = TRUE)

## S3 method for class 'guiWidgetsToolkittcltk'
.gtree(toolkit, offspring = NULL,
offspring.data = NULL, chosen.col = 1, offspring.col = 2,
icon.col = NULL, tooltip.col = NULL, multiple = FALSE,
handler = NULL, action = NULL, container = NULL, ...)

## S3 method for class 'guiWidgetsToolkittcltk'
.gvarbrowser(toolkit, handler = NULL,
action = "summary", container = NULL, ...)
```



```
## S3 method for class 'guiWidgetsToolkittcltk'  
.gwindow(toolkit, title,  
  visible = visible, name, width, height, parent, handler, action, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.addStockIcons(toolkit, iconNames,  
  iconFiles, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.getStockIcons(toolkit, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.getStockIconByName(toolkit,name, ...)  
  
## S3 method for class 'guiWidgetsToolkittcltk'  
.stockIconFromObject(toolkit,obj, ...)
```

Arguments

toolkit	toolkit
msg	Character. message to display.
title	Character. Title
icon	What icon to show
parent	Hint as to where to display
...	ignored
text	Character. Initial text
do.buttons	FALSE to suppress buttons when no parent
handler	handler called when Ok button invoked
action	passed to handler for OK button
delay	delay
menu.list	A list defining the menu structure. Named sub lists determine the submenu titles and structure. The list may have components of class: GAction, mapped to a button; GSeparator, mapped to a horizontal separator; GRadio, mapped to linked buttons; or GCheckbox, mapped to a checkbox button.
popup	logical. If true, make a popup window to be added through a handler call
container	A parent container. When a widget is created it can be incorporated into the widget heirarchy by passing in a parent container at construction time. (For some toolkits this is not optional, e.g. gWidgets2tcltk or gWidgets2WWW2 .)
label	label for action
tooltip	tooltip for action
key.accel	keyboard accelerator. If given, parent must be specified.
format	Date format

<code>checked</code>	is button selected
<code>use.togglebutton</code>	Use a toggle button (shows depressed) not a check box
<code>items</code>	<code>data.frame</code> specifies items for selection. May be a vector, matrix or data frame
<code>multiple</code>	logical allow multiple selection
<code>chosen.col</code>	which value from the row is returned by selection
<code>icon.col</code>	NULL or integer. If latter, specifies column containing stock icon
<code>tooltip.col</code>	NULL or integer. If latter, specifies column containing tooltip
<code>horizontal</code>	logical. If true displayed horizontally, else vertically
<code>use.table</code>	logical. If supported, and TRUE then uses a table widget with scrollbars
<code>selected</code>	integer. Which item (by index) is selected. Use -1 for no selection
<code>editable</code>	logical. Is user allowed to edit value
<code>coerce.with</code>	A function of function name to be called before selected value is returned by <code>svalue</code>
<code>width</code>	width of widget
<code>initial.msg</code>	<code>initial.msg</code>
<code>markup</code>	does label use markup (toolkit specific)
<code>type</code>	type of browser: to open a file, to save a file or to select a directory
<code>initial.filename</code>	Suggested file name
<code>initial.dir</code>	initial directory. If a filename is given, and is not an absolute name, this will be prepended. If filename given initial directory will be taken from that.
<code>filter</code>	A filter specification. This can be a named character vector of file extensions or something toolkit specific. Here are some examples: <ul style="list-style-type: none"> • <code>characterc("csv"="csv","txt"="txt")</code> • RGtk2 Something like <pre>list("All files" = list(patterns = c("*")), "R files" = list(patterns = c("*.R", "*.Rdata")), "text files" = list(mime.types = c("text/plain"))))</pre> • tcltk • Qt
<code>multi</code>	Logical. Allow multiple files to be selected?
<code>quote</code>	quote output
<code>align</code>	alignment of label. Left justify or center balance. Leave as "default" for underlying toolkit default.
<code>spacing</code>	spacing between columns

use.scrollwindow	logical. Either TRUE, "TRUE", FALSE, "FALSE", "y", or "x". For all toolkits a non-FALSE value will place the child components into a scrollable container. For some toolkits this will only be in the direction of packing. If the toolkit allows it (RGtk2), then values of "x" or "y" can be used to override the default scrolling directions. A box container with scrollwindows should have its size set either directly or through packing with expand=TRUE as its size request will not reflect the size of its child components.
pos	position of label: 0=left, 1=right, some toolkit allow values in between
filename	basename of file
dirname	dirname of file
stock.id	stock id of icon (if non NULL)
size	size of icon when a stock id (toolkit dependent)
homogeneous	are cells all the same size
tab.pos	integer. Position of tabs, 1 on bottom, 2 left, 3 top, 4 right. (If supported)
value	a list or menu bar specifying the new menubar
from	If a number of length one then a starting point, in which case to, by are passed to seq. Otherwise a sequence of values for which sort(unique(from)) will order
to	ending point when from is starting point
by	step size if not specified by from
digits	digits
height	height of widget (when width is specified)
font.attr	font attributes for text buffer. One can also specify font attributes for insertion. The font attributes are specified with a list with named components, with names and values coming from: weight in c("light", "normal", "bold", "heavy") style in c("normal", "oblique", "italic") family in c("sans", "helvetica", "times", "monospace") size in c("xx-small", "x-small", "small", "medium", "large", "x-large", "xx-large") foreground a value in colors() background a value in colors()
wrap	logical do lines wrap
ms	interval in milliseconds
FUN	FUNction to call. Has one argument, data passed in
data	passed to function
one.shot	logical. If TRUE, called just once, else repeats
start	logical. If FALSE, started by start_timer OO method. (Call obj\$start_time()).
offspring	function. A function passed values path and data, the latter from offspring.data. The path is the current position of the parent item using the named keys from the chosen column.

<code>offspring.data</code>	Passed to second argument of <code>offspring</code> function. Used to parameterize a function call.
<code>offspring.col</code>	integer or column name. Points to column containing logical values indicating if a row has offspring.
<code>visible</code>	logical. If code <code>TRUE</code> window is drawn when constructed. Otherwise, window can be drawn later using <code>visible<-</code> . This value can default to <code>FALSE</code> by setting the option: <code>options("gWidgets:gwindow-default-visible-is-false"=TRUE)</code> . There are advantages: windows can draw slowly when adding many items. With gWidgets2RGtk2 , the <code>ggraphics</code> widget can like to be added to an undrawn widget as this avoids sizing issue.
<code>name</code>	name of icon
<code>iconNames</code>	names of icons
<code>iconFiles</code>	path of icons
<code>obj</code>	obj to get icon from

See Also

The documentation for this is found at [gbutton](#).

The documentation for this is found at [gprogressbar](#).

GComponentObservable *GComponentObservable adds the observable interface*

Description

GComponentObservable adds the observable interface

Usage

```
GComponentObservable(...)
```

Arguments

... passed to constructor

GEdit-class	<i>show the word list</i>
-------------	---------------------------

Description

show the word list

Arguments

`str` a string. If missing do nothing, otherwise match against string to generate word list. Popup menu depending on length

Methods

`add_bindings()` Add bindings to the entry box
`clear_error()` Clear error message
`clear_init_txt(...)` clear out init text, set back to black
`find_match(x)` Find match in word list
`make_styles(bg = "#ff6622")` Create tcl styles, cf <http://paste.tclers.tk/506>
`set_error(msg)` Add error state and message to widget
`set_init_txt(msg)` set initial text, gray out
`set_invalid(value, msg)` Set widget as invalid or not
`set_validator(FUN)` Set a function to do the validation
`validate_input()` Return logical indicating if input is valid

<code>getWidget.tkwin</code>	<i>method for getWidget defined in gWidgets2</i>
------------------------------	--

Description

method for getWidget defined in gWidgets2

Usage

```
## S3 method for class 'tkwin'
getWidget(obj)
```

Arguments

`obj` object

GMenuBar	<i>Toplevel menu bar</i>
----------	--------------------------

Description

The GMenuBar class provides functionality for a top-level menubar. In **tcltk** the menubars can show either gaction items (proxied as buttons), gradio items or gcheckbox items. In the latter two cases, one uses the parent argument – not the container argument – to specify the parent container. Such items can also be shared with toolbars.

Usage

```
GMenuBar(...)
```

Arguments

... passed to constructor

Examples

```
## Not run:
w <- gwindow("having fun?")
sb <- gstatusbar("Your message here...", cont=w)
g <- ggroup(cont=w, horizontal=FALSE)
f <- function(h,...) message(h$obj$get_value())

l <- list(file=gaction("file", handler=function(h,...) print("file"),
  key.accel="<Control-x><Control-s>", parent=w),
  ok=gaction("ok", icon="ok", handler=function(h,...) print("ok")),
  radio=list(
    rb=gradio(state.name[1:3], parent=w, handler=function(h,...)
      print(h$obj$get_value()))
  )
  sep=gseparator(vertical=TRUE),
  ,cb=gcheckbox("really", parent=w, handler=function(h,...) print(h$obj$get_value()))
)
mlist <- list(File=l)
mb <- gmenu(mlist, cont=w)

## End(Not run)
```

GSpinButton	<i>Spinbutton class</i>
-------------	-------------------------

Description

Spinbutton class

Usage

```
GSpinButton(...)
```

Arguments

... passed to constructor GSpinButton is the base class for spin buttons. The widget is buggy in tcltk, atleast with the old non-themed style and a Mac running tcltk under X11. The bug is the thing keeps spinning when the buttons are pressed.

GStatusBar	<i>GStatusBar is the base class for a status bar</i>
------------	--

Description

The GStatusBar class inherits for GBoxContainer meaning it can be used as a parent container. As such, one can add additional widgets beyond the plain label that is the main property of this widget.

Usage

```
GStatusBar(...)
```

Arguments

... passed to constructor

GToolBar-class	GToolBar <i>is the base class for toolbars</i>
----------------	--

Description

The toolbar is a container, so can have other widgets added to it as though it were a box container. Buttons should be added as action items, so that they are rendered in the proper style. Check buttons should be given the argument `use.togglebutton`. Use `addSpring` to right align items.

Arguments

... passed to constructor

Methods

`add_gaction_toolitem(obj)` Helper to add a gaction item

`add_gseparator_toolitem()` Helper to add a separator

`add_toolbar_items(items)` Map a toolbar list, a named list of gaction items or gseparator items

`clear_toolbar()` Clear toolbar items

`get_widget()` What widget do we use for the parent of the children

`set_value(value, ...)` We can't really adjust spacing between children after they have been positioned.

guiWidgetsToolkittcltk-class	<i>toolkit class for tlctk</i>
------------------------------	--------------------------------

Description

toolkit class for tlctk

gwidgets2_tcltk_column_alignment
align a column based on the class of the content

Description

Gives visual difference to data based on its class

Usage

```
gwidgets2_tcltk_column_alignment(x)

## Default S3 method:
gwidgets2_tcltk_column_alignment(x)

## S3 method for class 'numeric'
gwidgets2_tcltk_column_alignment(x)

## S3 method for class 'logical'
gwidgets2_tcltk_column_alignment(x)
```

Arguments

x column data to align

Value

anchor string

gwidgets2_tcltk_format_to_char
Format object to character class for inclusion in a table

Description

Gives chance to do more than as.character

Usage

```
gwidgets2_tcltk_format_to_char(x)

## Default S3 method:
gwidgets2_tcltk_format_to_char(x)

## S3 method for class 'factor'
```

```

gwidgets2_tcltk_format_to_char(x)

## S3 method for class 'integer'
gwidgets2_tcltk_format_to_char(x)

## S3 method for class 'numeric'
gwidgets2_tcltk_format_to_char(x)

## S3 method for class 'Date'
gwidgets2_tcltk_format_to_char(x)

## S3 method for class 'data.frame'
gwidgets2_tcltk_format_to_char(x)

```

Arguments

x object to format to character class

Value

object of character class with possible formatting.

List-class	<i>A list extension class.</i>
------------	--------------------------------

Description

Like a list, but has some methods. Completely superfluous, but makes copying some code algorithms easier. We implement methods such as append, push, pop and each for iteration. As well, there are some lookup methods.

Arguments

... passed to constructor

Methods

```

contains(name) TRUE if name is key in array
core() return list
each(FUN, ...) Iterator for lists, like sapply, but FUN gets passed index, key, and value
flush(...) Reset array, return contents as list
get_by_name(name) get item under name
get_id() Return an id, or name, for an object
get_item(index) Get item by index
insert(x, name, index) Insert item into List with 0 the head and index=len() the tail

```

len() length
pluck(id, FUN, ...) Like ext.pluck. Returns array with 'id' extracted from each item in the List
pop() pop last element of list
push(x, name) Append x with optional name. If name not specified new id created. Returns name

makeCalendar	<i>make a calendar...</i>
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Description

make a calendar...

Usage

```
makeCalendar(date_var, widget, date, date_format = "%Y-%m-%d",  
             set_value)
```

Arguments

date_var	var
widget	var
date	var
date_format	var
set_value	var from chron with slight change to arguments

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