

Package ‘DataEditR’

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Title An Interactive Editor for Viewing, Entering, Filtering & Editing Data

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Description An interactive editor built on 'rhandsontable' to allow the interactive viewing, entering, filtering and editing of data in R
<<https://dillonhammill.github.io/DataEditR/>>.

URL <https://dillonhammill.github.io/DataEditR/>

BugReports <https://github.com/DillonHammill/DataEditR/issues>

Depends R(>= 3.5.0)

Imports shiny (>= 1.5.0), shinyBS, shinyjs, bslib, rhandsontable (>= 0.3.8), rstudioapi, htmltools, miniUI, utils

License GPL-2

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|----------|--------------------------------------|
| dataEdit | <i>Shiny module for data editing</i> |
|----------|--------------------------------------|

Description

Shiny module for data editing

Usage

```
dataEditUI(id)

dataEditServer(
  id,
  data = reactive(NULL),
  col_bind = NULL,
  col_edit = TRUE,
  col_options = NULL,
  col_stretch = FALSE,
  col_names = TRUE,
  col_readonly = NULL,
  col_hide = NULL,
  col_factor = FALSE,
  row_bind = NULL,
  row_edit = TRUE,
  row_index = reactive(NULL),
  quiet = FALSE,
  read_fun = "read.csv",
  read_args = NULL,
  track = NULL,
  ...
)
```

Arguments

| | |
|------|---|
| id | unique identifier for the module to prevent namespace clashes when making multiple calls to this shiny module. |
| data | a reactive expression containing an array (e.g. data.frame, matrix or data.table) or a vector indicating the dimensions of the array (e.g. c(10,10)) or column names to construct a new template for editing. If no data is supplied a template with 10 rows and columns will be generated for editing. |

| | |
|--------------|--|
| col_bind | additional columns to add to the data prior to loading into editor, can be either an array containing the new data, a vector containing the new column names for empty columns or a named list containing a vector for each new column. |
| col_edit | logical indicating whether columns can be added or removed, set to TRUE by default. |
| col_options | a list named with valid columns names and either <code>c(TRUE, FALSE)</code> for checkboxes, a vector of options for dropdowns, "date" for date input or "password" for password input. |
| col_stretch | logical indicating whether columns should be stretched to fill the full width of the display, set to FALSE by default. |
| col_names | logical indicating whether column names can be edited or a vector of column names that cannot be edited, set to TRUE by default to allow editing of column names. |
| col_readonly | names of columns that cannot be edited. Users will be able to edit values but these will be reverted to the original values. Column names for these column cannot be edited either. |
| col_hide | names of columns to hide from the editor. Hidden columns will not be visible or editable but will be retained in the data returned by the module. |
| col_factor | logical indicating whether character columns should be converted to factors prior to returning the edited data, set to FALSE by default. |
| row_bind | additional rows to add to the data prior to loading into editor, can be either an array containing the new data, a vector containing the new row names for empty rows or a named list containing a vector for each new column. |
| row_edit | logical indicating whether rows can be added or removed, set to TRUE by default. |
| row_index | indicates the starting index for new rows when the data supplied to <code>DataEdit()</code> is a subset of a larger dataset, i.e. <code>row_index</code> indicates the number of rows present in the parental dataset. |
| quiet | logical to suppress warnings when using <code>col_options</code> . |
| read_fun | name of the function to use to read in the data when a file is selected, set to <code>read.csv</code> by default. |
| read_args | a named list of additional arguments to pass to <code>read_fun</code> when reading in files. |
| track | can be set to TRUE to highlight cells that have been edited or added to the original data with a default blue border, or a valid CSS color (e.g. "#FF0000" or "red") to use a custom border color. Set to NULL by default to disable highlighting. |
| ... | additional arguments passed to <code>rhandsontable</code> . |

Value

reactive expression containing the edited data.

Author(s)

Dillon Hammill, <dillon.hammill21@gmail.com>

Examples

```

if (interactive()) {
  ui <- fluidPage(
    dataInputUI("input-1"),
    dataOutputUI("output-1"),
    dataEditUI("edit-1")
  )

  server <- function(input, output, session) {
    data_to_edit <- dataInputServer("input-1")
    data_edit <- dataEditServer("edit-1",
      data = data_to_edit
    )
    dataOutputServer("output-1",
      data = data_edit
    )
  }

  shinyApp(ui, server)
}

```

dataFilter

Shiny module for filtering data

Description

Shiny module for filtering data

Usage

```
dataFilterUI(id)
```

```
dataFilterServer(id, data = reactive(NULL), hide = FALSE, hover_text = NULL)
```

Arguments

| | |
|------------|--|
| id | unique identifier for the module to prevent namespace clashes when making multiple calls to this shiny module. |
| data | an array wrapped in reactive() containing the data to be filtered. |
| hide | logical indicating whether the data filtering user interface should be hidden from the user, set to FALSE by default. |
| hover_text | text to display on download button when user hovers cursor over button, set to NULL by default to turn off hover text. |

Value

a list of reactive objects containing the filtered data and indices for filtered rows.

Author(s)

Dillon Hammill, <dillon.hammill21@gmail.com>

Examples

```
if (interactive()) {
  library(shiny)
  library(rhandsontable)
  library(shinyjs)

  ui <- fluidPage(
    useShinyjs(),
    dataInputUI("input1"),
    dataFilterUI("filter1"),
    rHandsontableOutput("data1")
  )

  server <- function(input,
                     output,
                     session) {
    data_input <- dataInputServer("input1")

    # list with slots data and rows (indices)
    data_filter <- dataFilterServer("filter1",
                                   data = data_input
    )

    output$data1 <- renderRHandsontable({
      if (!is.null(data_filter$data())) {
        rhandsontable(data_filter$data())
      }
    })

  }

  shinyApp(ui, server)
}
```

dataInput

Shiny module for data input

Description

Shiny module for data input

Usage

```
dataInputUI(id, cellWidths = c("50%", "48%"))

dataInputServer(
  id,
  data = NULL,
  read_fun = "read.csv",
  read_args = NULL,
  hide = FALSE,
  envir = parent.frame()
)
```

Arguments

| | |
|-------------------------|---|
| <code>id</code> | unique identifier for the module to prevent namespace clashes when making multiple calls to this shiny module. |
| <code>cellWidths</code> | a vector of length 2 to control the relative widths of the <code>fileInput</code> and <code>textInput</code> , set to <code>c("50%", "50%")</code> by default. |
| <code>data</code> | can be either the name of a dataset or file as a character string (e.g. <code>"mtcars"</code> or <code>"mtcars.csv"</code>) or a vector column names (e.g. <code>c("A", "B", "C")</code>) or template dimensions (e.g. <code>c(10,10)</code>). |
| <code>read_fun</code> | name of the function to use to read in the data when a file is selected, set to <code>read.csv</code> by default. |
| <code>read_args</code> | a named list of additional arguments to pass to <code>read_fun</code> when reading in files. |
| <code>hide</code> | logical indicating whether the data input user interface should be hidden from the user, set to <code>FALSE</code> by default. |
| <code>envir</code> | the environment in which to search for the supplied data, set to the <code>parent.frame()</code> of <code>dataInput</code> by default. |

Author(s)

Dillon Hammill, <dillon.hammill21@gmail.com>

Examples

```
if (interactive()) {
  library(shiny)
  library(rhandsontable)

  ui <- fluidPage(
    dataInputUI("input1"),
    rHandsontableOutput("data1")
  )

  server <- function(input,
                     output,
                     session) {
    data_input1 <- dataInputServer("input1")
  }
}
```

```

    output$data1 <- renderRHandsonTable({
      if (!is.null(data_input1())) {
        rhandsonTable(data_input1())
      }
    })
  }

  shinyApp(ui, server)
}

```

 dataOutput

Shiny module for data output

Description

Shiny module for data output

Usage

```
dataOutputUI(id, icon = "download")
```

```

dataOutputServer(
  id,
  data = reactive(NULL),
  save_as = NULL,
  write_fun = "write.csv",
  write_args = NULL,
  hide = FALSE,
  hover_text = NULL
)

```

Arguments

| | |
|-------------------------|---|
| <code>id</code> | unique identifier for the module to prevent namespace clashes when making multiple calls to this shiny module. |
| <code>icon</code> | supplied to <code>dataOutputUI</code> to control the appearance of the icon displayed on the download button, set to "download" by default. |
| <code>data</code> | an object of class <code>data.frame</code> wrapped in <code>reactive</code> to be saved to file. |
| <code>save_as</code> | name of the file to which the data should be saved, overrides input file path if supplied. |
| <code>write_fun</code> | name of the function to use when writing the data to file, set to "write.csv" by default. |
| <code>write_args</code> | a named list of additional arguments to pass to <code>write_fun</code> when reading in files. |
| <code>hide</code> | logical indicating whether the data input user interface should be hidden from the user, set to <code>FALSE</code> by default. |
| <code>hover_text</code> | text to display on download button when user hovers cursor over button, set to <code>NULL</code> by default to turn off hover text. |

Author(s)

Dillon Hammill, <dillon.hammill21@gmail.com>

Examples

```
if (interactive()) {
  library(shiny)
  library(rhandsontable)
  library(shinyjs)

  ui <- fluidPage(
    useShinyjs(),
    dataInputUI("input1"),
    dataOutputUI("output1"),
    rHandsontableOutput("data1")
  )

  server <- function(input,
                     output,
                     session) {
    data_input1 <- dataInputServer("input1")

    output$data1 <- renderRHandsontable({
      if (!is.null(data_input1())) {
        rhandsontable(data_input1())
      }
    })

    dataOutputServer("output1",
                    data = data_input1
  )
  }

  shinyApp(ui, server)
}
```

dataSelect

Shiny module for selecting data

Description

Shiny module for selecting data

Usage

```
dataSelectUI(id)
```

```
dataSelectServer(id, data = reactive(NULL), hide = FALSE, hover_text = NULL)
```

Arguments

| | |
|------------|--|
| id | unique identifier for the module to prevent namespace clashes when making multiple calls to this shiny module. |
| data | an array wrapped in reactive() containing the data to be filtered. |
| hide | logical indicating whether the data selection user interface should be hidden from the user, set to FALSE by default. |
| hover_text | text to display on download button when user hovers cursor over button, set to NULL by default to turn off hover text. |

Value

a list of reactive objects containing the filtered data and indices for selected columns.

Author(s)

Dillon Hammill, <dillon.hammill21@gmail.com>

Examples

```
if (interactive()) {
  library(shiny)
  library(rhandsontable)
  library(shinyjs)

  ui <- fluidPage(
    useShinyjs(),
    dataInputUI("input1"),
    dataSelectUI("select1"),
    rHandsontableOutput("data1")
  )

  server <- function(input,
                    output,
                    session) {
    data_input <- dataInputServer("input1")

    data_select <- dataSelectServer("select1",
                                   data = data_input
    )

    output$data1 <- renderRHandsontable({
      if (!is.null(data_select$data())) {
        rhandsontable(data_select$data())
      }
    })
  }

  shinyApp(ui, server)
}
```

`dataSync`*A shiny module to synchronise datasets*

Description

The purpose of this module is to merge changes made to a subset of the data with the master copy of the data.

Usage

```
dataSyncUI(id)

dataSyncServer(
  id,
  data = reactive(NULL),
  data_subset = reactive(NULL),
  rows = reactive(NULL),
  columns = reactive(NULL),
  hide = FALSE,
  hover_text = NULL,
  auto = FALSE
)
```

Arguments

| | |
|--------------------------|---|
| <code>id</code> | unique identifier for the module to prevent namespace clashes when making multiple calls to this shiny module. |
| <code>data</code> | master copy of the data. |
| <code>data_subset</code> | subset of data with altered entries. |
| <code>rows</code> | the row indices of <code>data_subset</code> within <code>data</code> . |
| <code>columns</code> | the column indices of <code>data_subset</code> within <code>data</code> . |
| <code>hide</code> | logical indicating whether the data synchronisation user interface should be hidden from the user, set to <code>FALSE</code> by default. |
| <code>hover_text</code> | text to display on download button when user hovers cursor over button, set to <code>NULL</code> by default to turn off hover text. |
| <code>auto</code> | logical indicating whether data synchronisation should happen automatically whenever <code>data_subset</code> changes. When <code>TRUE</code> , the sync button is not required. Set to <code>FALSE</code> by default for backward compatibility. |

Author(s)

Dillon Hammill, <dillon.hammill21@gmail.com>

Examples

```
if(interactive()){
  library(shiny)
  library(rhandsontable)
  library(shinyjs)

  ui <- fluidPage(
    useShinyjs(),
    dataInputUI("input1"),
    dataFilterUI("filter1"),
    dataEditUI("edit1")
  )

  server <- function(input,
                     output,
                     session) {

    values <- reactiveValues(
      data = NULL,
      data_subset = NULL
    )

    data_input <- dataInputServer("input1")

    data_edit <- dataEditServer(
      "edit1",
      data = data_input
    )

    data_sync <- dataSyncServer(
      "sync1",
      data = data_input,
      data_subset = data_edit,
      rows = NULL,
      columns = NULL,
      auto = TRUE
    )

  }
  shinyApp(ui, server)
}
```

data_code

Generate tidyverse code to replicate data edits

Description

data_code compares an original dataset with an edited version and generates tidyverse-style R code (using dplyr verbs) that transforms the original data into the edited version. The generated

code uses `rename()`, `select()`, `mutate()`, `slice()`, and `tibble::add_row()` to replicate column renames, column additions/removals, cell value changes, and row additions/removals. When meaningful row names are present (i.e. non-default row names such as those in `mtcars`), the generated code preserves them using `tibble::rownames_to_column()` and `tibble::column_to_rownames()`.

Usage

```
data_code(x, x_edit, name = "data")
```

Arguments

| | |
|---------------------|---|
| <code>x</code> | original data prior to editing, a <code>data.frame</code> or <code>matrix</code> . If <code>NULL</code> , creation code will be generated for <code>x_edit</code> . |
| <code>x_edit</code> | edited data after modifications, a <code>data.frame</code> or <code>matrix</code> . |
| <code>name</code> | character string for the name of the data object in the generated code, set to "data" by default. |

Value

a character string containing tidyverse code that can be printed to the console or written to an R script.

Author(s)

Dillon Hammill, <dillon.hammill21@gmail.com>

Examples

```
# original data
x <- data.frame(
  A = c(1, 2, 3),
  B = c("x", "y", "z"),
  stringsAsFactors = FALSE
)

# edited data (changed a value and renamed a column)
x_edit <- data.frame(
  A = c(1, 5, 3),
  Beta = c("x", "y", "z"),
  stringsAsFactors = FALSE
)

# generate code
cat(data_code(x, x_edit, name = "x"))
```

`data_edit`*An interactive editor for viewing, entering and editing data*

Description

`data_edit` is a shiny application built on `rhandsontable` that is designed to make it easy to interactively view, enter or edit data without any coding. `data_edit` is also a wrapper for any reading or writing function to make it easy to interactively update data saved to file.

Usage

```
data_edit(  
  x = NULL,  
  col_bind = NULL,  
  col_edit = TRUE,  
  col_options = NULL,  
  col_stretch = FALSE,  
  col_factor = FALSE,  
  col_names = TRUE,  
  col_readonly = NULL,  
  col_hide = NULL,  
  row_bind = NULL,  
  row_edit = TRUE,  
  save_as = NULL,  
  title = NULL,  
  logo = NULL,  
  logo_size = 30,  
  logo_side = "left",  
  viewer = "dialog",  
  viewer_height = 800,  
  viewer_width = 1200,  
  theme = "yeti",  
  read_fun = "read.csv",  
  read_args = NULL,  
  write_fun = "write.csv",  
  write_args = NULL,  
  quiet = FALSE,  
  hide = FALSE,  
  code = FALSE,  
  cancel,  
  track = NULL,  
  ...  
)
```

Arguments

`x` a matrix, `data.frame`, `data.table` or the name of a csv file to edit. Tibbles are also supported but will be coerced to `data.frames`. An empty table can be created by

| | |
|----------------------------|---|
| | specifying the dimensions in a vector of the form <code>c(nrow, ncol)</code> or the names of the columns to include in the template. |
| <code>col_bind</code> | additional columns to add to the data prior to loading into editor, can be either an array containing the new data, a vector containing the new column names for empty columns or a named list containing a vector for each new column. |
| <code>col_edit</code> | logical indicating whether columns can be added or removed, set to <code>TRUE</code> by default. |
| <code>col_options</code> | named list containing the options for columns that use dropdown menus, dates, checkboxes or passwords. |
| <code>col_stretch</code> | logical indicating whether columns should be stretched to fill the full width of the display, set to <code>FALSE</code> by default. |
| <code>col_factor</code> | logical indicating whether character columns should be converted to factors prior to returning the edited data, set to <code>FALSE</code> by default. |
| <code>col_names</code> | logical indicating whether column names can be edited or a vector of column names that cannot be edited, set to <code>TRUE</code> by default to allow editing of column names. |
| <code>col_readonly</code> | names of columns that cannot be edited. Users will be able to edit values but these will be reverted to the original values. Column names for these column cannot be edited either. |
| <code>col_hide</code> | names of columns to hide from the editor. Hidden columns will not be visible or editable but will be retained in the returned data. |
| <code>row_bind</code> | additional rows to add to the data prior to loading into editor, can be either an array containing the new data, a vector containing the new row names for empty rows or a named list containing a vector for each new column. |
| <code>row_edit</code> | logical indicating whether rows can be added or removed, set to <code>TRUE</code> by default. |
| <code>save_as</code> | name of a csv file to which the edited data should be saved. |
| <code>title</code> | optional title to include above the data editor. |
| <code>logo</code> | optional package logo to include in title above the data editor, must be supplied as path to logo png. |
| <code>logo_size</code> | width of the logo in pixels, set to 30 pixels by default. |
| <code>logo_side</code> | can be either <code>"left"</code> or <code>"right"</code> to determine the position of the logo relative to the title, set to <code>"left"</code> by default. |
| <code>viewer</code> | can be either <code>"dialog"</code> , <code>"browser"</code> or <code>"pane"</code> to open the application in a dialog box, browser or RStudio viewer pane. First letter abbreviations are allowed, set to <code>"dialog"</code> by default. |
| <code>viewer_height</code> | numeric to control the height of the viewer in pixels when <code>viewer</code> is set to <code>"dialog"</code> , set 800 by default. |
| <code>viewer_width</code> | numeric to control the width of the viewer in pixels when <code>viewer</code> is set to <code>"dialog"</code> , set to 1200 by default. |
| <code>theme</code> | valid shinytheme name, set to <code>"yeti"</code> by default. |
| <code>read_fun</code> | name of the function to use to read in the data when <code>x</code> is the name of a file, set to <code>read.csv</code> by default. |

| | |
|------------|--|
| read_args | a named list of additional arguments to pass to read_fun. |
| write_fun | name of the function to use to write the edited version of x to a file, set to write.csv by default. Only requirement is that the first argument accepts the edited data and the second argument accepts the file name supplied to save_as. |
| write_args | a named list of additional arguments to pass to write_fun. |
| quiet | logical indicating whether messages should be suppressed, set to FALSE by default. |
| hide | logical indicating whether the dataInput and dataOutput modules should be visible to the user within the application. If hide = FALSE and save_as is specified, the edited data will be written to file after the application is closed. |
| code | logical indicating whether tidyverse code required to replicate the data edits should be printed to the console, set to FALSE by default. Alternatively, users can supply the name of an R script to write the code to. The generated code uses dplyr verbs such as rename(), select(), mutate(), slice(), and tibble::add_row() to replicate column renames, column additions/removals, cell value changes, and row additions/removals. |
| cancel | optional value to return when the user hits the cancel button, set to the supplied data by default. |
| track | can be set to TRUE to highlight cells that have been edited or added to the original data with a default blue border, or a valid CSS color (e.g. "#FF0000" or "red") to use a custom border color. Set to NULL by default to disable highlighting. |
| ... | not in use. |

Value

the edited data as a matrix or data.frame.

Author(s)

Dillon Hammill, <dillon.hammill21@gmail.com>

Examples

```
if(interactive()) {  
  data_edit(mtcars)  
}
```

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