Package ‘RLumShiny’

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Type Package

Title 'Shiny' Applications for the R Package 'Luminescence'

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Description A collection of 'shiny' applications for the R package 'Luminescence'. These mainly, but not exclusively, include applications for plotting chronometric data from e.g. luminescence or radiocarbon dating. It further provides access to bootstraps tooltip and popover functionality and contains the 'jscolor.js' library with a custom 'shiny' output binding.

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Encoding UTF-8

Depends R (>= 4.0)

Imports Luminescence (>= 0.9.17), shiny (>= 1.7.0), rhandsontable (>= 0.3.8), data.table (>= 1.14.2), googleVis (>= 0.6.11), shinydashboard (>= 0.7.2), RCarb (>= 0.1.4), markdown (>= 1.1), readxl (>= 1.3.1), DT (>= 0.20), knitr (>= 1.37)

URL https://tzerk.github.io/RLumShiny/

BugReports https://github.com/tzerk/RLumShiny/issues

Collate 'app_RLum.R' 'addin.R' ' chooser.R' 'jscolor.R' 'tooltip.R' 'popover.R' 'RLumShiny.R' 'module_aboutTab.R' 'module_exportTab.R' ' module_printCode.R' ' zzz.R'

RoxygenNote 7.1.2

NeedsCompilation no
Description

A collection of shiny applications for the R package Luminescence. These mainly, but not exclusively, include applications for plotting chronometric data from e.g. luminescence or radiocarbon dating. It further provides access to bootstrap's tooltip and popover functionality as well as a binding to JSColor.

Details

In addition to its main purpose of providing convenient access to the Luminescence shiny applications (see app_RLum) this package also provides further functions to extend the functionality of shiny. From the Bootstrap framework the JavaScript tooltip and popover components can be added to any shiny application via tooltip and popover. It further provides a custom input binding to the JavaScript/HTML color picker JSColor. Offering access to most options provided by the JSColor API the function jscolorInput is easily implemented in a shiny app. RGB colors are returned as hex values and can be directly used in R’s base plotting functions without the need of any format conversion.

app_RLum

Run Luminescence shiny apps

Description

A wrapper for runApp to start interactive shiny apps for the R package Luminescence.

Usage

app_RLum(app = NULL, ...)

app_RLum-package

Shiny Applications for the R Package Luminescence
App_RLum

Arguments

app character (required): name of the application to start. See details for a list of available apps.

... further arguments to pass to runApp

Details

The RLumShiny package provides a single function from which all shiny apps can be started: `app_RLum()`. It essentially only takes one argument, which is a unique keyword specifying which application to start. See the table below for a list of available shiny apps and which keywords to use. If no keyword is used a dashboard will be started instead, from which an application can be started.

<table>
<thead>
<tr>
<th>Application name:</th>
<th>Keyword:</th>
<th>Function:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abanico Plot</td>
<td>abanico</td>
<td>plot_AbanicoPlot</td>
</tr>
<tr>
<td>Histogram</td>
<td>histogram</td>
<td>plot_Histogram</td>
</tr>
<tr>
<td>Kernel Density Estimate Plot</td>
<td>KDE</td>
<td>plot_KDE</td>
</tr>
<tr>
<td>Radial Plot</td>
<td>radialplot</td>
<td>plot_RadialPlot</td>
</tr>
<tr>
<td>Dose Recovery Test</td>
<td>doserecovery</td>
<td>plot_DRTResults</td>
</tr>
<tr>
<td>Cosmic Dose Rate</td>
<td>cosmicdose</td>
<td>calc_CosmicDoseRate</td>
</tr>
<tr>
<td>CW Curve Transformation</td>
<td>transformCW</td>
<td>CW2pHMi, CW2pLM, CW2pLMi, CW2pPMi</td>
</tr>
<tr>
<td>Filter Combinations</td>
<td>filter</td>
<td>plot_FilterCombinations</td>
</tr>
<tr>
<td>Fast Ratio</td>
<td>fastratio</td>
<td>calc_FastRatio</td>
</tr>
<tr>
<td>Fading Correction</td>
<td>fading</td>
<td>analyse_FadingMeasurement, calc_FadingCorr</td>
</tr>
<tr>
<td>Test Stimulation Power</td>
<td>teststimulationpower</td>
<td>plot_RLum</td>
</tr>
<tr>
<td>Scale Gamma Dose Rate</td>
<td>scalegamma</td>
<td>scale_GammaDose</td>
</tr>
<tr>
<td>RCarb app</td>
<td>RCarb</td>
<td>RCarb::model_DoseRate</td>
</tr>
</tbody>
</table>

The `app_RLum()` function is just a wrapper for `runApp`. Via the ... argument further arguments can be directly passed to `runApp`. See `?shiny::runApp` for further details on valid arguments.

Author(s)

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See Also

runApp

Examples

```r
## Not run:
# Dashboard
app_RLum()

# Plotting apps
app_RLum("abanico")
app_RLum("histogram")
```
Create a JSColor picker input widget

Description

 Creates a JSColor (Javascript/HTML Color Picker) widget to be used in shiny applications.

Usage

 jscolorInput(  
  inputId,  
  label,  
  value,  
  position = "bottom",  
  color = "transparent",  
  mode = "HSV",  
  slider = TRUE,  
  close = FALSE  
)

Arguments

 inputId character (required): Specifies the input slot that will be used to access the value.
 label character (optional): Display label for the control, or NULL for no label.
 value character (optional): Initial RGB value of the color picker. Default is black ('#000000').
 position character (with default): Position of the picker relative to the text input ('bottom', 'left', 'top', 'right').
popover

| color     | character (with default): Picker color scheme ('transparent' by default). Use RGB color coding ('000000'). |
| mode      | character (with default): Mode of hue, saturation and value. Can either be 'HSV' or 'HVS'. |
| slider    | logical (with default): Show or hide the slider. |
| close     | logical (with default): Show or hide a close button. |

See Also

Other input elements: animationOptions, sliderInput; checkboxGroupInput; checkboxInput; dateInput; dateRangeInput; fileInput; numericInput; passwordInput; radioButtons; selectInput, selectizeInput; submitButton; textInput

Examples

```r
# html code
jscolorInput("col", "Color", "21BF6B", slider = FALSE)

# example app
## Not run:
shinyApp(
  ui = fluidPage(
    jscolorInput(inputId = "col", label = "JSColor Picker", 
      value = "21BF6B", position = "right", 
      mode = "HVS", close = TRUE),
    plotOutput("plot")
  ),
  server = function(input, output) {
    output$plot <- renderPlot({
      plot(cars, col = input$col, cex = 2, pch = 16)
    })
  })

## End(Not run)
```

| popover | Create a bootstrap button with popover |

Description

Add small overlays of content for housing secondary information.

Usage

```r
popover(
  title,  
  content, 
  header = NULL,
```
html = TRUE,
class = "btn btn-default",
placement = c("right", "top", "left", "bottom"),
trigger = c("click", "hover", "focus", "manual")
)

Arguments

title character (required): Title of the button.
content character (required): Text to be displayed in the popover.
header character (optional): Optional header in the popover.
html logical (with default): Insert HTML into the popover.
class logical (with default): Bootstrap button class (e.g. "btn btn-danger").
placement character (with default): How to position the popover - top | bottom | left | right | auto. When "auto" is specified, it will dynamically reorient the popover. For example, if placement is "auto left", the popover will display to the left when possible, otherwise it will display right.
trigger character (with default): How popover is triggered - click | hover | focus | manual.

Examples

# html code
popover("title", "Some content")

# example app
## Not run:
shinyApp(
  ui = fluidPage(
    jscolorInput(inputId = "col", label = "JSColor Picker",
    value = "21BF6B", position = "right",
    mode = "HVS", close = TRUE),
    popover(title = "Help!", content = "Call 911"),
    plotOutput("plot")
  ),
  server = function(input, output) {
    output$plot <- renderPlot({
      plot(cars, col = input$col, cex = 2, pch = 16)
    })
  }
)
## End(Not run)
**RLumShinyAddin**  
*RLumShiny Dashboard Addin*

**Description**  
RLumShiny dashboard

**Usage**  
`RLumShinyAddin()`

**tooltip**  
Create a bootstrap tooltip

**Description**  
Create bootstrap tooltips for any HTML element to be used in shiny applications.

**Usage**  
`tooltip(`  
    refId,  
    text,  
    attr = NULL,  
    animation = TRUE,  
    delay = 100,  
    html = TRUE,  
    placement = "auto",  
    trigger = "hover"  
)`

**Arguments**  

<table>
<thead>
<tr>
<th>Argument</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>refId</td>
<td>character</td>
<td>id of the element the tooltip is to be attached to.</td>
</tr>
<tr>
<td>text</td>
<td>character</td>
<td>Text to be displayed in the tooltip.</td>
</tr>
<tr>
<td>attr</td>
<td>character</td>
<td>Attach tooltip to all elements with attribute <code>attr='refId'</code>.</td>
</tr>
<tr>
<td>animation</td>
<td>logical</td>
<td>Apply a CSS fade transition to the tooltip.</td>
</tr>
<tr>
<td>delay</td>
<td>numeric</td>
<td>Delay showing and hiding the tooltip (ms).</td>
</tr>
<tr>
<td>html</td>
<td>logical</td>
<td>Insert HTML into the tooltip.</td>
</tr>
<tr>
<td>placement</td>
<td>character</td>
<td>How to position the tooltip - top</td>
</tr>
<tr>
<td>trigger</td>
<td>character</td>
<td>How tooltip is triggered - click</td>
</tr>
</tbody>
</table>
Examples

# javascript code

tt <- tooltip("elementId", "This is a tooltip.")
str(tt)

# example app

## Not run:
shinyApp(
  ui = fluidPage(
    jscolorInput(inputId = "col", label = "JSColor Picker",
      value = "21BF6B", position = "right",
      mode = "HVS", close = TRUE),
    tooltip("col", "This is a JScolor widget"),
    checkboxInput("cbox", "Checkbox", FALSE),
    tooltip("cbox", "This is a checkbox"),
    checkboxGroupInput("cboxg", "Checkbox group", selected = "a",
      choices = c("a" = "a",
        "b" = "b",
        "c" = "c")),
    tooltip("cboxg", "This is a <b>checkbox group</b>", html = TRUE),
    selectInput("select", "Selectinput", selected = "a", choices = c("a"="a", "b"="b")),
    tooltip("select", "This is a text input field", attr = "for", placement = "right"),
    passwordInput("pwIn", "Passwordinput"),
    tooltip("pwIn", "This is a password input field"),
    plotOutput("plot")
  ),
  server = function(input, output) {
    output$plot <- renderPlot({
      plot(cars, col = input$col, cex = 2, pch = 16)
    })
  })

## End(Not run)
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