

# Package ‘tourrGui’

February 15, 2012

**Type** Package

**Title** A Tour GUI using gWidgets

**Version** 0.2

**Date** 2011-02-01

**Author** Bei <beihuang@iastate.edu>, Dianne Cook <dicook@iastate.edu>, Hadley Wickham <h.wickham@gmail.com>

**Maintainer** Dianne Cook <dicook@iastate.edu>

**Description** The GUI allows user to control the tour by checkboxes for the variable selection, slider for the speed, and toggle boxes for pause.

**Depends** R (>= 2.7), tourr, colorspace, RGtk2, gWidgets, Cairo

**Suggests** rggobi, TeachingDemos, ggplot2, ash

**License** MIT

**LazyData** true

**Collate**

‘gui\_andrews.r’ ‘gui\_density.r’ ‘gui\_faces.r’ ‘gui\_image.r’ ‘gui\_pcp.r’ ‘gui\_scatmat.r’ ‘gui\_stars.r’ ‘gui\_stereo.r’ ‘gui\_tour.r’

**Repository** CRAN

**Date/Publication** 2011-02-02 08:46:41

## R topics documented:

gui_andrews . . . . .	2
gui_density . . . . .	3
gui_faces . . . . .	4
gui_image . . . . .	5
gui_pcp . . . . .	6
gui_scatmat . . . . .	7
gui_stars . . . . .	8

gui_stereo . . . . .	9
gui_tour . . . . .	10
gui_xy . . . . .	11

<b>Index</b>	<b>13</b>
--------------	-----------

---

gui_andrews	<i>Andrews Tour GUI...</i>
-------------	----------------------------

---

## Description

Andrews Tour GUI Displays an Andrews Tour GUI

## Usage

```
gui_andrews(data = flea, ...)
```

## Arguments

data	matrix, or data frame containing numeric columns, defaults to flea dataset
...	other arguments passed on to <a href="#">animate</a> and <a href="#">display_xy</a>

## Details

GUI allows users to control the andrews tour by simply moving and clicking their mouses. Variable Selection checkboxes contains all the numeric variables, and at least three of them need to be checked to make the display work. the categorical variables go to the Class Selection box. We should select the class variable by double clicking the variable names. Tour Type radio buttons contains four different tour types. They are the Grand Tour, Little Tour, Local Tour and Guided Tour. We can choose one type a time. For the Guided Tour, we need to choose an index from the droplist to specify which particular search type is desired. default index would be holes. For tour type Guided(lda\_pp) and Guided(pda\_pp), we also need to specify class variable first, and the Guided(pda\_pp) also controlled by another parameter, lambda. Lambda ranges from 0 to 1, with default at 0.02. A value of 0 will make the tour operate like Guided(lda\_pp). Choose Dimension radio buttons allow us to choose the dimension number n to animate a nD tour path with Andrews' curves. Dimension n ranges from 2 to the number of the numeric variables of this dataset, and the default dimension is 2. Andrews' curves are static methods for displaying 2 or more variables. Here Andrews' curves are used to projections of the full data. See [andrews](#) Speed slider can control the speed of the nD tour. Simply dragging the mouse along the slider, changes the speed from slow to fast. Pause check box allow users to pause the dynamic nD tour and have a close examination on the details. Apply button allows users to update the nD tour, when it doesn't automatically update. Quit button allows users to close thie GUI window. Help button provides information about the tour and also what this GUI can do. will pop up when the mouse is moved over the GUI, which give hints about the functionality of the different GUI elements.

## Author(s)

Bei Huang<beihuang@iastate.edu>, Di Cook <dicook@iastate.edu>, and Hadley Wickham <hadley@rice.edu>

**Examples**

```
## Not run:
  gui_andrews(flea)

## End(Not run)
```

---

gui_density	<i>Density Tour GUI...</i>
-------------	----------------------------

---

**Description**

Density Tour GUI Displays a Density Tour GUI

**Usage**

```
gui_density(data = flea, ...)
```

**Arguments**

data	matrix, or data frame containing numeric columns, defaults to flea dataset
...	other arguments passed on to <a href="#">animate</a> and <a href="#">display_xy</a>

**Details**

GUI allows users to control the density tour by simply moving and clicking their mouses. Variable Selection checkboxes contains all the numeric variables, and at least two of them need to be checked to make the display work. the categorical variables go to the Class Selection box. We should select the class variable by double clicking the variable names. users specify the class variable, the observations will be considered as different classes according to this variable, and these will appear as rainbow colors in the rug segments. Tour Type radio buttons contains four different tour types. They are the Grand Tour, Little Tour, Local Tour and Guided Tour. We can choose one type a time. For the Guided Tour, we need to choose an index from the droplist to specify which particular search type is desired. default index would be holes. For tour type Guided(lda\_pp) and Guided(pda\_pp), we also need to specify class variable first, and the Guided(pda\_pp) also controlled by another parameter, lambda. Lambda ranges from 0 to 1, with default at 0.02. A value of 0 will make the tour operate like Guided(lda\_pp). high-dimensional data a value closer to 1 would be advised. Method Type radio buttons contains three different display methods. They are histogram, density plot and ash plot. distribution of data projected into 1d can be displayed correspondingly as a histogram, kernel density estimate and average shifted histogram. Axes Locations column contains two choices, TRUE and FALSE. TRUE means the tour will center at the middle of x-axes, means the tour will wander to the left and right. The default value is TRUE. Speed slider can control the speed of the 1D tour. Simply dragging the mouse along the slider, changes the speed from slow to fast. Pause check box allow users to pause the dynamic 1D tour and have a close examination on the details. Apply button allows users to update the 1D tour, when it doesn't automatically update. Quit button allows users to close thie GUI window. Help button provides information about the tour and also what this GUI can do. will pop up when the mouse is moved over the GUI, which give hints about the functionality of the different GUI elements.

**Author(s)**

Bei Huang<beihuang@iastate.edu>, Di Cook <dicook@iastate.edu>, and Hadley Wickham <hadley@rice.edu>

**Examples**

```
## Not run:
  gui_density(flea)

## End(Not run)
```

---

 gui\_faces

*Face Tour GUI...*


---

**Description**

Face Tour GUI Displays a Chernoff's Face Tour GUI

**Usage**

```
gui_faces(data = flea, ...)
```

**Arguments**

data	matrix, or data frame containing numeric columns, defaults to flea dataset
...	other arguments passed on to <a href="#">animate</a> and <a href="#">display_xy</a>

**Details**

GUI allows users to control the faces tour by simply moving and clicking their mouses. Variable Selection checkboxes contains all the numeric variables, and at least three of them need to be checked to make the display work. the categorical variables go to the Class Selection box. We should select the class variable by double clicking the variable names. isn't implemented with the faces tour yet. Tour Type radio buttons contains four different tour types. They are the Grand Tour, Little Tour, Local Tour and Guided Tour. We can choose one type a time. For the Guided Tour, we need to choose an index from the droplist to specify which particular search type is desired. default index would be holes. For tour type Guided(lda\_pp) and Guided(pda\_pp), we also need to specify class variable first, and the Guided(pda\_pp) also controlled by another parameter, lambda. Lambda ranges from 0 to 1, with default at 0.02. A value of 0 will make the tour operate like Guided(lda\_pp). Choose Dimension radio buttons allow us to choose the dimension number n to animate a nD tour path with Andrews' curves. Dimension n ranges from 2 to the number of the numeric variables of this dataset. The maximum dimension is 18 because that is the limit of facial features to map to variables. Choose Face Number slider allows users to specify how many faces to display. Face number ranges from 2 to the number of observations in this dataset. face number is 4. Speed slider can control the speed of the nD tour. Simply dragging the mouse along the slider, changes the speed from slow to fast. Pause check box allow users to pause the dynamic nD tour and have a close examination on the details. Apply button allows users to update the nD tour, when

it doesn't automatically update. Quit button allows users to close this GUI window. Help button provides information about the tour and also what this GUI can do. will pop up when the mouse is moved over the GUI, which give hints about the functionality of the different GUI elements.

### Author(s)

Bei Huang<beihuang@iastate.edu>, Di Cook <dicook@iastate.edu>, and Hadley Wickham <hadley@rice.edu>

### Examples

```
## Not run:
  gui_faces(flea)

## End(Not run)
```

---

gui\_image

*Image Tour GUI...*

---

### Description

Image Tour GUI Displays an Image Tour GUI

### Usage

```
gui_image(data = ozone, ...)
```

### Arguments

data	a 3d array, the first two dimensions are locations on a grid, and the 3rd dimension gives the observations to be mixed with the tour.defaults to ozone dataset
...	other arguments passed on to <a href="#">animate</a> and <a href="#">display_xy</a>

### Details

This GUI allows users to control an image tour plot by simply moving and clicking their mouses. Tour Type radio buttons contains four different tour types. They are the Grand Tour, Little Tour, Local Tour and Guided Tour. We can choose one type a time. For the Guided Tour, we need to choose an index from the droplist to specify which particular search type is desired. default index would be holes. Speed slider can control the speed of the 1D tour. Simply dragging the mouse along the slider, changes the speed from slow to fast. Pause check box allow users to pause the dynamic 1D tour and have a close examination on the details. Apply button allows users to update the 1D tour, when it doesn't automatically update. Quit button allows users to close this GUI window. Help button provides information about the tour and also what this GUI can do. will pop up when the mouse is moved over the GUI, which give hints about the functionality of the different GUI elements.

**Author(s)**

Bei Huang<beihuang@iastate.edu>, Di Cook <dicook@iastate.edu>, and Hadley Wickham <hadley@rice.edu>

**Examples**

```
## Not run:
  gui_image(ozone)

## End(Not run)
```

---

gui\_pcp

*PCP Tour GUI...*


---

**Description**

PCP Tour GUI Displays an PCP Tour GUI

**Usage**

```
gui_pcp(data = flea, ...)
```

**Arguments**

data	matrix, or data frame containing numeric columns, defaults to flea dataset
...	other arguments passed on to <a href="#">animate</a> and <a href="#">display_xy</a>

**Details**

GUI allows users to control the pcp tour by simply moving and clicking their mouses. The PCP tour is the animation of nD tour path with a parallel coordinates plot. Variable Selection checkboxes contains all the numeric variables, and at least three of them need to be checked to make the display work. the categorical variables go to the Class Seclction box. We should select the class variable by double clicking the variable names. isn't implemented with the pcp tour yet. Tour Type radio buttons contains four different tour types. They are the Grand Tour, Little Tour, Local Tour and Guided Tour. We can choose one type a time. For the Guided Tour, we need to choose an index from the droplist to specify which particular search type is desired. default index would be holes. For tour type Guided(lda\_pp) and Guided(pda\_pp), we also need to specify class variable first, and the Guided(pda\_pp) also controlled by another parameter, lambda. Lambda ranges from 0 to 1, with default at 0.02. A value of 0 will make the tour operate like Guided(lda\_pp). Choose Dimension radio buttons allow us to choose the dimension number n to animate a nD pcp tour. number of pcp tour is the axes number of the parallel coordinates. Speed slider can control the speed of the nD tour. Simply dragging the mouse along the slider, changes the speed from slow to fast. Pause check box allow users to pause the dynamic nD tour and have a close examination on the details. Apply button allows users to update the nD tour, when it doesn't automatically update. Quit button allows users to close thie GUI window. Help button provides information about the tour and also what this GUI can do. will pop up when the mouse is moved over the GUI, which give hints about the functionality of the different GUI elements.

**Author(s)**

Bei Huang<beihuang@iastate.edu>, Di Cook <dicook@iastate.edu>, and Hadley Wickham <hadley@rice.edu>

**Examples**

```
## Not run:
  gui_pcp(flea)

## End(Not run)
```

---

gui\_scattermat

*Scattermat Tour GUI...*


---

**Description**

Scattermat Tour GUI Displays an Scattermat Tour GUI

**Usage**

```
gui_scattermat(data = flea, ...)
```

**Arguments**

data	matrix, or data frame containing numeric columns, defaults to flea dataset
...	other arguments passed on to <a href="#">animate</a> and <a href="#">display_xy</a>

**Details**

GUI allows users to control the scatter matrix tour by simply moving and clicking their mouses. Variable Selection checkboxes contains all the numeric variables, and at least three of them need to be checked to make the display work. the categorical variables go to the Class Selection box. We should select the class variable by double clicking the variable names. isn't implemented with the scattermat tour yet. Tour Type radio buttons contains four different tour types. They are the Grand Tour, Little Tour, Local Tour and Guided Tour. We can choose one type a time. For the Guided Tour, we need to choose an index from the droplist to specify which particular search type is desired. default index would be holes. For tour type Guided(lda\_pp) and Guided(pda\_pp), we also need to specify class variable first, and the Guided(pda\_pp) also controlled by another parameter, lambda. Lambda ranges from 0 to 1, with default at 0.02. A value of 0 will make the tour operate like Guided(lda\_pp). Projections Dimension radio buttons allow us to select pojection dimension for the nD tour. Speed slider can control the speed of the nD tour. Simply dragging the mouse along the slider, changes the speed from slow to fast. Pause check box allow users to pause the dynamic nD tour and have a close examination on the details. Apply button allows users to update the nD tour, when it doesn't automatically update. Quit button allows users to close thie GUI window. Help button provides information about the tour and also what this GUI can do. will pop up when the mouse is moved over the GUI, which give hints about the functionality of the different GUI elements.

**Author(s)**

Bei Huang<beihuang@iastate.edu>, Di Cook <dicook@iastate.edu>, and Hadley Wickham <hadley@rice.edu>

**Examples**

```
## Not run:
  gui_scattermat(flea)

## End(Not run)
```

---

gui\_stars

*Stars Tour GUI...*


---

**Description**

Stars Tour GUI Displays an Stars Tour GUI

**Usage**

```
gui_stars(data = flea, ...)
```

**Arguments**

data	matrix, or data frame containing numeric columns, defaults to flea dataset
...	other arguments passed on to <a href="#">animate</a> and <a href="#">display_xy</a>

**Details**

GUI allows users to control the stars tour by simply moving and clicking their mouses. Variable Selection checkboxes contains all the numeric variables, and at least three of them need to be checked to make the display work. the categorical variables go to the Class Selection box. We should select the class variable by double clicking the variable names. isn't implemented with the stars tour yet. Tour Type radio buttons contains four different tour types. They are the Grand Tour, Little Tour, Local Tour and Guided Tour. We can choose one type a time. For the Guided Tour, we need to choose an index from the droplist to specify which particular search type is desired. default index would be holes. For tour type Guided(lda\_pp) and Guided(pda\_pp), we also need to specify class variable first, and the Guided(pda\_pp) also controlled by another parameter, lambda. Lambda ranges from 0 to 1, with default at 0.02. A value of 0 will make the tour operate like Guided(lda\_pp). Choose Dimension radio buttons allow us to choose the dimension number n to animate a nD tour path with Andrews' curves. Dimension n ranges from 3 to the number of the numeric variables of this dataset. The maximum dimension is 18. Choose Star Number slider allows users to specify how many stars to display. The number ranges from 2 to the number of observations in this dataset. star number is 4. Speed slider can control the speed of the nD tour. Simply dragging the mouse along the slider, changes the speed from slow to fast. Pause check box allow users to pause the dynamic nD tour and have a close examination on the details. Apply button allows users to update the nD tour, when it doesn't automatically update. Quit button allows users to close thie GUI window.

Help button provides information about the tour and also what this GUI can do. will pop up when the mouse is moved over the GUI, which give hints about the functionality of the different GUI elements.

### Author(s)

Bei Huang <beihuang@iastate.edu>, Di Cook <dicook@iastate.edu>, and Hadley Wickham <hadley@rice.edu>

### Examples

```
## Not run:
  gui_stars(flea)

## End(Not run)
```

---

gui\_stereo

*Stereo Tour GUI..*

---

### Description

Stereo Tour GUI Displays an Stereo Tour GUI

### Usage

```
gui_stereo(data = flea, ...)
```

### Arguments

data	matrix, or data frame containing numeric columns, defaults to flea dataset
...	other arguments passed on to <a href="#">animate</a> and <a href="#">display_xy</a>

### Details

GUI allows users to control the Stereo tour by simply moving and clicking their mouses. Variable Selection checkboxes contains all the numeric variables, and at least three of them need to be checked to make the display work. the categorical variables go to the Class Selection box. We should select the class variable by double clicking the variable names. Tour Type radio buttons contains four different tour types. They are the Grand Tour, Little Tour, Local Tour and Guided Tour. We can choose one type a time. For the Guided Tour, we need to choose an index from the droplist to specify which particular search type is desired. default index would be holes. For tour type Guided(lda\_pp) and Guided(pda\_pp), we also need to specify class variable first, and the Guided(pda\_pp) also controlled by another parameter, lambda. Lambda ranges from 0 to 1, with default at 0.02. A value of 0 will make the tour operate like Guided(lda\_pp). high-dimensional data a value closer to 1 would be advised. Speed slider can control the speed of the 3D tour. Simply dragging the mouse along the slider, changes the speed from slow to fast. Pause check box allow users to pause the dynamic 3D tour and have a close examination on the details. Apply button allows users to update the 3D tour, when it doesn't automatically update. Quit button allows users

to close this GUI window. Help button provides information about the tour and also what this GUI can do. will pop up when the mouse is moved over the GUI, which give hints about the functionality of the different GUI elements.

### Author(s)

Bei Huang<beihuang@iastate.edu>, Di Cook <dicook@iastate.edu>, and Hadley Wickham <hadley@rice.edu>

### Examples

```
## Not run:
  gui_stereo(flea)

## End(Not run)
```

---

gui\_tour

*Tour GUI...*

---

### Description

Tour GUI Displays all types of Tour GUI in different tabs

### Usage

```
gui_tour(data = flea, ...)
```

### Arguments

data           matrix, or data frame containing numeric columns, defaults to flea dataset  
...            other arguments passed on to [animate](#) and [display\\_xy](#)

### Details

Combines all of the tour gui's into one, putting a separate tab for each.

### Author(s)

Bei Huang<beihuang@iastate.edu>, Di Cook <dicook@iastate.edu>, and Hadley Wickham <hadley@rice.edu>

### Examples

```
## Not run:
  gui_tour(flea)

## End(Not run)
```

**Description**

Scatterplot Tour GUI A graphical user interface enabling interactive control of a scatterplot tour.

**Usage**

```
gui_xy(data = flea, ...)
```

**Arguments**

data	matrix, or data frame containing numeric columns, defaults to flea dataset
...	other arguments passed on to <a href="#">animate</a> and <a href="#">display_xy</a>

**Details**

GUI allows users to control the scatterplot tour by simply moving and clicking their mouses. Variable Selection checkboxes contains all the numeric variables, and at least three of them need to be checked to make the display work. the categorical variables go to the Class Selection box. We should select the class variable by double clicking the variable names. users don't specify the class variable, the selected numeric variables will be considered as one class, and all points will be black. users specify the class variable, the points will be considered as different classes according to this variable, and these will appear as rainbow colors in the scatterplot tour. Tour Type radio buttons contains four different tour types. They are the Grand Tour, Little Tour, Local Tour and Guided Tour. We can choose one type a time. For the Guided Tour, we need to choose an index from the droplist to specify which particular search type is desired. default index is holes. For tour type Guided(lda\_pp) and Guided(pda\_pp), we also need to specify class variable first. The Guided(pda\_pp) also controlled by another parameter, lambda. Lambda ranges from 0 to 1, with default at 0.02. A value of 0 will make the tour operate like Guided(lda\_pp). very high-dimensional data a value closer to 1 would be advised. Axes Locations column contains three types. Users can specify where tour axes will be displayed. The choices are center, bottomleft and off. Speed slider can control the speed of the 2D tour. Simply dragging the mouse along the slider, changes the speed from slow to fast. Pause check box allow users to pause the dynamic 2D tour and have a close examination on the details. Apply button allows users to update the 2D tour, when it doesn't automatically update. Quit button allows users to close thie GUI window. Help button provides information about the tour and also what this GUI can do. will pop up when the mouse is moved over the GUI, which give hints about the functionality of the different GUI elements.

**Author(s)**

Bei Huang<beihuang@iastate.edu>, Di Cook <dicook@iastate.edu>, and Hadley Wickham <hadley@rice.edu>

**Examples**

```
## Not run:  
  gui_xy(flea)  
  
## End(Not run)
```

# Index

- \*Topic **display\_density**
  - gui\_density, 3
- \*Topic **display\_faces**
  - gui\_faces, 4
- \*Topic **display\_image**
  - gui\_image, 5
- \*Topic **display\_pcp**
  - gui\_pcp, 6
- \*Topic **display\_scattermat**
  - gui\_scattermat, 7
- \*Topic **display\_stars**
  - gui\_stars, 8
- \*Topic **display\_stereo**
  - gui\_stereo, 9
- \*Topic **display**
  - gui\_tour, 10
- \*Topic **hplot**
  - gui\_andrews, 2
  - gui\_xy, 11

andrews, 2  
animate, 2–11

display\_xy, 2–11

gui\_andrews, 2  
gui\_density, 3  
gui\_faces, 4  
gui\_image, 5  
gui\_pcp, 6  
gui\_scattermat, 7  
gui\_stars, 8  
gui\_stereo, 9  
gui\_tour, 10  
gui\_xy, 11