Project - TOM3-App - Statistic subsystem

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Preh#ad revízií

Revízia 1	2005-01-07	RomanFordinál
Creation of this documentation.		
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Change of structure of this document, added new information.		
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Added new information.		

Abstrakt

SVGraph Library

This library is used for generation of graphs in SVG format. With the help of the SVGraph library you should easy and itelligent design your own graph and its range.

SVGraph::2D::columns

Class for column graphs.

Dictionary

New object of a column graph

Creation of a new object of a column graph :

```
my $graph=SVGraph::2D::column->new(%params);
```

%param:

• title

Title of the graph. It will by displayed in the body of the graph.

• type

Type of drawing of the graph:

• normal

- normal/percentage

- overlap

- x

  Width of the graph.

- y

  Height of the graph.

- reload

  Time in seconds for automatical refresh of the graph. It is assured by the javascript function reload().

- show_legend

  1/0

  Displays the legend on the right site of the graph.

- show_legend_reverse

  1/0

  Displays the legend in reverse order.

- show_areas

  1/0

  Displays the areas in graph.

- show_label_textsize

  Textsize in labels on the x axis.

- show_areas_opacity

  0.0 -> 1.1

  Shows areas with defined alpha.

- show_data

  1/0

  Shows the values above each colunm.

- show_data_background

  1/0

  Shows the values above columns with background.

- show_grid_x

  1/0

  Shows the grid on x axis and the labels.

- grid_y_scale_minimum

Defines the starting value of the graph.

- grid_y_scale_maximum

  Defines the maximum value displayed on the y axis

- grid_y_main_spacing

  Defines spacing in the grid on the y axis.

Adding columns into graph

Columns are data accumulators of the same type.

For adding new columns in the graph is used following method:

```
my $column = $graph->addColumn(%params);
```

%params :

- title

  Name of the coulmn.

- show_area

  0/1

  Shows the columns as areas.

- show_line

  0/1

  Allows to display the column as a line.

- color

  Color of the column.

Adding row labels

For adding labels to rows is used the following method:

```
$graph->addRowLabel($label_text);
```

Parameters:

- $label_text

  Text, which identifies the row.

Adding data to graph

```
$column->addData($label_text, value);
```

Parameters:

- $label_text

  Text in row label.

Adding value marks

```
$graph->addValueMark(value,%params);
```

%params:

- front

  1/0

  The markline is in the front of the graph.

- size

  Size of the line.

- color

  Color of the line.

- right

  0/1

  Is the label on the right (1) or left (0) side?

- show_label

  Shows the label. Default is it the value of the mark.

- show_label_text
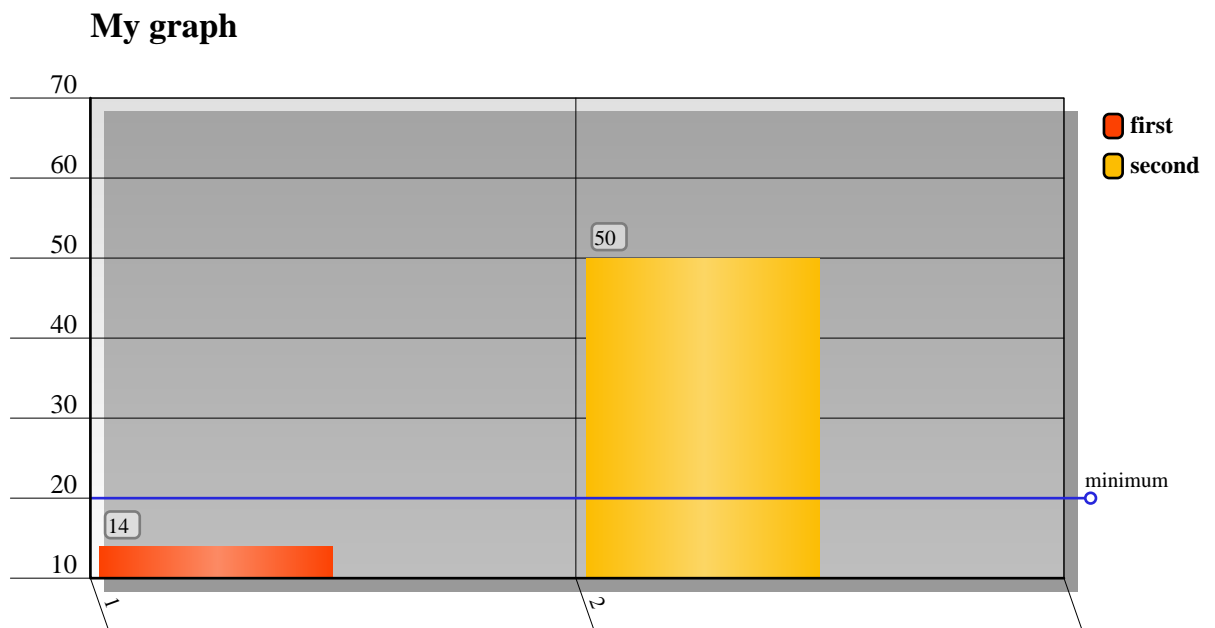
  Shows a text as the label.

Example

Code:

```perl
#!/bin/perl
use SVGraph;
use SVGraph::2D::columns;
use strict;

my $graph=SVGraph::2D::columns->new(
  title => "My graph",
  type => "normal",
  x => 500,
  y => 300,
  show_legend => 1,
  show_data => 1,
  show_data_background =>1,
  grid_y_scale_maximum => 70.00,
  show_grid_x => 1
  );

# adding two columns
my %columns;
$columns{first}=$graph->addColumn(title=>"first");
$columns{second}=$graph->addColumn(title=>"second");

# adding rows and labels
```

```
$graph->addRowLabel('1');
$graph->addRowLabel('2');

# data for graph
$columns{first}->addData('1',14);
$columns{second}->addData('2',50);

$graph->addValueMark(20,front => 1, color => 'blue',
                     right => 1, show_label_text => 'minimum', show_label => 1);

# create svg file
open (my $fh, "+>graph.svg");
print $fh $graph->prepare;
```


SVGraph::2D::lines

Class for the line graphs.

Dictionary

New object of a line graph

Creation of a new object of a line graph :

```
my $graf=SVGraph::2D::lines->new(%params)
```

%params:
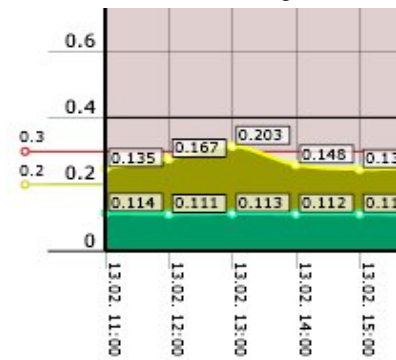
- title

    Title of the graph. It will by displayed in the body of the graph.

- type

  Type of drawing of the graph:

  - normal

  - normal/percentage

  - stacked

    The values are counted together.

  - stacked/percentage

  - overlap

- x

  Width of the graph.

- y

  Height of the graph.

- reload

  Time in seconds for automatical refresh of the graph. It is assured by the javascript function reload().

- show_legend

  1/0

  Displays the legend on the right site of the graph.
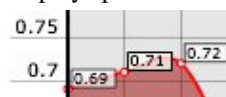
- show_legend_reverse

  0/1

  Displays the legend in reverse order.

- show_points

  0/1

  Displays points in the graph.

- show_points_middle

0/1

Displayes point in the middle of defined values.

- show_lines

  1/0

  Shows lines in the line graph.

- show_lines_smooth

  0/1

  Rounds the lines in the graph.

- show_areas

  1/0

  Displays the areas in graph.

- show_label_textsize

  Textsize in labels on the x axis.

- show_areas

  1/0

  Dislpays the areas.

- show_areas_opacity

  0.0 -> 1.1

  Shows areas with defined alpha.

- show_lines_smooth_range

  1/0

  Smooths ranges around the lines.

- show_data

  1/0

  Shows the values above each colunm.

- show_data_background

  1/0

  Shows the values above columns with background.

- show_grid_x

  1/0

  Shows the grid on x axis and the labels.

- grid_y_scale_minimum

Defines the starting value of the graph.

- grid_y_scale_maximum

  Defines the maximum value displayed on the y axis

- grid_y_main_spacing

  Defines spacing in the grid on the y axis.

Adding columns into graph

Columns are data accumulators of the same type.

For adding new columns in the graph is used following method:

```
my $column = $graph->addColumn(%params);
```

%params :

- title

  Name of the coulmn.

- show_area

  0/1

  Shows the columns as areas.

- show_line

  0/1

  Allows to display the column as a line.

- color

  Color of the column.

Adding row labels

For adding labels to rows is used the following method:

```
$graph->addRowLabel($label_text);
```

Parameters:

- $label_text

  Text, which identifies the row.

Adding data to graph

```
$column->addData($label_text, value);
```

Parameters:

- $label_text

  Text in row label.

Adding value marks

```
$graph->addValueMark(value,%params);
```

%params:

- front

  1/0

  The markline is in the front of the graph.

- size

  Size of the line.

- color

  Color of the line.

- right

  0/1

  Is the label on the right (1) or left (0) side?

- show_label

  Shows the label. Default is it the value of the mark.

- show_label_text

  Shows a text as the label.

Example

Code:

```
#!/bin/perl
use strict;
use SVGraph::2D::lines;

my $graph=SVGraph::2D::lines->new(
 title => "My graph",
 type => "normal/percentage",
 x => 500,
 y => 300,
 show_lines => 1,
 show_points => 1,
 grid_y_main_lines => 0,
 show_label_textsize => 20,
 show_legend => 1,
 show_data => 1,
 show_data_background => 1,
 show_grid_x => 0
);

# two columns -> two lines in the graph
my %columns;
$columns{first}=$graph->addColumn(title=>"first", show_line=>1);
$columns{second}=$graph->addColumn(title=>"second", show_line=>1);
```
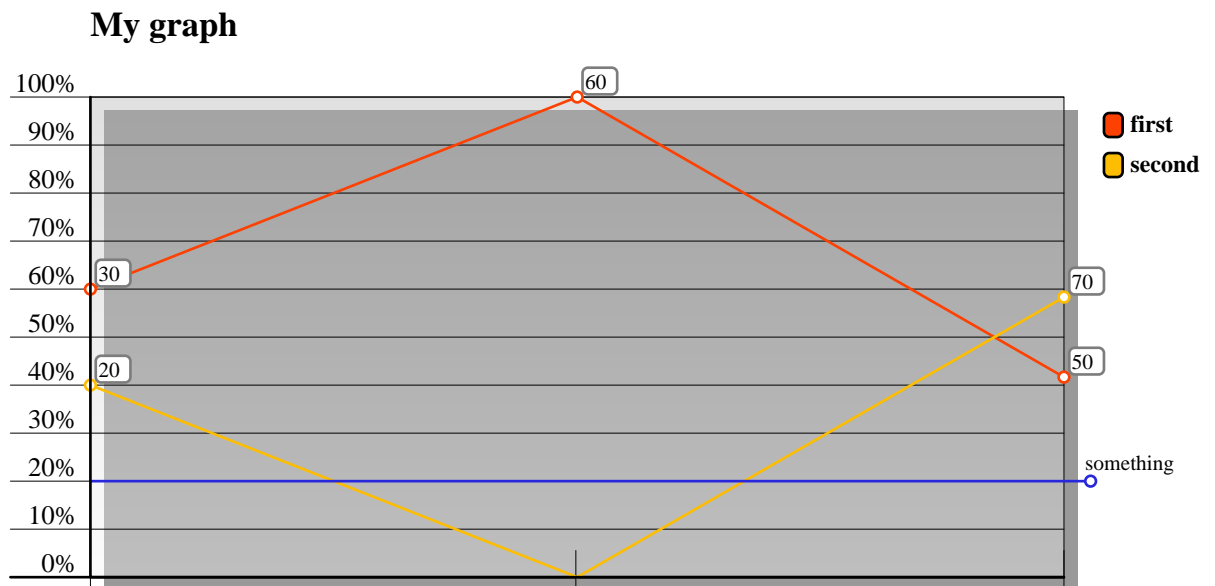
```perl
$graph->addRowLabel('1');
$graph->addRowLabel('2');
$graph->addRowLabel('3');

$graph->addValueMark(20,front => 1, color => 'blue', right => 1,
                      show_label_text => 'something', show_label => 1);
# data for graph
$columns{first}->addData('1',30);
$columns{first}->addData('2',60);
$columns{first}->addData('3',50);
$columns{second}->addData('1',20);
$columns{second}->addData('2',0);
$columns{second}->addData('3',70);

# creates svg file
open (my $fh, "+>graph.svg");
print $fh $graph->prepare;
```


SVGraph::2D::map

Class for graph maps.

Dictionary

New object of a map

Creation of a new object of a map graph :

```perl
my $map=SVGraph::2D::map->new(%params);
```

%param:

- title

  Title of the graph.

- continent

  Continent to be displayed. For whole world is it 'world', for slovakia is this parameter 'slovakia'.

- x

  Width of the graph.

- y

  Height of the graph.

- reload

  Time in seconds for automatical refresh of the graph. It is assured by the javascript function reload().

- show_legend

  1/0

  Disables the legend.

Adding columns into graph

Columns are data accumulators of the same type. In the map is only one column.

Creating new column :

```
my $column = $map->addColumn(%params);
```

%params :

- title

  Name of the coulmn.

- color

  Color of the countries.

Adding row labels

Row labels identifies countries, which have defined value. For adding labels to rows is used the following method:

```
$map->addRowLabel($label_text);
```

Parameters:

- $label_text

  Text, which identifies the row.

Adding data to graph

```
$column->addData($label_text, value);
```

Parameters:

- $label_text

  Text in row label.

Example

Code:

```perl
#!/bin/perl

use SVGraph::2D::map;
use strict;

my $svgfh;

open($svgfh,"+>map.svg") or die $!;

my $map = SVGraph::2D::map->new(title => 'europe', continent => 'europe', x =>

my $column = $map->addColumn(title => 'europe', color => 'blue');


$map->addRowLabel('SK');
$column->addData('SK', 2520);

$map->addRowLabel('CZ');
$column->addData('CZ', 1000);

$map->addRowLabel('GB');
$column->addData('GB', 545);


print $svgfh $map->prepare();
```