

Visualisierung 2

Gruendl et al.: Time-Series Plots Integrated in Parallel-Coordinates Displays

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Code Dokumentation

1. index.html

1.1. function updateAllAxisRanges()

This method updates all ranges of the axes. If the size of the plot changes in height, all axes have to be updated. So update with updated updatePlotDimensions().

1.2. function updatePlotDimensions()

This method adjust all variables, which depends on the actual plot size.

1.3. function updateAllAxisPositions()

All axes stores the position in %. So the transform of all axesElements has to be adjusted to the actual shift and zoom.

It also updates the textelement.

called: shifting, zooming

1.4. function updateLinehover()

To highlight the hovered line, this method init the event for all lines.

It is separated in the main-, scatterplot- and time series-view.

called: whenever an axis is rendered

1.5. function renderAllAxes()

This method renders all axes. It iterates through the _AXES array and it also renders all scatterplots and timeseries plots

1.6. function renderAxisWithSiblings(axis)

Some interactions don't need to render all axes. So if only the previous and next axes has to be rendered, this method is called.

1.7. function distributeAxesToDisplayWidth()

Method for distributing the axes uniform on the display width.

1.8. function addAxisWithDistribution(axis)

Helper for init

1.9. function addAxis(type,axisId)

This method adds a new axis. The new axis is inserted before the axisId axis

type: the attribute of the axis

axisId: the axisId of the axis where the new axis is inserted.

1.10. function removeAxis(axisId)

This method removes an axis.

All svg elements connected to that axis will be removed.

axisId: the axis with this id will be removed

1.11. function removePlot(plotId)

This method removes the plot with the plotId.

1.12. function addVanishingPoint(axisIdRight)

This method creates a new vanishing-point.

The surrounded axes will be extended, when the space for the vanishing-point is too small.

axisIdRight: the id of the right axis of the selected rect

1.13. function setVanishingPointForAxisWithId(id, direction)

This method sets the axis attribute "vanishDrawing" to the specified "direction".

id: the id of the axis

direction: in which direction should the vanishingpoint should be drawn

(direction = 0 -> no; direction = 1 > right; direction = 2 > left)

1.14. function init()

This method is called after the loading of the dataset.

It inits the all the important global variables and it adds some axis.

2.Axis.js

2.1. function Axis(axisAttribute, timeIndex)

The constructor of a new axis

axisAttribute: the attribute of the new axis

timeIndex: (index 250ms = time)

2.2. function updateTimeAxis(axis, newTimeIndex)

This method updates all dependent attributes of the axis for a new timeIndex

newTimeIndex: the new timeindex for the "axis"

axis: axis object

2.3. function updateAxisPosition(axis, pos)

This method updates the position of the axisElement of the axis

axis: this axis will be updated

pos: new position of the axis (not pixel-space)

2.4. function updateAxisPositionWithoutZoom(axis, pos)

This method is used for setting new position without the shift and zoom attributes.

It is needed, when the axis is moved by a move-Event.

2.5. function renderAxis(axis)

This method renders an axis.

It updates all dependent elements like: rects, ticklines, axisLines, timelines, curvedlines

It uses the filter object for coloring the lines correct.

axis: this axis will be rendered

3.csvLoader.js

3.1. function converter(data)

This method inits the dataset. It also adds an attribute called "type", which is given by the path.

3.2. function loading(index)

loading the dataset with the index "index".

3.3. function loadDataset()

this method is the first initial method. It reads the dataset and stores it into the dataset variable. It calls as callback the init() method.

4.evol-colorpicker.min.js

evol-colorpicker 3.3.1

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<http://evoluteur.github.io/colorpicker/>

5.Filter.js

5.1. function Filters(initCallback)

Constructor of the filters object. It stores the whole information about the filters.

initCallback: this method will be called, whenever the filters object is changed. (renderallAxis())

5.2. function getFilterById(id)

This method returns the filter with the given id

id: searching id (if this id does not exists, the first filter is returned)

5.3. function Filter()

Constructor of a Filter object

A filter has a color, an opacity and the lines, which are coled with this filter

5.4. function FilterAxis(axis, extent)

This object is used to store the brushing information for an axis (extent)

5.5. function() initSelectedFilter

Adds the class for an init box with the blue colour

5.6. function(filter) addFilter

This method adds a new Filter object.

the colorpicker and sliders are initialized

5.7. function updateSelectedFilterId(id)

If the filter is clicked (box) than this method is called.

The filter with the "id" is now the active filter (for brushing)

5.8. function updateOrder()

Updates the order of the filters

5.9. function updateFilterLines()

This method is called, when the a filterobject is changed (brush, order-change)

It changes the attribute "lines" of all filters. The dataset is splitted into the correct filters objects

5.10. function setAllBrushesToSelectedFilter(selectedFilterId)

This method is called, when the selectedFilterId is changed.

All svg-elements and the brush of all axis is changed, to fit the active filter.

5.11. function removeAxisFromAllFilterAxisLists(filterAxis)

If an axis is removed, all filterAxis also has to be removed.

This method removes all "filterAxis" from all filter objects.

6. Gui.js

6.1. function onClickMoveTool()

This method is triggered, when the move-tool is selected.

It change the: rect, axis, and background

rect: move the whole plot, *axis*: moves the axis, removes brushes on axis

6.2. function onClickTimeTool()

This method is triggered, when the time-tool is selected.

It change the: rect, axis, and background

rect: moves the adjezent axis in time, *axis*: moves the axis in time, *background*: no interaction

6.3. function onClickSelectTool()

This method is triggered, when the time-tool is selected.

It change the: rect, axis, and background

rect: no interaction, *axis*: brush interaction, *background*: no interaction

6.4. function removeAllBrushes()

remove all brushes

6.5. function resetAllBrushes()

append new brush structure

7. Helper.js

7.1. function createAxisScale(attribute, time, isOrdinal)

This method returns a new axisScale for the specific time

attributte: attributte name of the data

time: specific timestamp

isOrdinal: true if the data are ordinal values

7.2. function Tick(data, yValue)

Tick constructor

data: datavalue

yvalue: y-coordinate on the axis

7.3. function clamp(num, min, max)

This method returns the value clmaped to the min max intevall

num: value

min: minimum value

max: maximum value

7.4. function calcTime(timeIndex)

This method returns the exact time in ms with the given timeIndex

7.5. function getAxisById(id)

This method returns the axis given by the id

7.6. function rasterize(position)

This method returns the new position calculated with the actual zoom and shift

7.7. function updateGuiButtonsActions()

Updates the current status from the interaction buttons

8.PlotInteractions.js

This file stores all information for the interactions with the plot.

9.Scatterplot.js

Implementation of the scatterplot

10.Timeseries.js

Implementation of the time series