Building Curves and Charts with EyeSee

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EyeSee

Charts and curves are effective are representing a collection of numerical values

EyeSee is an engine for scripting diagram drawing

It allows for drawing chart, diagrams, curves and histogram

EyeSee offers a small domain specific language, in the same spirit than Mondrian and Glamour

EyeSee by example

We will successively detail a number of examples that cover most of EyeSee feature.

The class ESExample contains many examples, check them out!

Updating EyeSee

The version included in your distribution is probably outdated

To update EyeSee, just do it the following in a workspace:

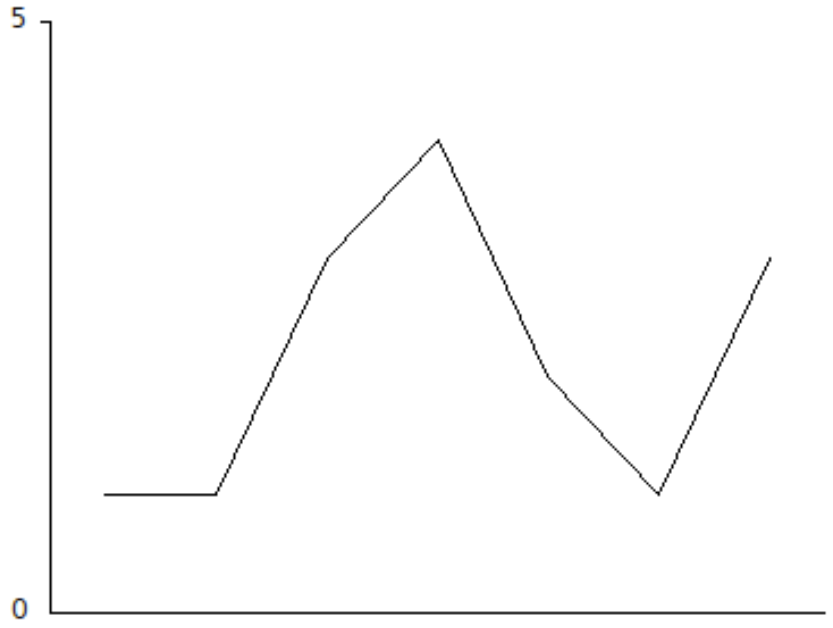
```
ConfigurationOfEyeSee loadDefault
```

Diagramming, simply

Plotting, nothing more

Simply sending #openPlot to a collection of numerical value do what you would expect

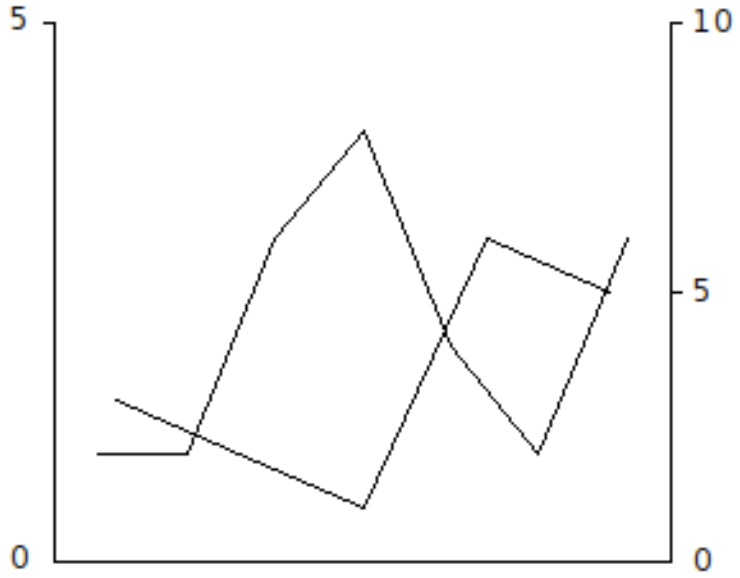
```
#(1 1 3 4 2 1 3) openPlot
```



Plotting twice more

Similarly, #openPlotWith: plot to ordered set of numerical values

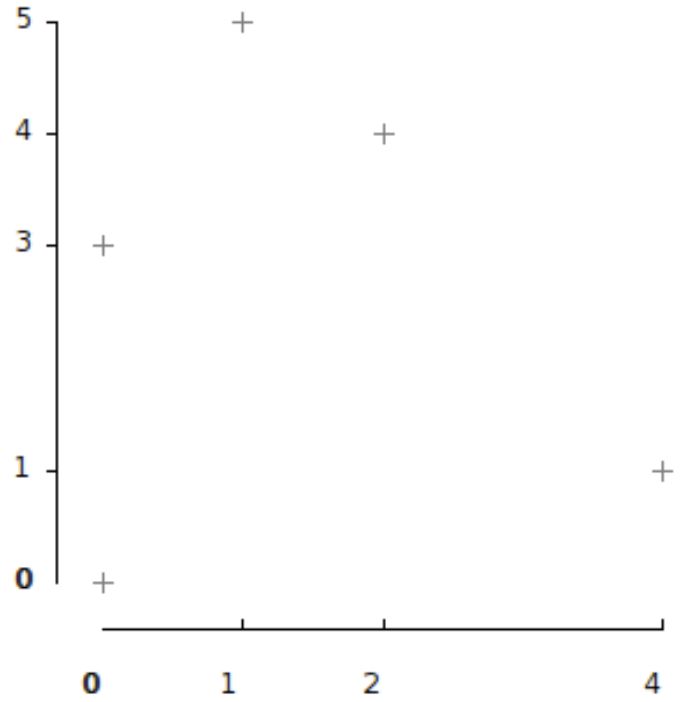
```
#(1 1 3 4 2 1 3) openPlotWith: #(3 2 1 6 5)
```



Scattering the World!

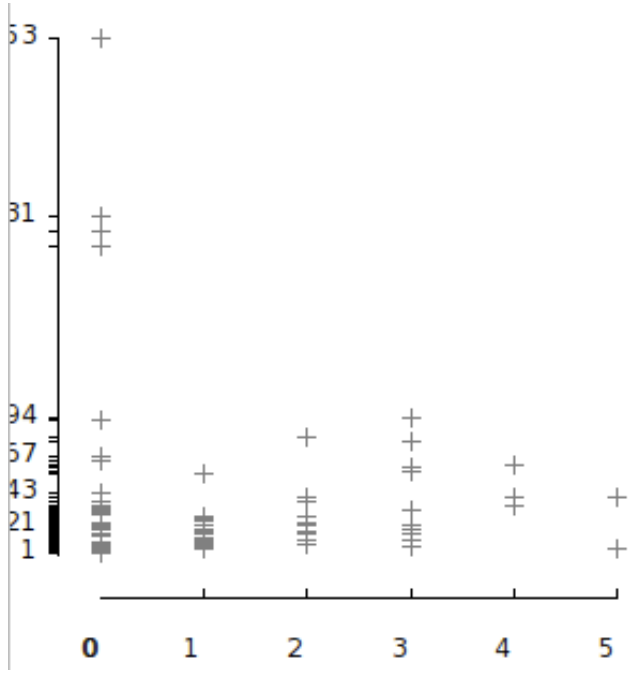
Sending #openScatterPlot to a collection of point will do what you would expect

```
{(0@0). (0@3). (1@5). (4@1). (2@4)}
openScatterPlot
```



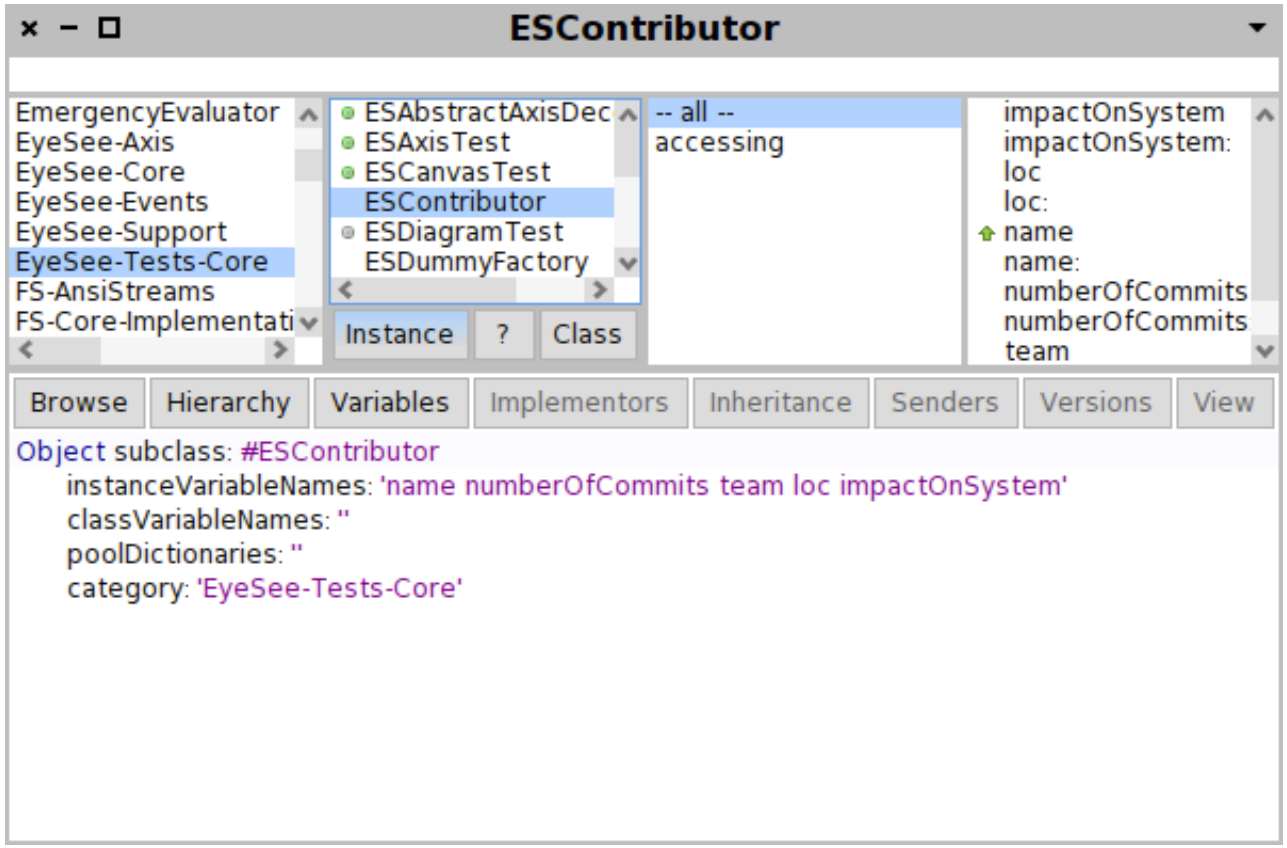
Scattering some classes

```
| data |
data := Collection withAllSubclasses
   collect: [:cls |
      cls numberOfAttributes @
      cls numberOfMethods ].
data openScatterPlot
```



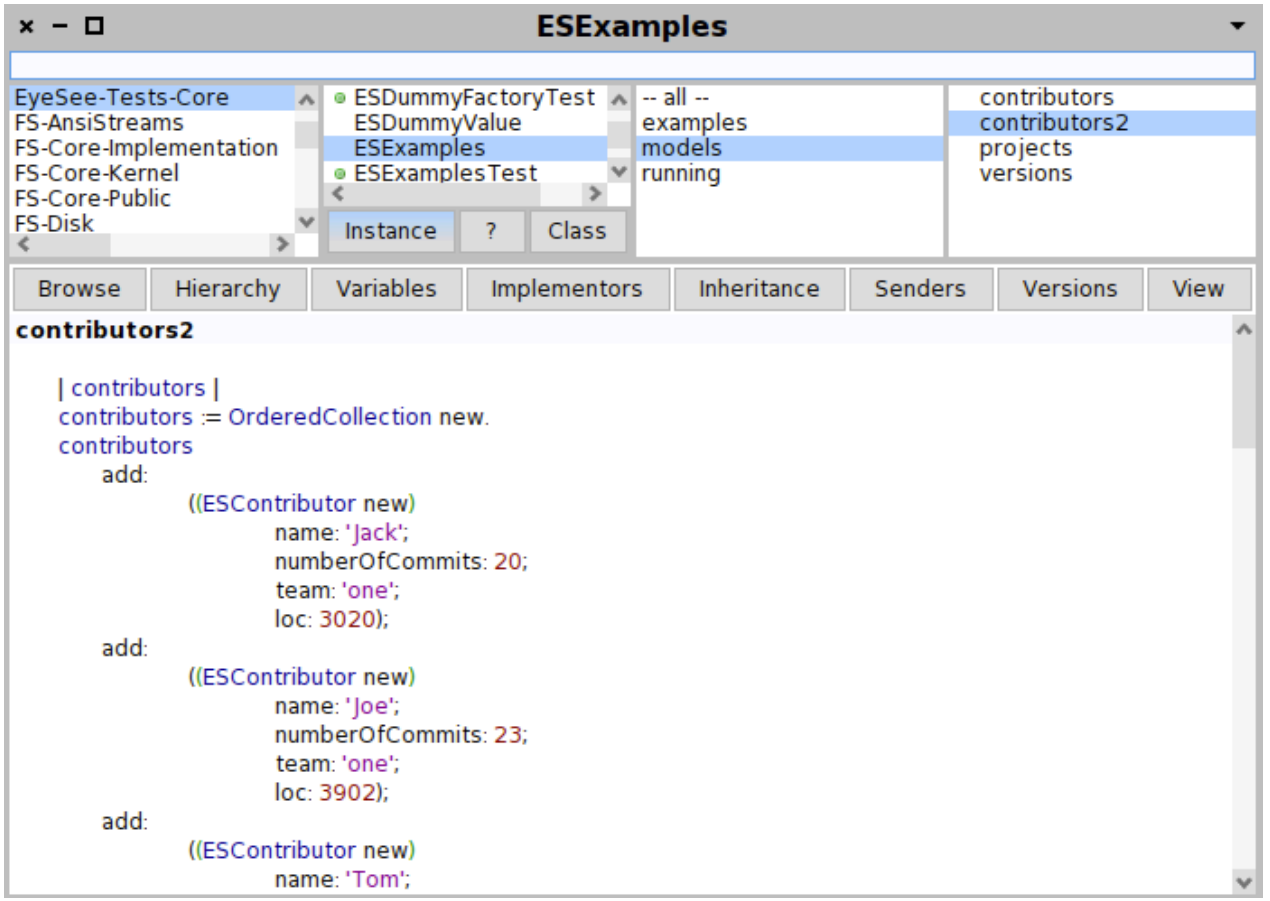
Modeling your values

Modeling contribution



ESContributor is simply a data structure used to bound data together

Collecting the data

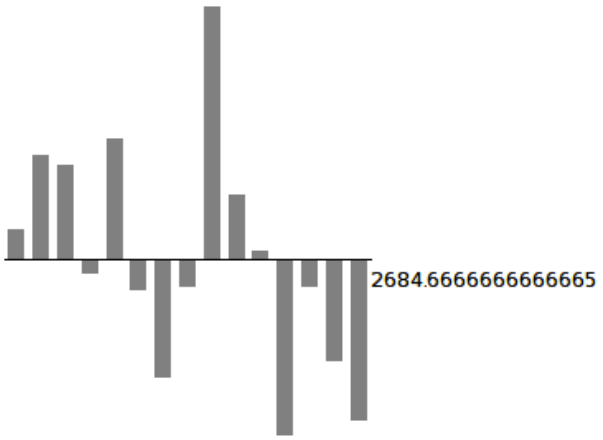


Instances of ESContributor are used as the visualized model in the next slides

Emphasis on differences with a deviation diagram

Try in a workspace

```
| diag |
diag := ESDiagramRenderer new.
diag deviationDiagram
   y: #loc;
   models: ESExamples new contributors2.
diag open
```

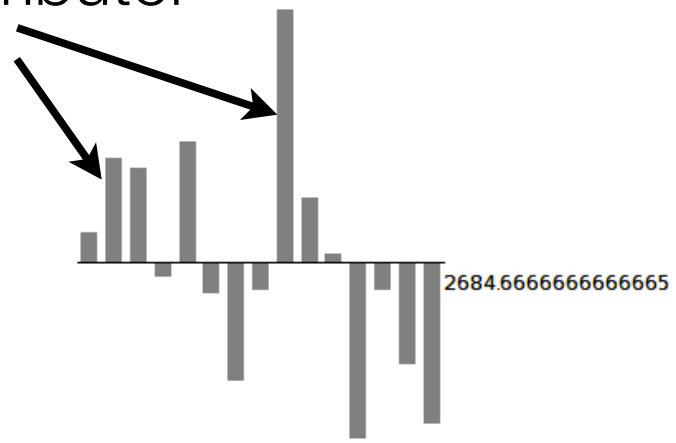


Emphasis on differences with a deviation diagram

Try in a workspace

```
| diag |
diag := ESDiagramRenderer new.
diag deviationDiagram
   y: #loc;
   models: ESExamples new contributors2.
diag open
```

instances of ECContributor

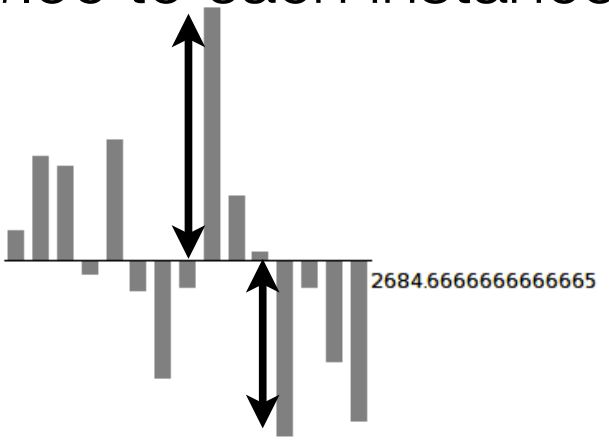


Emphasis on differences with a deviation diagram

Try in a workspace

```
| diag |
diag := ESDiagramRenderer new.
diag deviationDiagram
   y: #loc;
   models: ESExamples new contributors2.
diag open
```

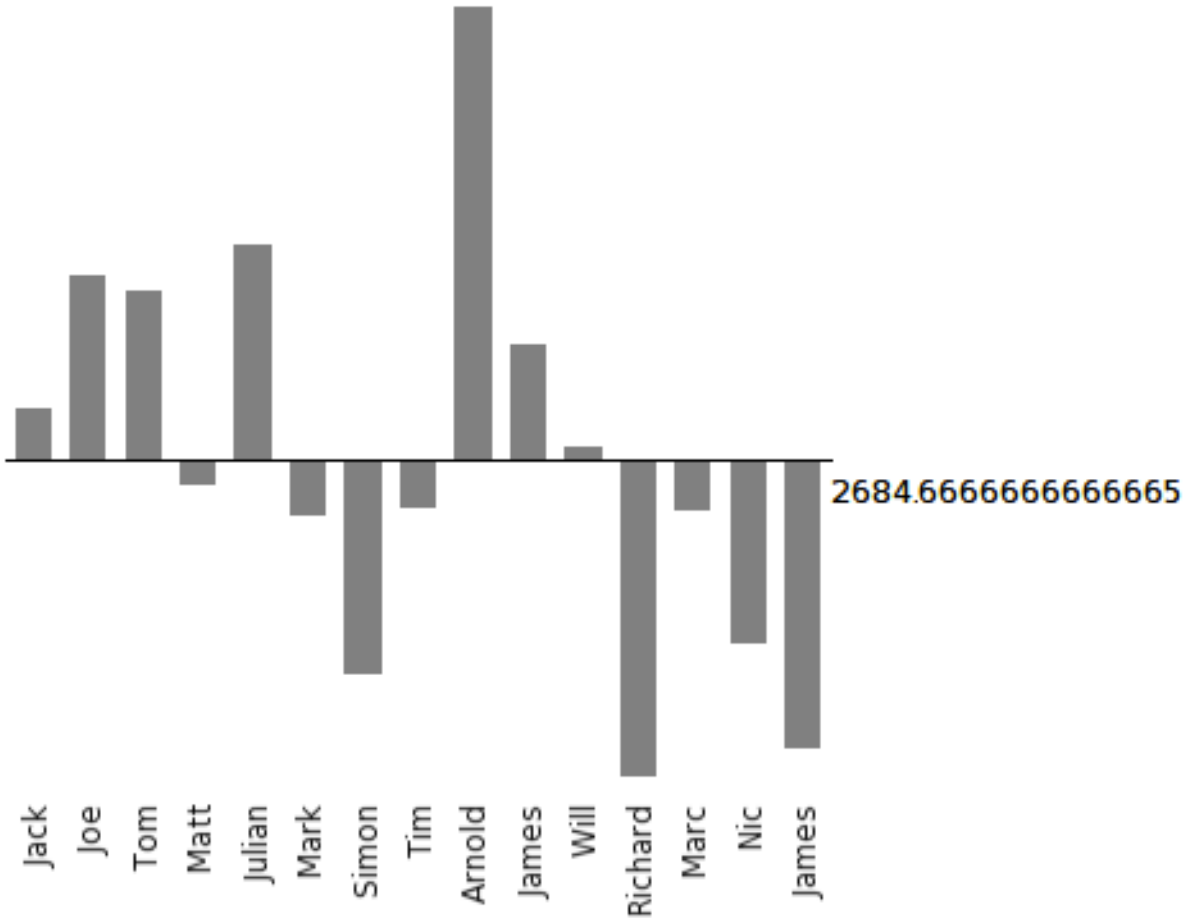
result of sending #loc to each instance



Emphasis on differences with a deviation diagram

Adding names and a size

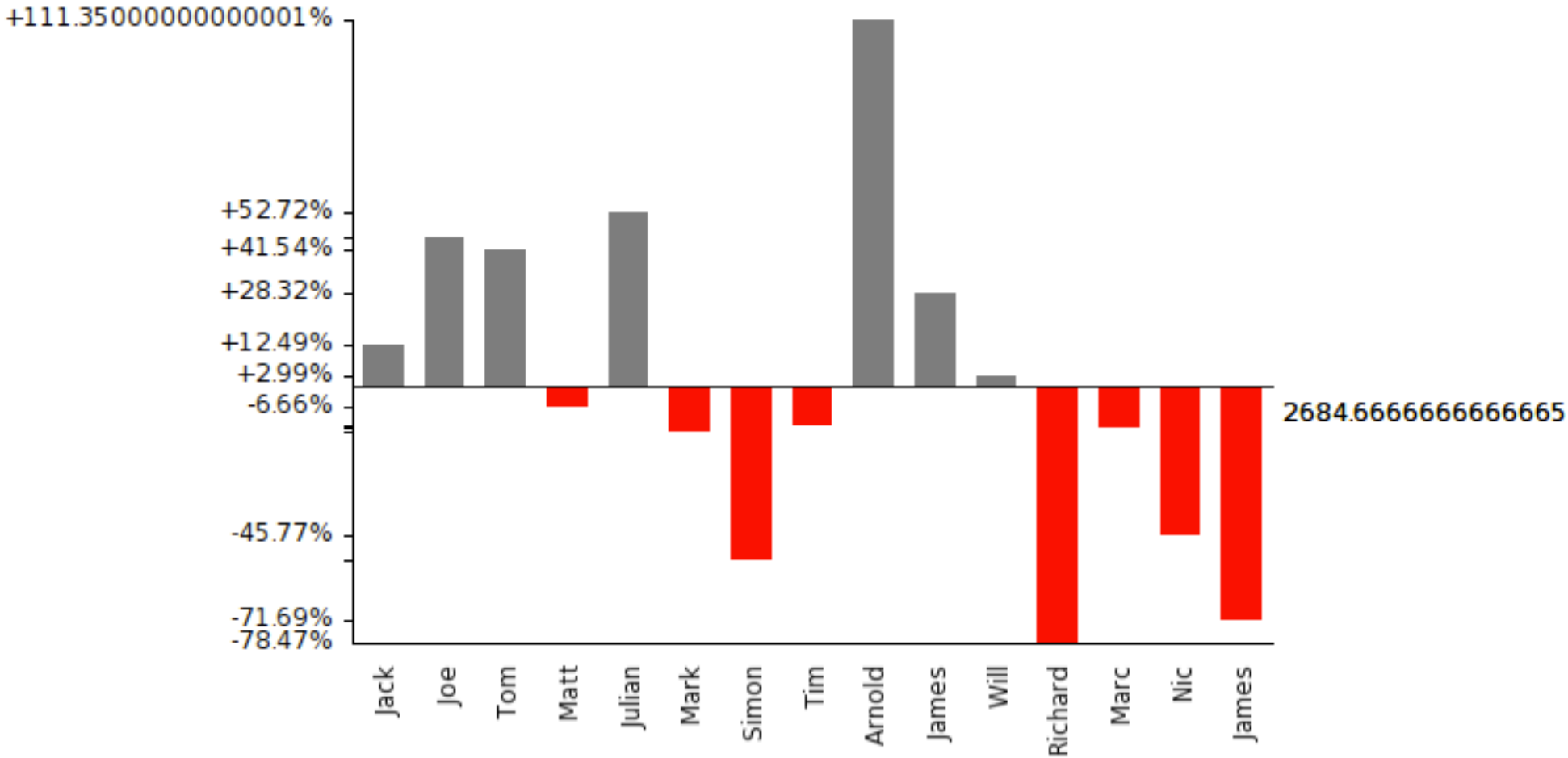
```
| diag |
diag := ESDiagramRenderer new.
(diag deviationDiagram)
   y: #loc;
   identifier: #name;
   width: 500;
   height: 400;
   rotatedLabels: true;
   models: ESExamples new contributors2.
diag open
```


2684.6666666666665
Jack
Joe
Tom
Matt
Julian
Mark
Simon
Tim
Arnold
James
Will
Richard
Marc
Nic
James

Emphasis on negative values

Adding names and a size

```
| diag |
diag := ESDiagramRenderer new.
(diag deviationDiagram)
   y: #loc;
   identifier: #name;
   width: 800;
   height: 400;
   highlightAboveDeviation;
   labelsInPercent;
   valueAxis;
   rotatedLabels: true;
   models: ESExamples new contributors2.
diag open.
```


+111.35000000000001%
+52.72%
+41.54%
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+12.49%
+2.99%
-6.66%
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-78.47%
2684.6666666666665
Jack
Joe
Tom
Matt
Julian
Mark
Simon
Tim
Arnold
James
Will
Richard
Marc
Nic
James

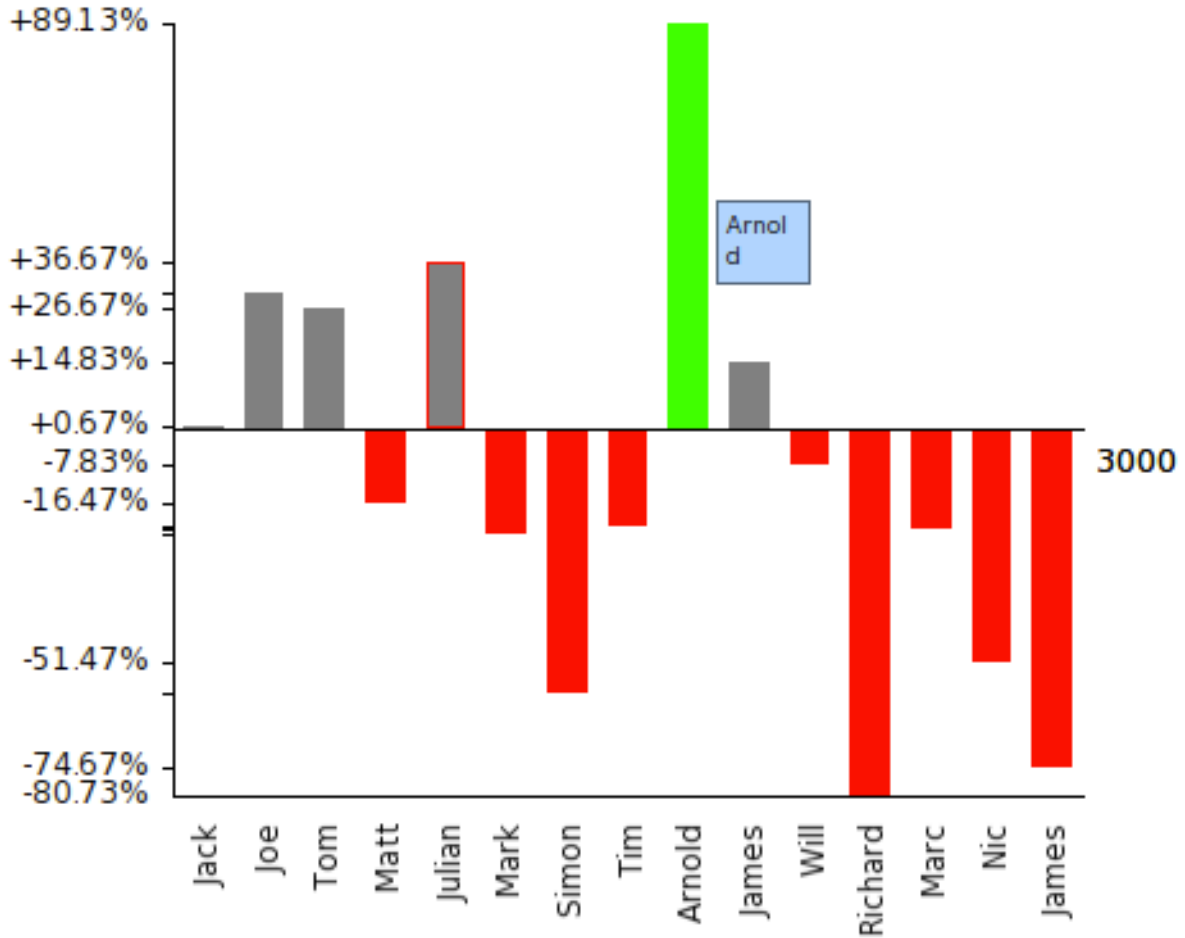
Adding a bit of interaction

Interaction are easily defined

```
| diag |
diag := ESDiagramRenderer new.
(diag deviationDiagram)
    y: #loc;
    identifier: #name;
    width: 500;
    height: 400;
    deviationValue: 3000;
    highlightAboveDeviation;
    labelsInPercent;
    valueAxis;
    rotatedLabels: true;
    models: ESExample new contributors2.

diag interaction
    strongHighlightWhenOver;
    popupText: #name.

diag open
```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+0.67%
-7.83%
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-51.47%
-74.67%
-80.73%
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Will
Richard
Marc
Nic
James