SemZoom

Semantic zoom of time-oriented quantitative Data

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User Manual

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1. Introduction

The *SemZoom* prototype is a test environment and demonstration program for the *JSemanticZoomComponent* for the *Explore*[1] project. It can be used to visualize quantitative data enhanced by mapping these data on qualitative scales. This can be useful to interpret the data.

For example, medical staff is able to quickly recognize critical elevated clinical parameters like blood pressure.

2. Data

The program reads .csv files in this format:

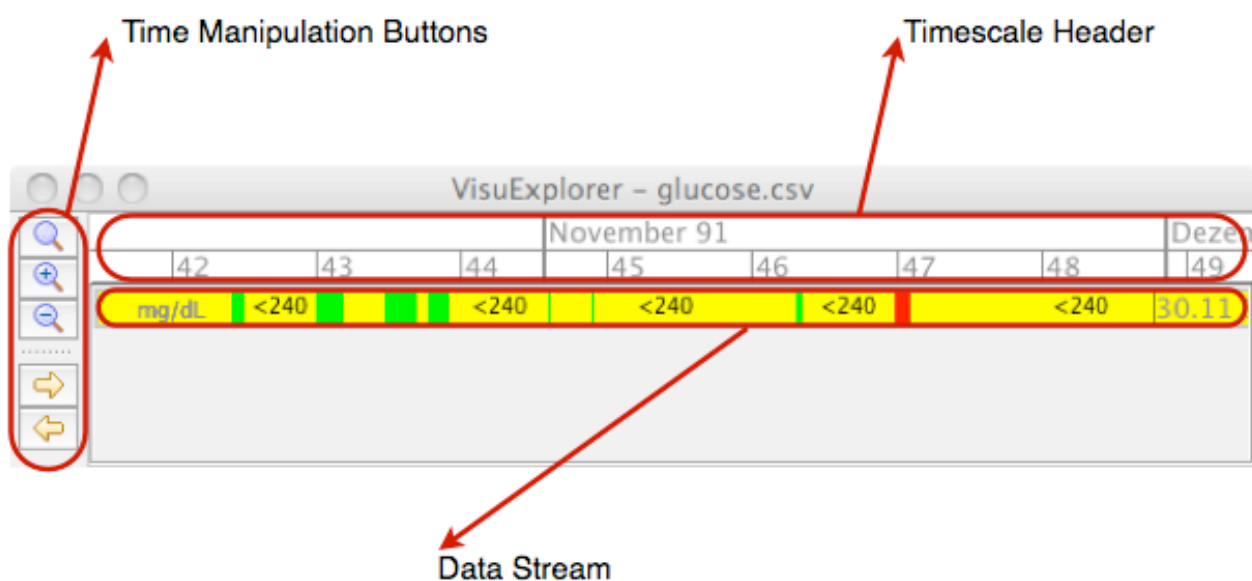`date;time;code;value`

Example for one measured data point would be:

`1991-04-21;09:09;58;100`

3. User Interface

To load a .csv file, use the *File* menu and choose *Open* and a file chooser dialog appears.

To toggle animations, use the *Options* menu and check/uncheck *Animation enabled.*

The important part user interface, the *data browsing*, consist of some easy to use but nevertheless powerful manipulation elements.
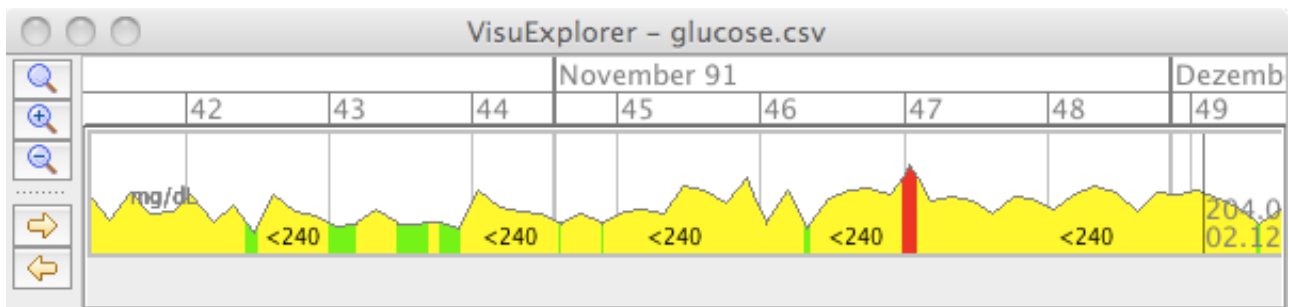

Time Manipulation Buttons

Timescale Header

Data Stream

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[1] http://www.donau-uni.ac.at/de/department/ike/forschung/informationsvisualisierung/projekte/11493/index.php

3.1 Vertical Semantic Zooming

To change the vertical size of the data stream panel, move to the bottom of the data stream, and you can see the mouse cursor changes to a resize cursor (↕) and the border of the data stream will highlight. Now you can drag the bottom of the panel up/down to allow it more/less space. You will notice that the visualization technique changes, depending on the vertical space you give it.

The different stages change from one to another with smooth animations, which you can toggle off if you like.

On the picture below you can see what happens if you allow if more space:

3.2 Time Manipulation

To browse through time, you can either use the *time manipulation buttons* on the left: from top down:

- Adjust timescale to fit all data points to available display space

- zoom in

- zoom out

- pan right

- pan left.

But you can also use the mouse to manipulate time directly on the data stream:

     - Time Panning: Left click on the data stream and drag left or right to pan through time.

     - Time Zooming: Right click on data stream and drag up or down to zoom in/out time.

If you zoom in far enough, the measured data points will show up as black dots.

If you zoom out to the point that the smallest gap between two data points can not be displayed on the timescale, the visualization switches to the high frequency visualization, where 10 data points will be displayed as one *Boxplot:*

maximum

75% percentile

median

25%

minimum
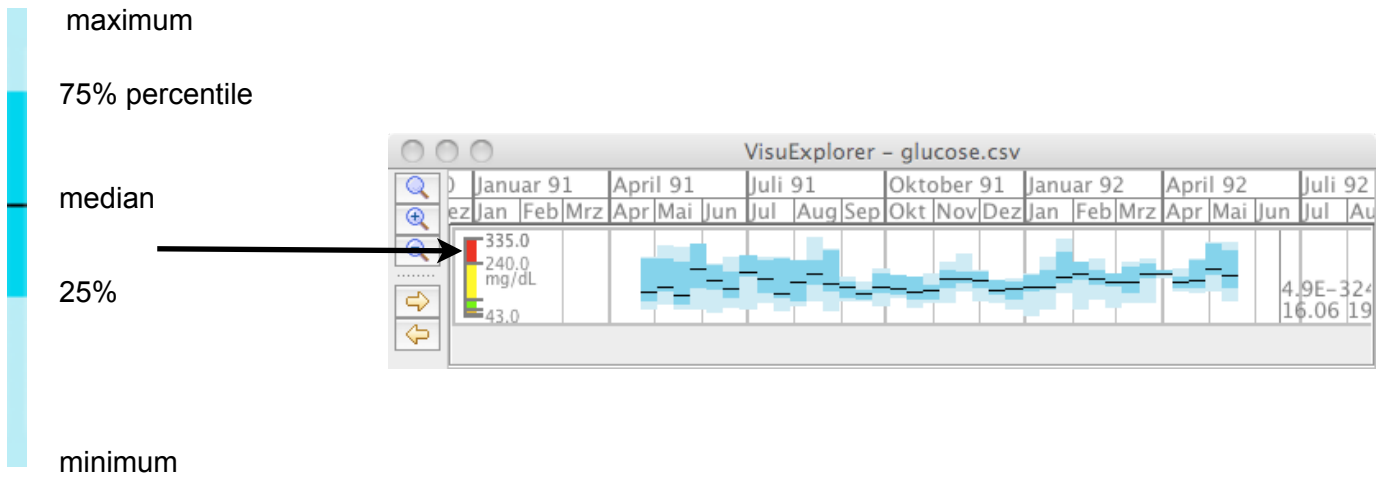
3.3 Mouse Cursor:

The data stream panel also offers a mouse cursor, which provides you with the exact date/time and value of a data point.
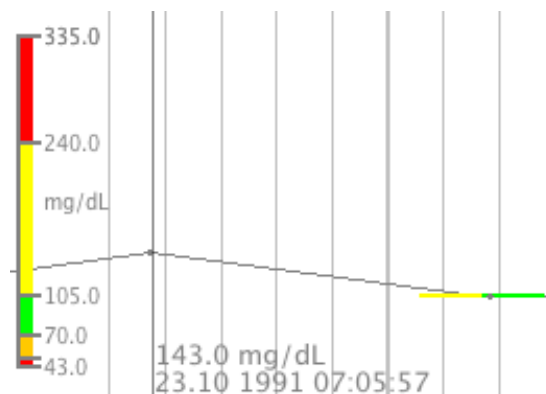
3.4 Linear Interpolation vs Step Chart

You can switch between linear interpolation and step chart mode in *Options* menu.

Note that also the start/end of the qualitative intervals will change, if you change this mode!