Report on HIWI from 1.1.2013 to 6.3.2013

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Here is a short report on major tasks which I have done so far, as well as the further works that come to mind. Works and problems listed below are not the whole story. Also, It should be mentioned that this version is not finalized and there are ongoing works.

- **Editor:**
  Since the editors and text renderers are written manually based on left-to-right languages, adaptation to right-to-left languages needs major changes in the way of rendering. As a result, a new class "RTLRenderer" inherited from "Renderer" is added which overrides the method "write".

  Default "Renderer" handles the information character by character and the style by some control characters like Unicode codes 2 and 3. This causes the problem in RTL text as well as Bidirectional ones. A new renderer should handle the situation by rendering in a different way regarding the orientation of subtexts.

  "RTLRenderer" handles it by making line with tokens and analyses the text to find the relative subtexts. However, it needs more effort to adapt carets, cursors and marks. Until now, it supports the following contents:
  - Bidirectional text which RTL contents are separated from LTR ones in a specific way. For example: see Database Management Dialog and Database Properties Dialog.
  - Further works: Adapting carets, cursors, marks, and other uses of this editor.
- **Main Window:**
  - Right to Left orientation of Toolbar Buttons, hits in GUI.java
  - Right to Left orientation of Menu, Menu Items, Toolbar, Status in corresponding classes (GUIMenu.java, GUIToolbar.java, GUIStatus.java)
  - Exchange the position of labels and buttons regarding right to left orientation in corresponding classes, like InfoView.java, TextView.java
- **Dialogs:**
  - Most of the dialogs in BaseX uses TableLayout. All the main changes in those dialogs has been made by changing TableLayout.java class. This change is first about the altering the way that components are set on the container to change the order of them. And then, changing the position that they are drawn, to make them appear from the right side of the container.
    Problem: It does not work properly with nested TableLayouts. In such cases changes are done in the main Dialog window or any other container, like DialogImport, DialogParsing, etc. Also the components are not properly aligned in nested layouts.

Point: DialogAbout: Repositioning of the Icon and labels (RTL) and benefiting changes in LayoutTable for information right to left presentation.

- DialodNew: RTL Tables, RTL layout
- DialogImport: Some changes in nested TableLayout based on RTL to make it work (in RTL mode, instead of a TableLyout (2,2), 2 TableLayout(1, 1) is used).
  Problem: Format and pattern input components are not aligned with their corresponding labels. There may be a solution to calculate the label's width and apply it into the TableLayout's horizontal gap (right now this value is set as the LTR mode, 20).
- DialogManage
- DialogParsing: Using 2 TableLayout for catalog file checkbox and browser instead of one TableLayout for RTL orientation.
- DialogProp: RTL Tabs and orientation, RTL Text rendering
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- DialogColors: RTL Orientation
  Problem: Sliders' value should be reversed
- DialogExport: Using different TableLyout for Method, Encoding and Parameters lables and boxes, instead of one TableLayout to orient RTL.
  Problem: No right alignment for textboxes in 2nd column.
- DialogServer: RTL orientation, adding an empty string to empty labels to adjust RTL.
  Problem: No right alignment, current TableLayout does not work properly for this Dialog, since there is an empty label made before buttons (start, stop, connect, disconnect) to align the components in 2nd column.
- DialogLine: RTL orientation

- **Layout:**
  - TableLyout: explained before.
  - BaseXTabs: RTL Orientation
  - BaseXTextField: Curser RTL Orientation
    Problem: It should be changed based on the local language setting.
  - BaseXDialog: changing the position of buttons based on RTL orientation in NewButtons function.
  - BaseXCombo: RTL orientation
  - BaseXLabel: RTL orientation. In cases such massages with specific Icon which use label and an icon, the icon for RTL languages will appear on the right.

- **Other to Do:**
  - Halfspace and Query editor??
  - GUIStatus and QueryInfo: The timing label needs to be fixed
  - ExplorerView is racked!!!
  - Complete Translation of Persian language file.