Build-in "xray" like UNO object inspector

By Tomaž Vajngerl
UNO Object Inspector
UNO Object Inspector

Best known object inspector – Xray tool

- Also popular EMR
- A simple one serves as a code example in ODK (Office Development Kit)
- Traverse the UNO object tree
- Used for inspecting the UNO Objects
  - Properties (types and values)
  - Methods
  - Interfaces
  - Supported types
Xray tool
Xray tool

- Extensions for LibreOffice
- Users need to find it separately
  - They may not even be aware of its existence
- Need to run a macro with object as a parameter
  - Xray ThisComponent
  - Document = ThisComponent
    AllSheets = Document.getSheets()
    MySheet = AllSheets.getByIndex(0)
    Xray MySheet
- We can do better than this
Tender for implementing support for a dedicated, built-in UNO object inspection tool in LibreOffice

Thanks to TDF to make the work of this tool possible

The idea
DevTools - Idea

- Built-in LibreOffice
- Dockable window on the bottom
- Similar to developer tools in popular browsers
- 2 trees – left-hand side and right-hand side
  - Left-hand side – tree view with a subset of the DOM (document object model)
  - Right-hand side – tree view with an object inspector
- Point & Click functionality
DevTools – left-hand side: DOM tree view

- Shows a small subset of the DOM
- Shows objects that the user is most likely interested in.
  - This is easier for the (new) users to understand the DOM and navigate it.
  - Specifics object can still be accessed in the object inspector
- Selecting an objects in the tree shows the object in the object inspector
DevTools – right-hand side: DOM tree view

- Similar to the Watch window in macro editor
- Shows available properties, methods, interfaces of an object.
  - + types and current values
- It is possible to inspect recursively the objects
- Supports looking into collections and arrays
- Special handling of certain types
  - For example dates shown depending on the locale.
DevTools idea – point & click object inspection

- Click on the document and show the related UNO object in the object inspector
- Can be cursor position or selection
- Orthogonal functionality to the DOM tree view
Current state
Current state

- Currently can be enabled in the menu under Help / Development tool
- Location and name can still be changed
Current state

- Implemented
  - DOM tree view (left-hand side)
- Current work in progress
  - Point & click
    - Needs additional tuning
  - Document inspector (right-hand side)
Current state – DOM tree view (left-hand side)

- Added UNO objects
  - Writer: Paragraph, Shapes, Tables, Frames, Graphic Objects, Embedded Objects, Styles Families and Styles
  - Calc: Sheet, Shapes (per sheet), Charts (per sheet), Pivot Tables (per sheet), Styles Families and Styles
  - Draw / Impress: Pages / Slides, Shapes (per page / slide), Master Slides, Styles Families and Styles
WIP – object inspector (right-hand side)

- Shows Implementation name
- List of interfaces, properties, types, methods
- Should be using the same code as Watch window
  - If this is possible
- Doesn’t yet show values and types
- UI needs working, maybe only one list view is not enough
WIP – point & click

- Listens to the selection change
- Fills the current selected object into “Current Selection”
- When selected it is shown in the object inspector
Demo
Thanks for listening!

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