
CREATIVITY UNLOCKED: HOW TO MAKE LIBREOFFICE UI ELEMENTS MOVE

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CONFERENCE

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Target audience

- New (UI) hackers
- Core hackers with little UI hacking experience

What will we learn

- Add UNO command
- Add toolbar/sidebar button, menu entry
- ... with an icon :)
- Define slot and its interface
- Connect it all together

UNO command

- basic unit of dispatch API
- of a form **.uno:CommandName**
 - e.g. .uno:Print, .uno:CharColor
- configuration (XML) files for commands:
*officecfg/registry/data/org/openoffice/Office/UI/*Commands.xcu*
 - common to all modules: *GenericCommands.xcu*
 - app-specific: e.g *WriterCommands.xcu*,
DrawImpressCommands.xcu

Example UNO command

```
<node oor:name="UserInterface">
  <node oor:name="Commands">
    <node oor:name=".uno:DoSomething" oor:op="replace">
      <prop oor:name="Label" oor:type="xs:string">
        <value xml:lang="en-US">Tooltip text</value>
      </prop>
      <prop oor:name="Properties" oor:type="xs:int">
        <value>1</value>
      </prop>
    </node>
  </node>
```

*Flags:
Icon/No icon?
CTL sensitive?*

Tooltip text

UI element

- entry point to executing the command
- toolbar/sidebar button, (context) menu entry

Toolbars

- toolbars (XML) configuration in *\$app/uiconfig/\$app2/toolbar*
- separate XML files for context-dependent toolbars
- example:

```
<toolbar:toolbaritem xlink:href=".uno:DoSomething"  
toolbar:visible="true|false" toolbar:helpid="42"  
toolbar:style=dropdown/>
```

Visible by default?

Dropdown?
Split button?
Toggle?

Sidebars

- sidebar definitions are .ui-based
- live in *svx/uiconfig/ui/* (common to all apps) or in *\$app/uiconfig/\$app2/* (app-specific)
- example:

```
<child>
  <object class="sfxlo-SidebarToolBox" id="font">
    ...
  <child>
    <object class="GtkToolButton" id="fontname">
      <property name="visible">True</property>
      ...
      <property
name="action_name">.uno:CharFontName</property>
    </object>
```


Menus

- menu bar (XML) configuration in *\$app/uiconfig/\$app2/menubar*
- single config file for app
- example:

```
<menu:menubar
xmlns:menu="http://openoffice.org/2001/menu"
menu:id="menubar">
  <menu:menu menu:id=".uno:PickList">
    <menu:menupopup>
      <menu:menuitem menu:id=".uno:AddDirect"/>
      <menu:menuitem menu:id=".uno:Open"/>
      <menu:menuitem menu:id=".uno:OpenRemote"/>
      <menu:menuitem menu:id=".uno:RecentFileList"/>
      <menu:menuitem menu:id=".uno:CloseDoc"/>
      <menu:menuseparator/>
      <menu:menu menu:id=".uno:TemplateMenu">
```

Icons

- add 2 icons in .png format to *icon-themes/galaxy/cmd*
 - (including in 'galaxy' theme is compulsory, other icon themes optional)
- UNO commands map to icon names
 - `sc | /c + command name, lowercase, without .uno prefix + .png`
 - **.uno:DoSomething => sc_dosomething.png**
- reuse existing icon
 - *icon-themes/*/links.txt*
 - add 1 entry/line of the form
 - *sc_newcommandicon.png sc_oldcommandicon.png*

Register UI element in application

- nothing to be done for sidebars
- toolbar buttons need to be registered
 - look for [sw|sc|sd|sm]dll.cxx, ::RegisterControllers() method
 - append the following line:

```
MyToolBoxControl::RegisterControl(SID_DO  
_SOMETHING, pMod);
```

- dialogs need to be added to dialog factory
 - look for [sw|sc|sd|sm]dlgfact.cxx

Enter slots

- bind functionality to UI elements
- method slots e.g. open a dialog
- state slots (query a state e.g. text colour)
- live in *\$app/sdi/* (application-specific) or in e.g. in *svx/sdi* (global)

Define slot ID

- .hrc file, associate constant (usually of a form SID_DO_SOMETHING) with numerical ID
- app-specific in \$app/inc or global e.g. *include/svx/*.hrc, include/editeng/*.hrc*
- beware of duplicate IDs
- example:

```
#define SID_DO_SOMETHING 42
```

Add slot definition

- example method slot :

```
SfxVoidItem About SID_ABOUT  
(  
[  
  /* flags: */  
  AutoUpdate = FALSE,  
  Cachable = Cachable,  
  FastCall = FALSE,  
  
  /* config */  
  AccelConfig = TRUE,  
  MenuConfig = TRUE,  
  StatusBarConfig = FALSE,  
  ToolBoxConfig = FALSE,  
  GroupId = GID_APPLICATION;  
]
```

It maps to SID_ABOUT slot

.uno:About command in disguise

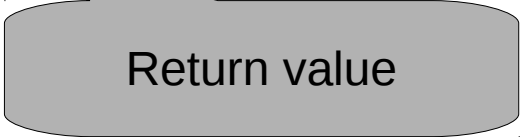
This is a menu entry

Add slot definition II

- example property slot:

```
SvxColorItem Color SID_ATTR_CHAR_COLOR
[
  /* flags: */
  AutoUpdate = TRUE,
  Cachable = Cachable,
  FastCall = FALSE,

  /* config: */
  AccelConfig = FALSE,
  MenuConfig = FALSE,
  StatusBarConfig = FALSE,
  ToolBoxConfig = TRUE,
  GroupId = GID_FORMAT;
]
```



Return value



This is a toolbar button

Add slot interface

- associate slot IDs with actual function doing heavy-lifting
 - opens a dialog, changes property of an object
- tedious to write huge arrays of C++ function pointers => **svidl** compiler to the rescue
- example (*sd/sdi/_drvwsh.sdi*:

```
SID_ATTR_CHAR_COLOR
[
    ExecMethod = Execute;
    StateMethod = GetAttrState;
]
```


Add slot interface II

- in a subclass of SfxShell (DrawViewShell) the following methods exist:

```
void SomeViewShell::Execute( SfxRequest &rReq );
```

```
void SomeViewShell::GetAttrState( SfxItemSet& rSet );
```

Further reading

- Old OOo wiki on [slots and interfaces](#)
- Old OOo wiki on [UI XML config files](#)
- Tutorial [on creating simple dialog in Impress](#)
- General [.ui and widget layout documentation](#)

THANK YOU!

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