

# Providing UI Shortcuts for Different Languages

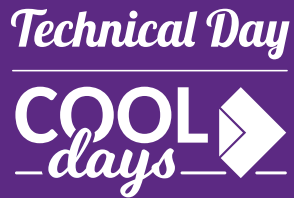
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Collabora  
Online





# Requirement

- With Collabora Online, users can collaboratively work on a single document.
- When a user opens a file with Collabora Office (Desktop) suite, they can use the shortcuts specific to their language. This was the same for Collabora Online but with an exception.
- Once a file is opened with a language, other collaborators have to use the first person's language's shortcuts.
- Users should be able to use their own languages' shortcuts when they are collaboratively editing a file.
- The aim is to provide same comfort to Collabora Online they have when they use Collabora Office suite.



# Challenges

- SfxViewShell holds the accelerator configuration implementation and executes the commands.
- For every view, SfxViewShell has an AcceleratorExecute class for handling the operations.
- The AcceleratorExecute class, in the first call, checks if shortcuts are loaded and cached.
- If shortcuts are not cached yet, then a shortcut manager is created and shortcuts are loaded.
- The problem is, even though every view has its own AcceleratorExecute class, they use a shared cache for the shortcuts.



# Challenges

- LibreOffice suite is designed as a desktop application suite, therefore, it didn't need to support multiple views, multiple UIs nor multiple AcceleratorConfiguration instances, until Collabora Online arrives.
- Many of the manager classes for UI, shortcuts, view etc were singleton classes. These singleton classes are not necessarily implemented with a singleton pattern but used as if they are singleton by the app.
- The app checks if there is an instance of the class or not, if there is one, app only uses the pointer of already created class.
- So, when a code piece calls a “create-foo” function, that function may not necessarily create a new instance of a class.



# Challenges

- This “singleton classes” challenge was already beaten before, after Collabora Online needed multiple views for collaborative editing.
- For providing shortcuts for different languages, we also needed to break the singleton barrier for AcceleratorConfiguration.
- Shortcuts are loaded according to the UI language. And then they are cached in the class implementation.
- To accomplish this, we needed to:
  - Change the UI language to the target language.
  - Create a new AcceleratorConfiguration class.
  - Cache the shortcuts for that language.
  - Set the accelerator class of the view.
  - Change the UI language back to its actual value.



# Result

- All the changes to the core API are done with checks, when LibreOfficeKit is not active, the changes cause no different behaviour for desktop users.
- With Collabora Online: Users can now collaboratively edit documents while they use their languages' shortcuts.

# Thank you!

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