LibreOffice Development

a)   Automation with Macros

a.i.   Macros for Calc

Although Libreoffice Calc is a spreadsheet program, you can achieve more convenience by applying a macro to your spreadsheet. For example, calculations will be performed on every row in a spreadsheet consisting of over 1000 rows. Implementing a macro, saves time in the long run, as the same task can be performed on every spreadsheet with the same schema multiple times. What's more, implementing a window, i.e. form for entering the necessary data to perform a task, avoids errors. While processing the form, the input will be verified and only if the input is OK, will the macro proceed.
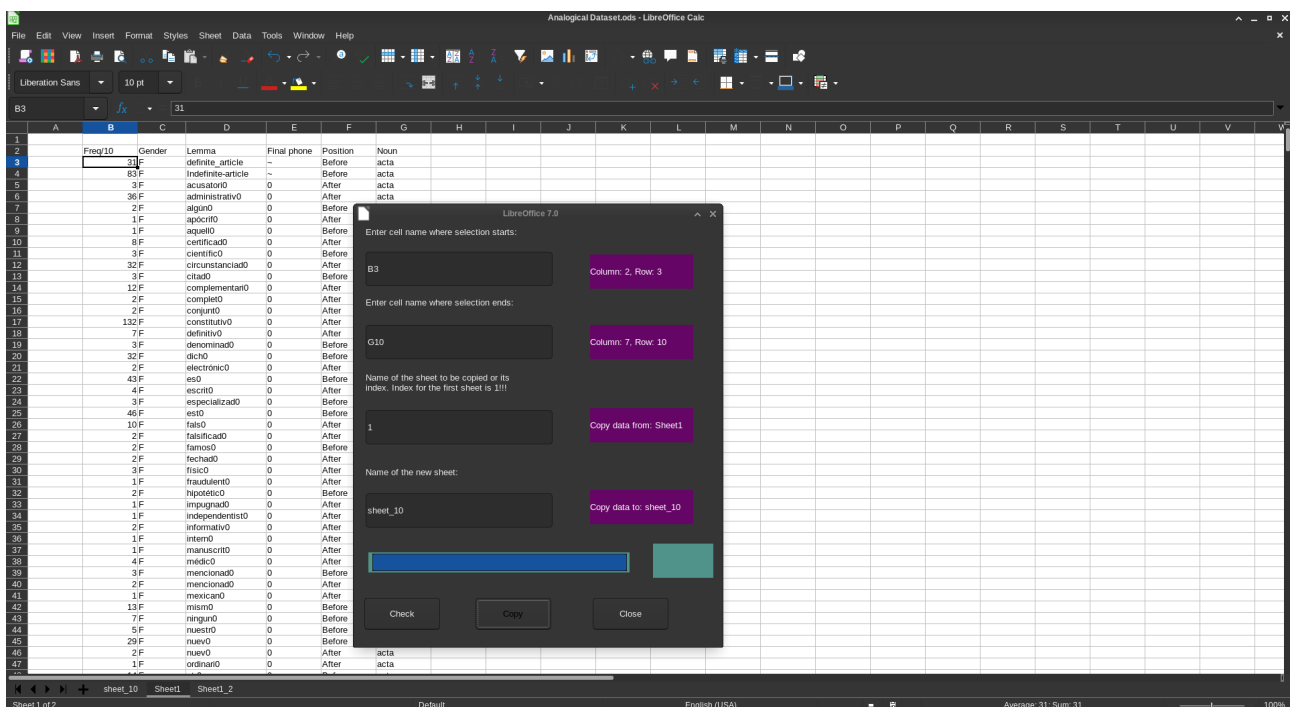

Figure I: Window with progress bar

Additionally, I can implement macros iterating over a spreadsheet and after processing the data inserting a new spreadsheet in the same file or into a new file.

a.ii.   Macros for Writer

Although creating macros for LO writer is more complex, it's nevertheless manageable. Drawing borders around a table could be handled by a macro. What's more, correcting or inserting page numbers as well as page counts is another topic for a macro. Letters can be automated, too. For example writing an acceptance or rejection to applicants for a job. For such a task, I could create a form and place the necessary GUI elements on it.

Figure II: Form for writing letter to applicant

Then this macro would parse the input done by the user and print out the letter afterwards. The only thing that needs to be done by the user, is creating a template with LO writer and connecting it with the macro. The responses to applicants will be generated by solely pressing the OK-button.

Figure III: The styling of a letter should be done using a template

b) LO Base Projects

b.i. Invoice Database

Invoices can be created by using different kinds of software such as LO Calc, LO writer, etc. By choosing a database project instead, the invoices can be searched through more easily. Many tasks such as generating an invoice number can then be automated. Additionally, the invoice form can be designed like a real form to make it more intuitively for the user to enter the data. Extras such as the total price or the VAT can be done by a macro, too. By implementing a print button, the newly created invoice will be printed out by creating a LO writer document automatically. From there you can store the invoice on your computer or send it to a client.

Figure IV: Clearly designed invoice form

b.ii. Sales Overview

When looking at the overview for your sales, you know exactly how much you've made within a period. In LO Base this can be achieved by creating another form. Usually such a form consists of a table, i.e. grid and a button which calculates the total amount of sales. The calculation of the total can be done in two ways, either by iterating through all related datasets in the database or by adding the amounts displayed in the grid.

Figure V: Sales Overview

b.iii. Places Table

Using a places table can prevent you from having redundant data. This can be realized by deciding how the different entities that deal with places such as country, towns, zip codes, etc., will be stored in the database. It's certainly not a good idea, if two different spellings of Italy, for example Italy vs. the Republic of Italy, exist in the database. To solve this, I can add tables that deal with places in general to the database to prevent redundancy. What's more, I've already created my own csv file containing over 40000 towns together with their provinces or states and the countries, in which these places exist. Consequently, I can import such a csv file into your LO Base project and you don't have to worry about redundancy regarding places any longer.

Figure VIV: Form for inserting zip codes to a place stored in the database

b.iv. Further GUI Elements

Apart from the aforementioned use cases, files can be managed using a LO Base form. They can be copied to a specific folder using the upload button and a macro. Additionally, I can write a macro that ticks a checkbox as soon as a specific file has been uploaded. A preview of the uploaded file can be displayed afterwards. What's more, I can make a text area field look like a note, in which you can write down the main points of a phone conversation, for example.

Figure VII: GUI elements used for notes and files