

BVCC General Meeting

October 12, 2020

LibreOffice and CALC,
Joel Ewing

LibreOffice

- **What is it**
- **Where to Get It**
- **Major sub components**
- **A look at CALC**

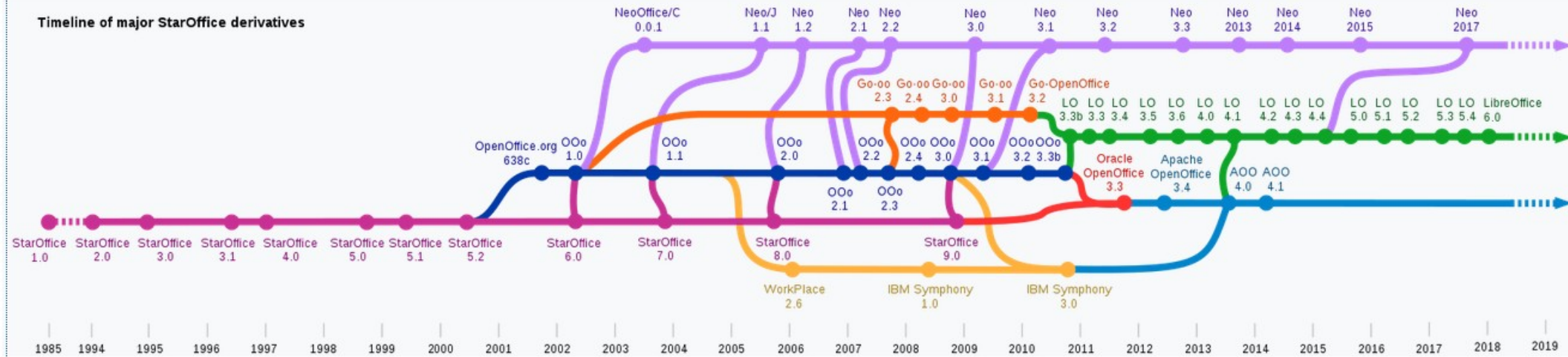


What Is LibreOffice

- **Completely Free to Download and Use**
- **The evolution of 35 years of Open Source software development in office suites (from Star Office in 1985)**
- **Available on multiple platforms: Windows, Linux, Mac**

LibreOffice History

Timeline of major StarOffice derivatives



A timeline of major derivatives of StarOffice and OpenOffice.org

- StarOffice
- OpenOffice.org
- Go-oo
- IBM Workplace/IBM Lotus Symphony
- NeoOffice
- LibreOffice
- Apache OpenOffice

Where to get LibreOffice

- www.libreoffice.org
 - download
 - Version 7.0.2 vs **6.4.6**
 - Choose Operating System (Linux, MacOS, Windows x86 or x86_64)
- Use commercial-rated version (6.4.6)
- Requirements: shouldn't be an issue if already running a supported version of supported Operating Systems.
- The standard functions of LibreOffice do not require java



< FREE OFFICE SUITE

*LIBREOFFICE 6:
IT STANDS OUT FROM THE OFFICE SUITE CROWD.*

DOWNLOAD NOW

Download LibreOffice



LibreOffice 7.0.2

If you're a technology enthusiast, early adopter or power user, this version is for you!

[LibreOffice 7.0.2 release notes](#)

Supplementary Downloads:

- [Help for offline use: English \(US\)](#) (Torrent, Info)

[need another language?](#)

Choose your operating system:

Linux (64-bit) (rpm) ▾

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LibreOffice 6.4.6


This version is slightly older and does not have the latest features, but it has been tested for longer. For business deployments, we [strongly recommend support from](#)

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Components of LibreOffice

- **Writer – word processor**
- **Calc – spreadsheet**
- **Impress – presentations**
 - **Chart – construct charts/graphs**
 - **Math – math formulas**
- **Draw – create flowcharts & diagrams**
- **Base – database interface used by above**

LibreOffice File Formats

- **Native document format is Open Document format (ODT, ODS, ODP, ODG – Text, Spreadsheet, Presentation, Graph)**
- **Supports other formats including MS Office Formats**
 - **Compatibility good but less than 100%**
- **Recent MS Office versions support LO File Formats**
 - **Compatibility good but less than 100%**
- **iPad/iPhone can display LibreOffice ODT & ODP format**

What is a Spreadsheet

- **A rectangular arrangement of numeric & text data organized by rows and columns – a rectangular "Table"**
- **Created manually for centuries prior to existence of digital computers as a way of presenting and recording information in an organized manner – tedious to prepare; manual calculations error-prone**
- **Spreadsheet computer apps made it easy for companies to justify spending \$6000 for an early PC, primitive by today's standards, to create better quality spreadsheets with less work. That first "killer" app helped drive the development of better PCs at lower prices.**

Why Use Spreadsheet App When My Word Processor Can Do Tables?

- **You can create a table manually just using tab stops and spaces to achieve column alignment - creation takes more effort; is difficult to modify; no auto-calculation of values. Practical for very small infrequently modified tables, but tedious even for tables with few rows.**
- **Many word processors do support creation of actual tables within a document, but the features are limited and user interfaces are less friendly. Much less flexible than creating using a spreadsheet program and then inserting the table into a document.**

Difference Between a Spreadsheet and a Database application

- Database apps and Spreadsheets can both be used to store Table data in rows with related column values, but spreadsheets are designed for smaller applications.
- Database apps take much more effort and training to create and use tables:
 - Database data is stored in a form that cannot be directly viewed or changed – requires an associated program to be written to add, fetch, modify, display, or print rows
 - For that more difficult interface you gain the ability to efficiently store and locate data for millions of rows – spreadsheet programs tend to get very slow and inefficient (or even appear to "hang") when trying to manipulate a spreadsheet with only tens of thousands of rows.
 - Database programs are the tool of choice for large companies that must deal with massive amounts of data with complex inter-relationships. For most individuals and small organizations, a set of spreadsheets can be adequate and takes much less effort to implement.

Examples of Spreadsheets

- **A simple database – each row is an entry, columns represent associated values for each entry – club roster (row represents a member), inventory listing (row is an item), transaction register (row is a transaction in an account)**
- **Supports calculating, transforming, sorting. Can reference other values on the same spreadsheet or on related spreadsheets automatically and without error**
- **The entire content of a spreadsheet can be easily viewed, modified, and printed.**

LibreOffice Calc

- **LibreOffice Counterpart to MS Excel**
- **A spreadsheet file (workbook) can contain multiple sheets**
- **Each sheet is a rectangular array of cells – a table of values. Each cell can contain text, numbers, or formulas and be formatted to display in different ways. Each cell is referenced by its column (letter) and row (number). Max 1,048,576 rows x 1024 columns (vs 18,384 in Excel).**
- **Number values include dates and currency formats**
- **Formulas can produce text or numeric results**

Example 1

This	shows	how	things
may	be	arranged	in
a	grid	with	various
alignments			

Types of Values

Numbers:	5	-25.67	\$99.99	10/10/20	October 10, 2020
(internal date)				44114	44114
Text:	word with auto-wrap	characters	10/10/20	more text	
Text no wrap:	One cell, no auto-wrap with empty cells to right				

Spreadsheet Formulas

- **Real power of spreadsheets is in ability to "calculate" the value for a cell based on values in other cells.**
 - **Formula starts with "="**
 - **Reference cells by Column Letter & Row Number (E5), or as a block of contiguous cells (A2:E10 – columns A-E in rows 2-10)**
 - **can reference cells in same spreadsheet, cells in another spreadsheet of same workbook, or even cells in another workbook (compatibility issues with Excel)**
 - **Copying a formula to a different cell can auto-modify cell references.**
 - **Standard math operations (+ - * /) and over 350 "Functions" (math, statistics, trig, text, dates) – Built in Function Wizard to help with parameters; Google for on-line examples of use. Only need to learn what is of use to you.**
 - **Can also define conditional formatting of cells depending on a formula (odd rows different than than even rows, highlight cells with negative values, etc.)**

Transaction Register

Date	Item Description	Item Price	Count	Amount	Tax	Total
10/01/2020	Item 1	\$2.50	5	\$12.50	\$1.19	\$13.69
10/02/2020	Item 2	\$5.99	1			
10/03/2020	Item 5	\$3.98	3			
10/04/2020	Item 1	\$2.50	2			
	TOTAL					\$13.69

Saving CALC Documents

- **Default file type is ODS**
- **Can save as Excel XLSX and other formats**
 - Not 100% compatible
 - use PDF format to reflect exact print format
- **Can load and save as CSV (comma/char separated values) file – universally understood by all spreadsheet programs, but only contains the cell values, not any of the formatting information**

Conclusions

- **Don't have to be an expert for Calc to be useful**
 - **doubt if anyone has occasion to use all the features**
- **There is much on-line help and examples about how to use features**
- **There are likely many ways to achieve the same visual effect. The first way that works is the best solution for a one-time process. If to be done many times, research on a less labor-intensive way to generate similar documents (perhaps creating custom document templates) may be justified.**