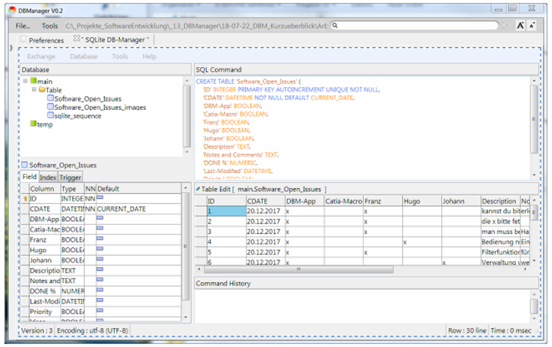
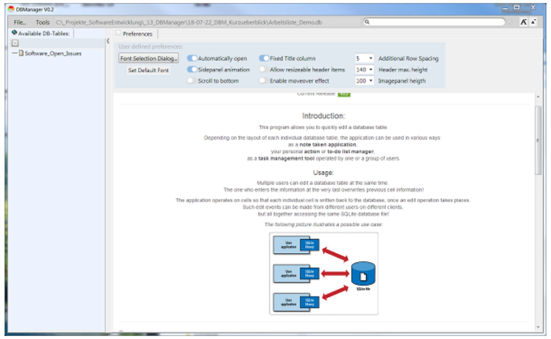
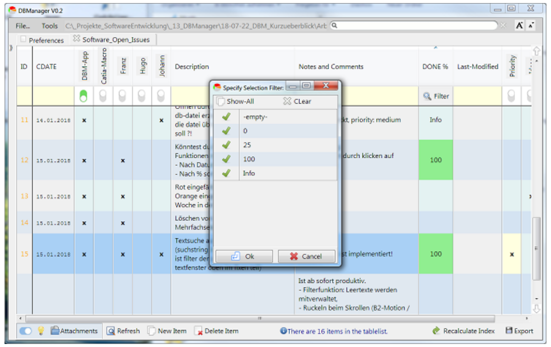
DBM - A new Task management Tool



DatabaseManager



MainWindow



TableEditor

Motivation:

- Create a simple and easy to use application which can be used within a group of people to follow up tasks.
- From a user point of view, the software should be fairly simple, the main focus is to work on **one common source of information** in real time.
- The layout of the database (table) or interface should be freely editable and defineable (just like in a spread sheet application).
- Data handling and management (to enter information, to filter existing data) should be intuitive and fast (without extra dialogs which needs to be filled in, etc...). In fact, the whole data management process should be somehow click-optimized.

Furthermore:

- The application should be fairly easy to install, with no pre-requisites to be installed and as less dependencies as possible.
- The software does not necessarily to be a web enabled solution, just needs to have multi-user capability.
- No cloud based information storage wanted (for security), ideally the database should be just a file on a shared network drive.

Some more thoughts:

Nowadays task management software is quite popular and most of the available solutions are web-based.

- The advantage of getting access to the actual tasklist over the web has some charm, but is not allways wanted.
- Because of security reasons, it might be a better solution to share information over a VPN tunnel with defined access rights.
- The PHP/MySQL/Apache stack sometimes is a bit overkill and of course you need a provider.
- And what, if your network is not attached to the www and has no web server running ?...

Implementation:

With tcl/tk in mind, it soon becomes quite clear how to the implementaion of the above mentioned requirements will look like.

Sqlite:

SQLite for the database, there is no question about it, great thanks for this amazing piece of software.

- The only question left for me so far:
  - is sqlite really capable to handle multi-user access ?
  - can the databasefile be located on a shared network drive (and maybe the share is accessed over aa remote VPN connection)?
  - and what, if for whatever reason the database file should be accessible over the net controlled via http and a web server?

    O.k. that's definitly not the aim of sqlite (serverless), but there is allways a solution... In short: later on, I discovered that actually it **is** possible to implement a small PHP layer which can bridge the sqlite access.

  Let's find out...

Tablelist:

tablelist for the main part of the GUI, there is also no question about it.

- tablelist is a pure tcl/tk package, which I normally prefer in order to keep things simple
- tablelist is active developed and thanks to Csaba Nemethi, there was a lot of improvements done recently
- I also feel quite familar with tablelist and I really like this package.

BWidget:

BWidget still comes in quite handy to build the GUI.

Some goodies to point out:

- nice and usefull gui widgets,
- easy to programm with a clear interface and good documentation,
- the package is still maintained and there is a good maintanance and bug fixing, (although there is not so much new development going on so far),
- has been adopted to work with ttk

Overview of packages used so far:

In fact the DBM is based on the following packages and additional software applications:

	Public / tcllib		Custom packages		Binary packages
🖹	autoscroll1.1	🗋	customframe0.2	🖹	Img-win32-1.4.7
🖹	base64_2.4.2	🗋	dbmanager0.1	🖹	**sqlite33.12.2**
🖹	**Bwidget*1.9.12*min**	🗋	diskutil0.1	🖹	tkdnd2.8
🖹	BWidget_patch0.1	🗋	dynnotebook0.3.1	🖹	Tkhtml30-x86
🖹	cmdline1.5	🗋	fontseldialog0.1	🖹	Tktable2.11
🖹	combobox	🗋	getfileordirectory0.1.4.2	🖹	treectrl2.4.1
🖹	datechooser0.8	🗋	html3widget0.2.5	🖹	Trf2.1.4
🖹	fileutil1.15	🗋	imageviewer1.6.1	🖹	twapi
🖹	http1.5.3	🗋	infowindow1.3.4	🖹	twapi-bin
🖹	http1.7	🗋	rframe0.2.1	🖹	zlibtcl1.2.8
🖹	inifile0.3	🗋	sashmanager0.1.1		

🖹 json1.3.4	🗋 savedefault1.3	🗋 tksqlite-0.5.13-modified.vfs
🖹 led-0.0.2	🗋 screenshot0.2.2	🗋 **Markdown2Go2.2.exe**
🖹 mentry3.7_min	🗋 scrolledwidget0.2	
🖹 markdown1.0	🗋 sqlitecmd0.1	
🖹 **tablelist6.5_bugfix**	🗋 sqlitedb0.1	
🖹 textutil0.8	🗋 styledentry0.1.1	
🖹 tkexcel0.1	🗋 stylemgr0.24.2	
🖹 tooltip1.4.4	🗋 text2rotatedimage0.1.1	
	🗋 xscale0.21	

The column in the middle belongs to the packages which where home-made or adopted from some more existing source. It clearly shows that even with the massive help of the public domain, there is still quite some effort needed to bring an application to live.

DBM Usage

Short overview:

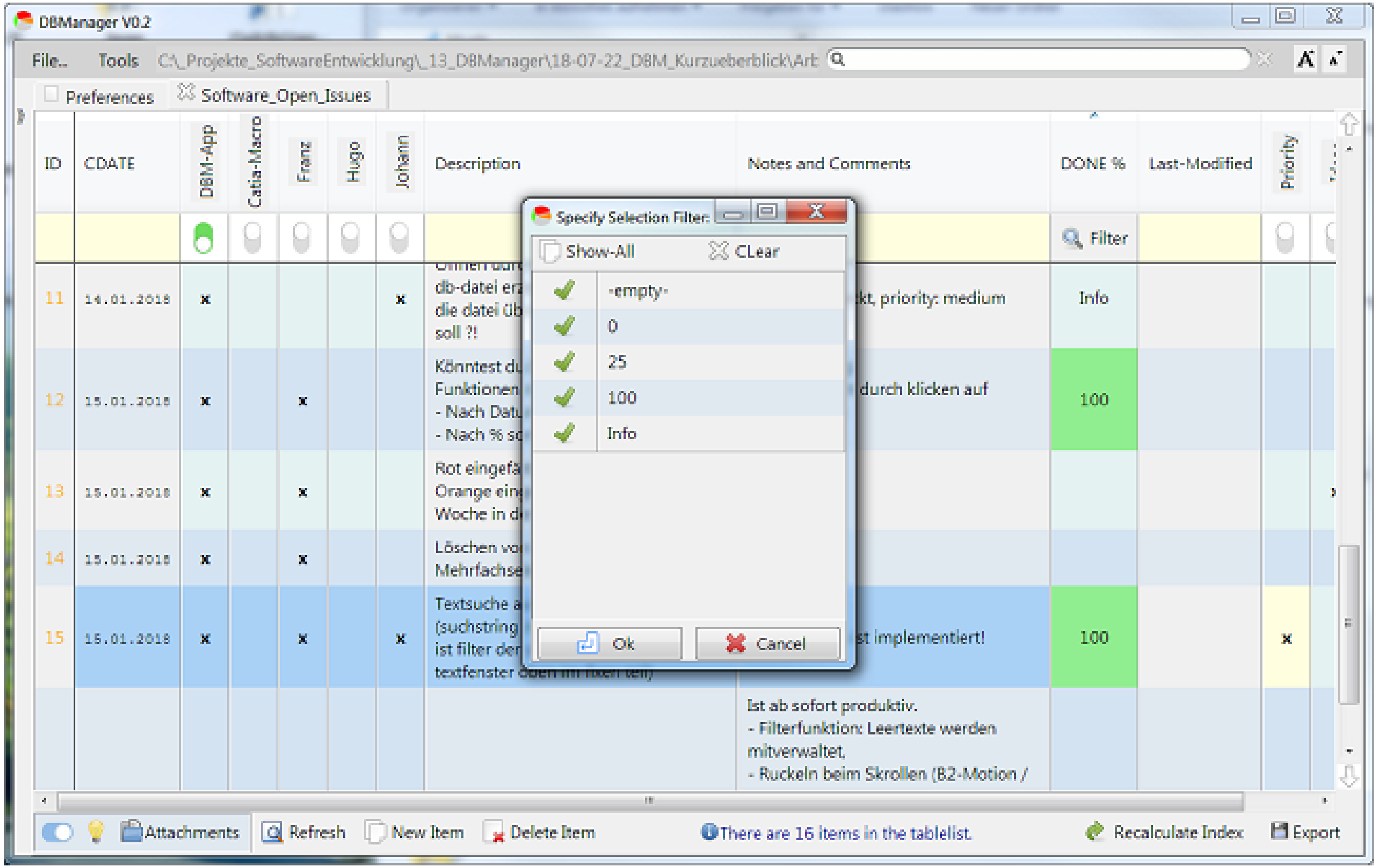
The DBM is essentially an application that allows to create and manage arbitrary tables.

Tables may e.g. Worklists, to-do lists, checklists, etc. Thus, the DBM is suitable as a task management tool within a team.

Features in brief:

- The DBM is based on SQLite, whereas the database consists of only one file.
- The database does not need a server.
- Any number of users can edit the same database table at the same time.
- The database file is not "locked", changes are made under transaction control, i.e. as long as a transaction is not completed, it will not be visible to other users.
- Database changes are updated within the GUI with the help of the "Refresh" button.
- There is no "save data" - changes are saved directly in the database!
- A database manager (based on tkSQLite) is available for managing the database tables.

Main dialog window:



C:_Projekte_SoftwareEntwicklung_13_DBManager\18-07-22_DBM_Kurzueberblick\Arb

ID	CDATE	DBM-App	Catia-Macro	Franz	Hugo	Johann	Description	Notes and Comments	DONE %	Last-Modified	Priority
11	14.01.2018	x				x	db-datei er die datei üb soll ?!	kt, priority: medium	Info		
12	15.01.2018	x		x			Könntest du Funktionen - Nach Datu - Nach % so	durch klicken auf	100		
13	15.01.2018	x		x			Rot eingefä Orange ein Woche in d				
14	15.01.2018	x		x			Löschen vo Mehrfachse				
15	15.01.2018	x		x		x	Textsuche a (suchstring ist filter der textfenster oder im fixen teil)	st implementiert!	100		x
								Ist ab sofort produktiv. - Filterfunktion: Leertexte werden mitverwaltet, - Ruckeln beim Skrollen (B2-Motion /			

Specify Selection Filter:

Show-All CLear

✓	-empty-
✓	0
✓	25
✓	100
✓	Info

Ok Cancel

There are 16 items in the tablelist.

Table layout and value entry:

The behaviour of a database table entry can be controlled via the corresponding type declaration.

So for instance, if the type declaration is `TEXT` , a text entry window is automatically available to enter text. Or if the type is declared as `DATETIME` , a datechooser dialog pops up automatically.

The following type declarations are possible:

Attribute:	Usage / assigned function:
`INTEGER`	Unique line number, usually: PRIMARY KEY UNIQUE NOT NULL
`DATETIME`	Date, datechooser dialog box will be displayed
`TEXT`	Text input, text editor will be displayed, the text editor window also allows to enter multi-line text
`BOOLEAN`	Yes / No Switch, when clicking on a field, the status is changed immediately
`NUMERIC`	in conjunction with the `DONE%` keyword, a filter dialogbox will be displayed

Example - table layout:

```
CREATE TABLE 'Project_X_Worklist' (
    'Nr' INTEGER PRIMARY KEY UNIQUE NOT NULL,
    'CDATE' DATETIME,
    'MNR' INTEGER,
    'Description' TEXT,
    'Remark' TEXT,
    'Johann' BOOLEAN,
    'Hugo' BOOLEAN,
    'NAME-1' BOOLEAN,
    'NAME-2' BOOLEAN,
    'DEADLINE' DATETIME,
    'DONE %' NUMERIC
)
```

Summary:

The DBM is meant to be: a replacement for an Spreadsheet to manage open issues within a group of people.

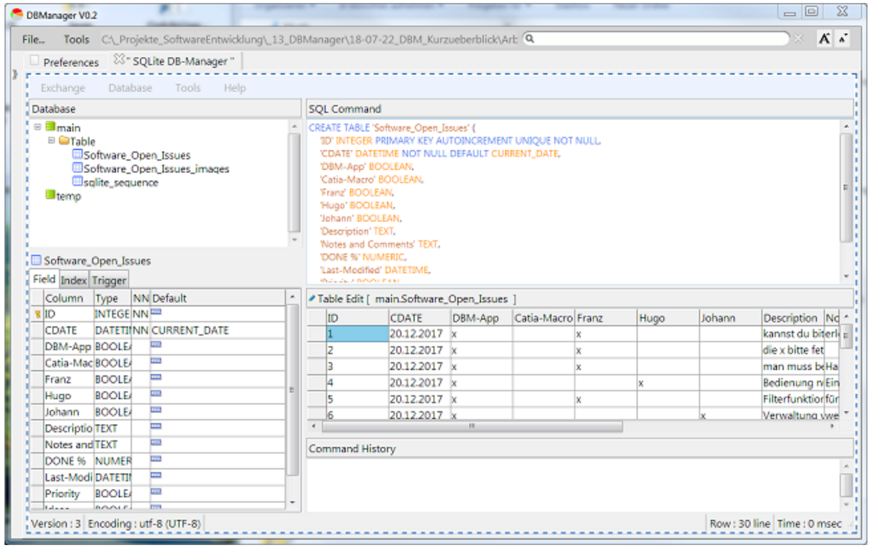
For what the DBM is not meant to be: as a replacement for a database. The DBM works in the background exactly the same as a database application (SQL driven), although it's intention is to be a tool for entering and sharing information in a quick and easy way.

Function overview:

File Operations:

📂	Open Existing Database...	
□	Create new Database...	
☒	Close Database...	
Clean temporary files...	Used to wipe out user settings from the system's TEMP directory.Once deleted, the application needs to be closed and re-opened.	
📁	Export all available Images...	Images (if any) can be exported to file. The function asks to specify the export directory. All images are organized in the export directory as sub-folders according to their individual table item number.

📝 Database Manager...



```
CREATE TABLE 'Software_Open_Issues' (
    'ID' INTEGER PRIMARY KEY AUTOINCREMENT UNIQUE NOT NULL,
    'CDATE' DATETIME NOT NULL DEFAULT CURRENT_DATE,
    'DBM-App' BOOLEAN,
    'Catia-Macro' BOOLEAN,
    'Franz' BOOLEAN,
    'Hugo' BOOLEAN,
    'Johann' BOOLEAN,
    'Description' TEXT,
    'Notes and Comments' TEXT,
    'DONE %' NUMERIC,
    'Last-Modified' DATETIME,
```

Column	Type	NN	Default
ID	INTEGE	NN	
CDATE	DATETII	NN	CURRENT_DATE
DBM-App	BOOLEA		
Catia-Mac	BOOLEA		
Franz	BOOLEA		
Hugo	BOOLEA		
Johann	BOOLEA		
Descriptio	TEXT		
Notes and	TEXT		
DONE %	NUMER		
Last-Modi	DATETII		
Priority	BOOLEA		

ID	CDATE	DBM-App	Catia-Macro	Franz	Hugo	Johann	Description	No
1	20.12.2017	x		x			kannst du bit	erl
2	20.12.2017	x		x			die x bitte fet	
3	20.12.2017	x		x			man muss be	Ha
4	20.12.2017	x			x		Bedienung n	Ein
5	20.12.2017	x		x			Filterfunktior	für
6	20.12.2017	x				x	Verwaltung v	we

Version : 3 Encoding : utf-8 (UTF-8) Row : 30 line Time : 0 msec

The database manager allows to manage the underlying database to its full extend.

Notes:

- Make shure to create a backup before modifying the database.
- If there are images available on the database, it might be a good idea to export this information as well.
- If a table is deleted by accident, all data is lost, there is no undo function implemented.

- Changes on the table layout can be done at any time. Once a change is done, the GUI needs to be re-opended.

The following nomenclature is used for internal tables:

- `_images` required for image storage, images are directly written to the database as BLOB (binary large objects). The corresponding image table will be created automatically for each data table.
- `sqlite_sequence` Required internally for the sequence counter. Under no circumstances delete this table.

Backup & Restore:

- `Create Backup File...`

  Creates a snapshot file of the currently open database. In general, it is recommended to use this function periodically to create a backup copy.

  - This function can be called at any time.

    On the other hand, backing up the database file with the file manager is not recommended, doing so, the data integrity is not is ensured.

  - The `Create backup` function uses the API of the database, so it also takes care of data integrity even if there are more than one user accessing the database at the same time. The database will not be blocked.

  The backup file will be stored side by side to the actual database file (same name, but with `*.bak` extension).

- `Restore from Backup...`

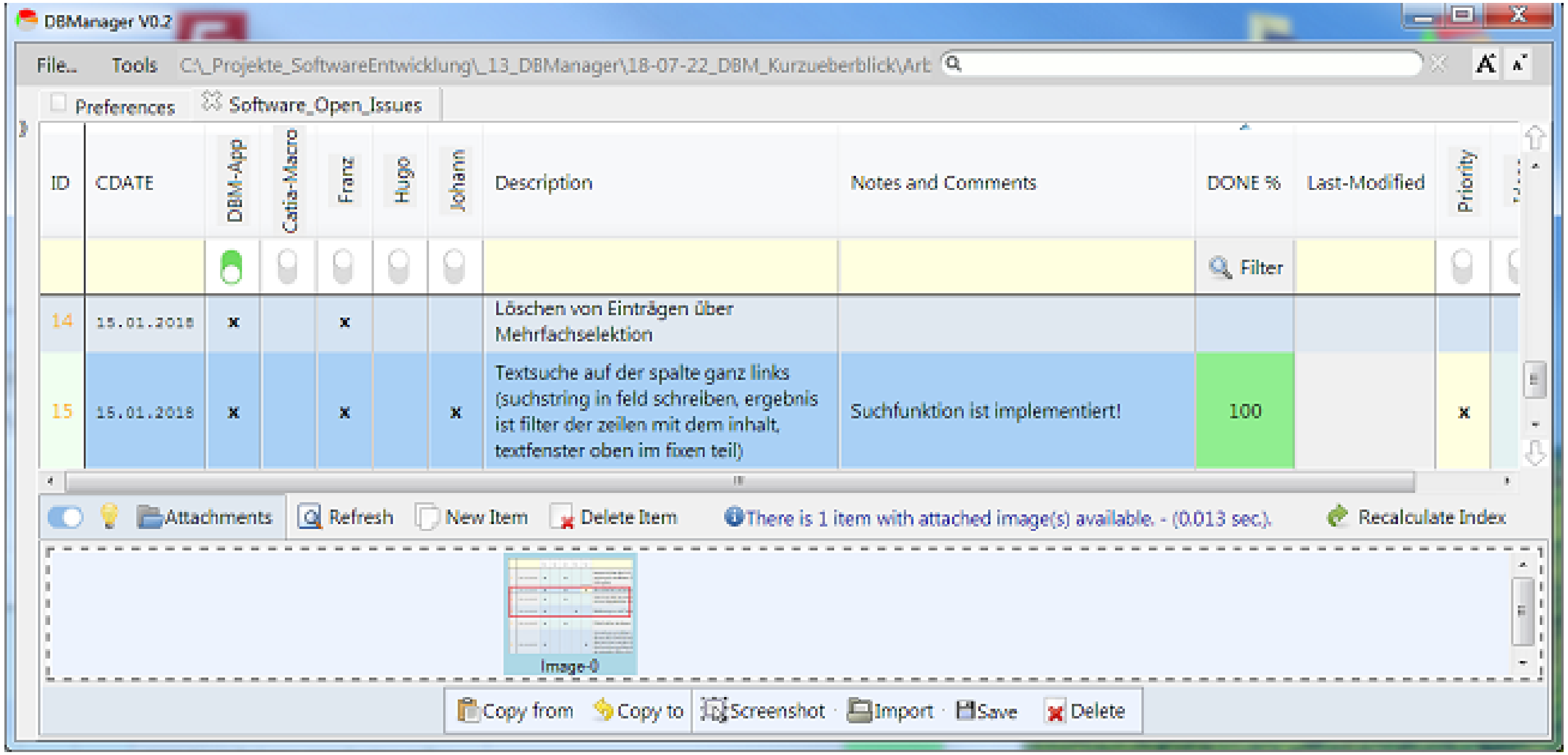
  This function restores all tables and informations from an existing backup file.

  Attention: Be aware, that all changes which could have been done in the meantime are lost!

Tablelist functions:

🔍	Refresh	Re-read all table information according to the actual database information.
🗋	New Item	Insert a new data entry. **Database item is selected:** the new item is inserted directly after the current selection, all following rows are pushed down, row numbering will be modified accordingly. **Nothing selected:** The new item appears after the last row.
✗	Delete Item	The currently selected row will be deleted. If there is nothing selected, no action takes place.
↻	Recalculate Index	Allows to re-calculate all row index numbers (1st column).
💾	Export	Allows to export a database table as an excel file. **Remark:** Only those information, which is visible in the dialog is exported (what you see is what you get).

Image handling:



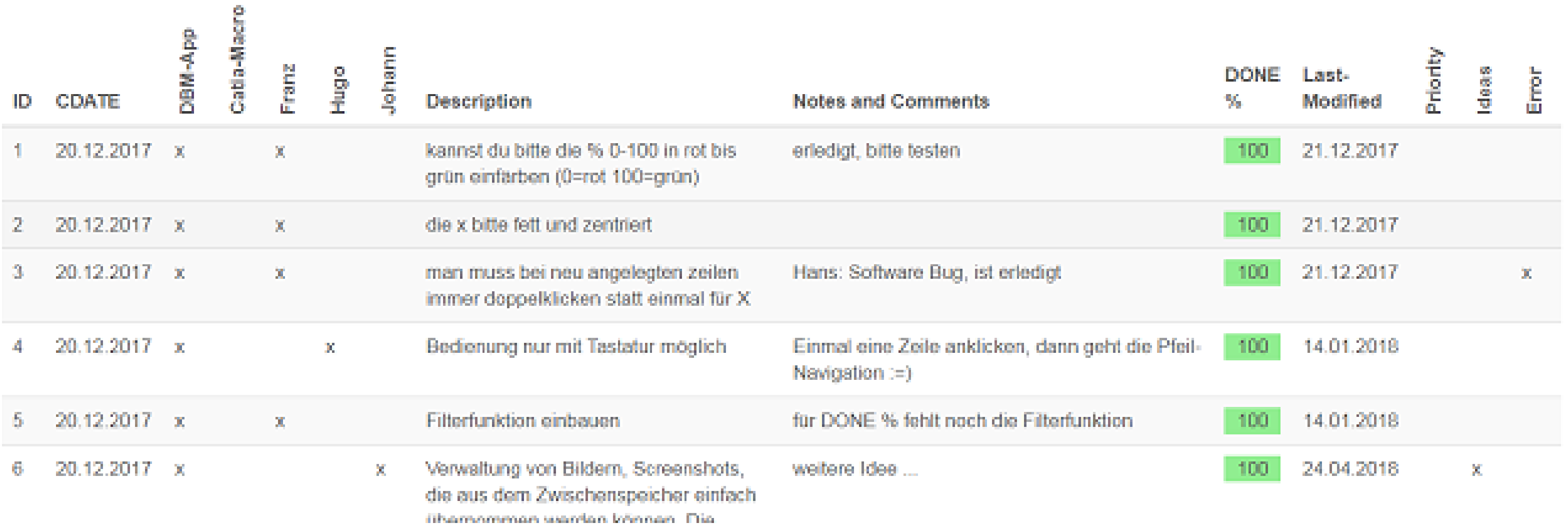
ID	CDATE	DBM-App	Catia-Macro	Franz	Hugo	Johann	Description	Notes and Comments	DONE %	Last-Modified	Priority
		●	○	○	○	○			Filter		○
14	15.01.2018	x		x			Löschen von Einträgen über Mehrfachselektion				
15	15.01.2018	x		x		x	Textsuche auf der spalte ganz links (suchstring in feld schreiben, ergebnis ist filter der zeilen mit dem inhalt, textfenster oben im fixen teil)	Suchfunktion ist implementiert!	100		x

There is 1 item with attached image(s) available. - (0.013 sec).

There is a basic functionality available which allows to attach images (e.g. screenshots) to each individual row entry. The number of images per item is not restricted.

Big sized images are shrinked down to a predefined size. This might take some time. For each image a thumbnail is created in parallel to speed up the dialog a little bit.

Export tablelist to Markdown



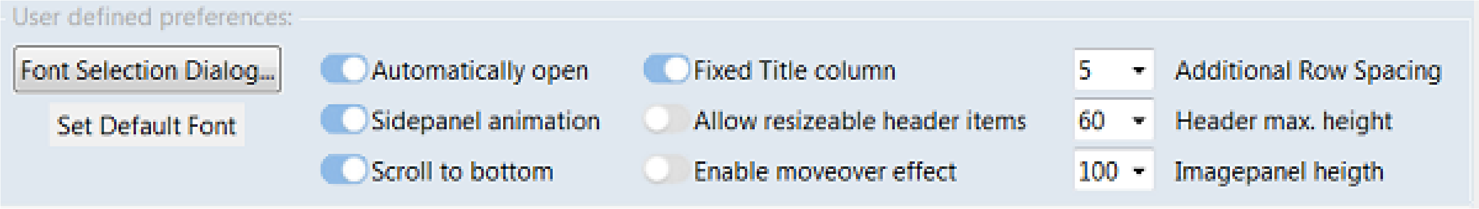
ID	CDATE	DBM-App	Catia-Macro	Franz	Hugo	Johann	Description	Notes and Comments	DONE %	Last-Modified	Priority	Ideas	Error
1	20.12.2017	x		x			kannst du bitte die % 0-100 in rot bis grün einfärben (0=rot 100=grün)	erledigt, bitte testen	100	21.12.2017			
2	20.12.2017	x		x			die x bitte fett und zentriert		100	21.12.2017			
3	20.12.2017	x		x			man muss bei neu angelegten zeilen immer doppelklicken statt einmal für X	Hans: Software Bug, ist erledigt	100	21.12.2017			x
4	20.12.2017	x			x		Bedienung nur mit Tastatur möglich	Einmal eine Zeile anklicken, dann geht die Pfeil-Navigation :=)	100	14.01.2018			
5	20.12.2017	x		x			Filterfunktion einbauen	für DONE % fehlt noch die Filterfunktion	100	14.01.2018			
6	20.12.2017	x				x	Verwaltung von Bildern, Screenshots, die aus dem Zwischenspeicher einfach übernommen werden können. Die	weitere Idee ...	100	24.04.2018		x	

Experimental:

- The Markdown2Go executable needs to be stored in in the same directory as the DBM executable.

Remark: If required, unwanted columns can be hidden before performing the export. There is a `no-show` filter (right mouse button in the tablelist widget) available for doing that.

Preferences / Settings:



User defined preferences:

Font Selection Dialog...

Set Default Font

● Automatically open

● Sidepanel animation

● Scroll to bottom

● Fixed Title column

○ Allow resizeable header items

○ Enable moveover effect

5 Additional Row Spacing

60 Header max. height

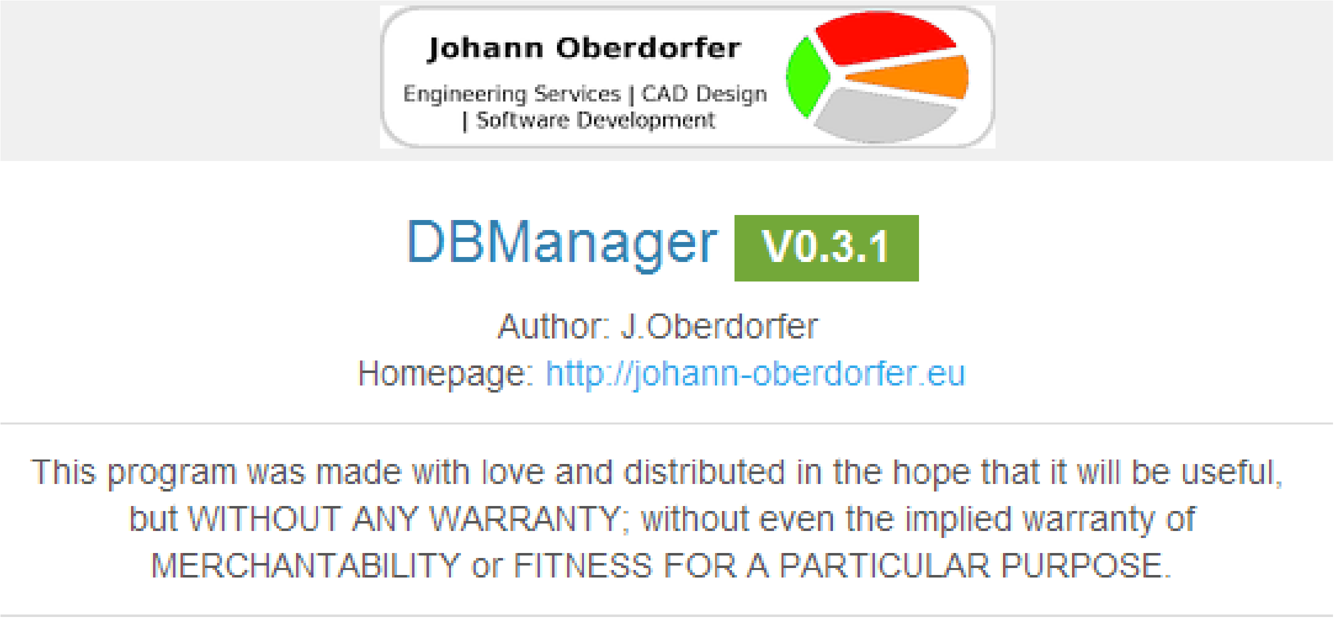
100 Imagepanel heigth

Font Selection Dialog	In general font types with **UI** in the name are (maybe a bit more) easier to read.
Automatically open	When enabled, the previously selected table is automaticly opend the next time the program is launched (recommended setting).
Sidepanel animation	Enable/disable a dynamic effect of the side panel.
Scroll to bottom	Scroll down automaticly to the bottom once a new table will be opend or the refresh button is pressed (recommended setting).
Fixed title column	If enabled, the 1st column keeps visible all the time (recommended setting).
Allow resizeable header items	If enabled, it is possible to move each column of the tablelist individually (if in doubt, leave this option deactivated).

Enable moveover effect	If enabled, a visual effect is shown when hovering with the mouse pointer over the tablelist. There are some side-effects with the arrow navigation, so for the moment this option is stated as experimental. (If in doubt, leave this option deactivated).
Additional row spacing	To add extra space above and below each tablelist row (in pixel). The value 5 is recommended to make the table more readable. Once this setting is changed, it is requred to re-open the actual tablelist window.
Header max.height	Allows to specify the max.height of the header line (in pixel). Default is 60px. Once this setting is changed, it is requred to re-open the actual tablelist window.
Imagepanel height	Allows to specify the height of the image panel (in pixel). The default value is 100px.

Thank you !

The DBM is available on my homepage listet here.



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DBManager V0.3.1

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