

MBS FileMaker Plugin

Christian Schmitz

Who am I?

CEO at Monkeybread Software

- Founded 2000
- Custom Software development
- Developing FileMaker Plugin for over 12 years

Married, father of three

Love traveling



Monkeybread Software

MBS FileMaker Plugin

Over 12 years of development

Currently 5900 functions

- 300 new functions in 2019 already

500 example databases.



MBS FileMaker Plugin

One Plugin file

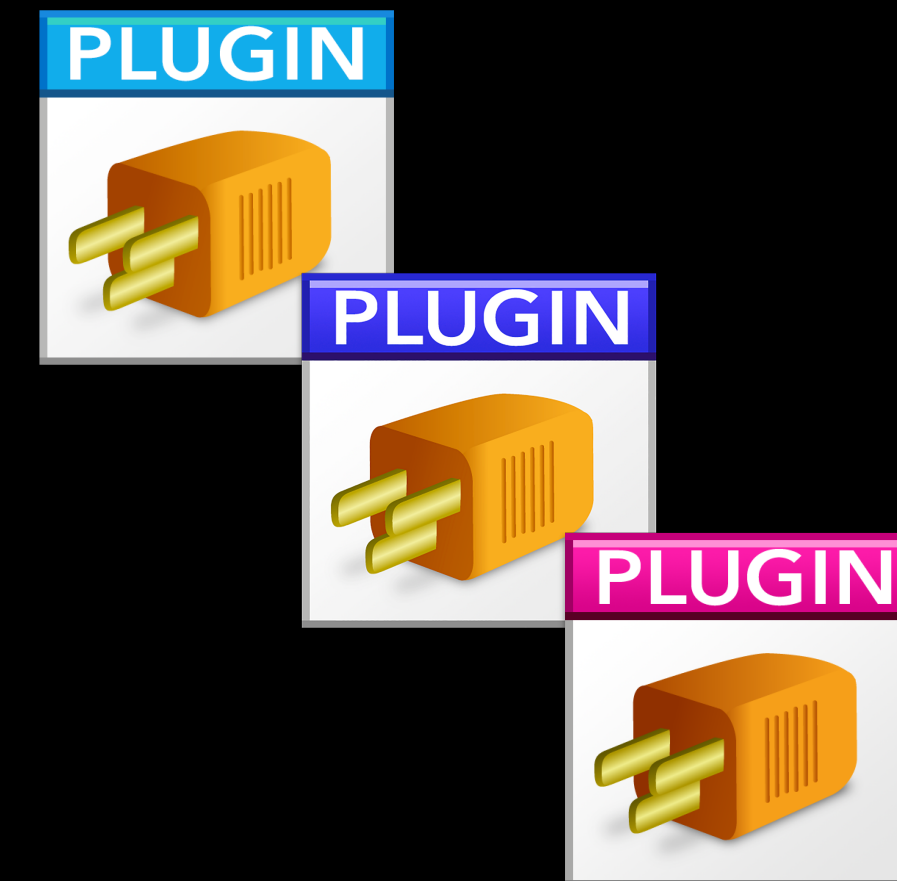
- Only used parts loaded & active

Easy to install & update

- Install Plugin-File [MBS::PluginMac]

Supporting FileMaker 8.5 and newer

- FileMaker 17 support since 8.2
- FileMaker 18 support since 9.2



MBS FileMaker Plugin

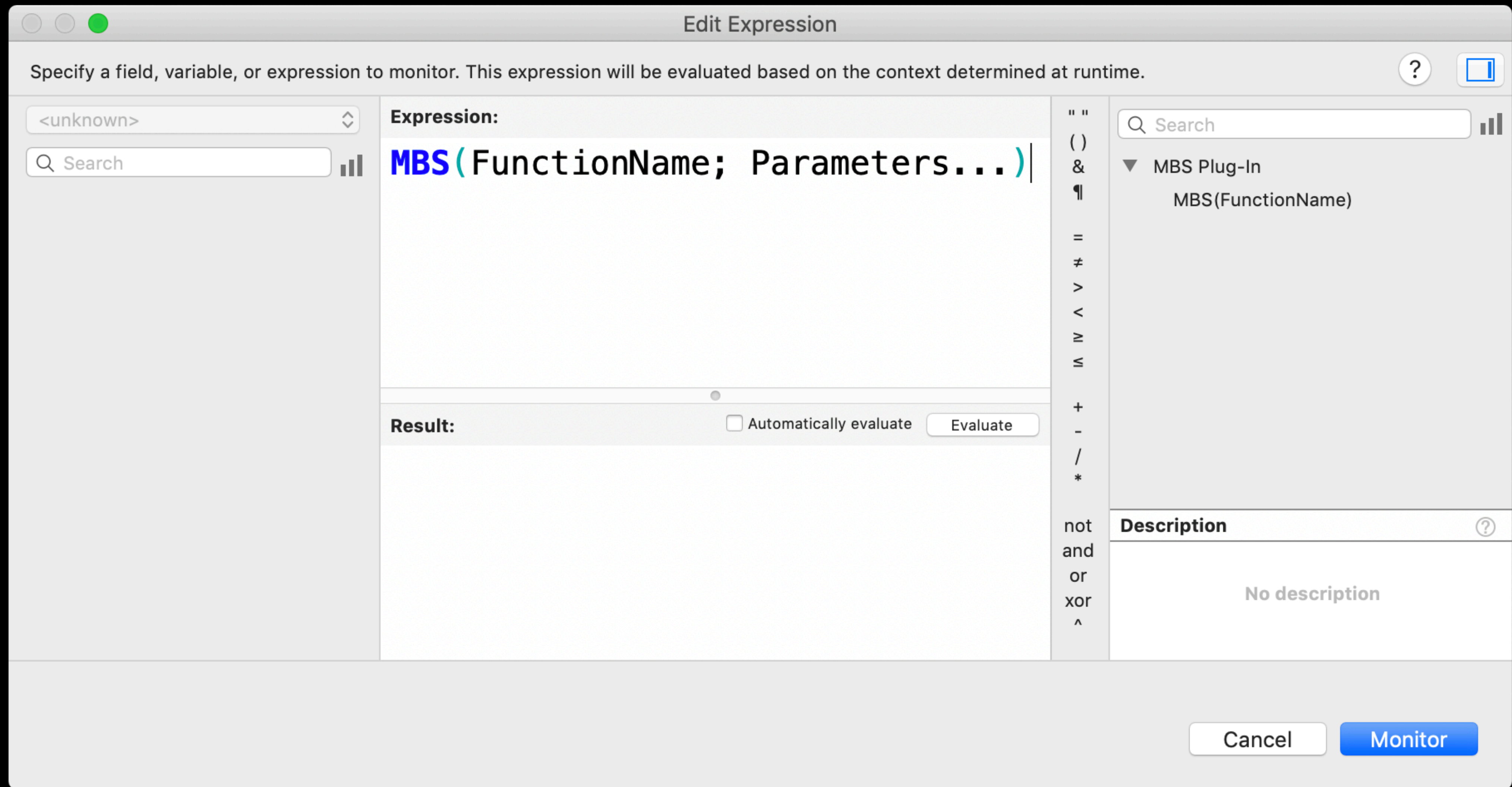
FileMaker Pro, Advanced & Runtime

FileMaker Server, Custom Web Publishing & Web Direct

FileMaker Cloud for AWS

FileMaker iOS SDK

FileMaker Go only via Perform Script on Server



MBS("FM.RunScript"; "Contacts"; "PrintContact"; \$Contact)

Overview

CURL

HTTP, FTP & SFTP Transfers with Up/Download

SSL/TLS, Proxy & Authentication

Transfers in background

Custom headers and requests

e.g. FTP delete, rename, create directory

Web services with SOAP & REST

Send web forms without web viewer

CURL & Email

Send Emails via SMTP

- Multiple attachments, HTML & plain text
- Batch email send example with parallel transfers & reusing connections

Receive email via IMAP & POP3

- Extract subject, recipients, text, html, attachments & headers
- Delete and move email
- Email Client example



PDFKit & DynaPDF

Merge PDFs

Split PDFs

Render picture from pages

Print: PDFKit on Mac, DynaPDF on Win

Extract text

Add blank pages and pages with images

DynaPDF

Create, Edit, Merge & Render PDFs

Convert PDF to PDF/A & PDF/X

Embed XML invoices (ZugFeRD 1.0 & 2.0, Factur-X)

Create/Set/Query form fields

Extract and replace images

Extract text in given area

Encrypt/Decrypt with password

DynaPDF

Find & Replace, Highlight text

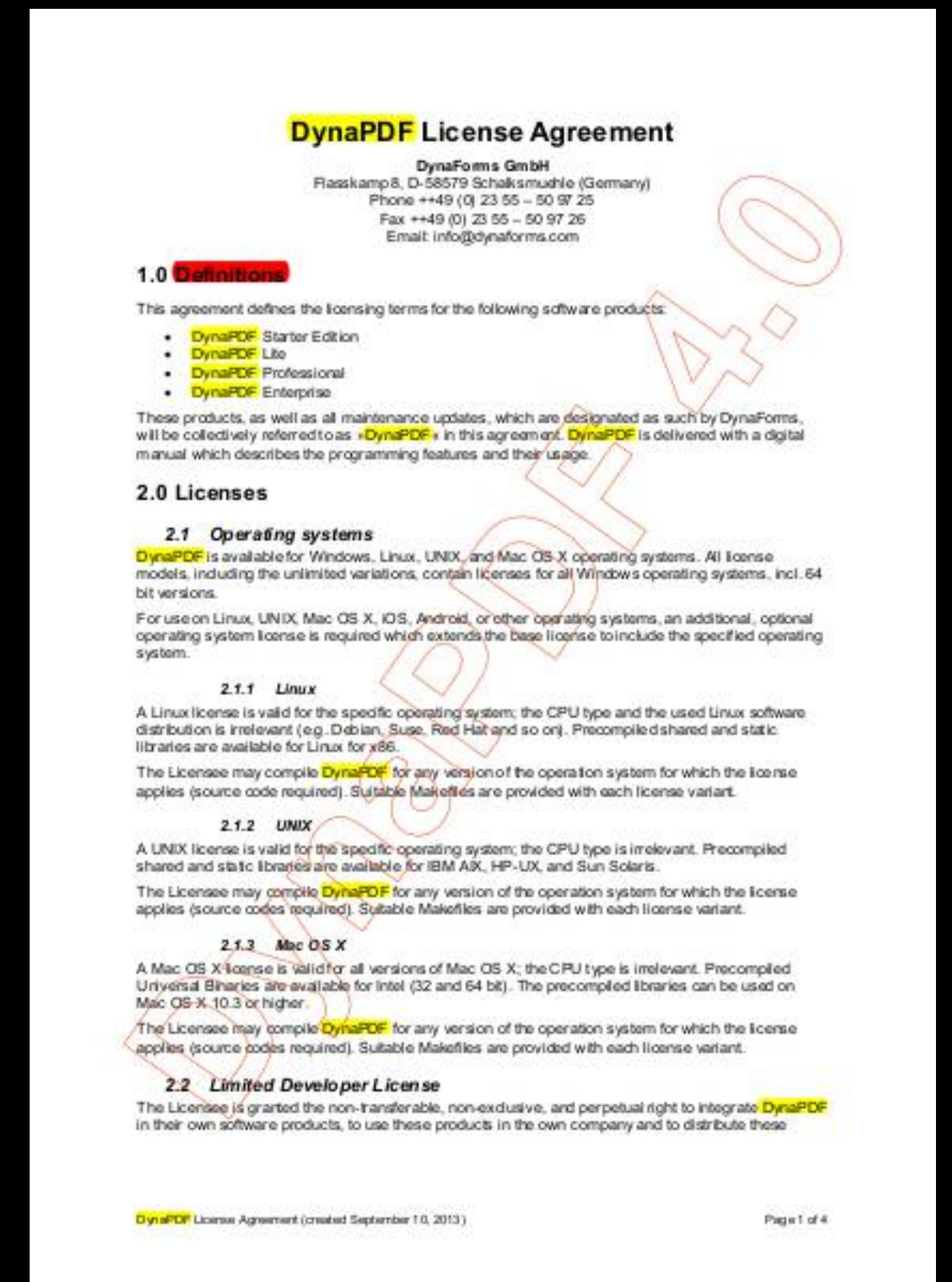
Use Tables for Layouts

Add, query, change, remove & flatten annotations

Add links to pages or URLs

Add page numbers

Digitally sign PDF file



DynaPDF

Optimize PDF files

- Recreate structure to fix errors
- Scale down images & convert to JPEG
- Replace duplicate fonts and images with references
- Remove private data
- Convert pictures to grayscale

Data Structures

Global Variables

- Independent of database

Dictionary: Assoziative Array

- Key → Value

QuickList

- Indexed list of text in memory

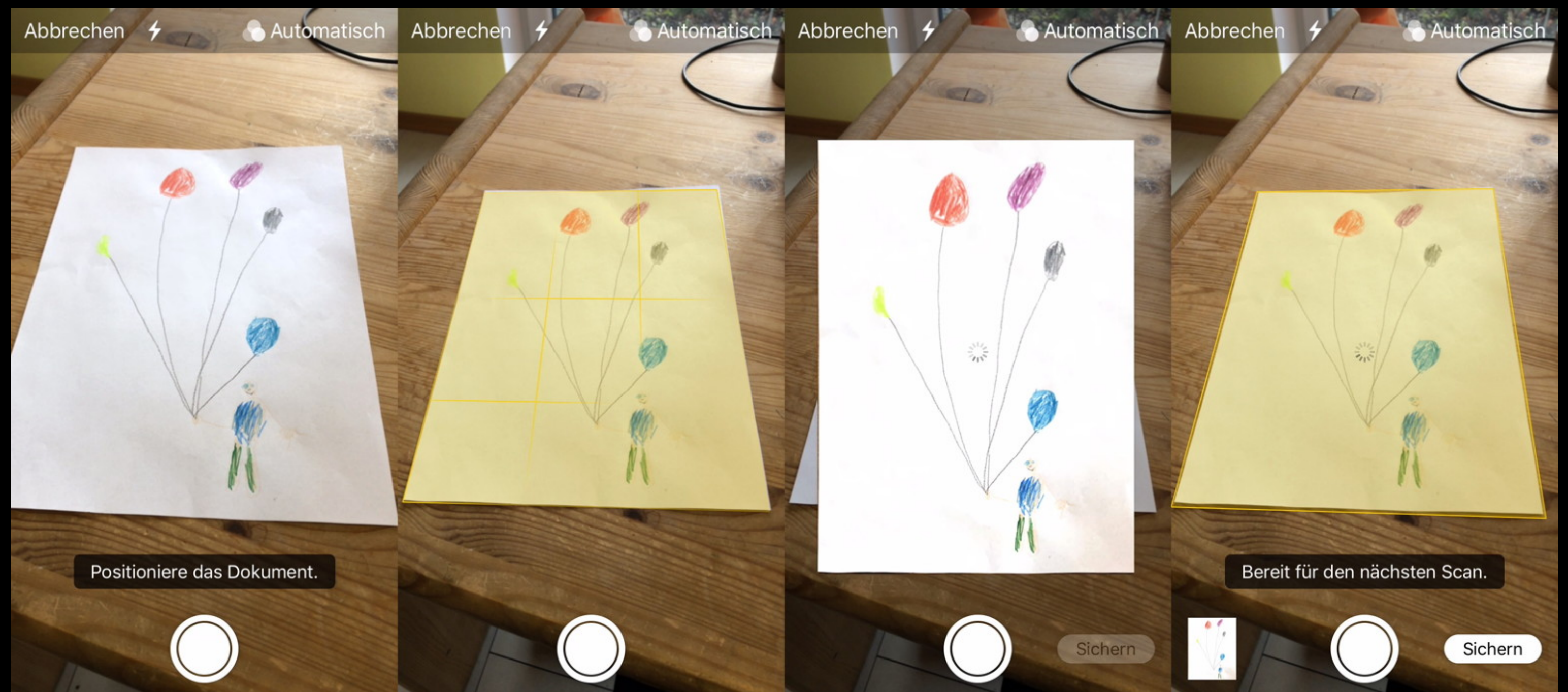
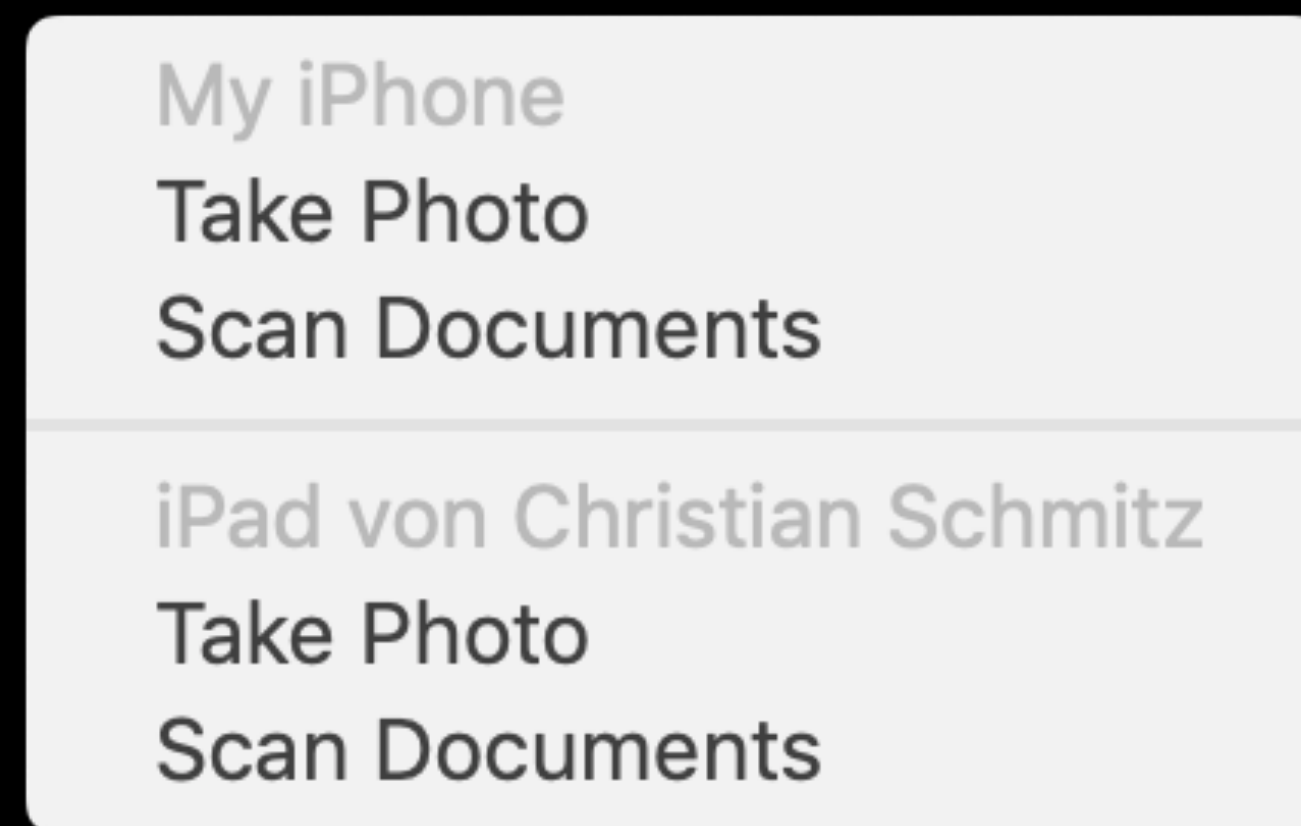
Matrix: two dimensional array

Continuity Camera

MacOS 10.14 & iOS 12

Take Photo

Scan Document



Excel Files

Read / Write Excel files without Microsoft Excel installed

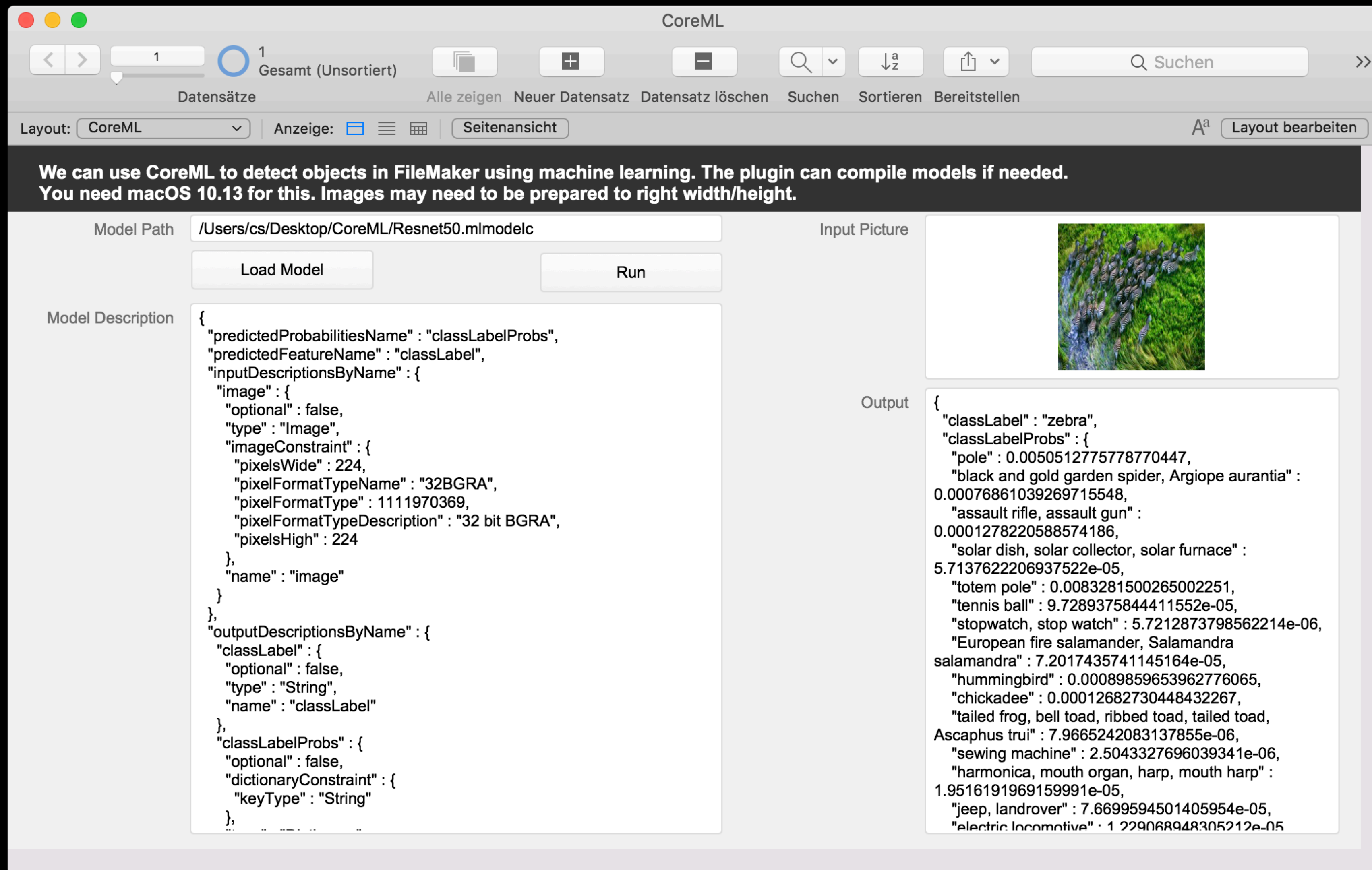
Newer xlsx and older xls format

Add/Edit/Delete fonts, formats, sheets, cells, images

Batch read/write cells

Pre-Process or Post-Process

CoreML: Machine Learning



FileMaker SQL

Insert/Delete/Update records easily

- Preserves data types

Insert Records via Query

- copy records to other table/file

Insert Records from Tab/Return or CSV text

Select containers & dates without text conversion

SQL to others

Connect to other databases with native drivers.

In Script & independent from ESS

CubeSQL, Centura SQLBase, DB2, Firebird, Informix, InterBase, MariaDB, Microsoft Access, Microsoft SQL Server, MySQL, ODBC, Oracle Database Server, PostgreSQL, SQL Anywhere, SQLite, SQLCipher and Sybase.

Copy records from/to FileMaker

Image Editing

Load images and convert formats

Scale, Rotate, Compose & Mirror

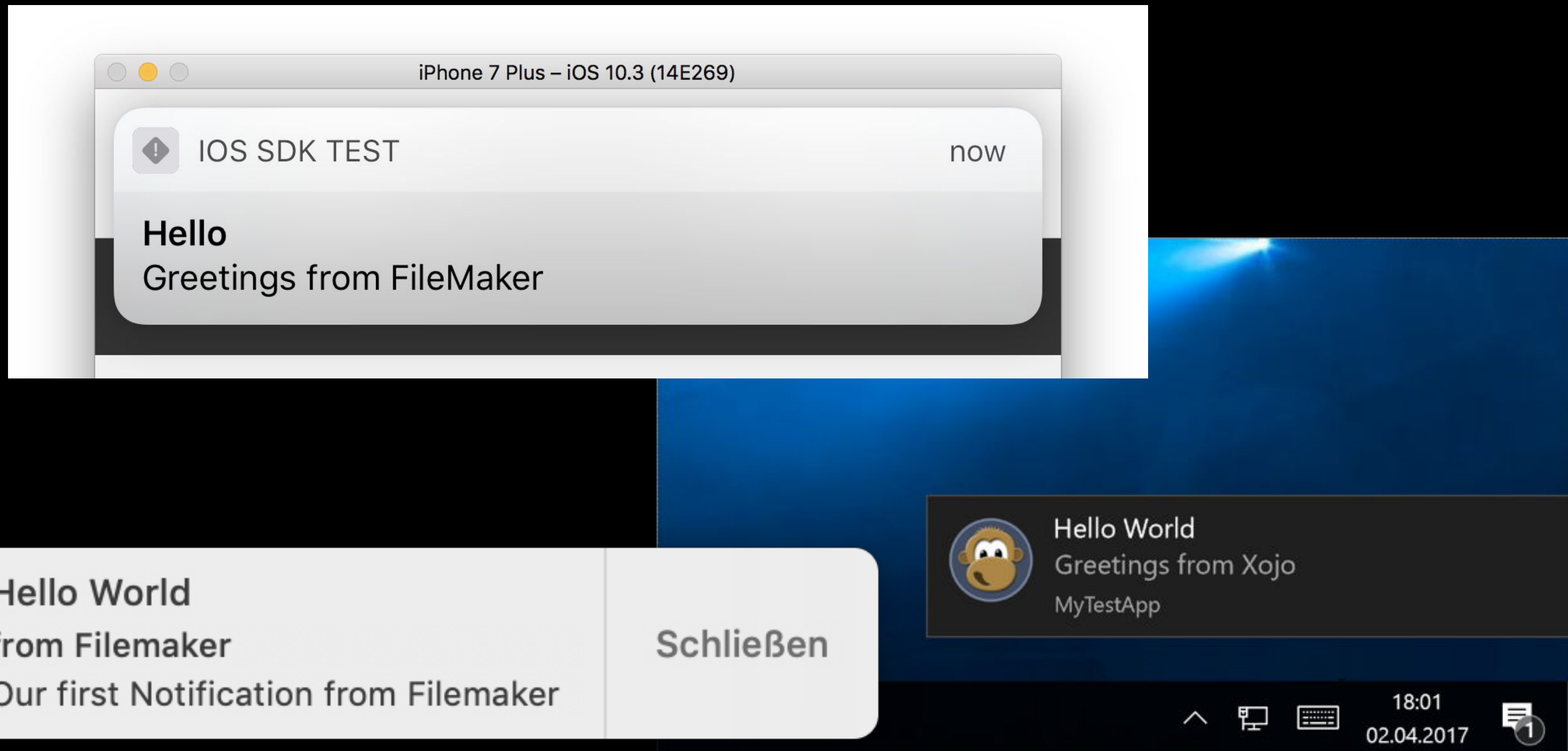
Draw vector graphics and text

Find position of images

Read/Write EXIF, IPTC & XMP data

Convert SVG to bitmap

Notifications



Sockets / Serial Ports

TCP & UDP sockets

- UDP broadcast & multicast
- ServerSocket for incoming connections

Serial Ports for COMx and USB Adapters

- Configure Data Bits, Stop Bits, Parity, Baud Rates, DTR, DSR, CTS, RTS & XON

Script trigger for incoming data

Printing

List printers

Control print dialog on Mac

- Print to PDF file
- Control Page Setup Dialog

Print using the plugin on Windows

Switch printer, paper, tray & more



Scan Documents

Flatbed & Document Feeders

- ImageCapture for Mac
- Windows Image Acquisition
- Twain for Mac & Win (deprecated)

With or without dialog

OCR to recognize text



Menus

Show contextual menus

Submenus

With font styles

With icons


With color

Trigger script on selection

Hello World

Disabled item

Call script

 With Image

With Tooltip

With Special Font

With Key Equivalent ⌘T

With formatted text: **Hello** *World*

With State Off

— With State Mixed

✓ With State On

With State Bullet

With State Diamond

Bold item

Italic item

Underline item

Font Size 9

Red Color

With Submenu



XML

Query subtrees

Extract text values

List, query/set values/attributes

Set & get values based on path

Parse once, query often

XML validate

XPath queries

JSON & XML Import

Read JSON or XML file

Detect records

Create automatically tables & fields

Import records

Build your layouts / scripts after first import

Shell

Run command line tools in shell

Pass parameters, environment variables & input text

Read normal & error output

Trigger for output received and finished.

Force quit process

Run ffmpeg, zip, ping, python, defaults, fmsadmin



Colorize XML & JSON

The screenshot shows the 'JSON Colored' application window. The title bar reads 'JSON Colored'. The interface includes a top toolbar with navigation and editing icons, a 'Records' section showing '1 Total (Unsorted)', and buttons for 'Show All', 'New Record', and 'Delete Record'. There are also 'Find', 'Sort', and 'Share' buttons, along with a search bar. Below the toolbar, there are tabs for 'Layout: JSON Colored' and 'View As' (with icons for list, table, and preview), and an 'Edit Layout' button. The main content area is divided into two sections: 'JSON Input' and 'JSON Output'. The 'JSON Input' section contains a large block of raw JSON data. The 'JSON Output' section shows the same data formatted with line numbers and color-coding. At the bottom, a note states: 'Just paste some JSON in upper field and see formatted output with JSON.Colorize function called in field calculation.'

JSON Colored

Records: 1 Total (Unsorted)

Layout: JSON Colored View As: [List View] [Table View] [Preview] Edit Layout

JSON Input

```
{
  "id": 123,
  "group_id": 5,
  "default_billing": "142",
  "default_shipping": "142",
  "created_at": "2011-04-05 10:10:55",
  "updated_at": "2018-02-08 07:57:21",
  "created_in": "Deutsch",
  "email": "123.testing@test.test",
  "firstname": "Peter ",
  "lastname": "Miller ",
  "prefix": "Herr",
  "gender": 1847,
  "store_id": 11,
  "website_id": 4,
  "addresses": [
    {
      "id": 142,
      "customer_id": 123,
      "region": {
        "region_code": null,
        "region": null,
        "region_id": 0
      },
      "country_id": "DE",
      "street": ["Main Street 89"],
      "company": "Test GmbH",
      "telephone": "02233-123-456",
      "fax": "02233-123-457",
      "postcode": "12345",
      "city": "Somewhere",
      "firstname": "Peter ",
      "lastname": "Miller ",
      "prefix": "Herr",
      "default_shipping": true,
      "default_billing": true
    }
  ],
  "disable_auto_group_change": 0,
  "custom_attributes": [
    {
      "attribute_code": "allowed_userpayment_methods",
      "value": "a:1:{i:0;s:7:\"invoice\";}"
    },
    {
      "attribute_code": "customerart",
      "value": "2025"
    },
    {
      "attribute_code": "kundennummer",
      "value": "10433"
    },
    {
      "attribute_code": "personnummer",
      "value": "18904"
    }
  ]
}
```

JSON Output

```
1: {
2:   "id": 123,
3:   "group_id": 5,
4:   "default_billing": "142",
5:   "default_shipping": "142",
6:   "created_at": "2011-04-05 10:10:55",
7:   "updated_at": "2018-02-08 07:57:21",
8:   "created_in": "Deutsch",
9:   "email": "123.testing@test.test",
10:  "firstname": "Peter ",
11:  "lastname": "Miller ",
  ..
  ..
}
```

Just paste some JSON in upper field and see formatted output with JSON.Colorize function called in field calculation.

FM.CompareTable

**MBS("FM.CompareTables"; FileName1; TableName1; IDField1;
FileName2; TableName2; IDField2 { ; Options })**

Compares values in two tables.

Reports results as JSON

Includes list of changed records, changed fields

Optionally reports changed values for each field.

FileMaker iOS SDK

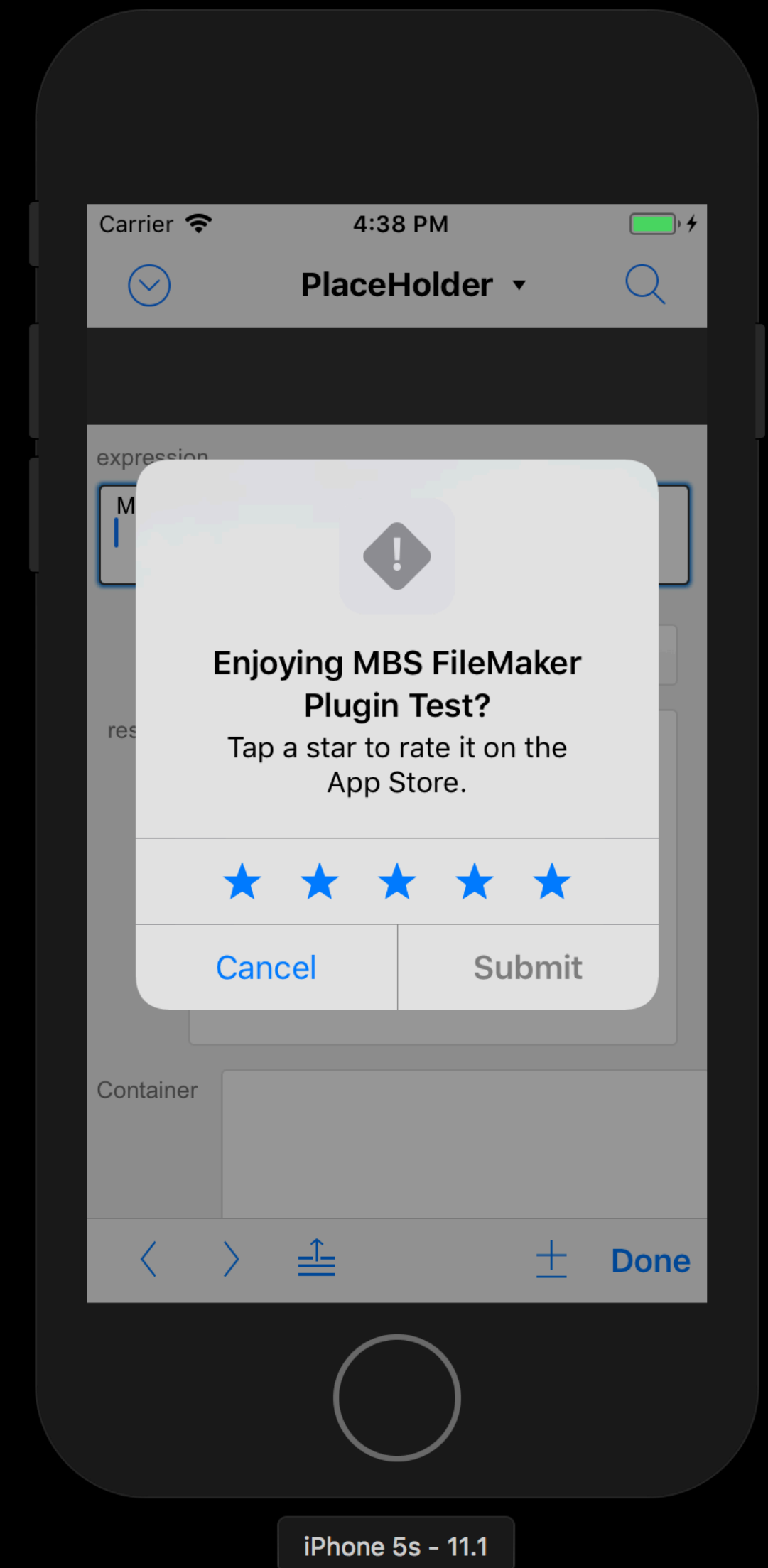
HealthKit - query health data

StoreKit - in-app purchases

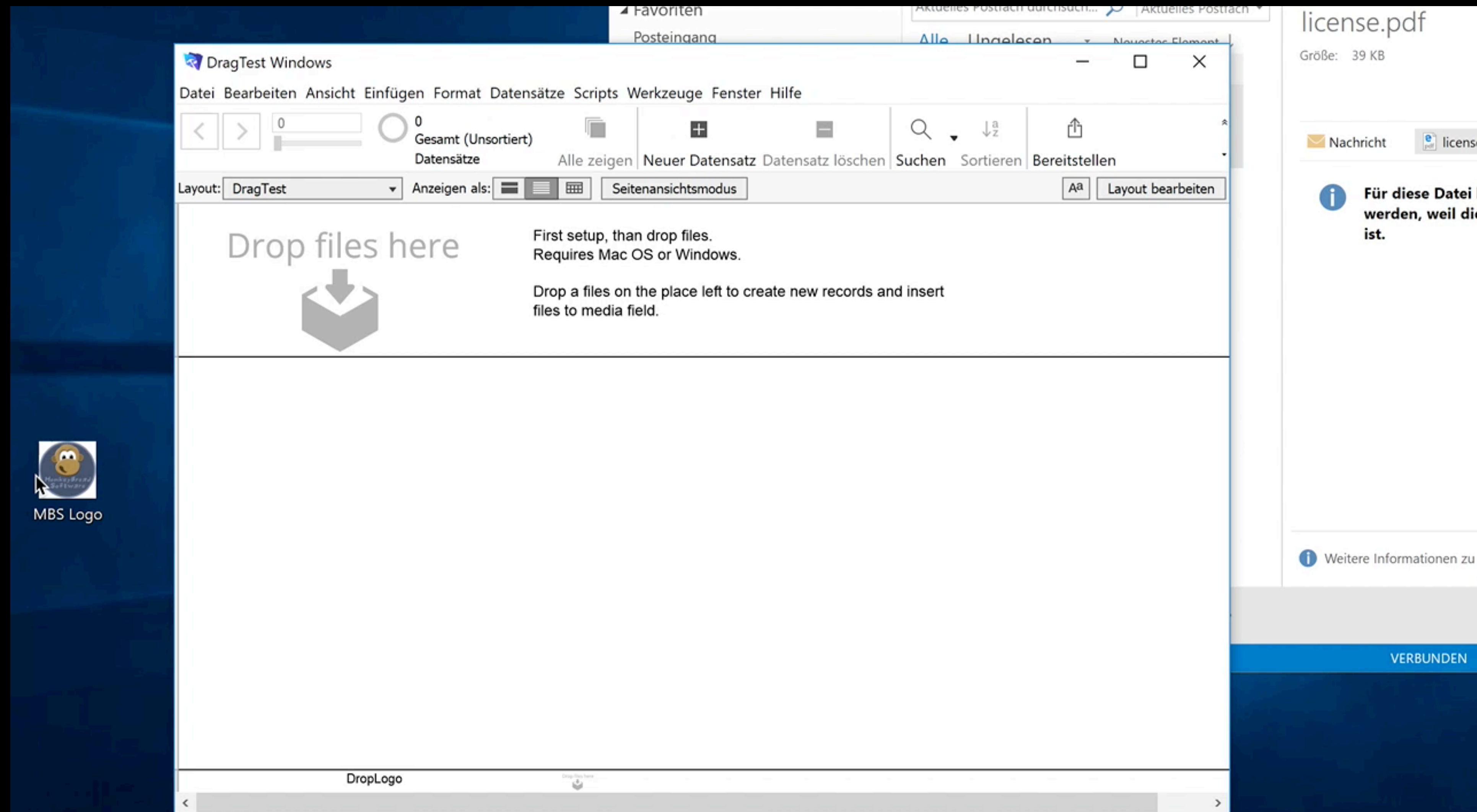
ImagePicker - now with overlay

Message Composer - SMS and Email

CoreLocation, JavaScript, WebViewer, PDFKit,
AVExport, CGImageSource, Clipboard, Spotlight
search, RichText and triggers



Drop for Mac & Windows



Barcodes

Generate over 80 types of barcodes

Detect barcodes

- Aztec, Codabar, Code39, Code93, Code128, DataMatrix, EAN8, EAN13, ITF, PDF417, QRCode, UPCA and UPCE.

Example for Barcodes for Payments in Switzerland (ISO-20022)



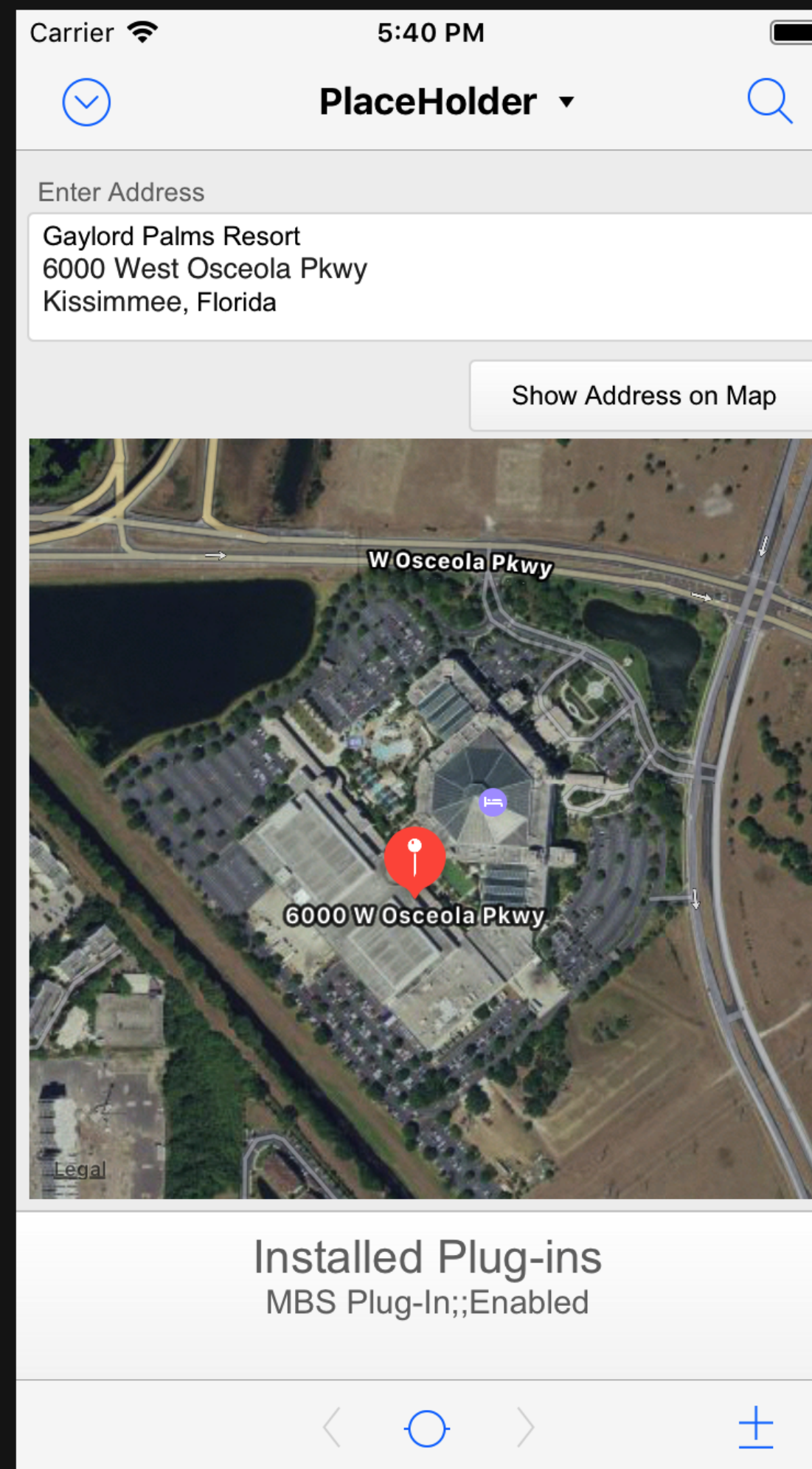
MapKit

MacOS & iOS

3D and 2D maps

Find locations and pin it

Plan routes and display them



And more...

Regular Expressions

Word Files: Fill in values for placeholders

Schedule scripts to run at time or when idle

File functions

Hotkeys to trigger scripts

Address book, Calendars & Reminders

Run JavaScript in WebViewer

Syntax Highlighting for Mac

Rule based calculation and script coloring

Context Menus

If/Loop block highlighting

Relation Ship Graph search

Script search & GoTo Line

Show Script IDs, Layout IDs, Field IDs & Table IDs

Save column widths

Script Workspace (Contacts)

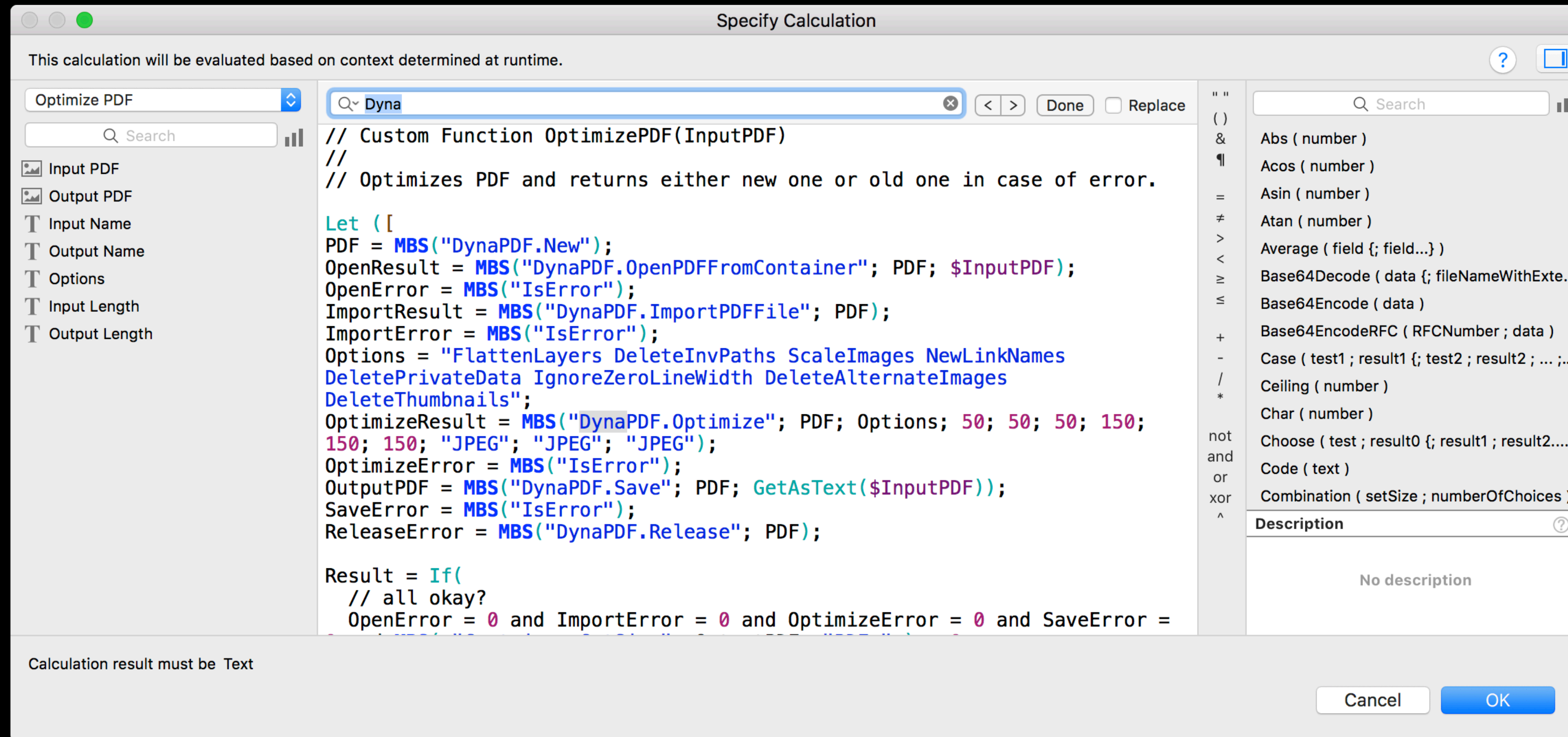
+▶🐛

Copy Script Text

Trigger | QuickFind | iOS

```
1 Set Error Capture [ On ]
2
3 Freeze Window
4
5 Set Field [ Contacts::Status Filter ; " - " ]
6
7 Perform Quick Find [ Contacts::QuickFind ]
8
9 If [ Get ( LastError ) = 0 ]
10     Halt Script
11
12 Else If [ Get ( LastError ) = 400 ]
13     Set Field [ Contacts::Status Filter ; "All" ]
14     Show All Records
15
16 Else If [ Get ( LastError ) = 401 ]
17     Go to Record/Request/Page [ First ]
18     Omit Multiple Records [ With dialog: Off ; Get ( FoundCount
```

Search in Calculations ⌘F



Search in FileMaker Lists

Manage Custom Functions for "Popup Menu"

Custom functions can be used in any calculation and copied, pasted, or imported between files. These functions are listed in the Custom Function category of the Specify Calculation dialog.

5 item(s) View by: creation order

Search: Best

Function Name	Parameters	Availability
Best		All accounts
Function		All accounts
Ever		All accounts
Search		All accounts
Here		All accounts

New... Edit... Duplicate Delete

Manage Layouts (Popup Menu)

Show All Search

Search: Search

	Layout Name	Associated Table	Menu
✓	Popup Menu	Popup Menu	[File Default] 1
✓	Search Layouts	Popup Menu	[File Default] 2

Include in layout menus

New Edit Duplicate Delete Open

Data Viewer

Current Watch

Displays variables and fields in the current script.

Search: User

Name	Value	Type
\$\$UserID	D7742923-C574-4CAD-A60C-0C75982E9A10	Global Variable
\$\$Name	Peter	Global Variable

Add to Watch

Tooltips for Exportdialog

Specify Field Order for Export

Select and move the fields to be exported. If you want to group data, choose the 'Group by' fields before moving the other fields.

Current Layout ("Contact Details")

Company

Datum

Fax

First

formel

globales Feld

Gro

ID

Job Title

Last

Mobile

Notes

Off

Option

Company in Contacts
Normal varchar
by MBS Plugin

formel in Contacts
Calculated decimal
by MBS Plugin

Mobile in Contacts
Normal decimal
by MBS Plugin

Move

Move All

Clear All

Group by

(Unsorted)

Field export order

MyTABLE::test

test in MyTABLE gtest

stat in Contacts
Summary decimal
by MBS Plugin

Group

globales Feld in Contacts
Normal global varchar[100]
by MBS Plugin

Output file character set:

Unicode (UTF-8)

☐ Apply current layout's data formatting to exported data

Cancel

Export

Ressources

Website

monkeybreadsoftware.com/filemaker/

Blog

mbs-plugins.com

Videos

mbsplugins.com

Please signup for Newsletter on website