

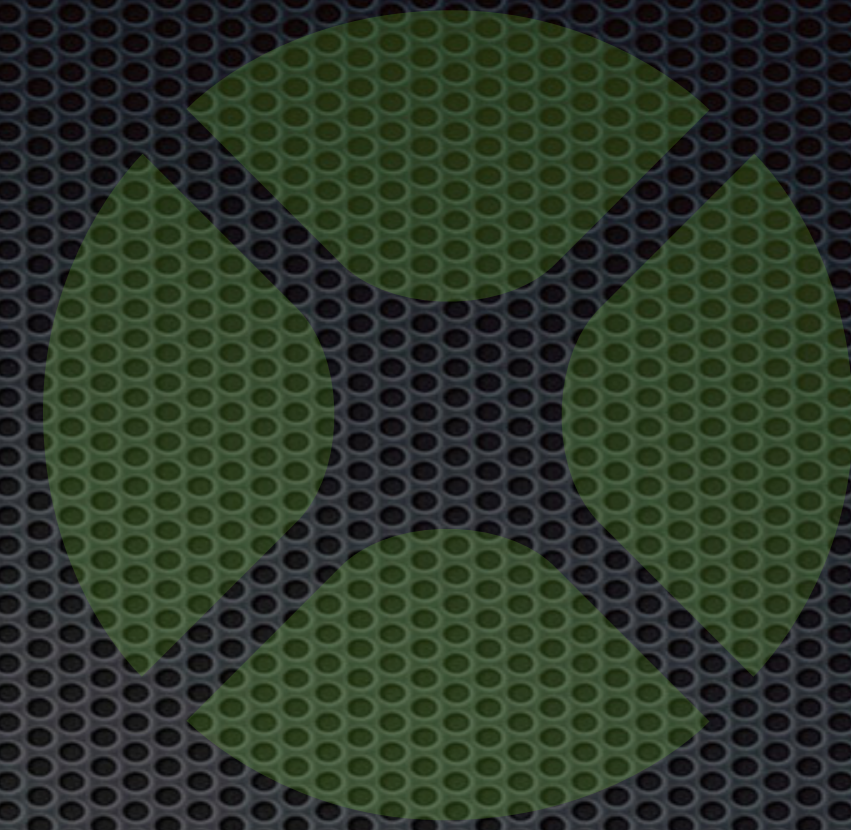


MBS Plugins

Christian Schmitz
CEO

Monkeybread Software

MBS Plugins



- Xojo Plugins since 2001
 - 20 years!
 - Full time job
- Huge Toolbox
 - Enable more applications in Xojo
 - Provide things you can't do in Xojo directly

MBS Xojo Plugins



- Since 2001 we got

40

Plugins

500

Plugin parts

+20

68000

items in documentation

+4000

2700

classes

+200

2100

example projects

+100

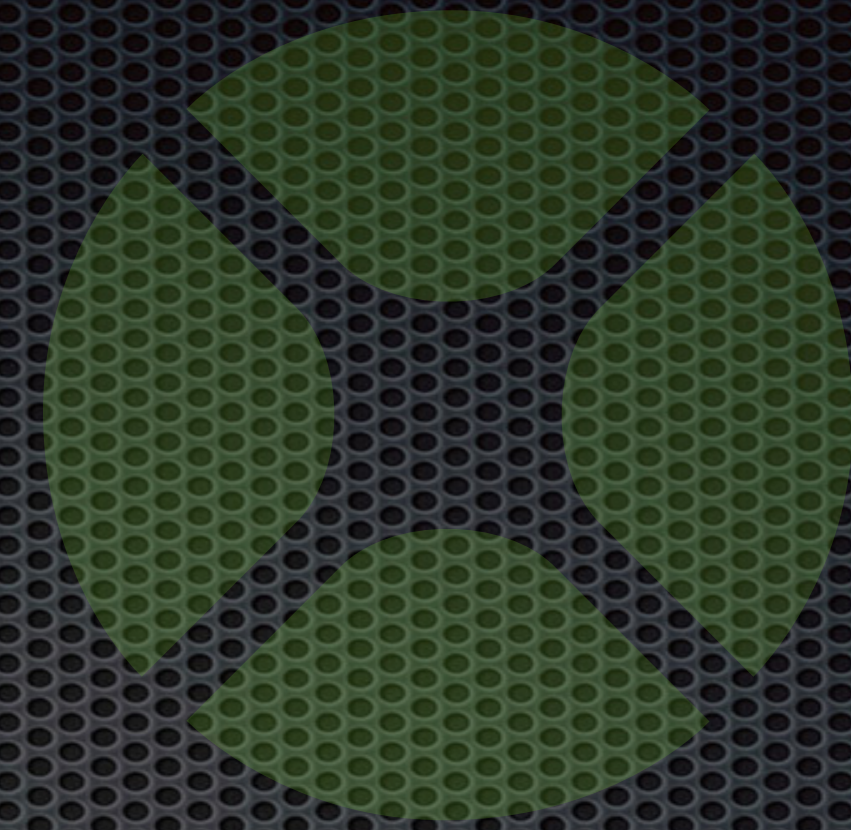
Xojo Versions



- 2015r3: 64bit and ARM
- 2016r2: new keywords
- 2016r4: Release HDC
- 2017r1: WebKit update
- 2017r2: GTK 3
- 2017r3: 64-bit IDE
- 2018r2: Chromium update and double for graphics
- 2018r3: More datatypes for databases
- 2019r2: API 2.0 and FolderItem changes
- 2019r3: Chromium update

News & Changes

- What's new since last conference?



Web viewer

- WKWebViewControlMBS Control
- WebKit 2.x control for Xojo
- Evaluate JavaScript
- Snapshots as picture
- Decide policy events
- Private browsing

Continuity Camera

- For MacOS Mojave and newer
- For iOS 12 and newer
- Take pictures with iPad or iPhone
- Both devices with same iCloud account & nearby



Take a photo with "My iPhone"

Use your iPhone's camera to take a photo.

Cancel

My iPhone

Take Photo

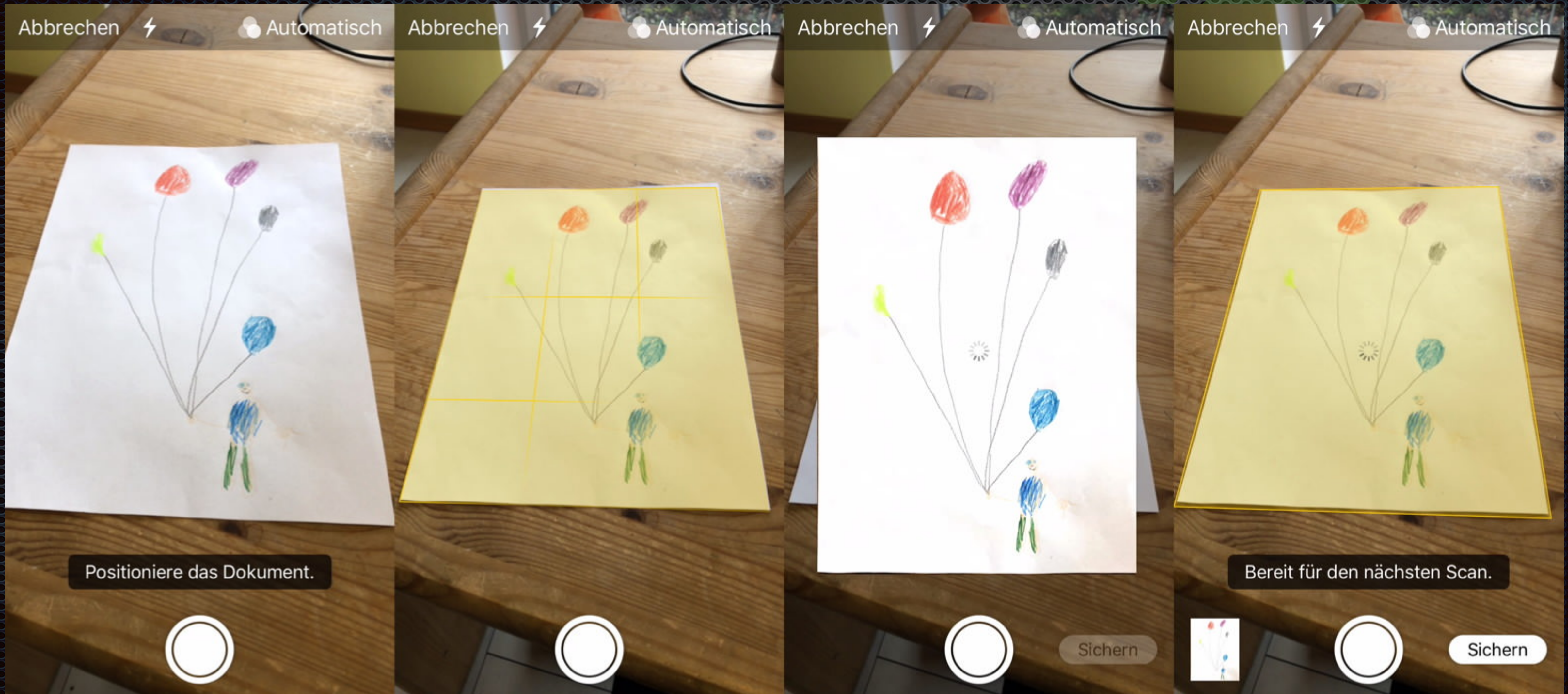
Scan Documents

iPad von Christian Schmitz

Take Photo

Scan Documents

Continuity Camera



LDAP & Active Directory

- OpenDirectory classes for MacOS
 - ODSessionMBS, ODRecordMBS, ODNodeMBS & ODQueryMBS
- LDAPMBS class cross platform
- WindowsADSystemInfoMBS class

CopyFileMBS

- Low level copy API for Mac
- With Progress events
 - Yield for threads
- Recursive copying
- Flags for metadata, permissions, clone

Vision Framework

Key	Value
performRequest...	
VNDetectRectan...	
▶ VNRectangleOb...	C7432527-5B36-4453-B4B8-12FA1E13C766
▶ VNRectangleOb...	725F38E0-0498-4C30-9ED8-933482FCE547
▶ VNRectangleOb...	A4B77E46-E360-4AE3-BF3A-6BAB69D3A260
VNDetectHuma...	
VNDetectBarco...	
▼ VNBarcodeObse...	30FC073D-E7F1-46F8-A0A7-B9F5E9941CD6
Confidence	1
topLeft	0.6727608/0.61994
topRight	0.8584473/0.6368474
bottomLeft	0.6853567/0.3736294
bottomRight	0.8704446/0.3897813
symbology	VNBarcodeSymbologyQR
payloadString...	developer.apple.com
symbology	VNBarcodeSymbologyQR
payloadString...	developer.apple.com
VNDetectTextRe...	
▶ VNTextObservat...	2D84E6EE-CD19-4B8F-9AFE-44B2FB1D15D5
▶ VNTextObservat...	50805759-A555-40E1-B3B1-D7C58576272A
▶ VNTextObservat...	63DA3308-844B-46DF-8281-746688DF030E

TAGLIB

- Cross platform Library
- Audio Tags read & write
- e.g. ID3v2 tags in MP3



LZ4 Compression

- Cross platform Library
- Very fast decompression
- Compression either fast or for smaller size

Java

- Supporting Java in Xojo applications for years
- Using variants to pass parameters
- CallMethod, CallNonvirtualMethod and CallStaticMethod
- Field & StaticField
- NewObject

Windows Pipe

- WindowsPipeMBS class
- One to one IPC socket
- Message or Byte mode
- Works with system service ↔ user application

JavaScript Engine

- Based on Duktape open source library
- Run JavaScript everywhere:
 - client & server
 - desktop, web & console
- No HTMLViewer needed

JavaScript Engine

- Evaluate JavaScript code
- Register functions written in JavaScript or Xojo
- Get/Set global variables
- Print & Input events
- Call functions and use variant for parameters
- Save & Load functions
- MT methods for preemptive threads

Windows Media Foundation Player

- Play audio / video
- Show video in canvas
- Volume, balance, rate & mute
- Frame step
- Events for position change & end
- Click events via Canvas

ImageMagick 7

- Create, edit, compose, or convert bitmap images.
- Rewrite of ImageMagick classes
- Newer library version 7
- HDR support, 8, 16, 32 or 64 bit per color
- 200 file formats

Algorithms

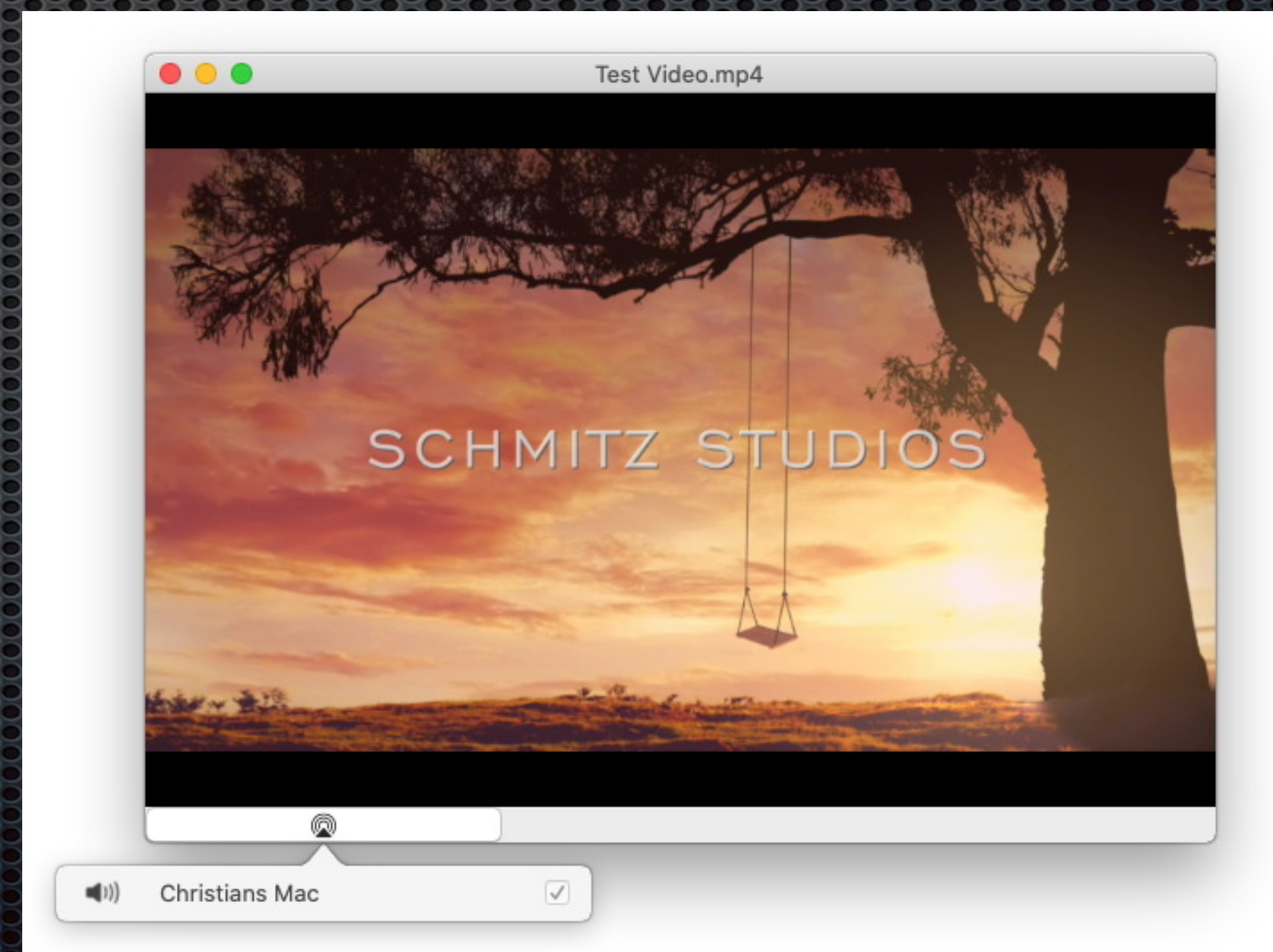
- LGLMBS class
 - SAT Solver for boolean satisfiability problem
- LMFitMBS class
 - Levenberg-Marquardt least squares fitting algorithm

HTMLViewer Windows

- New IE classes
e.g. IEDocumentMBS and IEWindowMBS
- Evaluate JavaScript with result
- CallFunction, use variant for parameters & result
- Navigate function with POST data and headers
 - Change user agent for a request

Airplay

- Find routes via `AVRouteDetectorMBS`
- `AVRoutePickerViewControllerMBS` control
- For `AVPlayerMBS`
 - `MoviePlayer`
 - `AVPlayerViewControllerMBS`




CoreML

- Update models on device with new data.
- MacOS 10.15

CoreML Test

Load Model... Load Picture...

Key	Value
predictedFeatureName	classLabel
predictedProbabilities...	classLabelProbs
▼ inputDescriptionsByN...	
▼ image	
name	image
type	4 Image
optional	No
▼ metadata	
MLModelVersionStri...	
MLModelDescriptio...	Detects the dominant ob...
MLModelAuthorKey	Original Paper: Kaiming ...
MLModelLicenseKey	MIT License. More infor...
▼ outputDescriptionsBy...	
▼ classLabel	
name	classLabel
type	3 String
optional	No
▼ classLabelProbs	
name	classLabelProbs
type	6 Dictionary
optional	No



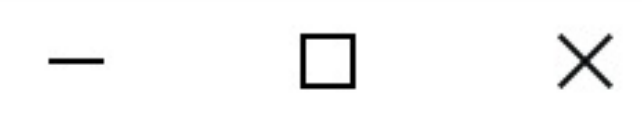
classLabel zebra

▼ classLabelProbs

File Open Dialogs

- Special classes for Windows
- Extra controls: Labels, Buttons, Checkboxes, PopupMenus & Textfields
- Events for folder & selection change
- Multi file selection

File Dialog



File Edit

Set Title:

Set FileName Label:

Set OK Button Label:

Set FileName:

Set Default Extension:

Set Default Folder to be Desktop

Set File Types

Set file type popup:

Add custom controls

Overwrite Prompt

Strict File Types

No Change Dir

Pick Folders

Force File System

Allow Multi Select

Path Must Exist

File Must Exist














Hide MRU Places

Force Show Hidden

```

MyWinFileOpenDialogMBS.FileTypeChanged
MyWinFileOpenDialogMBS.FolderChanging
C:\Users\Christian\Pictures
MyWinFileOpenDialogMBS.FolderChanged
C:\Users\Christian\Pictures
MyWinFileOpenDialogMBS.SelectionChange
MyWinFileOpenDialogMBS.FileOk
Author field: Test
Subject field: Hello World
Custom color checkbox: False
1 files
C:\Users\Christian\Pictures\test.jpg
  
```


★ Schnellzugriff

-  Desktop 
-  Downloads 
-  Dokumente 
-  Bilder 
-  Musik
-  Plugins
-  Plugins
-  Videos
-  OneDrive



Eigene Aufnahmen



Gespeicherte Bilder



IMG-12345



test



junior88



Xojo Test

Metadata Author:

Subject:

Color Custom color

-
- Red
- Green
- Blue

FileName Label

OK Button

Abbrechen

SQL Improvements



- API 2.x with RowSet and ExecuteSQL/SelectSQL
- CubeSQL file data functions
 - CubeSQLReceiveData & CubeSQLSendData
- SSL connection modes for CubeSQL client
- Better Int64 and UInt64 handling

30 of over 80 barcode types supported by MBS Plugin



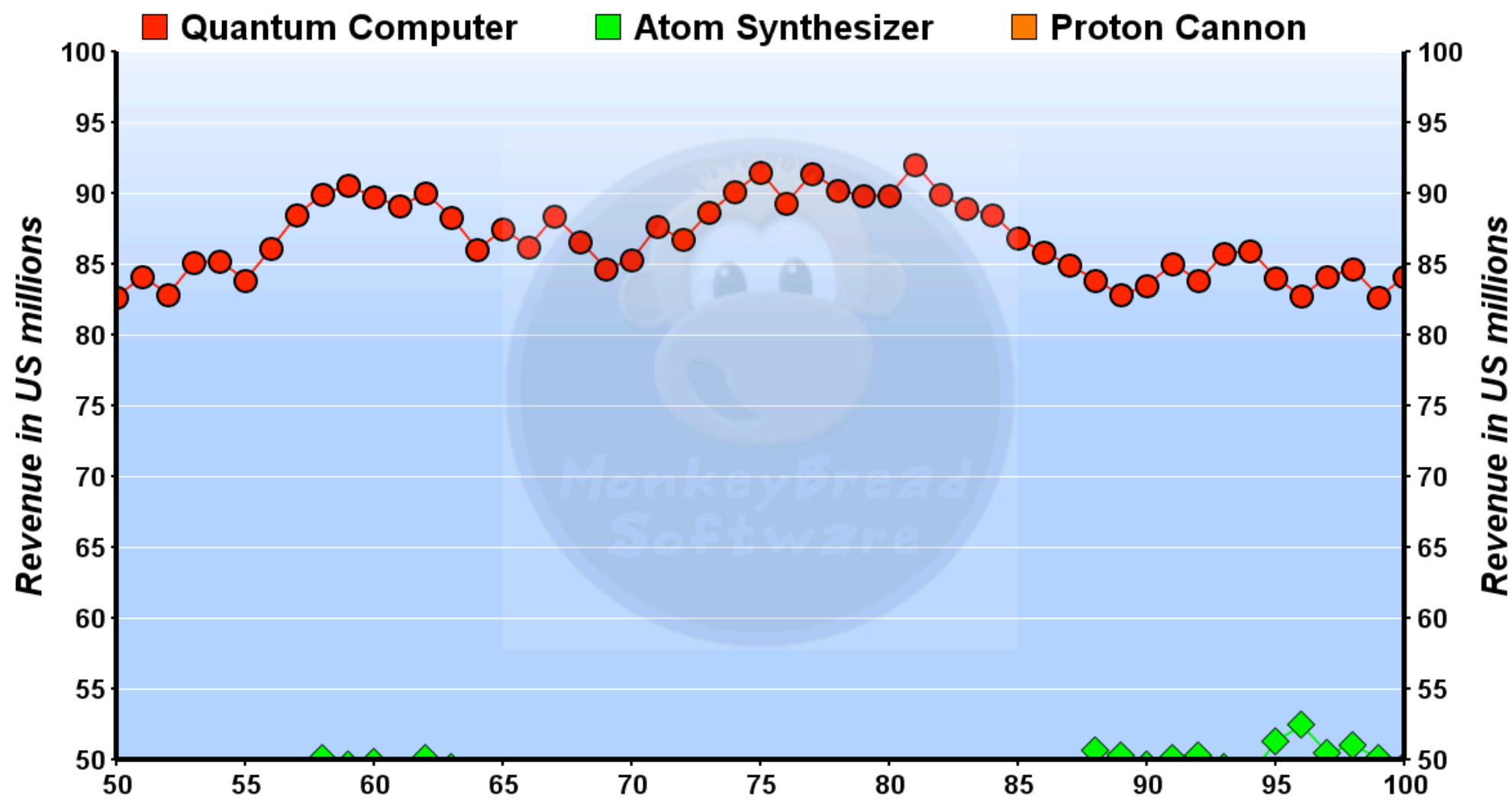
ChartDirector Improvements

- ChartDirector 6.3
- More examples updated for HiDPI & Xojo
- Pictures with resolution properties set
- Font handling updated for MacOS Catalina
- Dark Mode

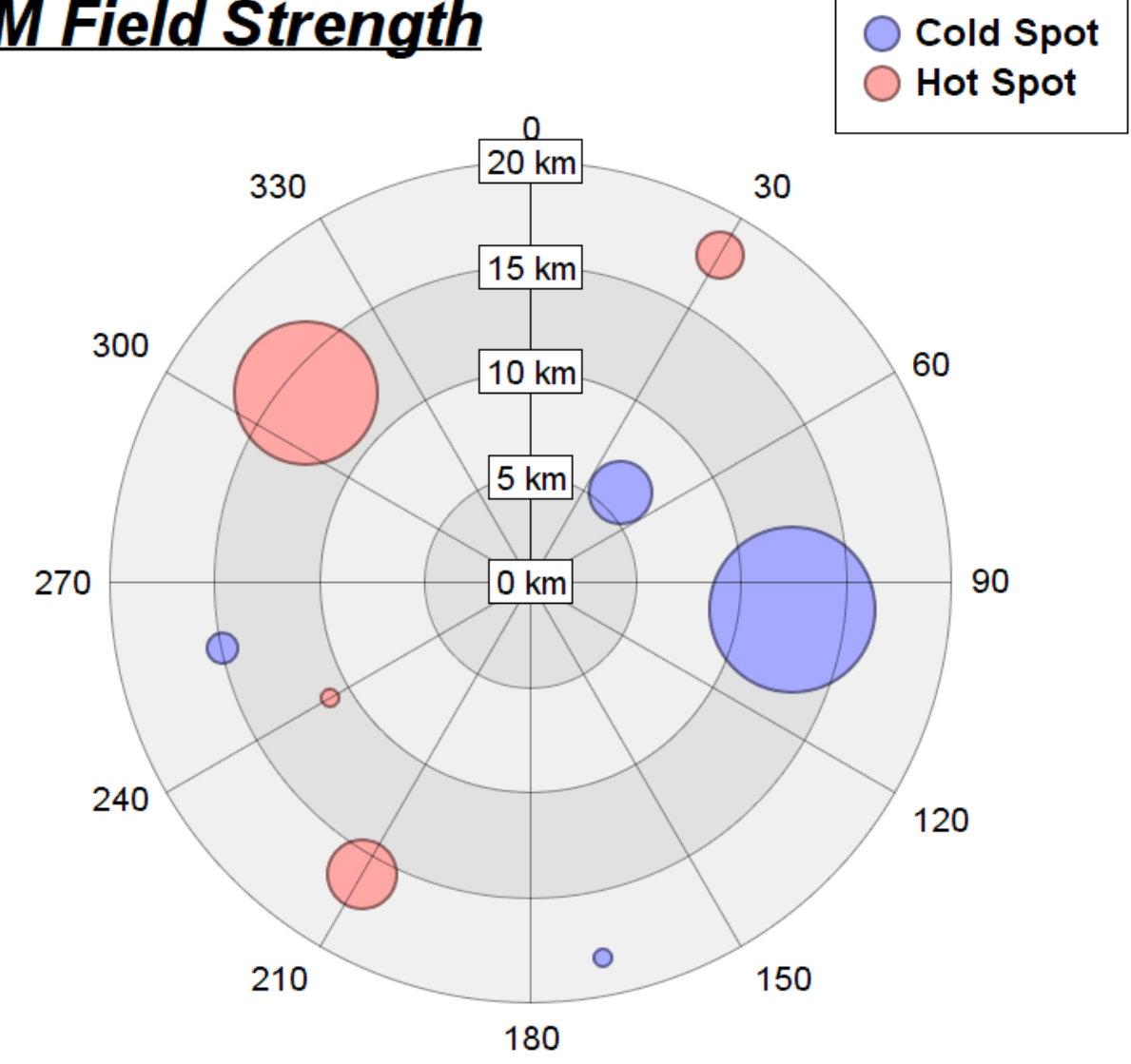


Click on values to change symbol color

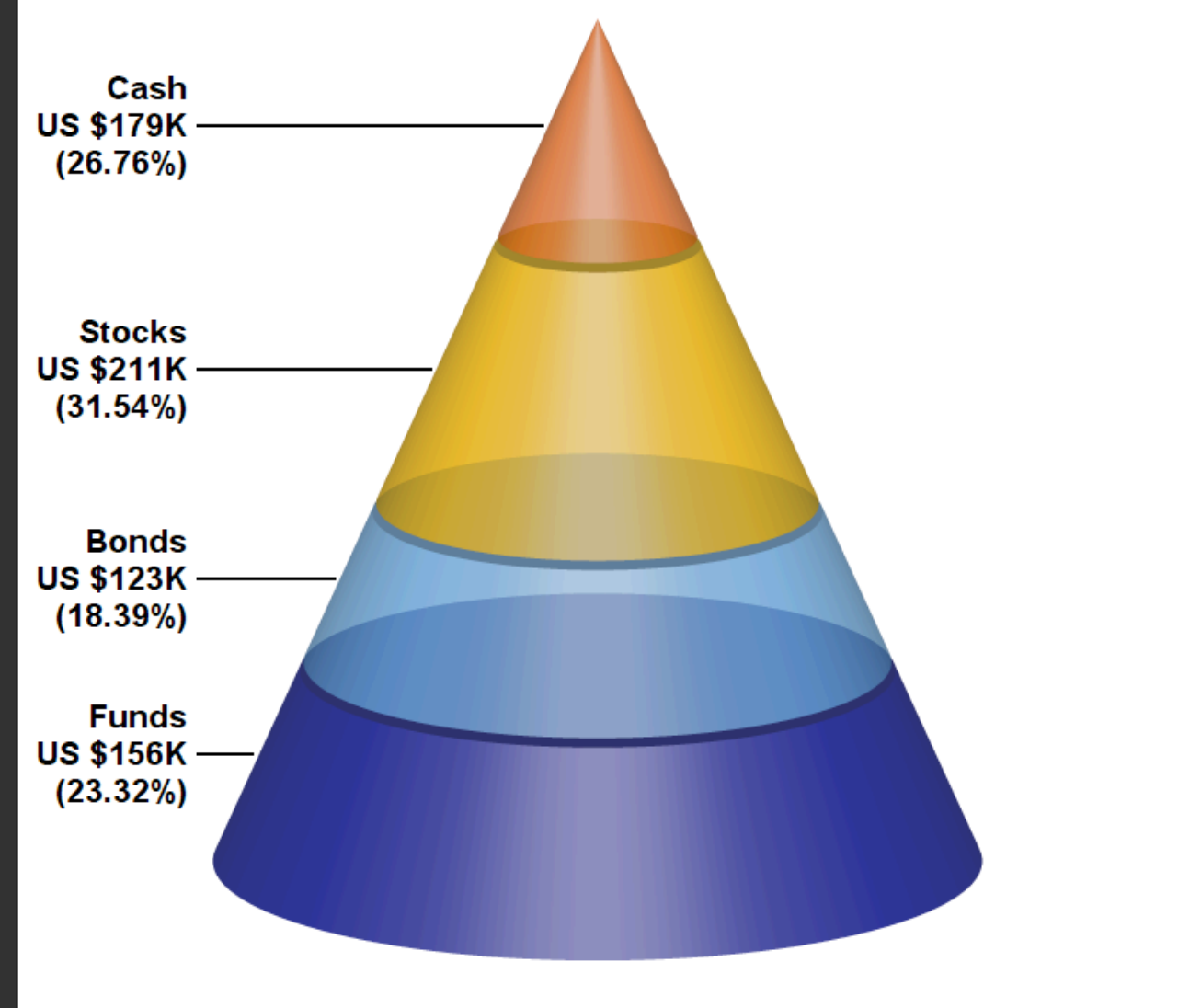
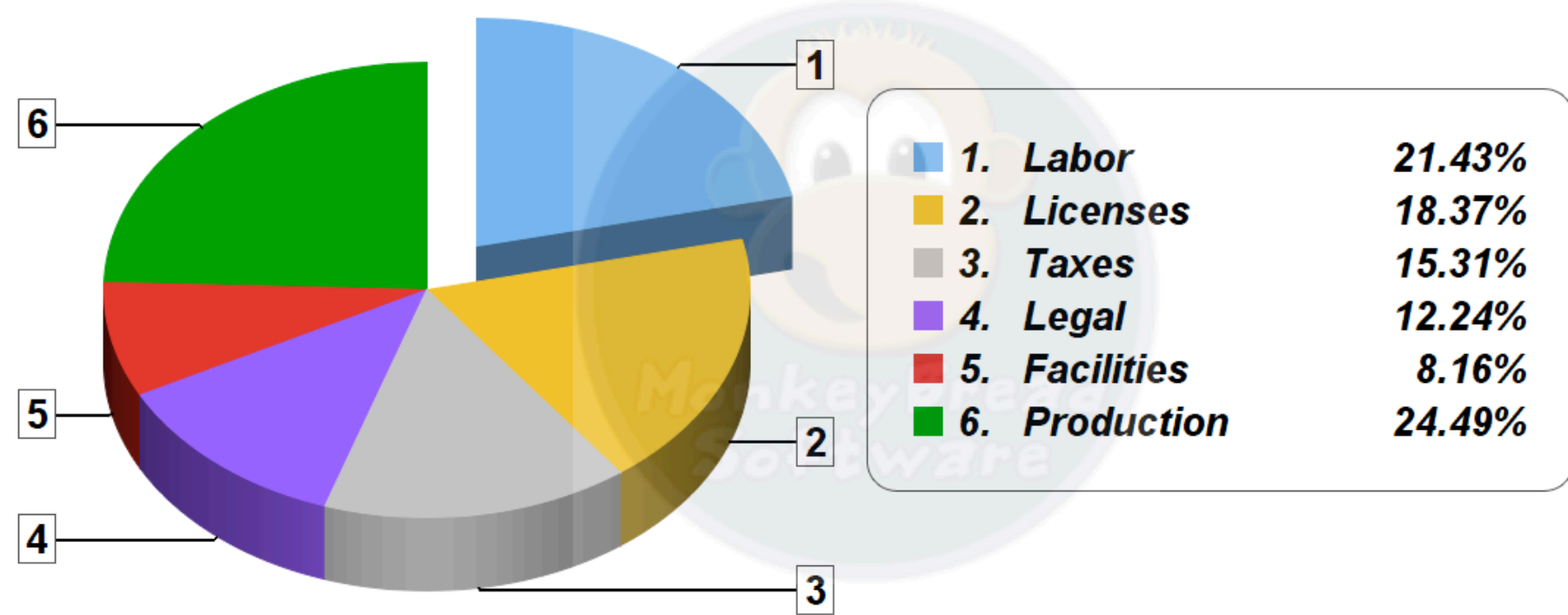
Product Line Global Revenue



EM Field Strength

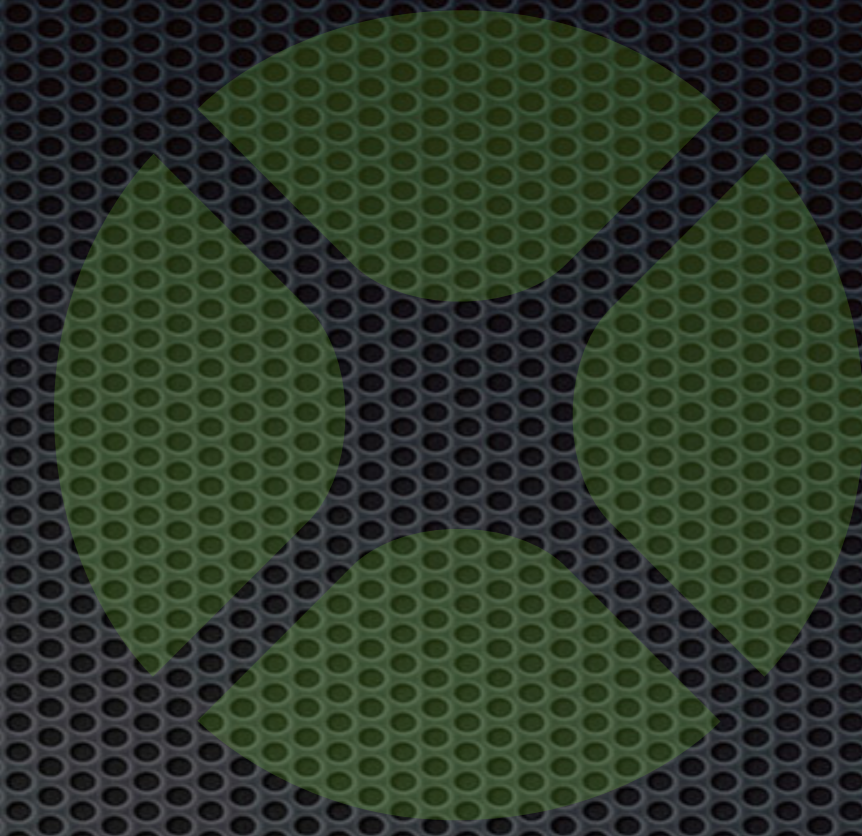


Pie Chart With Legend Demonstration



Click on sectors.

DynaPDF 5.0



- Coming later in 2020
- Full unicode support
- Orthographic rules for ligatures
 - مرحبا بالعالَم
 - مرحبا بالعالم
- Automatic Font Substitution
- Verify digital signatures

DynaPDF 5.0

German

Es war einmal ein großer Krieg, und als der Krieg zu Ende war, bekamen viele Soldaten ihren Abschied. Nun bekam der Bruder Lustig auch seinen Abschied und sonst nichts als ein kleines Laibchen Kommißbrot und vier Kreuzer an Geld; damit zog er fort. Der heilige Petrus aber hatte sich als ein armer Bettler an den Weg gesetzt, und wie der Bruder Lustig daherkam, bat er ihn um ein Almosen. Er antwortete: "Lieber Bettelmann, was soll ich dir geben? Ich bin Soldat gewesen und habe meinen Abschied bekommen, und habe sonst nichts als das kleine Kommißbrot und vier Kreuzer Geld, wenn das all ist, muß ich betteln, so gut wie du. Doch geben will ich dir was." Darauf teilte er den Laib in vier Teile und gab davon dem Apostel einen und auch einen Kreuzer.

English

Once upon a time there was a big war, and when the war was over many soldiers said goodbye. Now his brother Lustig also got his farewell and nothing but a little loaf of commisson bread and four kreuzers of money; he moved away. But St. Peter had set himself up as a poor beggar, and as Brother Lustig came along, he asked for alms. He replied, "Dear Bettelmann, what shall I give you? I have been a soldier and have received my farewell, and have nothing else but the little bread and four kreuzer money, if that is all, I must beg, as well as you. But I want to give you something. " He then divided the loaf into four parts and gave one to the apostle and one cruiser.

Amharic

በአንድ ወቅት ታላቅ ጦርነት ነበር እናም ጦርነቱ በብዙ ወታደሮች ላይ ሲወርድ ተካሂዷል። ወንድሙ ሉዊስም ለመሰናበቻው አንድ ትንሽ ዳቦ ዳቦና አራት ድ ድቂቶች ብቻ ነበር። አሻፈረኝ አለ። ቅዱስ ጴጥሮስ ግን እንደ ድሆች ለማኝ ራሱን አዘጋጀና, ወንድም ሎስትስ እንደመጣም, ስለ ምጽቀት ጠየቀ። እርሱም እንዲህ መለሰ፡ - "ውድ ተወላጅን, የትኛው ምን እስጥሻለሁ? እኔ ወታደር ሆኜ, እኔ ስደሬን ተቀብያለሁ, እንዲሁም ትንሽ ዶንጌ እና አራት አራት ድሬ ገንዘቦች ብቻ ነው። ነገር ግን አንድ ነገር ልሰጥህ እፈልጋለሁ። " ከዚያም ዱቄቱን በአራት ክፍሎች በመከፋፈል አንዱን ለሐዋርያውና አንድ አንድ ሾፒተር ሰጠ።

Bengali

একবার এক সময় একটা বড় যুদ্ধ ছিল, এবং যুদ্ধ শেষে হলে অনেকে সৈন্য বদায় জানান। এখন তার ভাই লাস্‌টগিও বদায় নলিনে এবং কমশিন রুটির অল্প রুটি ছাড়া আর কিছুই নয়ট করলনে না; তিনি দরবে সরানো। কনিত সনেট পটিার নজিকে একজন দরদির ভকিষক হসিবো পরতষিঠতি করছেলিনে, এবং ভাই লাস্‌টগি এসছেলিনে, তিনি ভকিষা চয়েছেলিনে। তিনি উততর দলিনে, "পরযি বটেলেম্যান, আমা আপনাকে কা দতি পারা? আমা একজন সৈনিক হয়ছে এবং আমার বদায় পয়েছে, আর আমার কাছে আর কিছু নই, ছোটট রুটি এবং চারটা করইজাররে টাকা, যদি সব কিছু হয় তবে আমারও আপনাকে অনরোধ করত হবে। কনিতু আমা তোমাকে কিছু দতি চাই। " তারপর তিনি রুটিটা চার ভাগে বিভক্ত করলনে এবং একজনকে পরেরতি ও একজন করুজারকে দলিনে।

Gurjarati

એકવાર એક સમયે એક મોટો યુદ્ધ થયો, અને જ્યારે યુદ્ધ સમાપ્ત થયું ત્યારે ઘણા સૈનિકોએ ગુડબાય કહ્યું. હવે તેના ભાઈ લુસ્ટગિને પણ તેના વદિાય અને કમશિન બૂરેડની થોડી રોટલી અને પૈસાના ચાર ફૂઝરસ મળ્યાં હતાં; તેમણે દૂર ખસડવામાં. પરંતુ સેન્ટ પીટર પાતે ગરીબ ભાખારી તરીકે ઊભા થયો હતો, અને ભાઈ લુસ્ટગિ સાથે આવીને તેણે ભક્તની માંગ કરી. તેણે જવાબ આપ્યો, "પ્રયિ બેટેલમૈન, હું તમને શું આપીશ? હું એક સૈનિક રહ્યો છું અને મારા વદિાય મળવ્યા છું, અને બીજું કંઈ નથી સવાય કે બૂરેડ અને ચાર ફૂઝર પૈસા, જો તે બધું જ છે, તો તમારે પણ માગી લેવું જોઈએ. પણ હું તમને કંઈક આપવા માંગુ છું. " પછી તેણે બૂરેડને ચાર ભાગમાં વહેંચી નાખ્યો અને એકને પ્રેરતિ અને એક ફૂઝરને આપ્યો.

Hindi

एक बार एक बड़ा युद्ध हुआ, और जब युद्ध खत्म हुआ तो कई सैनिकों ने अलवदा कहा। अब उनके भाई लसूटगि को भी वदाई मलि गई और कुछ नहीं बलक क् कमसनि रोटी और चार पैसे का एक छोटा-सा ढाला; वह चला गया। लेकिन सेंट पीटर ने खुद को एक गरीब भखिारी के रूप में स्थापति किया था, और जैसे ही भाई लसूटगि आए, उन्होंने भकषिा मांगी। उसने उत्तर दिया, "प्रयि बेटेलमैन, मैं आपको क्या दंगा? मैं एक सैनिकि हूं और मेरी वदाई हुई है, और थोड़ी सी

Changes

- Removed all MacOS Carbon only functions
 - All of QuickDraw
- Real Studio plugins on demand
- Mac App Store changes



Future

- Features coming in next releases...



SceneKit Improvements



- SceneKit 3D engine for MacOS
- Adding Hit Testing for X/Y
- Physical World classes
 - Gravity
 - Hittesting
 - Shapes, Bodies, Force fields, Behaviors
- See Stefanie's presentation

Photos Framework



- Access Photos database on MacOS
- 37 new classes
- Work with assets, collections & projects
- Show live photos with `PHLivePhotoControlMBS`
- Using delegates
- Needs MacOS 10.13, some features 10.15
- Needs usage string in `info.plist` and entitlements



Loaded full picture

- ▶ Events
- ▶ Faces
- ▼ Albums
 - ▼ Live Photos Test

3FD9CB03-B417-4F8A-9B96-96BD3E...



- ▶ Smart Albums
- ▶ Moments
- ▶ Live Photos
- ▶ Collections



RFC Interface for SAP



- Connect Xojo to SAP applications and databases
- Remote function call
- MacOS, Windows & Linux
- Needs SAP Login to download SAP NetWeaver RFC SDK 7.50
- Needs SAP license for user

RFC Interface for SAP



- Load library
- Query function description
- Call remote functions
- Use tables & structures
- Use transactions

SAP Anmeldedaten

Anwendungsserver

Instanz-Nr.

Mandant

Benutzer

Passwort

Sprache

[REDACTED]

20

400

[REDACTED]

DE

mit SAP-System verbinden

verbunden

Fluggesellschaft

ID	Nr.	typ	Kapazität	Belegt	Akt. Buch...	Kapazität ...	Belegt BC	Kapazität FC	Belegt FC
		AA American Airlines							
		AB Air Berlin							
		AC Air Canada							
		AF Air France							
		AZ Alitalia							
		BA British Airways							
		CO Continental Airlines							
		DL Delta Airlines							
		FJ Air Pacific							
		JL Japan Airlines							
		LH Lufthansa							
		NG Lauda Air							
		NW Northwest Airlines							
		QF Qantas Airways							
		SA South African Air.							
		SQ Singapore Airlines							
		SR Swiss							
		UA United Airlines							

SAP Anmeldedaten

Anwendungsserver

Instanz-Nr.

Mandant

Benutzer

Passwort

Sprache

verbunden

Fluggesellschaft

ID	Nr.	Flugdatum	Flugpreis	Währung	Flugzeugtyp	Kapazität	Belegt	Akt. Buch...	Kapazität ...	Belegt BC	Kapazität FC	Belegt FC
AA	0017	19.12.2012	422.94	USD	747-400	385	375	193596.69	31	31	21	19
AA	0017	16.01.2013	422.94	USD	747-400	385	367	191405.95	31	30	21	20
AA	0017	13.02.2013	422.94	USD	747-400	385	372	192120.77	31	29	21	21
AA	0017	13.03.2013	422.94	USD	747-400	385	366	190128.60	31	30	21	20
AA	0017	10.04.2013	422.94	USD	747-400	385	363	189781.89	31	30	21	20
AA	0017	08.05.2013	422.94	USD	747-400	385	371	193072.33	31	30	21	21
AA	0017	05.06.2013	422.94	USD	747-400	385	372	194248.06	31	31	21	21
AA	0017	03.07.2013	422.94	USD	747-400	385	372	192095.36	31	30	21	19
AA	0017	31.07.2013	422.94	USD	747-400	385	372	194370.71	31	31	21	20
AA	0017	28.08.2013	422.94	USD	747-400	385	155	79077.21	31	12	21	8
AA	0017	25.09.2013	422.94	USD	747-400	385	114	58589.93	31	10	21	5
AA	0017	23.10.2013	422.94	USD	747-400	385	28	15022.85	31	2	21	2
AA	0017	20.11.2013	422.94	USD	747-400	385	92	46608.07	31	6	21	5
AA	0017	18.12.2013	422.94	USD	747-400	385	51	26526.80	31	4	21	3
AA	0017	15.01.2014	422.94	USD	747-400	385	2	752.84	31	0	21	0
AA	0064	21.12.2012	422.94	USD	A310-300	280	271	134753.03	22	21	10	10
AA	0064	18.01.2013	422.94	USD	A310-300	280	265	131754.38	22	20	10	10
AA	0064	15.02.2013	422.94	USD	A310-300	280	264	131014.32	22	20	10	10
AA	0064	15.03.2013	422.94	USD	A310-300	280	264	130401.00	22	21	10	9
AA	0064	12.04.2013	422.94	USD	A310-300	280	271	134266.73	22	20	10	10
AA	0064	10.05.2013	422.94	USD	A310-300	280	266	132642.53	22	22	10	10
AA	0064	07.06.2013	422.94	USD	A310-300	280	271	134131.37	22	22	10	10
AA	0064	05.07.2013	422.94	USD	A310-300	280	269	132917.60	22	21	10	10
AA	0064	02.08.2013	422.94	USD	A310-300	280	271	134478.17	22	21	10	10
AA	0064	30.08.2013	422.94	USD	A310-300	280	140	67924.23	22	11	10	4
AA	0064	27.09.2013	422.94	USD	A310-300	280	70	35247.90	22	6	10	3
AA	0064	25.10.2013	422.94	USD	A310-300	280	0	0.00	22	0	10	0
AA	0064	22.11.2013	422.94	USD	A310-300	280	14	6259.52	22	1	10	0
AA	0064	20.12.2013	422.94	USD	A310-300	280	12	5345.98	22	1	10	0
AA	0064	17.01.2014	422.94	USD	A310-300	280	11	5138.72	22	1	10	0

Q & A

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