

Best Tricks

Greatest Mistakes

HOnza Koudelka

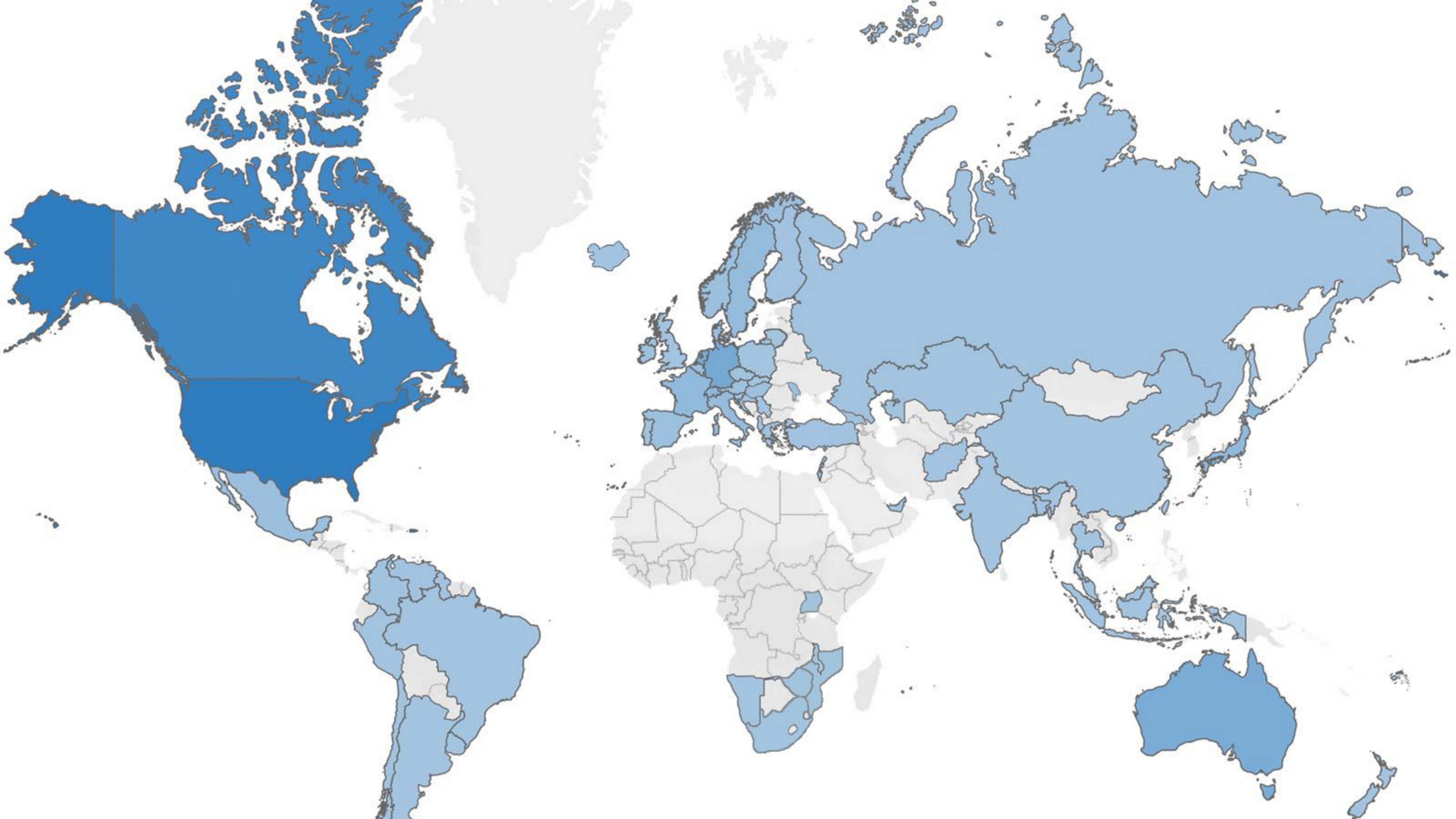


- Co-founder and co-owner of 24U
- Developing FileMaker solutions since 1991
- Mad Optimizer and Achiever of the Impossible...
- Speaking at FileMaker conferences since 2011
- about.me/honza24u (professional)
- about.me/hon_za (civil)





24U
SOFTWARE





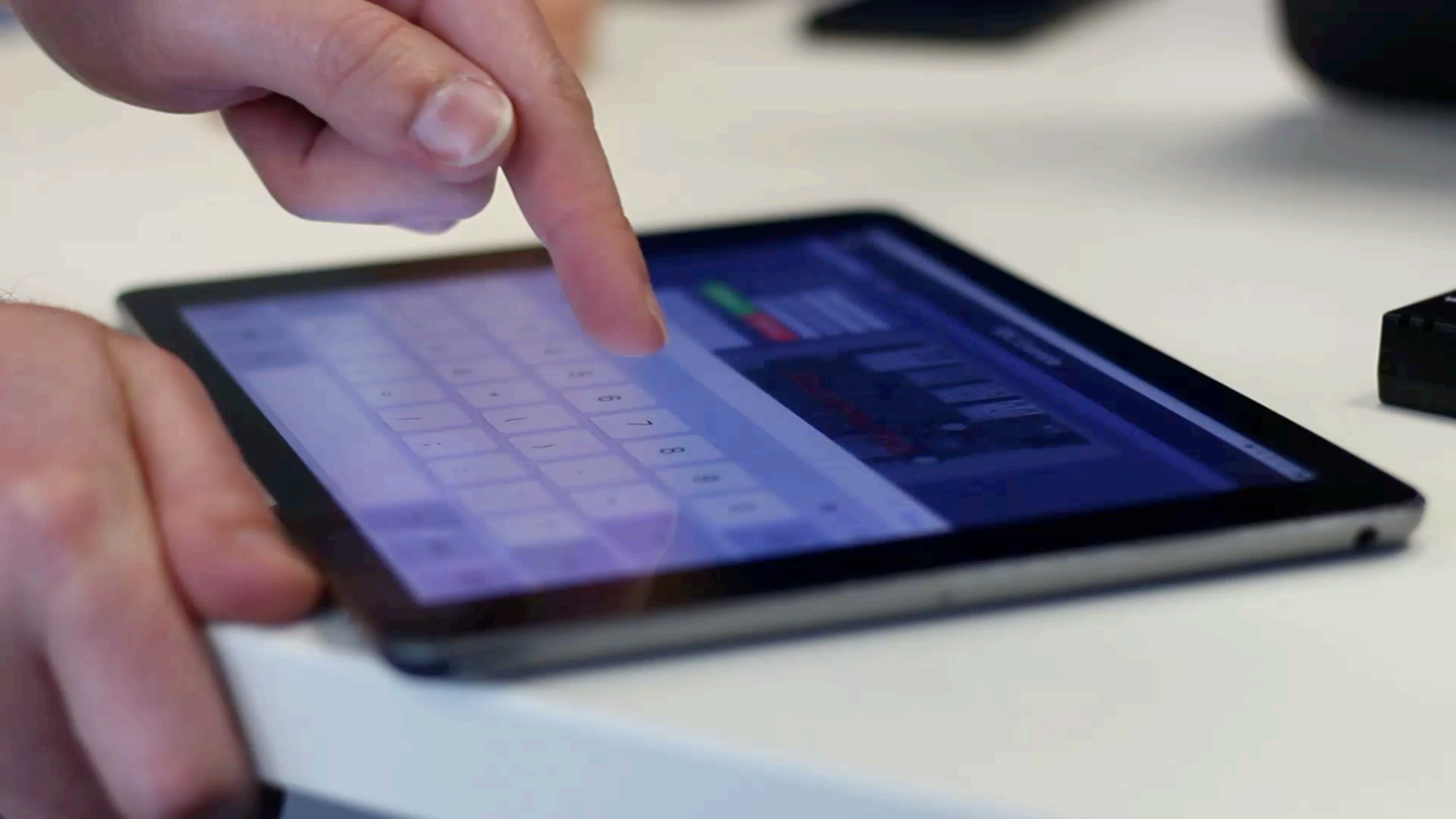


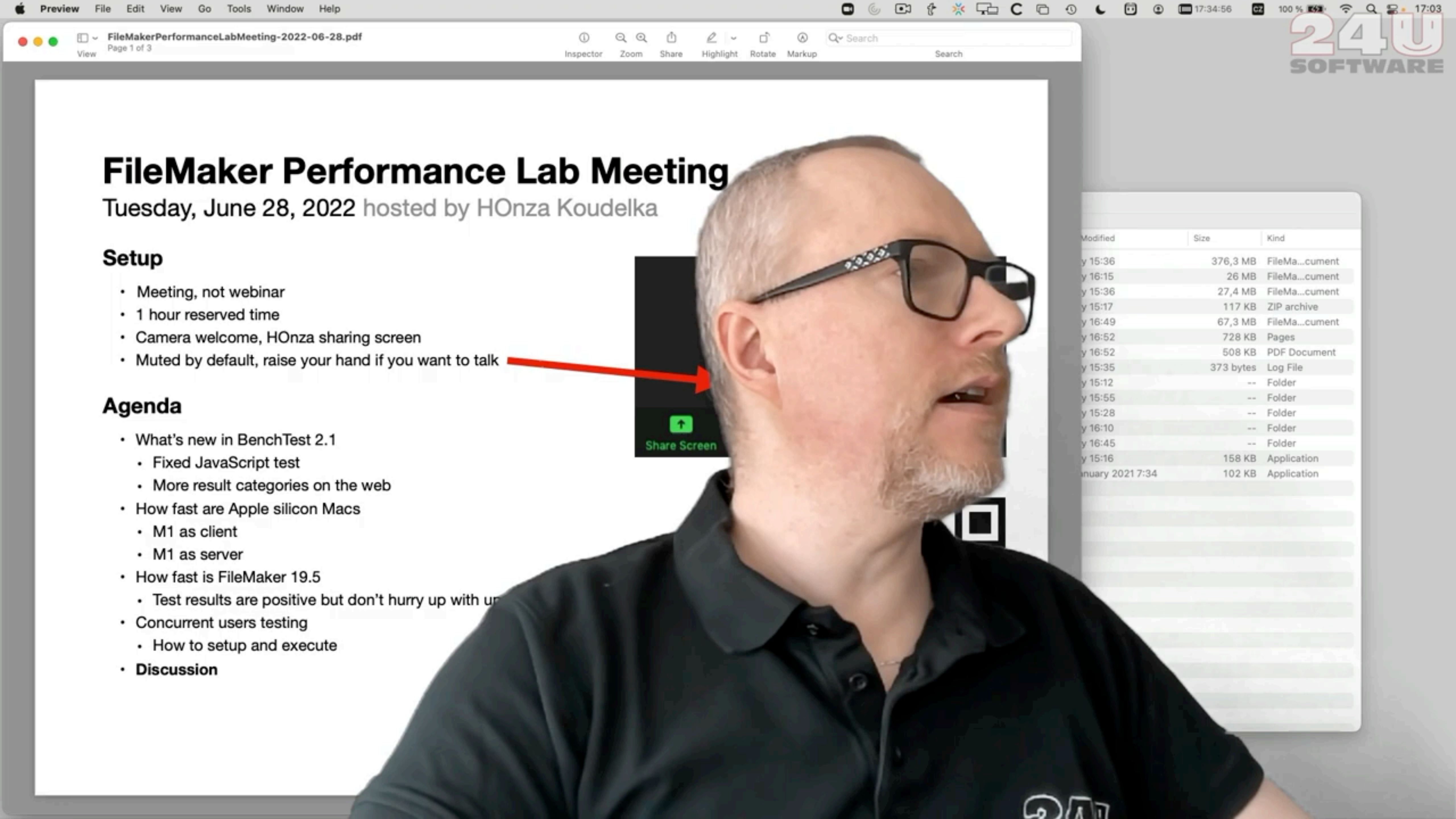
Our Specialization



- Maintenance & On-going Development
- Hardware & Software Integrations
- Performance Testing & Optimization

Monitoring 24U				
fm-monitoring.cz.software.24u.cz				
Server name	Monitoring	Heartbeat	WPE Running	DB Writable
II Abe	Active	05.03.2020 12:23:00	OK	OK
II Blinky	Active	05.03.2020 12:23:00	OK	OK
II Dave	Active	05.03.2020 12:22:00	N/A	OK
II Edna	Active	05.03.2020 12:22:00	OK	OK
II Luigi	Active	05.03.2020 12:22:00	OK	OK
II Ralph	Active	05.03.2020 12:23:00	OK	OK
II Sherri	Active	05.03.2020 12:22:22	N/A	OK
II Willie	Active	05.03.2020 12:23:00	N/A	OK
II Hřiště.cz	Active	05.03.2020 12:23:00	N/A	OK
II Jacoma	Active	05.03.2020 12:23:01	OK	OK
II JennPro FIDO	Active	05.03.2020 12:22:00	OK	OK
II Komin	Active	05.03.2020 12:22:00	N/A	OK
II Novasel	Active	05.03.2020 12:22:59	N/A	OK
II Spedisimo	Active	05.03.2020 12:23:01	OK	OK
II Synetrans	Active	05.03.2020 12:22:00	OK	OK
II Techno Associe Czech	Active	05.03.2020 12:23:01	N/A	OK





FileMaker Performance Lab Meeting

Tuesday, June 28, 2022 hosted by HOnza Koudelka

Setup

- Meeting, not webinar
- 1 hour reserved time
- Camera welcome, HOnza sharing screen
- Muted by default, raise your hand if you want to talk

Agenda

- What's new in BenchTest 2.1
 - Fixed JavaScript test
 - More result categories on the web
- How fast are Apple silicon Macs
 - M1 as client
 - M1 as server
- How fast is FileMaker 19.5
 - Test results are positive but don't hurry up with up
- Concurrent users testing
 - How to setup and execute
- **Discussion**

Modified	Size	Kind
y 15:36	376,3 MB	FileMa...cument
y 16:15	26 MB	FileMa...cument
y 15:36	27,4 MB	FileMa...cument
y 15:17	117 KB	ZIP archive
y 16:49	67,3 MB	FileMa...cument
y 16:52	728 KB	Pages
y 16:52	508 KB	PDF Document
y 15:35	373 bytes	Log File
y 15:12	--	Folder
y 15:55	--	Folder
y 15:28	--	Folder
y 16:10	--	Folder
y 16:45	--	Folder
y 15:16	158 KB	Application
January 2021 7:34	102 KB	Application

Local File

Localhost

Local Network

Wide Area Network

Multiple Users

24usoftware.com/benchtest

Name	Contributor	Score	Submitted		
fm 19 server linux	stephan carpin	8.194 <div></div>	07/13/2022	i	≡
macmini to macpro tower 3.2 16 core with NVME raid	Peter Beehler	5.840 <div></div>	05/03/2022	i	≡
FMP 19.5 on MBP i5 to FMS 19.5 on Mac Studio	HOnza Koudelka ↗	4.667 <div></div>	06/17/2022	i	≡
FMP 19.5 on MBP M1 Max to FMS 19.5 on Mac Studio	HOnza Koudelka ↗	4.587 <div></div>	06/17/2022	i	≡
iMac to FMServer on local network	Steve Cook	4.558 <div></div>	08/12/2021	i	≡
macbook pro to 16 Core 3.2 Xeon tower with NVME raid	Peter Beehler	4.291 <div></div>	05/23/2022	i	≡
FMP 19.4 on MBP M1 Max to FMS 19.4 on Mac Studio	HOnza Koudelka ↗	4.254 <div></div>	06/17/2022	i	≡
FMP 19.4 on MBP i5 to FMS 19.4 on Mac Studio	HOnza Koudelka ↗	4.016 <div></div>	06/17/2022	i	≡
Vultr High Freq 4vCPU	Eric L	3.965 <div></div>	07/03/2022	i	≡
FM19.5.2-12900k-to-FMS19.4.2-on-VPN	JfromLA	3.680 <div></div>	08/24/2022	i	≡
FMP 20.1.1 native to FMS 20.1.1 on Mac Studio	HOnza Koudelka ↗	3.590 <div></div>	04/25/2023	i	≡
FMP 19.6.3 native to FMS 19.6.3 on Mac Studio	HOnza Koudelka ↗	3.584 <div></div>	04/24/2023	i	≡

BenchTest

Synology DS918+/Ubuntu20/FMS19.6.1.15 (1CPU/6GB/+Prio)	Dave Camenisch	1.025	02/11/2023	i	≡
AWS_Win101952toFMS19	ChrisC	1.016	08/16/2022	i	≡
Win 2016 VM; 2 vCPU (X5560); 8GB;LAN	Andrew Denman	1.015	08/13/2021	i	≡
Synology DS918+ VM-Ubuntu (3cpu/6gb) / FMS19.3.1	Dave Camenisch	1.013	11/03/2021	i	≡
Reference results (Mac Pro 2010 over LAN)	HOnza Koudelka ↗	1.000	08/18/2021	i	≡
FMS 19.3.1 on a MacMini i7 (2012) - 26. Juni 2021 - Test 2	Undisclosed 2	0.985	08/12/2021	i	≡
RD01 FMS 19.4.2 run2	Scott	0.981	01/13/2022	i	≡
FMP 20.1.1 native to FMS 20.1.1 ARM on Raspberry Pi 4 (4GB RAM)	HOnza Koudelka	0.903	04/28/2023	i	≡
Synology DS918+/Ubuntu20/FMS19.6.1.15	Dave Camenisch	0.821	02/11/2023	i	≡
RD01 FMS 19.4.2 run1	Scott	0.820	01/13/2022	i	≡
FMS 19.2 DragonCloud	HOnza Koudelka ↗	0.710	06/15/2021	i	≡
Synology DS918+/Ubuntu20/FMS19.6.1.15 (more RAM/CPU/Priority)	Dave Camenisch	0.625	02/11/2023	i	≡

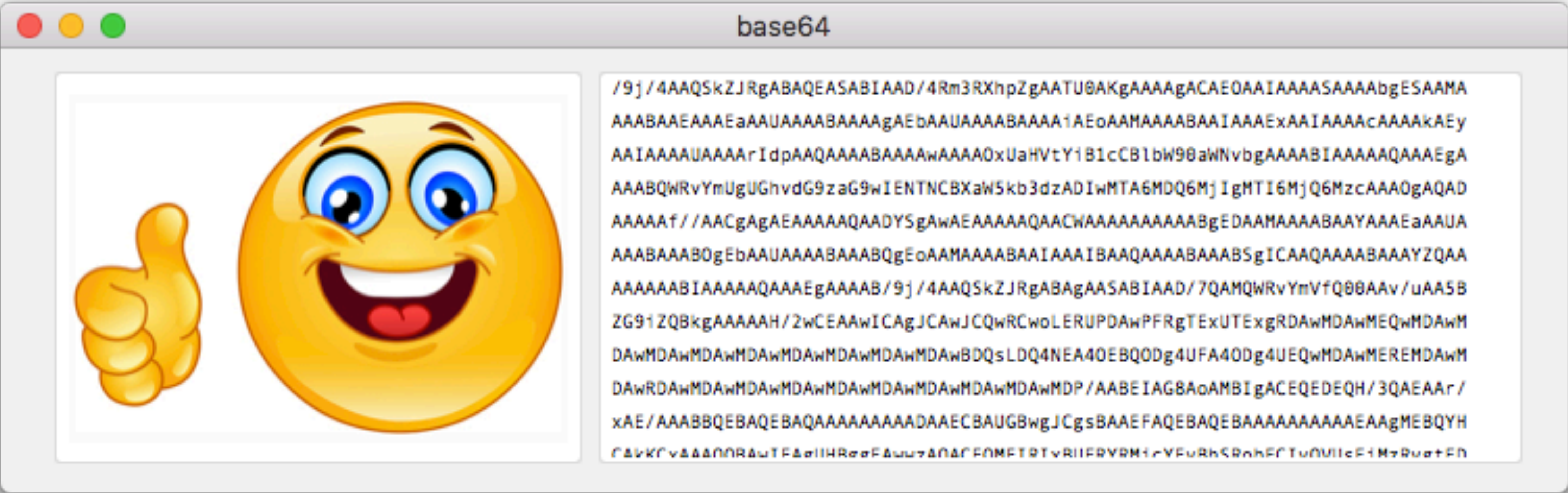
Shared joy is a double joy;
shared sorrow is half a sorrow.

—Swedish Proverb

Half Sorrow

(The Greatest Mistakes)

Base64 in Text Fields



Manage Database for "Test"

Tables Fields Relationships

Table: Base64 10 fields

View by: custom order

Field Name	Type	Options / Comments (Click to toggle)
↕ id	Number	Indexed, Auto-enter Serial, Required Value, Unique
↕ _created	Timestamp	Creation Timestamp (Date and Time), Can't Modify Auto, Required Value, 4-Digit Year Date
↕ _created_by	Text	Creation Account Name, Can't Modify Auto, Required Value
↕ _modified	Timestamp	Modification Timestamp (Date and Time), Can't Modify Auto, Required Value, 4-Digit Year Date
↕ _modified_by	Text	Modification Account Name, Can't Modify Auto, Required Value
↕ _one	Calculation	= 1
↕ -----	Text	Global
↕ attachment	Container	
↕ description	Text	
↕ c_attachment_base64	Calculation	= Base64Encode (attachment)

Field Name: Type: Text Options...

Comment:

Create Change Duplicate Delete Copy Paste

The Mistake

Storage Options for Field "c_attachment_base64"

Global Storage

A field that uses global storage contains only one value that is shared across all records. A global field can also be used as a temporary storage location (for example, in scripts).

☐ Use global storage (one value for all records)

Indexing

Indexing and storing the results of a calculation improves the performance of some operations like finds at the cost of increased file size and time spent indexing.

☐ Do not store calculation results -- recalculate when needed

Indexing: ☒ None ☐ Minimal ☐ All

☒ Automatically create indexes as needed

Default language:

Applies to text indexing, sorting, and default display font.

CancelOK

Potential Impact



Operation	Stored Calculation		Unstored Calculation	
	Upload	Download	Upload	Download
Create Record	856	126	826	122
Add Photo	11.5 MB	8.5 MB	77 KB	226
+ HTTP	8.5 MB		8.5 MB	
Add Description	11.5 MB	326	651	56
Change Description	11.5 MB	326	656	56
Another User Connect	364	5	366	5
Another User Changes Description	896	11.5 MB	389	163
Delete Record	1052	76	1052	76

The Takeaways



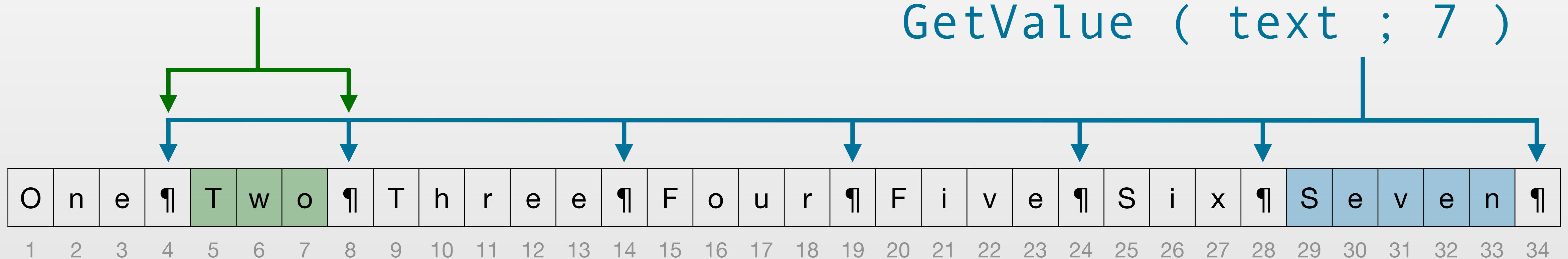
- Never store files in text fields
 - You can use container even for the Base64 or Hexadecimal version
- Always be aware of your record size
- Off-load rarely needed data to a separate table connected via a 1:1 relationship

Calculations Performance



GetValue (text ; 2)

GetValue (text ; 7)



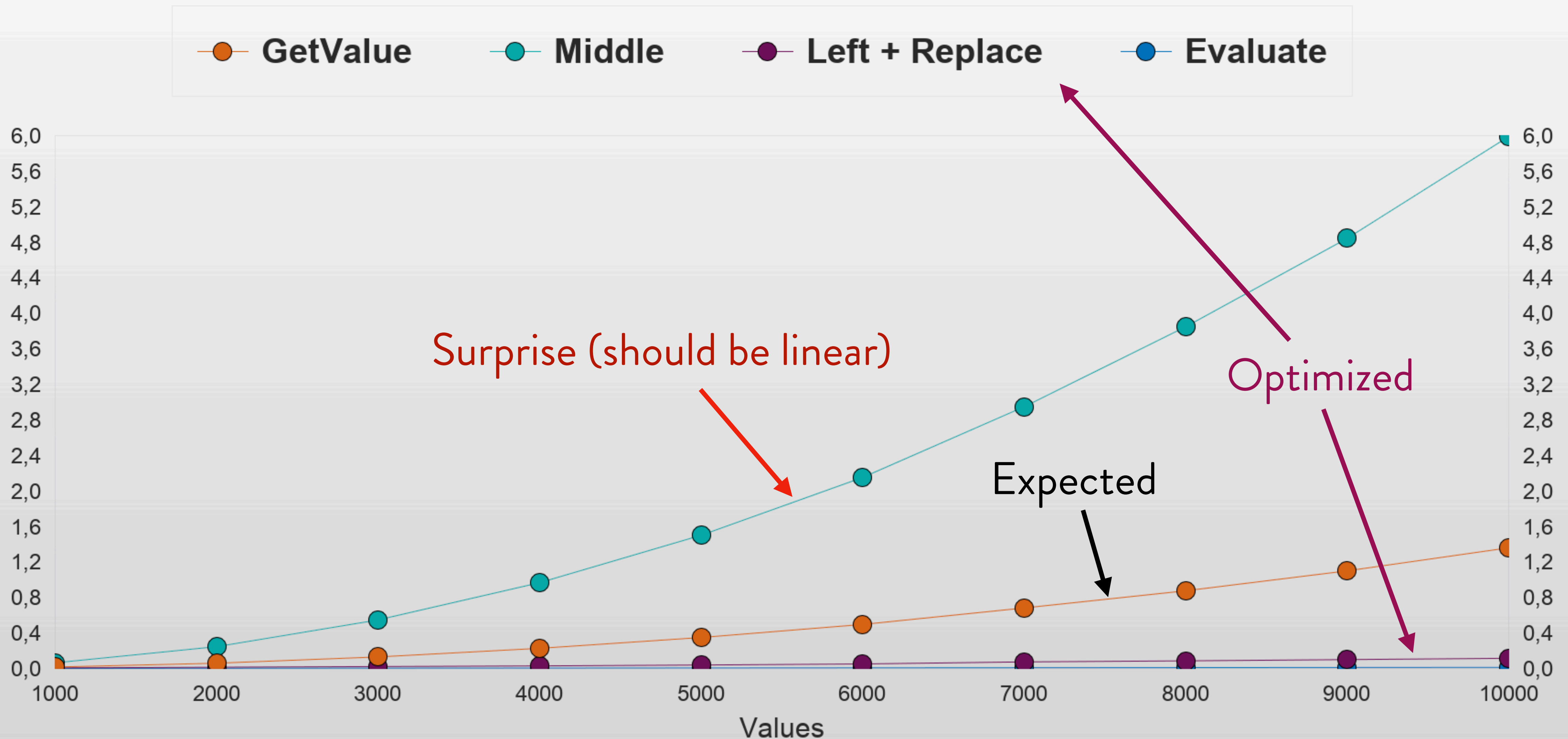
Length of this part should not matter...

BUT IT DOES!

Middle (text ; 29 ; 5)

Position (text ; ¶ ; 29 ; 1)

Evaluation time as a factor of value count



I have always been doing loops like this...



```
While ( [
```

```
~r = /*initialize result*/
```

```
~n = ValueCount ( ~values ) ; ~i = 1 ;
```

```
]; ~i ≤ ~n ; [
```

```
~a = GetValue ( ~values ; ~i ) ; ~i = ~i + 1 ;
```

```
~r = /* Do whatever you need to do to update result */
```

```
~i = ~i + 1 ;
```

```
]; ~r )
```

Now I am doing this instead...



```
While ( [  
  ~values = ~values & ¶ ; ~r = /*initialize result*/  
]; not IsEmpty ( ~values ) ; [  
  ~n = Position ( ~values ; ¶ ; 1 ; 1 ) ;  
  ~a = Left ( ~values ; ~n - 1 ) ;  
  
  ~r = /* Do whatever you need to do to update result */  
  
  ~values = Replace ( ~values ; 1 ; ~n ; "" )  
  
]; ~r )
```


Even better way for large lists...



```
While ( [ ~chunk_size = 1000 ; ~count = ValueCount ( ~values ) ;  
         ~result = /*initialize result*/ ; ~offset = 1  
       ] ;  
       ~offset <= ~count ;  
       [  
         ~result = While ( [ ~chunk = "" & MiddleValues ( ~values ;  
                                                             ~offset ; ~chunk_size ) ; ~result = ~result  
                           ] ;  
                           not IsEmpty ( ~chunk ) ;  
                           [  
                             ~n = Position ( ~chunk ; ¶ ; 1 ; 1 ) ;  
                             ~result = /*update result*/ ;  
                             ~chunk = Replace ( ~chunk ; 1 ; ~n ; "" )  
                           ] ; ~result  
                           ) ;  
         ~offset = ~offset + ~chunk_size  
       ] ; ~result  
     )
```

FileMaker Cloud Deployment



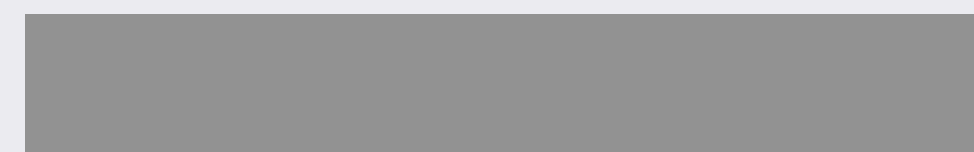
- Client app at FileMaker Cloud
- Update developed on our dev server
- Deployment scheduled for Friday morning before office hours
- Single 2.3GB FileMaker file
- 113 MB in externally stored containers
- 2 hours reserved
 - 16 minutes to prepare download
 - 25 minutes to download current version
 - 3 minutes to migrate data to new version
 - 30 minutes to upload new version
 - 46 minutes to open the database or deal with issues



All Databases (2)



Claris ID



0 Clients



backup 2023-02-10

Open

Close

Download

Remove

Rename


Show Encryption Password

2023-02-10 09:42:43 UTC



1

2023-02-10 09:40:40 UTC

 **CRITICAL: Average CPU usage exceeds 95%.**

[OK](#) | [Upgrade](#)

Showing 1 of 1



FileMaker Cloud Host

Offline

URL

https://[REDACTED].account.filemaker-cloud.com

Proxy IP Address [?](#)

54.75.[REDACTED]

Private IP Address [?](#)

100.71.[REDACTED]

The Mistake



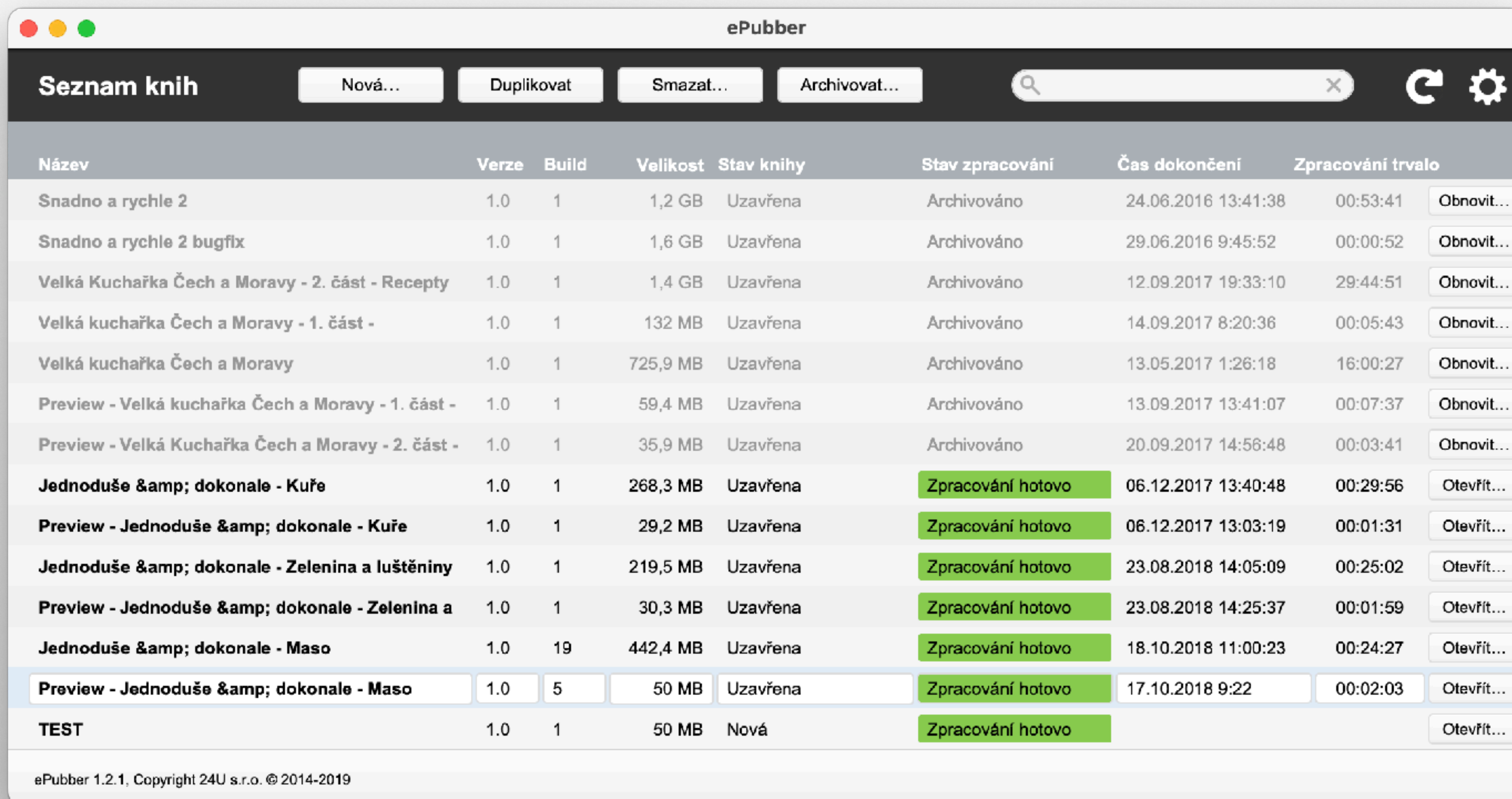
- Insufficient spare time for potential issues
- Gave up on aborting the deployment until it was too late
- Let the client decide

The Takeaways



- Deployments to FileMaker Cloud
Friday night only
- Strictly follow abortion conditions
- Do not let the client decide otherwise
- Backup plan independent on any 3rd party services

Backup Strategy



Název:

Traditional Czech Cuisine

Verze: 1.0

Build: 1

Stav knihy: Uzavřena

Čas posledního zpracování: 16.07.2014 16:43:11

Poslední zpracování trvalo: 0:26:31

Titulní obrázek



cover-image.png

↓ Použít ↓

Zdrojový ePub



Traditional Czech Cuisine.epub

↓ Načíst ↓

Obnovuje se



Zpracovat

☐ Logovat výsledky

Zpracovaný ePub



Traditional Czech Cuisine.epub

↑ Vygenerovat ↑

→ ULOŽIT →

Soubory	Metadata	Obsah	Odkazy	Šablony	Akce	Proměnné	Poznámky	Použít	Zamknout	Obr	Vid	Aud	Stav	
mimetype						20 B	text	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK - exportován	Upravit...
META-INF/container.xml						234 B	text	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK - exportován	Upravit...
OPS/cover.xhtml						1,1 kB	text	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK - exportován	Upravit...
OPS/epb.ncx						26,4 kB	text	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK - exportován	Upravit...
OPS/epb.opf						32,7 kB	text	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK - exportován	Upravit...
OPS/chapter-1.xhtml						12,8 kB	text	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK - exportován	Upravit...
OPS/chapter-2.xhtml						3,4 kB	text	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK - exportován	Upravit...
OPS/chapter-3.xhtml						74,6 kB	text	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK - exportován	Upravit...
OPS/chapter-4.xhtml						234,6 kB	text	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK - exportován	Upravit...
OPS/chapter-5.xhtml						44,9 kB	text	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK - exportován	Upravit...
OPS/chapter-6.xhtml						13,3 kB	text	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK - exportován	Upravit...

Přidat obrázky...

Přidat audio/videoa...

Přidat textový soubor...

Přidat binární soubor...

Generovat akce...

Smazat soubory...

Event.log

Free Mode

~/Desktop/Event.log

```
5955210 2023-01-02 12:00:00.459 +0100 Information 689 DAVE Schedule "Maintenance heartbeat 1" has started FileMaker script "24u_maintenance".
5955211 2023-01-02 12:00:02.681 +0100 Information 150 DAVE Schedule "Maintenance heartbeat 1" completed.
5955212 2023-01-02 12:00:02.681 +0100 Information 126 DAVE Schedule "Maintenance heartbeat 1" scheduled for 01/02/2023 12:02 PM.
5955213 2023-01-02 12:02:00.198 +0100 Information 148 DAVE Schedule "Maintenance heartbeat 1" running.
5955214 2023-01-02 12:02:00.199 +0100 Information 689 DAVE Schedule "Maintenance heartbeat 1" has started FileMaker script "24u_maintenance".
5955215 2023-01-02 12:02:00.353 +0100 Information 150 DAVE Schedule "Maintenance heartbeat 1" completed.
5955216 2023-01-02 12:02:00.353 +0100 Information 126 DAVE Schedule "Maintenance heartbeat 1" scheduled for 01/02/2023 12:04 PM.
5955217 2023-01-02 12:04:00.444 +0100 Information 148 DAVE Schedule "Maintenance heartbeat 1" running.
5955218 2023-01-02 12:04:00.445 +0100 Information 689 DAVE Schedule "Maintenance heartbeat 1" has started FileMaker script "24u_maintenance".
5955219 2023-01-02 12:04:02.030 +0100 Information 150 DAVE Schedule "Maintenance heartbeat 1" completed.
5955220 2023-01-02 12:04:02.031 +0100 Information 126 DAVE Schedule "Maintenance heartbeat 1" scheduled for 01/02/2023 12:06 PM.
5955221 2023-01-02 12:06:00.186 +0100 Information 148 DAVE Schedule "Maintenance heartbeat 1" running.
5955222 2023-01-02 12:06:00.187 +0100 Information 689 DAVE Schedule "Maintenance heartbeat 1" has started FileMaker script "24u_maintenance".
5955223 2023-01-02 12:06:01.293 +0100 Information 150 DAVE Schedule "Maintenance heartbeat 1" completed.
5955224 2023-01-02 12:06:01.293 +0100 Information 126 DAVE Schedule "Maintenance heartbeat 1" scheduled for 01/02/2023 12:08 PM.
5955225 2023-01-02 12:07:02.031 +0100 Error 618 DAVE Database or temporary file "ePubber" is damaged and has been closed. (20410 : 5 : 61707)
5955226 2023-01-02 12:07:02.034 +0100 Information 645 DAVE Schedule "Server-side ePub processing" scripting error (100) at "ePubber : Archive eBooks marked
... for archivation : Set Field".
5955227 2023-01-02 12:07:04.037 +0100 Information 168 DAVE Database "ePubber" closed.
5955228 2023-01-02 12:07:04.040 +0100 Error 808 DAVE Unable to read backup log. To free disk space, manually delete
... "filemac:/Dave_Data_Backup/Databases/Progressive/Removed_by_FMS/ePubber1655877254_26549.fxl". (10709)
5955229 2023-01-02 12:07:04.667 +0100 Information 152 DAVE Schedule "Server-side ePub processing" aborted; aborted by user.
5955230 2023-01-02 12:07:04.668 +0100 Information 126 DAVE Schedule "Server-side ePub processing" scheduled for 01/02/2023 12:09 PM.
5955231 2023-01-02 12:08:00.431 +0100 Information 148 DAVE Schedule "Maintenance heartbeat 1" running.
5955232 2023-01-02 12:08:00.432 +0100 Information 689 DAVE Schedule "Maintenance heartbeat 1" has started FileMaker script "24u_maintenance".
5955233 2023-01-02 12:08:00.730 +0100 Information 150 DAVE Schedule "Maintenance heartbeat 1" completed.
5955234 2023-01-02 12:08:00.730 +0100 Information 126 DAVE Schedule "Maintenance heartbeat 1" scheduled for 01/02/2023 12:10 PM.
5955235 2023-01-02 12:09:00.049 +0100 Information 148 DAVE Schedule "Server-side ePub processing" running.
5955236 2023-01-02 12:09:00.050 +0100 Information 689 DAVE Schedule "Server-side ePub processing" has started FileMaker script "Serverside Processing".
5955237 2023-01-02 12:09:00.053 +0100 Information 644 DAVE Schedule "Server-side ePub processing" completed; last scripting error (802).
5955238 2023-01-02 12:09:00.054 +0100 Information 126 DAVE Schedule "Server-side ePub processing" scheduled for 01/02/2023 12:11 PM.
5955239 2023-01-02 12:10:00.173 +0100 Information 148 DAVE Schedule "Maintenance heartbeat 1" running.
5955240 2023-01-02 12:10:00.174 +0100 Information 689 DAVE Schedule "Maintenance heartbeat 1" has started FileMaker script "24u_maintenance".
5955241 2023-01-02 12:10:00.449 +0100 Information 150 DAVE Schedule "Maintenance heartbeat 1" completed.
5955242 2023-01-02 12:10:00.449 +0100 Information 126 DAVE Schedule "Maintenance heartbeat 1" scheduled for 01/02/2023 12:12 PM.
5955243 2023-01-02 12:11:00.294 +0100 Information 148 DAVE Schedule "Server-side ePub processing" running.
```

L: 5955225 C: 1 Log File Unicode (UTF-8) Unix (LF) Saved: 14:38:44 677 910 166 / ... / 5 979 717 - 100%

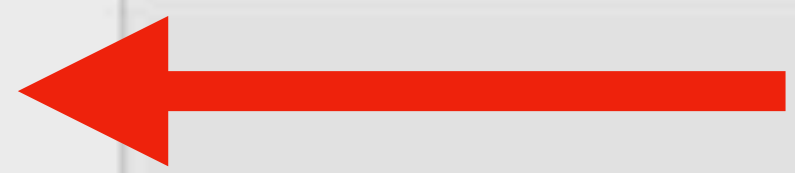
- 1 TB APPLE HDD HTS54...
- Dave_System

Dave_Data

1 TB APPLE HDD HTS54...

Dave_System_Backup

Dave_Data_Backup



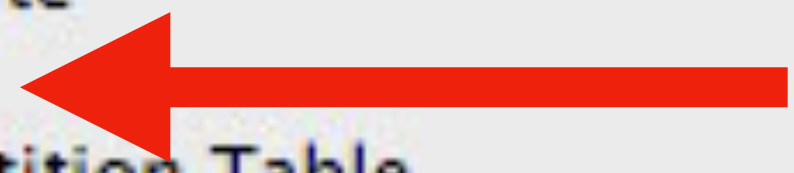
This drive has a hardware problem that can't be repaired.

Back up as much of the data as possible and replace the disk. See an authorized Apple dealer for more information.



Disk Description : APPLE HDD HTS541010A9E662 Media
Connection Bus : SATA
Connection Type : Internal
Connection ID : "Lower"

Total Capacity : 1 TB (1,000,204,886,016 Bytes)
Write Status : Read/Write
S.M.A.R.T. Status : **Failing**
Partition Map Scheme : GUID Partition Table



☐ Allow enabled schedules to run



ENABLED	NAME	TYPE	LAST COMPLETED	STATUS	NEXT RUN	GROUP NAME
<input checked="" type="checkbox"/>	Daily	Backup	Jan 5, 2023 11:00:00 PM	OK	Disabled	
<input checked="" type="checkbox"/>	Delete old FM Bench records	FileMaker Script	Jan 6, 2023 4:01:00 AM	OK	Disabled	
<input type="checkbox"/>	Hourly	Backup			Disabled	
<input checked="" type="checkbox"/>	Maintenance heartbeat 1	FileMaker Script	Jan 6, 2023 5:42:00 PM	OK	Disabled	
<input checked="" type="checkbox"/>	Maintenance heartbeat 2	FileMaker Script	Jan 5, 2023 11:59:00 PM	OK	Disabled	
<input checked="" type="checkbox"/>	Rename Single Backup	System Script	Jan 6, 2023 7:00:00 AM	OK	Disabled	
<input checked="" type="checkbox"/>	Server-side ePub processing	FileMaker Script	Jan 2, 2023 9:47:00 AM	FileMaker script error	Disabled	
<input checked="" type="checkbox"/>	Single	Backup	Jan 5, 2023 11:30:00 PM	OK	Disabled	

Details for: Daily

NAME	VALUE
Schedule type	Backup
Schedule name	Daily
Databases to back up	All databases
Backup folder	filemac:/Dave_Data_Backup/Databases/Schedules/
Maximum backups to keep	7
Verify backup integrity	Disabled
Clone the backup	Disabled
Frequency	Daily
Start date	5/21/14 11:00 PM
End date	None
Repeat	Run every day, Once per day starting at 11:00 PM
Email notifications	Disabled
Email addresses	N/A
Schedule Enabled	Enabled

Name	Date Modified	Size	Kind
▼ Databases	Sep 11, 2019 3:09 PM	224.01 GB	Folder
epubber-backup-2019-09-06-containers.zip	Sep 11, 2019 2:37 PM	41.09 GB	ZIP archive
epubber-backup-2019-09-06-db.zip	Sep 6, 2019 3:35 PM	2.27 GB	ZIP archive
▼ Progressive	Today 3:33 PM	10.42 GB	Folder
▶ Changes_FMS	Today 3:33 PM	2 KB	Folder
▶ Copies_FMS	Oct 25, 2022 8:02 AM	Zero bytes	Folder
▶ IncrementalBackup_2023-06-19_1518	Today 3:18 PM	761.7 MB	Folder
▼ IncrementalBackup_2023-06-19_1533	Today 3:33 PM	761.7 MB	Folder
▼ Databases	Today 3:33 PM	761.7 MB	Folder
▼ eBooks	Today 3:33 PM	759.8 MB	Folder
ePubber_bench.fmp12	Jan 6, 2023 4:26 AM	759.8 MB	FileMa...ument
▶ Maintenance	Today 3:33 PM	270 KB	Folder
▶ Sample	Today 3:33 PM	1.6 MB	Folder
▶ Removed_by_FMS	Jan 2, 2023 12:07 PM	8.9 GB	Folder
▼ Schedules	Jan 6, 2023 7:00 AM	170.23 GB	Folder
▼ Daily_2022-12-30_2300	Dec 30, 2022 11:00 PM	55.35 GB	Folder
▼ Databases	Dec 30, 2022 11:01 PM	55.35 GB	Folder
▼ eBooks	Dec 30, 2022 11:01 PM	55.35 GB	Folder
ePubber_bench.fmp12	Dec 30, 2022 11:01 PM	12 KB	FileMa...ument
ePubber.fmp12	Dec 30, 2022 11:04 PM	11.08 GB	FileMa...ument
▶ RC_Data_FMS	Dec 30, 2022 11:00 PM	44.27 GB	Folder
▶ Maintenance	Dec 30, 2022 11:01 PM	12 KB	Folder
▶ Sample	Dec 30, 2022 11:00 PM	1.6 MB	Folder
▶ Daily_2022-12-31_2300	Dec 31, 2022 11:00 PM	55.35 GB	Folder
▶ Daily_2023-01-01_2300	Jan 1, 2023 11:00 PM	55.35 GB	Folder
▶ Daily_2023-01-02_2300	Jan 2, 2023 11:00 PM	888 MB	Folder
▶ Daily_2023-01-03_2300	Jan 3, 2023 11:00 PM	860.4 MB	Folder
▶ Daily_2023-01-04_2300	Jan 4, 2023 11:00 PM	832.6 MB	Folder
▶ Daily_2023-01-05_2300	Jan 5, 2023 11:00 PM	805 MB	Folder

The Mistake



- Backups retention shorter than maintenance/usage period
- Even a non-critical system can cause a significant damage in the case of failure

The Takeaways



- One backup strategy does not fit all FileMaker solution installations
- Irregular usage requires irregular backups
- Retention period is as important as latest backup age

Missing Data & Endless Loop



24U CIS
ver. data/face
1.15 / 1.15
Release Notes
Správce systému:
HONza Koudelka
linka 40
mobil 608 301 880
AIM honza24u
honza@24u.cz
Hlášení chyb:
HONza Koudelka
linka 40
mobil 608 301 880
honza@24uSoftware.com
Nahlásit chybu
Očekávané zboží

Dnes svátek slaví **Leoš**
honza / cis_admin **Odpojit**
Přejít na 24U **Přelogovat se**

Narozeniny (249) **Svátek 1 (123)** **Ostatní (30)**
Celkem 0 interních faktur čeká na tvé uzavření.
Máš 0 nedořešených interních objednávek
Máš 12 starých neuzavřených OP v hodnotě 693 076,02 Kč.
Máš 13 nových neuzavřených OP v hodnotě 529 322,24 Kč.
Máš 0 speciálních OP k uzavření v hodnotě 0,00 Kč.
Máš 0 speciálních OP v hodnotě 0,00 Kč.
Celkem 0 tvých interních uzavření.
Pohledávky po splatnosti: 6 108 165,77

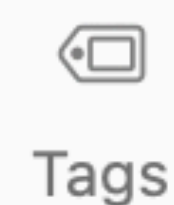
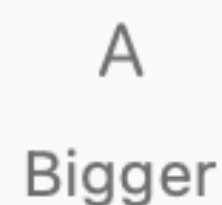
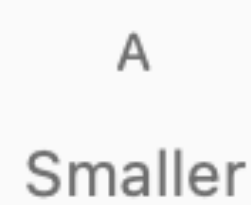
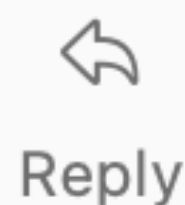
Firmy
Kontakty
Mailing listy
Distribuční seznam ML
Zboží
Report skladu AR
Kategorie a záruky
Obchod
Položky
Minulý měsíc Report
Nevyř. zákazníkovi
Vyř. nenakoupené
Přehled
Manažer

Závazky
Nezaplacené
Po splatnosti
K úhradě dnes
Všechny
Pohledávky
Moje nezaplacené
Moje po splatnosti
Všechny
Zálohy
Nevyúčtované
Všechny
Pokladna
E-shop 6
Nastavení

Doklady
Události
Nabídky
Objednávky
Proforma faktury
Daňové doklady
Výdejky
Dodací listy
Faktury vydání
Prodejky za hotovost
Dobropisy vydané
Příjmové doklady
Faktury vydání
splacené neuzavřené
Všechny neuzavřené
Report ochrany

cis_face - 2
PLÁNOVAČ
Domů Firmy Obchod Závazky Pohledávky Sklad Doklady Události
Automatické zprac. na serveru

Akt.	Název úlohy	Název skriptu	Poslední běh	Stav	Příští běh	Priorita			
<input checked="" type="checkbox"/>	Aktualizace "first day on stock" pro tento měsíc	[cis_data] Recalc first_days_on_stock (month;year)	19.06.2023 0:15:03	OK	20.06.2023 00:15	snížená			
<input type="checkbox"/>	Aktualizace "first day on stock" pro transakce změněné uživatelem	[cis_data] Recalc first_days_on_stock for user changed trans	25.05.2023 10:30:29	OK	Neaktivní	snížená			
<input checked="" type="checkbox"/>	Aktualizace stavu skladu v e-shopu	[cis_data] SS ESHOP Update stock quantity	19.06.2023 15:56:20	OK	19.06.2023 16:55	snížená			
<input checked="" type="checkbox"/>	Aktualizace výročí	SS ANNIV Update celebration records	19.06.2023 0:50:03	OK	20.06.2023 00:50	normální			
<input checked="" type="checkbox"/>	Apple report	SS Apple report	18.06.2023 12:40:19	OK	25.06.2023 03:01	snížená			
<input type="checkbox"/>	Apple report (old)	SS Apple report BKP 2019	17.04.2022 10:17:38	OK	Neaktivní	snížená			
<input checked="" type="checkbox"/>	Doplnění chybějících směnných kurzů	[cis_currency] SS Get all missing exchange rates	19.06.2023 0:40:05	OK	20.06.2023 00:40	normální			
<input checked="" type="checkbox"/>	Doplnění chybějícího FIK u dokladů	[cis_data] SS Request to missing FIK	19.06.2023 0:15:03	OK	20.06.2023 00:15	normální			
<input checked="" type="checkbox"/>	Hlídkání konce platnosti ceníků	PLIST Check end of validity	19.06.2023 0:15:04	OK	20.06.2023 00:15	normální			
<input checked="" type="checkbox"/>	Hlídkání nevalidních transakcí	SS Find invalid trans	19.06.2023 0:53:21	OK	20.06.2023 00:50	normální			
<input checked="" type="checkbox"/>	Kontrola EET transakcí	[cis_eet] Check EET transactions	19.06.2023 6:00:03	OK	20.06.2023 06:00	normální			
<input checked="" type="checkbox"/>	Kontrola insolvence (každodenní)	SS ISIR Verify this Company's insolvency	19.06.2023 0:53:04	OK	20.06.2023 00:50	snížená			
<input checked="" type="checkbox"/>	Kontrola insolvence (víkendová)	SS ISIR Weekend Verify this Company's insolvency	18.06.2023 9:54:36	OK	25.06.2023 04:30	snížená			
<input checked="" type="checkbox"/>	Kontrola množství kusů skladem	GOODS Check stocks quantity	19.06.2023 0:33:12	OK	20.06.2023 00:15	snížená			
<input checked="" type="checkbox"/>	Kontrola obchodních případů	SS Check Cases for possible close status	19.06.2023 2:02:03	OK	20.06.2023 00:50	snížená			
<input type="checkbox"/>	Kontrola Redmine úkolů	SS Redmine Issues	19.11.2019 2:19:50	OK	Neaktivní	normální			
<input checked="" type="checkbox"/>	Kontrola rezervací na skladech	SS Check stock reservations	19.06.2023 0:15:04	OK	20.06.2023 00:15	snížená			
<input checked="" type="checkbox"/>	Kontrola rizikovosti DPH u firem	[cis_data] Verify all Companies VAT Reliability	19.06.2023 0:17:26	OK	20.06.2023 00:15	snížená			
<input checked="" type="checkbox"/>	Kontrola závazků společností	Calc Companies debt ([company_id])	19.06.2023 1:50:13	OK	20.06.2023 00:50	snížená			
<input type="checkbox"/>	Objednávky z webu	SS ESHOP Download orders (id_ord)	20.06.2022 15:05:01	OK	Neaktivní	snížená			
<input checked="" type="checkbox"/>	Odeslání DDZ notifikací	SS DDZ Notifications	19.06.2023 0:53:21	OK	20.06.2023 00:50	normální			



edna.24u.cz

Edna 4 May 2023 1:53

[NOTIF-CIS-ERROR] Nepovedlo se zpracovat záznam ve frontě

[Details](#)

To: honza-fms-nots@24usoftware.com <honza-fms-nots@24uSoftware.com>, Bedřich Chaloupka, & 1 more

Reply-To: HOnza Koudelka

Soubor: cis_face

Server: edna.24u.cz

Uživatel: server

Oprávnění: cis_scpt

Čas: 5/4/2023 1:53:34

Zadání funkce: <https://redmine.24u.cz/issues/40896>

Popis situace:

Nastala chyba při zpracovávání záznamu skrze frontu na serveru. Čas začátku zpracování:

Určení místa:

Skript 'DQ Process document queue (schedule_number)' pro zpracování fronty.

Postup řešení:

Z Bench logu se pokusit vyčíst, proč se skript nezpracoval správně (návratová hodnota není 0)

Detailní informace:

Chyba:



Domů

Firmy

Obchod

Závazky

Pohledávky

Sklad

Doklady

Události

ID / ICO

Název firmy / primární adresa

Kontaktní osoba

Záznam č.: 0
Z vybraných: 0

Hledat

Ukázat vše

Duplicitní firmy

Spravovat kategorie

Smazat...

Nová firma

Spojit...

Tisk adres...



```
1 Set Variable [ $FMBench ; Value: FMBench_LogScriptEvent ( "start" ; "" ) ]
2 Set Variable [ $FMBench ; Value: FMBench_LogScriptEvent ( "overhead" ; "" ) ]
3 # predpokladany layout cis_comp
4 Set Variable [ $company_id ; Value: COMP::id ]
5 If [ (COMP::deptor_bypass = 1) and (COMP::bypass_to ≤ Get(CurrentTimestamp)) ]
6     Set Field [ COMP::deptor_bypass ; 0 ]
7     Set Field [ COMP::bypass_to ; "" ]
8 End If
9 // Set Variable [ $FMBench ; Value: FMBench_LogScriptEvent ( "debug" ; "1" ) ]
10 Set Variable [ $delayed_count ; Value: COMP::c_delayed_duesR_count ]
11 # pohledavky firmy po splatnosti
12 Set Field [ COMP::delayed_dues_count ; $delayed_count ]
13 // Set Variable [ $FMBench ; Value: FMBench_LogScriptEvent ( "debug" ; "2" ) ] ⚙
14 Set Field [ COMP::min_due_date ; COMP::c_oldest_dueR_date ]
15 Set Variable [ $sum ; Value: COMP::c_delayed_duesR ]
16 # ulozeni hodnot do stored poli
17 // Set Variable [ $FMBench ; Value: FMBench_LogScriptEvent ( "debug" ; "commit: before" ) ]
18 Commit Records/Requests [ With dialog: Off ] ⚙
19 // Set Variable [ $FMBench ; Value: FMBench_LogScriptEvent ( "debug" ; "commit: after" ) ]
20 Set Field [ COMP_evt_doc::g_date_one_year_ago ; Get( CurrentDate ) - 365 ]
21 Set Field [ COMP_evt_doc::g_date_three_months_ago ; Get( CurrentDate ) - 90 ]
22
```




```
59      Set Field [ DUE::_total_group ; "" ]
60      Go to Record/Request/Page [ Next ; Exit after last: On ]
61  End Loop
62 End If
63 End If
64
65 Go to Layout [ "scpt_cashflow" (CASHFLOW) ; Animation: None ]
66 Show All Records
67 Delete All Records [ With dialog: Off ]
68
69 Set Variable [ $i ; Value: -1 ]
70 Perform Script [ Specified: From list ; "DQ Update doc que (note,error)" ; Parameter: "Založení záznamů Cashflow" ]
71 Loop
72
73   New Record/Request
74   Set Field [ CASHFLOW::day_number ; $i+1 ]
75   Set Field [ CASHFLOW::date ; $today+$i ]
76   Set Field [ CASHFLOW::previous_date ; Case( $i = -1 ; "" ; $today + ($i-1) ) ]
77
78   Set Field [ CASHFLOW::receivable_optimistic ; 0 + $R_opt[$i] // Pohledávky k zaplacení v minulosti do grafu nepřičítáme + Ca... ]
79   Set Field [ CASHFLOW::receivable_pessimistic ; 0 ]
80   Set Field [ CASHFLOW::receivable_real ; 0+$R_real[$i] // // Pohledávky k zaplacení v minulosti do grafu nepřičítáme + Case(... ]
```

← Fails due to validation



```
105 If [ ($err = 0) and ( Get(FoundCount) > 0) ]
106     Sort Records [ Restore ; With dialog: Off ]
107     Set Variable [ $i ; Value: 1 ]
108     Set Variable [ $foundcount ; Value: Get ( FoundCount ) ]
109     Set Variable [ $last_update_timestamp_number ; Value: GetAsNumber ( Get ( CurrentHostTimestamp ) ) ]
110     Go to Record/Request/Page [ First ]
111     Loop
112         # jde po firmach
113         Set Variable [ $$four ; Value: Get ( CurrentTimestamp ) ]
114         Perform Script [ Specified: From list ; "    Calc 1 Company debt" ; Parameter:    ]
115         Set Variable [ $$five ; Value: Get ( CurrentTimestamp ) ]
116
117         Set Variable [ $i ; Value: $i + 1 ] ⚙️
118         Go to Record/Request/Page [ Next ; Exit after last: On ]
119
120         # update que after one minute
121         If [ (GetAsNumber(Get(CurrentHostTimestamp)) - $last_update_timestamp_number) > 59 ]
122             Perform Script [ Specified: From list ; "DQ Update doc que (note,error)" ; Parameter: "Přepočet společnosti " & $i & "/" & $foundcount ]
123             Set Variable [ $last_update_timestamp_number ; Value: GetAsNumber ( Get ( CurrentHostTimestamp ) ) ]
124         End If
125     End Loop
126 End If
```

Fails due to validation

The Mistake



- New bug caused invalid company record to be created
- This revealed two (of many) places where commit is assumed to always succeed

The Takeaways



- It's better to be paranoid and always expect commit to fail
- Always verify context before doing something dangerous, such as deleting records



```
111 Loop
112     # jde po firmach
113     Set Variable [ $$four ; Value: Get ( CurrentTimestamp ) ]
114     Perform Script [ Specified: From list ; "    Calc 1 Company debt" ; Parameter:    ]
115     Set Variable [ $$five ; Value: Get ( CurrentTimestamp ) ]
116
117     # RM89093 05-05-2023 tomas
118     Set Variable [ $i ; Value: $i + 1 ]
119     Exit Loop If [ Get( RecordNumber ) = Get( FoundCount ) ] fx
120     Set Error Capture [ On ]
121     Go to Record/Request/Page [ Next ; Exit after last: On ]
122     Set Variable [ $err ; Value: Get( LastError ) ] ⚙
123     Set Error Capture [ Off ]
124     Exit Loop If [ $err ] fx
125     # /RM89093
126
127     # update que after one minute
128     If [ (GetAsNumber(Get(CurrentHostTimestamp)) - $last_update_timestamp_number) > 59 ]
129         Perform Script [ Specified: From list ; "DQ Update doc que (note,error)" ; Parameter: "Přepočet společnosti " & $i & "/" & $foundcount ]
130         Set Variable [ $last_update_timestamp_number ; Value: GetAsNumber ( Get ( CurrentHostTimestamp ) ) ]
131     End If
132 End Loop
```

Edit Script "CASHFLOW Recalculate data" (cis_face (edna.24u.cz))

```
59      Set Field [ DUE::_total_group ; "" ]
60      Go to Record/Request/Page [ Next ; Exit after last: On ]
61  End Loop
62 End If
63 End If
64
65 # RM89093 05-05-2023 tomas
66 Go to Layout [ "scpt_cashflow" (CASHFLOW) ; Animation: None ]
67 Show All Records
68 If [ Get( LayoutTableName ) = "CASHFLOW" ] fx
69     Delete All Records [ With dialog: Off ]
70 Else
71     Perform Script [ Specified: From list ; "DQ Update doc que (note,error)" ; Parameter: "Data z tabulky CASHFLOW nebyla smazána" ]
72 End If
73 # /RM89093
74
75 Set Variable [ $i ; Value: -1 ]
76 Perform Script [ Specified: From list ; "DQ Update doc que (note,error)" ; Parameter: "Založení záznamů Cashflow" ]
77 Loop
78
79     New Record/Request
80     Set Field [ CASHFLOW::day number ; $i+1 ]
```


Double Joy

(The Best Tricks and Successes)

How to build a native app
easily in minutes
using the Xgode service from 24U

Day 1: Why you wanna do it and what you need

Watch the full session recording here:




Or jump straight to the topic you're interested in:

- [FileMaker Go vs Native App](#) (14 minutes)
 - User Experience, Plug-Ins, Versions
- [Truth and Myths about the App Store](#) (20 minutes)
 - App Distribution Methods, App Review Process
- [Apple Developer Program](#) (3 minutes)
 - Flavors, How to enroll
- [FileMaker iOS App SDK \(aka FIAS\)](#) (1 minute)
- [Xcode vs Xgode](#) (5 minutes)

Add plug-ins (OPTIONAL)

Select latest 24U and partner plug-ins or upload any other plugin you need

- ☐ **Gonector v2.0.1**
- ☐ **Toolbox v3.2.0**
- ☐ **SimpleDialog v6.0.6**
- ☐ **Bridge for Phidgets v3.1.3**
- ☒ **MBS v13.2** 

Xgode



<http://xgode.com>

<https://24usoftware.com/xgode>

LIETUVOS
AUTOMOBILIŲ
KELIŲ DIREKCIJA

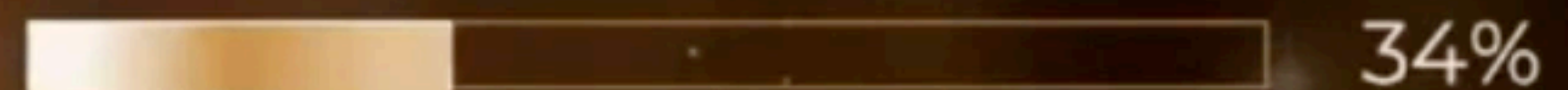
1. Skaitmenizavimo lygis



2. Atvirumas konkurencijai



3. Planavimo tikslumas



4. Procedūrų sparta



5. Strateginiai pirkimai



Sample Integrations

- Active Directory
- Microsoft Azure
- Microsoft Exchange Server
- Lithuanian and EU E-Invoices
- Docker

DocGenerator

- Replacement for Scribe Plug-In
 - More Stable
 - Faster
 - Scalable
 - Deployable to Linux
 - Independent on Java

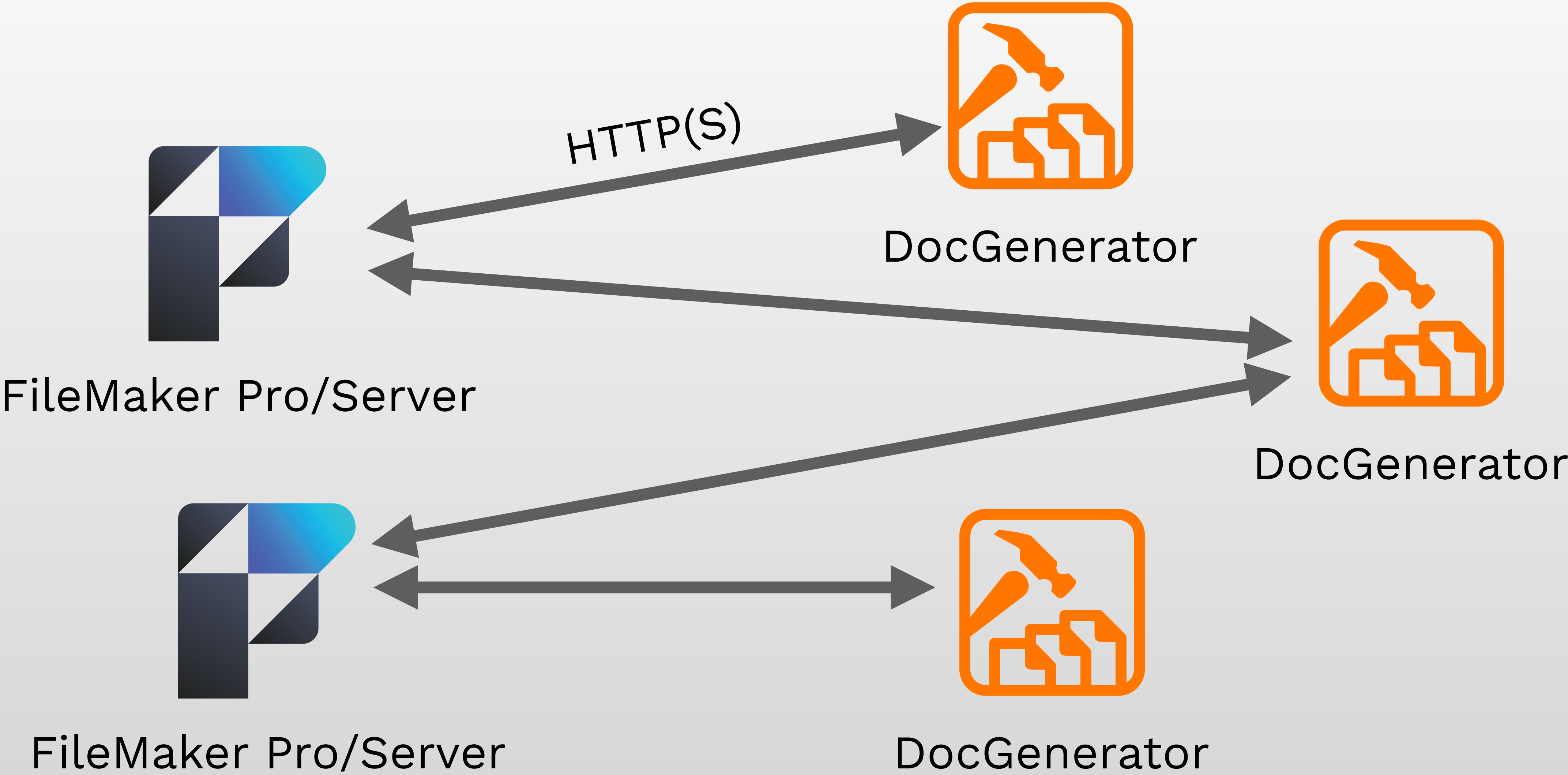


DocGenerator Features



- PDF
 - create from Word & Excel, add text, join
- Word (DOCX)
 - read text, find/replace text and images, add/edit tables, join documents
- Excel (XLSX)
 - read cell data, modify cell data, merge/lock/unlock/format cells
- XML
 - replace/set values of specific nodes
- ZIP (e-documents)

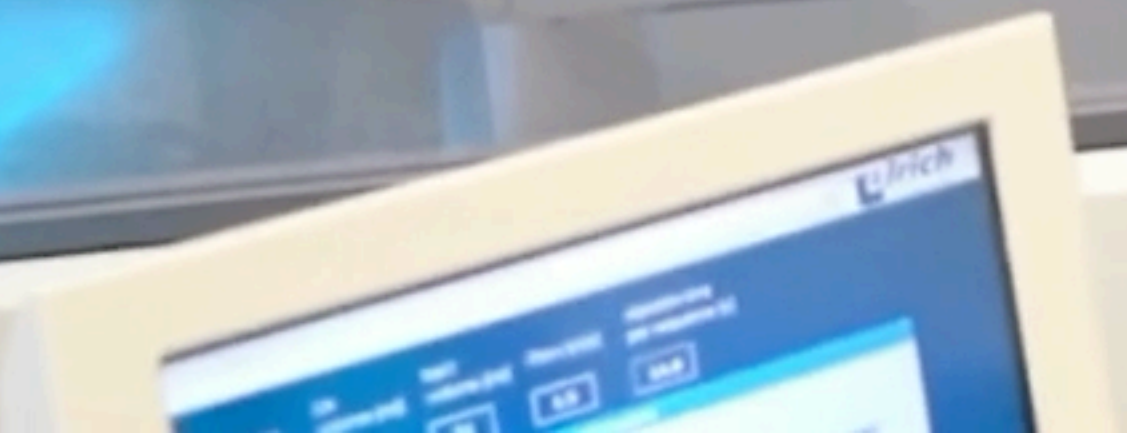
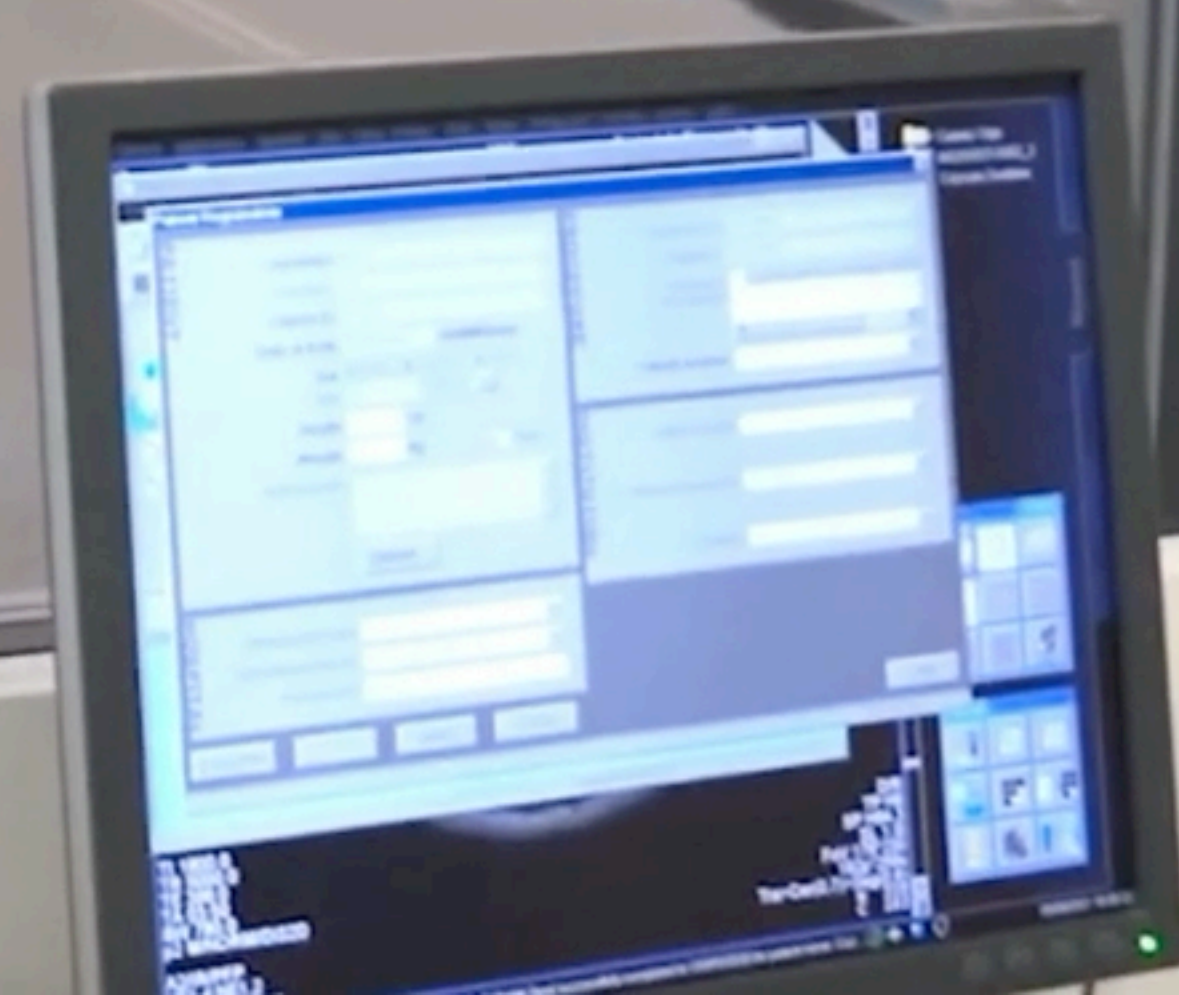
DocGenerator Scalability



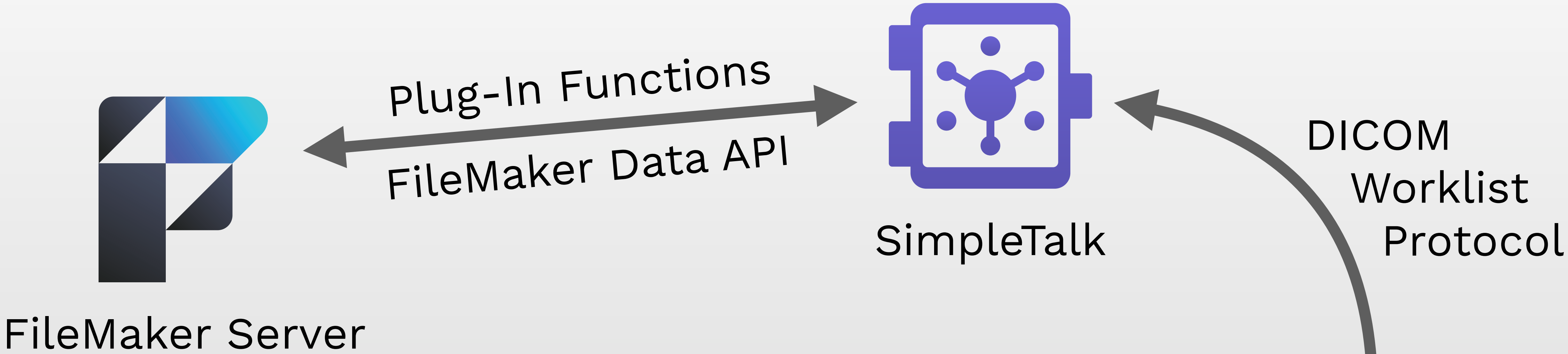
DocGenerator Compatibility



- Based on
 - Python
 - LibreOffice
 - No Java
- Runs in
 - macOS
 - Windows
 - Linux
 - Docker



DICOM Protocol





Tricks & Challenges



- Slow photo capture
 - Customer expected USB to be the bottleneck, in reality the cameras ended up being the slowest components
 - Solution: Capture images ahead of the request, so we can deliver them fast, cooldown after certain time of inactivity
- Brightness/Contrast settings
 - 3rd-party library changed parameter ranges between versions
 - Lesson: Do not assume 3rd-party library updates harmless



Tricks & Challenges

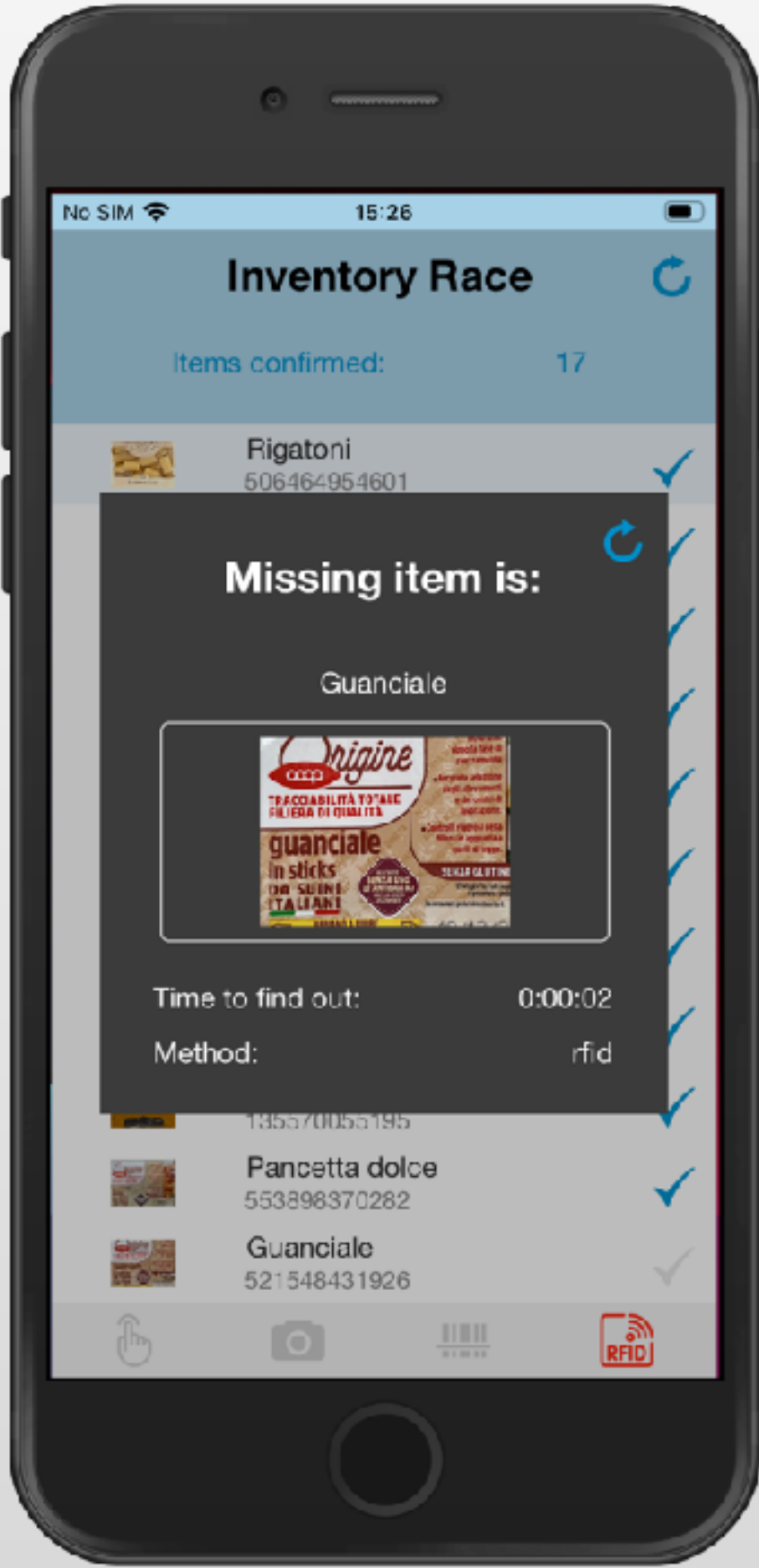
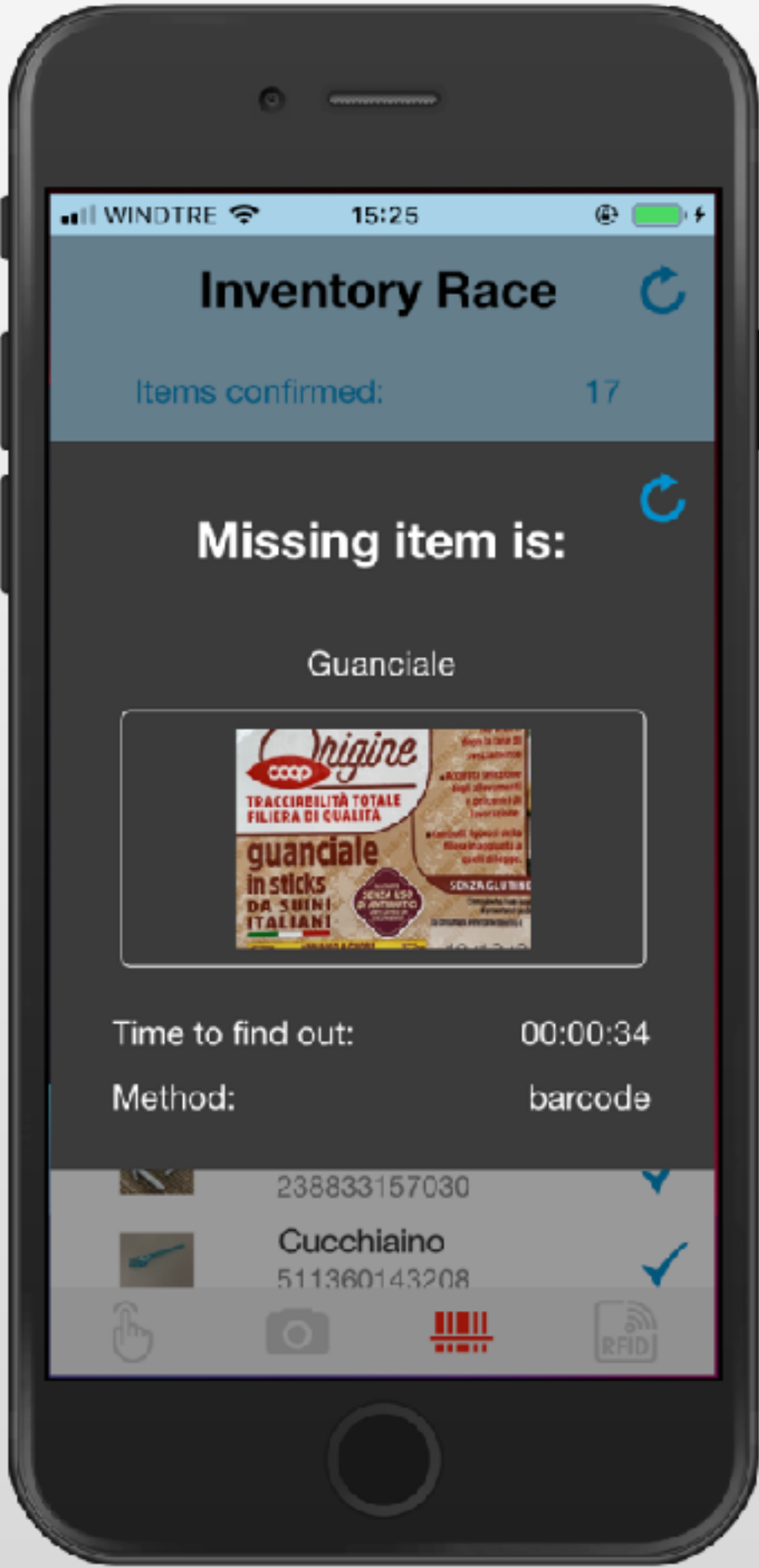
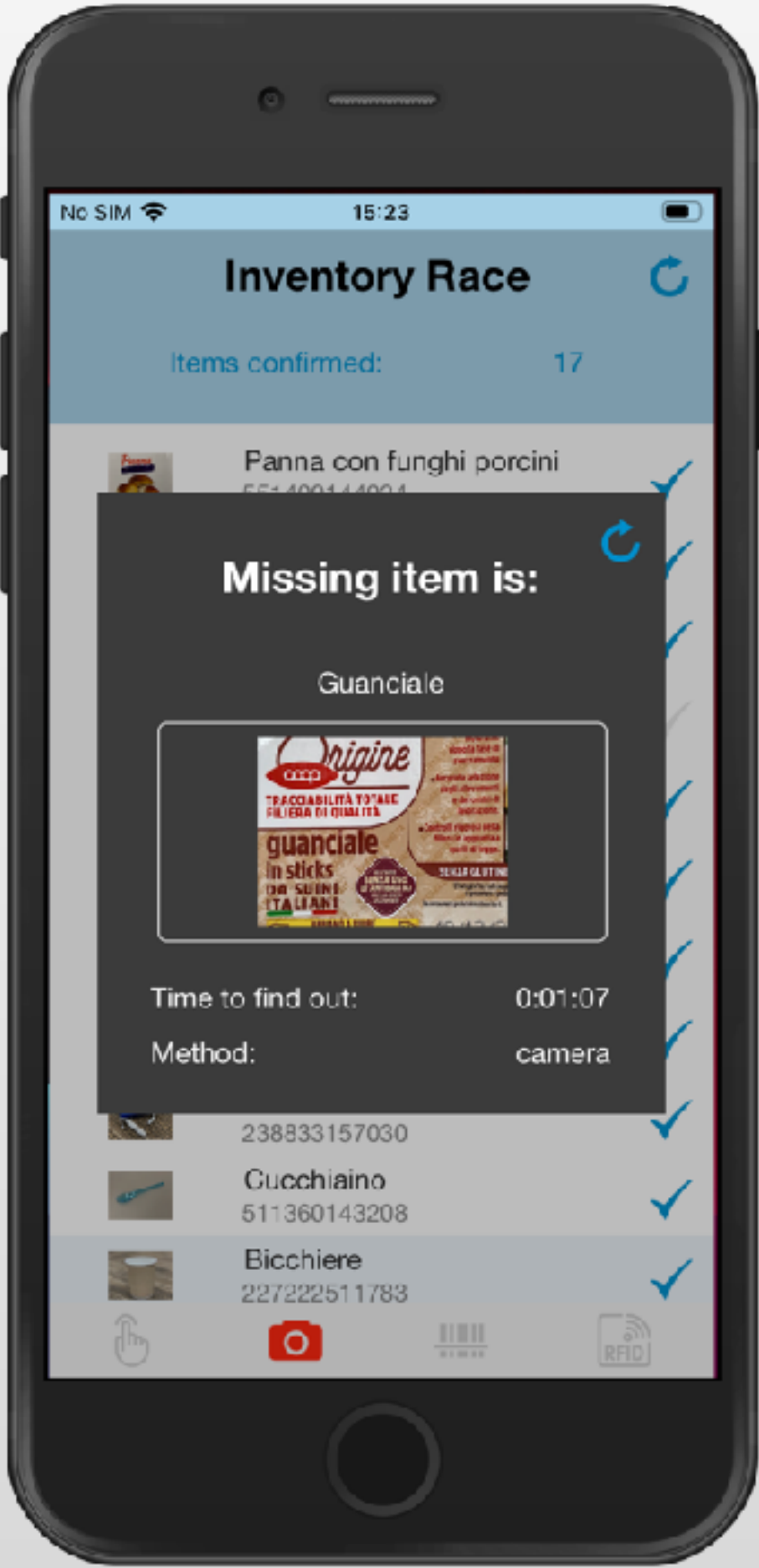
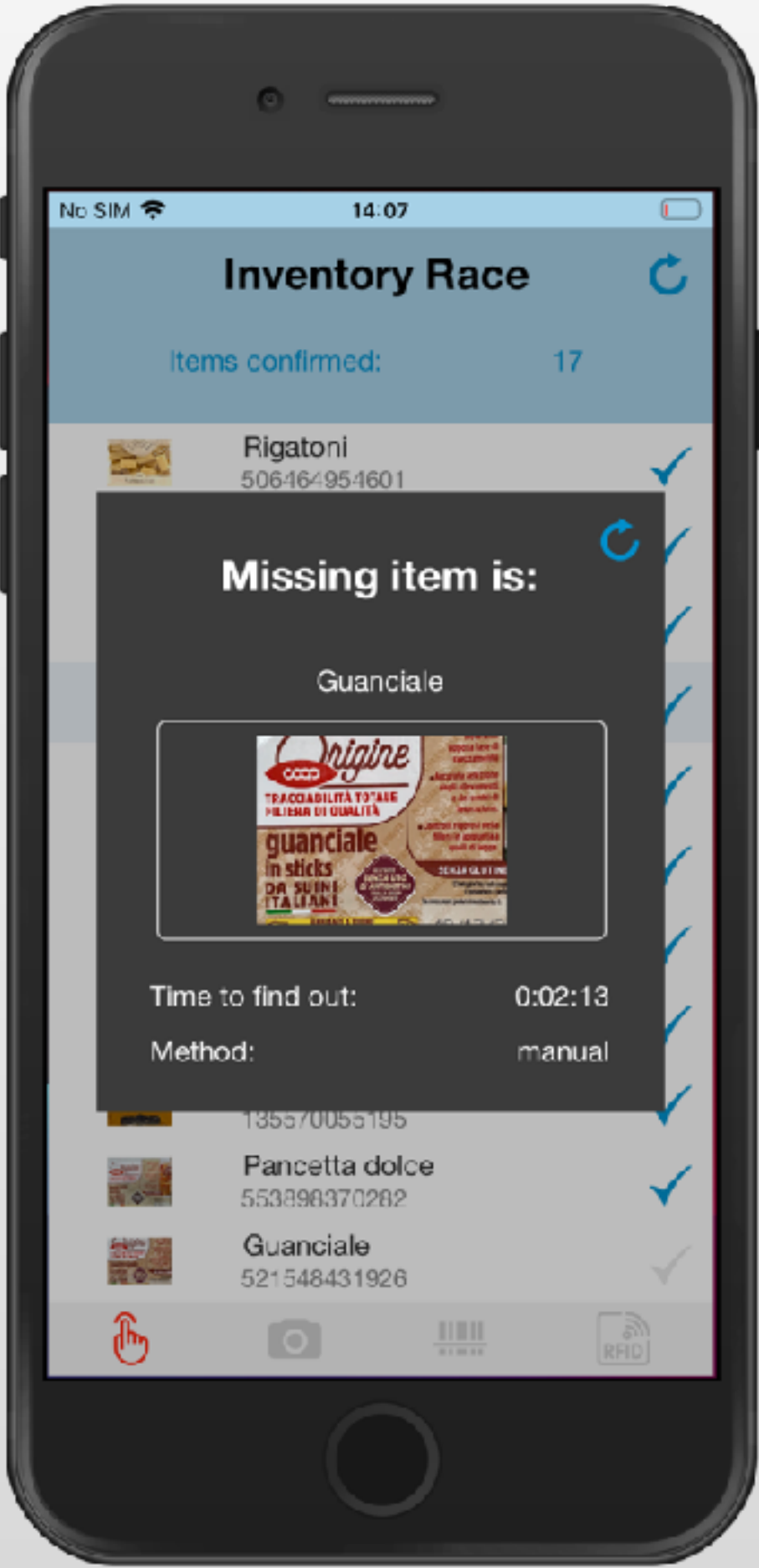


- Emergency Stop
 - 2 pins connected
 - Button interrupts connection
 - Pins not connected -> safe stop/pause
 - Same stop/pause triggered by unexpectedly high or low product weight increase
- Accuracy
 - Dynamic speed
 - Reverse mode
- Raspberry Pi IP address
 - Startup script to automatically reveal network info
 - No need for interaction, enough to connect a monitor




FM
GURU
fmguru.it

RFID vs Barcodes vs Human



RFID vs Barcodes vs Human



0:02:13
manual

✓
✓
✓
✓
✓

0:01:07
camera

✓
✓
✓
✓
✓

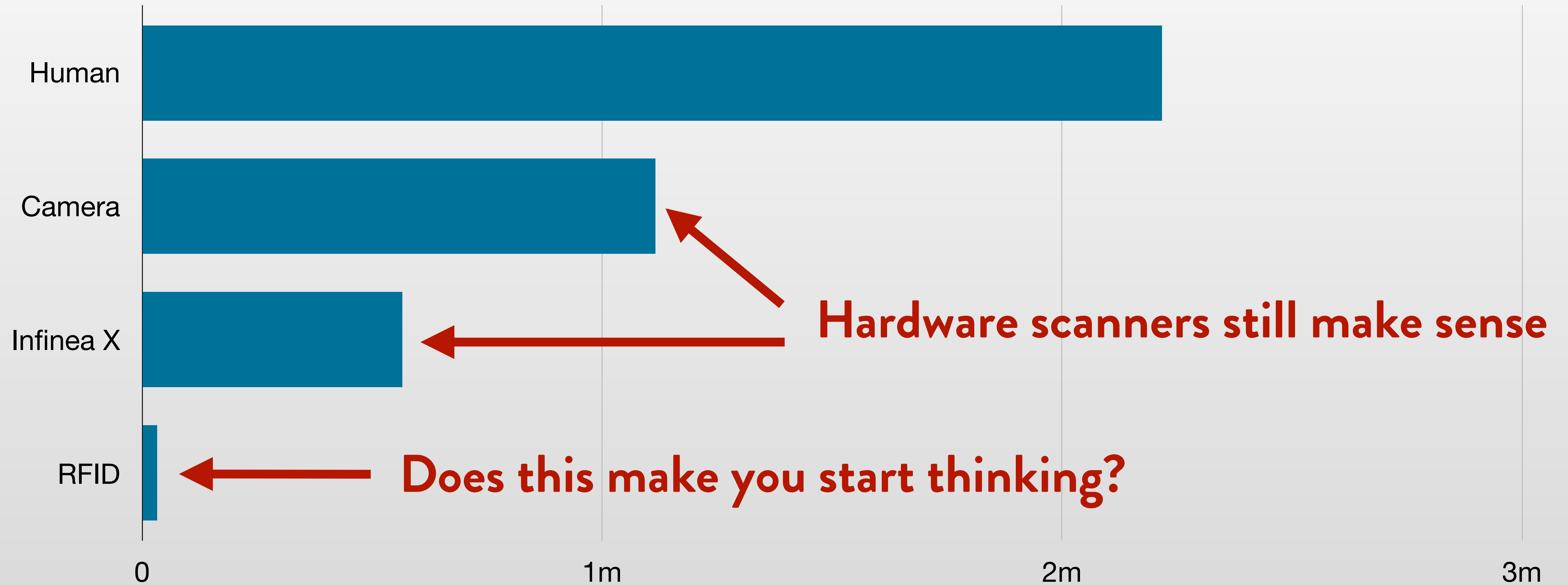
00:00:34
barcode

✓
✓
✓
✓
✓

0:00:02
rfid

✓
✓
✓
✓
✓

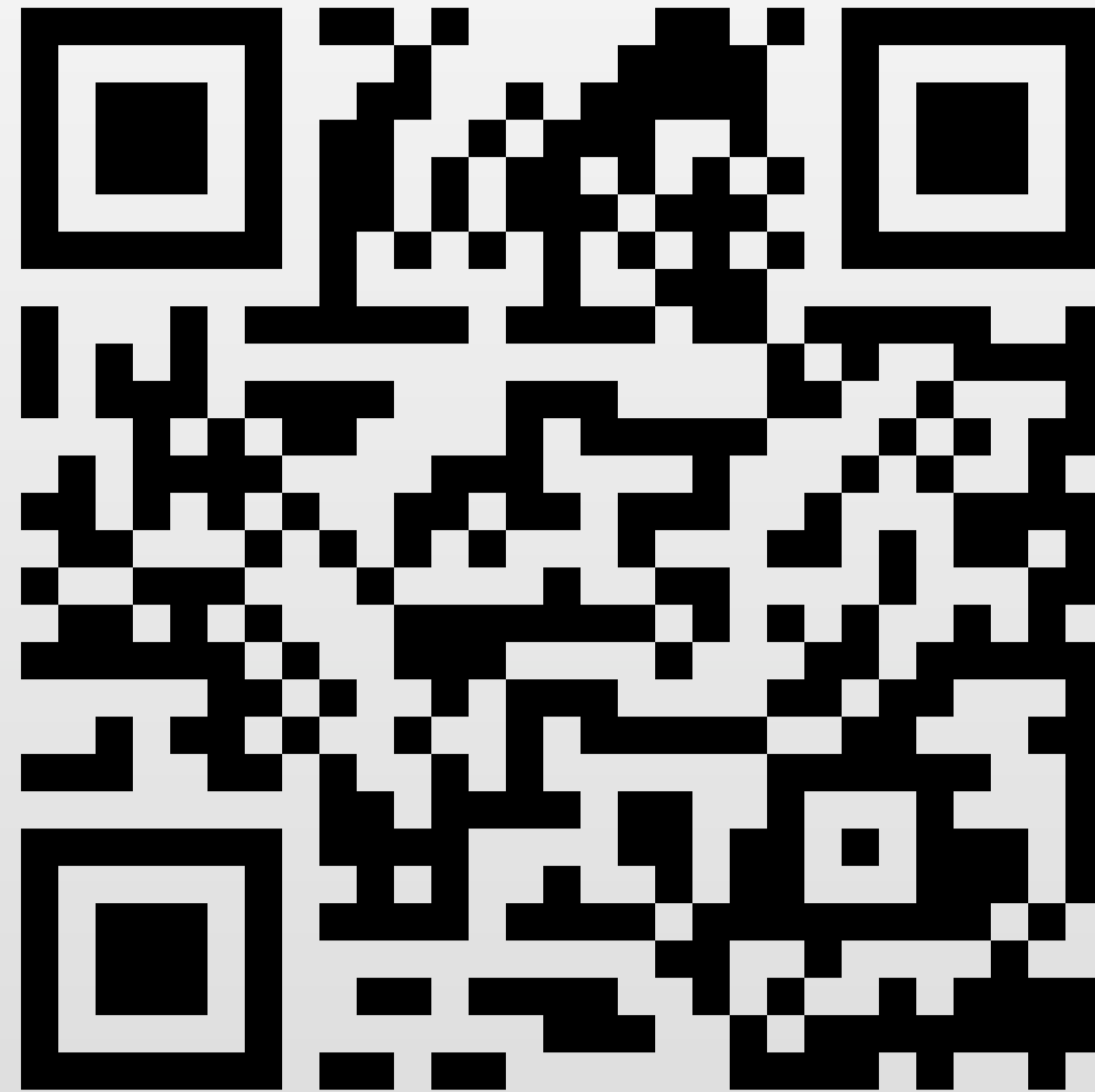
RFID vs Barcodes vs Human





Tracksy

I will appreciate your feedback



<https://24usw.com/feedback>

Bonus: New Examples Early Access



24usw.com/pdflinks



24usw.com/pdfpages

★ **NEW** ★



24usw.com/pdfcanvas



24usw.com/pngcanvas

★ **NEW** ★



24usw.com/pdfbarcodes



24usw.com/pngbarcodes

★ **NEW** ★