

Creating PDF/A in FileMaker with ZUGFeRD standard

Did you know EU directive 2014/55/EU? Starting 27th November 2020, the invoices to government over 1000 Euro must be sent electronically with structured format. So no longer printed invoices or simple PDFs, but you can send PDF in ZUGFeRD format!

Index	Product	Price	Quantity	Total Price
01	Item	1,000.00	10	10,000.00
02	Item	1,000.00	10	10,000.00
03	Item	1,000.00	10	10,000.00
04	Item	1,000.00	10	10,000.00
05	Item	1,000.00	10	10,000.00
06	Item	1,000.00	10	10,000.00
07	Item	1,000.00	10	10,000.00
08	Item	1,000.00	10	10,000.00
09	Item	1,000.00	10	10,000.00
10	Item	1,000.00	10	10,000.00
Total				100,000.00

Several FileMaker developers now use [MBS FileMaker Plugin](#) to create their invoices in ZUGFeRD standard. That's a data exchange format defined here in Germany, but other countries have similar formats. Basically we have a PDF in PDF/A 3b format and an embedded XML file. The PDF provides the visual and printable view of the invoice while the XML contains the same data readable for computers. With MBS Plugin and [DynaPDF](#) we can create such a ZUGFeRD PDF. We can either create a new file or import pages from existing PDFs. So even if you generate your invoices in FileMaker from layouts, you can convert them later. Here you see an example script for doing exactly this:

```
#Initialize DynaPDF if needed
If [MBS("DynaPDF.IsInitialized") ≠ 1]
    Perform Script ["InitDynaPDF"]
End If

#Make new PDF environments
Set Variable [$pdf; Value:MBS("DynaPDF.New")]
#Set import flags with Prepare For PDF/A enabled
Set Variable [$r; Value:MBS( "DynaPDF.SetImportFlags"; $pdf;
"ImportAll¶ImportAsPage¶PrepareForPDF/A" )]
#Load PDF from container
Set Variable [$r; Value:MBS("DynaPDF.OpenPDFFromContainer"; $pdf; ZUGFeRD
Invoice::Invoice Template)]
#Import all pages
Set Variable [$r; Value:MBS("DynaPDF.ImportPDFFile"; $pdf)]
#PDF/A requires a language set
Set Variable [$r; Value:MBS("DynaPDF.SetLanguage"; $pdf; "en-US")]
#PDF/A requires a structure tree
Set Variable [$r; Value:MBS("DynaPDF.CreateStructureTree"; $pdf)]
#add xml with invoice data
Set Variable [$FileHandle; Value:MBS("DynaPDF.AttachFileText"; $pdf; ZUGFeRD
Invoice::Invoice XML; "UTF-8"; "ZUGFeRD-invoice.xml"; "Invoice as XML")]
Set Variable [$r; Value:MBS("DynaPDF.AssociateEmbFile"; $pdf; "Catalog"; -1;
"Alternative"; $FileHandle)]
#Check if this PDF conforms to PDF/A-3b
Set Variable [$c; Value:MBS("DynaPDF.CheckConformance"; $pdf; "ZUGFeRD Basic")]
If [$c = 1]
```

```

# A RGB ICC profile must be added to the document
Set Variable [$r; Value:MBS("DynaPDF.AddOutputIntentEx"; $pdf; ZUGFeRD
Invoice::RGB ICC Profile)]
Else If [$c = 2]
# A CMYK ICC profile must be added to the document
Set Variable [$r; Value:MBS("DynaPDF.AddOutputIntentEx"; $pdf; ZUGFeRD
Invoice::CMYK ICC Profile)]
Else If [$c = 3]
# A Gray, RGB, or CMYK ICC profile must be added to the document
Set Variable [$r; Value:MBS("DynaPDF.AddOutputIntentEx"; $pdf; ZUGFeRD
Invoice::RGB ICC Profile)]
End If
#save to container
Set Variable [$PDFData; Value:MBS("DynaPDF.Save"; $pdf; "invoice.pdf")]
Set Field [ZUGFeRD Invoice::Output PDF; $PDFData]
Commit Records/Requests []
#cleanup memory
Set Variable [$r; Value:MBS("DynaPDF.Release"; $pdf)]

```

As you see we first initialize DynaPDF if it's not already done. In a new PDF environment, we import from a container the whole PDF. Of course you can import from files or just import pages from different PDFs as needed to build in memory your final PDF. Then we define language and structure tree as required for PDF/A. We attach the XML from a field in this example. The XML is just a block of text which you can generate before, e.g. by filling values into a template.

Next we check conformance with ZUGFeRD standard. If you have DynaPDF Lite license, we only check and report okay or error. If you have a DynaPDF Pro + PDF/A license, we can fix errors and convert any PDF to PDF/A here ([DynaPDF Editions](#)). Next we add the required output intent ICC color profiles. Finally we save the PDF to a container. Please do not hesitate to contact us with your questions.