The embedfile package

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Abstract

This package embeds files to a PDF document. Currently the only supported driver is pdfTeX >= 1.30 in PDF mode.

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 $^{{\}rm ^*Please\ report\ any\ issues\ at\ https://github.com/ho-tex/oberdiek/issues}$

History
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$[2011/04/13 \text{ v}2.6] \dots \dots$
$[2016/05/15 \text{ v}2.7] \dots \dots$
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1 Documentation

1.1 Introduction

The PDF format ([3]) allows the inclusion of files inside the PDF document. The included files can be bound to an annotation on a page. Or they can be recorded in a sorted list of embedded files. The packages attachfile or attachfile2 follow the first approach, this package uses the latter method.

1.1.1 Future development

My dream is a large package that merges the features of all these packages meantioned before:

- Files can be attached to a page.
- Files can be attached to the document.
- An easy user interface for simple, common tasks and beginners.
- An interface for the advanced users that want to setup every detail.
- Support of many drivers (pdftex, dvips, dvipdfm, ...).
- ...

However, I have not managed to take the time for this project. Instead:

- First I experimented with package attachfile, adding driver support, fixing bugs, The result is currently named as attachfile2. It uses an external script to get file properties (size, date, checksum, ...).
- In order to avoid an external program for getting basic file properties I provided a patch "EscapeAndOther" for pdfTeX that was accepted for version 1.30.
- This package closes a gap left by the packages for attaching files and allows the embedding of files to the document. Also it makes use of the new primitives of pdfTEX.

1.2 User interface

This package embedfile can be used with both LATEX and plain TeX. See subsubsection 1.5.1 that explains the use with plain TeX by an example. In LATEX the package is loaded as usually. There are no options.

\usepackage{embedfile}

\embedfile $[\langle options \rangle]$ $\{\langle file \rangle\}$

The macro \embedfile includes file \(\frac{file} \) and attaches it to the PDF document. At the end of the document the sorted list of embedded files are written. Thus you can safely use \embedfile before \end{document}. Embedding files using \AtEndDocument will only work, if \AtEndDocument is called before loading the package embedfile.

The $\langle options \rangle$ are give as key value pairs. The following keys are supported:

filespec This allows to override the file name that appears in the PDF file. If you are using other than simple file names (8-bit, path separators, ...), look into the PDF specification ([3]). There are rules how these file names must be written/encoded. Avoid 8-bit characters and other special characters, the behaviour is currently undefined. Use option ucfilespec for more funny file names. The string method, see below, is escape since version 2.4.

This name is also used as entry in a name tree (see PDF specification: /EmbeddedFiles). Therefore the value for filespec must be unique among all embedded files. Also key initialfiles refers to this name, if the file name and the value of filespec are different.

ucfilespec Since PDF 1.7 the file name may be provided in Unicode. The conversion of the option value into a PDF string is controlled by option stringmethod.

filesystem This sets the entry /FS in the file specification dictionary, see PDF specification ([3]). Example: filesystem=URL.

mimetype This sets the mime type ([4]) of the file, see subsubsection 1.5.1 for examples and [5] for a list of officially registered types.

desc The description for the file.

stringmethod The package must convert the values of the keys ucfilespec and desc into a PDF string (before version 2.4: filespec and desc). If hyperref is found, then its \pdfstringdef will be used, otherwise pdfTEX's \pdfscapestring is used. Value psd forces the use of \pdfstringdef, value escape the use of \pdfscapestring.

(**key**).value Sets the value of a collection item property, see section 1.3.

(key).prefix Sets the prefix of a collection item property, see section 1.3.

id The value must be an unique name. Macros \embedfileifobjectexists and \embedfilegetobject are using this name later.

\embedfilefinish

The list of all embedded files must be added as data structure in the PDF file. In case of LATEX this is automatically done. The package uses \AtEndDocument. Then the list of all files should be known. However, plain TEX does not know about \AtEndDocument. Thus the user must call \embedfilefinish at the end of the document after the last file is embedded.

\embedfilesetup $\{\langle options \rangle\}$

Options for \embedfile and collection support can be set in \embedfilesetup.

1.3 Collection support (PDF 1.7)

Since PDF 1.7 the embedded files can form a *collection* (sometimes referred as *package*), the main document is called *cover sheet*. See PDF specification 8.2.4 "Collections" and 3.10.5 "Collection items" [3].

Usually Acrobat Reader 7 or 8 shows the embedded files in a table at the bottom with the following columns:

Name	Description	Modified	Size

Acrobat Reader 10 shows the embedded files in the left panel and adds a new column for the compressed size.

If the files form a collection, then they are displayed in a table left or top (depending on option view, see \embedfilesetup).

Collection support is enabled automatically, if it is used.

\embedfilesetup $\{\langle options \rangle\}$

The following options are supported in addition to options for \embedfile:

view If the PDF file contains a collection, then Acrobat Reader 8 shows a line at the top below the menu bar and the toolbar. It shows the current selected file, icons for changing the view mode, an options menu. The initial mode how the collection is presented is set by this option view. The following modes/values are supported, the default is details:

details The full collection table is displayed at the top below the collection

tile The files of the collection are shown in tile mode on the left.

hidden The collection table is not shown.

initialfile Selects the file that is initially presented. Especially useful for an embedded PDF file that is then shown instead of the cover document. There must be an \embedfile command somewhere whose value for key filespec is used here. The \embedfile command can drop option filespec if the file name is not different.

\embedfilefield $\{\langle key \rangle\}\ \{\langle options \rangle\}$

Macro \embedfilefield defines a column/field in the collection table. The name of the field is $\langle key \rangle$.

type sets the type of the field. The supported values are:

text A text field. Its value is set in \embedfile by option \(\lambda key \rangle .value \).

date A date field. Its value is set in \embedfile by option \(\lambda key \rangle .value \). A special format is required, see "3.8.3 Dates" [3].

number A field with an integer or float number. Its value is set in **\embedfile** by option $\langle key \rangle$.value.

file The file name of the embedded file.

desc The description text of the embedded file. It is set in **\embedfile** by option desc.

moddate The modification date of the embedded file.

size The size of the embedded file.

All types allow the use of a prefix that is disregarded by sorting. The prefix for this field is set in $\ensuremath{\backslash}$ embedfile by option $\ensuremath{\langle} \textit{key} \ensuremath{\rangle}$.

title sets the column title.

visible controls whether the column is presented:

true shows the column.

false hides the column.

Default: true

edit Allows the editing of field values. Does not seem to have an effect for Acrobat Reader.

true enables the feature, if available (depends on the PDF viewer).

false disables the feature.

Default: false

The order of \embedfilefield statements defines the order of the columns.

\embedfilesort $\{\langle key\text{-}sort\text{-}list\rangle\}$

The sort order of the embedded files are controlled by macro $\mbox{\ensuremath{\mathsf{embedfilesort}}}$. $\mbox{\ensuremath{\mathit{key-sort-list}}}$ defines the sort order. The key is a field name defined by $\mbox{\ensuremath{\mathsf{embedfilefield}}}$. Its value is either ascending or descending. The default is ascending.

1.4 Export of object references

Caution: This feature is still experimental. It may be even removed in future versions. Therefore feedback would be nice, if someone has a useful application for this feature.

Object numbers are saved, if id is given in **\embedfile**. The following objects are supported:

- EmbeddedFile
- Filespec

```
\embedfileifobjectexists \{\langle id \rangle\}\ \{\langle type \rangle\}\ \{\langle then \rangle\}\ \{\langle else \rangle\}
```

Macro \embedfileifobjectexists tests whether object of $\langle type \rangle$ is available for the embedded file identified by $\langle id \rangle$.

\embedfilegetobject $\{\langle id \rangle\}\ \{\langle type \rangle\}$

Macro \embedfilegetobject expands to the full object reference object of $\langle type \rangle$ for the embedded file identified by $\langle id \rangle$.

1.4.1 Example

```
\embedfile[id={foo}]{foo.pdf}
\embedfileifobjectexists{foo}{Filespec}{%
    \typeout{%
        FileSpec object for `foo': %
        \embedfilegetobject{foo}{Filespec}%
    }%
}{%
    \typeout{No Filespec object for `foo'}%
}
```

1.5 Examples

1.5.1 plain T_FX

The package can be used with plain T_EX . It can be used with or without help from miniltx.tex.

If additionally package keyval (graphicx) is needed, load it first. Then package embedfile avoids a duplicate loading of package keyval.

Because plain TeX does not provide a hook at end of the document, you have to call **\embedfilefinish** manually at the end after the last embedded file.

```
1 (*exampleplain)
 2 %<<END
 3 % Load packages
 4 \input miniltx
 5 % \def\Gin@driver{pdftex.def}
 6\% \in \text{graphicx.sty}
 7 \input embedfile.sty
 8 \resetatcatcode
10 % default setting
11 \embedfilesetup{
12 mimetype=text/plain
13 }
14
15 % Embed files
16 \embedfile[
17 filespec=example.tex,
18 desc={Source code (plain-TeX) of this example}
19 ]{embedfile-example-plain.tex}
20
21 \embedfile[
22 desc={Source of package `embedfile'}
23 ]{embedfile.dtx}
24
26 mimetype=application/pdf,
27 desc={Documentation of package `embedfile'}
28 ]{embedfile.pdf}
30 % Some text
31 This example document contains three embedded files.
33 \% End of document
34 \mbox{ }\mbox{don't forget}
35 \bye
36 %END
37 (/exampleplain)
```

1.5.2 Collection example

```
38 (*examplecollection)
39 %<<END
40 \NeedsTeXFormat{LaTeX2e}
41 \documentclass{article}
42 \usepackage[bookmarks=false]{hyperref}
43~\% provides \pdfstringdef that is then used by `title' and
44 % other keys.
46 \end{filesetup} \{
47 view=details,
48 initialfile=embedfile.pdf
49 }
50 \ensuremath{\mbox{\mbox{embedfilefield}{file}}{} \{
51 type=file,
52 title={File name}
53 }
54 \end{description} 
55 type=desc,
56 title={Description}
57 }
58 \end{filefield{date}} 
59 type=moddate,
60 title={Date}
61 }
62 \embedfilefield{size}{
63 type=size,
64 title={Size}
65 }
66 \end{filefield type} {
67 type=text,
68 title={Type},
69 visible=false
70 }
71 \ensuremath{\mbox{\mbox{cmbedfilesort}}}
72 type,
73 date=descending
74 }
75 \begin{document}
76\ \mbox{An example} for embedded files as collection.
77 You need Acrobat Reader 8 or higher.
79 \embedfile[
80 desc={Source file of package `embedfile'},
81 description.prefix={Package: },
82 type.value={DTX}
83 ]{embedfile.dtx}
85 \embedfile[
86 desc={Documentation of package `embedfile'},
87 description.prefix={Package: },
88 type.value={PDF}
89 ]{embedfile.pdf}
90
91 \embedfile[
92 desc={The source for this example},
93 description.prefix={Example: },
94 type.value={TEX}
95 ]{\jobname.tex}
96
97 \end{document}
98 %END
99 \langle/examplecollection\rangle
```

1.6 Package dtx-attach

Package dtx-attach is just a small application of package embedfile. I am using it for the CTAN documentation of my packages in CTAN:macros/latex/contrib/oberdiek/. It also serves as small example for the use of the package with LATEX.

```
100 (*dtxattach)
101 \NeedsTeXFormat{LaTeX2e}
102 \ProvidesPackage{dtx-attach}
103 [2016/05/15 v2.7 Embed \string\jobname.dtx (HO)]%
104 \RequirePackage{embedfile}[2016/05/15]
105 \embedfile[%
106 stringmethod=escape,%
107 mimetype=plain/text,%
108 desc={LaTeX docstrip source archive for package `\jobname'}%
109 ]{\jobname.dtx}
110 (/dtxattach)
```

2 Implementation

111 (*package)

2.1 Reload check and package identification

Reload check, especially if the package is not used with LATEX.

```
112 \begingroup\catcode61\catcode48\catcode32=10\relax%
     \catcode13=5 % ^^M
113
     \endlinechar=13 %
114
115 \catcode35=6 % #
116 \catcode39=12 % '
117 \catcode44=12 %,
118 \catcode45=12 % -
119 \catcode46=12 %.
120 \catcode58=12 %:
121 \catcode64=11 % @
122 \catcode123=1 % {
     \catcode125=2 % }
123
     \expandafter\let\expandafter\x\csname ver@embedfile.sty\endcsname
124
     \ifx\x\relax % plain-TeX, first loading
125
     \else
126
127
      \def\empty{}%
128
      \ifx\x\empty % LaTeX, first loading,
129
       % variable is initialized, but \ProvidesPackage not yet seen
130
131
        \expandafter\ifx\csname PackageInfo\endcsname\relax
132
         \def\x#1#2{\%}
          133
         }%
134
        \else
135
         \def\x#1#2{\PackageInfo{#1}{#2, stopped}}%
136
137
        \x{embedfile}{The package is already loaded}%
138
        \aftergroup\endinput
139
      \fi
140
141
    \fi
142 \endgroup%
Package identification:
143 \begingroup\catcode61\catcode48\catcode32=10\relax%
144 \catcode13=5 % ^^M
145 \endlinechar=13 %
146 \catcode35=6 % #
147 \catcode39=12 %
```

```
\catcode40=12 % (
148
    \catcode41=12 % )
149
    \colored{12\%} ,
150
    \catcode45=12 % -
151
    \catcode46=12 % .
153
    \catcode47=12 % /
154
    \catcode58=12 % :
    \catcode64=11 % @
155
    \catcode91=12 % [
156
    \catcode93=12 % ]
157
    \colored{123=1\%} \{
158
    \catcode125=2 % }
159
    \expandafter\ifx\csname ProvidesPackage\endcsname\relax
160
      \def\x#1#2#3[#4]{\endgroup}
161
       \immediate\write-1{Package: #3 #4}%
162
163
       \xdef#1{#4}%
164
     }%
165
    \else
      \def \x#1#2[#3]{\endgroup}
166
167
       #2[{#3}]%
       \ifx#1\@undefined
168
        \xdef#1{#3}%
169
170
       \int x#1 \, dx
171
         \xdef#1{#3}%
172
173
       \fi
174
     }%
175
    \fi
176 \expandafter\x\csname ver@embedfile.sty\endcsname
177 \ProvidesPackage{embedfile}%
178 [2016/05/15 v2.7 Embed files into PDF (HO)]%
```

2.2 Catcodes

```
179 \begingroup\catcode61\catcode48\catcode32=10\relax%
180 \catcode13=5 % ^^M
181 \endlinechar=13 %
182 \catcode123=1 % {
183 \catcode125=2 % }
184 \catcode64=11 % @
185
                                     \def\x{\endgroup
                                                  \expandafter\edef\csname EmFi@AtEnd\endcsname{%
186
187
                                                                \endlinechar=\the\endlinechar\relax
188
                                                               \color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=
189
                                                               \color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\t
                                                               \color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=
190
                                                               \colored{catcode61}=\the\colored{catcode61}
191
                                                                \catcode64=\the\catcode64\relax
192
193
                                                                \catcode123=\the\catcode123\relax
                                                                \catcode125=\the\catcode125\relax
194
195
196 }%
197 \x\catcode61\catcode48\catcode32=10\relax%
198 \catcode13=5 \% ^^M
199 \endlinechar=13 \%
200 \catcode35=6 \% #
201 \catcode64=11 % @
202 \catcode123=1 % {
203 \catcode125=2 % }
204 \def\TMP@EnsureCode#1#2{%
205 \edef\EmFi@AtEnd{%
                                               \EmFi@AtEnd
```

```
\color= \time \color= \time \color= 
  207
  208 }%
 209 \ \text{catcode} = 1 = 2 \le x
 210 }
  211 \TMP@EnsureCode{39}{12}% '
 212 \TMP@EnsureCode{40}{12}% (
 213 \TMP@EnsureCode{41}{12}%)
 214 \TMP@EnsureCode{44}{12}\% ,
 215 \TMP@EnsureCode{46}{12}\% .
 216 \TMP@EnsureCode{47}{12}% /
 217 \TMP@EnsureCode{58}{12}%:
 218 \TMP@EnsureCode{60}{12}% <
 219 \TMP@EnsureCode{62}{12}% >
 220 \TMP@EnsureCode{91}{12}% [
 221 \TMP@EnsureCode{93}{12}% ]
  222 \TMP@EnsureCode{96}{12}%
 223 \edef\EmFi@AtEnd{\EmFi@AtEnd\noexpand\endinput}
2.3
                  Tools
  224 \begingroup\expandafter\expandafter\expandafter\endgroup
  225 \expandafter\ifx\csname RequirePackage\endcsname\relax
  226 \def\EmFi@RequirePackage#1[#2]{%
                  \input #1.sty\relax
 227
 228 }%
 229 \else
 230 \let\EmFi@RequirePackage\RequirePackage
  231 \fi
 232 \EmFi@RequirePackage{infwarerr}[2007/09/09]%
 233 \def\EmFi@Error{%
 234 \@PackageError{embedfile}%
 235 }
         Luatex compat
  236 \ifx\pdfextension\@undefined\else
  237 \EmFi@RequirePackage{luatex85}[2016/01/01]
 238 \fi
```

2.4 Check for recent pdfTEX in PDF mode

Load package ifpdf and check mode.

\EmFi@RequirePackage

\EmFi@Error

```
239 \EmFi@RequirePackage{ifpdf}[2007/09/09]
240 \ifpdf
241 \ensuremath{\setminus} \text{else}
242 \EmFi@Error{%
243
      Missing pdfTeX in PDF mode%
244 }{%
      Currently other drivers are not supported. %
245
     Package loading is aborted.%
246
247 }%
248 \expandafter\EmFi@AtEnd
249 \fi%
250 \EmFi@RequirePackage{pdftexcmds}[2007/11/11]
251 \EmFi@RequirePackage{ltxcmds}[2010/03/01]
252 \EmFi@RequirePackage{kvsetkeys}[2010/03/01]
253 \EmFi@RequirePackage{kvdefinekeys}[2010/03/01]
Check version.
```

254 \begingroup\expandafter\expandafter\expandafter\endgroup

```
256 \EmFi@Error{%
                                                                                               Unsupported pdfTeX version%
                                                                             257
                                                                             258 }{%
                                                                                               At least version 1.30 is necessary. Package loading is aborted.%
                                                                             261 \ensuremath{\mbox{\mbox{\mbox{$\sim$}}} \ensuremath{\mbox{\mbox{$\sim$}}} \ensuremath{\mbox{\
                                                                             262 \fi%
                                                                          2.5
                                                                                              Strings
                                                                          Minimal version of package pdfescape is 2007/08/27 v1.5 because of \EdefSanitize.
                                                                             263 \EmFi@RequirePackage{pdfescape}[2007/11/11]
                                                                             264 \def\EmFi@temp#1{\%
                                                                             265 \expandafter\EdefSanitize\csname EmFi@S@#1\endcsname{#1}%
                                                                             266 }
                         \EmFi@details
                                                                             267 \EmFi@temp{details}%
                                   \EmFi@tile
                                                                             268 \mbox{EmFi@temp{tile}}\%
                         \EmFi@hidden
                                                                             269 \EmFi@temp{hidden}\%
                        \EmFi@S@text
                                                                             270 \EmFi@temp{text}
                        \EmFi@S@date
                                                                             271 \EmFi@temp{date}
             \EmFi@S@number
                                                                             272 \EmFi@temp{number}
                           \EmFi@S@file
                                                                             273 \EmFi@temp{file}
                        \EmFi@S@desc
                                                                             274 \EmFi@temp{desc}
           \EmFi@S@moddate
                                                                             275 \EmFi@temp{moddate}
\EmFi@S@creationdate
                                                                             276 \EmFi@temp{creationdate}
                          \EmFi@S@size
                                                                             277 \EmFi@temp{size}
        \EmFi@S@ascending
                                                                             278 \EmFi@temp{ascending}
    \EmFi@S@descending
                                                                             279 \EmFi@temp{descending}
                        \EmFi@S@true
                                                                             280 \EmFi@temp{true}
                        \EmFi@S@false
                                                                             281 \EmFi@temp{false}
```

 $255 \exp \text{andafter} \$ csname pdf@filesize\endcsname\relax

2.6 Switches

```
\ifEmFi@collection
                         282 \ltx@newif\ifEmFi@collection
           \ifEmFi@sort
                         283 \ltx@newif\ifEmFi@sort
         \ifEmFi@visible
                         284 \t \mbox{ltx@newif}\ \mbox{ifEmFi@visible}
           \ifEmFi@edit
                         285 \ltx@newif\ifEmFi@edit
          \ifEmFi@item
                         286 \ltx@newif\ifEmFi@item
       \ifEmFi@finished
                         287 \ltx@newif\ifEmFi@finished
            \ifEmFi@id
                         288 \ltx@newif\ifEmFi@id
                        2.7 Key value definitions
      \EmFi@GlobalKey
                         289 \def\EmFi@GlobalKey#1#2{\%
                         290\ \global\expandafter\ext{let}\csname KV@#1@#2\expandafter\endcsname
                                             \csname KV@#1@#2\endcsname
                         291
                         292 }
\EmFi@GlobalDefaultKey
                         293 \def\EmFi@GlobalDefaultKey#1#2{%
                         294 \EmFi@GlobalKey{#1}{#2}%
                         295 \global\expandafter\let
                                \csname KV@#1@#2@default\expandafter\endcsname
                         296
                                \csname KV@#1@#2@default\endcsname
                         297
                         298 }
      \EmFi@DefineKey
                         299 \def\EmFi@DefineKey#1#2{%
                         \ensuremath{\verb| Lendcsname| ##1}\%
                         302 }%
                         303 \expandafter\def\csname EmFi@#1\endcsname{#2}%
                         304 }
                        Subtype of the embedded file (optional).
                         305 \EmFi@DefineKey{mimetype}{}
                        File specification string.
                         306 \EmFi@DefineKey{filespec}{\EmFi@file}
                        File specification string in Unicode.
                         307 \EmFi@DefineKey{ucfilespec}{}
                        File system (optional).
                         308 \EmFi@DefineKey{filesystem}{}
                        Description (optional).
                         309 \verb|\EmFi@DefineKey{desc}{|}|
```

```
Method for converting text to PDF strings.
                        310 \EmFi@DefineKey{stringmethod}{%
                            \ifx\pdfstringdef\@undefined
                        311
                        312
                              escape%
                        313
                        314
                              \ifx\pdfstringdef\relax
                        315
                               escape%
                        316
                              \else
                        317
                               psd%
                        318
                              \fi
                        319
                            \fi
                        320 }
                          Option id as key for object numbers.
                        321 \kv@define@key{EmFi}{id}{%}
                        322 \def\EmFi@id{#1}%
                        323 \EmFi@idtrue
                        324 }
        \EmFi@defobj
                        325 \def\EmFi@defobj#1{%
                        326 \ifEmFi@id
                        327
                              \label{lem:figure} $$\operatorname{EmFi@\#1@EmFi@id\endsname}$ 
                               328
                        329
                              }%
                        330 \fi
                        331 }
\embedfileifobjectexists
                        332 \def\embedfileifobjectexists#1#2{\%
                            \expandafter\ifx\csname EmFi@#2@#1\endcsname\relax
                        333
                              \verb|\expandafter|| ltx@secondoftwo||
                        334
                        335
                             \else
                        336
                              \verb|\expandafter|| ltx@firstoftwo||
                        337 \fi
                        338 }
   \embedfilegetobject
                        339 \def\embedfilegetobject#1#2{%
                            \embedfileifobjectexists{#1}{#2}{%
                        340
                              \csname EmFi@#2@#1\endcsname
                        341
                        342
                            }{%
                        343
                              00R%
                        344 }%
                        345 }
                          Initial view of the collection.
                        346 \kv@define@key{EmFi}{view}[]{\%}
                            \EdefSanitize\EmFi@temp{#1}%
                        347
                             \def\EmFi@next{%
                        348
                              \global\EmFi@collectiontrue
                        349
                        350
                            }%
                        351
                             \ifx\EmFi@temp\ltx@empty
                        352
                              \let\EmFi@view\EmFi@S@details
                             \else\ifx\EmFi@temp\EmFi@S@details
                        353
                              \let\EmFi@view\EmFi@S@details
                        354
                             \else\ifx\EmFi@temp\EmFi@S@tile
                        355
                              \let\EmFi@view\EmFi@S@tile
                        356
                            \else\ifx\EmFi@temp\EmFi@S@hidden
                        357
                              \let\EmFi@view\EmFi@S@hidden
                        358
                        359
                              \let\EmFi@next\relax
```

```
361
                                                                                                        \EmFi@Error{%
                                                                                                             Unknown value `\EmFi@temp' for key `view'.\MessageBreak
                                                                              362
                                                                                                             Supported values: `details', `tile', `hidden'.%
                                                                              363
                                                                                                        \\\ehc
                                                                              364
                                                                              365
                                                                                                \fi\fi\fi\fi
                                                                              366
                                                                                                \EmFi@next
                                                                              367 }
                                                                              368 \EmFi@DefineKey{initialfile}{}
 \embedfilesetup
                                                                              369 \ensuremath{\mbox{def}\mbox{embedfilesetup}}\%
                                                                             370 \ifEmFi@finished
                                                                                                        \def\EmFi@next\#1{}\%
                                                                             371
                                                                                                        \EmFi@Error{%
                                                                             372
                                                                                                             \verb|\color| after af
                                                                              373
                                                                              374
                                                                                                       }{%
                                                                              375
                                                                                                             The list of embedded files is already written. \%
                                                                                                      }%
                                                                              376
                                                                              377 \else
                                                                              378
                                                                                                        \def\EmFi@next{%
                                                                              379
                                                                                                             \kvsetkeys{EmFi}%
                                                                              380
                                                                                                      }%
                                                                              381 \fi
                                                                             382 \EmFi@next
                                                                             383 }
   \EmFi@schema
                                                                              384 \ensuremath{\mbox{LmFi@schema}}
           \EmFi@order
                                                                              385 \gdef\EmFi@order{0}
     \EmFi@@order
                                                                              386 \let\EmFi@@order\relax
  \EmFi@fieldlist
                                                                              387 \ensuremath{\mbox{def}\mbox{EmFi@fieldlist}}
\EmFi@sortcase
                                                                              388 \ensuremath{\mbox{def}\mbox{EmFi@sortcase}\{0\}\%}
     \embedfilefield
                                                                              389 \def\embedfilefield#1#2\{\%
                                                                              390 \ifEmFi@finished
                                                                              391
                                                                                                        \EmFi@Error{%
                                                                              392
                                                                                                              \verb|\string| embedfile field | ltx@space after \string| embedfile finish | ltx@space after \string| embedfile 
                                                                              393
                                                                                                        }{%
                                                                                                             The list of embedded files is already written. \%
                                                                              394
                                                                                                       }%
                                                                              395
                                                                                                  \else
                                                                              396
                                                                                                         \global\EmFi@collectiontrue
                                                                              397
                                                                                                         \EdefSanitize\EmFi@key{#1}%
                                                                              398
                                                                                                         \expandafter\ifx\csname KV@EmFi@\EmFi@key.prefix\endcsname\relax
                                                                              399
                                                                                                               \begingroup
                                                                              400
                                                                              401
                                                                                                                     \count@=\EmFi@order
                                                                              402
                                                                                                                     \advance\count@ 1 %
                                                                                                                     \label{lemfi_equation} $$ \xdef\EmFi@order{\theta\count@}% $$
                                                                              403
                                                                                                                     \let\EmFi@title\EmFi@key
                                                                              404
                                                                              405
                                                                                                                     \verb|\EmFi@type\EmFi@S@text||
                                                                                                                    \EmFi@visibletrue
                                                                              406
                                                                                                                     \EmFi@editfalse
                                                                              407
```

```
\kvsetkeys{EmFiFi}{#2}%
408
          \EmFi@convert\EmFi@title\EmFi@title
409
          \xdef\EmFi@schema{%
410
           \EmFi@schema
411
           /\pdf@escapename{\EmFi@key}<<%
412
413
             /Subtype/%
414
             \ifx\EmFi@type\EmFi@S@date D%
415
             \else\ifx\EmFi@type\EmFi@S@number N%
             \left| EmFi@type\right| EmFi@S@file F\%
416
             \else\ifx\EmFi@type\EmFi@S@desc Desc%
417
             \else\ifx\EmFi@type\EmFi@S@moddate ModDate%
418
             \else\ifx\EmFi@type\EmFi@S@creationdate CreationDate%
419
             \else\ifx\EmFi@type\EmFi@S@size Size%
420
             \else S%
421
            \inf\inf\inf\inf\inf
422
             /N(\mathbb{EmFi@title})\%
423
             \EmFi@@order{\EmFi@order}%
424
425
            \ifEmFi@visible
             \else
426
              /V false%
427
             \fi
428
             \ifEmFi@edit
429
              /E true%
430
431
             \fi
           >>%
432
         }%
433
434
         \let\do\relax
435
          \xdef\EmFi@fieldlist{%
436
           \EmFi@fieldlist
437
           \do{\EmFi@key}\%
         }%
438
         \ifx\EmFi@type\EmFi@S@text
439
440
           \label{lemfi} $$ \xr_{EmFi}${\rm EmFi}eey.value}{\% $$
             \EmFi@itemtrue
441
             \left( \frac{\#1}{\%} \right)
442
443
             \EmFi@convert\EmFi@temp\EmFi@temp
444
             \expandafter\def\csname EmFi@V@#1%
445
             \expandafter\endcsname\expandafter{%
446
              \expandafter(\EmFi@temp)%
            }%
447
           }%
448
           \EmFi@GlobalKey{EmFi}{\EmFi@key.value}%
449
          \else\ifx\EmFi@type\EmFi@S@date
450
           \label{lem:lemfi} $$ \ \end{EmFi} {\mathbb EmFi@key.value} {\% } 
451
452
             \EmFi@itemtrue
453
             \left( \text{MFi@temp} \right) 
454
             \EmFi@convert\EmFi@temp\EmFi@temp
455
             \expandafter\def\csname EmFi@V@#1%
456
             \expandafter\endcsname\expandafter{%
457
              \expandafter(\EmFi@temp)%
            }%
458
           }%
459
           \EmFi@GlobalKey{EmFi}{\EmFi@key.value}%
460
461
         \verb|\else| if x \end{type} \\ EmFi@S@number \\
462
           \label{lemfi} $$ \xrup{EmFi}_{\xrup{EmFi@key.value}}{\%} $$
463
             \EmFi@itemtrue
464
             \expandafter\EdefSanitize\csname EmFi@V@#1\endcsname{ ##1}%
465
           }%
466
           \label{lemfi} $$ \operatorname{EmFi@GlobalKey}{EmFi}_{\operatorname{EmFi@key.value}}\% $$
467
         \fi\fi\fi
         \label{lemfi} $$ \end{EmFi}_{\end{EmFi@key.prefix}} % $$ \end{EmFi@key.prefix} $$
468
           \EmFi@itemtrue
469
```

```
\expandafter\def\csname EmFi@P@#1\endcsname{##1}%
470
471
         \EmFi@GlobalKey{EmFi}{\EmFi@key.prefix}%
472
         \kv@define@key{EmFiSo}{\EmFi@key}[ascending]{%
473
          \EdefSanitize\EmFi@temp{##1}%
474
475
          \ifx\EmFi@temp\EmFi@S@ascending
476
           \def\EmFi@temp{true}%
          \else\ifx\EmFi@temp\EmFi@S@descending
477
478
           \def\EmFi@temp{false}%
          \else
479
           \def\EmFi@temp{}%
480
           \EmFi@Error{%
481
             Unknown sort order `\EmFi@temp'.\MessageBreak
482
             Supported values: `\EmFi@S@ascending', %
483
             `\EmFi@S@descending
484
           }\@ehc
485
486
          \fi\fi
          \ifx\EmFi@temp\ltx@empty
487
          \else
488
489
           \xdef\EmFi@sortkeys{%
490
             \EmFi@sortkeys
             /\pdf@escapename{#1}%
491
492
           \ifx\EmFi@sortorders\ltx@empty
493
             \global\let\EmFi@sortorders\EmFi@temp
494
             \gdef\EmFi@sortcase{1}%
495
496
           \else
497
             \xdef\EmFi@sortorders{%
498
              \EmFi@sortorders
499
              \ltx@space
              \EmFi@temp
500
501
             7%
502
             \xdef\EmFi@sortcase{2}%
503
           \fi
          \fi
504
505
         }%
506
         \EmFi@GlobalDefaultKey{EmFiSo}\EmFi@key
507
       \endgroup
508
      \else
       \EmFi@Error{%
509
        Field `\EmFi@key' is already defined%
510
       }\@ehc
511
      \fi
512
513
    \fi
514 }
515 \kv@define@key{EmFiFi}{type}{%
    \EdefSanitize\EmFi@temp{#1}%
516
    \ifx\EmFi@temp\EmFi@S@text
517
      \let\EmFi@type\EmFi@temp
518
    \else\ifx\EmFi@temp\EmFi@S@date
519
520
      \let\EmFi@type\EmFi@temp
521
    \else\ifx\EmFi@temp\EmFi@S@number
522
      \let\EmFi@type\EmFi@temp
    \else\ifx\EmFi@temp\EmFi@S@file
523
      \let\EmFi@type\EmFi@temp
524
     \else\ifx\EmFi@temp\EmFi@S@desc
525
      \let\EmFi@type\EmFi@temp
526
     \else\ifx\EmFi@temp\EmFi@S@moddate
527
      \let\EmFi@type\EmFi@temp
528
     \else\ifx\EmFi@temp\EmFi@S@creationdate
529
530
      \let\EmFi@type\EmFi@temp
531
    \else\ifx\EmFi@temp\EmFi@S@size
```

```
\let\EmFi@type\EmFi@temp
                                                   532
                                                   533
                                                               \else
                                                                   \EmFi@Error{%
                                                   534
                                                                       Unknown type `\EmFi@temp'.\MessageBreak
                                                   535
                                                   536
                                                                       Supported types: `text', `date', `number', `file',\MessageBreak
                                                                       `desc', `moddate', `creationdate', `size'%
                                                   537
                                                   538
                                                                  }%
                                                               \inf\inf\inf\inf\inf
                                                   539
                                                   540 }
                                                   541 \kv@define@key{EmFiFi}{title}{%
                                                   542 \def\EmFi@title{#1}%
                                                   543 }
\EmFi@setboolean
                                                   544 \def\EmFi@setboolean#1#2{%
                                                   545 \EdefSanitize\EmFi@temp{#2}%
                                                   546 \ifx\EmFi@temp\EmFi@S@true
                                                                   \csname EmFi@#1true\endcsname
                                                   547
                                                   548 \else
                                                                  \ifx\EmFi@temp\EmFi@S@false
                                                   549
                                                                      \csname EmFi@#1false\endcsname
                                                   550
                                                   551
                                                                      \EmFi@Error{%
                                                   552
                                                                          Unknown value `\EmFi@temp' for key `#1'.\MessageBreak
                                                   553
                                                                          Supported values: `true', `false'%
                                                   554
                                                                      }\@ehc
                                                   555
                                                   556
                                                   557 \fi
                                                   558 }
                                                   559 \kv@define@key{EmFiFi}{visible}[true]{%
                                                   560 \ \text{EmFi@setboolean{visible}{#1}}\%
                                                   562 \ensuremath{\mbox{\sc S}}\ensuremath{\mbox{\sc S}}\ensuremath{\mb
                                                   563 \EmFi@setboolean{edit}{#1}%
                                                   564 }
     \EmFi@sortkeys
                                                   565 \def\EmFi@sortkeys{}
 \EmFi@sortorders
                                                   566 \def\EmFi@sortorders{}
          \embedfilesort
                                                   567 \def\embedfilesort{%
                                                   568 \kvsetkeys{EmFiSo}%
                                                  569 }
                                                                 Embed the file
                                                 2.8
                   \embedfile
                                                   570 \def\embedfile{%
                                                   571 \quad \texttt{\ltx@ifnextchar[\EmFi@embedfile{\EmFi@embedfile[]}\%}
                                                   572 }
  \EmFi@embedfile
                                                   573 \def\EmFi@embedfile[#1]#2{\%}
                                                   574 \ifEmFi@finished
                                                                   \EmFi@Error{%
                                                   575
                                                                      \string\embedfile\ltx@space after \string\embedfilefinish
                                                   576
                                                   577
                                                                  }{%
```

```
The list of embedded files is already written.%
578
579
580
    \else
      \begingroup
581
       \def\EmFi@file{#2}%
582
583
       \kvsetkeys{EmFi}{\#1}\%
584
       \expandafter\expandafter\expandafter
585
       \ifx\expandafter\expandafter\expandafter
          586
        \EmFi@Error{%
587
          File `\EmFi@file' not found%
588
        }{%
589
          The unknown file is not embedded.%
590
        }%
591
592
         \edef\EmFi@@filespec{%
593
          \verb|\pdf@escapestring{\EmFi@filespec}| % \\
594
        }%
595
        \ifx\EmFi@ucfilespec\ltx@empty
596
597
          \let\EmFi@@ucfilespec\ltx@empty
598
        \else
          \EmFi@convert\EmFi@ucfilespec\EmFi@@ucfilespec
599
600
         \ifx\EmFi@desc\ltx@empty
601
          \let\EmFi@@desc\ltx@empty
602
603
         \else
          \EmFi@convert\EmFi@desc\EmFi@@desc
604
605
        \fi
606
        \ifEmFi@item
          \let\do\EmFi@do
607
          608
609
610
             \EmFi@fieldlist
611
           >>%
          }%
612
613
          \edef\EmFi@ci{\the\pdflastobj}%
614
615
        \immediate\pdfobj stream attr{%
616
          /Type/EmbeddedFile%
          \fint EmFi@mimetype\ltx@empty
617
          \else
618
           \\ /Subtype/\\pdf@escapename{\EmFi@mimetype}\%
619
          \fi
620
621
          /Params<<%
622
           /ModDate(\pdf@filemoddate{\EmFi@file})%
623
           /Size \pdf@filesize{\EmFi@file}%
624
           /CheckSum<\pdf@filemdfivesum{\EmFi@file}>%
625
          >>%
626
        file{EmFi@file}\relax
627
        \EmFi@defobj{EmbeddedFile}%
        628
629
          <<%
           /Type/Filespec%
630
631
           \ifx\EmFi@filesystem\ltx@empty
632
633
           \label{lemfi} $$\FS/\pdf@escapename{\EmFi@filesystem}%$
634
635
           /F(\EmFi@@filespec)%
636
           \ifx\EmFi@@ucfilespec\ltx@empty
637
           \else
             /UF(\EmFi@@ucfilespec)%
638
           \fi
639
```

```
\ifx\EmFi@@desc\ltx@empty
                 640
                 641
                              /Desc(\EmFi@@desc)%
                 642
                             \fi
                 643
                             /EF<<%
                 644
                 645
                              /F \the\pdflastobj\ltx@space 0 R%
                 646
                             >>%
                 647
                             \ifEmFi@item
                              /CI \EmFi@ci\ltx@space 0 R%
                 648
                             \fi
                 649
                           >>%
                 650
                          }%
                 651
                          \EmFi@defobj{Filespec}%
                 652
                          \EmFi@add{%
                 653
                           \EmFi@@filespec
                 654
                 655
                          }{\the\pdflastobj\ltx@space 0 R}%
                 656
                         \fi
                 657
                       \endgroup
                      \fi
                 658
                 659 }
    \EmFi@do
                 660 \ensuremath{\mbox{def}\mbox{EmFi@do#1}}\%
                      \verb|\expandafter| if x \csname EmFi@P@#1 \endcsname \relax|
                 662
                       \verb|\expandafter| if x \csname EmFi@V@\#1 \endcsname \relax|
                 663
                 664
                         /\pdf@escapename{#1}\csname EmFi@V@#1\endcsname
                       ۱fi
                 665
                 666
                      \else
                       667
                         \expandafter\ifx\csname EmFi@V@#1\endcsname\relax
                 668
                 669
                 670
                          /D\csname EmFi@V@#1\endcsname
                 671
                 672
                         /P(\csname EmFi@P@#1\endcsname)%
                 673
                       >>%
                     \fi
                 674
                 675 }
\EmFi@convert
                 676 \def\EmFi@convert#1#2{%
                      \ifnum\pdf@strcmp{\EmFi@stringmethod}{psd}=0 %
                 678
                       \pdfstringdef\EmFi@temp{#1}%
                       \let#2\EmFi@temp
                 679
                 680
                       \edef#2{\pdf@escapestring{#1}}%
                 681
                 682 \fi
                 683 }
                 684 \global\let\EmFi@list\ltx@empty
   \EmFi@add Sorting is done by the insertion sort algorithm. Probably the sorting could be done
                more reliable. However, the PDF specification is not too clear to me regarding
                precise sorting rules (how to deal with different encodings, escaped characters, ...).
                 685 \def\EmFi@add#1#2{%
                      \begingroup
                 686
                       \ifx\EmFi@list\ltx@empty
                 687
                         \xdef\EmFi@list{\noexpand\do{#1}{#2}}%
                 688
                 689
                 690
                         \def\do##1##2{%
                          \ifnum\pdf@strcmp{##1}{#1}>0 %
                 691
                           \left( x_{x}\right) 
                 692
```

```
\toks@{%
                                                                               693
                                                                                                                                           \ \
                                                                               694
                                                                                                                                           \noexpand\do{\#1}{\#2}\%
                                                                               695
                                                                                                                                           \noexpand\do{\##1}{\##2}\%
                                                                               696
                                                                               697
                                                                                                                                   }%
                                                                               698
                                                                                                                              }%
                                                                               699
                                                                                                                              \def\do####1####2{%
                                                                               700
                                                                                                                                    \label{local_toks_decomposition} $$ \c \end{minipage} $$ \c \end{minip
                                                                               701
                                                                                                                              }%
                                                                               702
                                                                                                                              \def\stop{%
                                                                               703
                                                                                                                                    \xdef\EmFi@list{\theta \land toks@}\%
                                                                               704
                                                                                                                              }%
                                                                               705
                                                                                                                       \else
                                                                               706
                                                                               707
                                                                                                                              \toks@\operatorname{\toks@\do}{\#\#1}{\#\#2}}\%
                                                                               708
                                                                                                                       \fi
                                                                               709
                                                                                                                 }%
                                                                                                                 \def\stop{%}
                                                                               710
                                                                                                                       \label{limit} $$ \vec{EmFi@list{\theta\circ noexpand\do{\#1}{\#2}}} $$
                                                                               711
                                                                               712
                                                                                                                }%
                                                                                                                 \toks@{}%
                                                                               713
                                                                                                                 \EmFi@list\stop
                                                                               714
                                                                               715
                                                                                                           \fi
                                                                               716
                                                                                                   \endgroup
                                                                               717 }
\embedfilefinish
                                                                               718 \def\embedfilefinish{%
                                                                                                   \ifEmFi@finished
                                                                               719
                                                                                                          \EmFi@Error{%
                                                                               720
                                                                                                                 Too many invocations of \string\embedfilefinish
                                                                               721
                                                                               722
                                                                                                          }{%
                                                                               723
                                                                                                                 The list of embedded files is already written.%
                                                                               724
                                                                                                          }%
                                                                               725
                                                                                                   \else
                                                                                                          \fint EmFi@list\tx@empty
                                                                               726
                                                                                                          \else
                                                                               727
                                                                           Write /EmbeddedFiles entry.
                                                                                                                 \global\EmFi@finishedtrue
                                                                               728
                                                                               729
                                                                                                                 \begingroup
                                                                                                                       \def\do##1##2{%
                                                                               730
                                                                                                                              (##1)##2%
                                                                               731
                                                                                                                       }%
                                                                               732
                                                                                                                       \mbox{\limits} \mbo
                                                                               733
                                                                                                                              <<%
                                                                               734
                                                                                                                                    /Names[\EmFi@list]%
                                                                               735
                                                                                                                              >>%
                                                                               736
                                                                               737
                                                                                                                       }%
                                                                               738
                                                                                                                       \pdfnames{%
                                                                               739
                                                                                                                              /EmbeddedFiles \the\pdflastobj\ltx@space 0 R%
                                                                               740
                                                                                                                       }%
                                                                               741
                                                                                                                 \endgroup
                                                                           Write collection objects.
                                                                                                                \ifx\EmFi@initialfile\ltx@empty
                                                                               742
                                                                               743
                                                                                                                      \EmFi@collectiontrue
                                                                               744
                                                                                                                ١fi
                                                                               745
                                                                                                                 \ifEmFi@collection
                                                                               746
                                                                                                                      \ifx\EmFi@initialfile\ltx@empty
                                                                               747
                                                                                                                             \let\EmFi@@initialfile\ltx@empty
                                                                               748
                                                                               749
                                                                                                                       \else
```

```
\edef\EmFi@@initialfile{%
  750
                                   \pdf@escapestring{\EmFi@initialfile}%
  751
                               }%
  752
                           \fi
  753
Look for initial file among the embedded files.
                           \begingroup
  754
                                \left| \right| = N\%
  755
                                \def\do##1##2{%
  756
  757
                                   \def\x{\##1}\%
  758
                                   \in \x \EmFi@@initialfile
                                       \left| f=Y\% \right|
  759
                                       \let\do\ltx@gobbletwo
  760
                                   \fi
  761
                               }%
  762
                               \EmFi@list
  763
  764
                           \expandafter\endgroup
  765
                           \ifx\f Y%
  766
                           \else
                               \@PackageWarningNoLine{embedfile}{%
  767
  768
                                  Missing initial file `\EmFi@initialfile'\MessageBreak
  769
                                   among the embedded files%
  770
                               \let\EmFi@initialfile\ltx@empty
  771
                               \let\EmFi@@initialfile\ltx@empty
  772
  773
                           \ifcase\EmFi@sortcase
  774
                               \def\EmFi@temp{}\%
  775
                           \or
  776
  777
                               \def\EmFi@temp{%
  778
                                   /S\EmFi@sortkeys
  779
                                   /A \EmFi@sortorders
                               }%
  780
  781
                           \else
                               \label{lemfi} $$ \end{area} \end{area} $$ 
  782
                                   /S[\EmFi@sortkeys]\%
  783
                                   /A[\EmFi@sortorders]%
  784
                               }%
  785
                           \fi
  786
                           \def\EmFi@@order##1{%
  787
                               \ifnum\EmFi@order>1 %
  788
                                   /0 ##1%
  789
  790
                               \fi
  791
                           }%
  792
                           \immediate\pdfobj{%
                               <<%
  793
                                   \fint EmFi@schema\tx@empty
  794
                                   \else
  795
                                       \label{lem:condition} $$ \operatorname{Schema}>> \
  796
  797
                                   \ifx\EmFi@@initialfile\ltx@empty
  798
  799
                                   \else
  800
                                       /D(\EmFi@@initialfile)%
  801
                                   \ifx\EmFi@view\EmFi@S@tile
  802
                                       /View/T%
  803
                                   \else\ifx\EmFi@view\EmFi@S@hidden
  804
                                       /View/H%
  805
                                   \fi\fi
  806
                                   \ifx\EmFi@temp\ltx@empty
  807
                                       \EmFi@temp
  808
  809
  810
                                       /Sort<<\EmFi@temp>>%
```

```
811
            \fi
          >>%
812
813
         \pdfcatalog{%
814
          /Collection \the\pdflastobj\ltx@space0 R%
816
         }%
817
        \fi
818
      \fi
    \fi
819
820 }
821 \begingroup\expandafter\expandafter\expandafter\endgroup
822 \expandafter\ifx\csname AtEndDocument\endcsname\relax
823 \else
    \AtEndDocument{\embedfilefinish}%
824
825 \fi
826 \EmFi@AtEnd%
827 (/package)
```

3 Test

3.1 Catcode checks for loading

```
828 (*test1)
829 \catcode`\{=1 %
830 \catcode`\}=2 %
831 \catcode`\#=6 %
832 \catcode`\@=11 %
833 \expandafter\ifx\csname count@\endcsname\relax
834 \countdef\count@=255 %
835 \fi
836 \expandafter\ifx\csname @gobble\endcsname\relax
    \long\def\@gobble#1{}%
837
838 \fi
839 \expandafter\ifx\csname @firstofone\endcsname\relax
840
    \long\def\@firstofone#1{#1}%
841 \fi
842 \expandafter\ifx\csname loop\endcsname\relax
    \expandafter\@firstofone
844 \else
    \expandafter\@gobble
845
846 \fi
847 {%
    \def \leq \#1 \end{w}
848
849
      \def\body{#1}%
850
      \iterate
    }%
851
    \def = {\%}
852
      \body
853
       \let\next\iterate
854
      \else
855
       \let\next\relax
856
      \fi
857
      \next
858
    }%
859
    \let\repeat=\fi
861 }%
862 \def\RestoreCatcodes{}
863 \count@=0 %
864 \loop
865 \edef\RestoreCatcodes{%
```

```
\RestoreCatcodes
866
      \catcode\the\count@=\the\catcode\count@\relax
867
868
869 \ifnum\count@<255 %
870 \advance\count@ 1 %
871 \repeat
873 \def\RangeCatcodeInvalid#1#2{%
    \count@=#1\relax
874
    \loop
875
     \catcode\count@=15 %
876
    \ifnum\count@<#2\relax
877
     \advance\count@ 1 %
878
879
    \repeat
880 }
881 \def\RangeCatcodeCheck#1#2#3{%
882
    \count@=#1\relax
883
    \loop
     \ifnum#3=\catcode\count@
884
885
      \else
886
       \errmessage{%
        Character \the\count@\space
887
        with wrong catcode \the\catcode\count@\space
888
        instead of \number#3%
889
890
891
      \fi
    892
893
     \advance\count@ 1 %
894
    \repeat
895 }
896 \def\space{ }
897 \expandafter\ifx\csname LoadCommand\endcsname\relax
    \def\LoadCommand{\input embedfile.sty\relax}%
899 \fi
900 \def\Test{%
901 \RangeCatcodeInvalid{0}{47}%
902 \RangeCatcodeInvalid{58}{64}%
903 \RangeCatcodeInvalid{91}{96}%
904 \RangeCatcodeInvalid{123}{255}%
905 \catcode`\@=12 %
906 \catcode`\\=0 %
    \catcode`\%=14 %
907
    \LoadCommand
908
909
    \RangeCatcodeCheck{0}{36}{15}%
910
    \RangeCatcodeCheck{37}{37}{14}%
911
    \RangeCatcodeCheck{38}{47}{15}%
    \RangeCatcodeCheck{48}{57}{12}%
913
    \RangeCatcodeCheck{58}{63}{15}%
914
    915
    \RangeCatcodeCheck{65}{90}{11}%
    \RangeCatcodeCheck{91}{91}{15}%
916
    \RangeCatcodeCheck{92}{92}{0}%
917
    \RangeCatcodeCheck{93}{96}{15}%
918
    \RangeCatcodeCheck{97}{122}{11}%
919
    \verb|\RangeCatcodeCheck{123}{255}{15}|%
920
921
    \RestoreCatcodes
922 }
923 \Test
924 \csname @@end\endcsname
925 \end
926 (/test1)
```

3.2 Simple test

```
927 (*test2)
928 \input embedfile.sty\relax
929 \embedfile[%
930 stringmethod=escape,%
931 mimetype=plain/text,%
932 desc={LaTeX docstrip source archive for package `embedfile'},%
933 id={embedfile.dtx}%
934 ]{embedfile.dtx}
935 \nopagenumbers
936 Test (plain-\TeX): {\tt embedfile.dtx} should be embedded.%
937
938 \def\Test#1{%
939 \par
     \embedfileifobjectexists{embedfile.dtx}{#1}{%
940
       Object #1 (embedfile.dtx): %
941
       \embedfilegetobject{embedfile.dtx}{#1}%
942
943 }{%
944
       \errmessage{Missing object #1 (embedfile.dtx)}%
945 }%
946 }
947 \Test{EmbeddedFile}
948 \Test{Filespec}
949 \embedfilefinish
950 \bye
951 (/test2)
952 (*test3)
953 \NeedsTeXFormat{LaTeX2e}
954 \let\SavedJobname\jobname
955 \def\jobname{embedfile}
956 \RequirePackage{dtx-attach}[2016/05/15]
957 \let\jobname\SavedJobname
958 \documentclass{minimal}
959 \begin{document}
960 Test (\LaTeX): \texttt{embedfile.dtx} should be embedded.%
961 \end{document}
962 (/test3)
3.3
      Test for ini-T<sub>E</sub>X
963 (*test4)
964 \catcode`\{=1 %
965 \catcode \ \}=2 %
966 \input ifluatex.sty %
967 \ifluatex
968 \directlua{%
      tex.enableprimitives(", {%
969
970
        'pdflastobj',%
971
        'pdfnames',%
972
        'pdfobj',%
973
        'pdfoutput'%
974
      })%
975 }%
    \ifx\pdfextension\undefined\else
976
       \protected\def\pdflastobj {\numexpr\pdffeedback lastobj\relax}
977
       \protected\def\pdfnames {\pdfextension names }
978
       \protected\def\pdfobj {\pdfextension obj }
979
980
       \let\pdfoutput
                              \outputmode
981
982 \fi
983 \pdfoutput=1 %
984 \input embedfile.sty %
```

```
985 \shipout\hbox{}
986 \embedfile[%
987 stringmethod=escape,%
988 mimetype=plain/text,%
989 desc={iniTeX source},%
990 ]{\jobname.tex}
991 \embedfilefinish
992 \end
993 \/test4\
```

4 Installation

4.1 Download

Package. This package is available on CTAN¹:

CTAN:macros/latex/contrib/oberdiek/embedfile.dtx The source file.

CTAN:macros/latex/contrib/oberdiek/embedfile.pdf Documentation.

Bundle. All the packages of the bundle 'oberdiek' are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

CTAN:install/macros/latex/contrib/oberdiek.tds.zip

TDS refers to the standard "A Directory Structure for TEX Files" (CTAN:tds/tds.pdf). Directories with texmf in their name are usually organized this way.

4.2 Bundle installation

Unpacking. Unpack the oberdiek.tds.zip in the TDS tree (also known as texmf tree) of your choice. Example (linux):

```
unzip oberdiek.tds.zip -d ~/texmf
```

Script installation. Check the directory TDS:scripts/oberdiek/ for scripts that need further installation steps. Package attachfile2 comes with the Perl script pdfatfi.pl that should be installed in such a way that it can be called as pdfatfi. Example (linux):

```
chmod +x scripts/oberdiek/pdfatfi.pl
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/
```

4.3 Package installation

Unpacking. The .dtx file is a self-extracting docstrip archive. The files are extracted by running the .dtx through plain T_EX :

```
tex\ embedfile.dtx
```

TDS. Now the different files must be moved into the different directories in your installation TDS tree (also known as texmf tree):

```
embedfile.sty

ightarrow tex/generic/oberdiek/embedfile.sty
dtx-attach.sty
                                     \rightarrow tex/generic/oberdiek/dtx-attach.sty
embedfile.pdf
                                    → doc/latex/oberdiek/embedfile.pdf
embedfile-example-plain.tex
                                    \rightarrow \texttt{doc/latex/oberdiek/embedfile-example-plain.tex}
embed file-example-collection.tex \rightarrow doc/latex/oberdiek/embed file-example-collection.tex \\
test/embedfile-test1.tex
                                    \rightarrow \texttt{doc/latex/oberdiek/test/embedfile-test1.tex}
test/embedfile-test2.tex

ightarrow doc/latex/oberdiek/test/embedfile-test2.tex
test/embedfile-test3.tex
                                    → doc/latex/oberdiek/test/embedfile-test3.tex
test/embedfile-test4.tex

ightarrow doc/latex/oberdiek/test/embedfile-test4.tex
embedfile.dtx
                                     \rightarrow source/latex/oberdiek/embedfile.dtx
```

¹http://ctan.org/pkg/embedfile

If you have a docstrip.cfg that configures and enables docstrip's TDS installing feature, then some files can already be in the right place, see the documentation of docstrip.

4.4 Refresh file name databases

If your T_EX distribution (teT_EX, mikT_EX, ...) relies on file name databases, you must refresh these. For example, teT_EX users run texhash or mktexlsr.

4.5 Some details for the interested

Unpacking with LATEX. The .dtx chooses its action depending on the format:

plain T_EX: Run docstrip and extract the files.

LATEX: Generate the documentation.

If you insist on using LATEX for docstrip (really, docstrip does not need LATEX), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{embedfile.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

Generating the documentation. You can use both the .dtx or the .drv to generate the documentation. The process can be configured by the configuration file ltxdoc.cfg. For instance, put this line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with pdfIATEX:

```
pdflatex embedfile.dtx
makeindex -s gind.ist embedfile.idx
pdflatex embedfile.dtx
makeindex -s gind.ist embedfile.idx
pdflatex embedfile.dtx
```

5 Catalogue

The following XML file can be used as source for the TEX Catalogue. The elements caption and description are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is embedfile.xml.

```
994 (*catalogue)
995 <?xml version='1.0' encoding='us-ascii'?>
996 <!DOCTYPE entry SYSTEM 'catalogue.dtd'>
997 <entry datestamp='$Date$' modifier='$Author$' id='embedfile'>
998
     <name>embedfile</name>
     <caption>Embed files into PDF.</caption>
999
     <authorref id='auth:oberdiek'/>
1000
     <copyright owner='Heiko Oberdiek' year='2006-2011'/>
1001
1002
     clicense type='lppl1.3'/>
1003
     <version number='2.7'/>
1004
     <description>
1005
       This package embeds files in a PDF document, using the PDF
1006
       format's embedding operation (note the contrast with the attach
1007
       operation used by the <xref refid='attachfile'>attachfile</xref>
1008
       and and cref refid='attachfile2'>attachfile2</pref> packages).
       Currently only refid='pdftex'>pdfTeX >=1.30, in
1009
       PDF mode, is supported.
1010
1011
```

```
1012
       1013
       The package is part of the <xref refid='oberdiek'>oberdiek</xref>
       bundle.
1014
     </description>
1015
     <documentation details='Package documentation'</pre>
1016
        href='ctan:/macros/latex/contrib/oberdiek/embedfile.pdf'/>
1017
1018
     <ctan file='true' path='/macros/latex/contrib/oberdiek/embedfile.dtx'/>
1019
     <miktex location='oberdiek'/>
1020 <texlive location='oberdiek'/>
1021 <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip'/>
1022 </entry>
1023 (/catalogue)
```

6 References

- [1] Scott Pakin: The attachfile package; 2005/02/20 v1.2; CTAN:macros/latex/contrib/attachfile/.
- [2] Heiko Oberdiek: *The attachfile2 package*; 2006/08/16 v2.2; CTAN:macros/latex/contrib/oberdiek/attachfile2.pdf.
- [3] Adobe Systems Incorporated: *PDF Reference*, Sixth Edition, Version 1.7, Oktober 2006; http://www.adobe.com/devnet/pdf/pdf_reference.html.
- [4] Network Working Group: RFC 2046, Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types, November 1996; http://www.rfc-editor.org/.
- [5] IANA (Internet Assigned Numbers Authority): MIME Media Types, May 2006; http://www.iana.org/assignments/media-types/.

7 History

[2006/08/16 v1.0]

• First public version.

[2007/04/11 v1.1]

• Line ends sanitized.

[2007/09/09 v1.2]

- Fixes for plain-TeX, wrapper for package keyval added.
- Catcode section rewritten.

[2007/10/28 v2.0]

• Collection support added (PDF 1.7).

[2007/10/29 v2.1]

 Export of object references by adding new option id and new macros \embedfileifobjectexists and \embedfilegetobject.

[2007/11/11 v2.2]

• Use of package pdftexcmds for LuaT_FX support.

[2007/11/25 v2.3]

• Fix in use of \pdf@filesize, bug introduced in previous version.

[2009/09/25 v2.4]

- Bug fix: If hyperref is used with option unicode, the Unicode encoded file name causes trouble. Therefore \pdfstringdef is now never used for option filespec, always method escape is applied (Peter Cibulka).
- Bug fix for initialfile.
- Bug fix for file names in /EmbeddedFiles.
- New option ucfilespec for file name support in Unicode (since PDF 1.7).

[2010/03/01 v2.5]

- Compatibility for ini-T_EX.
- Package keyval replaced by packages kvsetkeys and kvdefinekeys because of compatibility for ini-T_EX.
- TDS location moved from TDS:tex/latex/oberdiek/embedfile.sty to TDS:tex/generic/oberdiek/embedfile.sty.

[2011/04/13 v2.6]

• Docu fixes (thanks Hans-Martin Münch).

[2016/05/15 v2.7]

• luaTeX compatibility

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