

The `figlatex` package*

Arnaud LEGRAND

Vincent DANJEAN

2018/10/17

Abstract

This package allows \LaTeX to load XFig and SVG figures (or subfigures) with the `\includegraphics` command.

1 Introduction

1.1 General

`\includegraphics` This package allows to load XFig figures from \LaTeX sources with the `\includegraphics` command from the `graphicx` package:

```
\includegraphics[width=\linewidth]{myfig.fig}
```

This package does not convert by itself XFig figures (see package `texdepends` for that). It only diverts the loading functions so that \LaTeX includes the `.pstex_t` or the `.pdftex_t`.

1.2 Options

Available options for this package:

<code>debug</code>	debug : more messages written while compiling
<code>compatibility</code>	compatibility : old versions of <code>pdflatex</code> do not allow to declare a PDF file with <code>\DeclareGraphicsRule</code> that has not the <code>.pdf</code> extension. In such cases, this package uses the extension <code>.pdf</code> instead of <code>.pdftex</code> for PDF created from XFig figures.
<code>figlatex.cfg</code> <code>\compatibility</code> <code>\debug</code>	When the package is loaded, it tries to read a <code>figlatex.cfg</code> file. This file can contains <code>\compatibility</code> and/or <code>\debug</code> to enable theses options site wide.

*This file has version number v2.3.0, last revised 2018/10/17.

1.3 Subfigures

Sometimes, several figures made with XFig should be similar. It is possible to make only one XFig figure and then create subfigures which contains only a subset of the depths of the original figure.

2 Implementation

2.1 figlatex

```
1 <*package>
   Options definitions
compatibility
2 \newif\ifFL@compatibility
3 \DeclareOption{compatibility}{%
4   %\PackageWarning{figlatex}{option compatibility}%
5   \global\FL@compatibilitytrue%
6 }

debug
7 \newif\ifFL@debug
8 \DeclareOption{debug}{%
9   \global\FL@debugtrue%
10 }

   We load the config file if it exists. Commands for the config file are local.
11 {

\compatibility
12   \def\compatibility{%
13     \ExecuteOptions{compatibility}%
14   }

\debug
15   \def\debug{%
16     \ExecuteOptions{debug}%
17   }

18   \InputIfFileExists{figlatex.cfg}{%
19     \typeout{*****^^J%
20               * Local config file figlatex.cfg used *^^J%
21               *****}
22   }{%
23     \typeout{Found no configuration file for figlatex}
24   }
25 }

Run the options
26 \ProcessOptions
```

```

and requires some packages
27 \RequirePackage{ifthen}
28 \RequirePackage{ifpdf}
29 \RequirePackage{graphicx}
XFig uses heavily the color package
30 \RequirePackage{color}
31 \RequirePackage{epstopdf}

\FL@dmmessage Write the message only if debug is set
32 \def\FL@dmmessage#1{%
33   \ifFL@debug%
34     \message{#1}%
35   \fi%
36 }

\Gininclude@rawtex .pstex_t or .pdfTeX_t are loaded with \input
37 \def\Gininclude@rawtex#1{%
38   \FL@dmmessage{<#1>}%
39   \bgroup%
40   \def\@tempa{!}%
41   \ifx\Gin@scaley\@tempa%
42     \let\Gin@scaley\Gin@scalex%
43   \else%
44     \ifx\Gin@scalex\@tempa\let\Gin@scalex\Gin@scaley\fi%
45   \fi%
46   \hbox{%
47     \Gscale@box{\Gin@scalex}{\Gin@scaley}{%
48       \def\Gin@scalex{1}%
49       \let\Gin@scaley\Gin@exclamation% needed for pdfLaTeX
50       \FL@dmmessage{<loading rawtex #1>}%
51       \input{#1}}}%
52   \egroup}

\Gininclude@figtex .fig are loaded with \includegraphics after modifying the name
53 \def\Gininclude@figtex#1{%
54   \message{<#1>}%
55   \bgroup%
56   \xdef\FL@filename{#1}%
57   \filename@parse{\FL@filename}%
58   \xdef\FL@filename{\filename@area\filename@base.\FL@figext}%
59   \FL@dmmessage{<****loading fig \FL@filename>}%
60   \FL@includerawtexgraphics[]{\FL@filename}%
61   \egroup}

\Gread@figtex .fig bounding box is the same as the corresponding .pstex_t or .pdfTeX_t
62 \newcommand{\Gread@figtex}[1]{%
63   %\typeout{Oh, file exists #1}%
64   \Gread@rawtex{#1}%
65 }

```

```

\Ginclude@svgtext .svg are loaded with \includegraphics after modifying the name
66 \def\Ginclude@svgtext#1{%
67   \message{<#1>}%
68   \bgroup%
69   \xdef\FL@filename{#1}%
70   \filename@parse{\FL@filename}%
71   \xdef\FL@filename{\filename@area\filename@base.\FL@svgtext}%
72   \FL@dmmessage{<****loading svg \FL@filename>}%
73   \FL@includerawtexgraphics[]{\FL@filename}%
74   \egroup}

\Gread@svgtext .svg bounding box is the same as the corresponding .pstex_t or .pdftex_t
75 \newcommand{\Gread@svgtext}[1]{%
76   %\typeout{Oh, file exists #1}%
77   \Gread@rawtex{#1}%
78 }

Declare the right things depending whether we build a DVI or a PDF file.
79 \ifpdf
PDF part
80 \def\FL@figext{pdftex_t}%
81 \def\FL@svgext{pdftex_t}%
To read bounding box information:
82 \let\Gread@rawtex\Gread@pdf%
83 \DeclareGraphicsRule{.pdftex}{pdf}{*}{}%
84 \ifFL@compatibility%
85   \PackageWarningNoLine{figlatrix}{Compatibility mode enabled
86     for old LaTeX
87     \MessageBreak Using .pdf extension for pdftex files}%
88   \DeclareGraphicsRule{.pdftex_t}{rawtex}{.pdf}{}%
89   \DeclareGraphicsRule{.fig}{figtex}{.pdf}{}%
90   \DeclareGraphicsRule{.svg}{svgtext}{.pdf}{}%
91 \else%
92   \DeclareGraphicsRule{.pdftex_t}{rawtex}{.pdftex}{}%
93   \DeclareGraphicsRule{.fig}{figtex}{.pdftex}{}%
94   \DeclareGraphicsRule{.svg}{svgtext}{.pdftex}{}%
95 \fi%
96 \else
DVI part
97 \def\FL@figext{pstex_t}%
98 \def\FL@svgext{pstex_t}%
To read bounding box information:
99 \let\Gread@rawtex\Gread@eps%
100 \DeclareGraphicsRule{.pstex}{eps}{*}{}%
101 \DeclareGraphicsRule{.pstex_t}{rawtex}{.pstex}{}%
102 \DeclareGraphicsRule{.fig}{figtex}{.pstex}{}%
103 \DeclareGraphicsRule{.svg}{svgtext}{.pstex}{}%
104 \fi

```

This command is not really necessary here (code could be added in `\Gininclude@figtex`). However, it's very convenient for the `texdepends` package.

```
105 \newcommand{\FL@includerawtexgraphics}[2] [] {%
106   \includegraphics[#1]{#2}%
107 }
```

Addition of the `subfig=name` key for the options of the `\includegraphicx[...]{...}` macro.

```
108 \def\FL@exclamation{!}%
109 \let\FL@subfig@name\FL@exclamation%
110 \define@key{Gin}{subfig}{%
111   \def\FL@subfig@name{#1}%
112 }
113 \def\FL@sepdefault{_}%
```

We should check if the `#1` file exists (`XXX.subfig`) This is not yet done but `texdepends` divert this macro to record the dependency

```
114 \def\FL@subfig@check#1{%
115 }
```

We divert `\Gin@getbase` to modify the file name if the `subfig` key is used.

```
116 \def\FL@Gin@getbase#1{%
117   \ifx\FL@subfig@name\FL@exclamation%
118     \else%
119     \ifthenelse{\equal{#1}{.fig}}{%
120       % If we're including a subfig
121       \IfFileExists{\filename@area\filename@base#1}{%
122         % If the original .fig file exists, just change the name so that
123         % it comprises the full path.
124         \filename@parse{\@filef@und}%
125         % Remove potential trailing space at the end of the extension
126         \def\filename@ext{fig}%
127         % Check if the subfig file exists
128         \FL@subfig@check{\filename@area\filename@base.subfig}%
129       }{%
130         % Else, write a warning (LaTeX will warn as well but it doesn't
131         % hurt)
132         \PackageWarning{figlatex}{No file
133           '\filename@area\filename@base#1'}%
134       }
135       % Add the subfig suffix to the fig name.
136       \edef\filename@base{\filename@base\FL@sepdefault\FL@subfig@name}%
137     }{%
138     }%
139     \ifthenelse{\equal{#1}{.svg}}{%
140       % If we're including a subfig
141       \IfFileExists{\filename@area\filename@base#1}{%
142         % If the original .svg file exists, just change the name so that
143         % it comprises the full path.
144         \filename@parse{\@filef@und}%
```

```

145      % Remove potential trailing space at the end of the extension
146      \def\filename@ext{svg}%
147      % Check if the subfig file exists
148      \FL@subfig@check{\filename@area\filename@base.subfig}%
149    }{%
150      % Else, write a warning (LaTeX will warn as well but it doesn't
151      % hurt)
152      \PackageWarning{figlatex}{No file
153        '\filename@area\filename@base#1'}%
154    }
155    % Add the subfig suffix to the svg name.
156    \edef\filename@base{\filename@base\FL@sepdefault\FL@subfig@name}%
157  }{%
158  }%
159  \fi%
160  \FL@orig@Gin@getbase{#1}%
161 }
162 \let\FL@orig@Gin@getbase\Gin@getbase
163 \let\Gin@getbase\FL@Gin@getbase
164
165 %\@namedef{Gin@rule@.fig}#1{%
166
167 %}
168 \end{package}

The sample config file figlatex.cfg...
169 \begin{config}
170   %\compatibility
171   %\debug
172 \end{config}

```

2.2 texgraphicx

```

173 \begin{compat}

texgraphicx.sty is only a wrapper around figlatex.sty.
174 \PackageWarning{texgraphicx}{'texgraphicx' is now
175   deprecated\MessageBreak%
176   Please, consider switching to 'figlatex'
177   package\MessageBreak}
178 \RequirePackage{figlatex}
179 \ProcessOptions
180 \end{compat}

```

Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in *roman* refer to the code lines where the entry is used.

Symbols		G	
<code>\@namedef</code>	..... 165	<code>\Ginclude@figtex</code>	..... <u>53</u>
C		<code>\Ginclude@rawtex</code>	..... <u>37</u>
<code>\compatibility</code>	..... 1, <u>12</u> , 170	<code>\Ginclude@svgtex</code>	..... <u>66</u>
<code>compatibility (option)</code>	..... 1, <u>2</u>	<code>\Gread@figtex</code>	..... <u>62</u>
D		<code>\Gread@rawtex</code>	..... 64, 77, 82, 99
<code>\debug</code>	..... 1, <u>15</u> , 171	<code>\Gread@svgtex</code>	..... <u>75</u>
<code>debug (option)</code>	..... 1, <u>7</u>		
<code>\DeclareGraphicsRule</code>		
	..... 83, 88–90, 92–94, 100–103		
F		I	
<code>figlatex.cfg (option)</code>	..... 1	<code>\ifFL@compatibility</code>	..... 2, 84
<code>\FL@compatibilitytrue</code>	..... 5	<code>\ifFL@debug</code>	..... 7, 33
<code>\FL@debugtrue</code>	..... 9	<code>\includegraphics</code>	..... 1, 106
<code>\FL@dmmessage</code>	..... <u>32</u> , 38, 50, 59, 72		
<code>\FL@exclamation</code>	..... 108, 109, 117		
<code>\FL@figext</code>	..... 58, 80, 97		
<code>\FL@filename</code>	..... 56–60, 69–73		
<code>\FL@Gin@getbase</code>	..... 116, 163		
<code>\FL@includerawtexgraphics</code>	60, 73, 105		
<code>\FL@orig@Gin@getbase</code>	..... 160, 162		
<code>\FL@sepdefault</code>	..... 113, 136, 156		
<code>\FL@subfig@check</code>	..... 114, 128, 148		
<code>\FL@subfig@name</code>	109, 111, 117, 136, 156		
<code>\FL@svgext</code>	..... 71, 81, 98		
		O	
		options:	
		<code>compatibility</code>	..... <u>2</u>
		<code>debug</code>	..... <u>7</u>
		<code>compatibility</code>	..... 1
		<code>debug</code>	..... 1
		<code>figlatex.cfg</code>	..... 1

Change History

v0.1.1		v2.2.0	
General: Version 0.1.1 at last	... 1	General: No changes in	
v0.1.2		<code>figlatex.dtx</code>	..... 1
General: Manage index/glossary	. 1	v2.2.1	
v0.1.3		General: No changes in	
General: Better support for subfig		<code>figlatex.dtx</code>	..... 1
with <code>texdepends</code>	..... 1	v2.2.2	
v0.1.4		General: No changes in	
General: Support for svg with		<code>figlatex.dtx</code>	..... 1
<code>texdepends</code>	..... 1		

v2.2.3		package 'ifthen'	1
General: No changes in		Fix python syntax for python3	1
figlatex.dtx	1	v2.2.5	
v2.2.4		General: No changes in	
General: Add missing required		figlatex.dtx	1