

The grffile package

Heiko Oberdiek
<oberdiek@uni-freiburg.de>

2006/08/17 v1.1

Abstract

The package extends the file name processing of package `graphics` to support a larger range of file names. For example, the file name may contain several dots. Or in case of pdfTeX in PDF mode the file name may contain spaces.

Contents

1	Usage	1
1.1	Option <code>multidot</code>	1
1.2	Option <code>extendedchars</code>	2
1.3	Option <code>space</code>	2
1.4	General use	2
1.5	Default settings	3
2	Implementation	3
2.1	Identification	3
2.2	Catcode stuff	3
2.3	Options	3
3	Installation	6
3.1	Some details for the interested	7
4	References	7
5	History	7
	[2004/07/18 v0.5]	7
	[2006/08/15 v1.0]	7
	[2006/08/17 v1.1]	8
6	Index	9

1 Usage

1.1 Option `multidot`

The file name parsing of package `graphics` is changed, in order to detect known extensions. This allows both the use of dots inside the base file name and extensions with several dots.

Assume there are two files in the current directory: `Hello.World.eps` and `Hello.World.pdf`. `\includegraphics{Hello.World}` will find `Hello.World.pdf` with driver `pdftex` or `Hello.World.eps` with driver `dvips`.

Limitations: Problem could occur on systems, which don't use the dot as extension delimiter. These systems need an own `texsys.cfg` containing definitions for `\filename@parse`. The author could not test that, due to a missing example.

1.2 Option `extendedchars`

If the input encoding is the same encoding as the encoding that is used for file names and the driver allows non-ascii characters, then this option can be used to use file names with such characters.

Example:

```
\usepackage[latin1]{inputenc}
\usepackage[extendedchars]{grffile}
\includegraphics{Bckerstrae}
```

If the `draft` option of the graphics package is enabled, the file name is printed with the current font encoding for `\ttfamily`. Thus it is possible, that such characters are omitted or the wrong characters are displayed, if the font encoding is not the same as the file name encoding.

Limitations: As mentioned above. The `inputenc` package is used to determine the encoding of the special characters in the file name. What if the document uses utf-8 inputenc, but the system use latin1 encoding to create files? The option "extendedchar" will work anyway, but the file name has to be handed over to `\includegraphics` using latin1 encoding.

1.3 Option `space`

This option allows graphics file names that contain spaces if possible.

In general it is not possible to use space inside file names, because \TeX considers the space character as termination in its syntax for commands that expect a file name.

Regarding graphics inclusion with the package `graphics` file names are used in two or three contexts:

1. The basic `\special` statement or primitive command for graphics inclusion. The `\special` statements for drivers `dvips` or `dvipdfm` do not allow spaces. However pdf \TeX 's primitive `\pdfximage` uses curly braces to delimit the file name and allows spaces.
2. `\includegraphics` checks the existence of the file. Also it looks for the right extension if the extension is not given. If pdf \TeX 1.30 is given, the file existence test can be rewritten using a new primitive that allows spaces. This works in both modes DVI and PDF.
3. Sometimes files are read as \TeX input files. For example, `.bb` files or MPS files.

If pdf \TeX 1.30 or greater is used in PDF mode then the graphics file names may contain spaces except for MPS files. Therefore option `space` is only enabled by default, if the supported pdf \TeX in PDF mode is detected. You can enable the option manually, if you know, your DVI driver supports spaces in its `\special` syntax and if there is no need to read the image file as \TeX input file (third context).

1.4 General use

The options can be given at many places:

1. As package options:
`\usepackage[<options>]{grffile}`
2. Setup command of package grffile:
`\grffilesetup{<options>}`
3. The options are also available as options for package `graphicx`:
`\setkeys{Gin}{<options>}`
4. If package `graphicx` is loaded the options can also be applied for a single image:
`\includegraphics[<options>]{...}`

1.5 Default settings

<code>multidot</code>	<code>true</code>	
<code>extendedchars</code>	<code>false</code>	
<code>space</code>	<code>true</code>	if pdf \TeX 1.30 or greater is used in PDF mode
	<code>false</code>	otherwise

2 Implementation

2.1 Identification

```

1 (*package)
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{grffile}%
4 [2006/08/17 v1.1 Extended file name support for graphics (H0)]

```

2.2 Catcode stuff

```

5 \edef\grffile@RestoreCatcodes{%
6   \catcode'\noexpand\=\the\catcode'\=\relax
7   \catcode'\noexpand\:\the\catcode'\:\relax
8   \catcode'\noexpand\.\the\catcode'\.\relax
9   \catcode'\noexpand\'\the\catcode'\'\relax
10  \catcode'\noexpand\<\the\catcode'\<\relax
11  \catcode'\noexpand\>\the\catcode'\>\relax
12  \catcode'\noexpand*\the\catcode'\*\relax
13  \catcode'\noexpand^\the\catcode'\^\relax
14  \catcode'\noexpand~\the\catcode'\~\relax
15 }
16 \@makeother\=
17 \@makeother\:
18 \@makeother\.
19 \@makeother\'
20 \@makeother\<
21 \@makeother\>
22 \@makeother\*
23 \catcode'\^=7 %
24 \catcode'\~=active

```

2.3 Options

```

25 \RequirePackage{ifpdf}
26 \RequirePackage{kvoptions}[2006/08/17]
27 \SetupKeyvalOptions{
28   family=Gin,
29   prefix=grffile@
30 }
31 \DeclareBoolOption[true]{multidot}
32 \DeclareBoolOption[false]{extendedchars}
33 \DeclareBoolOption{space}

```

```

34 \DeclareDefaultOption{%
35   \PassOptionsToPackage\CurrentOption{graphics}%
36 }

```

Default setting for option space.

```

37 \begingroup\expandafter\expandafter\expandafter\endgroup
38 \expandafter\ifx\csname pdffilesize\endcsname\relax
39   \grffile@spacefalse
40   \let\grffile@space@disabled\@empty
41   \def\grffile@spacetrue{%
42     \PackageWarning{grffile}{%
43       Option 'space' is not available,\MessageBreak
44       because it needs pdfTeX >= 1.30%
45     }%
46   }%
47 \else
48   \ifpdf
49     \grffile@spacetrue
50   \else
51     \grffile@spacefalse
52   \fi
53 \fi
54 \ProcessKeyvalOptions*
55 \RequirePackage{graphics}

```

`\grffilesetup`

```

56 \newcommand*{\grffilesetup}{%
57   \setkeys{Gin}%
58 }

59 \let\grffile@org@Gininclude@graphics\Gininclude@graphics
60 \renewcommand*{\Gininclude@graphics}{%
61   \ifgrffile@extendedchars
62     \begingroup

```

Support of babel's shorthand characters.

```

63   \csname @safe@activetrue\endcsname

```

Support of active tilde.

```

64   \edef~{\string~}%

```

Support of characters controlled by package inputenc.

```

65   \grffile@inputenc@loop\^^A\^^H%
66   \grffile@inputenc@loop\^^K\^^K%
67   \grffile@inputenc@loop\^^N\^^_%
68   \grffile@inputenc@loop\^^?\^^ff%
69   \expandafter\grffile@extchar@Gininclude@graphics
70 \else
71   \expandafter\grffile@Gininclude@graphics
72 \fi
73 }
74 \def\grffile@extchar@Gininclude@graphics#1{%
75   \edef\x{\endgroup
76     \noexpand\grffile@Gininclude@graphics{#1}%
77   }%
78   \x
79 }
80 \def\grffile@inputenc@loop#1#2{%
81   \count@=#1\relax
82   \loop
83     \begingroup
84     \uccode'\~=\count@
85     \uppercase{%
86       \endgroup

```

```

87     \edef~{\string~}%
88   }%
89   \ifnum\count@<‘#2\relax
90     \advance\count@ \@ne
91   \repeat
92 }

Support for option space
93 \def\grffile@space@getbase#1{%
94   \edef\grffile@tempa{%
95     \def\noexpand\@tempa####1#1\noexpand\@nil{%
96       \def\noexpand\Gin@base{####1}%
97     }%
98   }%
99   \grffile@IfFileExists{\filename@area\filename@base#1}{%
100     \grffile@tempa
101     \expandafter\@tempa\grffile@file@found\@nil
102     \edef\Gin@ext{#1}%
103   }{%
104   }%
105 }
106 \def\grffile@IfFileExists#1{%
107   \expandafter\ifx\expandafter\\pdffilesize{#1}\\%
108   \let\reserved@a\@secondoftwo
109   \ifx\input@path\@undefined
110   \else
111     \expandafter\@tfor\expandafter\reserved@b\expandafter
112     : \expandafter=\input@path\do{%
113       \expandafter\ifx\expandafter\\pdffilesize{\reserved@b#1}\\%
114     \else
115       \edef\grffile@file@found{\reserved@b#1}%
116       \let\reserved@a\@firstoftwo
117       \break@tfor
118     \fi
119   }%
120   \fi
121   \expandafter\reserved@a
122 \else
123   \edef\grffile@file@found{#1}%
124   \expandafter\@firstoftwo
125 \fi
126 }
127
128 \def\grffile@Ginclude@graphics#1{%
129   \begingroup
130     \ifgrffile@space
131       \let\Gin@getbase\grffile@space@getbase
132     \fi
133     \ifgrffile@multidot
134       \let\filename@base\@empty
135       \let\filename@simple\grffile@filename@simple
136     \fi
137     \grffile@org@Ginclude@graphics{#1}%
138   \endgroup
139 }%
140
141 \def\grffile@filename@simple#1.#2\\{%
142   \ifx\\#2\\%
143     \let\filename@ext\relax
144   \else
145     \expandafter\ifx\csname
146       Gin@rule@.\filename@dot #2\\endcsname\relax
147     \edef\filename@base{\filename@base #1.}%

```

```

148     \grffile@ReturnAfterFiFiBase{\grffile@filename@simple #2\\}%
149     \else
150     \edef\filename@ext{\filename@dot #2\\}%
151     \fi
152     \fi
153     \edef\filename@base{\filename@base #1}%
154 }
155 \def\grffile@ReturnAfterFiFiBase#1#2\filename@base#3{\fi\fi#1}

Print current option setting
156 \def\grffile@option@status#1{%
157     \begingroup
158     \let\on@line\@empty
159     \PackageInfo{grffile}{%
160         Option ‘#1’ is %
161         \expandafter\ifx\csname ifgrffile@#1\expandafter\endcsname
162             \csname iftrue\endcsname
163             set to ‘true’%
164         \else
165         \expandafter\ifx\csname grffile@#1@disabled\endcsname\@empty
166             not available%
167         \else
168             set to ‘false’%
169         \fi
170     \fi
171     }%
172     \endgroup
173 }
174 \grffile@option@status{multidot}
175 \grffile@option@status{extendedchars}
176 \grffile@option@status{space}
177 \grffile@RestoreCatcodes
178 </package>

```

3 Installation

CTAN. This package is available on CTAN¹:

[CTAN:macros/latex/contrib/oberdiek/grffile.dtx](#) The source file.

[CTAN:macros/latex/contrib/oberdiek/grffile.pdf](#) Documentation.

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

```
tex grffile.dtx
```

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

```

grffile.sty → tex/latex/oberdiek/grffile.sty
grffile.pdf → doc/latex/oberdiek/grffile.pdf
grffile.dtx → source/latex/oberdiek/grffile.dtx

```

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.

¹<http://ftp.ctan.org/tex-archive/>

Refresh file databases. If your T_EX distribution (teT_EX, mikT_EX, ...) rely on file databases, you must refresh these. For example, teT_EX users run `texhash` or `mktextlsr`.

3.1 Some details for the interested

Attached source. The PDF documentation on CTAN also includes the `.dtx` source file. It can be extracted by AcrobatReader 6 or higher. Another option is `pdftk`, e.g. unpack the file into the current directory:

```
pdftk grffile.pdf unpack_files output .
```

Unpacking with L^AT_EX. The `.dtx` chooses its action depending on the format:

plain-T_EX: Run `docstrip` and extract the files.

L^AT_EX: Generate the documentation.

If you insist on using L^AT_EX for `docstrip` (really, `docstrip` does not need L^AT_EX), then inform the autodetect routine about your intension:

```
latex \install=y\input{grffile.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 pdfL^AT_EX:

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

4 References

- [1] David Carlisle, Sebastian Rahtz: *The graphics package*; 2006/02/20 v1.0o; [CTAN:macros/latex/required/graphics/graphics.dtx](#).
- [2] Sebastian Rahtz, Heiko Oberdiek: *The graphicx package*; 1999/02/16 v1.0f; [CTAN:macros/latex/required/graphics/graphicx.dtx](#).

5 History

[2004/07/18 v0.5]

- First version.

[2006/08/15 v1.0]

- File existence check by new primitives of pdfT_EX 1.30.
- Implementation partly rewritten.
- New DTX framework.

[2006/08/17 v1.1]

- Adaptation to version 2.3 of package kvoptions.

6 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			
\'	9, 19	\grffile@Ginclude@graphics	71, 76, 128
*	12, 22	\grffile@ifFileExists	99, 106
\.	8, 18	\grffile@inputenc@loop	65, 66, 67, 68, 80
\:	7, 17	\grffile@option@status	156, 174, 175, 176
\<	10, 20	\grffile@org@Ginclude@graphics	59, 137
\=	6, 16	\grffile@RestoreCatcodes	5, 177
\>	11, 21	\grffile@ReturnAfterFiFiBase	148, 155
\@break@tfor	117	\grffile@space@disabled	40
\@empty	40, 134, 158, 165	\grffile@space@getbase	93, 131
\@firstoftwo	116, 124	\grffile@spacefalse	39, 51
\@makeoother	16, 17, 18, 19, 20, 21, 22	\grffile@spacetrue	41, 49
\@one	90	\grffile@tempa	94, 100
\@nil	95, 101	\grffilesetup	56
\@secondoftwo	108		
\@tempa	95, 101		
\@tfor	111		
\@undefined	109		
\\	107, 113, 141, 142, 146, 148, 150		
\^	13, 23, 65, 66, 67, 68		
\~	14, 24, 84		
A		I	
\active	24	\ifgrffile@extendedchars	61
\advance	90	\ifgrffile@multidot	133
		\ifgrffile@space	130
		\ifnum	89
		\ifpdf	48
		\ifx	38, 107, 109, 113, 142, 145, 161, 165
		\input@path	109, 112
C		L	
\catcode	6, 7, 8, 9, 10, 11, 12, 13, 14, 23, 24	\loop	82
\count@	81, 84, 89, 90		
\csname	38, 63, 145, 161, 162, 165		
\CurrentOption	35		
D		M	
\DeclareBoolOption	31, 32, 33	\MessageBreak	43
\DeclareDefaultOption	34		
\do	112		
E		N	
\endcsname	38, 63, 146, 161, 162, 165	\NeedsTeXFormat	2
		\newcommand	56
F		O	
\filename@area	99	\on@line	158
\filename@base	99, 134, 147, 153, 155		
\filename@dot	146, 150		
\filename@ext	143, 150		
\filename@simple	135		
G		P	
\Gin@base	96	\PackageInfo	159
\Gin@ext	102	\PackageWarning	42
\Gin@getbase	131	\PassOptionsToPackage	35
\Gin@include@graphics	59, 60	\pdffilesize	107, 113
\grffile@extchar@Ginclude@graphics	69, 74	\ProcessKeyvalOptions	54
\grffile@file@found	101, 115, 123	\ProvidesPackage	3
\grffile@filename@simple	135, 141, 148		
		R	
		\renewcommand	60
		\repeat	91
		\RequirePackage	25, 26, 55
		\reserved@a	108, 116, 121
		\reserved@b	111, 113, 115
		S	
		\setkeys	57
		\SetupKeyvalOptions	27

	T	\uppercase	85
\the	6, 7, 8, 9, 10, 11, 12, 13, 14		
	U	X	
\uccode	84	\x	75, 78