The grffile package

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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.

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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 currect 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 needs an own `texsys.cfg` containing definitions for `\filename@parse`. The author could not test that, due to a missing example.

1.2 Option babel

This option allows the use of shorthand characters of package babel inside the graphics file name. Additionally the tilde '~' is supported. The option is turned on as default. (In version v1.1 or below of this package, the features of this option were part of option extendedchars.)

Example:

```
\usepackage[frenchb]{babel}
\usepackage{grffile}
Image: \includegraphics{C:/path/image}
```

1.3 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{Bäckerstraße}
```

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.

1.4 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 pdfTEX'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 pdfTEX 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 pdfTeX 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 pdfTeX 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).

1.5 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>]{...}`

1.6 Default settings

multidot	`true`	
babel	`true`	
extendedchars	`false`	
space	`true`	if pdfTeX 1.30 or greater is used in PDF mode
	`false`	otherwise

2 Implementation

2.1 Identification

```
1 ⟨*package⟩
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{grffile}%
4   [2006/11/30 v1.2 Extended file name support for graphics (HO)]
```

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 %
```

```
\catcode`\~=\active
```

2.3 Options

```
\RequirePackage{ifpdf}
\RequirePackage{kvoptions}[2006/08/17]
\SetupKeyvalOptions{
  family=Gin,
  prefix=grffile@
}
\DeclareBoolOption[true]{multidot}
\DeclareBoolOption[true]{babel}
\DeclareBoolOption[false]{extendedchars}
\DeclareBoolOption{space}
\DeclareDefaultOption{%
  \PassOptionsToPackage\CurrentOption{graphics}%
}
```

Default setting for option space.

```
\begingroup\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname pdffilesize\endcsname\relax
  \grffile@spacefalse
  \let\grffile@space@disabled\@empty
  \def\grffile@spacetrue{%
    \PackageWarning{grffile}{%
      Option `space' is not available,\MessageBreak
      because it needs pdfTeX >= 1.30%
    }%
  }%
\else
  \ifpdf
    \grffile@spacetrue
  \else
    \grffile@spacefalse
  \fi
\fi
\ProcessKeyvalOptions*
\RequirePackage{graphics}
```

\grffilesetup

```
\newcommand*{\grffilesetup}{%
  \setkeys{Gin}%
}
```

```
\let\grffile@org@Ginclude@graphics\Ginclude@graphics
\renewcommand*{\Ginclude@graphics}{%
  \ifnum0\ifgrffile@babel 1\fi\ifgrffile@extendedchars 1\fi>\z@
    \begingroup
```

Support of babel's shorthand characters.

```
      \ifgrffile@babel
        \csname @safe@activestrue\endcsname
```

Support of active tilde.

```
        \edef~{\string~}%
```

Support of characters controlled by package inputenc.

```
      \fi
      \ifgrffile@extendedchars
        \grffile@inputenc@loop\^^A\^^H%
        \grffile@inputenc@loop\^^K\^^K%
        \grffile@inputenc@loop\^^N\^^_%
        \grffile@inputenc@loop\^^?\^^ff%
      \fi
      \expandafter\grffile@extchar@Ginclude@graphics
```

```
  \else
    \expandafter\grffile@Ginclude@graphics
  \fi
}
\def\grffile@extchar@Ginclude@graphics#1{%
  \edef\x{\endgroup
    \noexpand\grffile@Ginclude@graphics{#1}%
  }%
  \x
}
\def\grffile@inputenc@loop#1#2{%
  \count@=`#1\relax
  \loop
    \begingroup
      \uccode`\~=\count@
    \uppercase{%
      \endgroup
      \edef~{\string~}%
    }%
  \ifnum\count@<`#2\relax
    \advance\count@\@ne
  \repeat
}
```

Support for option space

```
\def\grffile@space@getbase#1{%
  \edef\grffile@tempa{%
    \def\noexpand\@tempa####1#1\noexpand\@nil{%
      \def\noexpand\Gin@base{####1}%
    }%
  }%
  \grffile@IfFileExists{\filename@area\filename@base#1}{%
    \grffile@tempa
    \expandafter\@tempa\grffile@file@found\@nil
    \edef\Gin@ext{#1}%
  }{%
  }%
}
\def\grffile@IfFileExists#1{%
  \expandafter\ifx\expandafter\\\pdffilesize{#1}\\%
    \let\reserved@a\@secondoftwo
    \ifx\input@path\@undefined
    \else
      \expandafter\@tfor\expandafter\reserved@b\expandafter
          :\expandafter=\input@path\do{%
        \expandafter\ifx\expandafter\\\pdffilesize{\reserved@b#1}\\%
        \else
          \edef\grffile@file@found{\reserved@b#1}%
          \let\reserved@a\@firstoftwo
          \@break@tfor
        \fi
      }%
    \fi
    \expandafter\reserved@a
  \else
    \edef\grffile@file@found{#1}%
    \expandafter\@firstoftwo
  \fi
}

\def\grffile@Ginclude@graphics#1{%
  \begingroup
    \ifgrffile@space
```

```
      \let\Gin@getbase\grffile@space@getbase
    \fi
    \ifgrffile@multidot
      \let\filename@base\@empty
      \let\filename@simple\grffile@filename@simple
    \fi
    \grffile@org@Ginclude@graphics{#1}%
  \endgroup
}%

\def\grffile@filename@simple#1.#2\\{%
  \ifx\\#2\\%
    \let\filename@ext\relax
  \else
    \expandafter\ifx\csname
        Gin@rule@.\filename@dot #2\\\endcsname\relax
      \edef\filename@base{\filename@base #1.}%
      \grffile@ReturnAfterFiFiBase{\grffile@filename@simple #2\\}%
    \else
      \edef\filename@ext{\filename@dot #2\\}%
    \fi
  \fi
  \edef\filename@base{\filename@base #1}%
}
\def\grffile@ReturnAfterFiFiBase#1#2\filename@base#3{\fi\fi#1}
```

Print current option setting

```
\def\grffile@option@status#1{%
  \begingroup
    \let\on@line\@empty
    \PackageInfo{grffile}{%
      Option `#1' is %
      \expandafter\ifx\csname ifgrffile@#1\expandafter\endcsname
                      \csname iftrue\endcsname
        set to `true'%
      \else
        \expandafter\ifx\csname grffile@#1@disabled\endcsname\@empty
          not available%
        \else
          set to `false'%
        \fi
      \fi
    }%
  \endgroup
}
\grffile@option@status{multidot}
\grffile@option@status{extendedchars}
\grffile@option@status{space}

\grffile@RestoreCatcodes
```

⟨/package⟩

3 Installation

CTAN. This package is available on CTAN[1]:

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

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

[1] ftp://ftp.ctan.org/tex-archive/

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.

Refresh file databases. If your TEX distribution (teTEX, mikTEX, ...) rely on file databases, you must refresh these. For example, teTEX users run `texhash` or `mktexlsr`.

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

plain-TEX: 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{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 pdfLATEX:

```
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 pdfTeX 1.30.
- Implementation partly rewritten.
- New DTX framework.

[2006/08/17 v1.1]

- Adaptation to version 2.3 of package kvoptions.

[2006/11/30 v1.2]

- New option babel. Before this feature was part of option extendedchars.

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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.

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