The gnuplottex package*

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1 Introduction

This package allows you to include gnuplot graphs in your LaTeX documents.

The gnuplot code is extracted from the document and written to `.gnuplot` files. Then, if shell escape is used, the graph files are automatically processed and converted to LaTeX files, which will then be included. If shell escape isn't used, the user will have to manually convert the files by running gnuplot on the extracted .gnuplot files.

Shell escape is available in the web2c TeX compiler, it allows the execution of shell code during the compilation of a TeX document. It's disabled by default, you'll have to edit your configuration files or give the `-shell-escape` option to `latex`.

2 Requirements

To use gnuplottex, you'll need the `graphicx`, `latexsym`, `keyval` and `moreverb` packages and, of course, gnuplot.

3 Usage

To load the package, simply `\usepackage{gnuplottex}` in your document preamble. Options that can be passed to the package are

`[`⟨***shell***⟩`]` Use shell escape to automatically generate the graphs from the gnuplot source files. This is the default.

`[`⟨***noshell***⟩`]` Don't use shell escape, graphs must be generated manually.

`[`⟨***miktex***⟩`]` We're using mikTeX.

The following environments can be used to include graphs:

`gnuplot` Within this environment, you can specify arbitrary gnuplot code, for example `plot sin(x)`.

The code necessary to write the plot to a file will be inserted by this package.

You may specify a scaling factor for the graphs by adding the parameter after the beginning of the environment, like so: `\begin{gnuplottex}`[scale=⟨*scale*⟩]

*This document corresponds to gnuplottex v0.2, dated 2006/10/28.

4 Implementation

4.1 Initialization

```
\newif\ifShellEscape
\newif\ifmiktex \miktexfalse

\DeclareOption{shell}{\ShellEscapetrue}
\DeclareOption{noshell}{\ShellEscapefalse}
\DeclareOption{miktex}{\global\miktextrue}

\ExecuteOptions{shell}
\ProcessOptions\relax
%% test if shell escape really works
\ifShellEscape
    \def\tmpfile{/tmp/w18-test-\the\year\the\month\the\day\the\time}
    \ifmiktex
        \immediate\write18{rem >"\tmpfile"}
    \else
        \immediate\write18{touch \tmpfile}
    \fi
    \ifmiktex
        \IfFileExists{\tmpfile.}{\ShellEscapetrue}{\ShellEscapefalse}
    \else
        \IfFileExists{\tmpfile}{\ShellEscapetrue}{\ShellEscapefalse}
    \fi
\fi

\ifShellEscape
    \PackageInfo{gnuplottex}
    {Automatically converting gnuplot files.}
\else
    \PackageWarningNoLine{gnuplottex}
        {Shell escape not enabled.\MessageBreak
        You'll need to convert the graphs yourself.}
\fi
\newcounter{fignum}
```

4.2 .gnuplot write out

```
\def\figname{\jobname-gnuplottex-fig\thefignum}

\def\gnuplotverbatimwrite#1{%
    \def\BeforeStream
    {\message{Opening gnuplot stream #1}%
        \immediate\write\verbatim@out{\string set terminal latex}
\immediate\write\verbatim@out{\string set output '\figname.tex'}
    }
    \@bsphack
    \immediate\openout \verbatim@out #1
    \BeforeStream%
    \let\do\@makeother\dospecials
    \catcode`\^^M\active
    \def\verbatim@processline{%
        \immediate\write\verbatim@out
```

```
        {\the\verbatim@line}}%
    \verbatim@start}
\def\endgnuplotverbatimwrite{%
    \immediate\closeout\verbatim@out
    \@esphack
\catcode`\\0
\catcode`\{1
\catcode`\}2
\catcode`\$3
\catcode`\&4
\catcode`\^^M5
\catcode`\#6
\catcode`\^7
\catcode`\_8
\catcode`\ 10
\catcode`\%14}
```

4.3 Environment definition

```
\define@key{pic}{scale}{\def\gnuplotscale{#1}}
\newenvironment{gnuplot}[1][]{\stepcounter{fignum}%
\def\gnuplotscale{1}
\setkeys{pic}{#1}
    \xdef\gnuplotCutFile{\figname.gnuplot}
    \gnuplotverbatimwrite{\gnuplotCutFile}}
    {\endgnuplotverbatimwrite%
    \gnuplotgraphicsinclude}
```

4.4 `.gnuplot` file processing

```
\long\gdef\gnuplotgraphicsprocess{%
\ifShellEscape
\IfFileExists{\figname.gnuplot}{%
\immediate\write18{gnuplot \figname.gnuplot}
\IfFileExists{\figname.tex}{%
\PackageInfo{gnuplottex}
{\figname.gnuplot converted}}
{\PackageWarningNoLine{gnuplottex}
{Conversion of \figname.gnuplot failed.}}}{}
\fi}
```

4.5 Graph inclusion

```
\long\gdef\gnuplotgraphicsinclude{\gnuplotgraphicsprocess%
\IfFileExists{\figname.tex}{%
\scalebox{\gnuplotscale}{\input{\figname}}}
{\PackageWarningNoLine{gnuplottex}
{Please convert \figname.gnuplot manually}}
}
```