The gettitlestring package

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Abstract

The LaTeX package addresses packages that are dealing with references to titles (`\section`, `\caption`, ...). The package tries to remove `\label` and other commands from title strings.

Contents

1 Documentation

1.1 Macros

`\GetTitleStringSetup` {⟨*key value list*⟩}

The options are given as comma separated key value pairs. See section 1.2.

`\GetTitleString` {⟨*text*⟩}
`\GetTitleStringExpand` {⟨*text*⟩}
`\GetTitleStringNonExpand` {⟨*text*⟩}

Macro `\GetTitleString` tries to remove unwanted stuff from ⟨*text*⟩ the result is stored in Macro `\GetTitleStringResult`. Two methods are available:

`\GetTitleStringExpand`: The ⟨*text*⟩ is expanded in a context where the unwanted macros are redefined to remove themselves. This is the method used in packages titleref [2], zref-titleref [3] or class memoir [1]. `\protect` is supported, but fragile material might break.

`\GetTitleStringNonExpand`: The ⟨*text*⟩ is not expanded. Thus the removal of unwanted material is more difficult. It is especially removed at the start of the ⟨*text*⟩ and spaces are removed from the end. Currently only `\label` is removed in the whole string, if it is not hidden inside curly braces or part of macro definitions. Thus the removal of unwanted stuff might not be complete, but fragile material will not break. (But the result string can break at a later time, of course).

Option expand controls which method is used by macro `\GetTitleString`.

`\GetTitleStringDisableCommands` {⟨*code*⟩}

The ⟨*code*⟩ is called right before the text is expanded in `\GetTitleStringExpand`. Additional definitions can be given for macros that should be removed. Keep in mind that expansion means that the definitions must work in expandable context. Macros like `\@ifstar` or `\@ifnextchar` or optional arguments will not work. The macro names in ⟨*code*⟩ may contain the at sign `@`, it has catcode 11 (letter).

1.2 Options

expand: Boolean option, takes values `true` or `false`. No value means `true`. The option specifies the method to remove unwanted stuff from the title string, see below.

Options can be set at the following places:

- `\usepackage`
- Configuration file `gettitlestring.cfg`.
- `\GetTitleStringSetup`

2 Implementation

```
1 ⟨*package⟩
```

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

```
2 \begingroup
3   \catcode44 12 % ,
4   \catcode45 12 % -
5   \catcode46 12 % .
6   \catcode58 12 % :
7   \catcode64 11 % @
8   \catcode123 1 % {
9   \catcode125 2 % }
10  \expandafter\let\expandafter\x\csname ver@gettitlestring.sty\endcsname
11  \ifx\x\relax % plain-TeX, first loading
12  \else
13    \def\empty{}%
```

```
    \ifx\x\empty % LaTeX, first loading,
      % variable is initialized, but \ProvidesPackage not yet seen
    \else
      \catcode35 6 % #
      \expandafter\ifx\csname PackageInfo\endcsname\relax
        \def\x#1#2{%
          \immediate\write-1{Package #1 Info: #2.}%
        }%
      \else
        \def\x#1#2{\PackageInfo{#1}{#2, stopped}}%
      \fi
      \x{gettitlestring}{The package is already loaded}%
      \aftergroup\endinput
    \fi
  \fi
\endgroup
```

Package identification:

```
\begingroup
  \catcode35 6 % #
  \catcode40 12 % (
  \catcode41 12 % )
  \catcode44 12 % ,
  \catcode45 12 % -
  \catcode46 12 % .
  \catcode47 12 % /
  \catcode58 12 % :
  \catcode64 11 % @
  \catcode91 12 % [
  \catcode93 12 % ]
  \catcode123 1 % {
  \catcode125 2 % }
  \expandafter\ifx\csname ProvidesPackage\endcsname\relax
    \def\x#1#2#3[#4]{\endgroup
      \immediate\write-1{Package: #3 #4}%
      \xdef#1{#4}%
    }%
  \else
    \def\x#1#2[#3]{\endgroup
      #2[{#3}]%
      \ifx#1\@undefined
        \xdef#1{#3}%
      \fi
      \ifx#1\relax
        \xdef#1{#3}%
      \fi
    }%
  \fi
\expandafter\x\csname ver@gettitlestring.sty\endcsname
\ProvidesPackage{gettitlestring}%
  [2009/12/18 v1.3 Cleanup title references (HO)]
\begingroup
  \catcode123 1 % {
  \catcode125 2 % }
  \def\x{\endgroup
    \expandafter\edef\csname GTS@AtEnd\endcsname{%
      \catcode35 \the\catcode35\relax
      \catcode64 \the\catcode64\relax
      \catcode123 \the\catcode123\relax
      \catcode125 \the\catcode125\relax
    }%
  }%
\x
```

```
\catcode35 6 % #
\catcode64 11 % @
\catcode123 1 % {
\catcode125 2 % }
\def\TMP@EnsureCode#1#2{%
  \edef\GTS@AtEnd{%
    \GTS@AtEnd
    \catcode#1 \the\catcode#1\relax
  }%
  \catcode#1 #2\relax
}
\TMP@EnsureCode{42}{12}% *
\TMP@EnsureCode{44}{12}% ,
\TMP@EnsureCode{45}{12}% -
\TMP@EnsureCode{46}{12}% .
\TMP@EnsureCode{47}{12}% /
\TMP@EnsureCode{61}{12}% =
\TMP@EnsureCode{91}{12}% [
\TMP@EnsureCode{93}{12}% ]
```

2.1 Options

```
\RequirePackage{kvoptions}[2009/07/17]
\SetupKeyvalOptions{%
  family=gettitlestring,%
  prefix=GTS@%
}
\newcommand*{\GetTitleStringSetup}{%
  \setkeys{gettitlestring}%
}
\DeclareBoolOption{expand}
\InputIfFileExists{gettitlestring.cfg}{}{}
\ProcessKeyvalOptions*\relax
```

2.2 \GetTitleString

\GetTitleString

```
\newcommand*{\GetTitleString}{%
  \ifGTS@expand
    \expandafter\GetTitleStringExpand
  \else
    \expandafter\GetTitleStringNonExpand
  \fi
}
```

\GetTitleStringExpand

```
\newcommand{\GetTitleStringExpand}[1]{%
  \def\GetTitleStringResult{#1}%
  \begingroup
    \GTS@DisablePredefinedCmds
    \GTS@DisableHook
    \edef\x{\endgroup
      \noexpand\def\noexpand\GetTitleStringResult{%
        \GetTitleStringResult
      }%
    }%
  \x
}
```

\GetTitleString

```
\newcommand{\GetTitleStringNonExpand}[1]{%
  \def\GetTitleStringResult{#1}%
  \global\let\GTS@GlobalString\GetTitleStringResult
```

```
  \begingroup
    \GTS@RemoveLeft
    \GTS@RemoveRight
  \endgroup
  \let\GetTitleStringResult\GTS@GlobalString
}
```

2.2.1 Expand method

\GTS@DisablePredefinedCmds

```
\def\GTS@DisablePredefinedCmds{%
  \let\label\@gobble
  \let\zlabel\@gobble
  \let\zref@label\@gobble
  \let\zref@labelbylist\@gobbletwo
  \let\zref@labelbyprops\@gobbletwo
  \let\index\@gobble
  \let\glossary\@gobble
  \let\markboth\@gobbletwo
  \let\@mkboth\@gobbletwo
  \let\markright\@gobble
  \let\phantomsection\@empty
  \def\addcontentsline{\expandafter\@gobble\@gobbletwo}%
  \let\raggedright\@empty
  \let\raggedleft\@empty
  \let\centering\@empty
  \let\protect\@unexpandable@protect
}
```

\GTS@DisableHook

```
\providecommand*{\GTS@DisableHook}{}
```

\GetTitleStringDisableCommands

```
\def\GetTitleStringDisableCommands{%
  \begingroup
    \makeatletter
    \GTS@DisableCommands
}
```

\GTS@DisableCommands

```
\long\def\GTS@DisableCommands#1{%
    \toks0=\expandafter{\GTS@DisableHook}%
    \toks2={#1}%
    \xdef\GTS@GlobalString{\the\toks0 \the\toks2}%
  \endgroup
  \let\GTS@DisableHook\GTS@GlobalString
}
```

2.2.2 Non-expand method

```
\def\GTS@RemoveLeft{%
  \toks@\expandafter\expandafter\expandafter{%
    \expandafter\GTS@Car\GTS@GlobalString{}{}{}{}\GTS@Nil
  }%
  \edef\GTS@Token{\the\toks@}%
  \GTS@PredefinedLeftCmds
  \expandafter\futurelet\expandafter\GTS@Token
  \expandafter\GTS@TestLeftSpace\GTS@GlobalString\GTS@Nil
  \GTS@End
}
\def\GTS@End{}
\long\def\GTS@TestLeft#1#2{%
```

```
  \def\GTS@temp{#1}%
  \ifx\GTS@temp\GTS@Token
    \toks@\expandafter\expandafter\expandafter{%
      \expandafter#2\GTS@GlobalString\GTS@Nil
    }%
    \expandafter\GTS@TestLeftEnd
  \fi
}
\long\def\GTS@TestLeftEnd#1\GTS@End{%
  \xdef\GTS@GlobalString{\the\toks@}%
  \GTS@RemoveLeft
}
\long\def\GTS@Car#1#2\GTS@Nil{#1}
\long\def\GTS@Cdr#1#2\GTS@Nil{#2}
\long\def\GTS@CdrTwo#1#2#3\GTS@Nil{#3}
\long\def\GTS@CdrThree#1#2#3#4\GTS@Nil{#4}
\long\def\GTS@CdrFour#1#2#3#4#5\GTS@Nil{#5}
\long\def\GTS@TestLeftSpace#1\GTS@Nil{%
  \ifx\GTS@Token\@sptoken
    \toks@\expandafter{%
      \romannumeral-0\GTS@GlobalString
    }%
    \expandafter\GTS@TestLeftEnd
  \fi
}
```

\GTS@PredefinedLeftCmds

```
\def\GTS@PredefinedLeftCmds{%
  \GTS@TestLeft\Hy@phantomsection\GTS@Cdr
  \GTS@TestLeft\Hy@SectionAnchor\GTS@Cdr
  \GTS@TestLeft\Hy@SectionAnchorHref\GTS@CdrTwo
  \GTS@TestLeft\label\GTS@CdrTwo
  \GTS@TestLeft\zlabel\GTS@CdrTwo
  \GTS@TestLeft\index\GTS@CdrTwo
  \GTS@TestLeft\glossary\GTS@CdrTwo
  \GTS@TestLeft\markboth\GTS@CdrThree
  \GTS@TestLeft\@mkboth\GTS@CdrThree
  \GTS@TestLeft\addcontentsline\GTS@CdrFour
}

\def\GTS@RemoveRight{%
  \toks@{}%
  \expandafter\GTS@TestRightLabel\GTS@GlobalString
      \label{}\GTS@Nil\@nil
  \GTS@RemoveRightSpace
}
\begingroup
  \def\GTS@temp#1{\endgroup
    \def\GTS@RemoveRightSpace{%
      \expandafter\GTS@TestRightSpace\GTS@GlobalString
          \GTS@Nil#1\GTS@Nil\@nil
    }%
  }%
\GTS@temp{ }
\def\GTS@TestRightSpace#1 \GTS@Nil#2\@nil{%
  \ifx\relax#2\relax
  \else
    \gdef\GTS@GlobalString{#1}%
    \expandafter\GTS@RemoveRightSpace
  \fi
}
\def\GTS@TestRightLabel#1\label#2#3\GTS@Nil#4\@nil{%
  \def\GTS@temp{#3}%
```

```
  \ifx\GTS@temp\@empty
    \expandafter\gdef\expandafter\GTS@GlobalString\expandafter{%
      \the\toks@
      #1%
    }%
    \expandafter\@gobble
  \else
    \expandafter\@firstofone
  \fi
  {%
    \toks@\expandafter{\the\toks@#1}%
    \GTS@TestRightLabel#3\GTS@Nil\@nil
  }%
}
\GTS@AtEnd
```
⟨/package⟩

3 Test

3.1 Catcode checks for loading

⟨*test1⟩

```
\catcode`\{=1 %
\catcode`\}=2 %
\catcode`\#=6 %
\catcode`\@=11 %
\expandafter\ifx\csname count@\endcsname\relax
  \countdef\count@=255 %
\fi
\expandafter\ifx\csname @gobble\endcsname\relax
  \long\def\@gobble#1{}%
\fi
\expandafter\ifx\csname @firstofone\endcsname\relax
  \long\def\@firstofone#1{#1}%
\fi
\expandafter\ifx\csname loop\endcsname\relax
  \expandafter\@firstofone
\else
  \expandafter\@gobble
\fi
{%
  \def\loop#1\repeat{%
    \def\body{#1}%
    \iterate
  }%
  \def\iterate{%
    \body
      \let\next\iterate
    \else
      \let\next\relax
    \fi
    \next
  }%
  \let\repeat=\fi
}%
\def\RestoreCatcodes{}
\count@=0 %
\loop
  \edef\RestoreCatcodes{%
    \RestoreCatcodes
    \catcode\the\count@=\the\catcode\count@\relax
```

```
  }%
\ifnum\count@<255 %
  \advance\count@ 1 %
\repeat

\def\RangeCatcodeInvalid#1#2{%
  \count@=#1\relax
  \loop
    \catcode\count@=15 %
  \ifnum\count@<#2\relax
    \advance\count@ 1 %
  \repeat
}
\expandafter\ifx\csname LoadCommand\endcsname\relax
  \def\LoadCommand{\input gettitlestring.sty\relax}%
\fi
\def\Test{%
  \RangeCatcodeInvalid{0}{47}%
  \RangeCatcodeInvalid{58}{64}%
  \RangeCatcodeInvalid{91}{96}%
  \RangeCatcodeInvalid{123}{255}%
  \catcode`\@=12 %
  \catcode`\\=0 %
  \catcode`\{=1 %
  \catcode`\}=2 %
  \catcode`\#=6 %
  \catcode`\[=12 %
  \catcode`\]=12 %
  \catcode`\%=14 %
  \catcode`\ =10 %
  \catcode13=5 %
  \LoadCommand
  \RestoreCatcodes
}
\Test
\csname @@end\endcsname
\end
```

⟨/test1⟩

3.2 Test of non-expand method

```
⟨*test2⟩
\NeedsTeXFormat{LaTeX2e}
\documentclass{minimal}
\usepackage{gettitlestring}[2009/12/18]
\usepackage{qstest}
\IncludeTests{*}
\LogTests{log}{*}{*}
\begin{document}
\begin{qstest}{non-expand}{non-expand}
  \def\test#1#2{%
    \sbox0{%
      \GetTitleString{#1}%
      \Expect{#2}*{\GetTitleStringResult}%
    }%
    \Expect{0.0pt}*{\the\wd0}%
  }%
  \test{}{}%
  \test{ }{}%
  \test{ x }{x}%
  \test{ x y }{x y}%
  \test{ \relax}{\relax}%
  \test{\label{f}a}{a}%
```

```
\test{ \label{f}a}{a}%
\test{\label{f} a}{a}%
\test{ \label{f} a}{a}%
\test{a\label{f}}{a}%
\test{a\label{f} }{a}%
\test{a \label{f}}{a}%
\test{a \label{f} }{a}%
\test{a\label{f}b\label{g}}{ab}%
\test{a \label{f}b \label{g} }{a b}%
\test{a\label{f} b \label{g} }{a b}%
\end{qstest}
\end{document}
```
⟨/test2⟩

4 Installation

4.1 Download

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

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

CTAN:macros/latex/contrib/oberdiek/gettitlestring.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 TEX:

```
tex gettitlestring.dtx
```

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

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

```
gettitlestring.sty            → tex/generic/oberdiek/gettitlestring.sty
gettitlestring.pdf            → doc/latex/oberdiek/gettitlestring.pdf
test/gettitlestring-test1.tex → doc/latex/oberdiek/test/gettitlestring-test1.tex
test/gettitlestring-test2.tex → doc/latex/oberdiek/test/gettitlestring-test2.tex
gettitlestring.dtx            → source/latex/oberdiek/gettitlestring.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.

4.4 Refresh file name databases

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

4.5 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 gettitlestring.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{gettitlestring.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 gettitlestring.dtx
makeindex -s gind.ist gettitlestring.idx
pdflatex gettitlestring.dtx
makeindex -s gind.ist gettitlestring.idx
pdflatex gettitlestring.dtx
```

5 References

[1] Peter Wilson, Lars Madsen: *The Memoir Class*; 2009/11/17 v1.61803398c; CTAN:macros/latex/contrib/memoir/

[2] Donald Arsenau: *Titleref.sty*; 2001/04/05 ver 3.1; CTAN:macros/latex/contrib/misc/titleref.sty

[3] Heiko Oberdiek: *The zref package*; 2009/12/08 v2.7; CTAN:macros/latex/contrib/oberdiek/zref.pdf

6 History

[2009/12/08 v1.0]

- The first version.

[2009/12/12 v1.1]

- Short info shortened.

[2009/12/13 v1.2]

- Forgotten third argument for `\InputIfFileExists` added.

[2009/12/18 v1.3]

- `\Hy@SectionAnchorHref` added for filtering (hyperref 2009/12/18 v6.79w).

7 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; plain numbers refer to the code lines where the entry is used.

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