The HEP-TEXT package*

Text utilities: language setup, abbreviations, links, breakable underlining and compact lists

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Abstract

The HEP-TEXT package collects lightweight text utilities. It configures language-aware hyphenation, quotation marks, and Latin abbreviations through established LaTeX packages, adds helpers for software names, online references, email addresses, numero labels, prefix constructions, and line-breakable underlining, and defines compact inline and enumerated description lists based on ENUMITEM.

Load the package with `\usepackage{hep-text}`.

`lang` The `lang` option selects the document language. It accepts the language names understood by BABEL [1], which is loaded for hyphenation support.

`\enquote` `\MakeOuterQuote` CSQUOTES [2] provides context-sensitive quotation commands. The macros `\enquote{`⟨*text*⟩`}` and `\MakeOuterQuote{}` leave the choice of quotation marks to LaTeX. The latter also allows `"` to be used instead of the pair ` `` ` and `''`.

`\eg` `\ie` `\cf` `\vs` The FOREIGN package [3] defines common Latin abbreviations such as `\eg`, `\ie`, `\cf`, and `\vs`. They are typeset as e.g., i.e., cf., and vs. with appropriate spacing. Redefine `\foreignabbrfont` to adjust their style, for example `\renewcommand\foreignabbrfont{\itshape}` for italic abbreviations.

`\no` The `\no{`⟨*number*⟩`}` macro prints a numero sign followed by a non-breaking space, as in № 123.

`\software` The `\software[`⟨*version*⟩`]{`⟨*name*⟩`}` macro typesets software names in small caps, with optional version information, as in HEP-PAPER v1.6.

`\online` The `\online{`⟨*url*⟩`}{`⟨*text*⟩`}` macro links ⟨*text*⟩ to ⟨*url*⟩ when HYPERREF [4] is loaded and otherwise prints the text in a URL-like style, as in `ctan.org/pkg/hep-text`.

`\email` The `\email{`⟨*address*⟩`}` macro is shorthand for `\online{`⟨*mailto:address*⟩`}{`⟨*address*⟩`}`, as in `jan.hajer@tecnico.ulisboa.pt`.

`\prefix` The `\prefix{`⟨*prefix*⟩`}{`⟨*word*⟩`}` macro typesets prefix constructions with a permissible line break after the prefix, as in (pre-)selection.

`\subsubparagraph` The `\subsubparagraph` macro starts an unnumbered paragraph-level break with the same vertical spacing as `\paragraph` but without a heading.

`inlinelist` `enumdescript` The `inlinelist` and `enumdescript` environments are built with ENUMITEM [5].

*This document corresponds to HEP-TEXT v1.6.

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```
The three main points are
\begin{inlinelist}
  \item one
  \item two
  \item three
\end{inlinelist}
```

The three main points are i) one, ii) two, and iii) three.

```
\begin{enumdescript}[label=\Roman*)]
  \item{First} one
  \item{Second} two
  \item{Third} three
\end{enumdescript}
```

I) **First** one
II) **Second** two
III) **Third** three

In `enumdescript`, `\item[`⟨*label*⟩`]{`⟨*title*⟩`}` prints the title in bold; lists nested inside keep their usual `\item`.

`\underline` The `\underline` macro is redefined with SOUL [6] so that underlined text can break across lines. In math mode it keeps its standard meaning. Text containing macros unknown to SOUL, such as `\ref{`⟨*key*⟩`}`, `\enquote{`⟨*text*⟩`}`, or `\eg`, is underlined as a whole without line breaks.

If HYPERREF is loaded, software names, online links, email addresses, underlined text, and the foreign abbreviations reduce to their plain text in PDF strings such as bookmarks.

A Implementation

<*package>

Load KVOPTIONS [7] and set up the `heptext` option namespace.

```
\RequirePackage{kvoptions}
\SetupKeyvalOptions{
  family=heptext,
  prefix=heptext@
}
```

`lang` Define the `lang` option, which accepts the language names provided by BABEL [1]. Use `british` as the default.

```
\DeclareStringOption[british]{lang}

\ProcessKeyvalOptions*
```

Load BABEL [1] for hyphenation and CSQUOTES [2] for quotation commands.

```
\PassOptionsToPackage{\heptext@lang}{babel}
\RequirePackage{babel}
\PassOptionsToPackage{autostyle}{csquotes}
\RequirePackage{csquotes}
```

`\underline` Load SOUL [6] for underlined text that can break across lines. Redefine `\underline` robustly so that it uses `\textul` in text mode and keeps its original definition in math mode.

```
\RequirePackage{soul}
\NewCommandCopy\hep@underline\underline
```

```
\DeclareRobustCommand*\underline{%
  \ifmmode
    \expandafter\hep@underline
  \else
    \expandafter\hep@text@underline
  \fi
}
```

`\hep@soul@if@safe` Test whether the SOUL package can process a text. This is the case if every macro in the text, outside of inline math, is known to SOUL: registered with `\soulregister`, such as font commands and accents, or handled by SOUL itself, such as `\\` and `\mbox`. Other macros may take arguments, which SOUL would separate from the macro, or look ahead, as `\xspace` does. The same test is defined by the HEP-MATH package for `\overline`, so it is only defined if it does not exist yet. `\hep@soul@if@safe` is the LaTeX 2_ε name of the conditional `\hep_soul_if_safe:nTF`.

```
\ExplSyntaxOn
\cs_if_exist:NF \hep_soul_if_safe:nTF {
  \seq_new:N \l__hep_soul_seq
  \tl_new:N \l__hep_soul_tl
  \tl_new:N \l__hep_soul_known_tl
  \bool_new:N \l__hep_soul_bool
  \regex_const:Nn \c__hep_soul_math_regex { \cM\$ .*? \cM\$ }
  \regex_const:Nn \c__hep_soul_cs_regex { \c{.*} }
  \tl_const:Nn \c__hep_soul_known_tl {
    \\0\\ \\0\slash \\0\mbox \\0\hbox \\0\soulomit
    \\0\break \\0\linebreak \\0\- \\0\par
  }
  \prg_new_protected_conditional:Npnn \hep_soul_if_safe:n #1 { TF } {
    \group_begin:
    \cs_set:Npn \\ ##1 ##2 { \token_to_str:N ##2 , }
    \tl_set:No \l__hep_soul_known_tl { \the \SOUL@cmds }
    \tl_set:Ne \l__hep_soul_known_tl
      { , \l__hep_soul_known_tl \c__hep_soul_known_tl }
    \tl_set:Nn \l__hep_soul_tl {#1}
    \regex_replace_all:NnN \c__hep_soul_math_regex { } \l__hep_soul_tl
    \regex_extract_all:NVN \c__hep_soul_cs_regex
      \l__hep_soul_tl \l__hep_soul_seq
    \bool_set_true:N \l__hep_soul_bool
    \seq_map_inline:Nn \l__hep_soul_seq {
      \token_if_macro:NT ##1 {
        \exp_args:NNe \tl_if_in:NnF \l__hep_soul_known_tl
          { , \token_to_str:N ##1 , }
          { \bool_set_false:N \l__hep_soul_bool \seq_map_break: }
      }
    }
    \bool_if:NTF \l__hep_soul_bool
      { \group_end: \prg_return_true: }
      { \group_end: \prg_return_false: }
  }
  \cs_new_eq:NN \hep@soul@if@safe \hep_soul_if_safe:nTF
}
```

```
\ExplSyntaxOff
```

`\hep@text@underline` Underline text with `\textul`, which allows line breaks, if SOUL can process it. Otherwise, for example for text containing `\ref{`⟨*key*⟩`}`, `\enquote{`⟨*text*⟩`}`, or `\eg`, underline it as a whole with the original `\underline`. The macro is long, since `\textul` accepts paragraphs.

```
\newcommand\hep@text@underline[1]{%
  \hep@soul@if@safe{#1}{\textul{#1}}{\hep@underline{#1}}%
}
```

Use PDFTEXCMDS [8] to map the selected language to the option expected by FOREIGN.

```
\RequirePackage{pdftexcmds}
\ifnum\pdf@strcmp{\heptext@lang}{american}=0
  \newcommand*{\heptext@lang@foreign}{USenglish}
\else
  \ifnum\pdf@strcmp{\heptext@lang}{USenglish}=0
    \newcommand*{\heptext@lang@foreign}{USenglish}
  \else
    \newcommand*{\heptext@lang@foreign}{british}
  \fi
\fi
```

`\vs` Load FOREIGN [3] for common foreign abbreviations and vocabulary. Add the missing `\vs` abbreviation.

```
\PassOptionsToPackage{all, \heptext@lang@foreign}{foreign}
\RequirePackage{foreign}
\renewcommand*\foreignabbrfont{}
\DeclareRobustCommand\vs{\xperiodafter{{\foreignabbrfont{vs}}}}
```

The FOREIGN package relies on the XSPACE package [9]. Ensure that `\xspace` is compatible with the `\enquote` macro from CSQUOTES.

```
\xspaceaddexceptions{\csq@qclose@i}
```

`\no` Define `\no{`⟨*number*⟩`}` for № with appropriate spacing.

```
\newcommand*{\no}[1]{\textnumero~#1}
```

`\software` Define `\software[`⟨*version*⟩`]{`⟨*name*⟩`}` for software names with optional version information, using RELSIZE [10] and XPARSE [11].

```
\RequirePackage{relsize}
\newcommand*{\software}[2][\hspace{-\fontdimen2\font}]{%
  {\smaller[.5]\textsc{#2}~#1}%
}
\RequirePackage{xparse}
\NewExpandableDocumentCommand\hep@gobble@opt@arg{om}{#2}
```

`\hep@url@text` Print a URL or email address in typewriter font without HYPERREF. As for `\nolinkurl`, the text is printed verbatim, so that characters such as `_`, `#`, `&`, and `~` need no escaping. The escaped

characters \%, \#, \&, _, \$, and \~ become the characters themselves. Macros in the text, such as the fields of BIBLATEX, are expanded first. The HEP-TITLE and HEP-BIBLIOGRAPHY packages define the same macro, so define it only once.

```
\ExplSyntaxOn
\cs_if_exist:NF \hep@url@text {
  \tl_new:N \l__hep_url_tl
  \cs_generate_variant:Nn \tl_replace_all:Nnn { NnV }
  \cs_new_protected:Npn \hep@url@text #1 {
    \tl_set:Nn \l__hep_url_tl {#1}
    \regex_replace_all:nnN { \cP. } { \cO\# } \l__hep_url_tl
    \protected@edef \l__hep_url_tl { \l__hep_url_tl }
    \tl_remove_all:Nn \l__hep_url_tl { \protect }
    \tl_replace_all:NnV \l__hep_url_tl { \# } \c_hash_str
    \tl_replace_all:NnV \l__hep_url_tl { \% } \c_percent_str
    \tl_replace_all:NnV \l__hep_url_tl { \& } \c_ampersand_str
    \tl_replace_all:NnV \l__hep_url_tl { \_ } \c_underscore_str
    \tl_replace_all:NnV \l__hep_url_tl { \$ } \c_dollar_str
    \tl_replace_all:NnV \l__hep_url_tl { \~ } \c_tilde_str
    \texttt { \tl_to_str:N \l__hep_url_tl }
  }
}
\ExplSyntaxOff
```

\online \email Define \online{⟨*url*⟩}{⟨*text*⟩}, combining the link target of \href with the URL-style text of \url. Define \email{⟨*address*⟩} as a convenience wrapper.

```
\providecommand*{\online}[2]{\hep@url@text{#2}}%
\providecommand*{\hep@email}[1]{\online{mailto:#1}{#1}}
\providecommand*{\email}{\hep@email}
\AtBeginDocument{\@ifpackageloaded{hyperref}{%
  \renewcommand*{\online}[2]{\href{#1}{\nolinkurl{#2}}}%
}{}}
```

Make the text macros safe in PDF strings such as bookmarks. Software names, underlined text, links, and email addresses reduce to their text. The abbreviations of FOREIGN end with \xperiodafter or \xperiodcommaafter from XPUNCTUATE, which look ahead and are therefore replaced by their expandable core.

\hep@pdf@period \hep@pdf@periodcomma Add the period, or period and comma, followed by \xspace, which HYPERREF supports in PDF strings.

```
\newcommand*\hep@pdf@period[1]{#1.\xspace}
\newcommand*\hep@pdf@periodcomma[1]{#1.,\xspace}
\AtBeginDocument{\@ifpackageloaded{hyperref}{%
  \pdfstringdefDisableCommands{%
    \let\software\hep@gobble@opt@arg
    \let\underline\@firstofone
    \let\textul\@firstofone
    \let\ul\@firstofone
    \let\online\@secondoftwo
```

```
    \let\hep@email\@firstofone
    \let\xperiodafter\hep@pdf@period
    \let\xperiodcommaafter\hep@pdf@periodcomma
  }%
}{}
```

`\prefix` Define `\prefix{`⟨*prefix*⟩`}{`⟨*word*⟩`}` with a controlled line break after the prefix.

```
\newcommand*{\prefix}[2]{(#1\mbox{-})\allowbreak #2}
```

`\subsubparagraph` Define `\subsubparagraph`, which starts a paragraph-level break without printing a title.

```
\newcommand*\subsubparagraph{%
  \@tempskipa 3.25ex \@plus 1ex \@minus .2ex\relax%
  \addpenalty\@secpenalty\addvspace\@tempskipa%
  \everypar{\setbox\z@\lastbox\everypar{}}%
}
```

A.1 Lists

Load ENUMITEM [5].

```
\PassOptionsToPackage{inline}{enumitem}
\RequirePackage{enumitem}
```

`inlinelist` (*env.*) Define the inline list environment.

```
\newlist{inlinelist}{enumerate*}{1}
\setlist*[inlinelist,1]{%
  label=\roman*), itemjoin={,\ }, itemjoin*={, and\ }, after=.%
}
```

`\hep@descript@item` `\hep@descript@select` `enumdescript` (*env.*) Define the enumerated description list environment. Its `\item[`⟨*label*⟩`]{`⟨*title*⟩`}` prints the title in bold, followed by a space unless it is empty. The redefined `\item` acts only at the list depth of the environment, so that nested lists use the original `\item`. The original `\item` is saved only if the redefined one is not active yet, because in nested `enumdescript` lists saving the active `\item` would make it call itself.

```
\newlist{enumdesc}{enumerate}{2}
\setlist[enumdesc]{label=\arabic*.}
\newcommand*{\hep@descript@item}[2][]{%
  \if\relax\detokenize{#1}\relax\hep@item\else\hep@item[#1]\fi%
  \textbf{#2}\if\relax\detokenize{#2}\relax\else\hspace{1em}\fi%
  \@ifnextchar\par\@gobble\relax%
}
\newcommand*{\hep@descript@select}{%
  \ifnum\@listdepth=\hep@descript@depth\relax%
    \expandafter\hep@descript@item%
  \else%
    \expandafter\hep@item%
  \fi%
}
```

```
\newenvironment{enumdescript}[1][]{%
  \begin{enumdesc}[#1]%
  \edef\hep@descript@depth{\the\@listdepth}%
  \ifx\item\hep@descript@select\else%
    \let\hep@item\item%
    \let\item\hep@descript@select%
  \fi%
}{\end{enumdesc}}
```

Load NOINDENTAFTER [12] and suppress paragraph indentation after list environments.

```
\RequirePackage{noindentafter}
\NoIndentAfterEnv{itemize}
\NoIndentAfterEnv{enumerate}
\NoIndentAfterEnv{description}
\NoIndentAfterEnv{enumdescript}
\NoIndentAfterEnv{verbatim}
```

</package>

B Test

<*test>

```
\documentclass{article}

\usepackage[lang=american]{hep-text}
\usepackage{hyperref}

\begin{document}

\section{HEP-Text test}

Language selection: \languagename.

\MakeOuterQuote{"}
Quotation commands: \enquote{quoted text} and "outer quoted text".

Foreign abbreviations: \eg, \ie, \cf, and \vs.
\begingroup
\renewcommand\foreignabbrfont{\itshape}
Styled foreign abbreviations: \eg, \ie, \cf, and \vs.
\endgroup

Numero labels: \no{123}.

Software names: \software{HEP-Text} and \software[v1.5]{HEP-Text}.

Online material:
\online{https://ctan.org/pkg/hep-text}
  {ctan.org/pkg/hep-text}.
```

```
Email addresses: \email{jan.hajer@tecnico.ulisboa.pt}.

Prefix constructions: \prefix{pre}{selection} and \prefix{post}{processing}.

\subsubparagraph
This paragraph follows a heading-free paragraph-level break.

\begin{itemize}
  \item An itemize entry.
\end{itemize}
This paragraph tests indentation after an itemize environment.

\begin{enumerate}
  \item An enumerate entry.
\end{enumerate}
This paragraph tests indentation after an enumerate environment.

\begin{description}
  \item[Term] A description entry.
\end{description}
This paragraph tests indentation after a description environment.

Inline lists:
\begin{inlinelist}
  \item first
  \item second
  \item third
\end{inlinelist}

\begin{enumdescript}[label=\Roman*)]
  \item{First} one
  \item{Second} two
  \item{Third} three
\end{enumdescript}
This paragraph tests indentation after an enumdescript environment.

\noindent\begin{minipage}{.35\linewidth}
\underline{This underlined sentence is long enough to wrap across
multiple lines.}
\end{minipage}

\end{document}
```

</test>

C Readme

<*readme>

```
# The ‘hep-text‘ package
```

```
232
233 Text utilities: language setup, abbreviations, links, breakable
234 underlining and compact lists
235
236 ## Introduction
237
238 The ‘hep-text‘ package collects lightweight text utilities. It configures
239 language-aware hyphenation, quotation marks, and Latin abbreviations
240 through established LaTeX packages; adds helpers for software names,
241 online references, email addresses, numero labels, prefix constructions,
242 and line-breakable underlining; and defines compact inline and enumerated
243 description lists based on ‘enumitem‘.
244
245 Load the package with ‘\usepackage{hep-text}‘.
246
247 ## Author
248
249 Jan Hajer
250
251 ## License
252
253 This file may be distributed and/or modified under the conditions of the
254 ‘LaTeX‘ Project Public License, either version 1.3c of this license or
255 (at your option) any later version. The latest version of this license is
256 in ‘http://www.latex-project.org/lppl.txt‘ and version 1.3c or later is
257 part of all distributions of LaTeX version 2005/12/01 or later.
```

</readme>

Change History

v1.0
General: First release on CTAN: language and quotation support, foreign abbreviations, text helpers, list environments, and line-breakable underlining. 1

v1.1
General: Disabled styling of foreign abbreviations by default, made software names safe in PDF strings, and added `\subsubparagraph`. 1

v1.2
General: Refreshed the documentation. . . . 1

v1.3
General: Switched line-breakable underlining from soulutf8 to soul. . . . 1

v1.4
General: Applied starred command definitions consistently. 1

v1.5
General: Raised the LaTeX format requirement, suppressed the indentation after lists, and expanded the documentation and README. . . 1

v1.6
General: Restored underline in math mode, made underline, online links, email addresses, and foreign abbreviations safe in PDF strings, fixed the empty-title test of enumdescript, and stopped enumdescript from changing the items of nested lists. 1

References

[1] J. Braams, J. Bezos, and at al. 'Babel Localization and internationalization: Multilingual support for Plain TEX or LATEX' (1989). CTAN: babel. GitHub: latex3/babel.

[2] P. Lehman and J. Wright. 'The csquotes Package: Context sensitive quotation facilities' (2003). CTAN: csquotes.

[3] P. G. Ratcliffe. 'The foreign package: Systematic treatment of "foreign" words in documents' (2012). CTAN: foreign.

[4] *LATEX3 Project*. 'Hypertext marks in LATEX: a manual for hyperref: Extensive support for hypertext in LATEX' (1995). CTAN: hyperref. GitHub: latex3/hyperref.

[5] J. Bezos. 'Customizing lists with the enumitem package: Control layout of itemize, enumerate, description' (2003). CTAN: enumitem. URL: texnia.com/enumitem.html. GitHub: jbezos/enumitem.

[6] M. Franz. 'The soul package: Hyphenation for letterspacing, underlining, and more' (1998). CTAN: soul.

[7] H. Oberdiek. 'The kvoptions package: Key value format for package options' (2004). CTAN: kvoptions. GitHub: ho-tex/kvoptions.

[8] H. Oberdiek. 'The pdftexcmds package: LuaTEX support for pdfTEX utility functions' (2007). CTAN: pdftexcmds.

[9] *LATEX Team*. 'The xspace package: Define commands that appear not to eat spaces' (1993). CTAN: xspace.

[10] D. Arseneau and M. Swift. 'The relsize package: Set the font size relative to the current font size' (2011). CTAN: relsize.

[11] *LATEX3 Project*. 'The xparse package: A generic document command parser' (1999). CTAN: xparse.

[12] M. Helvensteijn and F. Hanisch. 'The noindentafter package: Prevent paragraph indentation after environments or macros' (2014). CTAN: noindentafter.