The extdash package

Alexander I. Rozhenko
rozhenko@oapmg.sscc.ru
2018/06/24

The package implements the commands, $\texttt{\textbackslash{}Hyphdash}$, $\texttt{\textbackslash{}Endash}$, and $\texttt{\textbackslash{}Emdash}$, to control hyphenation of compound words and ordinary words dashed by \textit{em-dash}. Some additional commands and shortcuts are also introduced.

Contents

1 User Interface ................................. 1

2 Package Options ............................... 2
   2.1 Shortcuts ................................... 2
   2.2 Breaks before em-dash .................... 2
   2.3 Shorter em-dash ............................ 3
   2.4 Spaces around em-dash .................... 3

3 The Implementation ......................... 3

1 User Interface

The main purpose of the extdash package is to allow hyphenation of compound words. When the word \texttt{something-something} occurs, the only hyphenation point after the dash is available. To allow hyphenation of both words joint by dash you can write

\texttt{something\textbackslash{}Hyphdash something} or easier \texttt{something\textbackslash{}-/something}

(the last case is available if you use the package extdash with shortcuts option). Sometimes the line break immediately after the dash is inadmissible. To avoid this, you can write

\texttt{something\textbackslash{}Hyphdash* something} or easier \texttt{something\textbackslash{}=/something}

(the last case is also a shortcut). An example is the word \textit{L-approximation} which can’t be broken at the dash.

∗This file has version number v1.3, last revised 2018/06/24.
Analogously, you can use \Endash command (and its star version) to join words with *en-dash*. Shortcuts for it are \-- and \==.

The last case is the use of *em-dash* when some glue before and after *em-dash* have to be added. The command \Emdash adds this glue, named \Halfspace, which natural width is equal to the half of the ordinary interword space. The \Halfspace command produces the *elastic* horizontal space and its *-form produces the nonbreakable elastic space. All these commands have shortcuts:

\--- \=== \-, \=, 

Note, that \Emdash command removes extra space before and after it. When \Emdash appears at the beginning of a paragraph (the direct speech) the space after it will be rigid and unbreakable.

The standard em-dash is longer than it is required by Russian and German typesetting rules. To decrease its length to the required one, you can use this package with *shortemdash* option (the *cyremdash* option is also supported for compatibility with the previous version).

Note: Some more options are available from the version 1.3. They control the spacing around \Emdash and the breaking strategy to be applied before it.

## 2 Package Options

### 2.1 Shortcuts

\usepackage[shortcuts]{extdash}

The *shortcuts* option redefines \TeX commands \- and \= in such a way to recognize shortcut sequences. If no shortcut recognized, the corresponding original command will be called. In other words, when no shortcut recognized, the command \- sets extra hyphenation point and \= means the accent command.

<table>
<thead>
<tr>
<th>Command</th>
<th>Shortcut</th>
<th>Command</th>
<th>Shortcut</th>
</tr>
</thead>
<tbody>
<tr>
<td>\Hyphdash</td>
<td>-/</td>
<td>\Hyphdash*</td>
<td>=/</td>
</tr>
<tr>
<td>\Endash</td>
<td>--</td>
<td>\Endash*</td>
<td>==</td>
</tr>
<tr>
<td>\Emdash</td>
<td>---</td>
<td>\Emdash*</td>
<td>===</td>
</tr>
<tr>
<td>\Halfspace</td>
<td>-,</td>
<td>\Halfspace*</td>
<td>=,</td>
</tr>
</tbody>
</table>

*All described commands and shortcuts are robust.*

### 2.2 Breaks before *em-dash*

All dash commands defined in this package disallow line breaks before a dash. For *em-dash* this rule can be changed. To allow breaks before a *em-dash*, please use the option

\usepackage[allowbreakbefore]{extdash}

2
2.3 Shorter em-dash

\usepackage[shortemdash]{extdash}

This option redefines \Emdash to be shorter than the standard em-dash (0.8 em).

2.4 Spaces around em-dash

By default, the half-space is inserted before and after em-dash. This behavior can be changed with option

\usepackage[wordspacearound]{extdash}

or

\usepackage[nospacearound]{extdash}

The first option provides interword spaces around em-dash and the last one removes spaces around em-dash. Of course, these two options are mutually exclusive.

3 The Implementation

First we implement the command, \EXD@test. It recognizes the star after the command, sets \EXD@break command to be equal to \nobreak if star is found or \@empty if not, and calls its parameter.

\begin{verbatim}
1 (+*package*)
2 \def\EXD@test#1{%
3 \@ifstar{\let\EXD@break\nobreak #1}{\let\EXD@break\@empty #1}%
4 }
\end{verbatim}

Now we declare user's level commands

\begin{verbatim}
5 \DeclareRobustCommand{\Hyphdash}{\EXD@test{\EXD@dash-}}
6 \DeclareRobustCommand{\Endash}{\EXD@test{\EXD@dash--}}
7 \DeclareRobustCommand{\Emdash}{\EXD@test{\EXD@emd@sh}}
8 \DeclareRobustCommand{\Halfspace}{\@tempcnta\z@
9 \@ifstar{\EXD@nobreak\EXD@space\ignorespaces}{\EXD@space\ignorespaces}%
10 }
\end{verbatim}

and then the basic commands

\begin{verbatim}
11 \def\EXD@nobreak{\ifvmode\leavevmode\else\nobreak\fi}
12 \def\EXD@dash#1{%
13 \EXD@nobreak\hbox{#1}\EXD@break\hskip\z@skip 
14 }
15 \def\EXD@emd@sh{\nobreak}
16 \def\EXD@spacecalc{\EXD@embreakbefore}{\hbox{#1}\EXD@break\hskip\z@skip \ignorespaces}
17 \ifvmode
\end{verbatim}
The \@tempcnta specifies the width of half-space. It can have the following values: -1, 0, or +1. The negative value means using the space before em-dash (the space is narrow at this point), zero value means an ordinary half space, and the positive value means a half-space after em-dash (the space is wider at this point). This trick compensates a visual effect of wider space before an em-dash especially if the punctuation mark goes before.

The meaning of negative and positive values of \@tempcnta is redefined with wordspacearound and nospacearound options.

\[\] The default em-dash. It could be redefined later in shortemdash option.

The commands \HyphOrDash and \BarOrDash are called by \- and \= commands.
and can appear in aux file. They choose the corresponding shortcut or the original command saved in \EXD@hyph and \EXD@bar.

\begin{verbatim}
\DeclareRobustCommand{\HyphOrDash}{%
  \let\EXD@break\@empty
  \@ifnextchar/{\EXD@d@sh}{%
    \@ifnextchar-{\EXD@hdash}{%
      \@ifnextchar,{\EXD@sp@ce}{\EXD@hyph}%
    }%
  }%
%
\DeclareRobustCommand{\BarOrDash}{%
  \let\EXD@break\nobreak
  \@ifnextchar/{\EXD@d@sh}{%
    \@ifnextchar={\EXD@bdash}{%
      \@ifnextchar,{\nobreak\EXD@sp@ce}{\EXD@bar}%
    }%
  }%
}

Shortcuts:
\def\EXD@d@sh/{\EXD@dash-}
\def\EXD@sp@ce,{\EXD@space}
\def\EXD@hdash-{{\ifnextchar-{{\EXD@hhdash}}{\EXD@dash{--}}}}
\def\EXD@bdash={{{\ifnextchar={{{\EXD@bbdash}}{\EXD@dash{--}}}}}
\def\EXD@hhdash-{{\EXD@emd@sh}}
\def\EXD@bbdash{{\EXD@emd@sh}}

\AtBeginDocument{%
  \let\EXD@hyph\- \let\@dischyph\HyphOrDash \let\-\@dischyph
  \let\EXD@bar\= \let\@acciii\BarOrDash \let\\=\@acciii
%
\}

\DeclareOption{shortemdash}{%
  \def\EXD@emdash{{\hb@xt@.8\fontdimen6\font{--\hss--}}}}
\DeclareOption{cyremdash}{%
  \def\EXD@emdash{{\hb@xt@.8\fontdimen6\font{--\hss--}}}}
\ProcessOptions\relax
\end{verbatim}

We turn on the shortcuts mechanism at the beginning of the document to avoid conflict with \fontenc package which redefines accents.

\begin{verbatim}
\AtBeginDocument{%
  \let\EXD@hyph\- \let\@dischyph\HyphOrDash \let\-\@dischyph
  \let\EXD@bar\= \let\@acciii\BarOrDash \let\\=\@acciii
%
\}

\DeclareOption{shortemdash}{%
  \def\EXD@emdash{{\hb@xt@.8\fontdimen6\font{--\hss--}}}}
\DeclareOption{cyremdash}{%
  \def\EXD@emdash{{\hb@xt@.8\fontdimen6\font{--\hss--}}}}
\ProcessOptions\relax
\end{verbatim}