

The latex-lab-firstaid package

Temporary patches to external packages needed for the tagging project

L^AT_EX Project*
v0.85d 2024-05-25

Abstract

1 Introduction

The followings contains small temporary changes to external packages to avoid errors with the new tagging code.

Similar to the main firstaid package the goal is to remove the patches once the packages have been updated.

2 Implementation

```
1 <*package>
2 <@@=tag>
3 \ProvidesPackage {latex-lab-testphase-firstaid} [%
4   \ltlabfirstaiddate\space v\ltlabfirstaiddate\space
5   Temporary patches to external packages needed for the tagging project]
```

`\FirstAidNeededT` This is a very simple help to ensure that we only apply first aid to an unmodified package or class. It only works in the case the file has already been loaded and the `\ver@#1.#2` got defined (holding the current date, version, and short description info). We then compare its content to a frozen string and make the modification `#3` only if both agree. If they differ we assume that the package/class in question got updated by its maintainer.

```
6 \ExplSyntaxOn
7 \providecommand\FirstAidNeededT[3]{
8   \exp_args:Ncx\str_if_eq:onF{ver@#1.#2}{#3}
9     { \typeout{=>~ First~ Aid~ for~ #1.#2~ no~ longer~ applied!^^J
10       \@spaces Expected:^^J
11       \@spaces\@spaces #3^^J
12       \@spaces but~ found:^^J
13       \@spaces\@spaces \use:c{ver@#1.#2}^^J
14       \@spaces so~ I'm~ assuming~ it~ got~ fixed.
```

*Initial implementation done by Ulrike Fischer

```

15     } }
16   \exp_args:Ncx\str_if_eq:ont{ver@#1.#2}{#3}
17 }
18 \ExplSyntaxOff

```

(End of definition for `\FirstAidNeededT`. This function is documented on page ??.)

2.1 ams classes

The `amsart` and `amsbook` classes do not use `\@author` to store the author list but a command `\authors`. To be able to nevertheless use the authors in the xmp-metadata we map `\@author` to this new command.

```

19 \AddToHook{class/amsart/after}
20 { \def\@author{\authors} }
21 \AddToHook{class/amsbook/after}
22 { \def\@author{\authors} }

```

2.2 verse

The `verse` package has its own definition of the `verse` environment, which would tag correctly, except that it is overwritten by the block code in the hook `begindocument/before`. So the simplest way to make tagging work is to reinstall the package version afterwards, which is what we are doing here.

```

23 \AddToHook{package/verse/after}[latex-lab-firstaid]{%
24   \FirstAidNeededT{verse}{sty}{2014/05/10 v2.4b verse typesetting}%
25   {%
26     \AtBeginDocument{%
27       \renewenvironment{verse}[1][\linewidth]{%
28         \stepcounter{verse@envctr}%
29         \setcounter{poemline}{0}\refstepcounter{poemline}%
30         \setcounter{vslineno}{1}%
31         \let\=\@vscentercr
32         \list{}{\itemsep \z@
33           \itemindent -\vindent
34           \listparindent\itemindent
35           \parsep \stanzaskip
36           \ifdim #1 < \linewidth
37             \rightmargin \z@
38             \setlength{\leftmargin}{\linewidth}%
39             \addtolength{\leftmargin}{-#1}%
40             \addtolength{\leftmargin}{-0.5\leftmargin}%
41           \else
42             \rightmargin \leftmargin
43           \fi
44           \addtolength{\leftmargin}{\vindent}}%
45         \item[]%
46       }%
47     {\endlist}%
48   }%
49 }%
50 }

```

Of course, this means that the optional argument of the environment then only accepts a length value and not any more a key value list for altering the environment settings.

A more elaborate version could be something like this that allows key/val and legacy interface. Or one could extend the list template to support a list-width key.

```

\ExplSyntaxOn
\cs_new_protected:Npn \ExtractAndDropKey #1#2#3#4#5 {
  \tl_set_eq:NN #4 \c_novalue_tl      % or empty?
  \keys_define:nn { #1 } { #2 .code:n = \tl_set:Nn #4{##1} }
  \keys_set_known:nnN { #1 } { #3 } #5
}
\ExplSyntaxOff

% Change the env definition for verse matching verse.sty
% This keeps the verse.sty interface as it is and only adjusts the
% main environment to use the basic list env with the verse.sty
% specific settings.
\makeatletter

\AddToHook{package/verse/after}{%
  \AtBeginDocument{%
    \RenewDocumentEnvironment{verse}{={verse-width}!0{\linewidth}}{%
      {%
        \stepcounter{verse@envctr}%
        \setcounter{poemline}{0}\refstepcounter{poemline}%
        \setcounter{vslineno}{1}%
        \let\@vscentercr
      }
    }
    \ExtractAndDropKey{verse}{verse-width}{#1}\@vswidth\@vsremainingkvlist
    % If other keys have been specified but not verse-width we have no
    % default for \@vswidth and need to set it again
    \ExpandArgs{o}\IfNoValueT \@vswidth
      {\def\@vswidth{\linewidth}}%
  }
  % This is a bit ugly but we can't stick \cs{@vsremainingkvlist} into
  % the instance argument as keys are expected to be visible on
  % top-level not hidden inside a macro. The alternative is to push
  % in \verb=#1= but then the key/value \verb/verse-width=.../ is
  % passed into the instance which is not known there (not harmful as
  % it will get ignored but noticeably more and unnecessary
  % processing).
  %
  \def\next##1{%
    \UseInstance{blockenv}{list}%
    {%
      item-indent =-\vindent,%
      parindent   =-\vindent,%
      par-skip    =\stanzaskip,%
      item-skip   =Opt,%
      leftmargin  = (\linewidth-\@vswidth)/2+\vindent,%
    }
  }
}

```

```

        rightmargin = \ifdim\@vswidth<\linewidth Opt
                    \else (\linewidth-\@vswidth)/2\fi,%
        ##1%
    }}%
    \ExpandArgs{o}\next\@vsremainingkvlist
    \item\relax
  }\endblockenv}%
}%
}
\makeatother

```

2.3 blindtext

The blindtext package generates lists with nested \loop command. The inner loop introduces a group around the list which error when lists are tagged as \@doendpe is lost.

```

51 \AddToHook{file/blindtext.sty/after}[latex-lab-firstaid]{%
52   \FirstAidNeededT{blindtext}{sty}{\blindfiledate\space\blindfileversion\space%
53     blindtext-Package}%
54   {%
55     \renewcommand{\blind@items}{%
56       \setcounter{blind@listcount}{1}%
57       \loop
58       \ifblind@optional
59         \ifblind@long
60           \item[\blindtext@countitem] \blindtext@text
61         \else
62           \item[\blindtext@count] \blindtext@item
63         \fi
64       \else % \blind@optionalfalse
65         \ifblind@long
66           \item \blindtext@text
67         \else
68           \item \blindtext@countitem
69         \fi
70       \fi % \ifblind@optional
71     {%
72       \loop
73       \ifnum\value{blindlistlevel}>\value{blindlist@level}%
74         \stepcounter{blind@levelcount}%
75         \blind@list[\value{blindlist}]\relax
76         \addtocounter{blind@levelcount}{-1}%
77         \setcounter{blind@listcount}{1}%
78       \repeat
79       \expandafter}\if@endpe\@doendpe\fi % <-----changed
80     \ifnum\value{blind@listcount}<\value{blindlist}%
81       \stepcounter{blind@listcount}%
82     \repeat
83   }
84 }%
85 }

```

2.4 cleveref

The cleveref package redefines `\@makefnctext` and this means that the patches in the new footnote code fails. We use a hook instead

```
86 \AddToHook{package/cleveref/after}
87 {
88   \let\@makefnctext\cref@old@makefnctext
89   \AddToHook{cmd/@makefnctext/before}{%
90     \cref@constructprefix{footnote}{\cref@result}%
91     \protected@edef\cref@currentlabel{%
92       [footnote] [\arabic{footnote}] [\cref@result]%
93       \p@footnote\@thefnmark}}
```

The second problem is that it redefines `\refstepcounter` to use an argument. In itself this isn't a problem but as the new definition doesn't grab the arguments directly it fails over the generic hook inserted at the end of the definition

```
94   \RenewDocumentCommand\refstepcounter{om}{%
95     \IfNoValueTF{#1}%
96       {\refstepcounter@noarg{#2}}%
97       {\refstepcounter@optarg[#1]{#2}}%
98   }%
99 }
```

2.5 booktabs

In some cases booktabs inserts a `\multispan` into the table (through the commands `\@cmidruleb` and `\@cmidrulea` and this then errors with the tagging code. This affects both tabular and longtable (but longtable more as booktabs handles lines in longtable differently). See also issue <https://github.com/latex3/tagging-project/issues/69>

```
100 </package>
101 <*latex-lab>
102 \ProvidesFile{firstaid-latex-lab-testphase.ltx}
103   [\ltlabfirstaiddate\space v\ltlabfirstaidversion\space
104     latex-lab wrapper firstaid]
105
106 \RequirePackage{latex-lab-testphase-firstaid}
107
108 </latex-lab>
```