The latex-lab-text package
Changes and additions to the kernel related to the tagging of various small text commands

LaTeX Project*

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Abstract

1 Introduction

This module contains small changes to improve the tagging of (inline) text commands.

While the tagging of the LaTeX logo is quite straightforward, tagging of `\emph` as `EM` can have unwanted side-effect as both tags are inline tags and so not every inner structure is allowed. Probably both commands will need an optional argument or a starred variant which suppress the tagging.

2 Implementation

```
⟨*package⟩
⟨@@=tag⟩

\ProvidesExplPackage {latex-lab-testphase-text} {\ltlabtextdate} {\ltlabtextversion}
  {Code related to the tagging of various small text commands}
```

2.1 The LaTeX and TeX logo

This uses the generic hooks, so that it catches also other definitions. For `\LaTeX` we stop tagging to avoid that the inner `\TeX` leads to a double tagging.

```
\AddToHook{cmd/LaTeX/before}
  {
    \mode_leave_vertical:
    \UseTaggingSocket{inline/begin}
      {tag=\UseStructureName{span},actualtext=LaTeX,phoneme=['la:tɛx]}
    \tag_suspend:n{\LaTeX}
  }
\AddToHook{cmd/LaTeX/after}
 {
   \tag_resume:n{\LaTeX}
   \UseTaggingSocket{inline/end}
```

*Initial implementation done by Ulrike Fischer

```
 }
\AddToHook{cmd/TeX/before}
 {
   \mode_leave_vertical:
   \UseTaggingSocket{inline/begin}
     {tag=\UseStructureName{span},actualtext=TeX}
 }
\AddToHook{cmd/TeX/after}
 {
   \UseTaggingSocket{inline/end}
 }
```

2.2 Emphasizing

We tag `\emph` and `\strongemph`. Explicit font changes like `\textit` or `\textbf` are left alone, as they have no defined semantic meaning. If one is wanted `\emph` or `\strongemph` should be used,

For now we use hooks to add the code but this should be changed.

```
\AddToHook{cmd/emph/before}
  { \mode_leave_vertical:
    \UseTaggingSocket{inline/begin}
      {tag=\UseStructureName{text/emph}}
  }

\AddToHook{cmd/emph/after}
  { \UseTaggingSocket{inline/end} }
```

Instead we offer `\strongemph` for this purpose.

```
\AddToHook{cmd/strongemph/before}
  { \mode_leave_vertical:
    \UseTaggingSocket{inline/begin}
      {tag=\UseStructureName{text/strong}}
  }

\AddToHook{cmd/strongemph/after}
  { \UseTaggingSocket{inline/end} }
```

2.3 `\textsuperscript` and `\textsubscript`

```
\sys_if_engine_luatex:TF
 {
   \cs_new:Npn \__tag_space_ignore:n #1 {\tag_spacechar_off:#1\tag_spacechar_on:}
 }
 {
   \cs_set_eq:NN \__tag_space_ignore:n \use:n
 }
\protected\def\@textsuperscript#1%
  {%
    \check@mathfonts
    \leavevmode
    \begingroup
    \UseTaggingSocket{inline/begin}{tag=\UseStructureName{span},attribute-class=sup}
    \sbox\z@{\fontsize\sf@size\sf@size#1}%
      \raise\dimexpr\textsuperscript@offset\relax\box\z@
```

```
    \UseTaggingSocket{inline/end}
     \__tag_space_ignore:n{\textsuperscript@space}
    \endgroup
  }
\protected\def\@textsubscript#1%
  {%
    \check@mathfonts
    \leavevmode
    \begingroup
     \UseTaggingSocket{inline/begin}{tag=\UseStructureName{span},attribute-class=sub}
      \sbox\z@{\fontsize\sf@size\sf@size#1}%
      \lower\dimexpr\textsubscript@offset\relax\box\z@
     \UseTaggingSocket{inline/end}
     \__tag_space_ignore:n{\textsuperscript@space}
    \endgroup
  }
```

2.4 \mbox

When used in math and when luamml is active **\mbox** has to be correctly annotated. For this we add a socket that luamml can activate. We test for the socket until 2025-06-01.

```
\DeclareRobustCommand\mbox[1]
  {
   \leavevmode
   \tag_socket_use:nnn {math/luamml/hbox}
    {}{ \hbox{#1} }
  }
```

And the same for **\makebox**

```
\long\def\@imakebox[#1][#2]#3{%
  \tag_socket_use:nnn {math/luamml/hbox}{}
   {
     \@begin@tempboxa\hbox{#3}%
       \setlength\@tempdima{#1}%       support calc
       \hb@xt@\@tempdima{%
        \expandafter\ifx\csname bm@#2\endcsname\relax
          \bm@c
          \@latex@warning{Unexpected~alignment~#2}%
        \else
          \csname bm@#2\endcsname
        \fi}%
     \@end@tempboxa
   }}
```

2.5 phantom commands

In text mode we do not want the content of a phantom command to create a structure, so we suspend tagging TODO: consider if it makes sense to set measuring to true instead. **\mathsm@sh** is redefined in latex-lab-math.

\makeph@nt

```
\def\makeph@nt#1{%
  \setbox\z@\hbox
```

```
    {\SuspendTagging{\makeph@nt}%
     \color@begingroup#1\color@endgroup\ResumeTagging{\makeph@nt}}\finph@nt}
```

(*End of definition for* ***\makeph@nt****.*)

\@kernel@mathph@nt
\mathph@nt

```
\def\@kernel@mathph@nt#1#2{%
  \setbox\z@\hbox{\SuspendTagging{\mathph@nt}$\m@th#1{#2}$\ResumeTagging{\mathph@nt}}\finph@n
\def\mathph@nt#1#2
 {
  \setbox \z@ = \hbox {
    $
    \m@th
    #1
    {
% nested phantoms should not be processed by luamml
      \let\mathph@nt\@kernel@mathph@nt
      #2
    }
    \UseTaggingSocket{math/luamml/save/nNn}{{mathphant} #1 {mphantom}}
    $
  }
   \UseTaggingSocket{math/luamml/finph@nt}{}{\finph@nt}
 }
```

(*End of definition for* ***\@kernel@mathph@nt*** *and* ***\mathph@nt****.*)

2.6 The \verb command

```
\def\verb{\relax\ifmmode\hbox\else\leavevmode\null\fi
  \bgroup
    \UseTaggingSocket{inline/begin}{tag=\UseStructureName{text/verb}}%
    \verb@eol@error \let\do\@makeother \dospecials
    \verbatim@font\@noligs
    \language\l@nohyphenation
    \@ifstar\@sverb\@verb}
\def\verb@egroup{\global\let\verb@balance@group\@empty\UseTaggingSocket{inline/end}\egroup}
```

2.7 The \rule command

Rules supplied as ornaments in the chapter designs and many other places should be tagged as artifacts. The is what the following code takes care of. It could be either done with Artifact SE's or with MCs that are artifacted (current version) — using MCs has the advantage that the PDF readers have less work to do, using SE the advantage that one can see the artifact in the structure tree. Not sure what is better. For now I provided two plugs so that one can switch.

```
\NewStructureName{text/rule}
\AssignStructureRole{text/rule}{Artifact}

\NewTaggingSocket{rule}{2}

\NewTaggingSocketPlug{rule}{artifact-MC}{
  \tag_mc_end_push:
  \tag_mc_begin:n{artifact}
```

```
  #2
  \tag_mc_end:
  \tag_mc_begin_pop:n{}
}

\NewTaggingSocketPlug{rule}{artifact-SE}{
  \UseTaggingSocket{inline/begin}
                    {tag=\UseStructureName{text/rule}}
  #2
  \UseTaggingSocket{inline/end}
}

\AssignTaggingSocketPlug{rule}{artifact-MC}
```

`\@rule`

LaTeX's **`\rule`** command should also generate rules that are artifacted by default. This doesn't belong here, but before moving into **`latex-lab-text.dtx`** it may need some further adjustments and a decision on whether to use Artifact SEs or MCs.

```
\protected\def\@rule[#1]#2#3{
  \leavevmode
  \begingroup
```

Save all dimensions in variables before using them so that the process is calc safe.

```
    \setlength\@tempdima{#1}
    \setlength\@tempdimb{#2}
    \setlength\@tempdimc{#3}
    \advance\@tempdimc\@tempdima
```

Don't tag if the rule is known to be invisible.

```
    \ifdim \@tempdimb=\z@
    \hbox{ \vrule \@width   \z@
                  \@height  \@tempdimc
                  \@depth  -\@tempdima }
    \else
      \UseTaggingSocket{rule}{}{
        \hbox{ \vrule \@width  \@tempdimb
                      \@height \@tempdimc
                      \@depth -\@tempdima }
      }
    \fi
   \endgroup
}
```

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

```
⟨/package⟩
```