An update on the babel system

Abstract

This article describes the changes that have been made to the babel system, since the article describing the system appeared in *TUGboat* Volume 12, number 2. This article announces the release of a new version of the babel system.

1 Introduction

Since the publication of the babel system in *TUGboat* [1] several changes have occurred. With the new release of LaTeX – which appeared at the end of 1991 – the internationalised version ILaTeX, prepared by Joachim Schrod [2] was withdrawn. But some of its functionality was still needed, so a modification of the babel system was necessary.

Besides this a couple of bugs were reported and had to be fixed. The major problem was that the language changing commands were not 'local', they contained global definitions. In the current version these commands obey grouping correctly.

Some macros that formerly were in language-specific files have been moved to the core of the system, because they are being used in several language-specific files.

2 Changes to the core of babel

The changes to the core of the babel system are the most extensive.

`\selectlanguage`

The babel user-command `\selectlanguage` now also accepts a control sequence as its argument. This was included to provide compatibility for users who were used to the syntax of the original `german.tex`, but wanted to switch to babel. The escape character is 'peeled off' and the name of the control sequence is then used as the name of the language to select.

Another change to the `\selectlanguage` macro is that it now stores the name of the current language in the control sequence `\languagename`. The contents of this control sequence could be tested in the following way:

```
\edef\tmp{\string english}
\ifx\languagename\tmp
  ...
\else
  ...
\fi
```

The construction with `\string` is necessary because `\languagename` returns the name with characters of category code `12` (other).

Saving macro definitions

A new way of handling macros that are temporarily *re*defined was developed by Bernd Raichle and included in the core of the babel system. Two new macros, for use in the language-specific files have been introduced.
These macros, `\babel@savevariable`⟨*register*⟩ and `\babel@save`⟨*macro*⟩, append code to `\originalTeX`. This code restores the value (or meaning) of what was saved when `\originalTeX` was executed.

Special characters

Some of the language-specific files introduce one or more characters that are special in some way. Such characters have to be added to `\dospecials` (and `\@sanitize` too for LaTeX) whenever their special meaning is activated. But, they may have to be removed again when another language, which doesn't use them, is in effect.

To this end two new control sequences, that are meant to be used in the language-specific files are introduced. They are `\babel@add@special` and `\babel@remove@special` and perform the necessary tasks.

Additional facilities

A specific request from Joachim Schrod for babel, was the possibility to extend the definition of a control sequence on the fly. It should, for instance, be possible that the user adds a macro of his own to the definition of `\extrasenglish`.

This feature is now provided by the macro `\addto{`⟨*control sequence*⟩`}{`⟨*TeX code*⟩`}`. It is now used throughout the language-specific files to build the macros `\extras`⟨*lang*⟩ and `\noextras`⟨*lang*⟩.

The support macros `\allowhyphens`, `\set@low@box` and `\save@sf@q` have been moved from the language-specific files to the core of the babel system.

2.1 The files

In the previous release a file called `latexhax.com` was provided. This was needed to provide some macros normally defined by LaTeX, to `plain` TeX users. The need for this file has been removed in the current release of the babel system.

In the previous release of the system, four different files were provided (all derived from `hyphen.doc` that were needed for different combinations of versions of TeX and `plain.tex` or `lplain.tex`. This has been changed. In the current version only two different files are derived from `hyphen.doc`. They

are `babel.switch` and `babel.hyphen`.
The file `babel.switch` is needed for people who can't build a new format or don't have TEX version 3. The file `babel.hyphen` should be loaded into the format by iniTEX. It provides the macros from `babel.switch`, but additionally it reads the file `language.dat`, which specifies the languages for which hyphenation patterns should be loaded.

In the previous release the file `babel.com` contained redefinitions for a lot of LATEX macros to replace texts with control sequences. This has been removed, because it is no longer necessary for releases of LATEX dated december 1991 or later. Those who still have an older release of LATEX can produce a special version of `babel.com` by including the docstrip option ⟨*names*⟩ when stripping the file `babel.doc`.

With the release of the new version of Frank Mittelbach's `doc` package the stripped files are no longer distributed. The distribution of babel now includes a file `install.babel` with which you can produce them (give the command `tex install.babel`).

3 Changes to the language specific files

Bernd Raichle has invented a solution for things like `\char"45` when the `"` is active. His solution (from german 2.3e) has been included in germanb and is copied for other language specific files that have an active `"`.

A few terms have been added to the `\captions`⟨...⟩ macros, again following `german.tex`. These terms are `\prefacename`, `\seename` and `\seealsoname`. I don't have the correct translations for all languages yet, but that will be repaired as soon as someone provides them to me.

For the dutch language the behaviour of the active double quote has been slightly modified. It has been noted that there is a difference between `"e`, where a 'trema' should be produced and `\"u`, where we should get an 'umlaut'. The difference between the two is that the 'trema' should disappear at a hyphenation point, whereas the 'umlaut' should not.

References

[1] Johannes Braams, *Babel, a multilingual style-option system for use with LATEX's standard document styles*, *TUGboat* 12 (1991) #2, p. 291–301.

[2] Joachim Schrod, *International LATEX is ready to use*, *TUGboat* 11 (1990) #1, p. 87–90.