Programming Bibliographies

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An Original View

Bibliographies

Sorting

Generating labels

Other views

News from M\textsc{L}\textsc{B}ib\textsc{T}E\textsc{X}

Conclusion
An Original View

Basic Idea
An Original View

Basic Idea \(\equiv\) a text processor runs on a *computer*. That is, it is a *program*, but this program’s end-users are not directly related to its programming, to the successive statements of this program. Example: interactive word processors such as Microsoft Word. They are customisable, but by means of a graphical interface (most often by interactive menus).
What about \textsc{LaTeX}?

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Commands allow end-users to customise its behaviour. These commands are produced by a *programming language*. Can a text processed by \LaTeX take advantage of programming features? OK if these features are (quite) easily programmable with \TeX’s language. Counter-example: sort an array with \LaTeX before formatting it using \LaTeX. (Try to program a sort procedure using \TeX’s commands.)
Now

Lua\TeX!
LuaTeX!
Example: perform numeric calculations before formatting data.
Building ‘References’ sections

(i) *Searching* bibliography databases.

(ii) *Sorting* extracted resources.

(iii) *Format* each reference.
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(i), (ii), (iii) were often done by *BibTeX*. Nowadays, the biblatex package is quite often used, so (iii) uses commands belonging to this package and ‘actual’ formatting is deferred to LaTeX’s next pass. (i) & (ii) can be delegated to *BibTeX*, but biber is preferred.
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**BibTeX** cannot deal with *numeric* sorts!
Sorting

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Using \texttt{biblatex}: many specific fields allows special orders to be expressed, e.g.:

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    sortname    sorttitle    sortyear
\end{verbatim}

many schemes are predefined, specified by means of \textit{mnemonics}, but:

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as far as I know, month names are not considered, difficult cases are supposed to be addressed by the \texttt{\textbackslash DeclareSortingTemplate} command, but practically, many complicated situations are solved by the last key \texttt{sortkey}. 
Number of names

... for authors, editors, etc.
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In BibTeX limited since a string is generated as a sort key.
Number of names

... for authors, editors, etc.
In \texttt{BIBTEX} \leftarrow limited since a string is generated as a sort key.
With \texttt{biblatex} \leftarrow customisable, but not unbounded.
Reference keys

In alpha styles, suffixes are added in case of ambiguity. But how?
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or:


More related to programming

Bibliographic module of ConT̊ÊXt, a significant part is programmed in Lua.
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Bibliographic module of ConTeXt, a significant part is programmed in Lua. M\textsc{lib}\textsc{bib\TeX}, programmed in Scheme, Version 1.4 deals with encodings.
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Version 1.3 is working, but the repository has been closed. I personally escaped Covid-19, but an additional amount of work has slowed down the final part of Version 1.4 (different installation procedure).
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An *open* format for bibliographies, which can be reached by XML tools.
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A better interface with Scheme, for some important procedures, e.g., sort.
What is (about to be) provided by M\textsc{libtex}?

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A better interface with Scheme, for some important procedures, e.g., sort.
A compatibility for some additional fields of biblatex, even if some standard styles are used.
What is (about to be) provided by \texttt{M\textsc{I}B\textsc{I}B\textsc{T}\textsc{E}X}?

An \textit{open} format for bibliographies, which can be reached by XML tools.
A better interface with Scheme, for some important procedures, e.g., sort.
A compatibility for some additional fields of biblatex, even if some standard styles are used.
A strong type checking for some important fields.
Executable files provided

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mlbibtex analogous to bibtex;
mlbiblatex analogous to biber, in the sense that
generated files are suitable for the biblatex package.
```
I am a programmer

I prefer to deal with *open formats* and bibliographical references used within \LaTeX{} should be such (possibly using a description language based on xml).
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I am a *programmer*

I prefer to deal with *open formats* and bibliographical references used within \LaTeX\ should be such (possibly using a description language based on xml). \Mib\TEX\ is a wild animal recognising only its master... Less true for the new version, it should recognise any master who will express orders in Scheme...
Thanks for your attention

... and be ready for M\textsc{BibTeX}'s new version!