

The `footbib` package*

Eric Domenjoud
Eric.Domenjoud@loria.fr

1997/03/28

Contents

| | | |
|----------|--|----------|
| 1 | General overview | 1 |
| 2 | The user interface | 2 |
| 2.1 | Package options | 2 |
| 2.2 | Commands to generate the foot bibliography | 4 |
| 2.3 | customisation | 4 |
| 3 | Known and potential problems | 6 |

1 General overview

This package makes bibliographic references appear as footnotes. It defines a command `\footcite` which is similar to the `\cite` command of \LaTeX but the references cited in this way are inserted at the bottom of the pages. This *foot bibliography* does not conflict with the standard one and both may exist simultaneously in a document. The command `\cite` may still be used to produce the standard bibliography.

The foot bibliography uses its own style and bibliographic database which may be specified independently of the standard one. Any standard bibliography style may be used. If the style does not provide explicit labels (e.g. `plain`), the references are numbered. The default is to number the references in the order in which they appear in the `thebibliography` environment. This may be overridden through options which allow the user to define a *numbering unit*. Then the references will be numbered in the order in which they are cited in the unit and the numbering restarts from 1 in each unit. The numbering unit may be a page, a double page, a chapter, a part or the whole document. Chapter and part may be used only if they are defined by the document class.

The user may also define a *citation unit* which may be a page, a double page, a chapter, a part or the whole document. The text of a reference will be inserted only once in each citation unit, on the page where the first citation occurs in the unit.

*This file has version number 2.0, last revised 1997/03/28.

The mechanism used to put a reference only once in each citation unit may require several runs of L^AT_EX before the references find their exact place. If necessary, L^AT_EX will issue, near the end of the document, a warning saying

Package footbib Warning: Bibliography not yet stable. Rerun LaTeX.

Using `footbib` in a document $\langle doc \rangle.tex$ produces a file $\langle doc \rangle.fb.aux$. One must pass the argument $\langle doc \rangle.fb$ to BIB_TE_X to produce the bibliography which will be put in the file $\langle doc \rangle.fb.bbl$.

Note: This name might cause some problem on systems which do not allow a double extension in a file name or put a limit on the length of file names. A user command is provided to change it (see section 2.3).

At the beginning of the document, `footbib` inputs the bibliography from the file $\langle doc \rangle.fb.bbl$ (or the name given by the user). If one wants to include the `thebibliography` environment in the main document, this may be done with a `filecontents` environment before the `\documentclass` command. See the L^AT_EX 2_ε documentation for more details about this environment.

2 The user interface

2.1 Package options

2.1.1 `oneside/twoside`

`oneside` The `oneside` and `twoside` options affect the behaviour of `footbib` when either
`twoside` unit (citation or numbering) is the page. In `oneside` mode, the actual unit is a single page while in `twoside` mode, the unit is a double page. These options may be used to override a global `oneside` or `twoside` option.

2.1.2 `citeonce[*]`

`citeonce` The `citeonce` option overrides the default *citation unit*. `footbib` puts the text
`citeonce*` of a reference only once in each citation unit which may be a (double) page, a chapter, a part or the whole document. The default citation unit is the page in `oneside` mode and the double page in `twoside` mode. The new citation unit (`chapter`, `part` or `document`) is given as an optional argument between parentheses (`citeonce(chapter)`, `citeonce(part)` or `citeonce(document)`). If no argument is supplied, `document` is assumed. The argument `chapter` (resp. `part`) may be used only if the document class defines `\chapter` (resp. `\part`). The argument `page` may also be used but has a somehow special meaning. It defines a citation unit which is not overridden by another `citeonce` option but instead has a cumulative effect. For instance if one says

```
\usepackage[twoside,citeonce(page),citeonce(chapter)]{footbib}
```

then each double page and also each `\chapter` command starts a new citation unit. This may be useful if one wants a `chapter` to start a new unit even if it starts on a right page. It is only meaningful in `twoside` mode in conjunction with another `citeonce` option. In all other cases, it has no effect.

The `citeonce` option has a star form `citeonce*` with the same optional argument. When the star form is used, for each subsequent citation of a reference

in the same citation unit but on another (double) page, the text of the reference is not omitted but replaced with a cross reference to the first citation in the same citation unit. The `page` argument is not available since it would have no effect.

2.1.3 `firstcite`

`firstcite` The `firstcite` option affects the way the references are labelled. When the bibliography style does not provide explicit labels, the references are numbered. The default is to assign to each reference a *static* label which is its order in the `thebibliography` environment. The label is then the same for all citations of a given reference. The `firstcite` option causes the references to be numbered dynamically according to the order of their first citations. `firstcite` takes an optional argument between parentheses `firstcite(\langle unit \rangle)` which defines the *numbering unit*. The numbering restarts then from 1 in each numbering unit. The argument `\langle unit \rangle` may take the value `page`, `chapter`, `part` or `document`. If `page` is used, then the numbering unit is a page in `oneside` mode and a double page in `twoside` mode. If no argument is supplied, `document` is assumed.

The effect of several `firstcite` options is cumulative in the sense that if one says for instance

```
\usepackage[twoside,firstcite(page),firstcite(chapter)]{footbib}
```

then each double page *and* each `\chapter` command starts a new numbering unit. This means that a `\chapter` command starts a new numbering unit even if it is on a right page.

If the bibliography style provides explicit labels, the `firstcite` option has no effect.

2.1.4 `crossrefs[*]` and `nocrossrefs`

`crossrefs` When an entry in the bibliographic database contains a `CROSSREF` field, `BIBTEX` includes the cross-referenced entry in the bibliography and puts a `\cite` command in the entry where the `CROSSREF` field occurs. If no standard bibliography is produced, `LATEX` will complain about an undefined reference. One may generally inhibit this behaviour of `BIBTEX` by invoking it with the `-min-crossrefs=\langle number \rangle` option which tells how many times an entry must be cross-referenced before it is included in the bibliography and replaced with a `\cite` command. Setting `\langle number \rangle` to a large value will generally inhibit the cross-referencing mechanism. However, this option has no effect if the cross-referenced entry is explicitly cited in the document.

The `crossrefs` option of `footbib` solves this problem by replacing each `\cite` command in a foot reference with `\footcite` (see the description of this command below). The star form `crossrefs*` replaces the `\cite` command with a `\footcite*`, which means that the text of the reference is not inserted. It is then the responsibility of the user to insert the text in the right place with a `\footnocite` command. Of course, standard citation through `\cite` is not possible anymore in a foot reference when either form of this option is used.

A `nocrossrefs` option is also provided to inhibit this behaviour in case it is not wanted but `crossrefs` occurs in the global options.

2.1.5 split and nosplit

`split` The `nosplit` option tells `footbib` not to split the references across pages. The
`nosplit` `split` option allows references to be split. `split` is the default and exists only to
allow the user to override a global `nosplit` option.

2.2 Commands to generate the foot bibliography

| | |
|-------------------------------------|---|
| <code>\footbibliography</code> | <code>\footbibliography{<file>,<file>,...}</code> Defines the list of bibliographic databases for the foot bibliography. This command has the same syntax as the <code>\bibliography</code> command of L ^A T _E X. |
| <code>\footbibliographystyle</code> | <code>\footbibliographystyle{<style>}</code> Defines the style of the foot bibliography. This command has the same syntax as the <code>\bibliographystyle</code> command of L ^A T _E X. |
| <code>\footcite</code> | <code>\footcite{<key>,<key>,...}</code> Puts the list of labels in the text and the text of the references at the bottom of the page. The text of each reference is inserted at most once in a citation unit, even if it is cited several times. |
| <code>\footcite*</code> | <code>\footcite*{<key>,<key>,...}</code> Puts the list of labels in the text but does not put the reference at the bottom of the page. |
| <code>\footnocite</code> | <code>\footnocite{<key>,<key>,...}</code> Puts the reference at the bottom of the page but puts nothing in the text. |

Note: The main purpose of the commands `\footcite*` and `\footnocite` is to solve the problem of a `\footcite` occurring inside an environment where the reference will be lost (for instance in a `minipage` or `tabular` environment, in a `\mbox`, etc.). In this case, if the reference is not cited otherwise on the same page, it won't show up at the bottom of the page. It suffices to add a `\footnocite` command just before or after this environment. The command `\footcite{<key>}` is more or less (but not completely) equivalent to `\footcite*{<key>}\footnocite{<key>}`.

2.3 customisation

| | |
|--|---|
| <code>\footbibliographyname</code> | The basename of the <code>.aux</code> and <code>.bbl</code> files used for the foot bibliography may be re-defined by <code>\footbibliographyname{<name>}</code> . The default value is <code>\jobname.fb</code> ¹ which causes <code>footbib</code> to read the bibliography from <code>\jobname.fb.bbl</code> and to use <code>\jobname.fb.aux</code> as an auxiliary file. This command may be used only in the preamble. The name supplied to <code>\footbibliographyname</code> must be different from the name of the main document. |
| <code>\footcitelabel</code> <code>\putfootcitelabel</code> <code>\footcitetlistformat</code> | The list of citations in the text may not be typeset in one step as done by the <code>\cite</code> command of L ^A T _E X. The reason is that the command which creates the text of the foot reference must be inserted after each citation. The way (L ^A)T _E X handles insertions makes them vanish if they occur in a box. Hence if the command which formats the list of citations puts them in a box, the text is lost and the references |

¹`\jobname` is a primitive T_EX command which holds the name of the main document.

do not show up at the bottom of the page. All references could be inserted at once, either before or after the list of citations but if this list gets split across pages, the text of some references could show up on the wrong page. Hence the list is created one piece at a time and the text of the corresponding reference is inserted after each citation. The list of citation is created as follows:

- 1) start of list
- 2) for each citation:
 - a) if it is not the first one, separator of citations
 - b) label of the reference, to which `\footcitetlabel` is applied
 - c) insertion of the text of the reference
- 3) end of list

The separator of citations is made of two parts: $\langle sep_1 \rangle$ and $\langle sep_2 \rangle$. The command `\putfootcitetlabel` is applied to each component of the list, excepted $\langle sep_2 \rangle$ which is put as such. Typically, $\langle sep_2 \rangle$ is a separator which may disappear at a line break, like a penalty or some spacing. That's why `\putfootcitetlabel` is not applied to it so that it won't be put in a box. The effect is as follows:

```

\putfootcitetlabel{\langle start of list \rangle}
\putfootcitetlabel{\footcitetlabel{\langle label 1 \rangle}}
\langle insertion of the text of reference 1 \rangle
\putfootcitetlabel{\langle sep_1 \rangle}
\langle sep_2 \rangle
\putfootcitetlabel{\footcitetlabel{\langle label 2 \rangle}}
\langle insertion of the text of reference 2 \rangle
\putfootcitetlabel{\langle sep_1 \rangle}
\langle sep_2 \rangle
\vdots
\putfootcitetlabel{\footcitetlabel{\langle label n \rangle}}
\langle insertion of the text of reference n \rangle
\putfootcitetlabel{\langle end of list \rangle}

```

Each component of the list may be redefined as follows:

```

\renewcommand*\footcitetlabel[1]{...}
\renewcommand*\putfootcitetlabel[1]{...}
\footcitetlistformat\langle start of list \rangle\langle sep_1 \rangle\langle sep_2 \rangle\langle end of list \rangle

```

Here are some examples of the variations allowed by this mechanism.

example 1: list of citations *a la L^AT_EX*: [label 1, label 2, ...]

```

\renewcommand*\footcitetlabel[1]{\#1}
\renewcommand*\putfootcitetlabel[1]{\#1}
\footcitetlistformat[,{\penalty1000\_\_}]

```

example 2: ditto but the list may not be cut

```

\vdots
\footcitetlistformat[,{\penalty10000\_\_}]

```

example 3: the list is raised and the labels are separated only by commas, without any space: [label 1,label 2,...]

```
\renewcommand*\footcitelabel[1]{#1}
\renewcommand*\putfootcitelabel[1]{\textsuperscript{\normalfont#1}}
\footcitelistformat[,{\penalty1000\relax}]
```

example 4: ditto, but no brackets around the list of labels: label 1,label 2,...

```
:
\footcitelistformat{},{\penalty1000\relax}{}
```

example 5: [label 1], [label 2], ...

```
\renewcommand*\footcitelabel[1]{[#1]}
\renewcommand*\putfootcitelabel[1]{#1}
\footcitelistformat{},{\penalty1000\relax}{}
```

The default definitions are the ones of example 3 above.

`\footbibsip` The foot bibliography is separated from the rest of the page by a vertical skip of length `\footbibsip` in which a horizontal line is drawn by the command `\footbibrule`. The length of the skip and the horizontal line may be redefined in the preamble by

```
\setlength\footbibsip{...}
\renewcommand\footbibrule{...}
```

CAUTION: `\footbibrule` must take zero vertical space.

`\footreflabel` The label of the foot reference is formatted by the macro `\footreflabel` which takes the label as argument. It may be redefined by `\renewcommand*\footreflabel[1]{...}`.

`\footrefstyle` The label and the text of the reference at the bottom of the page are typeset in the style defined by the command `\footrefstyle` which may be redefined in the preamble by `\renewcommand\footrefstyle{...}`. The default definition is `\normalfont\footnotesize`.

`\footxref` The options `citeonce*(⟨unit⟩)` tells `footbib` to replace the text of each reference but the first in each citation unit with a cross-reference to the last place where the full text of the reference appeared. The text of the cross-reference is generated by the command `\footxref` which takes two arguments: (1) the label and (2) the page of the last full citation. `\footxref` may be redefined in the preamble by `\renewcommand*\footxref[2]{...}`.

3 Known and potential problems

- The foot bibliography is not sorted. The references appear at the bottom of the page in the order in which they are cited on the page.
- If a float is inserted at the bottom of the page, the foot bibliography is put *above* it, like footnotes.
- The result is not very nice in `twocolumn` mode. The references should be balanced between the two columns of the page (if there are two) or put in the right column like the package `ftnright` of Frank Mittelbach does for footnotes.

- `footbib` does not work with most packages which modify the output routine of \LaTeX : `multicol`, `ftnright`, `floatflt`, `wrapfig`, etc.
- At present, the convergence is not proved. There is no guarantee that the references eventually find their place. However, `footbib` was used in large documents (several hundreds pages) and such a problem never occurred.
- The references must not contain any `verbatim` environment. But `\verb` is allowed since it is sometime used to typeset filenames, URL's, etc.
- The braces must be balanced in the references, excepted the ones that might occur inside the argument of a `\verb` command. This implies that a reference may not contain say `\hbox\bggroup...}` which is otherwise correct in (\LaTeX) .
- When references are numbered, the space between the label and the reference itself may be too large because the longest label is determined from the argument of `\begin{thebibliography}{(longest label)}` and its length is used for all references. If all references on a page have small numbers and the bibliography contains many references (say more than 100), this length is not reliable. The longest label should be deduced from the maximal number of foot references on a page, but this may not be known at the beginning of the document, at least at the first run. At the second run, the information could be deduces from what was written into the `.aux` file, provided the `\nofiles` command was not used (otherwise, the `.aux` file was not written). When per page numbering is used (option `firstcite(page)`), the longest label could also be simply initialised to 99 which is not too large and should be enough.