A LaTeX to HTML Translator

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Abstract

A full translation from LaTeX to HTML (or SGML) is not possible. This is because a LaTeX document contains a lot of formatting and page layout information that has no direct equivalent in HTML. It is not due to inadequacies in HTML but rather to the fact that HTML addresses different issues. HTML provides constructs for describing the structure of a document and not its precise layout.

Having said that it is possible to translate LaTeX commands which have direct equivalents in HTML as well as mirror the structure of a document using hypertext links. The remaining heavily formatted items such as equations, pictures or tables can be converted to images which can be included in the final document or made available through hypertext links.

Apart from dealing with the above issues, the LaTeX to HTML translator described in this document extends LaTeX by supporting arbitrary hypertext links and symbolic cross-references between evolving remote documents as LaTeX commands.

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1 Overview

This document describes a LaTeX to HTML translator written in Perl.

The translator:

- breaks up a document into one or more components as specified by the user[1],
- provides an optional **next**, **previous**, and **up** navigation panel on every page,
- handles equations ($\sum_{i=1}^{n} x_i = \int_0^1 f$), tables (see Table 1), figures (see Figure 1), and *any arbitrary environment*. These are passed to LaTeX and then converted to images which are either included in the document or are made available through hypertext links,
- can produce output suitable for browsers that support inlined images or character based browsers (as specified by the user),
- handles definitions of new commands, environments, and theorems even when these are defined in external style files[2],
- handles footnotes[3], tables of contents, lists of figures and tables, bibliographies, and can generate an index,
- translates cross-references into hyperlinks,
- extends the LaTeX cross-referencing mechanism to work not just within a document but *between documents* which may reside in remote locations,
- recognizes hypertext links (to sound/video/ftp/http/news etc. addresses) expressed as LaTeX commands,
- can deal sensibly at least with the *Common* LaTeX *commands* summarized at the back of the LaTeX blue book [1],
- will try and translate any document with embedded LaTeX commands irrespective of whether it is complete or syntactically legal.

A postscript version[4] (generated directly from the same LaTeX source file) of this document is available.

2 User Manual

The **LaTeX2HTML** program includes its own manual page. This was achieved using the wrapman[5] program. The manual page can be viewed by saying `%nroff -man latex2html` . Alternatively the manual page can be installed using the wrapinst[6] program.

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[1] The user can specify the *depth* at which the document should not be broken up any further.

[2] This opens up the possibility of defining HTML macros in LaTeX !

[3] Like this!

[4] http://cbl.leeds.ac.uk/nikos/tex2html/doc/latex2html.ps

[5] ftp://jpl-devvax.jpl.nasa.gov/pub/perl.4.0/scripts/nutshell/ch6/wrapman

[6] ftp://jpl-devvax.jpl.nasa.gov/pub/perl.4.0/scripts/nutshell/ch6/wrapinst

2.1 Command Line Options

Below are the command line options:

-split num Stop splitting sections into separate files at this depth. A value of 0 will put the document into a single HTML file.[7] The default is 8.

-link num Stop revealing child nodes at each node at this depth. (A node is a part/chapter/section/subsection/subsubsection etc.). A value of 0 will show no links to child nodes, a value of 1 will show only the immediate descendents, etc. A value at least as big as that of the `-split` option will produce a table of contents for the tree structure, rooted at each given node. The default is 4.

-nolatex Disable the mechanism for passing unknown environments to LaTeX for processing. This can be thought of as "draft mode" which allows faster translation of the basic document structure and text, without fancy figures, equations or tables.

-external_images Instead of including any generated images inside the document, leave them outside the document and provide hypertext links to them.

-ascii_mode Use only ascii characters and do not include any images in the final output. In ascii mode the output of the translator can be used on character based browsers which do not support inlined images (the ¡IMG¿ tag).

-allbitmaps Generate images for figures, tables, and tabular environments as XBMs rather than GIFs (the default). This may increase the disk space required to store the images but will allow them to blend naturally into a colored background.

-t top-page-title Name the document using this title.

-dir output-directory Redirect the output to this directory.

-address author-address Sign each page with this address.

-nonavigation Disable the mechanism for putting navigation links (**previous**, **up**, **next**) at the top of each page.

-info string Generate a new section *About this document ...* containing information about the document being translated. The default is to generate such a section with information on the original document, the date, the user and the translator. An empty string (or the value 0) disables the creation of this extra section. If a non-empty string is given, it will be placed in the contents of the *About this document ...* section instead of the default information.

-dont_include file(s) Do not include the specified file(s). Such files are usually style files which may contain raw TeX commands that LaTeX or the translator cannot handle.

-h Print out the list of options.

`% nroff -man latex2html` prints out the manual page.

[7] http://cbl.leeds.ac.uk/nikos/tex2html/doc/latex2html.flat/latex2html.flat.html

2.2 Extending the Translator

As the translator covers only partially the set of LaTeX commands and because new LaTeX commands can be defined arbitrarily using low level TeX commands, the translator should be flexible enough to allow end users to specify how they want particular commands to be translated. At the moment only a rudimentary mechanism is provided so that a user can ask for particular commands and their arguments either to be ignored or passed on to LaTeX for processing (the default behaviour for unrecognized commands is for their arguments to remain in the HTML text). Commands that are passed on to LaTeX are converted to images which are either "inlined" in the main document or become accessible via hypertext links.

2.2.1 Asking the Translator to Ignore Commands

Commands that should be ignored may be specified in the **.latex2html-init** file as input to the `ignore_commands` subroutine. Each command which is to be ignored should be on a separate line followed by compulsory or optional argument markers separated by `#`'s e.g.[8]:

```
<cmd_name>#{}# []# {}# [] ...
```

`{}`'s mark compulsory arguments and `[]`'s optional ones.

Some commands may have arguments which should be left as text even though the command should be ignored (e.g. `mbox`, `center`, etc). In these cases the arguments should be left unspecified.

Here is an example of how this mechanism may be used:

```
&ignore_commands( <<_IGNORED_CMDS_);
documentstyle # [] # {}
linebreak# []
center
<add your commands here>
_IGNORED_CMDS_
```

2.2.2 Asking the Translator to Pass Commands to LaTeX

Commands that should be passed on to LaTeXfor processing because there is no direct translation to HTML may be specified in the **.latex2html-init** file as input to the `process_commands_in_tex` subroutine. The format is the same as that for specifying commands to be ignored. Here is an example:

```
&process_commands_in_tex (<<_RAW_ARG_CMDS_);
fbox # {}
framebox # [] # [] # {}
<add your commands here>
_RAW_ARG_CMDS_
```

3 Special Features

This section describes some special features of the translator which can be considered as *hypertext extensions to* LaTeX. These are implemented as new LaTeX

[8] It is possible to add arbitrary Perl code between any of the argument markers which will be executed when the command is processed. For this however a basic understanding of how the translator works and of course Perl is required.

commands which have special meaning during the translation to HTML but are mostly ignored when processed by LaTeX.

All the new commands used in the sections below are defined in the file **html.sty**[9] which is part of the distribution. *This file must be included in any* LaTeX *document using these features*[10].

3.1 Hyperlinks in LaTeX

Arbitrary hypertext references in a document are available through the commands `htmladdnormallink` and `htmladdimg` (see Page 3).

These are defined as follows:

```
\htmladdnormallink{<text>}{<URL>}
\htmladdimg{<URL>}
```

The first command expects some text as the first argument and a URL as the second argument. When processed by LaTeX (i.e. in the `dvi` or `ps` output files), the URL will appear as a footnote to the text. But when processed by the translator, the URL will be used to provide an active hypertext link[11] (to another file, picture, sound file, movie, etc) e.g.

```
\htmladdnormallink{<URL>}
{http://www.ncsa.uiuc.edu/demoweb/url-primer.html}
```

In a similar way, the argument of the `htmladdimg` command should be a URL pointing to an image. This URL is ignored in the LaTeX hard copy output.

3.2 Cross-References Between Living Documents

This section describes a mechanism for establishing cross-references between two or more documents via symbolic labels which are independent of the physical realisation of these documents. The documents involved may reside in remote locations and may be spread across one or more HTML files.

The mechanism is an extension of the simple `label-ref` pairs which can be used only within a single document. A symbolic label defined with a `label` command can be referred to using a `ref` command. When processed by LaTeX each `ref` command is replaced by the section number in which the corresponding `label` occurred. When processed by the translator, each `ref` is replaced by a hypertext link to the place where the corresponding `label` occurred. The new commands detailed below show how it is possible to refer to symbolic labels defined with `label` in other external documents. Such references to external symbolic labels are then translated into hyperlinks pointing to the external document.

Cross-references between documents are established with the commands:

```
\externallabels{<URL to directory of external document>}
               {<external document labels.pl file>}

\externalref{<label in remote document>}
```

The first argument to `externallabels` should be a URL to the directory containing the external document. The second argument should be the full

[9] http://cbl.leeds.ac.uk/nikos/tex2html/doc/html.sty.txt

[10] As an argument to the `documentstyle` command or as an argument to the `input` command or by pasting the definitions of individual commands directly into the text!

[11] http://www.ncsa.uiuc.edu/demoweb/url-primer.html

pathname to the `labels.pl` file belonging to the external document. The file `labels.pl` associates symbolic labels with physical files and is generated automatically for each translated document[12]. The command `externallabels` can be used once for each external document in order to import the external labels into the current document. The argument to `externalref` may be any symbolic label defined in any of the external documents in the same way that the `ref` command refers to labels defined internally.

After any modifications in an external document (sections added/deleted, segmentation into different physical parts etc.) a new `labels.pl` will be generated. If the `externallabels` command in another document contains the correct address to the `labels.pl` file then the cross-references will be realigned after running the local document through the translator. A warning is given if `labels.pl` cannot be found.

3.2.1 Example

To understand this mechanism better consider how you would maintain a link to this section (of the hypertext version of this document) from one of your documents without using labels. Sure enough you can get the name of the physical file that this section is in (at the moment `/nikos/tex2html/doc/latex2html/subsection3.8.3.html`). This however is very likely to change and any links to it will become invalid. To update your link, the name of the new file must be found and your link changed by hand. Also there is no general updating mechanism so the only way to find out if your document is pointing to the right place is by actually following the link and then doing a manual update[13].

Now consider how it could be done with symbolic labels. First you have to import the labels used in this document by copying the file labels.pl[14], saving it say in `/tmp/labels.pl`, and then adding anywhere in your document:

```
\externallabels{http://cbl.leeds.ac.uk/nikos/tex2html/doc/latex2html}
               {/tmp/labels.pl}
```

After that you can use the label `crossrefs` defined at the beginning of this section[15] as follows:

```
\externalref{crossref}
```

This will be translated into the appropriate hyperlink to this page. If there are any changes in this document and you would like to bring your document upto date you have to copy labels.pl[16] again and rerun the translator on your document. Of cource if I move the directory containing the HTML files for this document somewhere else then you would have to make a change in the argument of the `externallabels` command to reflect this.

It is obvious that some level of collaboration is required between authors trying to maintain cross-references between different documents. Using symbolic labels makes this a lot easier (especially for documents written by the same author).

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[12] Note that for *remote* external documents it is necessary to copy the `labels.pl` file locally so that it can be read when processing a local document that uses it.

[13] Link validation can be done automatically but the updating must be done manually when filenames have changed (assuming no other symbolic label mechanism is available).

[14] http://cbl.leeds.ac.uk/nikos/tex2html/doc/latex2html/labels.pl

[15] You either have to guess the role of each label by looking at the `labels.pl` file or by asking the author!

[16] http://cbl.leeds.ac.uk/nikos/tex2html/doc/latex2html/labels.pl

4 Getting and Installing the Translator

First get the source code[17] archive and save it in a file (e.g. `latex2html.tar`)[18].
The archive contains the following files:

- A README file.
- A **texexpand** Perl program [19]
- The **latex2html** Perl program (containing its own man page - see Page 3).
- The **pstoxbm** script for converting postscript files into the XBM format.
- The **pstogif** script for converting postscript files into the GIF format.
- The **pstoppm.ps** postscript program which is used by **pstoxbm** and **pstogif**.
- A sample intialization file (**dot.latex2html-init**).
- A LaTeX style file (**html.sty**).
- A subdirectory (**icons**) containing various navigation icons.
- A subdirectory (**doc**) containing some postscript documentation.

After getting and saving the archive, extract the above files with

```
% tar xvf latex2html.tar
```

and do the following:

- In the **latex2html** Perl progam, modify the second line according to where Perl is on your system. If you have Perl installed as a shell you can replace the first three lines with `#!<perl-directory>/perl`.
- Do the same in the **texexpand** Perl program (i.e. either modify the second line or replace the first three lines with `#!<perl-directory>/perl`).
- If possible please copy the **icons** subdirectory to a place under your WWW tree where they can be served by your server[20].
- In the file **dot.latex2html-init**:
  - Modify the values of the variables TEXEXPAND, LATEX, DVIPS, PSTOXBM, and PSTOGIF according to where the corresponding executables and scripts can be found.
  - Modify the values of the environment variables GS, PNMCROP, PPMTOXBM, and PSTOPPM, according to where the corresponding executables and scripts can be found. These variables are used by the **pstoxbm** and **pstogif** scripts.
  - Set any variables that control the defaults of the command line options 2.1 to your preferred values.

[17] http://cbl.leeds.ac.uk/nikos/tex2html/latex2html.tar

[18] The source code is also available via anonymous ftp from `ftp.tex.ac.uk` in the directory `pub/archive/support/latex2html`.

[19] Written by Robert S. Thau <rst@edu.mit.ai>. The original version of **texexpand** is part of any TeXdistribution usually in .../TeXcontrib/kamal/.

[20] If you cannot do that bear in mind that these icons will have to travel from Leeds !!! Also, your documents will depend on our server being operational in the first place.

  – *If you have copied the* **icons** *subdirectory* (see above) then modify the value of the ICONSERVER variable accordingly.

- Move **dot.latex2html-init** to your home directory and rename it **.latex2html-init**.

The **latex2html** program should now be ready to run.

4.1 Requirements

The translator makes use of the following public domain programs and libraries:

- LaTeX, **dvips** (version 5.512 or later). These are part of the same distribution.

- **Perl** (version 4.0 - RCSfile: perl.c,v - Revision: 4.0.1.8 - Date: 1993/02/05 19:39:30 - Patch level: 36)

- **gs** (Ghostscript version 2.6.1). This is necessary for the conversion of postscript files to the XBM and GIF formats.

- The **pbmplus** library (distribution of 22nov89 or later). From this, the utilities **pnmcrop** and **ppmtoxbm** are used during the postscript to XBM conversion.

Because by default the translator makes use of inlined images in the final HTML output, it would be better to have a viewer which supports the `<IMG>` tag, such as NCSA Mosaic[21]. If only a character based browser is available or if you want the generated documents to be more portable then the translator can be used with the `-ascii_mode` (See Page 2.1).

If **ghostscipt** or the **pbmplus** library are not available it is still possible to use the translator with the `-nolatex` option (see Page 4). In this way it might still be possible to get acceptable output but without equations, figures, tables, special symbols and arbitrary environments.

Earlier versions of Perl than that shown above have caused compilation problems due to tighter control over syntax. Also earlier versions of some of the postscript to XBM filters cause parts of the borders of some images to disappear.

If you intend to use any of the special features of the translator (see Page 5) then you have to include the **html.sty** file in any LaTeX documents that use them.

5 Changes from Previous Versions

The previous versions of the translator[22] are also available.

5.1 Changes from v0.3 to v0.3.1

These changes are mostly due to patches contributed by Robert S. Thau <rst@ai.mit.edu>:

- Nested environments with the same name are now dealt with properly.

[21]http://www.ncsa.uiuc.edu/SDG/Software/Mosaic/Docs/help-about.html
[22]http://cbl.leeds.ac.uk/nikos/tex2html/previous-versions

- Commands that are passed to LaTeX for processing which have environments in their arguments (e.g. a `parbox` command which an `itemize` environment as an argument) are now processed correctly. A general mechanism for users to specify the syntax of commands that should be passed to LaTeX is described in Page 5.
- Fixed a problem with recognizing the `special` command.
- Fixed bug in the generation of the index.

5.2 Changes from v0.2 to v0.3

Image Recycling Images for equations, tables, figures, special characters etc. generated by the translator are recognised during subsequent runs. The user is then asked whether old images should be reused (or whether the old images should be deleted and regenerated). This offers tremendous improvements in speed after an initial successful translation.

Cross-References Between (Local or Remote) Documents
Cross-references between two or more documents (possibly on remote locations) can be established via symbolic labels which are independent of the physical realisation of these documents.

Such cross-references will be maintained with a simple re-translation[23] even after one or more of the documents have been broken into different physical parts or moved.

The mechanism is based on the new commands `externallabels` and `externalref` which are an extension of the simple `label-ref` pairs. See Section 3.2 for more information.

New Options

`external_images` This provides hypertext links to where generated images (for equations, tables, figures etc) are stored externally. (The default is to "inline" generated images in the main body of the text.)

`ascii_mode` This switches all the navigation icons to their ascii equivalents. Also generated images are stored externally as with the `external_images` option above. The `ascii_mode` option makes documents more portable as it allows them to be viewed on browsers that do not support inlined images[24].

Special Command Style File A style file **html.sty**[26] is now included in the distribution. This contains the definitions (syntax) of some special LaTeX commands mainly for providing external hypertext links. This should be included in LaTeX files that use the special commands (see Section 3).

Minor Changes and Bug Fixes

- Equations, equation arrays and theorems are now numbered correctly even when they are individually passed to LaTeX for processing.
- Fixed problem with `label` commands appearing in section headings.

[23] This is true for documents under the same server but for remote documents a little more is required (see the example in Section 3.2.1.

[24] This document is also available in an ascii mode version[25].

[26] http://cbl.leeds.ac.uk/nikos/tex2html/doc/html.sty.txt

- Fixed problems with verbatim environments, bibliography items, generated file names, the options `nolatex` and `nonavigation`, the `thanks command`, the name of an HTML tag (<HEAD>),
- The appearance of footnotes has been improved.
- Some inconsistencies in the **pstoxbm** and **pstogif** scripts have been fixed.
- Parts of the documentation have been rewritten, restructured and some new sections have been added.

The following were contributed by Robert S. Thau <rst@ai.mit.edu>:

New Texexpand This fixes problems with the standard version and handles the inclusion of style files which need to processed by the translator. Appropriate modifications to the main script were also made to work with new version of **texexpand**.

Handling of Raw TEX Added support for simple raw TEX commands such as `special` and simple instances of `def`[27]. For the messier cases, the definition is scooped up and moved to the preamble. This allows the translator to handle the simple, but nonstandard, postscript figure inclusion macros as well as an awful lot of other stuff done with gratuitous `defs`.

More Options

`dont_include` This can be used to specify style files that should not be included in the translation (see Page 6).

`allbitmaps` The default format for generated images of equations and special commands is still XBM but the format of figures and tables has been changed to GIF. This reduces the space required to store the images (XBM's are much larger GIFs) but GIFs do not look as good on color monitors. This option allows all images to be generated as XBMs.

Other Changes

- Added support for nested math mode expressions and general list environments in order to handle *the document from Hell!!!*.
- Fixed problems in the translation of bibitems, the substitution of macro definitions, and the processing of unrecognized commands in the preamble.

5.3 Changes from v0.1.1 to v0.2

- Added a command line option to switch off the navigation links at the top of each page.
- The navigation icons are now part of the distribution.
- Added a customizable separator between the main body of the text in a page and the child links from that page.
- The order of the navigation keywords at the top of each page is the same as that of the navigation icons.

[27]Where "simple" is defined roughly as "they could have used `newcommand`, but didn't".

- The arguments of `verbatim` environments are now translated into fixed width fonts.
- A warning is given if a `bbl` (bibliography) file is needed but not found.
- The installation is now (mostly) done by setting variables in just one file.
- The **pstoxbm** script now uses environment variables set in the initialisation file.
- Fixed bug in translating sequences of special HTML characters (e.g. &, <, etc.)
- Fixed bug in the handling of the `$$`-form of the dislay math environment.
- Fixed bug in the handling of the *-forms of environments.
- Added sections on how to embed hyperlinks in a LaTeX document (see Page 6) and on how to extend the translator (see Page 5) in the documentation.

5.4 Changes from v0.1 to v0.1.1

- Fixed bug about empty lines being inserted in environments that cannot tolerate them (e.g. `math`).
- Changed the format of inlined images coming back from LaTeX from GIF to XBM. This looks better on grayscale and color monitors.
- Fixed problem with commands being passed on to LaTeX after their arguments had been translated (this affects the commands `psfig`, `fbox`, `framebox`, and `parbox`).

6 Problems

Here are some of the problems of the current version:

Correctness and Efficiency The translator cannot be guaranteed to perform as expected. Several aspects of the implementation need optimization and improvement. Apart from possible bugs the translator may place heavy demands on your resources.

Quality of HTML The HTML generated by the translator has only been checked with the interpreter available with NCSA Mosaic[28] which is known to be quite forgiving (as it should be!).

Unrecognized Commands and Environments As mentioned earlier the translator can handle at least the *Common* LaTeX *commands* summarized at the back of the LaTeX blue book [1]. Although it is very easy to extend the command and environment set, there is currently no way of doing so, short of modifying the Perl script.

Unrecognized commands are ignored and any arguments are left in the text. Unrecognized environments are passed to LaTeX and the result is included in the document as one or more inlined images.

[28] http://www.ncsa.uiuc.edu/SDG/Software/Mosaic/Docs/help-about.html

Cross-references Obviously it is not possible to deal with explicit (hard-wired) cross-references that do not use the `label - ref` mechanism. Such references are left dangling.

References from an environment that is passed to LaTeX for processing (e.g. a `cite`, or a `ref` command), are processed correctly except when the environment contains a `caption` command. In this case references will be correct only if they occur *after* (not inside) the caption.

In some instances it would be more appropriate to use numeric references rather than active links e.g. when there are references to several axioms or theorems.

Style File Problems Form version v0.3 style files specified with the `documentstyle` command are included in the translation as they may contain macro definitions that are useful to the translator. This is a mixed blessing as style files may also contain raw TeX commands which can confuse LaTeX when trying to process unknown environments or cause problems with the translation. *If a style file causes any problems it is possible to exclude it from the translation using the* `-dont_include` *option.*

Bibliographic References Unless the bibliography is constructed manually (using the `thebibliography` environment), the translator requires an up to date `<file>.bbl` for each `<file>` input argument. The `bbl` file should be present in the same directory as `<file>`.

Index The translator generates its own index by saving the arguments of the `index` command. The contents of the `theindex` environment are ignored.

New Definitions
New definitions (`newcommand`, `newenvironment`, `newtheorem` and `def`), will not work as expected if they are defined more than once. Only the last definition will be used throughout the document.

Foreign Characters Are not supported yet.

Scope of declarations and environments If the scope of a declaration or environment crosses section boundaries, then the output will not be as expected, because each section is processed independently.

Postscript Conversion The conversion from postscript to the XBM and GIF formats is done partly through `gs` (`ghostscript`). The conversion will not work if `gs` is invoked with the `-dSAFER` option.

7 Examples

A comparison between the paper-based version (or postscript[29]) and the hypertext equivalent[30] of the documentation on the LaTeX to HTML translator shows most of its features. Both of the above documents were generated from the same LaTeX source file[31] The following is a small selection of other documents that have been processed through the translator and have some interesting features.

- The **LOOM** language reference manual.[32] The paper-based version of this document relies heavily on macros to format each page and to provide

[29] http://cbl.leeds.ac.uk/nikos/tex2html/doc/latex2html.ps
[30] http://cbl.leeds.ac.uk/nikos/tex2html/doc/latex2html/latex2html.html
[31] http://cbl.leeds.ac.uk/nikos/tex2html/doc/latex2html.tex
[32] http://cbl.leeds.ac.uk/nikos/tex2html/examples/shell/shell.html

cross-references. This formatting is reflected in the electronic version as well.

- A description of the **IRC** (Internet Relay Chat).[33] This contains plenty of tables, preformatted data, lots of cross-references, footnotes and an index.

- Interactive graphical programming environments and software construction[34]. A collection of quotes and figures with a large bibliography, many cross-references and an index.

- A classic paper on Lisp.[35]

[33] http://cbl.leeds.ac.uk/nikos/tex2html/examples/IRCprimer1.1/IRCprimer1.1.html
[34] http://cbl.leeds.ac.uk/nikos/tex2html/examples/concepts/concepts.html
[35] http://cbl.leeds.ac.uk/nikos/tex2html/examples/good-bad-win/good-bad-win.html

8 Figures, Tables and Arbitrary Environments

Here are some examples of how the translator handles figures, tables and other environments. This is taken from [1] (page 64):

gnats	gram	\$13.65
cline2-3	each	.01
gnu	stuffed	92.50
emur		33.33
armadillo	frozen	8.99

Table 1: A sample table

This one is also from [1] (page 99):
gnat: a tiny bug
that is very hard
to find.

9 General License Agreement and Lack of Warranty

This software is distributed in the hope that it will be useful but **without any warranty**. The author(s) do not accept responsibility to anyone for the consequences of using it or for whether it serves any particular purpose or works at all. No warranty is made about the software or its performance.

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The LaTeX to HTML translator is written by Nikos Drakos, Computer Based Learning Unit, University of Leeds, Leeds, LS2 9JT.

10 Credits

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Robert S. Thau <rst@edu.mit.ai> has contributed the new version of **tex-expand**. Also, in order to translate the *document from hell* (!!!) he has extended the translator to handle `def` commands, nested math-mode commands, and has fixed several bugs.

The **pstoxbm** and **pstogif** scripts are modified versions of the **pstoepsi** script written by Doug Crabill <dgc@cs.purdue.edu>. They use the **pstoppm.ps** postscript program originally written by Phillip Conrad (Perfect Byte, Inc.) and modified by L. Peter Deutsch (Aladdin Enterprises).

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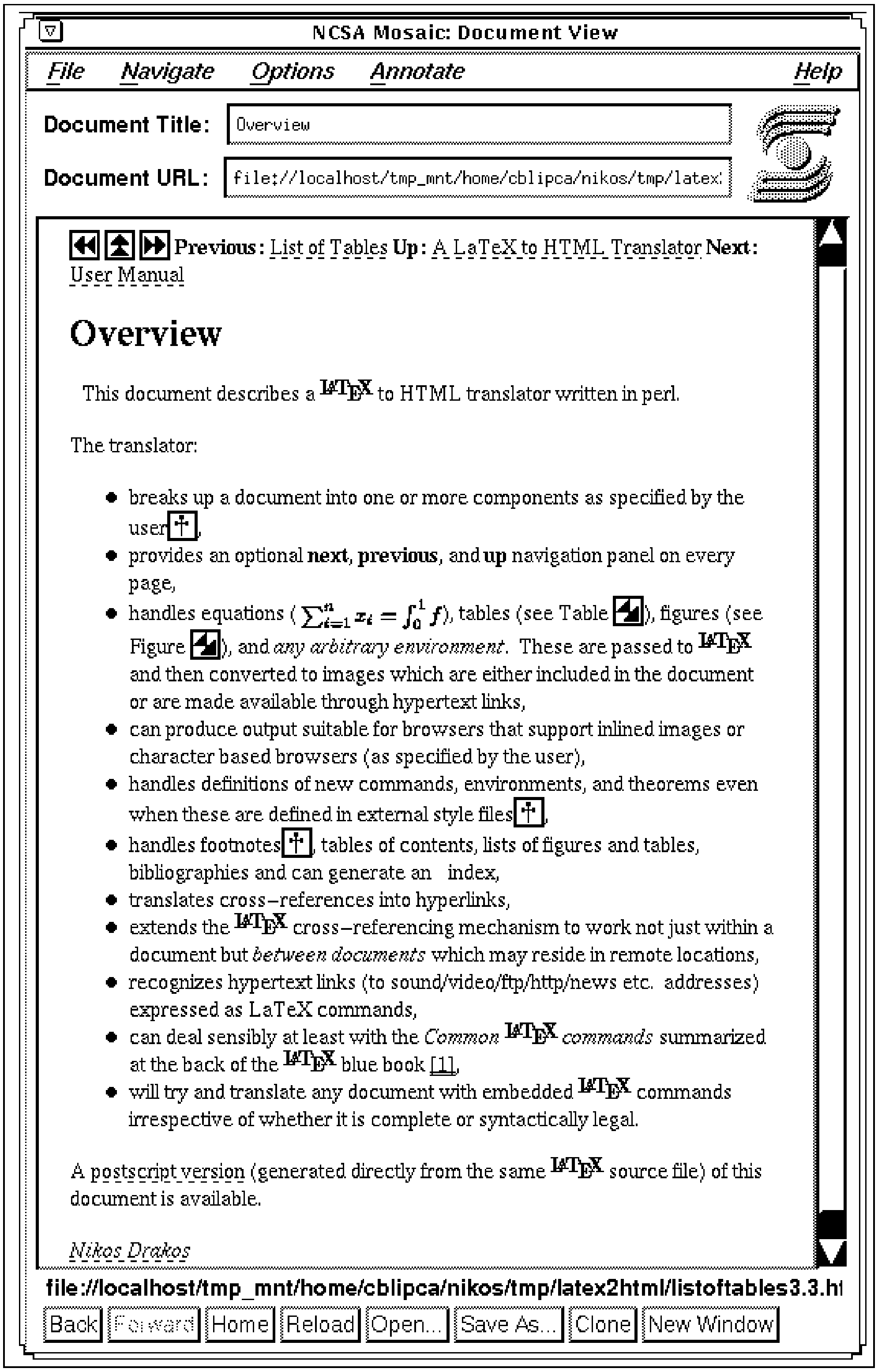
References

[1] Leslie Lamport. *LATEX User's Guide & Reference Manual.* Addison-Wesley Publishing Company, Inc., 1986.



NCSA Mosaic: Document View

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Document Title: Overview

Document URL: file://localhost/tmp_mnt/home/cblipca/nikos/tmp/latex

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Overview

This document describes a LaTeX to HTML translator written in perl.

The translator:

- breaks up a document into one or more components as specified by the user,
- provides an optional **next, previous**, and **up** navigation panel on every page,
- handles equations ($\sum_{i=1}^{n} x_i = \int_0^1 f$), tables (see Table), figures (see Figure), and *any arbitrary environment*. These are passed to LaTeX and then converted to images which are either included in the document or are made available through hypertext links,
- can produce output suitable for browsers that support inlined images or character based browsers (as specified by the user),
- handles definitions of new commands, environments, and theorems even when these are defined in external style files,
- handles footnotes, tables of contents, lists of figures and tables, bibliographies and can generate an index,
- translates cross-references into hyperlinks,
- extends the LaTeX cross-referencing mechanism to work not just within a document but *between documents* which may reside in remote locations,
- recognizes hypertext links (to sound/video/ftp/http/news etc. addresses) expressed as LaTeX commands,
- can deal sensibly at least with the *Common* LaTeX *commands* summarized at the back of the LaTeX blue book [1],
- will try and translate any document with embedded LaTeX commands irrespective of whether it is complete or syntactically legal.

A postscript version (generated directly from the same LaTeX source file) of this document is available.

Nikos Drakos

file://localhost/tmp_mnt/home/cblipca/nikos/tmp/latex2html/listoftables3.3.ht

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Figure 1: A sample figure

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