Package 'tth'

April 26, 2024

Version 4.16-0

Date 2024-04-26

Title TeX-to-HTML/MathML Translators TtH/TtM

Depends R (>= 3.0.0)

Description C source code and R wrappers for the tth/ttm TeX-to-HTML/MathML translators.

License GPL-2

SystemRequirements USE_C17

NeedsCompilation yes

Author Ian H. Hutchinson [aut] (author of tth/ttm C sources),
Friedrich Leisch [aut] (<https://orcid.org/0000-0001-7278-1983>, author
of R wrappers to tth/ttm, maintainer 2012-2024),
Achim Zeileis [aut, cre] (<https://orcid.org/0000-0003-0918-3766>,
author of R wrappers to tth/ttm)

Maintainer Achim Zeileis <Achim.Zeileis@R-project.org>

Repository CRAN

Date/Publication 2024-04-26 17:19:00 UTC

R topics documented:

---

tth-package   *R Interface to the tth/ttm TeX to HTML Converter*

Description

tth/ttm are command line utilities written by Hutchinson (2017) for converting (La)TeX to HTML
or HTML+MathML, respectively.

1

Details

The R package **tth** ships the C sources for convenient compilation and installation on all platforms. It also provides wrappers in R to process R character vectors with the command line tools directly from the R prompt. A detailed manual for tth/ttm is available online at http://silas.psfc.mit.edu/tth/.

References

Hutchinson IH (2022). *TtH: The TeX to HTML Translator*, Version 4.16. http://silas.psfc.mit.edu/tth/

---

tth   *R Interface to the tth/ttm TeX to HTML Converter*

Description

Convert TeX or LaTeX markup to HTML or HTML+MathML. Works for snippets as well as complete documents.

Usage

```
tth(x, ..., fixup = TRUE, Sweave = TRUE, mode = NULL)
ttm(x, ..., fixup = TRUE, Sweave = TRUE, mode = NULL)

tth.control(a = FALSE, c = FALSE, d = FALSE, e = 2, f = NULL, g = FALSE,
  i = FALSE, j = NULL, L = TRUE, n = NULL, p = NULL, r = TRUE,
  t = FALSE, u = FALSE, w = NULL, y = 2, xmakeindxcmd = NULL, v = FALSE)
```

Arguments

x	character vector of (La)TeX code.
fixup	logical. Should the resulting code be fixed up by deleting blank or empty lines and by replacing certain math symbols (such as not lower/greater etc.)?
Sweave	logical. Should the Sweave code environments Sinput/Soutput be replaced by verabtim (and Schunk deleted) prior to conversion with `tth`/`ttm`?
mode	character. If this is set to `"hex"`, `"dec"`, or `"named"`, the corresponding mode is enforced for all character entity references. See also the details.
...	arguments passed to `tth.control`.
a	logical. Attempt automatic picture environment conversion using `latex2gif`? Default omit.
c	logical. Prefix header `"Content-type: text/HTML"` (for direct web serving)?
d	logical. Disable definitions with delimited arguments? Default enable.
e	numeric specifying epsfbox handling: `0` no conversion, just ref. `1` convert to png/gif using user-supplied ps2png/gif. `2` (default) convert and include inline.

f	numeric specifying limit for built-up fraction nesting in display equations to 0 to 9. Default is 5. For `tth` only.
g	logical. Remove (instead of guessing intent of) font commands. Default guess font/size.
i	logical. Use italic font for equations (like TeX)? Default roman. For `tth` only.
j	numeric specifying index page length. Default is 20 lines.
L	logical or character. If logical: Should LaTeX commands (e.g., frac) be enabled without a docmentclass line? If character: The base file (no extension) for LaTeX auxiliary input.
n	numeric HTML title format control: 0 raw, 1 expand macros, 2 expand equations.
p	character specifying additional directories (paths) to search for input files.
r	logical. Raw HTML output (omit header and tail) for inclusion in other files?
t	logical. Display built-up items in textstyle equations? Default is inline. For `tth` only.
u	logical. Use unicode character encoding? Default is ISO-8859-1 (latin1).
w	numeric specifying HTML writing style. Default is no head/body tags, 0 no title, 1 single title only, head/body tags. 2 XHTML. For `tth` only.
y	numeric specifying equation style:1 compress vertically, 2 inline overaccents.
xmakeindxcmd	character specifying command for making index. Default is makeindex.
v	logical or numeric. Give verbose commentary? Verbosity level can also be 0 (none, same as FALSE), 1 (same as TRUE), 2 (even higher verbosity for debugging).

Details

`tth` and `ttm` are simple R wrapper functions, calling command line tools of the same name which either need to be provided by the R package **tth** or be installed on the system (and available in the search path). The command line tools have been written by Hutchinson (2017) and a detailed manual is available online at <http://silas.psfc.mit.edu/tth/>.

By default, the results of `tth` and `ttm` are processed further to accomodate the Sweave environments and `fixup` certain math symbols. Furthermore, optionally a particular mode for character entity references (mathematical symbols, greek letters, and other special characters) can be enforced. For example, the greek small letter mu can be represented in "named" mode (&mgr; or μ), in "hex" mode (μ) or "dec" model (μ). Plain `tth` employs "dec" mode while plain `ttm` employs "named" mode. But setting mode = "hex" would convert all character entity references to hex mode etc. See <https://www.w3.org/TR/xml-entity-names/bycodes.html> for the list of character entity references employed and <https://html.spec.whatwg.org/multipage/named-characters.html> for a somewhat nicer display.

Value

`tth`/`ttm` return a character vector with HTML code. `tth.control` returns a character vector with collapsed (non-default) control arguments.

References

Hutchinson IH (2022). *TtH: The TeX to HTML Translator*, Version 4.16. http://silas.psfc.mit.edu/tth/

Examples

```
tex <- c("This is \\textbf{bold} and this \\textit{italic}.",
  "Points on the unit circle: $x^2 + y^2 = 1$.")
tth(tex)
ttm(tex)

h0 <- "$H_0: \\mu_0 = 0$"
tth(h0)
tth(h0, mode = "hex")
tth(h0, mode = "named")
ttm(h0)
ttm(h0, mode = "hex")
ttm(h0, mode = "dec")
```

Index