Bijlage 15

Visual TeX 5.10 for MS-Windows

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abstract

MicroPress's Visual TeX is a complete TeX implementation for MS-DOS and all flavors of MS-Windows. The Windows version is reviewed here. It supports several interesting features that go beyond standard TeX, such as outline fonts and conversion to HTML.

keywords

TeX implementation, Visual TeX, VTeX, MS-Windows, HTML

Introduction

MicroPress's Visual TeX 5.10 ('VTeX' for short) is a complete TeX implementation that includes TeX, Metafont, BibTeX and MakeIndex. A few more utilities are available that enable special features.

To quote the extensive online help file: "On the low end, basic VTeX package is a small no-frills implementation intended for smaller and older machines. Basic VTeX can be run on 512k machines without hard drive. Basic VTeX is the only version of VTeX that can be run on 8086- and 80286-class computers. Basic VTeX package is frozen at the version 3.5 and will not be further enhanced. This version of the software is not described in the manual.

VTeX386 is a 32-bit protected mode implementation of VTeX for DOS. While the VTeX386 interface is similar to the basic VTeX, it offers much greater capacity and speed. Furthermore, it does away with some limitations inherent in 16-bit programs.

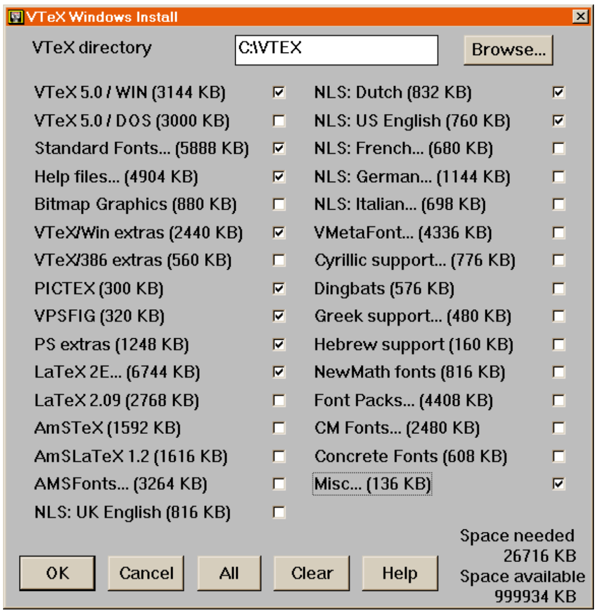
VTeX/Win is a 32-bit Windows application. VTeX/Win includes many capacities not present in DOS versions of the software; perhaps the most important enhancement being the Visual tools."

This article is a first impression of the software as it runs on MS-Windows (NT in this case).

Installation

VTeX is distributed on diskettes and on cd-rom. The cd-rom that I got was a 'gold' disk that contains no more than 31 megabytes of data. The whole system is packaged in compressed files of 360 kilobytes each, which brings back memories from the old days when everyone used 5.25 inch 'double density' floppy disks that couldn't hold more that 360 kb.

But don't let this packaging method fool you. The software is up-to-date and the Windows version comes with a full-fledged Windows setup program. This program allows you to select which parts of the software you want to install. A typical installation (whatever that is) will require around 30 megabytes, but even if you select all, you need no more than around 60 megabytes. As you select parts you want to install VTeX will tell you how much space you need. Nice.



VTeX directory: C:\VTEX

VTeX 5.0 / WIN (3144 KB)	☑	NLS: Dutch (832 KB)	☑
VTeX 5.0 / DOS (3000 KB)	□	NLS: US English (760 KB)	☑
Standard Fonts... (5888 KB)	☑	NLS: French... (680 KB)	□
Help files... (4904 KB)	☑	NLS: German... (1144 KB)	□
Bitmap Graphics (880 KB)	□	NLS: Italian... (698 KB)	□
VTeX/Win extras (2440 KB)	☑	VMetaFont... (4336 KB)	□
VTeX/386 extras (560 KB)	□	Cyrillic support... (776 KB)	□
PICTEX (300 KB)	☑	Dingbats (576 KB)	□
VPSFIG (320 KB)	☑	Greek support... (480 KB)	□
PS extras (1248 KB)	☑	Hebrew support (160 KB)	□
LaTeX 2E... (6744 KB)	☑	NewMath fonts (816 KB)	□
LaTeX 2.09 (2768 KB)	□	Font Packs... (4408 KB)	□
AmSTeX (1592 KB)	□	CM Fonts... (2480 KB)	□
AmSLaTeX 1.2 (1616 KB)	□	Concrete Fonts (608 KB)	□
AMSFonts... (3264 KB)	□	Misc... (136 KB)	☑
NLS: UK English (816 KB)	□		

Space needed
26716 KB
Space available
999934 KB

Installing VTeX.

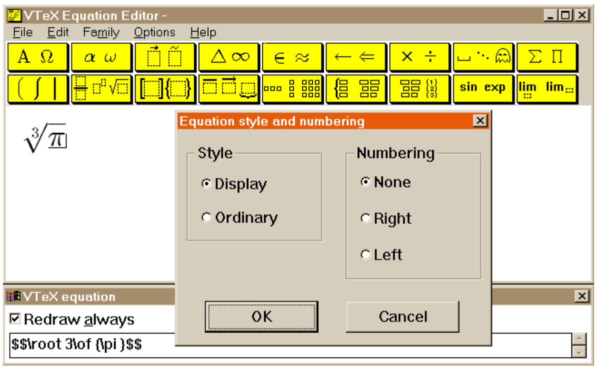
Some of the installation options will not be evident at first. Fortunately the online help information explains them in full detail. You should be able to make a reasonable selection if you read carefully, but if you are new to TeX you may well be dazzled by all the choices. In that case it's wise to start with a minimal set and install other parts later if you feel you need them. VTeX's installation program can be run again and again to add more and more.

Installation is always done completely on hard disk, so after installation the cd-rom is no longer required. It's not possible to run VTeX directly from cd-rom, like TeX-Live and 4allTeX. There is plenty of room left on the cd-rom, so I hope a future version will contain such a 'plug & play' system.

Special features

When you start VTEX you will find that it's a fully integrated TEX environment in which all standard TEX programs can be invoked by pressing a button or selecting them from a menu.

Of course an editor is part of the system. The editor has all the bells and whistles you can expect from a decent programmer's editor. Of course there is 'syntax high-lighting', and the editor can search for a matching brace if you put the cursor on a curly brace. Too bad that this trick doesn't work for '( ) [ ] <>'.



Style: ● Display ○ Ordinary

Numbering: ● None ○ Right ○ Left

☑ Redraw always

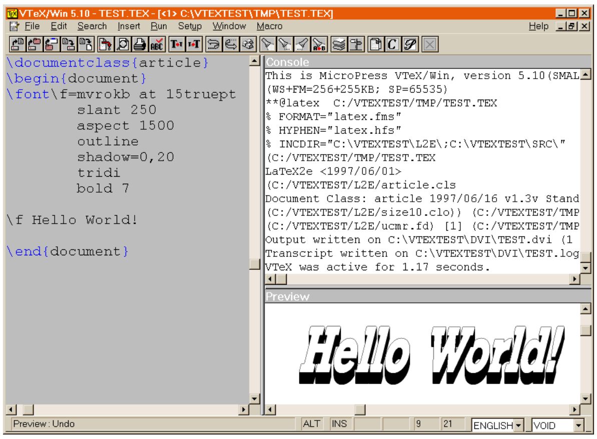
```
$$\root 3\of {\pi }$$
```

The equation editor.

The editor has a few more features that make it a fine TEX user's tool:

- You can start a WYSIWYG equation editor and paste the equation right into your text.
- You can include bitmap pictures for which automatically the correct TEX command is inserted (BMP, PCX, JPG, GIF, TIF, TGA and PNG are supported).
- You can include pictures in LATEX picture environment format. A simple graphic picture editor is included.
- You can consult the online help file on Plain TEX/LATEX if you're not certain about specific commands. Unfortunately the LATEX part is still based on LATEX 2.09, although VTEX itself fully supports LATEX 2_ε.
- You can convert a file written using a specific codepage to another on. If a file is in Latin2 format e.g. it's easy to make it PC850 or ISO8859 (Unicode). There are several other codepage conversions available.
- You can check the spelling of your text. Dictionaries for English (American, I presume), British, German, French, Italian and Dutch can be installed (the Dutch version is still in 'old' spelling, though).

In Visual TEX you can easily configure the window in such a way that you have full access to your text, compiler messages and the previewer. This 'topology' idea works rather well, especially if you are developing macros and need to test a lot. If you are 'only' writing a book, concentrating on content rather than programming, it may be of little use. Nevertheless, it's always convenient to have both a preview and your own text visible.

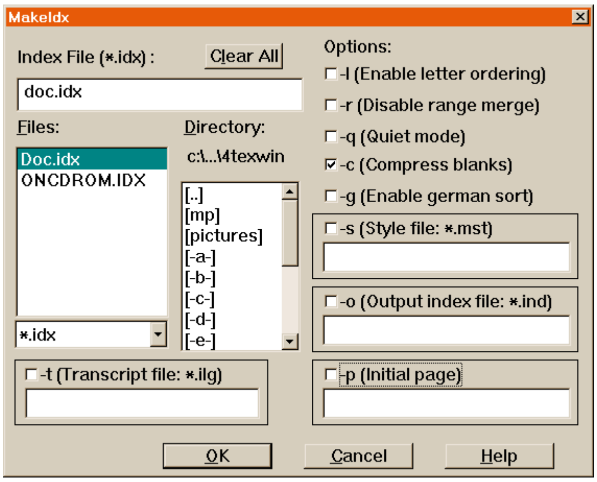

VTeX/Win 5.10 - TEST.TEX - [<1> C:\VTEXTEST\TMP\TEST.TEX]
File Edit Search Insert Run Setup Window Macro
Help
Console
Preview
Hello World!
Preview : Undo
ALT
INS
9
21
ENGLISH
VOID

```
\documentclass{article}
\begin{document}
\font\f=mvrokb at 15truept
        slant 250
        aspect 1500
        outline
        shadow=0,20
        tridi
        bold 7

\f Hello World!

\end{document}
```

```
This is MicroPress VTeX/Win, version 5.10(SMAL
(WS+FM=256+255KB; SP=65535)
**@latex  C:/VTEXTEST/TMP/TEST.TEX
% FORMAT="latex.fms"
% HYPHEN="latex.hfs"
% INCDIR="C:\VTEXTEST\L2E\;C:\VTEXTEST\SRC\"
(C:/VTEXTEST/TMP/TEST.TEX
LaTeX2e <1997/06/01>
(C:/VTEXTEST/L2E/article.cls
Document Class: article 1997/06/16 v1.3v Stand
(C:/VTEXTEST/L2E/size10.clo)) (C:/VTEXTEST/TMP
(C:/VTEXTEST/L2E/ucmr.fd) [1] (C:/VTEXTEST/TMP
Output written on C:\VTEXTEST\DVI\TEST.dvi (1
Transcript written on C:\VTEXTEST\DVI\TEST.log
VTeX was active for 1.17 seconds.
```

A possible screen topology that includes editor, TEX output messages and DVI preview.

Of course VTEX also supports BibTEX and MakeIndex, tools that are especially popular with LATEX users. The MakeIndex menu is a very user friendly system that makes it easy to do more advanced tricks.



Index File (*.idx) : doc.idx

Files: Doc.idx, ONCDROM.IDX — *.idx

Directory: c:\...\4texwin — [..] [mp] [pictures] [-a-] [-b-] [-c-] [-d-] [-e-]

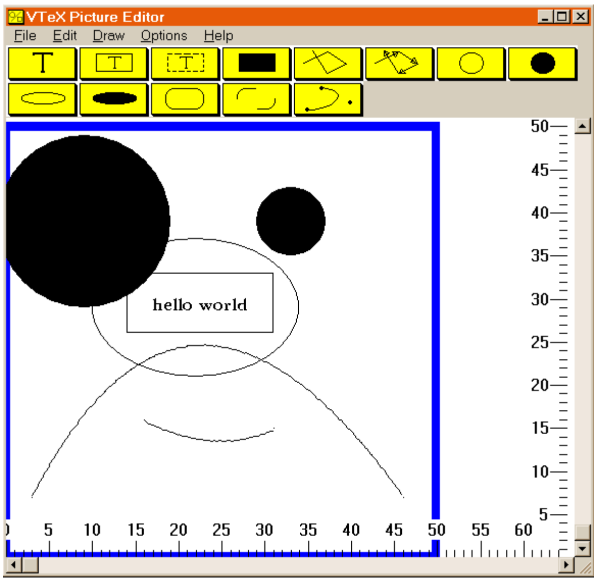
Options:
□ -l (Enable letter ordering)
□ -r (Disable range merge)
□ -q (Quiet mode)
☑ -c (Compress blanks)
□ -g (Enable german sort)
□ -s (Style file: *.mst)
□ -o (Output index file: *.ind)
□ -t (Transcript file: *.ilg)
□ -p (Initial page)

The MakeIndex menu.

In contrast the BibTEX menu is rather disappointing. In fact there is no menu. You can select a '.aux' file and then BibTEX is started. You can see BibTEX's screen messages just like the TEX compiler's messages and that't it. No BibTEX editor or anything else.

The compiler is not very fast. Compiling the 'LATEX 2_ε Kurzbeschreibung' (49 pages) took 25 seconds, whereas both emTEX and Web2c do the job in 10 seconds. A TEX run can configured and automated in several ways:

- You can specify how many TeX runs you want, with or without BibTeX and MakeIndex runs;
- You can select ‘normal’, ‘scroll’, ‘non-stop’ or ‘batch’ mode;
- You can enable advanced debugging features. Depending on the level of detail you require the DVI file will grow a lot, but it’s very neat to be able to point to a place on the page in the previer, and then be guided to the correct spot in your text file to start editing…
- You can specify which hyphenation patterns you want to use *in runtime*. Unlike standard TeX VTeX does not depend on hyphenation patterns loaded during ‘iniTeX’. This approach obviously has advantages. For some reason Dutch hyphenation patterns are not included, so you if you need them you will have to get them from elsewhere.



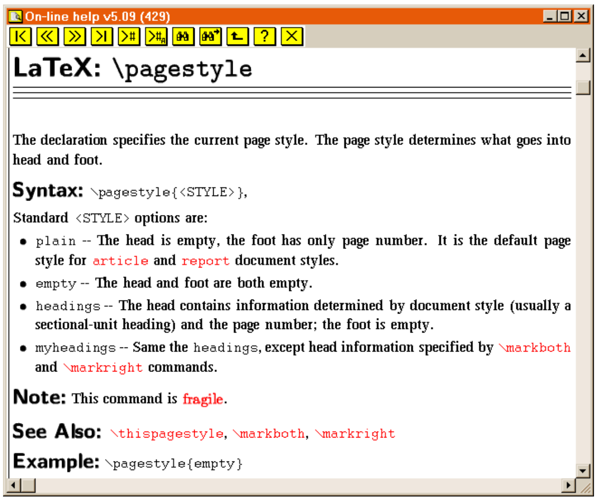
The picture editor.

Documentation

VTeX comes with about 300 paged of printed documentation. This documentation consists almost entirely of a Plain TeX course. The VTeX extensions to standard TeX are also covered in the manual. These extensions are mixed with other documentation, so they may be hard to find. E.g., did you know that all VTeX fonts support the Dutch ij ligature? That may not be much of an issue, but it would be a pity if you missed the following fancy extensions:

- Gray rules and patterns (`\gray`, `\grayl`, `\grayr`, `\graypattern`);
- Executing external programs from within TeX (`\command`, `\exec`, `\errno`);
- Extended font attributes (slant, aspect, bold, outline, shadow, fillpattern, reverse, smallcaps);
- Font rotation (`\sinecos`, `\sine`, `\cos`).

The printed documentation does not explain anything about the program itself. This is on purpose. Instead of quickly outdated printed documentation the program comes with truely extensive documentation in online help files.



LaTeX: \pagestyle

The declaration specifies the current page style. The page style determines what goes into head and foot.

Syntax: \pagestyle{<STYLE>},

Standard <STYLE> options are:

- plain -- The head is empty, the foot has only page number. It is the default page style for article and report document styles.
- empty -- The head and foot are both empty.
- headings -- The head contains information determined by document style (usually a sectional-unit heading) and the page number; the foot is empty.
- myheadings -- Same the headings, except head information specified by \markboth and \markright commands.

Note: This command is fragile.

See Also: \thispagestyle, \markboth, \markright

Example: \pagestyle{empty}

Online help.

Conversion to HTML

A new feature in VTeX is direct conversion to HTML. They call it the ‘TeXpider’. Installing this feature is still a bit clumsy, but that will probably soon change. Documentation was not yet available in help files, but a LaTeX documentation file and another sample should get you started.

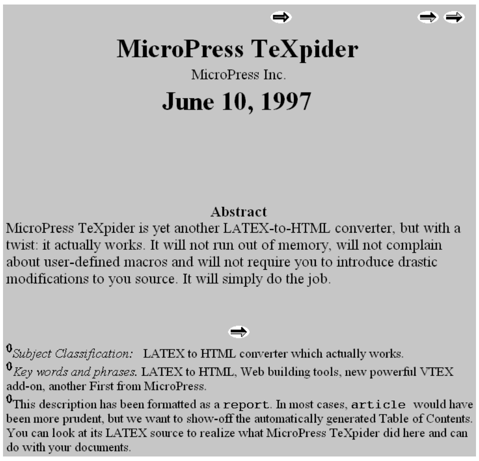
Programs like LaTeX2html try to parse TeX code, which is very hard to do and by definition specific to a (subset of a) TeX dialect.

A different approach is taken by programs like TeX4ht that leave nearly all hard work to TeX. They enrich the DVI file with lots of `\special`s that will guide a DVI postprocessor in generating HTML.

VTeX takes yet another approach: it uses a modified TeX compiler that generates HTML directly instead of DVI. This compiler needs a specifically adapted LaTeX format. Other formats are not (yet?) supported. An advantage of this approach is speed. Converting any LaTeX file to HTML is only slightly slower than a normal compilation. No postprocessing is required.

On the next page is a fragment of the TeXpider documentation and how it looks as an HTML page.

```
\maketitle
\begin{abstract}
MicroPress {\TeXspider} is yet another
\LaTeX-to-HTML converter, but with a twist:
it actually works. It will not run out of
memory, will not complain about user-defined
macros and will not require you to introduce
drastic modifications to you source. It will
simply do the job.
\end{abstract}
```



MicroPress TeXpider

MicroPress Inc.

June 10, 1997

Abstract

MicroPress TeXpider is yet another LATEX-to-HTML converter, but with a twist: it actually works. It will not run out of memory, will not complain about user-defined macros and will not require you to introduce drastic modifications to you source. It will simply do the job.

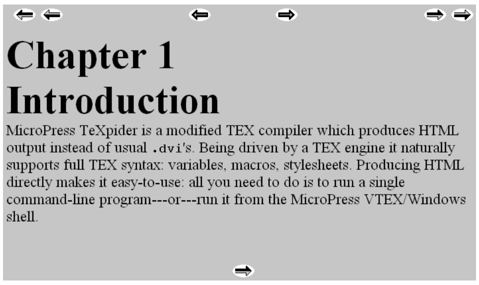
[0]*Subject Classification:* LATEX to HTML converter which actually works.

[0]*Key words and phrases.* LATEX to HTML, Web building tools, new powerful VTEX add-on, another First from MicroPress.

[0]This description has been formatted as a `report`. In most cases, `article` would have been more prudent, but we want to show-off the automatically generated Table of Contents. You can look at its LATEX source to realize what MicroPress TeXpider did here and can do with your documents.

Example of HTML output rendered by Netscape Navigator.

It looks nice, doesn't it? But beware, if you want to change anything in the HTML version you're in for an unpleasant surprise. The HTML code that the TeXpider produces hardly shows anything of the original structure. No <h1> commands, not even a <p> can be found, whitespace is produced by multiple <br>s. The TeXpider produces pure 'visual' markup like in the next fragment:



Chapter 1
Introduction

MicroPress TeXpider is a modified TEX compiler which produces HTML output instead of usual `.dvi`'s. Being driven by a TEX engine it naturally supports full TEX syntax: variables, macros, stylesheets. Producing HTML directly makes it easy-to-use: all you need to do is to run a single command-line program---or---run it from the MicroPress VTEX/Windows shell.

Example of a section in HTML.

The actual HTML code looks like this:

```
<font face="times" size=4><b>
</div></font></b><font face="times"
size=7><b>Chapter 1 <br>
Introduction<br>
<a name="introduction"><a name="sec_intro">
</font></b><font face="times"
size=4>MicroPress TeXpider is a
modified TEX compiler which produces HTML
```

This is almost impossible to read, though WWW browsers will have no problem with that. However, if you want search engines to make any sense of your pages you have a problem. But then again maybe you don't if you only want to publish something quickly on the Internet. Fortunately, again, a few HTML editors that I tried understand the code, so editing is still possible, and you can avoid reading the code yourself.

A future version of the TeXpider will also support conversion to Winhelp files.

Conclusion

VTEX is a fine environment for using TEX on MS-Windows. It has a decent editor, excellent debugging features, some neat extensions to TEX, and its integration of editor, previewer and TEX console is very well done.

It's a pity that the manual is badly organized, and that the HTML conversion is not as powerful as it might be. VTEX's online help should also be updated to support LATEX 2_ε: the current setup is rather confusing to new users.

All in all I think VTEX is a very powerful tool especially for TEX programmers, who will appreciate it's flexibilty and debugging features. Other TEX users may not need all that but they can simply ignore things they don't need. In this case the extra functions don't seem stand in the way of simple tasks. They never should, but in many other programs they do.

[Response from MicroPress]

While most of the concerns raised in Dr. Frambach's review have been resolved in 6.0 [for example, the online help has been totally reorganized and now covers LaTeX 2E; the TeXpider is now installed in an obvious fashion], we disagree with the reviewer's position about the importance of reediting the HTML which has been generated by TeXpider. The entire idea of this program has been for producing HTML that best approximates the original document and does not require reediting or testing with different browsers; if the code that has been generated needs correction, it should be done on the source level (very substantial part of the program comes as a macro package), or — when this is not sufficient — by requesting us to add the needed feature. High-level support for "meta" tags falls into the second category [it was indeed a serious omission on our part] and will be added by the time this review is published.