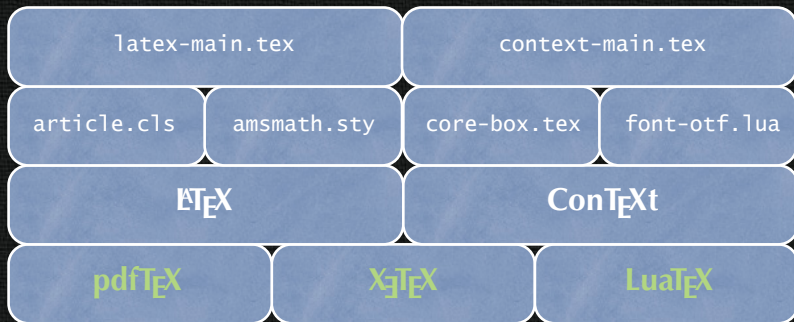


Introduction to

\LaTeX

Lecture Two

엔진, 포맷, 매크로, 그리고... 텍의 계층도 (복습)



What is X_YTeX? TUGboat Volume 26 (2005), No. 2

- ◀ X_YTeX은 유니코드(Unicode/ISO 10646)를 지원하는 ϵ -TeX의 확장판이다.
- ◀ X_YTeX은 Mac OS X 운영체제에 들어 있는 유니코드 텍스트 렌더링 엔진, *ATSUI*(Apple Type Services for Unicode Imaging)를 이용했다. (ATSUI는 Mac OS X 10.5(Leopard)에서 *Core Text* 엔진으로 대체)
- ◀ X_YTeX은 Linux 또는 윈도우 운영체제에서 폰트 정보를 추출하기 위해 *FreeType2* 라이브러리를 이용한다. (대신 대부분의 폰트 처리는 *dvipdfmx* 엔진을 이용한다.)
- ◀ 이외에도 여러 가지 기능들이 계속 추가되고 있는 중이다...

Jonathan Kew²⁰⁰⁵ \XeTeX 및 \TeX works 제작자

- ◀ Growing up, I was always the small, quiet kid, more likely to be found in my room with a book than out with a crowd. (Those who know me will realize that this hasn't changed too much over the years!)
(from \TeX people—Interviews from the world of \TeX)

- ◀ 현재 Mozilla Corporation (재택) 근무
- ◀ \XeTeX , <http://scripts.sil.org/xetex>
- ◀ \TeX works, <http://tug.org/texworks/>
lowering the entry barrier to the \TeX world
- ◀ \TeX as an ebook reader (\TeX on iPhone)
with Kaveh Bazargan, CEO of River Valley Tech.
<http://river-valley.tv/tex-as-an-ebook-reader/>



Components of XeTeX `xetex --version`

XeTeX 3.1415926-2.2-0.9995.2 (TeX Live 2009)

kpathsea version 5.0.0

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For more information about these matters, see the file named COPYING and the XeTeX source.

Primary author of XeTeX: Jonathan Kew.

Compiled with ICU version 3.8.1 [with modifications for XeTeX]

Compiled with zlib version 1.2.3; using 1.2.3

Compiled with FreeType2 version 2.3.9; using 2.3.9

Using Mac OS X Carbon, Cocoa & QuickTime frameworks

(Mac OS X)

Compiled with fontconfig version 2.3.1; using 2.8.0

Compiled with libpng version 1.2.39; using 1.2.39

Compiled with xpdf version 3.02p13

(Linux/MS-Windows)

Landscape XeTeX은 다른 엔진들을 어떻게 바라보나?

- ◀ The pdfTeX/LuaTeX team is taking quite a different approach to some issues, and so it's unclear whether there will come a time when merging the projects makes sense. But I am of course happy to share ideas (and code), and hope that wherever possible we can provide features in ways that make it easy for macro writers and users to work with either system. If LuaTeX proves successful and popular, and develops to the point where it offers users all the same capabilities as XeTeX (even if the underlying implementation is quite different), I'll be delighted, and may no longer feel a need to continue working on XeTeX. *But for the time being, at least, I think the two projects each need the freedom and flexibility to explore their own ideas, and users are of course free to work with whichever serves their needs best.* (from TeX people—Interviews from the world of TeX)

Simple Example of XeTeX Document

simple.tex

```
1 \documentclass{article}
2 \usepackage{ifxetex}
3 \begin{document}
4 We are using \ifxetex XeTeX\else pdfTeX\fi engine.
5 \end{document}
```

xelatex simple

```
This is XeTeX, Version 3.1415926-2.2-0.9995.2 (TeX Live 2009)
entering extended mode
```

...

```
Output written on simple.pdf (1 page).
```

```
Transcript written on simple.log.
```

xelatex -no-pdf simple; xdvipdfmx simple

...

```
Output written on simple.xdv (1 page, 272 bytes).
```

```
Transcript written on simple.log.
```

```
simple.xdv -> simple.pdf
```

```
[1]
```

```
3412 bytes written
```

dvipdfmx & xdvipdfmx 하나되는 그날을 위해...

```
dvipdfmx --version
```

This is dvipdfmx-20090708 by the DVIPDFMX project team,
an extended version of dvipdfm-0.13.2c developed by Mark A. Wicks.

Copyright (C) 2002-2009 by the DVIPDFMX project team

```
xdvipdfmx --version
```

This is xdvipdfmx-0.7.8 by Jonathan Kew and Jin-Hwan Cho,
an extended version of DVIPDFMX, which in turn was
an extended version of dvipdfm-0.13.2c developed by Mark A. Wicks.

Copyright (c) 2006-2008 SIL International and Jin-Hwan Cho.

Font? Font?? Font??? 확장된 \font 명령

◀ T_EX (8-bit)

```
\font\myfont=ptmr7t at 24pt \myfont Times Roman \bye
```

- (URW) Nimbus Roman No9 L Regular (utmr8a.pfb)

◀ X_YT_EX (Unicode)

```
\font\myfont="Times New Roman" at 24pt \myfont Times New Roman \bye
```

- TimesNewRomanPSMT
- Mac OS X: /Library/Fonts/Times New Roman.ttf
- MS-Windows: C:\windows\Fonts\times.ttf

```
\font\myfont="[lmroman10-regular]" at 24pt \myfont LM Roman \bye
```

- LMRoman10-Regular (lmroman10-regular.otf)
- Search TDS (T_EX Directory Structure)

X_YTeX in a Nutshell ifxetex 패키지

- ◀ 현재 텍 엔진이 X_YTeX이 아니면 `\RequireXeTeX` 명령에서 멈춤
`\usepackage{ifxetex}`
`\RequireXeTeX`
- ◀ 현재 텍 엔진이 X_YTeX인 경우와 아닌 경우로 나누어 각각 실행
`\usepackage{ifxetex}`
`We are using \ifxetex XeTeX\else pdfTeX\fi engine.`

X_YTeX in a Nutshell 그냥 한글 및 일본어 쓰기

locale.tex

```
1 \XeTeXlinebreaklocale "ko"
2 \font\myfont="NanumMyeongjo" at 24pt
3 \myfont 한글 텍 없이도 한글을 쓸 수 있다. 한글 텍 없이도 한글을 쓸 수 있다.
4 \par\bigskip
5 \XeTeXlinebreaklocale "ja"
6 \font\myfont="Hiragino Mincho Pro-w3" at 24pt
7 \myfont 日本語ウェブページコンテスト 日本語ウェブページコンテスト
8 \bye
```

한글 텍 없이도 한글을 쓸 수 있다. 한글 텍
없이도 한글을 쓸 수 있다.

日本語ウェブページコンテスト 日本語ウェブ
ページコンテスト

X_YTEX in a Nutshell 라틴 및 한글 폰트 설정

- ◀ 현재 이 문서의 라틴 폰트 설정은 다음과 같다.

```
\usepackage{fontspec,xunicode,xltxtra}
\setmainfont[Mapping=tex-text]{Palatino}
\setsansfont[Mapping=tex-text]{Optima}
\setmonofont[Scale=.9]{LucidaConsole}
```

- ◀ 현재 이 문서의 한글 폰트 설정은 다음과 같다.

```
\usepackage{xetexko}
\setmainhangulfont[Mapping=tex-text]{NanumMyeongjo}
\setsanshangulfont[Mapping=tex-text]{NanumGothic}
\setmonohangulfont[Scale=0.95]{NanumGothic}
```

fontspec, xunicode, xltextra \XeTeX 3종 세트

- ◀ `fontspec.sty` written by Will Robertson
 - provides a high-level interface to native Unicode fonts in \XeTeX , integrating them with the \LaTeX font selection mechanism, and supporting a wide range of features in both AAT and OpenType fonts.
- ◀ `xunicode.sty` written by Ross Moore
 - provides access to latin accents and many other characters in the Unicode lower plane.
- ◀ `xltextra.sty` written by Will Robertson
 - implements some odds-and-ends features and improved functionality for broken or sub-standard \LaTeX methods when using the \XeTeX format.

Toward X_YT_EX-ko... 현존하는 최고의 한글 텍 매크로

- ◀ 2009년 6월 한국텍학회 집행부 워크숍을 마치고 결심을 한다... 텍 엔진을 pdf_TE_X에서 X_YT_EX으로 바꾸기로.
- ◀ 먼저 기존의 강의 노트, 시험지, 퀴즈 등의 클래스 파일들을 X_YT_EX 용으로 바꾸며 경험을 쌓는다.
- ◀ 2009년 7월 TUG 2009 발표자료를 X_YT_EX으로 작업한다.
- ◀ *Asian Journal of T_EX, Volume 3* 편집을 X_YT_EX-ko를 이용하기로 결정한다... 마침내 그 결과가 공개된다.
(<http://ajt.ktug.kr/2009/volume3.html>)

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<http://kts.ktug.kr>

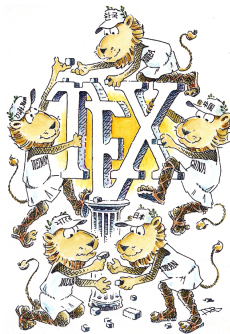
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Character Classes XeTeX-ko를 가능하게 한 바로 그것

```
1 \documentclass{article}
2 \usepackage{color}
3 \XeTeXinterchartokenstate = 1
4 \newXeTeXintercharclass \mycharclassA
5 \newXeTeXintercharclass \mycharclassA
6 \newXeTeXintercharclass \mycharclassB
7 \XeTeXcharclass `a \mycharclassA
8 \XeTeXcharclass `A \mycharclassA
9 \XeTeXcharclass `B \mycharclassB
10 % between "a" and "A":
11 \XeTeXinterchartoks \mycharclassA \mycharclassA = {[ \itshape}
12 \XeTeXinterchartoks \mycharclassA \mycharclassA = {\upshape]}
13 % between " " and "B":
14 \XeTeXinterchartoks 255 \mycharclassB = {\bgroup\color{blue}}
15 \XeTeXinterchartoks \mycharclassB 255 = {\egroup}
16 % between "B" and "B":
17 \XeTeXinterchartoks \mycharclassB \mycharclassB = {.}
18 \begin{document}
19 aAa A a B aBa BB
20 \end{document}
```

a[A]a A a B aBa B.B