



Thai support in L^AT_EX

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Agenda



- Overview of \LaTeX in Thailand
- Thai \LaTeX history
- Implementation
- Thai word segmentation
- Thai fonts
- Issues



Overview of L^AT_EX in Thailand



- L^AT_EX is powerful typesetting program but unpopular in Thailand
 - Learning curve is very high.
 - Most tasks can be done by Office suite.
 - Few learning resources in Thai language, no book but few related web sites.
 - Few encouragement of using L^AT_EX in universities.
 - Thai support for L^AT_EX is still under development.

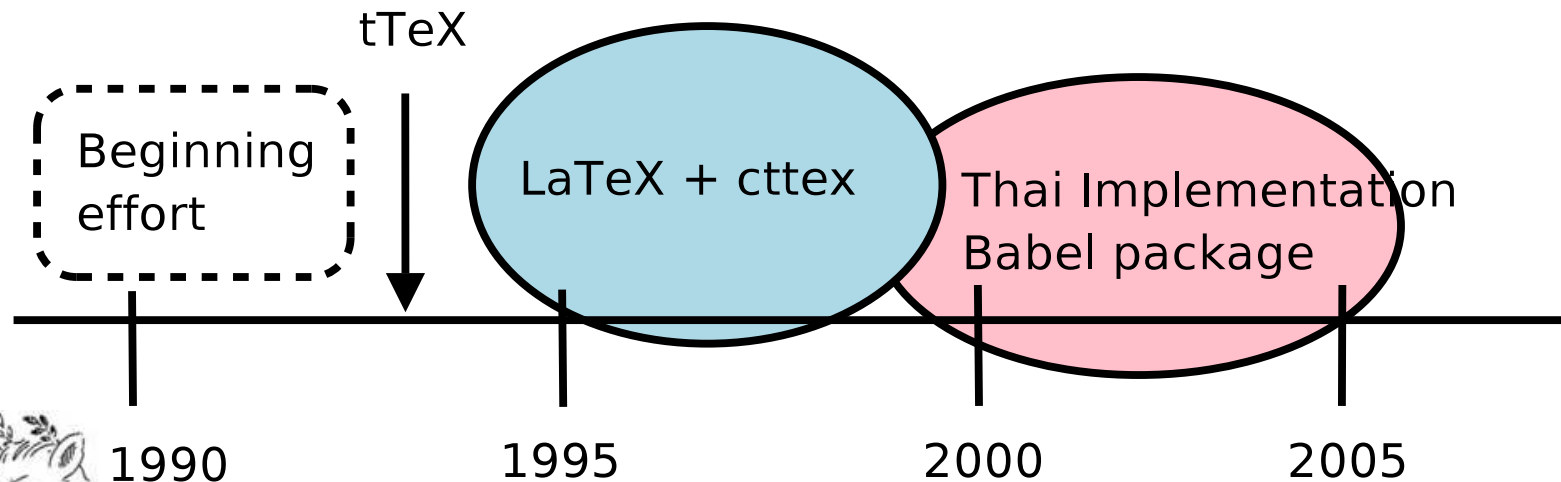


Thai \LaTeX history



There are three phases of Thai \LaTeX development

- Beginning phase: tTeX
- Thai word segmentation phase: cttex
- Thai support with Babel package, CJK package

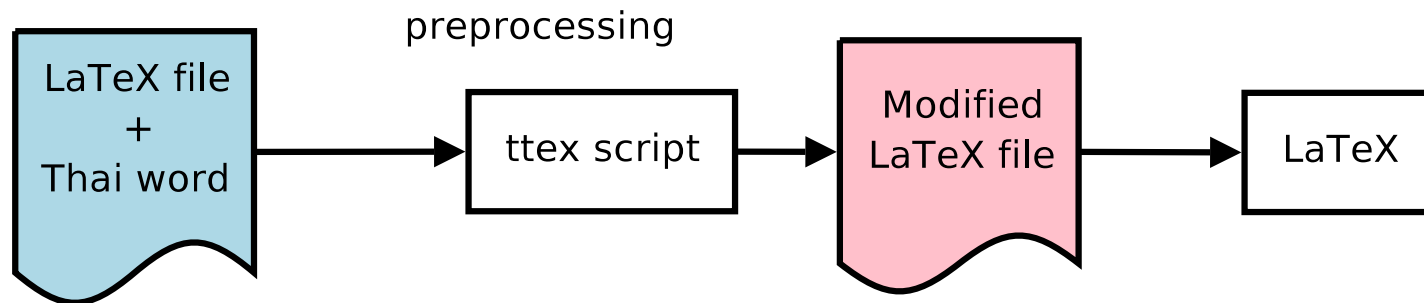


The beginning phase: t EX



- The first effort to use Thai in $\text{L}\text{A}\text{T}\text{E}\text{X}$ is around 1990 by unknown group of foreign people
 - Thai font was created in $\text{M}\text{E}\text{T}\text{A}\text{F}\text{O}\text{N}\text{T}$ format but the quality (shape) is not good.
 - No font variants.

- t EX



ttex script



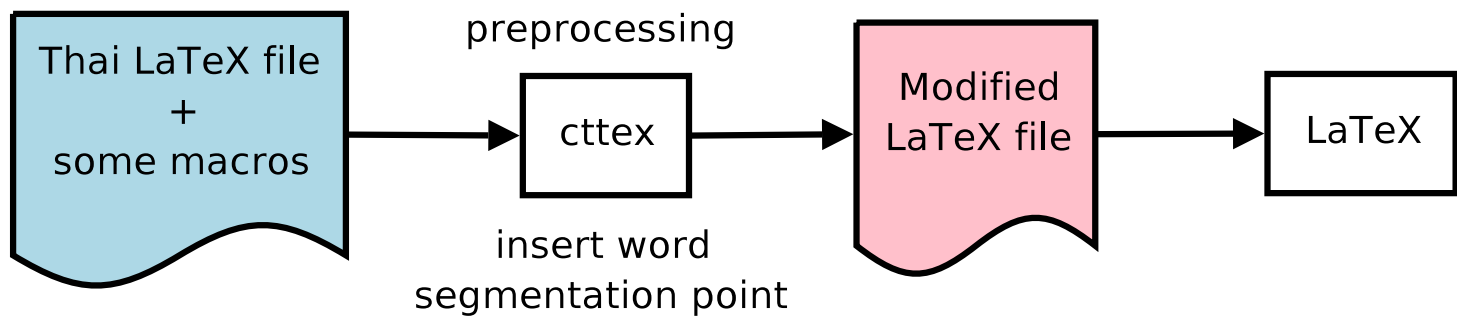
- Perl script and T_EX macro created by *Manop Wongsaisuwan* while he had been studying in Japan.
- Convert 8-bit character (Thai) to 7 bit encoding.
- Use TFM fonts which were created from AFM fonts.
- No Thai word segmentation, no line segmentation for Thai.



Using `cttex` with \LaTeX



- C program created by *Vuthichai Ampornaramvech*.
- Analyzes and inserts arbitrary character between Thai words.
- Using `cttex` with \LaTeX



cttex



- `cttex` inserts the macro which represents zero-width space between Thai words.
- Inserts the macro around Thai sentences and apply Thai appropriate Thai fonts.
- Uses Type1 fonts (DBThaitext), provides normal, bold, slant variants.



Thai implementation in Babel package

- Initiated by NECTEC, *Suraphan Meknawin* in 1999.
- Present: the project is maintained by TLWG leaded by Theppitak.
- NFSS (New Font Selection System) and Thai fonts from National fonts project.
- Ligature technique for rendering Thai word.
- Localization of messages (chaptername, section, etc)



swath program



- Another Thai word segmentation program created by NECTEC.
- The usage is similar to `cttex`.



Another related command



- `makeindex` command supports Thai sorting (by Theppitak)
- Usage

```
LANG=th_TH.TIS-620 makeindex -T file
```



Other implementation



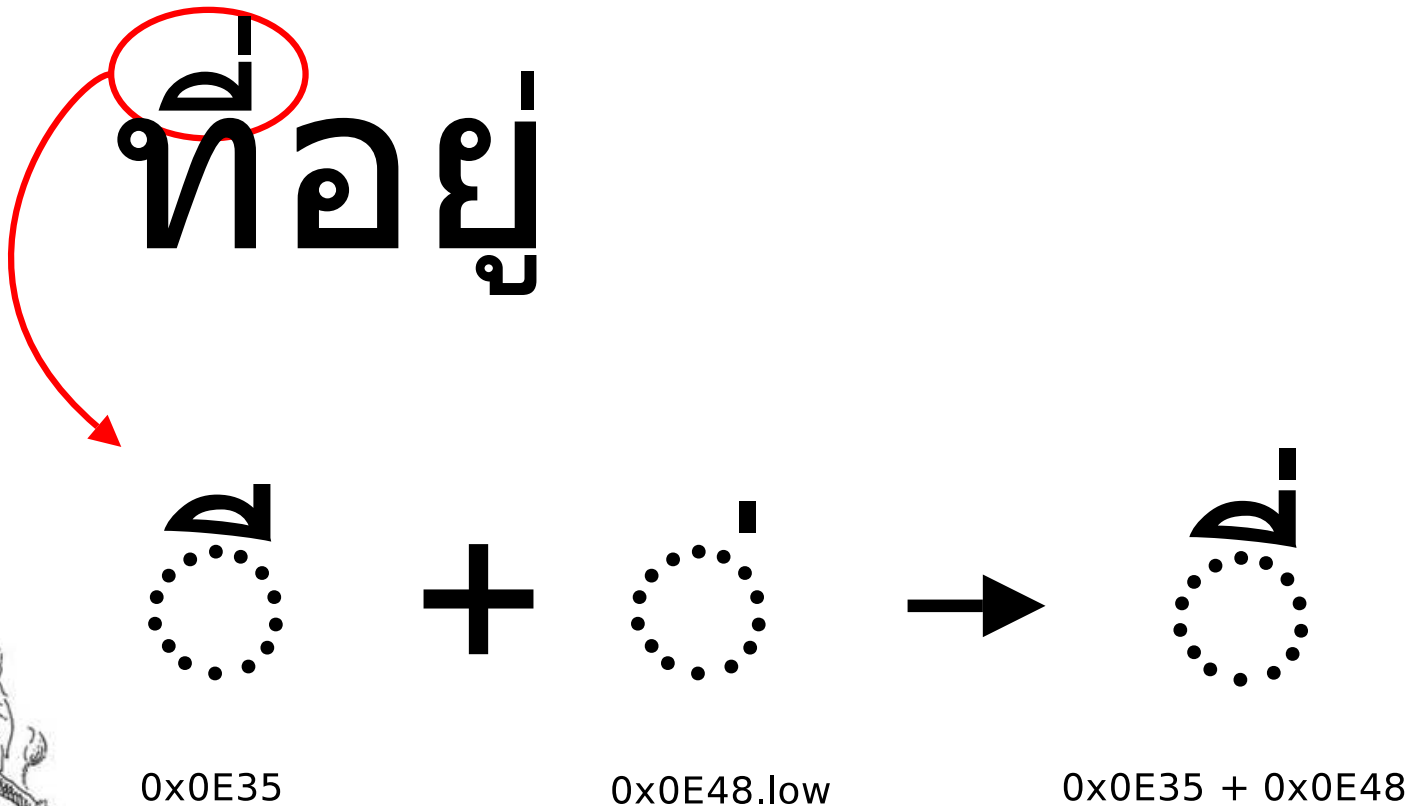
- Thai language support in CJK package by *Wener Lemberg*.
- Omega project.



Ligature technique in Thai babel



- Thai string rendering is done by ligature (defined in file lthuni.enc)



Fonts in Thai \LaTeX



- All Thai fonts (AFM, TFM, VF) used in \LaTeX derived from Type1 fonts.
- Fonts used in Thai \LaTeX are from ThaiFonts-scalable project.
http://linux.thai.net/plone/TLWG/thaifonts_scalable/



Font samples



- Kinnari: ภาษาไทย, ที่อยู่, กัตัญญ
- Norasi: ภาษาไทย, ที่อยู่, กัตัญญ
- Garuda: ภาษาไทย, ที่อยู่, กัตัญญ
- DBThaiText: ภาษาไทย, ที่อยู่, กัตัญญ
- Tlwg Typewriter: ภาษาไทย, ที่อยู่, กัตัญญ
- Purisa: ภาษาไทย, ที่อยู่, กัตัญญ



Projects



- Thai \LaTeX project
<http://linux.thai.net/plone/TLWG/thailatex/>
 - Included in Debian, Ubuntu
- MiKTeX Thai Extension
<http://miktexthai.sourceforge.net/>



Thai L^AT_EX source file layout



```
\documentclass{article}
\usepackage[thai]{babel}
\begin{document}
สวัสดีครับที่นี้ประเทศไทย
Hello Thailand
\end{document}
```



Preprocessing



- Preprocessing with `cttex` or `swath`

```
swath -f latex < before.tex > after.tex
```

- Final content

```
\documentclass{article}
\usepackage[thai]{babel}
\begin{document}
สวัสดี{\wbr}ครับ{\wbr}ที่นี่{\wbr}ประเทศ{\wbr}ไทย{\wbr}
Hello Thailand
\end{document}
```

- Go on usual $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ process.





Demonstration



Open Issues



- Ligature technique can not cover all possible proper Thai string rendering.

ป + ้ + ำ -> ปำ is OK

ป + ำ + ้ -> ปำ is not OK

- Using preprocessor command such as `cttex` or `swath` is cumbersome.
- Hyphenation support in Thai.
- Font related issues, such as, license, lack of good Thai mono-space font.
- Miscellaneous issues, \LaTeX standard, user aspect issue, etc.



Acknowledgements



- CTAN lion drawing by Duane Bibby
<http://www.ctan.org/lion.html>

