The \texttt{thaispec} package: Thai language typesetting in X\LaTeX

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This package allows you to input Thai characters directly to \LaTeX\ documents and choose any (system wide) Thai fonts for typesetting in \LaTeX. It also tries to appropriately justify paragraphs with no more external tools.

Contents

1 Prerequisite 1
2 Recommendation 1
3 Package loading 1
4 Loading options 2
5 Usage Examples 3
6 Known Issues 4
7 Credits 4
8 License 4

1 Prerequisite

The package use \textsc{TH Sarabun New} font by default to typeset Thai characters which included in the collection of Thai national fonts \textsuperscript{1}. At least this font must be installed to system wide in order to use this package. Moreover the following \LaTeX\ package are essentially required for the default option: \texttt{fontspec}, \texttt{ucharclasses}, \texttt{polyglossia}, \texttt{setspace}, \texttt{datetime2}, \texttt{kvoptions}, \texttt{afterpackage}, \texttt{xstring}, and \texttt{xpatch}.

\textsuperscript{1}Thai national fonts, a.k.a. SIPAFonts. See \url{https://github.com/epsilonxe/sipafonts}
2 Recommendation

Install the collection of Thai national font said above and also \TeX{} Gyre font family which possibly already included with your \TeX{} distribution. These are basically assumed to be installed prior loading the package.

3 Package loading

In the preamble, add the command

\begin{verbatim}
\usepackage{thaispec}
\end{verbatim}

then you can input Thai characters in the document and typeset the document as usual. By default the package set \texttt{thaifont} to \texttt{TH Sarabun New}, while set \texttt{mainfont}, \texttt{sansfont} and \texttt{monofont} to \TeX{} Gyre fonts.

In case \TeX{} Gyre font family is not system wide installed, the package should be loaded with the following option:

\begin{verbatim}
\usepackage[texgyrefont = false]{thaispec}
\end{verbatim}

This will typeset the document by setting \texttt{mainfont} to \texttt{TH Sarabun New}.

The package also predefines \texttt{\today} and \texttt{\Today} for today Thai date printing in short and long formats respectively.

4 Loading options

This section lists additional loading options by their features as follows. The examples in the list are default and also initialized values for those options.

Table 1: Loading options in \texttt{thaispec} package.

<table>
<thead>
<tr>
<th>Options</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>thainum</td>
<td>Uses Thai numbers for almost all number digits. It is untoggled by default.</td>
</tr>
<tr>
<td>math</td>
<td>Additionally load the following packages: mathtools, amssymb, amsthm, mathsdep orderly. Normally thaispec package loads fontspec with no-math option. If your document consists of math objects, this option is then recommended.</td>
</tr>
</tbody>
</table>
Table 1: (continued) Loading options in thaispec package.

<table>
<thead>
<tr>
<th>Options</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>thaifont = &lt;SYSTEM_FONT_NAME&gt;</td>
<td>Choose a system font for Thai characters. Example: thaifont = TH Sarabun New</td>
</tr>
<tr>
<td>mainfont = &lt;SYSTEM_FONT_NAME&gt;</td>
<td>Choose a font for mainfont corresponding to fontspec package. Example: thaifont = TeX Gyre Termes</td>
</tr>
<tr>
<td>sansfont = &lt;SYSTEM_FONT_NAME&gt;</td>
<td>Choose a font for sansfont corresponding to fontspec package. Example: thaifont = TeX Gyre Heros</td>
</tr>
<tr>
<td>monofont = &lt;SYSTEM_FONT_NAME&gt;</td>
<td>Choose a font for monofont corresponding to fontspec package. Example: thaifont = TeX Gyre Cursors</td>
</tr>
<tr>
<td>thaithm = &lt;BOOL&gt;</td>
<td>After loading amsthm package, thaispec package automatically defines a set of theorem-like environments with Thai heading by default. The automatic defined environments includes theorem, lemma, corollary, definition, axiom, undefinedterm, example, remark and note. If you prefer to set them yourself, just set its value to false. Example: thaithm = true</td>
</tr>
<tr>
<td>thmcount = &lt;VALUE&gt;</td>
<td>If the option thaithm = true is prefered, this package set the counter independently for each automatic defined environments. The value of &lt;VALUE&gt; can be one of the following: default, no, full, section, chapter, kind, kind-section, and kind-chapter. Example: thmcount = default</td>
</tr>
</tbody>
</table>
5 Usage Examples

The following example is a basic example of using thaispec package. It is loaded with the default setting for typesetting in XƎL A TEX, i.e., only Thai characters are typesetted with TH Sarabun New font, other charaters are typesetted with TEX Gyre fonts, and paragraphs are justified by \sloppy macro.

\documentclass{article}
\usepackage{thaispec}
\begin{document}
\section{ภาษาไทย}
ทดสอบการพิมพ์ภาษาไทยในเอกสาร \XeLaTeX
\end{document}

In order to use another Thai font face for any characters in a math document without \sloppy macro, the following example can be used to achieve the goal.

\documentclass{article}
\usepackage[math,thaifont = Tahoma, texgyrefont = false, sloppy = false]{thaispec}
\begin{document}
\section{Math ภาษาไทย}
การพิมพ์ภาษาไทยในเอกสาร \( ax^2 + bx + c = 0 \)$
\end{document}

6 Known Issues

Incorrect Thai characters with listing package

If you typeset some codes consisting of Thai characters in lstlisting environment provided by listing package, this will possibly cause you a problem with incorrect Thai characters. The recommendation is choosing minted package instead of listing package. However you need to additionally install pygments python module in order to use minted package.

7 Credits

This package is motivated by a set of \LaTeX commands for typesetting Thai documents provided by Dittaya Wanvarie \textsuperscript{2} from Chulalongkorn University.

\textsuperscript{2}See \url{http://pioneer.netserv.chula.ac.th/~wdittaya/} in \LaTeX section.
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