The `thaispec` package: Thai language typesetting in XeLaTeX

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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 XeLaTeX. It also tries to appropriately justify paragraphs with no more external tools.

Contents

1 Prerequisite **1**

2 Recommendation **2**

3 Package loading **2**

4 Loading options **2**

5 Usage Examples **4**

6 Known Issues **4**

7 Credits **4**

8 License **5**

1 Prerequisite

The package use `TH Sarabun New` font by default to typeset Thai characters which included in the collection of Thai national fonts [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: `fontspec`, `ucharclasses`, `polyglossia`, `setspace`, `datetime2`, `kvoptions`, `afterpackage`, `xstring`, and `xpatch`.

[1] Thai national fonts, a.k.a. `SIPAFonts`. See 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

```
\usepackage{thaispec}
```

then you can input Thai characters in the document and typeset the document as usual. By default the package set `thaifont` to `TH Sarabun New`, while set `mainfont`, `sansfont` and `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:

```
\usepackage[texgyrefont = false]{thaispec}
```

This will typeset the document by setting `mainfont` to `TH Sarabun New`.

The package also predefines `\today` and `\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 `thaispec` package.

Options	**Features**
`thainum`	Uses Thai numbers for almost all number digits. It is untoggled by defalut.
`math`	Additionally load the following packages: `mathtools`, `amssymb`, `amsthm`, `mathspec` orderly. Normally `thaispec` package loads `fontspec` with `no-math` option. If your document consists of math objects, this option is then recommended.

Table 1: (continued) Loading options in thaispec package.

Options	Features
thaifont = <SYSTEM_FONT_NAME>	Choose a system font for Thai characters. Example: thaifont = TH Sarabun New
mainfont = <SYSTEM_FONT_NAME>	Choose a font for mainfont corresponding to fontspec package. Example: thaifont = TeX Gyre Termes
sansfont = <SYSTEM_FONT_NAME>	Choose a font for sansfont corresponding to fontspec package. Example: thaifont = TeX Gyre Heros
monofont = <SYSTEM_FONT_NAME>	Choose a font for monofont corresponding to fontspec package. Example: thaifont = TeX Gyre Cursors
thaithm = <BOOL>	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
thmcount = <VALUE>	If the option thaithm = true is prefered, this package set the counter independently for each automatic defined environments. The value of <VALUE> can be one of the following: default, no, full, section, chapter, kind, kind-section, and kind-chapter. Example: thmcount = default

5 Usage Examples

The following example is a basic example of using `thaispec` package. It is loaded with the default setting for typesetting in XeLaTeX, 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 charaters 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 [2] from Chulalongkorn University.

[2] See http://pioneer.netserv.chula.ac.th/~wdittaya/ in LaTeX section.

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