

A Proposal Template for Huazhong University of Science and Technology: the hustproposal class *

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I Introduction

This is a proposal template for [Huazhong University of Science & Technology](#). This template is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

The whole project is published under LPPL v1.3 License at [GitHub](#).

中文使用说明见 [Part II](#)。

English version instruction is in [Part III](#).

II 中文使用说明

1 使用必要条件

1. 安装最新版本的 **TeXLive** (推荐) 或 **MiKTeX**。因为未及时更新的宏包可能存在未修复的 **bug**，请确保所有宏包都更新至最新。
2. 安装如下中文字体¹:
 - a) AdobeSongStd-Light
 - b) AdobeKaitiStd-Regular
 - c) AdobeHeitiStd-Regular
 - d) AdobeFangsongStd-Regular



如果使用 LuaTeX，安装字体之后需运行命令 `mkluatexfontdb` 生成字体索引。

2 安装

2.1 安装到本地

使用如下命令即可安装本模板到本地：

```
make install
```

如需卸载，则使用如下命令：

```
make uninstall
```

对于没有安装 **Make** 的 **Windows** 系统用户，可以使用如下命令安装：

```
makewin32.bat install
```

如需卸载，则使用如下命令：

```
makewin32.bat uninstall
```

虽然 `makewin32.bat` 表现与 **Makefile** 极其相似，但是还是强烈建议你安装 **Make**，对于 **Windows** 用户可以在[这里](#)下载。

¹本模板所用到的英文字体 **Tex Gyre Termes**，**Droid Sans** 和 **CMU Typewriter Text** 均默认安装于 **TeXLive** 和 **MiKTeX** 中。

2.2 免安装使用

如果你希望临时使用本模板，而非安装到本地供长期使用。使用如下命令解压模板文件：

```
make unpack
```

对于没有安装 Make 的 Windows 系统用户，则使用如下命令解压：

```
makewin32.bat unpack
```

再将文件 `hustproposal.cls` 拷贝到你 $\text{T}_{\text{E}}\text{X}$ 工程根目录下即可。

3 基本用法



本文档只能使用 $\text{X}_{\text{E}}\text{L}_{\text{A}}\text{T}_{\text{E}}\text{X}$ 或 $\text{LuaL}_{\text{A}}\text{T}_{\text{E}}\text{X}$ （推荐）编译。

在源文件开头处选择加载本文档类型，即可使用本模板，如下所示：

```
\documentclass[language=chinese]{hustproposal}
```

3.1 文档类型选项

加载本文档类型时，有如下选项提供选择。

```
language = <chinese|english>
```

指定论文语言。如果不指定，默认设置为 `chinese`。

3.2 基本字段设置

模板中定义一些命令用于设置文档中的字段。

```
\title \title{<title>}
```

用于设定标题。

```
\author \author{<author>}
```

用于设定作者名。

```
\major \major{<major>}
```

用于设定专业。

```
\department \department{<department>}
```

用于设定院系。

<code>\division</code>	<code>\division{<division>}</code>
------------------------	--

用于设定所属教研室名称。

<code>\supervisor</code>	<code>\supervisor{<supervisor name>}{<supervisor title>}</code>
--------------------------	---

用于设定导师和职称。

3.3 其它基本命令

下面来介绍其它基本命令。

<code>\maketitle</code>	<code>\maketitle</code> 用于生成标题。
-------------------------	---------------------------------

<code>\bibliography</code>	<code>\bibliography{<.bib file>}</code>
----------------------------	---

用于生成参考文献。

<code>\TurnOffTabFontSetting</code>

<code>\TurnOnTabFontSetting</code>

因为模板中设定了表格的行距和字号，使得使用中无法临时自定义表格的行距和字号。故提供两个命令用于关闭和开启默认表格的行距和字号设置。比如你如果需要输出一个自己定义字号的表格，可以使用如下示例：

```
\begin{group}
\TurnOffTabFontSetting
\footnotesize % 设置字号
\begin{tabular}{...}
    <content>
\end{tabular}
\TurnOnTabFontSetting
\endgroup
```

<code>\email</code>	<code>\email{<Email Address>}</code>
---------------------	--

用于生成邮箱地址。如`\email{name@example.com}`会生成如下效果的地址：
`name@example.com`。

4 示例

如下为一个使用本模板的示例。

```

1 \documentclass[language=chinese]{hustproposal}
2
3 \department{院系}
4 \title{标题}
5 \author{作者名}
6 \major{专业}
7 \division{所属教研室}
8 \supervisor{导师}{职称}
9
10 \begin{document}
11 \maketitle
12
13 \section{目的和意义}
14 \section{应用现状}
15 \section{内容与目标}
16 \section{思路与步骤}
17 \section{进度安排}
18
19 \bibliography{参考文献.bib文件}
20
21 \end{document}

```

5 预设宏包介绍

本模板中预设了一些宏包，下面对其进行简单介绍。

- **algorithm2e** 算法环境。
- **enumitem** 自定义列表环境的式样。
- **fancyenum** 用于将大数每三位断开。
- **listings** 代码环境。如需更好的代码高亮可以使用 **minted** 宏包。
- **longtable** 跨页的超长表格环境。
- **ltxtable** **longtable** 环境和 **tabularx** 环境的合并。
- **multirow** 用于表格中合并行。
- **overpic** 用于在图片上层叠其他内容。
- **tabularx** 扩展到表格环境。
- **zhnumber** 用于生成中文数字。

6 高级设置

6.1 切换字体

模板正文字体为宋体 (AdobeSongStd-Light)，同时我们提供如下命令切换中文字体：

`\HEI` `{\HEI <content>}`

`\hei` `\hei{<content>}`

切换字体为黑体 (AdobeHeitiStd-Regular)。

`\KAI` `{\KAI <content>}`

`\kai` `\kai{<content>}`

切换字体为楷体 (AdobeKaitiStd-Regular)。

`\FANGSONG` `{\FANGSONG <content>}`

`\fangsong` `\fangsong{<content>}`

切换字体为仿宋 (AdobeFangsongStd-Regular)。

如果需要加载其他字体，请参阅宏包 **fontspec**，宏包 **xeCJK** (对于 Xe_{La}TeX) 和宏包 **luatex-j**a (对于 Lua_{La}TeX) 的文档。

III English Version Instruction

1 Requirement

Install the latest version of **TeXLive**(Recommend) or **MiKTeX**. Please ensure that all the packages are up-to-date.

2 Installation

2.1 Install into local

Use the command below to install this template into local.

```
make install
```

If you need uninstall it, use the command below.

```
make uninstall
```

For Windows User who don't install Make, use the command below to install.

```
makewin32.bat install
```

If you need uninstall it, use the command below.

```
makewin32.bat uninstall
```

Although `makewin32.bat` behaves much like `Makefile`, I still recommend you install Make into your Windows. You can download it from [here](#).

2.2 Use without installation

If you want to use this template temporary rather than installing it into local for long term use. Run below command to unpack the package.

```
make unpack
```

For Windows User who don't install Make, use the command below to unpack the package.

```
makewin32.bat unpack
```

Then copy the file `hustproposal.cls` into your \TeX project root directory.

3 Usage



*This template can only be compiled by
X_YLaTeX or LuaLaTeX (Recommend).*

Insert below code in the top of source code to use this template:

```
\documentclass[language=english]{hustproposal}
```

3.1 Option

There's one option available when use this template.

`language` `language = <chinese|english>`

Set what language is used in the document. The default value is chinese.

3.2 Variables setting

There're some commands which are used to set the variables for the thesis.

`\title` `\title{<title>}`

Set title.

`\author` `\author{<author>}`

Set author.

`\major` `\major{<major>}`

Set your major.

`\department` `\department{<department>}`

Set your department.

`\division` `\division{<division>}`

Set your research division.

`\supervisor` `\supervisor{<supervisor>}`

Set your supervisor.

3.3 Other commands

<code>\maketitle</code>	<code>\maketitle</code> is used to create the title.
-------------------------	--

<code>\bibliography</code>	<code>\bibliography{<.bib file>}</code>
----------------------------	---

Used to create bibliography page.

`\TurnOffTabFontSetting`

`\TurnOnTabFontSetting`

This template has set the font size and line spread for all the tables which makes it's impossible to change font format temporary in one table. So it provides these to command to temporary disable or enable default font setting in table. For example, if you want to change table font size, you can use the code like this:

```
\begingroup
\TurnOffTabFontSetting
\footnotesize % Set your font format as you like.
\begin{tabular}{...}
    <content>
\end{tabular}
\TurnOnTabFontSetting
\endgroup
```

<code>\email</code>	<code>\email{<Email Address>}</code>
---------------------	--

A command to display email address. For example, `\email{name@example.com}` would look like this: **name@example.com**.

4 example

Below is a example of using this template.

```
1 \documentclass[language=english]{hustproposal}
2
3 \department{your department}
4 \title{your title}
5 \author{your name}
6 \major{your major}
7 \division{your research division}
8 \supervisor{your supervisor}
```

```

9
10 \begin{document}
11 \maketitle
12
13 \section{Research Motivation}
14 \section{Related Work}
15 \section{Research Objective}
16 \section{Research Plan}
17 \section{Schedule}
18
19 \bibliography{.bib file}
20
21 \end{document}

```

5 Introduction to some packages used in the template

Here's a list of some packages used in the template.

- **algorithm2e** For display algorithm.
- **enumitem** For set the style of enumerate, itemize and description environment.
- **fancynum** Display the really big number.
- **listings** For display the highlighted code. If you need better quality, use the package **minted**.
- **longtable** Create a very long table.
- **ltxtable** Combine the features of longtable and tabularx.
- **multirow** Combine multi-rows in table.
- **overpic** Put something over a picture,
- **tabularx** A better table environment.

IV Implementation

```
1 %<*class>
2 \RequirePackage{ifthen}
```

1 Process Options

Use **xkeyval** to process options.

```
3 \RequirePackage{xkeyval}

   Option language.

4 \gdef\HUST@language{chinese}
5 \DeclareOptionX{language}[chinese]{
6   \ifthenelse{\equal{#1}{chinese} \OR \equal{#1}{english}}{
7     \gdef\HUST@language{#1}
8   }{
9     \ClassError{hustproposal}
10    {Option language can only be 'chinese' or 'english'}
11    {Try to remove option language^^J}
12  }
13 }
```

Process options and load class article.

```
14 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{article}}
15 \ProcessOptionsX
16 \LoadClass[12pt, a4paper]{article}
```

2 Check Engine

Check engine, only Xe_{La}TeX and Lua_{La}TeX are supported.

```
17 \RequirePackage{iftex}
18 \ifXeTeX\else
19   \ifLuaTeX\else
20     \begingroup
21       \errorcontextlines=-1\relax
22       \newlinechar=10\relax
23       \errmessage{^^J
24         *****^^J
25         * XeTeX or LuaTeX is required to compile this document.^^J}
```

```

26      * Sorry!^^J
27      *****^^J
28      }%
29  \endgroup
30  \fi
31  \fi

```

3 Font Setting

Set font used in document. Firstly, it's font setting for English font under english mode. We use **fontspec** package to handle font. We choose Tex Gyre Termes, Droid Sans and CMU Typewriter Text as document main font, sans font and mono font.

```

32 \ifthenelse{\equal{\HUST@language}{english}}{
33   \RequirePackage{fontspec}
34   \setmainfont[
35     Ligatures={Common,TeX},
36     Extension=.otf,
37     UprightFont=*-regular,
38     BoldFont=*-bold,
39     ItalicFont=*-italic,
40     BoldItalicFont=*-bolditalic]{texgyretermes}
41   \setsansfont[Ligatures={Common,TeX}]{Droid Sans}
42   \setmonofont{CMU Typewriter Text}
43   \defaultfontfeatures{Mapping=tex-text}

```

Now let's set the Chinese font commands into empty, when document is under english mode.

```

44   \let\HEI\relax
45   \let\KAI\relax
46   \let\FANGSONG\relax
47   \newcommand{\hei}[1]{#1}
48   \newcommand{\kai}[1]{#1}
49   \newcommand{\fangsong}[1]{#1}
50 }{}

```

Below is the font setting under chinese mode. We chooses the same English font as under english mode. We use **xecjk** package (for \LaTeX) or **luatex-j**a package (for \LaTeX , recommend) to handle Chinese font. We will use font: AdobeSongStd-Light, AdobeKaitiStd-Regular, AdobeHeitiStd-Regular and AdobeFangsongStd-Regular.

```

51 \ifthenelse{\equal{\HUST@language}{chinese}}{
52     \ifXeTeX % XeTeX 下使用 fontspec + xeCJK 处理字体
53     % 英文字体
54     \RequirePackage{fontspec}
55     \RequirePackage{xunicode}
56     \setmainfont[
57         Ligatures={Common,TeX},
58         Extension=.otf,
59         UprightFont=*-regular,
60         BoldFont=*-bold,
61         ItalicFont=*-italic,
62         BoldItalicFont=*-bolditalic]{texgyretermes}
63     \setsansfont[Ligatures={Common,TeX}]{Droid Sans}
64     \setmonofont{CMU Typewriter Text}
65     \defaultfontfeatures{Mapping=tex-text}
66     % 中文字体
67     \RequirePackage[CJKmath]{xeCJK}
68     \setCJKmainfont[
69         BoldFont={Adobe Heiti Std},
70         ItalicFont={Adobe Kaiti Std}]{Adobe Song Std}
71     \setCJKsansfont{Adobe Kaiti Std}
72     \setCJKmonofont{Adobe Fangsong Std}
73     \xeCJKsetup{PunctStyle=kaiming}
74
75     \newcommand\ziju[2]{\renewcommand{\CJKglue}{\hskip #1} #2}}

```

\HEI

```

76     \newCJKfontfamily\HEI{Adobe Heiti Std}

```

(End definition for \HEI. This function is documented on page 8.)

\KAI

```

77     \newCJKfontfamily\KAI{Adobe Kaiti Std}

```

(End definition for \KAI. This function is documented on page 8.)

\FANGSONG

```

78     \newCJKfontfamily\FANGSONG{Adobe Fangsong Std}

```

(End definition for \FANGSONG. This function is documented on page 8.)

\hei

```

79     \newcommand{\hei}[1]{\HEI #1}}

```


(End definition for `\hei`. This function is documented on page 8.)

`\kai`

```
80 \newcommand{\kai}[1]{\{\KAI #1}}
```

(End definition for `\kai`. This function is documented on page 8.)

`\fangsong`

```
81 \newcommand{\fangsong}[1]{\{\FANGSONG #1}}
```

(End definition for `\fangsong`. This function is documented on page 8.)

```
82 \else\fi
83 \ifLuaTeX % LuaTeX 下使用 luatex-ja 处理字体 [推荐]
84 \RequirePackage{luatexja-fontspec}
85 % 英文字体
86 \setmainfont[Ligatures={Common,TeX}]{Tex Gyre Termes}
87 \setsansfont[Ligatures={Common,TeX}]{Droid Sans}
88 \setmonofont{CMU Typewriter Text}
89 \defaultfontfeatures{Mapping=tex-text,Scale=MatchLowercase}
90 % 中文字体
91 \setmainfont[
92   BoldFont={AdobeHeitiStd-Regular},
93   ItalicFont={AdobeKaitiStd-Regular}]{AdobeSongStd-Light}
94 \setsansfont{AdobeKaitiStd-Regular}
95 \defaultjfontfeatures{JFM=kaiming}
96
97 \newcommand\ziju[2]{\vbox{\ltjsetparameter{kanjiskip=#1} #2}}
```

`\HEI`

```
98 \newjfontfamily\HEI{AdobeHeitiStd-Regular}
```

(End definition for `\HEI`. This function is documented on page 8.)

`\KAI`

```
99 \newjfontfamily\KAI{AdobeKaitiStd-Regular}
```

(End definition for `\KAI`. This function is documented on page 8.)

`\FANGSONG`

```
100 \newjfontfamily\FANGSONG{AdobeFangsongStd-Regular}
```

(End definition for `\FANGSONG`. This function is documented on page 8.)

`\hei`

```
101 \newcommand{\hei}[1]{\{\jfontspec{AdobeHeitiStd-Regular} #1}}
```

(End definition for `\hei`. This function is documented on page 8.)

`\kai`

```
102 \newcommand{\kai}[1]{\jfontspec{AdobeKaitiStd-Regular} #1}
```

(End definition for `\kai`. This function is documented on page 8.)

`\fangsong`

```
103 \newcommand{\fangsong}[1]{\jfontspec{AdobeFangsongStd-Regular} #1}
```

(End definition for `\fangsong`. This function is documented on page 8.)

```
104 \else\fi
```

Generate Chinese number using `zhnumber`.

```
105 \RequirePackage{zhnumber}
```

```
106 \def\CJKnumber#1{\zhnumber{#1}} % 兼容 CJKnumb
```

```
107 }{}
```

4 Basic Format

We set global line spread to 1.3.

```
108 \linespread{1.3}\selectfont
```

Use `geometry` package to handle paper page.

```
109 \RequirePackage{geometry}
```

```
110 \geometry{
```

```
111 top=1.77in,
```

```
112 bottom=1.1in,
```

```
113 left=1.1in,
```

```
114 right=1.1in,
```

```
115 includefoot
```

```
116 }
```

```
117 \pagewidth=\paperwidth
```

```
118 \pageheight=\paperheight
```

Indent of paragraph and skip between paragraphs.

```
119 \RequirePackage{indentfirst}
```

```
120 \setlength{\parindent}{2em}
```

```
121 \setlength{\parskip}{0pt plus 2pt minus 1pt}
```

Packages to handle color.

```
122 \RequirePackage{color}
```

```
123 \RequirePackage[table]{xcolor}
```

Use **hyperref** package to generate cross-reference link.

```
124 \RequirePackage[unicode]{hyperref}
125 \hypersetup{
126   bookmarksnumbered=true,
127   bookmarksopen=true,
128   bookmarksopenlevel=1,
129   breaklinks=true,
130   colorlinks=true,
131   allcolors=black,
132   linktoc=all,
133   plainpages=false,
134   pdfpagelabels=true,
135   pdfstartview={XYZ null null 1},
136   pdfinfo={Template.Info={hustproposal.cls v1.0 2014/07/01, Copyright (C) 2013-2014
137 }
```

5 Load Packages

Load packages for math.

```
138 \RequirePackage{amsmath,amssymb,amsfonts}
139 \RequirePackage[amsmath,amsthm,thmmarks,hyperref,thref]{ntheorem}
140 \RequirePackage{fancynum}
141 \setfnumgsym{\,,}
142 \RequirePackage[lined,boxed,linesnumbered,ruled,vlined]{algorithm2e}
```

Load packages for picture.

```
143 \RequirePackage{overpic}
144 \RequirePackage{graphicx,caption,subcaption}
```

Load packages for table.

```
145 \RequirePackage{array}
146 \RequirePackage{multirow,tabularx,ltxttable}
```

Load package for code highlight. Here we use **listings** to highlight the code. But if you need more features, use **minted**.

```
147 \RequirePackage{listings}
```

Load package for bibliography cite style.

```
148 \RequirePackage[numbers,square,comma,super,sort&compress]{natbib}
```

Other packages for style setting.

```
149 \RequirePackage{titlesec}
150 \RequirePackage{titletoc}
```

```

151 \RequirePackage{tocvsec2}
152 \RequirePackage[inline]{enumitem}
153 \RequirePackage{fancyhdr}
154 \RequirePackage{afterpage}
155 \RequirePackage{datenumbers}
156 \RequirePackage{etoolbox}
157 \RequirePackage{appendix}
158 \RequirePackage[titles]{tocloft}
159 \RequirePackage{xstring}
160 \RequirePackage{perpage}

```

6 Variables Setting

\title Commands to set the title.

```

161 \def\title#1{\gdef\HUST@title{#1}\hypersetup{pdftitle={#1}}}
162 \title{}

```

(End definition for \title. This function is documented on page 11.)

\author Commands to set the author.

```

163 \def\author#1{\gdef\HUST@author{#1}\hypersetup{pdfauthor={#1}}}
164 \author{}

```

(End definition for \author. This function is documented on page 11.)

\department Commands to set the department.

```

165 \def\department#1{\gdef\HUST@department{#1}}
166 \department{}

```

(End definition for \department. This function is documented on page 11.)

\major Commands to set the major.

```

167 \def\major#1{\gdef\HUST@major{#1}}
168 \major{}

```

(End definition for \major. This function is documented on page 11.)

\division Commands to set the division.

```

169 \def\division#1{\gdef\HUST@division{#1}}
170 \division{}

```

(End definition for \division. This function is documented on page 11.)

`\supervisor` Commands to set the supervisor.

```
171 \ifthenelse{\equal{\HUST@language}{english}}{
172     \def\supervisor#1{\gdef\HUST@supervisor{#1}}
173     \supervisor{}
174 }{
175     \def\supervisor#1#2{
176         \gdef\HUST@supervisor{#1}
177         \gdef\HUST@supervisortitle{#2}
178     }
179     \supervisor{}{}
180 }
```

(End definition for `\supervisor`. This function is documented on page 11.)

7 Localization

Chinese localization. ²

```
181 \ifthenelse{\equal{\HUST@language}{chinese}}{
182     \def\indexname{索引}
183     \def\figurename{图}
184     \def\tablename{表}
185     \AtBeginDocument{\def\listingscaption{代码}}
186     \def\refname{参考文献}
187     \def\contentsname{目录}
188     \def\appendixname{附录}
189     \def\listfigurename{插图索引}
190     \def\listtablename{表格索引}
191     \def\equationautorefname{公式}
192     \def\footnoteautorefname{脚注}
193     \def\itemautorefname~#1\null{第~#1~项\null}
194     \def\figureautorefname{图}
195     \def\tableautorefname{表}
196     \def\appendixautorefname{附录}
197     \expandafter\def\csname\appendixname\endcsname{\appendixname}
198     \def\sectionautorefname~#1\null{#1~小节\null}
199     \def\subsectionautorefname~#1\null{#1~小节\null}
200     \def\subsubsectionautorefname~#1\null{#1~小节\null}
201     \def\FancyVerbLineautorefname~#1\null{第~#1~行\null}
202     \def\pageautorefname~#1\null{第~#1~页\null}
```

²The `autorefname` Reference:<http://tex.stackexchange.com/questions/52410/how-to-use-the-command-autoref-to-implement-the-same-effect-when-use-the-command>

```

203 \def\lstlistingautorefname{代码}
204 \def\definitionautorefname{定义}
205 \def\propositionautorefname{命题}
206 \def\lemmaautorefname{引理}
207 \def\theoremautorefname{定理}
208 \def\axiomautorefname{公理}
209 \def\corollaryautorefname{推论}
210 \def\exerciseautorefname{练习}
211 \def\exampleautorefname{例}
212 \def\proofautorefname{证明}
213 \SetAlgorithmName{算法}{算法}{算法索引}
214 \SetAlgoProcName{过程}{过程}
215 \SetAlgoFuncName{函数}{函数}
216 \def\AlgoLineautorefname~#1\null{第~#1~行\null}
217 }{}

```

English localization.

```

218 \ifthenelse{\equal{\HUST@language}{chinese}}{}{
219 \def\equationautorefname{Equation}
220 \def\footnoteautorefname{Footnote}
221 \def\itemautorefname{Item}
222 \def\figureautorefname{Figure}
223 \def\tableautorefname{Table}
224 \def\appendixautorefname{Appendix}
225 \expandafter\def\csname\appendixname\endcsname{\appendixname}
226 \def\sectionautorefname{Section}
227 \def\subsectionautorefname{Subsection}
228 \def\subsubsectionautorefname{Sub-subsection}
229 \def\FancyVerbLineautorefname{Line}
230 \def\pageautorefname{Page}
231 \def\lstlistingautorefname{Code Fragment}
232 \def\definitionautorefname{Definition}
233 \def\propositionautorefname{Proposition}
234 \def\lemmaautorefname{Lemma}
235 \def\theoremautorefname{Theorem}
236 \def\axiomautorefname{Axiom}
237 \def\corollaryautorefname{Corollary}
238 \def\exerciseautorefname{Exercise}
239 \def\exampleautorefname{Example}
240 \def\proofautorefname{Proof}
241 \SetAlgorithmName{Algorithm}{Algorithm}{List of Algorithms}
242 \SetAlgoProcName{Procedure}{Procedure}

```

```

243 \SetAlgoFuncName{Function}{Function}
244 \def\AlgoLineautorefname{Line}
245 }

Internal variables.

246 \ifthenelse{\equal{\HUST@language}{chinese}}{
247 \def\HUST@maintitle{毕业设计（论文）开题报告}
248 \def\HUST@departmenttitle{学院（系）：}
249 \def\HUST@titletitle{毕业设计（论文）题目：}
250 \def\HUST@authortitle{学生姓名：}
251 \def\HUST@majortitle{专业：}
252 \def\HUST@divisiontitle{所属教研室名称：}
253 \def\HUST@supervisorentrytitle{指导教师：}
254 \def\HUST@supervisortitleentrytitle{专业技术职称：}
255 }{
256 \def\HUST@maintitle{Final Year Project Proposal}
257 \def\HUST@departmenttitle{Department:}
258 \def\HUST@titletitle{Title:}
259 \def\HUST@authortitle{Student Name:}
260 \def\HUST@majortitle{Major:}
261 \def\HUST@divisiontitle{Research Division:}
262 \def\HUST@supervisorentrytitle{Supervisor:}
263 }
264 \hypersetup{pdfsubject={\HUST@maintitle}}

```

8 Style Setting

8.1 Equation Style

Allow long equation breaking between lines or pages.

```

265 \allowdisplaybreaks[4]

```

Set skip between equation and context.

```

266 \abovedisplayskip=10bp plus 2bp minus 2bp
267 \abovedisplayshortskip=10bp plus 2bp minus 2bp
268 \belowdisplayskip=\abovedisplayskip
269 \belowdisplayshortskip=\abovedisplayshortskip

```

Set equation numbering style.

```

270 \numberwithin{equation}{section}

```

8.2 Theorem Style

We use `amsthm` to handle the proof environment and use `ntheorem` to handle other theorem environments.

```
271 \theoremnumbering{arabic}
272 \ifthenelse{\equal{\HUST@language}{chinese}}{
273   \theoremseparator{: }
274 }{
275   \theoremseparator{:}
276 }
277 \theorempreskip{1.2ex plus 0ex minus 1ex}
278 \theorempostskip{1.2ex plus 0ex minus 1ex}
279 \theoremheaderfont{\normalfont\bfseries\HEI}
280 \theoremsymbol{}
281
282 \theoremstyle{definition}
283 \theorembodyfont{\normalfont}
284 \ifthenelse{\equal{\HUST@language}{chinese}}{
285   \newtheorem{definition}{定义}
286 }{
287   \newtheorem{definition}{Definition}
288 }
289
290 \theoremstyle{plain}
291 \theorembodyfont{\itshape}
292 \ifthenelse{\equal{\HUST@language}{chinese}}{
293   \newtheorem{proposition}{命题}
294   \newtheorem{lemma}{引理}
295   \newtheorem{theorem}{定理}
296   \newtheorem{axiom}{公理}
297   \newtheorem{corollary}{推论}
298   \newtheorem{exercise}{练习}
299   \newtheorem{example}{例}
300   \def\proofname{\hei{证明}}
301 }{
302   \newtheorem{proposition}{Proposition}
303   \newtheorem{lemma}{Lemma}
304   \newtheorem{theorem}{Theorem}
305   \newtheorem{axiom}{Axiom}
306   \newtheorem{corollary}{Corollary}
307   \newtheorem{exercise}{Exercise}
```



```

308 \newtheorem{example}{Example}
309 \def\proofname{\textbf{Proof}}
310 }

```

8.3 Floating Objects Style

Set the skip to the context for floating object with argument ‘h’.

```

311 \setlength{\intextsep}{0.7\baselineskip plus 0.1\baselineskip minus 0.1\baselineskip}

```

Set the skip to the context for top or bottom floating object.

```

312 \setlength{\textfloatsep}{0.8\baselineskip plus 0.1\baselineskip minus 0.2\baselineskip}

```

Set the fraction of floating object. Make the fraction less crowded than default value to prevent floating object occupying too much space.

```

313 \renewcommand{\textfraction}{0.15}
314 \renewcommand{\topfraction}{0.85}
315 \renewcommand{\bottomfraction}{0.65}
316 \renewcommand{\floatpagefraction}{0.60}

```

8.4 Table Style

`\tabincell` A command make it easier to insert a new table into an existing cell.

```

317 \newcommand{\tabincell}[2]{\begin{tabular}{@{}#1@{}}#2\end{tabular}}

```

(End definition for `\tabincell`. This function is documented on page ??.)

To prevent `\cline` breaking page in **longtable** environment, use in this way: `<table content> * \nopagebreak \cline{i-j}`³

```

318 \def\@cline#1-#2\@nil{%
319   \omit
320   \@multicnt#1%
321   \advance\@multispan\m@ne
322   \ifnum\@multicnt=\@ne\@firstofone{&\omit}\fi
323   \@multicnt#2%
324   \advance\@multicnt-#1%
325   \advance\@multispan\@ne
326   \leaders\hrule\@height\arrayrulewidth\hfill
327   \cr
328   \noalign{\nobreak\vskip-\arrayrulewidth}}

```

³Reference:<http://tex.stackexchange.com/questions/52100/longtable-multirow-problem-with-cline-and-nopagebreak>

Here we set the global font setting (font size: 11pt and line spread: 1.4) for tables. But first we will declare a variable to determine whether table global font setting is activated.

```
329 \newif\ifHUST@useoldtabular
330 \HUST@useoldtabularfalse
```

TurnOffTabFontSetting Use `\TurnOffTabFontSetting` to deactivate global font setting.

```
331 \def\TurnOffTabFontSetting{\HUST@useoldtabulartrue}
```

(End definition for \TurnOffTabFontSetting. This function is documented on page 12.)

TurnOnTabFontSetting Use `\TurnOnTabFontSetting` to activate global font setting.

```
332 \def\TurnOnTabFontSetting{\HUST@useoldtabularfalse}
```

(End definition for \TurnOnTabFontSetting. This function is documented on page 12.)

Hook the **tabular**, **tabularx** and **longtable** environment to imply the global font setting.

```
333 \AtBeginEnvironment{tabular}{
334   \ifHUST@useoldtabular\else
335     \fontsize{11pt}{15.4pt}\selectfont
336   \fi
337 }
338 \AtBeginEnvironment{tabularx}{
339   \ifHUST@useoldtabular\else
340     \fontsize{11pt}{15.4pt}\selectfont
341   \fi
342 }
343 \AtBeginEnvironment{longtable}{
344   \ifHUST@useoldtabular\else
345     \fontsize{11pt}{15.4pt}\selectfont
346   \fi
347 }
```

8.5 Caption Style

Set caption font size as 11pt, use hang format, remove ‘.’ after number and set the skip between context as 12pt.

```
348 \DeclareCaptionFont{HUST@captionfont}{\fontsize{11pt}{14.3pt}\selectfont}
349 \DeclareCaptionLabelFormat{HUST@caplabel}{#1~#2}
350 \captionsetup{
351   font=HUST@captionfont,
352   labelformat=HUST@caplabel,
```

```

353   format=hang,
354   labelsep=quad,
355   skip=12pt
356 }

```

8.6 Code Highlight Style

```

357 \definecolor{HUST@lstgreen}{rgb}{0,0.6,0}
358 \definecolor{HUST@lstmauve}{rgb}{0.58,0,0.82}
359
360 \lstset{
361   basicstyle=\footnotesize\ttfamily\linespread{1}\selectfont\FANGSONG,
362   keywordstyle=\color{blue}\bfseries,
363   commentstyle=\color{HUST@lstgreen}\itshape\KAI,
364   stringstyle=\color{HUST@lstmauve},
365   showspaces=false,
366   showstringspaces=false,
367   showtabs=false,
368   numbers=left,
369   numberstyle=\tiny\color{black},
370   frame=lines,
371   rulecolor=\color{black},
372   breaklines=true
373 }

```

8.7 Section Title Style

Set the numbering depth for section.

```

374 \setcounter{secnumdepth}{3}

```

Section title format and spacing setting.

```

375 \ifthenelse{\equal{\HUST@language}{chinese}}{
376   \titleformat{\section}{\bfseries\HEI\fontsize{16pt}{20.8pt}\selectfont}
377     {\zhnumber{\thesection}}{1em}{}
378 }{
379   \titleformat*{\section}{\bfseries\HEI\fontsize{16pt}{20.8pt}\selectfont}
380 }
381 \titlespacing*{\section}{0pt}{18pt}{6pt}

```

Subsection title format and spacing setting.

```

382 \titleformat*{\subsection}{\bfseries\HEI\fontsize{14pt}{18.2pt}\selectfont}
383 \titlespacing*{\subsection}{0pt}{12pt}{6pt}

```

Subsubsection tilte format and spacing setting.

```
384 \titleformat*{\subsubsection}{\bfseries\HEI\fontsize{13pt}{16.9pt}\selectfont}  
385 \titlespacing*{\subsubsection}{0pt}{12pt}{6pt}
```

8.8 Head & Foot Style

```
386 \let\ps@plain\ps@fancy  
387 \pagestyle{fancy}  
388 \fancyhf{}  
389 \renewcommand{\headrulewidth}{0pt}  
390 \renewcommand{\footrulewidth}{0pt}  
391 \fancyfoot[C]{\thepage}
```

8.9 List Environment Style

```
392 \setlist{noitemsep,topsep=0pt,topsep=.8ex}  
393 \setlist[1]{labelindent=\parindent}  
394 \setlist[enumerate,1]{label=\arabic*.,ref=\arabic*}  
395 \setlist[enumerate,2]{label*=\arabic*,ref=\theenumi.\arabic*}  
396 \setlist[enumerate,3]{label=\emph{\alph*}},ref=\theenumii\emph{\alph*}}  
397 \setlist[description]{font=\bfseries\HEI}
```

8.10 Footnote Style

```
398 \MakePerPage{footnote}
```

9 Specical Page

\maketitle Commands to generate title.

```
399 \let\HUST@oldmaketitle\maketitle  
400 \def\maketitle{  
401     \newgeometry{top=1.2in}  
402     \begingroup  
403     \gdef\@title{\HEI\bfseries\HUST@maintitle}  
404     \gdef\@author{}  
405     \gdef\@date{}  
406     \HUST@oldmaketitle  
407     \vspace{-3em}\sffamily\KAI\fontsize{13.75pt}{17.9pt}\selectfont  
408     \ifthenelse{\equal{\HUST@language}{chinese}}{  
409         \noindent \HUST@departmenttitle \\  
410         \null\hspace{2em} \HUST@department \par  
411         \noindent \HUST@titledtitle \\  
412         \null\hspace{2em} \HUST@title \par
```

```

413 \noindent \HUST@authortitle \\\
414 \null\hspace{2em} \HUST@author \par
415 \noindent \HUST@majortitle \hspace{.8em}
416 \ifthenelse{\equal{\HUST@major}{}}{\hspace{5em}}{\HUST@major}
417 \hspace{3em} \HUST@divisiontitle \hspace{.8em} \HUST@division \par
418 \noindent \HUST@supervisorentrytitle \hspace{.8em}
419 \ifthenelse{\equal{\HUST@supervisor}{}}{\hspace{5em}}{\HUST@supervisor}
420 \hspace{3em} \HUST@supervisortitleentrytitle \hspace{.8em} \HUST@supervisort
421 }{
422 \noindent \HUST@departmenttitle \hspace{.8em} \HUST@department \par
423 \noindent \HUST@titletitle \hspace{.8em} \HUST@title \par
424 \noindent \HUST@authortitle \hspace{.8em} \HUST@author \par
425 \noindent \HUST@majortitle \hspace{.8em} \HUST@major \par
426 \noindent \HUST@divisiontitle \hspace{.8em} \HUST@division \par
427 \noindent \HUST@supervisorentrytitle \hspace{.8em} \HUST@supervisor \par
428 }
429 \endgroup
430 }

```

(End definition for `\maketitle`. This function is documented on page 12.)

\bibliography A command to generate bibliography page. We use `thuthesis.bst` in **thuthesis** to typeset bibliography in Chinese language mode. And use **IEEEtran** in English language mode.

```

431 \ifthenelse{\equal{\HUST@language}{chinese}}{
432 \def\thudot{\unskip.}
433 \def\thumasterbib{[Master Thesis]}
434 \def\thuphdbib{[Doctor Thesis]}
435 \bibliographystyle{thuthesis}
436 }{
437 \bibliographystyle{IEEEtran}
438 }
439 \let\HUST@bibliography\bibliography
440 \renewcommand\bibsection{}
441 \setlength\bibsep{0pt}
442 \def\bibliography#1{
443 \section{\refname}
444 \ifthenelse{\equal{\HUST@language}{chinese}}{
445 \HUST@bibliography{#1}
446 }{
447 \HUST@bibliography{IEEEabrv,#1}
448 }

```

449 }

(End definition for \bibliography. This function is documented on page 12.)

10 Other Command

\email

```
450 \def\email#1{  
451   \href{mailto:#1}{\texttt{#1}}  
452 }
```

(End definition for \email. This function is documented on page 12.)

```
453 %</class>
```

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