The Read me file

1 General things

This PhD thesis template was created after the one of Alain Olivetti . I added some features. For now all of this is pretty messy but should work. For example a strong mix of French and English is used shamelessly as well as bad spelling. It is of course usable for other purposes than a PhD thesis.

Of course there are several ways to do things, here I present how I personally do.

1.1 The template

I strongly recommend that you create a lot of folder for the various parts of your thesis. In each of these folder you can add a folder where you put your figures. Then specify the path of your figures (see the `These_main.tex` file for example).

- The file `These_main.tex` has to be set as the master document in you tex editor (if you use one) for the compilation. With TexMaker it is in the options.
- The `preambule.tex` file is used to put all your packages and command definitions.
- The `MoDeMa.cls` defines the document form. It is also where you specify information like the title, your name, etc.
- The `page_de_garde.tex` is the file defining the front page. You will probably have to modify some stuff (font size, spacing, ...) in it to optimize the visual appearance depending on the size of you title thesis, number of jury, etc...

For the example I also put other folder and files (abstract, introduction, acknowledgment, chapter ...) with random text, that you can already modify and use for your document.

1.2 Some features (in construction)

1.2.1 Page number

I chose the page number so that The title page is number 1. All pages counts +1 even if their number is not display. Until the Table of Content the page number are in roman dorm eg i, ii, iv, etc.

1.2.2 End of sections

An option you can remove avoid that Section or Subsection, etc start at the end of a page (leaving instead a white space).

2 How do I do?

2.1 Good Figures?

For this matter, I think one should take some time at least once to come up with a good procedure to make his/her own figures. I will dedicate another "tutorial" for this.

2.2 Bibliography

I use BibTex. Create a `name_of_yourbib.bib` file. In it you put your reference in the following form,

```
@article{crawford_amplitude_1994,
title = {Amplitude expansions for instabilities in populations
of globally-coupled oscillators},
volume = {74},
issn = {0022-4715, 1572-9613},
url = {https://link.springer.com/article/10.1007/BF02188217},
doi = {10.1007/BF02188217},
language = {en},
number = {5-6},
urldate = {2017-04-17},
journal = {Journal of Statistical Physics},
author = {Crawford, John David},
month = mar,
```

```
year = {1994},
pages = {1047--1084}
```

Of course the class `@article` can be changed, as well as the various informations. By default BibTex will not display everything you will have to change its functionalities if you want specific things (refer to BibTex tutorial).

Save and compile your main file with BibTex and regular compilation.

Of course for a thesis this doing manually all this would be painful. You can on most website article get the citation and copy past it. Always try to get the official citation, corresponding to where the article was published.

2.2.1 Google Scholar button

You can use the Google Scholar button that should be install on your web browser which will work fine for most articles. It also provides you the different version of an article (useful if your university does not have access to one version).

2.2.2 Zotero

Now if you want to do better, install Zotero. In it create a folder "thesis" with subfolder corresponding to various part/topics.

When you get a reference on the web instead of copy past the BibTex code in your BibTex file, just add the reference in Zotero (with the extension in your web browser. In your main text where cite the reference just writes
`\cite{name_of_the_citation_given_by_zotero}`.
Where `name_of_the_citation_given_by_zotero` (called the citation key) can be found in Zotero[1].
In the previous example we would write `\cite{crawford_amplitude_1994}`.

Actually during my PhD I used the built in Firefox version of Zotero where the Zotero citation key was displayed thanks to Zotero-better-bibtex add-on. I had even manage using drag and drop to directly put
`\cite{name_of_the_citation_given_by_zotero}`. Unfortunately it seems that this version is not supported anymore and you have to install the Zotero stand-alone on your computer with the add-on on your browser. And Zotero-better-bibtex does not seem to work anymore.

[1] Actually in this version of Zotero (see next paragraph) you will have to add the "citation-key option displayed" in your setting. For now I am not sure how to do it, because I did not use much of the Zotero stand-alone version and I don't have time to check.

After you have gather some bibliography just export the these folder in Zotero (export the collection) in the BibTex format. It will create a these.bib format with all your citations. you can then compile with BibTex and see the result. In this end with this method you do not have to change or add yourself references in the `.bib` file (that you can call `these.bib` for simplicity). If a reference as to be changed (date name etc...) just change it in Zotero not in the `.bib`. Then export a new `.bib`.

2.3 Table with enough visual space to be readable

To do for table with "visual spacing": I used a package so that you just need to add `\ra{1.30}` after the `\begin{table}`. The value 1.3 can be tunned.

Here is the LaTex code with random content.

```
\begin{table}[!htbp]%force the position of the table
   \centering %center elements
   \ra{1.30}  %scale of the table (space between elements)
 \begin{tabular}{|l c c c|}
        \hline
        & $T$ &$\rho^0$\,(cm$^{-3}$) &\\
        \hline
        Magnetic &   $10^8$  & $ 10^{14}$ &Calendar \\
        Solar &  $10^5$  & $ 10$&Calendar  \\
        Galactic center & $10^5$  & $a_3$&Calendar  \\
        VLMOT & $10^5$  & $ 10^{14}$&Calendar   \\
        \hline
   \end{tabular}
   \caption{Table with command \texttt{$\backslash$ra\{1.30\}}}
   \label{tab:ocp:comparaison}
\end{table}
```

Here is the result with or without the command.

	T	ρ^0 (cm^{-3})	
Magnetic	10^8	10^{14}	Calendar
Solar	10^5	10	Calendar
Galactic center	10^5	a_3	Calendar
VLMOT	10^5	10^{14}	Calendar

Table 1: Table with command `\ra{1.30}`

	T	ρ^0 (cm^{-3})	
Magnetic	10^8	10^{14}	Calendar
Solar	10^5	10	Calendar
Galactic center	10^5	a_3	Calendar
VLMOT	10^5	10^{14}	Calendar

Table 2: Table without command `\ra{1.30}`