University of yourcollege

thesis title

Supervisor

supervisor

Candidate

your name

March 1, 2022

Introduction

Lehmann et al. (2005)

- Beamer is a LaTeX class that allows you to create presentations
- Beamer2Thesis is a Beamer package that allows you to create a presentation for your thesis
  - with specific dedicated commands
  - it uses TorinoTh, a Beamer Theme

UnicamTh theme

- UnicamTh (UnicamThesis) is a theme which is based on TorinoTh (derived from Torino) and extend it.
  - Torino is a pretty theme for Beamer realized by Marco Barisione
  - http://blog.barisione.org/2007-09/torino-a-pretty-theme-for-latex-beamer/
- This theme is unofficial one and modifies the directory structure, logo and colors.
- The original theme was developed by Fiandrino Claudio and can be found here: https://www.overleaf.com/latex/templates/beamer2thesis-2-dot-2-theme-for-beamer-english-version/ymxnnrqbmpcj

Project structure

- The project includes:
  - *images* folder that contains project images.
  - *theme* folder that has sty files
  - *template* folder contains the initial and end template content_initial.tex, content_end.tex and helper.tex which separate the theme and the other files.
  - *beamer2thesis.sty* is the main file

UnicamTh theme

- The theme files are saved theme folder and consist of:
  - *beamercolorthemeunicamth.sty* defines colors and allows you to choose among three possible options: blue (default), green or red
  - *beamerfontthemeunicamth.sty* defines fonts used
  - *beamerinnerthemeunicamth.sty* defines the title page and items
  - *beamerouterthemeunicamth.sty* defines headers and footers
  - *beamerthemeUnicamTh.sty* include all definitions

How to read the guides

- All guides show options in general; to have a look for specific configurations, read each guide because in each one is reported its own configuration state
- Every time something is declared to be *default*, it is possible to omit it from the configuration phase
- Every time an option is enabled by setting it with *true*, to disable it you can use *false*; for example:

```
secondcandidate=false
secondcandidate=true
```

The configuration phase

- It is the first thing you have to declare in the document
- The general code is `\usetheme[.. options ..]{TorinoTh}`
- An example is:

```
\documentclass{beamer}
\usetheme[language=english,
          titlepagelogo=logopolito,
          bullet=circle,
          pageofpages=of,
          titleline=true,
          color=blue
          ]{TorinoTh}
```

Some general options

- The *pageofpages* option defines the string between the current page number and the total page count
  - the default is *of*
- If the *titleline* option is set to *true*, a horizontal line is drawn below the title
  - the default is *true*; use *false* to disable
- The *notshowauthor* option set to *true* allows you to not show the name of the author in the footer
  - the default is *false*
- The *titlepagelogo* is the name of the principal logo: it must be a .jpg, .pdf, .png picture
  - to include the logo of your University, follow the procedure explained in the following slide

How insert a new logo

There are several ways to do it (for people highly capable in LaTeX this is not a problem), but I suggest this method:

- download from my page the .zip file and extract it
- copy your logo into the directory of the package
- install the package in your personal tree following the guide reported in slide **??**

Other options: avaiable bullets

- The *bullet* option can be used to choose the symbol used in the bullet lists
  - `square`: a filled square (■) for first and third level items, an empty square (□) for second level items
  - `diamond`: a filled diamond (♦) for first and third level items, an empty diamond (◊) for second level items
  - `triangle`: a filled triangle (▶) for first and third level items, an empty triangle (▷) for second level items
  - `circle`: a filled circle (●) for first and third level items, an empty circle (○) for second level items
  - The default value is `circle`

Languages

- All languages can be supported, but the two main ones are:
  - english
  - italian
- The choice of one of the main languages implies that in the titlepage, date and labels (Supervisor, Candidate, Relatore, Candidato) are shown with the proper language in an automatic way
- To set the italian language, for example, use in the configuration phase: `language=italian`; the name should be the one used by the package babel or by `\setmainfont` with XeLaTeX
- If the language selected is not one of the two main languages, then labels in the titlepage should be introduced by the user (see the example in the next frame)

Languages (II)

- Example with spanish language:
  ```
  \usetheme[language=spanish,...]{TorinoTh}
  \setrellabel{Relator Tesis}
  \setcandidatelabel{Candidato}
  \setassistentsupervisorlabel{Co Tesis}
  \setsubject{Tesis}
  ```
- Commands illustrated are mandatory when *not using* a main language
- If you have already set a language and you change, it may happen that, the first time you compile, this error occurs:
  ! Package babel Error: You haven't loaded the option -language- yet
  do not be afraid and compile a second time: it will work!!

Coding

To avoid forcing an user to use the `utf8x` coding, this release fix the bug by introducing the *coding* option; possible choices you can exploit are:

- `coding=utf8x` (default)
- `coding=utf8`
- `coding=latin1`

An important advise: the program does not check which string you put in input; it is your matter select the right coding to satisfy requeriments of your system.

Second logo

- If, for some reasons, someone needs a second logo (a thesis performed in another institute for example) an option allows you to put it in the title page
- When *secondlogo* is set to *true*, you have to use the command `\titlepagesecondlogo{name-logo}`: otherwise an error occurs
- As the main logo, the second logo must be a .jpg, .pdf, .png picture and you can insert it following the same rules explained in slide 9

Third logo

- Eventually, if you need a third logo you can exploit the possibility of insert it by setting the option *thirdlogo* to *true*
  - the default is *false*
- You have to insert the picture as described for the second logo and use the command `\titlepagethirdlogo{name-logo}` to put the logo in the title page
- Of course, you can use this option if, and only if, the *secondlogo* is set to *true*
- When there are three logos please use, as reference for the dimensions, the picture logopolito: in this way they will be aligned

Second candidate

- It is possible that there are two candidates: the package manage this fact easily
  - the first candidate is also the author
  - the second candidate can be inserted with the command `\secondcandidate{name-surname}` when the option *secondcandidate* is set to *true*
- Of course, when there are two candidates the label *Candidate* becomes *Candidates* and *Candidato* become *Candidati*
- With two candidates, the footer changes and the author is not shown automatically (the reason is simply: show two authors plus the title is too much long, making the footer too big)

Supervisor and Assistant Supervisor

- To insert the supervisor you just have to use the command `\rel{name-surname}`
- There is also the possibility of report the Assistant supervisor:
  - set the option *assistantsupervisor* to *true* (default is *false*)
  - use the command `\assistantsupervisor{name-surname}`
- Labels are set accordingly to the language used

Second Supervisor and Assistant Supervisor

There is also the possibility of insert more than one supervisor and assistant supervisor:

- set the options:
  - *secondsupervisor* to true (default is false);
  - *secondassistantsupervisor* to true (default is false);
- name can be inserted thanks to:
  - `\secondsupervisor` command;
  - `\secondassistantsupervisor` command; this one can be exploited just when the *assistantsupervisor* option is set to true;
- as usual, labels are set accordingly to the language used

Advantages and Disadvantages

Sometimes it is useful highlight advantages and disadvantages of a given argument: instead of list them by using the standard bullet, there is the possibility of exploit two new environments (*adv* and *disadv*). Usage:

```
\begin{adv}
\item
\end{adv}
```

```
\begin{disadv}
\item
\end{disadv}
```

In the following slide there is an example.

Why use Beamer2Thesis

Advantages:

- ✓ Simply to install
- ✓ Easy to customize
- ✓ Possibility to exploit several features

Disadvantages:

- ✗ Difficulty with long titles
- ✗ If you find some others, please contact me

Finally: colors

- There are three possible choices:
  - blue
  - green
  - red
- When the color is chosen setting the option *color* to one of the list above, consequently headers, footers, title page, bullet and highlightings are set accordingly
- For example: `color=green`

XeLaTeX

Thanks to a suggestion and the precious help of Nicola Tuveri, Beamer2Thesis supports XeTeX and XeLaTeX automatically. You can choose your favourite font to further customize the presentation. I report some examples:

Uncomment following lines of code if you use XeLaTeX!

XeLaTeX : code

To realize the examples reported in the previous slide, the code is:

```
\fontspec[Ligatures={Common, Historical}]{Linux Libertine O Italic}
\fontsize{12pt}{18pt}\selectfont This is quite strange!
\fontspec{TeX Gyre Pagella}
\selectfont{Also this is strange}\\
\fontspec{TeX Gyre Pagella}
\selectfont{How to customize fonts?}\par
\fontspec[ SizeFeatures={
{Size={-10}, Font=TeX Gyre Bonum Italic, Color=AA0000},
{Size={10-14}, Color=00AA00},
{Size={14-}, Color=0000FA}}]{TeX Gyre Chorus}
\begin{itemize}
  \item {\LARGE Word}
  \item Word
  \item {\tiny World}
\end{itemize}
```

Block: code

The previous slide has been realized as:

```
\begin{block}<1->{Why use Beamer2Thesis? Advantages}
\begin{adv}
\item Simply to install
\item Easy to customize
\item Possibility to exploit several features
\end{adv}
\end{block}
\begin{block}<2->{Why use Beamer2Thesis? Disadvantages}
\begin{disadv}
\item Difficulty with long titles
\item If you find some others, please contact me
\end{disadv}
\end{block}
```

Block: code (II)

More in general, Beamer provide three *block* environments:

- *block*
- *alertblock*
- *exampleblock*

To have more details, not only on this argument, I suggest to read the beameruserguide.

Configuration

- The configuration of the standard theme is:
  - `language=english`
  - `coding=utf8x`
  - `titlepagelogo=name-of-the-logo`
  - `bullet=circle`
  - `pageofpages=of`
  - `titleline=true`
  - `color=blue`
  - `secondcandidate=false`
  - `secondlogo=false`
- Most of them, actually everyone except the *titlepagelogo*, can be omitted if there are no modifications

Behavior of alerts

Each color theme requires different colors to highlight words. To insert alerts by using the *itemize* environment, you can exploit:

```
\begin{itemize}
\item<+-| alert@+> Apple
\item<+-| alert@+> Peach
\end{itemize}
```

For example:

- Apple

Behavior of alerts

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\end{itemize}
```

For example:

- Apple
- Peach

Another way to highlight words

If you want to highlight your text out of the enviroment *itemize*, Beamer2Thesis offers you the following possibilities:

- the standard command `\alert{text}`: it simply highlights your text
- the command `\highlight{text}`: it highlights your *text* setting it in italic
- the command `\highlightbf{text}`: it highlights your **text** setting it in bold

Of course, the color used, is set accordingly to your choice in the configuration phase.

Highlighting formulas

- The package hf-tikz allows to highlight formulas and formula parts in Beamer with overlay specifications
- The adaptation of colors to the theme could be done in this way:

```
\usepackage[beamer,customcolors]{hf-tikz}
\hfsetfillcolor{alerted text.fg!10}
\hfsetbordercolor{alerted text.fg}
```

- *Two compilation runs* are required to get the right result!
- Read the package documentation to find more options; an example will be provided in the next frame.

Highlighting formulas (II)

- Example:

$$x + \boxed{y} = 10$$

Highlighting formulas (II)

- Example:

$$x + y = 10$$

- Code:

```
\[\tikzmarkin<2->{a}x+
    \tikzmarkin<1>{b}y\tikzmarkend{b}
    =10\tikzmarkend{a}\]
```

The output

The pdf generated, has automatically, some properties:

- the title
- the name of the author
- the subject:
  - Thesis Presentation by using the english language
  - Presentazione Tesi di Laurea by using the italian language

This is possible thanks to the available options of hyperref. To create references in the text, use:

- `\label{name-reference}` in the starting point
- `\ref{name-reference}` in the point you want to show the reference
- `\href{url}{name-url}` to specify web addresses

Suggestions

- To realize a frame it is possible use the environment *frame* with top (t), center (c) or bottom (b) alignment: I suggest you to use the top alignment; this is the basic code:
  `\begin{frame}[t]{title-of-the-frame}`

  text

  `\end{frame}`
- To make things easier, it has been introduced a new environment which is able to have the top property property intrinsic:
  `\begin{tframe}{title-of-the-frame}`

  text

  `\end{tframe}`

Suggestions (II)

- To realize the titlepage with all options, it has been introduced the command `\titlepageframe`
  - Of course, it is also possible to use the *standard* approach
    ```
    \begin{frame}[plain]
    \titlepage
    \end{frame}
    ```
  - In this case **do not** provide a title for the frame
- If you have to insert some code using *verbatim* or *listings* **do not exploit** *tframe* environment, but:

  ```
  \begin{frame}[t,fragile]{title-of-the-frame}
  \verb!code!
  \end{frame}
  ```

Suggestions (III)

- If the title does not fit in the footer box, it is possible to exploit the so called *shorttitle*; an example:

  ```
  \title[short title]{Long title of the thesis}
  ```

  In this way the long title is just placed in the titlepage.
- In case there are more than two supervisors or assistansupervisors, I suggest you to insert them through commands reported in 17 and separate names thanks to a comma.

Reference

E. L. Lehmann, J. P. Romano, and G. Casella. *Testing statistical hypotheses*, volume 3. Springer, 2005.