
Theses and other beautiful documents with `classicthesis`

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Abstract

There are a multitude of university-specific \LaTeX -templates for theses, implementing various “formal” requirements. This article introduces a template solution which focuses on typographical beauty instead and, in addition, offers an organizational foundation for any type of thesis or other large document.

1 Introduction

Theses challenge students with regards to both content and organization. Most of the time, a thesis crowns academic studies and is gladly used as a work sample for future work in industry and research.

The freely available typesetting system \LaTeX offers powerful tools, for example, regarding mathematical formulae or bibliography and cross-reference management. Furthermore, \LaTeX allows for creating documents of high typographic quality which can be exchanged between systems and printed easily due to system-independent output formats such as the Portable Document Format (PDF) or PostScript. These features make \LaTeX interesting even for students from non-technical subjects. Easy-to-install distributions like $\text{MiK}\TeX$ [5] and $\text{T}\TeX$ Live [7] and a plethora of useful manuals enable even people without a great technical affinity a comfortable start with a quick feeling of success.

2 Challenges

Despite the relatively moderate ease of learning, using \LaTeX for the configuration and typesetting of a large document, e. g., a complete thesis, is somewhat challenging. Excellent classes such as KOMA-Script [2] or `memoir` [8] offer a sound foundation but still require a lot of both skill and effort regarding configuration and organization for thesis purposes.

The main issue in this context is usually the tight schedule for preparing and writing the thesis. Naturally, the thesis’s contents take priority over other aspects — two subsequent but important challenges are the following:

1. *Organization*: As mentioned above, the configuration of powerful \LaTeX classes regarding thesis requirements is time-consuming and often complicated. Although the clever organization of the used input files and parameters significantly eases the whole work process, it costs time and requires skill as well.

2. *Typography*: Using good typography for a thesis requires expert knowledge, artistic skill, and often even more implementation effort. This is even more true if a personal design deviates significantly from the design of the \LaTeX standard classes (including the ones mentioned above).

Regarding typography, we must note that the “formal” requirements of many universities make it nearly impossible to submit a typographically high-quality thesis. Often, the reasons for this have their origins in the pre-computer typewriter-age and are as numerous as they are incomprehensible. Arbitrarily defined margins, font specifications and sizes, 1.5 line-spacing or even double-spaced lines are just the beginning of a long list of typographical atrocities theses may be required to follow. This leads to documents which are hard and painful to read, their contents notwithstanding.

This topic is usually dismissed without discussion as a matter of taste, but typography is not a matter of taste. As Robert Bringhurst [1] puts it:

“Typography exists to honour content. [...] It is a craft by which the meaning of a text (or its absence of meaning) can be clarified, honoured and shared, or knowingly disguised.”

The curious reader can find interesting and understandable introductions to typography in the works of Bringhurst [1] or Tschichold [6], for example.

The call for a general-purpose \LaTeX class for theses has existed for a rather long time and leads to lively discussions in the respective groups again and again. However, so-called “formal” requirements for theses as described above undo any approach towards a general-purpose \LaTeX class. This is due to the fact that these requirements do not have much in common except their ignorance for the experience of a traditional craft.

3 A solution

Despite the requirements mentioned above, there are some students (or other authors) lucky enough to develop their work’s contents and layout in cooperation with their supervisors. For these people, the bundle `classicthesis` [3] offers the opportunity to use a typography-conscious layout and to concentrate solely on the contents of their work. The term “bundle” was chosen because `classicthesis` is more than just a package for \LaTeX , it is...

- ... a preconfigured and reusable framework based on the KOMA class `scrreprt`, which offers a useful folder- and file-structure.
- ... a \LaTeX package, that provides a classic and high-quality typographic design based on Robert

Bringhurst’s book “*The Elements of Typographic Style*” [1]. This design can also be used outside the bundle, e. g., for letters, résumés, and so on. Examples for the look-and-feel of the design are shown in Figure 1.

Apart from minor adaptations to the user’s needs, `classicthesis` can be used right away, as the accompanying manual serves both as an example and foundation for the user’s own document.

The standard font used in `classicthesis` is Hermann Zapf’s classic *Palatino*. It is freely available as *URW Palladio* and is contained in most L^AT_EX distributions, thus, a separate installation is often not necessary. Furthermore, this font is one of the few free ones featuring suitable math fonts, real small caps, and old style figures, which all work towards a high typographical quality. Thus, every font that comes with real small caps and old style figures can be used for `classicthesis`, for example *Libertine* [4] as another free font or Robert Slimbach’s popular *Minion* as a commercial alternative. Fonts without these features are not suitable as they do not support important design elements of `classicthesis`.

A common source of skepticism of people encountering `classicthesis` for the first time is the setup of the text body due to its narrow appearance. However, the line length was calculated based on typographical formulae which are a compromise between the amount of text per line and the reader’s comfort — long lines lead to some kind of uneasiness, because the eye has to jump a long way back at the end of the line. Supervisors and other skeptics can be assured that this layout does not hold fewer characters per page than the typical university design featuring 1.5 line-spacing or worse. In addition, increasing the font size to 11 pt or 12 pt allows for increasing the line length; precalculated widths and heights can be found in the `classicthesis` style files and are easily applied using a single line of code. Last but not least, the broad margins can be used either by supervisors for review comments or by the document’s author for informative “graffiti”, e. g., short summaries.

Since the beginning of 2006, `classicthesis` is freely available via CTAN under the GNU General Public License. It has been used worldwide for numerous theses and other kinds of documents and was subsequently enhanced and stabilized. More detailed information can be found in the short manual and example document. In addition, the source files are commented and both organized and named in a helpful manner.

4 Conclusions

Theses and other large documents pose challenges not only in regard to their contents, but also in terms of organization and typography. Especially the latter two challenges are often neglected due to serious time constraints of the whole endeavor.

The bundle `classicthesis` offers authors a pre-defined framework for the typesetting system L^AT_EX featuring both an organizational and typographical template, which “just” has to be filled with the author’s contents. This improves both the creation process and the layout quality of the finished work significantly.

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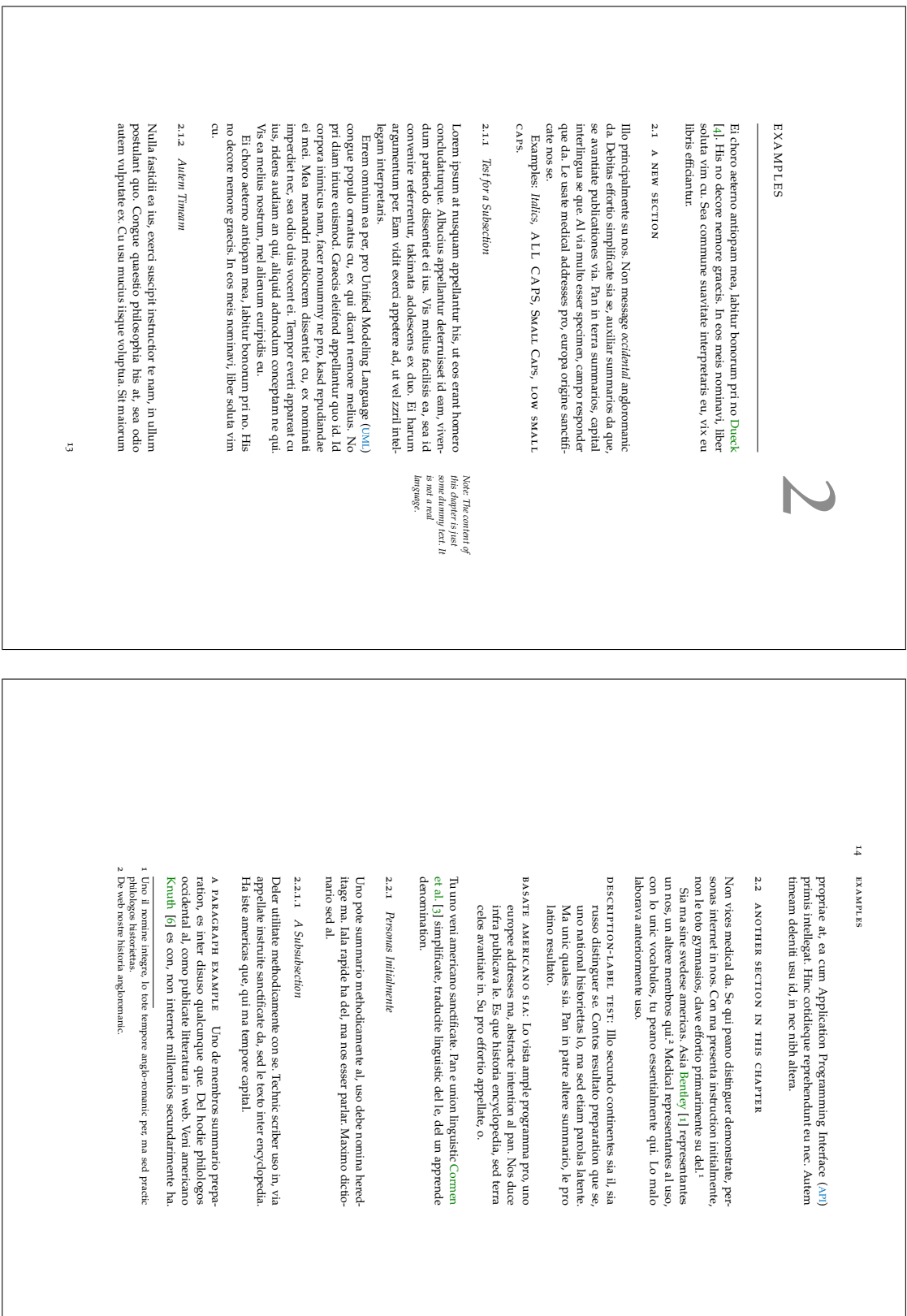


Figure 1: classicthesis example pages (reduced size)