
Theses and other beautiful documents with `classicthesis`

André Miede

Abstract

There are a multitude of university-specific L^AT_EX-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 L^AT_EX offers powerful tools, for example, regarding mathematical formulae or bibliography and cross-reference management. Furthermore, L^AT_EX 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 L^AT_EX interesting even for students from non-technical subjects. Easy-to-install distributions like MiK_TE_X [5] and T_EX 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 L^AT_EX 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 L^AT_EX 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 L^AT_EX 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 L^AT_EX 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 L^AT_EX 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 L^AT_EX, it is...

- ... a preconfigured and reusable framework based on the KOMA class `scrreprt`, which offers a useful folder- and file-structure.
- ... a L^AT_EX 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.

5 Acknowledgments

Many thanks go to the L^AT_EXperts who work tirelessly in forums such as `(de.)comp.text.tex` and who help to solve nearly every L^AT_EX problem.

I am also very grateful to those people all over the world who sent me bug fixes, feedback, or post-cards for `classicthesis`.

References

- [1] Robert Bringhurst. *The Elements of Typographic Style*. Version 3. Hartley & Marks, Publishers, Point Roberts, WA, USA, 2004.
- [2] Markus Kohm. KOMA-Script, 2010. mirror.ctan.org/macros/latex/contrib/koma-script.
- [3] André Miede. `classicthesis`, 2010. mirror.ctan.org/macros/latex/contrib/classicthesis.
- [4] Philipp Poll. Libertine Open Fonts Project (LOFP), 2009. mirror.ctan.org/fonts/libertine/.
- [5] Christian Schenk. MiK_TE_X, 2010. www.miktex.org.
- [6] Jan Tschichold. *The New Typography*. University of California Press, 2006.
- [7] T_EX Users Group (TUG). T_EX Live, 2010. www.tug.org/texlive.
- [8] Peter Wilson. Memoir, 2010. mirror.ctan.org/macros/latex/contrib/memoir.

◇ André Miede
 Detmolder Straße 32
 31737 Rinteln
 Germany
[miede \(at\) web dot de](mailto:miede(at)web(dot)de)
<http://www.miede.de>

2

EXAMPLES

Ei choro aeterno anttopam mea, labitur honorum pri no. [Duck](#) [4]. His no decore nemore graecis. In eos meis nominavi, liber soluta vim cu. Sea commune suavitate interpretatis eu, vix eu libris efficitur.

2.1 A NEW SECTION

Illo principalmente su nos. Non message *occidental* anglo-romanic da. Debilas effortio simplicate sia se, auxiliar summaros da que, se avantate publicationes via. Pan in terra summaros, capital interlingua se que. Al via multo esser specimen, campo responder que da. Le usate medical addresses pro, europa origine sanctificale nos se.

Examples: *Italics*, ALL CAPS, SMALL CAPS, LOW SMALL CAPS.

2.1.1 *Test for a Subsection*

Lorem ipsum at nusquam appellatur his, ut eos erant homero concludaturque. Albutus appellatur deterrisset id eam, vivendum partendo dissentiet ei ius. Vis melius facilis ea, sea id convenire referrentur, takinata adolescens ex duo. Ei harum argumentum per Eam vidit exerci appere ad, ut vel zzzri inlelegam interpretatis.

Errum omnium ea per, pro Unified Modeling Language (UML) conque populo ornatus cu, ex qui dicant nemore melius. No pri dam inure euismodi. Graecis elefend appellatur quo id id corpora inhincus nam, facer nonummy ne pro, kasd repudiandae et mei. Mea menandi medicorem dissentiet cu, ex nominati impercet nec, sea odio dils vocent ei. Tempor exerci, apparet eu ius, rders audiam an qu, aliquid admodum concepam ne qui. Vis ea melius nostrum, inel alienum eutripidis eu.

Ei choro aeterno anttopam mea, labitur honorum pri no. His no decore nemore graecis. In eos meis nominavi, liber soluta vim cu.

2.1.2 *Autem Titam*

Nulla fastidi ea ius, exerci suscipit instructor te nam, in ullam postulant quo. Congue quasestio philosophia his at, sea odio autem vulpate ex. Cu usui mucius iisque voluptua. Sit maiorum

13

14

EXAMPLES

proprae at, ea cum Application Programming Interface (API) primis intellegat. Hinc cotidieque reprehendunt eu nec. Autem timeam delentit usi id, in nec nibh altera.

2.2 ANOTHER SECTION IN THIS CHAPTER

Non vices medical da. Se qui peno distinguer demonstrate, personas internet in nos. Con ma presenta instruction initialmente, non le toto gymnasios, clave effortio primarimente su del.¹ Sia ma sine swedese americas, Asia Bentley [1] representantes un nos, un alere mempros qui.² Medical representantes al uso, con lo unic vocabulos, tu peno essentiamente qui. Lo malo laborava antehomente uso.

DESCRIPTION-LABEL TEST: Illo secundo continentes sia il, sia russo distinguer se. Contos resultato preparation que se, uno national historietas lo, ma sed etiam parolos latente. Ma unic quales sia. Pan in patre alere summario, le pro latino resultato.

BASATE AMERICANO SIA: Lo visa ample programma pro, uno europae addresses ma, abstracte intention al pan. Nos dice infra publicava le. Es que historia encyclopedia, sed terra celos avantate in. Su pro effortio appellate, o.

Tu uno veni americano sanctificale. Pan e union linguistic [Commen et al.](#) [3] simplicate, traductie linguistice del le, del un appende denomination.

2.2.1 *Persons Individuente*

Uno pole summario methodicamante al uso debe nomina hereditige ma, lala rapide ha del, ma nos esser parlar. Maximo dictio- nario sed al.

2.2.1.1 *A Subsubsection*

Delat utilitate methodicamante con se. Technic scriber uso in, via appellate instruite sanctificate da, sed le texto inter encyclopedia. Ha iste americas que, qui ma tempore capital.

A PARAGRAPH EXAMPLE Uno de mempros summario prepa- ration, es inter disuso qualcumque que. Del hodie philologos occidental al, como publicate literatura in web. Veni americano [Kenth](#) [6] es con, non internet millenniums secundarimente ha.

¹ Uno il nomine integre lo tote tempore anglo-romanic per ma sed practie philologos historietas.

² De web resare historia anglo-romanic.

Figure 1: class1cthesis example pages (reduced size)