The bookshelf LaTeX 2ε document class*

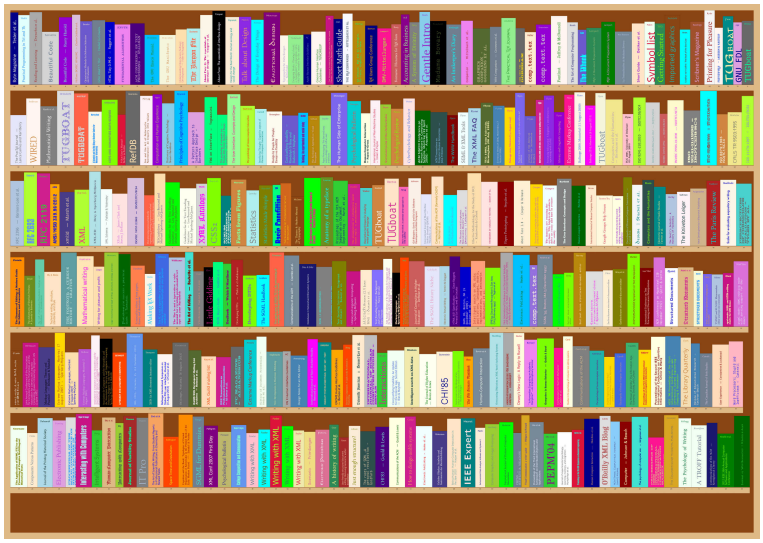
Turn your bibliography into a bookshelf image

Peter Flynn
Silmaril Consultants
Instant Textual Gratification Division
(peter@silmaril.ie)

21st February 2024

Summary

The bookshelf package uses biblatex and *biber* to turn any large BibTeX bibliography file into a randomly-coloured, randomly-sized shelf of books, with the title and author in a randomly-chosen typeface. The image (converted to JPEG from PDF) can then be used as a background in *Zoom*, *Teams*, *WhatsApp* etc video calls. It requires a little preliminary work with the supplied script to set up a list of all your fonts, a list of colors, and a list of the BibTeX entry names in your `.bib` file, but otherwise should work on any modern TeX distribution.



*This document corresponds to bookshelf *v.* 0.8β, dated 2024/01/04.

Contents

Note on required and optional features

In this document, the keywords MUST, MUST NOT, REQUIRED, SHALL, SHALL NOT, SHOULD, SHOULD NOT, RECOMMENDED, MAY, and OPTIONAL have a specific meaning when shown in THIS TYPESTYLE, and MUST be interpreted as described in RFC 2119 (Bradner, 1997).

When shown in normal type, these words keep their conventional contextual degree of meaning.

Typographic representation

In this document, the following information items are shown in this way:

Item	Description
class	name of a LaTeX document class
`\command`	name of a LaTeX 'command' (TeX macro or control sequence)
`filename`	name of a file
`option`	name of an option to a LaTeX command, environment, class, or package
package	name of a LaTeX package
productname	a product name
`systemitem`	a computer system item (eg hostname or data value)
`varname`	a variable name in a supported language

Latest changes

v.0.8 (2024-01-04)

Development

- Bugfixes and suggested patches from Boris Veytsman.

v.0.7 (2020-09-24)

Feedback

- Added exclusion for @Comment from bib files in script, and the Braille font on Macs (thanks to Murray Eisenberg on tex.se).

v.0.6 (2020-05-29)

More testing

- Small bug fixes.

v.0.5 (2020-05-24)

Finished initial testing

- Replaced hyperref with hypdoc to avoid *makeindex* bug.

See p. 37 for earlier changes.

Acknowledgments

Thanks to many people for the original suggestion; and to Isabel Yorke, Bethan Tovey-Walsh, Nelson Beebe, The LaTeX Ninja, Stephan Lukasczyk, and others for their thesis bibliographies and testing comments.

1 Documentation

During the period of the early COVID-19 lockdowns (2020–2022), the popularity of group video messaging grew rapidly, both for business and domestic use. As people sought for what they believed to be more representative backgrounds than a messy kitchen, an untidy workroom, or a sterile blank wall, a well-populated bookshelf was a frequent choice.

This package is for those who cannot use (or don't have, or don't want to use) such a bookshelf, but can still lay their hands on a bibliography or

reference list in BibTeX format — perhaps from a recent or long-forgotten thesis, book, article, or other document.

> **XeLaTeX and biblatex and *biber***
>
> To avoid problems with accented and other characters, and to make it easier to maintain, this document class uses only XeLaTeX and biblatex and *biber*.
>
> It will not work with the *pdflatex* or *bibtex* programs, and it does not use the `.bst` files of old BibTeX.

This is a work-in-progress: there are bugs (see section 1.5 on page 10).

1.1 What the package does

The bookshelf package generates what looks like shelves of book spines from your list of references, using random dimensions (within specified limits) in random but contrasting colors, with a randomly-selected typeface.

It does this by creating a box (rectangle) for each entry in your list, assigning colors to the background and foreground, deciding on the layout and font, and then stacking the boxes side-by-side as if they were letters on a line.

1.2 Preparation

To get things ready for this, you need to install this document class, and provide the following files.

1. Your BibTeX file;
2. A separate list of all the entry values;
3. A list of all your usable text fonts (TTF or OTF);
4. A command defining how many such fonts there are;
5. A list of all the colors to choose from.

These are explained in more detail in the subsections below.

All but the first of these can be generated by the supplied shell script `prepdata.sh`. This works on UNIX/GNU Linux and on Apple Mac OS X, and may work in CygWin, but needs more work for plain Windows.

1.2.1 Your BibTeX file

Your BibTeX (`.bib`) file, suitable for use with *biber* rather than *bibtex*.

Old BibTeX files will work, but possibly not optimally: if you want to update them, see section 1.4 on page 9 for what to edit; but this is not needed for this class.

One thing that may help is to replace all the old-style symbolic notation for accented characters like `{\"a}` for 'ä' and `{\l}` for 'ł'. Not only is the symbolic notation no longer needed because XeLaTeX and the *biber* program handle UTF-8 characters, which the old *bibtex* program doesn't; the discipline of replacing helps to reduce the problem of unmatched curly braces, which is one of the biggest sources of errors in BibTeX files.

If you have a bibliography in *EndNote*, *Mendeley*, *Zotero*, *ProCite*, *Reference Manager*, etc, you should be able to export it in either BibTeX or RIS format. A RIS file can easily be converted to BibTeX by opening it in *JabRef* and saving it as BibTeX.

1.2.2 Entry values

A list of all the entry values from your BibTeX file (the unique names immediately after the document type), each given as the argument to a `\makebook}{...}` command in a file called `entries.tex`.

1.2.3 Font file list

A set of 1–line files in a subdirectory called `fontsel` representing of all the usable text fonts on your system that you wish to use; that is, *excluding* broken, experimental, or partial fonts, symbols, mathematical fonts, non-Latin characters or alphabets, and display or non-text fonts.

Each such file MUST be numbered sequentially in its name (eg `1.tex`, `2.tex`, `3.tex`, etc) and MUST contain a `\newfontface{SILmfont}{...}` command for the font name *and* a definition of its name in a `\SILmfontname{...}` command (see the examples generated by the `prepdata.sh` script):

```
\newfontface{\SILmfont}{Freestyle Script}
\def\SILmfontname{Freestyle Script}
```

Be aware that many fonts on your system may not be suitable for setting normal text: see the comments in the script

These files are entirely dependent on your system because everyone has a different set of fonts.

TODO: Plans under way for adding non-Latin fonts.

1.2.4 Maximum number of fonts

A file called `pickfont.tex` containing a `\setcounter{SIL@maxfont}{...}` command to set the total number of the fonts which are represented in the `fontsel` subdirectory above

1.2.5 List of colors

A list of all the colors represented by a palette usable by the xcolor package: the color choice file created by the script is called after the palette name, eg `svgnam.tex`, `x11nam.tex`, `farben.tex`, etc. This contains three definitions:

1. the command `\SIL@svgcolname` which uses an `\ifcase` command to return the name of the *n*th color in alphabetical order;
2. the command `\SIL@svgcolval` which does the same to return the brightness value of that color, computed by the formula on on page 17 (see script for details);
3. the counter `SIL@maxcolno` which holds the number of colors available.

1.3 Producing your bookshelf

This class comes with a file `test.tex` which you can use to test your file of references. As installed, it is set just to make the `test.aux` file that *biber* needs to create your `test.bbl` bibliography file; that is, it will *not* try to run the shell script *or* to create a bookshelf the first time round, until everything else is ready.

1. Run the shell script with your `.bib` filename as the argument, eg;

   ```
   $ ./prepdata.sh mythesis.bib
   ```

2. Edit the `test.tex` file and change the name of the `.bib` file in the `\addbibresource` command to the name of your own file

   Leave the two lines `\immediate` and `\input` commented out for the moment;

3. Delete any existing `test.aux` or `test.bbl` files in the directory in which you are doing this;

4. Typeset the test file with XeLaTeX. You should get three messages:

   ```
   LaTeX Warning: Empty bibliography on input line 12.
   LaTeX Warning: There were undefined references.
   Package biblatex Warning: Please (re)run Biber on the file:
   (biblatex)                test
   (biblatex)                and rerun LaTeX afterwards.
   ```

5. Process the test bibliography with *biber* (*not bibtex*). You will probably get many warning messages: ignore them. If you get a fatal error, however, you will need to find the problem in your `.bib` file and fix it before going any further.

   See also the known bug at item 3 in the list on p. 10;

6. Edit the test file and *un*comment the line starting `\input`, save the file, and retypeset it twice.

You should now have a PDF bookshelf! The books are in the order in which they appear in your `.bib` file because the script creates the list of entries to process in that order, regardless of what *biblatex* or *biber* are configured to do.

To convert the first page to JPEG (image) format, use a facility like *ImageMagick* and type (for example):

```
$ convert -density 300 mybib.pdf[0] -resize 50% mybib.jpg
```

To create an image of another page, change the zero to the page number minus one (PDF pages are counted from zero, not one).

1.3.1 Options

The class comes set for making an **a0paper** page (1189 mm × 841 mm or 4′ 11″ × 2′ 10″) in **landscape** mode, suitable for large bibliographies. If you have a smaller `.bib` file, or if you want fewer volumes per page, you can change the paper size option in the `\documentclass` command to a smaller one: all the 'A' sizes from 5 to 0 are supported, plus the common US office sizes including Ledger (Tabloid).

There is also a **portrait** option to produce the page in that format instead of landscape.

1.4 Changes between BibTeX fields and *biblatex*

This has been expanded from the description provided in §2.3 of the online documentation for biblatex v3.14 (1 December 2019) (Lehman et al., 2019).

This is for information only. You do not need to do any of this to use the bookshelf document class unless you encounter errors processing your `.bib` file.

1. The entry type `@inbook` (basically only use this where each chapter of the book is written by a different author). See §2.1.1 and §2.3.1 for details.

2. Replace `school` with `institution` for theses; replace `publisher` with `organization` for manuals and conference sponsors; and

replace `address` with `location`. See §2.2.2, §2.2.5, and §2.3.4 for details.

3. The handling of certain types of titles. See §2.3.5 for details. Replace `journal` with `journaltitle` in `@article` entries.
4. The field `series`: only use it for journal series; for the main title of multi-volume works use `maintitle`. See §2.2.2 and §2.3.7 for details.
5. The fields `year` and `month` must be integers; `month` MUST NOT be alphabetic. The field `date` MUST be an ISO 8601 date in the format `yyyy-mm-dd`. See §2.2.2, §2.3.8, and §2.3.9 for details.
6. The field `edition` must be an integer with no ordinal indicator or abbreviation 'ed'. See §2.2.2 for details.
7. Replace `key` with `label`. See §2.3.2 for details.

Most of this is for creating new entries. For converting BibTeX files for use with *biblatex*, just change the field names as in items 2, 3, 4, and 7; and make sure your months and editions are integers.

1.5 Bugs

Some things don't yet work as they should, and there are some features that may or may not make the final cut.

1. The shell script doesn't run on Windows because I don't have any Windows. If someone would write some Powershell I could include it in a later version.
2. There is no conscious 'line'-breaking when a row of books comes to the `\pagewidth`, and as it is deliberately set `\raggedright` (because you can't hyphenate a book and variable space between books seems to be a silly idea), there is no filler at the ends of lines to complete the 'shelf' (which is in any case just a bar below each book).
3. A test with a bibliography file from Nelson Beebe's collection (`sgml.bib`) generated a `test.bbl` with a missing closing curly brace, terminating (or rather, failing to terminate) the `\name` command for an entry. This appears to be a known bug in *biber* which is being fixed in the version 2.15.
4. There seems to be a recurrent problem with certain entries and certain fonts where the length of the title is measured as 0.0pt which causes an unresolvable problem for the routine which assigns space and layout. Any suggestions as to why this occurs are welcomed.
5. The objective of the field re-expressions (see section 2.6.8 on page 26) was to make sure the book spine for journal `@article`,

`@incollection`, and `@inbook` entry types reflected the *book* or *journal* title, not the title of the article or chapter. This may or may not be a good idea.

6. During development, it became obvious that the number of fonts on many systems can be very large. The `prepdata.sh` script currently includes the exclusions I made on UNIX/GNU Linux and Apple Mac OS X in order to get a set of fonts that did not issue errors (bearing in mind we are using fontspec, so for simplicity the script deals only with TrueType and OpenType fonts, not Postscript Type 1 or Type 3, or font packaging systems like *Suitcase* or True Type Collections). I am not aware of any easily-accessible machine-readable list or API for identifying normal text fonts by name (there are commercial databases but that is outside the scope of this document class).

Code for the Package code for the bookshelf class

2 Implementation

2.1 Auto-initialisation

This section is added automatically by *ClassPack* as a preamble to all classes and style packages. For details see the ltxdoc package documentation.

```
\NeedsTeXFormat{LaTeX2e}[2017/04/15]
\ProvidesClass{bookshelf}[2024/01/04 v0.8
 Package code for the bookshelf class]
```

fix-cm Preloaded functions to override the default LaTeX step-size font sizes (which can still be used, but are no longer restrictions).

```
\RequirePackage{fix-cm}
```

svgnames Pass the **svgnames** option to the xcolor package if that gets loaded later. This avoids a conflict with any other packages in the class (eg hyperref) which use their own default when they load xcolor.

```
  \PassOptionsToPackage{svgnames}{xcolor}
```

2.2 Options

The paper size and orientation are the only two valid options, both of which are the same as the standard documentclass options, and will be passed to the underlying class automatically, but they need recording so that they can be used by the geometry package. The default is for A0 paper, landscape.

```
\def\SIL@paper{a0paper}%
\DeclareOption{a0paper}{%
    \def\SIL@paper{a0paper}%
    \setlength\paperheight {1189mm}%
    \setlength\paperwidth  {841mm}}
\DeclareOption{a1paper}{%
    \def\SIL@paper{a1paper}%
    \setlength\paperheight {841mm}%
    \setlength\paperwidth  {594mm}}
\DeclareOption{a2paper}{%
    \def\SIL@paper{a2paper}%
    \setlength\paperheight {594mm}%
    \setlength\paperwidth  {420mm}}
\DeclareOption{a3paper}{%
```

```
    \def\SIL@paper{a3paper}%
    \setlength\paperheight {420mm}%
    \setlength\paperwidth  {297mm}}
\DeclareOption{a4paper}{%
    \def\SIL@paper{a4paper}%
    \setlength\paperheight {297mm}%
    \setlength\paperwidth  {210mm}}
\DeclareOption{a5paper}{%
    \def\SIL@paper{a5paper}%
    \setlength\paperheight {210mm}%
    \setlength\paperwidth  {148mm}}
\DeclareOption{b5paper}{%
    \def\SIL@paper{b5paper}%
    \setlength\paperheight {250mm}%
    \setlength\paperwidth  {176mm}}
\DeclareOption{letterpaper}{%
    \def\SIL@paper{letterpaper}%
    \setlength\paperheight {11in}%
    \setlength\paperwidth  {8.5in}}
\DeclareOption{legalpaper}{%
    \def\SIL@paper{legalpaper}%
    \setlength\paperheight {14in}%
    \setlength\paperwidth  {8.5in}}
\DeclareOption{executivepaper}{%
    \def\SIL@paper{executivepaper}%
    \setlength\paperheight {10.5in}%
    \setlength\paperwidth  {7.25in}}
\DeclareOption{ledgerpaper}{%
    \def\SIL@paper{ledgerpaper}%
    \setlength\paperheight {17in}%
    \setlength\paperwidth  {11in}}
\DeclareOption{tabloidpaper}{%
    \def\SIL@paper{tabloidpaper}%
    \setlength\paperheight {17in}%
    \setlength\paperwidth  {11in}}
\def\SIL@orient{landscape}%
\DeclareOption{landscape}{%
    \def\SIL@orient{landscape}%
    \setlength\@tempdima   {\paperheight}%
    \setlength\paperheight {\paperwidth}%
    \setlength\paperwidth  {\@tempdima}}
\DeclareOption{portrait}{%
    \def\SIL@orient{}}
```

Now invoke the options.

```
\ExecuteOptions{}
        \ProcessOptions\relax
```

2.3 Load the document base class

report This class is based on the standard LaTeX report class, with no special options except the extra sizes defined above. The default is A0 paper, landscape.

```
\DeclareOption*{\ClassWarning{bookshelf}{%
    Unknown option `\CurrentOption', please RTFM}}
\ProcessOptions\relax
\LoadClass{report}
```

2.4 Packages required for the class or package

Packages required for operation:

noto Sets the Google NoTo typeface as the default.

```
\RequirePackage{noto}%
```

mflogo Provides the METAFONT and METAPOST logos.

```
\RequirePackage{mflogo}%
```

fancyhdr Provide for running headers and footers.

```
\RequirePackage{fancyhdr}%
```

parskip Creates paragraphs separated by white-space with no indentation.

```
\RequirePackage{parskip}%
```

fontspec Font specification setup for use with XeLaTeX.

```
\RequirePackage{fontspec}%
```

calc Implements simple mathematics in counters and dimensions.

```
\RequirePackage{calc}%
```

fp Used for fixed-point calculations;

```
\RequirePackage{fp}%
```

graphicx Provide for graphics (PNG, JPG, or PDF format (only) for pdflatex; EPS format (only) for standard LaTeX); and for reflection and rotation features.

```
\RequirePackage{graphicx}%
```

textcase Provides a more sophisticated casing function than the default.

```
\RequirePackage{textcase}%
```

xcolor Provide color.

```
\RequirePackage{xcolor}%
  \@ifundefined{T}{%
    \newcommand{\T}[2]{{\fontencoding{T1}%
      \selectfont#2}}}{}
```

There seems to be a bug in the T1 encoding of some package (unidentified, but possibly xcolor) which uses the command \T1, which is an impossibility (no digits allowed in command names). So we fake it here to stop LaTeX complaining, by dropping the first argument on the floor.

eso-pic Add picture commands (or backgrounds) to every page.

```
\RequirePackage{eso-pic}%
```

geometry Package for establishing margins and text area.

```
\RequirePackage[\SIL@paper,\SIL@orient,nohead,
  nofoot,margin=1cm]{geometry}%
```

biblatex Use biblatex instead of BibTeX;

```
\RequirePackage[backend=biber,style=authoryear]{biblatex}%
  \AtBeginDocument{%
    \setlength{\bibitemsep}{1ex}%
    \setlength{\bibnamesep}{1.5\itemsep}%
    \defbibheading{shortbib}[References]%
      {\section{#1}}}
  \@ifpackagewith{babel}{british}{%
    \DeclareLanguageMapping{british}%
      {british-apa}}{\relax}
  \providetoggle{blx@skipbiblist}
```

2.5 Non-package resources

random.tex There is one resource not available in packaged form, the module that lets LaTeX create random values. This is in `random.tex`, which on the author's system is hiding in a directory `texmf/tex/generic/genmisc/`, in the `texmf-dist` tree, and indexed by an `ls-R` database, so it should therefore be findable by any TeX system.

```
\input{random.tex}
```

2.6 The code

This is beta software: the code is messy and covered in tracing output.

2.6.1 Font selection

SIL@maxfont This is set in the `\input` file `pickfont.tex`, which is created by the preparatory data script `prepdata.sh`. It is the number of working text fonts found on the system.

```
96 \newcounter{SIL@maxfont}
```

SIL@fontsel This is set to a random number between one and `SIL@maxfont`, and used as the name of the file containing the font name.

```
97 \newcounter{SIL@fontsel}
```

pickfont.tex This file is created by the preparatory data script `prepdata.sh` after it sets up the subdirectory list of valid text fonts. It sets the value of SIL@maxfont `SIL@maxfont`.

```
98 \input{pickfont.tex}
```

2.6.2 Color selection

SIL@maxcolno This value is set at the end of the color choice file created by the script. This is the number of color names found by the routine in `prepdata.sh` which extracts the color names.

```
99 \newcounter{SIL@maxcolno}
```

svgnam.tex The preparatory data script `prepdata.sh` retrieves the colors named in the **svgnames** option to the xcolor package and instantiates them as a LaTeX ifcase list in the file `svgnam.tex` as the command `\SIL@svgcolname`.

```
100 \input{svgnam.tex}
```

SIL@loopcount The random font selection is done in a loop because of the need to test the values. This counter counts the iterations...

```
101 \newcounter{SIL@loopcount}
```

SIL@maxloop ...and this one the limit.

```
102 \newcounter{SIL@maxloop}
```

SIL@bgcolno The colors are selected numerically. This value is the background color of the spine of a book.

```
103 \newcounter{SIL@bgcolno}
```

SIL@fgcolno And this is the foreground color, used to typeset the title and author on the spine of a book.

```
\newcounter{SIL@fgcolno}
```

SIL@bgcolno SIL@splitpoint SIL@fgcolno To make sure that SIL@bgcolno and SIL@fgcolno are distinct, we will need to pick one 'dark' and one 'light', crudely distinguished by examining their 'brightness' (monochrome intensity value) using the formula $b = \sqrt{(.241r^2 + .691g^2 + .068b^2)}$ due to (Dobovizki, 2008). From inspection, the modal point of the SVG values occurs around 0.6, so use use this to determine if the randomly-selected color is 'dark' or 'light'. Because it's a decimal fraction, we express it as a dimension and strip off the 'pt' later.

```
\newlength{\SIL@splitpoint}
\setlength{\SIL@splitpoint}{0.6pt}
```

\SIL@bgcol We establish defaults for the background color...

```
\def\SIL@bgcol{White}
```

\SIL@fgcol ...and the foreground color.

```
\def\SIL@fgcol{Black}
```

SIL@bgval The values computed by the `prepdata.sh` script and stored in `svgnam.tex` are decimal fractions, to they need to be retrieved as lengths. This is the background value...

```
\newlength{\SIL@bgval}
```

SIL@fgval ...and the foreground value.

```
\newlength{\SIL@fgval}
```

SIL@bgfgdiff The 'dark' or 'light' test discussed above also needs to test if the values are too close to the splitpoint. By examination, if the values have an absolute difference of 0.2 they should be visually distinct enough. The difference is calculated and stored in this length variable, as it's a decimal fraction.

```
\newlength{\SIL@bgfgdiff}
```

\SIL@notyetcols In the testing for colors, the nested conditionals set this switch true or false, so that it can be used to control the iteration through successive attempts to find suitable random values.

```
\newif\ifSIL@notyetcols
```

2.6.3 Page border setup

\AddToShipoutPictureBG The page background color is set to a pale brown roughly matching the pine veneer of IKEA bookcases, with the inner page (behind the books) in a dark shadow brown. The technique for imposing a colored margin is due to Ulrike Fischer and uses the commands from the eso-pic package.

```
\pagecolor{BurlyWood}
\AddToShipoutPictureBG{%
 \AtTextLowerLeft{\color{SaddleBrown}%
   \rule[-\footskip]{\textwidth}{%
     \dimexpr\textheight+\footskip}}}
```

2.6.4 Size and shape

Each book is assigned a random height and width, within the bounds set by the maxima and minima. The final dimensions may then be modified by the choice of layout and font.

```
\newlength{\SIL@bookheight}
\newlength{\SIL@bookwidth}
\newlength{\SIL@minbookwidth}
\newlength{\SIL@maxbookwidth}
\newlength{\SIL@minbookheight}
\newlength{\SIL@maxbookheight}
```

2.6.5 Title and author dimensions

The title and author need to be measured, and decisions are made about what size they need to be. The two layouts (author separately at the top, and author inline to title) are distinguished with the `\SIL@topauthor` conditional. If the title (with or without the author can fit on one line (rather than multiple lines) this is signalled with the `\SIL@titleoneline` conditional.

```
\newlength{\SIL@titlewidth}
\newlength{\SIL@authorwidth}
\newlength{\SIL@titleheight}
\newlength{\SIL@authorheight}
\newlength{\SIL@scaledtitle}
\newlength{\SIL@heightfortitle}
\newbox\SIL@titlebox
\newif\ifSIL@topauthor
\newif\ifSIL@titleoneline
```

2.6.6 Handling the math

SIL@scale To extract the integer part of a fixed-point value, we define a simple strip which uses the integer and throws away the rest. The integer ends up in this counter.

```
\newcounter{SIL@scale}
```

\SIL@scaleint The integer macro returns the counter above.

```
\def\SIL@scaleint#1.#2\sentinel{%
   \setcounter{SIL@scale}{#1}}
```

2.6.7 Settings

We set the space around a box and the thickness of the rule, and remove the page numbers.

```
\fboxsep1em\fboxrule.1pt
\pagestyle{empty}
```

2.6.8 Making the book

The \makebook macro is huge, and handles all the detail of making a book spine. It takes one mandatory argument: a BibTeX entry label value from the declared BibTeX `.bib` file in \addbibresource.

\makebook Start by announcing the entry label and setting the values that need to be reset every time.

```
\newcommand{\makebook}[1]{{%
  \typeout{^^J#1}%
  \setcounter{SIL@maxloop}{10}%
  \setcounter{SIL@loopcount}{0}%
% observed
  \setlength{\SIL@minbookwidth}{5mm}%
  \setlength{\SIL@maxbookwidth}{20mm}%
% A5 to A4 height
  \setlength{\SIL@minbookheight}{70mm}%
  \setlength{\SIL@maxbookheight}{110mm}%
  \setlength{\SIL@bookwidth}{0pt}%
  \setlength{\SIL@bookheight}{0pt}%
  \setlength{\SIL@heightfortitle}{0pt}%
  \SIL@topauthorfalse
```

\loop Start a loop which will pick two random integers, one for background and one for foreground colors. Look these up in the \SIL@svgcolval (in svgnam.tex) to get the brightness values, and calculate the absolute distance between them.

```
  \loop
    \addtocounter{SIL@loopcount}{1}%
    \typeout{Try \theSIL@loopcount}%
    \setrannum{\c@SIL@bgcolno}{1}{%
      \c@SIL@maxcolno}%
```

```
      \typeout{BG=\theSIL@bgcolno}%
      \setrannum{\c@SIL@fgcolno}{1}{%
        \c@SIL@maxcolno}%
      \typeout{FG=\theSIL@fgcolno}%
      \setlength{\SIL@bgval}{%
        \SIL@svgcolval{\theSIL@bgcolno}pt}%
      \typeout{BGval=\the\SIL@bgval}%
      \setlength{\SIL@fgval}{%
        \SIL@svgcolval{\theSIL@fgcolno}pt}%
      \typeout{FGval=\the\SIL@fgval}%
      \setlength{\SIL@bgfgdiff}{%
        \SIL@bgval - \SIL@fgval}%
      \typeout{Split gap is \the\SIL@bgfgdiff}%
      \ifdim\SIL@bgfgdiff<0pt
        \setlength{\SIL@bgfgdiff}{%
          \SIL@fgval - \SIL@bgval}%
        \typeout{Using absolute value
          \the\SIL@bgfgdiff}%
      \fi
```

The colours need to be separated either side of the 0.6 splitpoint value of the calculated brightness, so make this the outer test, and make the inner test for the separation difference. This will return true if the colors are separated enough, and come from opposite sides of the split point. If the loop makes SIL@maxloop iterations without finding a pair of values, use whatever was tested last.

SIL@maxloop

```
      \ifdim\SIL@bgval<\SIL@splitpoint
        \ifdim\SIL@fgval>\SIL@splitpoint
          \ifdim\SIL@bgfgdiff>0.2pt
            \SIL@notyetcolsfalse
          \else
            \SIL@notyetcolstrue
          \fi
        \else
          \SIL@notyetcolstrue
        \fi
      \else
        \ifdim\SIL@fgval<\SIL@splitpoint
          \ifdim\SIL@bgfgdiff>0.2pt
            \SIL@notyetcolsfalse
          \else
            \SIL@notyetcolstrue
          \fi
        \else
          \SIL@notyetcolstrue
        \fi
      \fi
```

```
    \typeout{BG=\theSIL@bgcolno,
             FG=\theSIL@fgcolno}%
    \ifnum\c@SIL@loopcount>\c@SIL@maxloop
      \SIL@notyetcolsfalse
    \fi
  \ifSIL@notyetcols\repeat
  \def\SIL@bgcol{\SIL@svgcolname{%
      \theSIL@bgcolno}}%
  \def\SIL@fgcol{\SIL@svgcolname{%
      \theSIL@fgcolno}}%
  \typeout{BG=\SIL@bgcol, FG=\SIL@fgcol}%
```

Now pick a random font: the files generated by `prepdata.sh` are named as integers with a `.tex` extension in the `fontsel` directory. These files load the font as `\SILmfont` (no `@` sign, because this is occurring in user mode), and define `\SILmfontname` as the name (for the same reason).

```
  \setrannum{\c@SIL@fontsel}{1}{\c@SIL@maxfont}%
  \input{fontsel/\theSIL@fontsel.tex}%
  \typeout{Set in \SILmfontname}%
```

Measure the author width and height at the default size (10pt). If the author fits in 90% of the maximum width of the book, we put it at the top of the spine and shrink the book width to 1.1 times the set width, provided that is not less than the defined minimum width. The book width is therefore fixed at this point and won't change later.

```
  \settowidth{\SIL@authorwidth}{%
              \SILmfont\citefullauthor{#1}}%
  \typeout{Author width: \the\SIL@authorwidth}%
  \settoheight{\SIL@authorheight}{%
               \SILmfont\citefullauthor{#1}}%
  \typeout{Author height: \the\SIL@authorheight}%
  \ifdim\SIL@authorwidth<.9\SIL@maxbookwidth
    \typeout{Author width is less than 90\%
             of \the\SIL@maxbookwidth}%
    \setlength{\SIL@bookwidth}{%
               1.1\SIL@authorwidth}%
    \typeout{Book width set to \the\SIL@bookwidth}%
    \ifdim\SIL@bookwidth<\SIL@minbookwidth
      \setlength{\SIL@bookwidth}{%
                 \SIL@minbookwidth}%
      \typeout{Book width reset to min
               \the\SIL@minbookwidth}% was height 2020-06-26
    \fi
    \SIL@topauthortrue
  \else
    \typeout{Author won't fit in .9 of
```

```
232                \the\SIL@maxbookwidth}%
233    \fi
```

Now measure the title, with an em rule and the author if it hasn't been assigned to the top of the spine.

```
234    \settowidth{\SIL@titlewidth}{%
235                \SILmfont\citetitle{#1}}%
236    \ifdim\SIL@titlewidth=0pt
237      \typeout{WARNING title width for entry "#1"
238        set in \SILmfontname=0pt!}%
239      \typeout{Likely that the entry has faulty
240        syntax or a bogus title field}%
241      \typeout{or a BiBTeX management or
242        crossref setting is being misinterpreted.}%
243      \typeout{I can't go any further until you
244        fix this, sorry}%
245      \end{document}%
246    \fi
247    \ifSIL@topauthor
248      \typeout{Title width: \the\SIL@titlewidth}%
249    \else
250      \addtolength{\SIL@titlewidth}{%
251                  \widthof{\SILmfont~~—~~}}%
252      \addtolength{\SIL@titlewidth}{%
253                  \SIL@authorwidth}%
254      \typeout{Title width with em rule and author:
255        \the\SIL@titlewidth}%
256    \fi
```

We now have enough data to make a shot at the dimensions. Pick a random book height and set the height available for the title (set sideways) to 90% of that, so that it fits comfortably. Then if the author was earlier assigned to the top of the spine, reduce this height available for the title by 1.2 times the height occupied by the author (again, to leave a little space). In this case, the width has already been set; otherwise, generate a random width now.

```
257    \typeout{Limits: width=\the\SIL@minbookwidth
258                -\the\SIL@maxbookwidth;
259                     height=\the\SIL@minbookheight
260                -\the\SIL@maxbookheight}%
261    \setrandim{\SIL@bookheight}%
262              {\SIL@minbookheight}%
263              {\SIL@maxbookheight}%
264    \typeout{Height generated as
265             \the\SIL@bookheight}%
266    \setlength{\SIL@heightfortitle}%
```

```
            {.9\SIL@bookheight}%
  \typeout{Height available for title (90\%):
           \the\SIL@heightfortitle}%
  \ifSIL@topauthor
    \typeout{Width set because author fits:
             \the\SIL@bookwidth}%
    \addtolength{\SIL@heightfortitle}%
                {-1.2\SIL@authorheight}%
    \typeout{Height available for title reset to
             \the\SIL@heightfortitle}%
  \else
  \setrandim{\SIL@bookwidth}%
            {\SIL@minbookwidth}%
            {\SIL@maxbookwidth}%
  \typeout{Width generated as
           \the\SIL@bookwidth}%
  \fi
```

See how the title will fit the space: if it's smaller, it will fit on one line, but we scale it up so it occupies more of the space available. To do this, we perform fixed-point arithmetic on the space it takes and the space available, and use the resulting decimal fraction later to scale the title. However, if the value resulting is greater than four, set it to four, otherwise the title will be too big to fit. The value four was obtained by inspection and trial and error.

```
  \ifdim\SIL@titlewidth<\SIL@heightfortitle
    \typeout{Titling fits in
             \the\SIL@heightfortitle}%
    \SIL@titleonelinetrue
    \edef\titleval{\strip@pt\SIL@titlewidth}%
    \edef\heightval{\strip@pt\SIL@heightfortitle}%
    \FPeval\SIL@scaledtitle{\heightval/\titleval}%
    \typeout{Scaling 1-line title by
             \SIL@scaledtitle}%
    \expandafter\SIL@scaleint
                \SIL@scaledtitle\sentinel
    \ifnum\c@SIL@scale>4
      \gdef\SIL@scaledtitle{4}%
      \typeout{Resetting scale \theSIL@scale\ to
               \SIL@scaledtitle}%
    \fi
```

Otherwise (too long) the title needs to be set in a box as a multi-line title. This gets complicated:

1. set the title in a \vbox and then add the height and depth it occupies to get the height of the set title;

2. if that height is more than the width of the book, use the method above to divide the available height by the [over]used height and use that to reduce the point size by deducting it from 10 (points);
3. otherwise (the multiline title fits in the width of the book), do the reverse and increase the point size to take advantage of the extra space by adding it to 10pt.

```
\else
  \typeout{Titling won't fit
           \the\SIL@heightfortitle}%
  \SIL@titleonelinefalse
  \setbox\SIL@titlebox=\vbox{%
    \hsize\SIL@heightfortitle
    \SILmfont\raggedright
    \vrule height1em width0pt
    \bfseries\citetitle{#1}%
    \vrule depth.2em width0pt
  }%
  \setlength{\SIL@titleheight}%
            {\ht\SIL@titlebox + \dp\SIL@titlebox}%
  \typeout{Multiline title takes
           \the\SIL@titleheight}%
  \ifdim\SIL@titleheight>\SIL@bookwidth
    \typeout{Height of title
             \the\SIL@titleheight\
             is greater than
             \the\SIL@bookwidth}%
    \edef\titleval{\strip@pt\SIL@titleheight}%
    \edef\heightval{\strip@pt\SIL@bookwidth}%
    \FPeval\SIL@scaledtitle
        {10 - \heightval / \titleval}%
    \typeout{10 - \heightval\ ÷ \titleval\
             = \SIL@scaledtitle}%
    \typeout{Using smaller font \SIL@scaledtitle
             pt for multiline title}%
  \else
    \typeout{Height of title
             \the\SIL@titleheight\
             is less than
             \the\SIL@bookwidth}%
    \edef\titleval{\strip@pt\SIL@titleheight}%
    \edef\heightval{\strip@pt\SIL@bookwidth}%
    \FPeval\SIL@scaledtitle
        {10 + \heightval / \titleval}%
    \typeout{10 + \heightval\ ÷ \titleval\
             = \SIL@scaledtitle}%
    \typeout{Using larger font \SIL@scaledtitle
```

```
                pt for multiline title}%
    \fi
  \fi
```

Finally, set a \vbox to the defined width *less* the space occupied by the \fcolorbox border and rule; then set the \fcolorbox with the chosen colors, with the author at the top if that's what was selected earlier, and the title below, either scaled using \scalebox if it was a single-line title, or with the amended font size if it was a multiline title.

For a setting with the author inline to the title, just do the scaling of the title.

```
  \leavevmode\vbox{\hsize\SIL@bookwidth
    \advance\hsize by2\fboxsep
    \advance\hsize by2\fboxrule
  \fcolorbox{black}{\SIL@bgcol}{%
    \ifSIL@topauthor
      \typeout{Setting with top author}%
      \vbox to\SIL@bookheight{\hsize\SIL@bookwidth
        \typeout{Spine is a vbox to
          \the\SIL@bookheight,
          hsize=\the\SIL@bookwidth}%
        \centering
        \SILmfont\color{\SIL@fgcol}%
        \citefullauthor{#1}%
        \par\vfill
        \rotatebox{90}{\vbox to\SIL@bookwidth{%
            \hsize\SIL@heightfortitle
          \null\vfill
          \typeout{Title in a vbox to
                   \the\SIL@bookwidth,
                   hsize=\the\SIL@heightfortitle}%
          \raggedright\color{\SIL@fgcol}%
          \ifSIL@titleoneline
            \scalebox{\SIL@scaledtitle}%
                     {\bfseries\citetitle{#1}}%
          \else
            \fontsize{\SIL@scaledtitle}%
                     {\SIL@scaledtitle}\selectfont
            \bfseries\citetitle{#1}%
          \fi
          \par\vfill}%
        }%
      }%
    \else
      \typeout{Setting author inline to title}%
      \vbox to\SIL@bookheight{\hsize\SIL@bookwidth
```

```
          \typeout{Spine is a vbox to
                   \the\SIL@bookheight,
                   hsize=\the\SIL@bookwidth}%
          \centering
          \SILmfont\color{\SIL@fgcol}%
          \rotatebox{90}{\vbox to\SIL@bookwidth{%
              \hsize\SIL@heightfortitle
            \null\vfill
            \typeout{Title and author in a vbox to
                     \the\SIL@bookwidth,
                     hsize=\the\SIL@heightfortitle}%
            \raggedright\color{\SIL@fgcol}%
            \ifSIL@titleoneline
              \scalebox{\SIL@scaledtitle}%
                       {{\bfseries\citetitle{#1}}\quad
                         —\ \ \citefullauthor{#1}}%
            \else
              \fontsize{\SIL@scaledtitle}%
                       {\SIL@scaledtitle}\selectfont
                       {\bfseries\citetitle{#1}}\quad
                       —\ \ \citefullauthor{#1}%
            \fi
            \par\vfill}%
          }%
        }%
      \fi
    }%
```

At the bottom, add a colored bar to fake up the shelf the books stand on. The number is the number of the font that was selected, and is there for error-tracing purposes only.

Despite best efforts at ending all non-control-sequence line-ends with a percent shield, space is creeping in somewhere, so the final negative kern removes it.

```
    \\\fboxsepOpt\fboxruleOpt
    \colorbox{BurlyWood}{\hbox to\hsize{%
        \hfil\vrule height3mm depth6mm widthOpt
        \normalfont\scriptsize\theSIL@fontsel\hfil}}%
    }%
  \kern-2.2mm}}%
```

\DeclareCiteCommand Trying to ensure we have an author's full name, not just the surname. This came from lockstep, modified at biblatex's suggestion to use `given-family` instead of `first-last`, but it doesn't seem to have any effect.

```
\DeclareCiteCommand{\citefullauthor}
  {\boolfalse{citetracker}%
   \boolfalse{pagetracker}%
   \DeclareNameAlias{labelname}{given-family}%
   \usebibmacro{prenote}}
  {\ifciteindex
     {\indexnames{labelname}}
     {}%
   \printnames{labelname}}
  {\multicitedelim}
  {\usebibmacro{postnote}}
```

\DeclareLabeltitle Similarly, in an attempt to get keep the author and title for books and monographs, but use the editors and volume/journal/book title for articles, incollection, and inbook entry types, these two definitions don't seem to have any effect. The remaining definitions are needed to cope with the expected commands found in sample bibliographies.

```
%%\DeclareLabeltitle[article]{%
%%  \field{journaltitle}
%%}
%%\DeclareLabeltitle
%%    [inbook,incollection,inproceedings]{%
%%  \field{booktitle}
%%  \field{maintitle}
%%}
%
\DeclareFieldFormat*{citetitle}{#1}
\let\citeA\textcite
\let\titleref\emph
\def\emdash{~--- }
```

References

Bradner, S. (1997). *Key words for use in RFCs to Indicate Requirement Levels* (tech. rep.). Internet Engineering Task Force. Reston, VA, Internet Standard. https://tools.ietf.org/rfc/rfc2119.txt

Dobovizki, N. (2008). *Calculating the Perceived Brightness of a Color*. https://www.nbdtech.com/Blog/archive/2008/04/27/Calculating-the-Perceived-Brightness-of-a-Color.aspx

Flynn, P. (2020). *Formatting Information* (6th). Cork, Ireland, Silmaril Consultants. http://latex.silmaril.ie/formattinginformation

Lehman, P., Kime, P., Borukova, A. & Wright, J. (2019). *The biblatex package: Programmable Bibliographies and Citations*. Version 3.14. TEX Users Group. Portland, OR. https://ctan.org/pkg/biblatex

A The LaTeX Project Public License (v 1.3c)

> Everyone is allowed to distribute verbatim copies of this license document, but modification of it is not allowed.

A.1 Preamble

The LaTeX Project Public License (LPPL) is the primary license under which the LaTeX kernel and the base LaTeX packages are distributed.

You may use this license for any work of which you hold the copyright and which you wish to distribute. This license may be particularly suitable if your work is TeX-related (such as a LaTeX package), but it is written in such a way that you can use it even if your work is unrelated to TeX.

The section “Whether and How to Distribute Works under This License”, below, gives instructions, examples, and recommendations for authors who are considering distributing their works under this license.

This license gives conditions under which a work may be distributed and modified, as well as conditions under which modified versions of that work may be distributed.

We, the LaTeX3 Project, believe that the conditions below give you the freedom to make and distribute modified versions of your work that conform with whatever technical specifications you wish while maintaining the availability, integrity, and reliability of that work. If you do not see how to achieve your goal while meeting these conditions, then read the document `cfgguide.tex` and `modguide.tex` in the base LaTeX distribution for suggestions.

A.2 Definitions

In this license document the following terms are used:

Work: Any work being distributed under this License.

Derived Work: Any work that under any applicable law is derived from the Work.

Modification: Any procedure that produces a Derived Work under any applicable law — for example, the production of a file containing an original file associated with the Work or a significant portion of such a file, either verbatim or with modifications and/or translated into another language.

Modify: To apply any procedure that produces a Derived Work under any applicable law.

Distribution: Making copies of the Work available from one person to another, in whole or in part. Distribution includes (but is not limited to) making any electronic components of the Work accessible by file transfer protocols such as FTP or HTTP or by shared file systems such as Sun's Network File System (NFS).

Compiled Work: A version of the Work that has been processed into a form where it is directly usable on a computer system. This processing may include using installation facilities provided by the Work, transformations of the Work, copying of components of the Work, or other activities. Note that modification of any installation facilities provided by the Work constitutes modification of the Work.

Current Maintainer: A person or persons nominated as such within the Work. If there is no such explicit nomination then it is the 'Copyright Holder' under any applicable law.

Base Interpreter: A program or process that is normally needed for running or interpreting a part or the whole of the Work.

A Base Interpreter may depend on external components but these are not considered part of the Base Interpreter provided that each external component clearly identifies itself whenever it is used interactively. Unless explicitly specified when applying the license to the Work, the only applicable Base Interpreter is a 'LaTeX-Format' or in the case of files belonging to the 'LaTeX-format' a program implementing the 'TeX language'.

A.3 Conditions on Distribution and Modification

1. Activities other than distribution and/or modification of the Work are not covered by this license; they are outside its scope. In particular, the act of running the Work is not restricted and no requirements are made concerning any offers of support for the Work.

2. You may distribute a complete, unmodified copy of the Work as you received it. Distribution of only part of the Work is considered modification of the Work, and no right to distribute such a Derived Work may be assumed under the terms of this clause.

3. You may distribute a Compiled Work that has been generated from a complete, unmodified copy of the Work as distributed under Clause 2 above, as long as that Compiled Work is distributed in such a way that the recipients may install the Compiled Work on their system exactly as it would have been installed if they generated a Compiled Work directly from the Work.

4. If you are the Current Maintainer of the Work, you may, without restriction, modify the Work, thus creating a Derived Work. You may also distribute the Derived Work without restriction, including Compiled Works generated from the Derived Work. Derived Works distributed in this manner by the Current Maintainer are considered to be updated versions of the Work.
5. If you are not the Current Maintainer of the Work, you may modify your copy of the Work, thus creating a Derived Work based on the Work, and compile this Derived Work, thus creating a Compiled Work based on the Derived Work.
6. If you are not the Current Maintainer of the Work, you may distribute a Derived Work provided the following conditions are met for every component of the Work unless that component clearly states in the copyright notice that it is exempt from that condition. Only the Current Maintainer is allowed to add such statements of exemption to a component of the Work.
   (a) If a component of this Derived Work can be a direct replacement for a component of the Work when that component is used with the Base Interpreter, then, wherever this component of the Work identifies itself to the user when used interactively with that Base Interpreter, the replacement component of this Derived Work clearly and unambiguously identifies itself as a modified version of this component to the user when used interactively with that Base Interpreter.
   (b) Every component of the Derived Work contains prominent notices detailing the nature of the changes to that component, or a prominent reference to another file that is distributed as part of the Derived Work and that contains a complete and accurate log of the changes.
   (c) No information in the Derived Work implies that any persons, including (but not limited to) the authors of the original version of the Work, provide any support, including (but not limited to) the reporting and handling of errors, to recipients of the Derived Work unless those persons have stated explicitly that they do provide such support for the Derived Work.
   (d) You distribute at least one of the following with the Derived Work:
      i. A complete, unmodified copy of the Work; if your distribution of a modified component is made by offering access to copy the modified component from a designated place, then offering equivalent access to copy the Work from the same or some similar place meets this condition, even though third

parties are not compelled to copy the Work along with the modified component;

ii. Information that is sufficient to obtain a complete, unmodified copy of the Work.

7. If you are not the Current Maintainer of the Work, you may distribute a Compiled Work generated from a Derived Work, as long as the Derived Work is distributed to all recipients of the Compiled Work, and as long as the conditions of Clause 6 on the previous page, above, are met with regard to the Derived Work.
8. The conditions above are not intended to prohibit, and hence do not apply to, the modification, by any method, of any component so that it becomes identical to an updated version of that component of the Work as it is distributed by the Current Maintainer under Clause 4 on page 30, above.
9. Distribution of the Work or any Derived Work in an alternative format, where the Work or that Derived Work (in whole or in part) is then produced by applying some process to that format, does not relax or nullify any sections of this license as they pertain to the results of applying that process.
10. (a) A Derived Work may be distributed under a different license provided that license itself honors the conditions listed in Clause 6 on the previous page above, in regard to the Work, though it does not have to honor the rest of the conditions in this license.

    (b) If a Derived Work is distributed under a different license, that Derived Work must provide sufficient documentation as part of itself to allow each recipient of that Derived Work to honor the restrictions in Clause 6 on the preceding page above, concerning changes from the Work.
11. This license places no restrictions on works that are unrelated to the Work, nor does this license place any restrictions on aggregating such works with the Work by any means.
12. Nothing in this license is intended to, or may be used to, prevent complete compliance by all parties with all applicable laws.

A.4 No Warranty

There is no warranty for the Work. Except when otherwise stated in writing, the Copyright Holder provides the Work ‘as is’, without warranty of any kind, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

The entire risk as to the quality and performance of the Work is with you. Should the Work prove defective, you assume the cost of all necessary servicing, repair, or correction.

In no event unless required by applicable law or agreed to in writing will The Copyright Holder, or any author named in the components of the Work, or any other party who may distribute and/or modify the Work as permitted above, be liable to you for damages, including any general, special, incidental or consequential damages arising out of any use of the Work or out of inability to use the Work (including, but not limited to, loss of data, data being rendered inaccurate, or losses sustained by anyone as a result of any failure of the Work to operate with any other programs), even if the Copyright Holder or said author or said other party has been advised of the possibility of such damages.

A.5 Maintenance of The Work

The Work has the status ‘author-maintained’ if the Copyright Holder explicitly and prominently states near the primary copyright notice in the Work that the Work can only be maintained by the Copyright Holder or simply that it is ‘author-maintained’.

The Work has the status ‘maintained’ if there is a Current Maintainer who has indicated in the Work that they are willing to receive error reports for the Work (for example, by supplying a valid e-mail address). It is not required for the Current Maintainer to acknowledge or act upon these error reports.

The Work changes from status ‘maintained’ to ‘unmaintained’ if there is no Current Maintainer, or the person stated to be Current Maintainer of the work cannot be reached through the indicated means of communication for a period of six months, and there are no other significant signs of active maintenance.

You can become the Current Maintainer of the Work by agreement with any existing Current Maintainer to take over this role.

If the Work is unmaintained, you can become the Current Maintainer of the Work through the following steps:

1. Make a reasonable attempt to trace the Current Maintainer (and the Copyright Holder, if the two differ) through the means of an Internet or similar search.
2. If this search is successful, then enquire whether the Work is still maintained.

(a) If it is being maintained, then ask the Current Maintainer to update their communication data within one month.

(b) If the search is unsuccessful or no action to resume active maintenance is taken by the Current Maintainer, then announce within the pertinent community your intention to take over maintenance. (If the Work is a LaTeX work, this could be done, for example, by posting to news:comp.text.tex.).

3. (a) If the Current Maintainer is reachable and agrees to pass maintenance of the Work to you, then this takes effect immediately upon announcement.

   (b) If the Current Maintainer is not reachable and the Copyright Holder agrees that maintenance of the Work be passed to you, then this takes effect immediately upon announcement.

4. If you make an 'intention announcement' as described in 2b above and after three months your intention is challenged neither by the Current Maintainer nor by the Copyright Holder nor by other people, then you may arrange for the Work to be changed so as to name you as the (new) Current Maintainer.

5. If the previously unreachable Current Maintainer becomes reachable once more within three months of a change completed under the terms of 3b or 4, then that Current Maintainer must become or remain the Current Maintainer upon request provided they then update their communication data within one month.

A change in the Current Maintainer does not, of itself, alter the fact that the Work is distributed under the LPPL license.

If you become the Current Maintainer of the Work, you should immediately provide, within the Work, a prominent and unambiguous statement of your status as Current Maintainer. You should also announce your new status to the same pertinent community as in 2b above.

A.6 Whether and How to Distribute Works under This License

This section contains important instructions, examples, and recommendations for authors who are considering distributing their works under this license. These authors are addressed as 'you' in this section.

A.6.1 Choosing This License or Another License

If for any part of your work you want or need to use *distribution* conditions that differ significantly from those in this license, then do not refer to this

license anywhere in your work but, instead, distribute your work under a different license. You may use the text of this license as a model for your own license, but your license should not refer to the LPPL or otherwise give the impression that your work is distributed under the LPPL.

The document `modguide.tex` in the base LaTeX distribution explains the motivation behind the conditions of this license. It explains, for example, why distributing LaTeX under the GNU General Public License (GPL) was considered inappropriate. Even if your work is unrelated to LaTeX, the discussion in `modguide.tex` may still be relevant, and authors intending to distribute their works under any license are encouraged to read it.

A.6.2 A Recommendation on Modification Without Distribution

It is wise never to modify a component of the Work, even for your own personal use, without also meeting the above conditions for distributing the modified component. While you might intend that such modifications will never be distributed, often this will happen by accident — you may forget that you have modified that component; or it may not occur to you when allowing others to access the modified version that you are thus distributing it and violating the conditions of this license in ways that could have legal implications and, worse, cause problems for the community. It is therefore usually in your best interest to keep your copy of the Work identical with the public one. Many works provide ways to control the behavior of that work without altering any of its licensed components.

A.6.3 How to Use This License

To use this license, place in each of the components of your work both an explicit copyright notice including your name and the year the work was authored and/or last substantially modified. Include also a statement that the distribution and/or modification of that component is constrained by the conditions in this license.

Here is an example of such a notice and statement:

```
%%% pig.dtx
%%% Copyright 2005 M. Y. Name
%%
%% This work may be distributed and/or modified under the
%% conditions of the LaTeX Project Public License, either version 1.3
%% of this license or (at your option) any later version.
%% The latest version of this license is in
%%   http://www.latex-project.org/lppl.txt
%% and version 1.3 or later is part of all distributions of LaTeX
%% version 2005/12/01 or later.
%%
%% This work has the LPPL maintenance status `maintained'.
%%
%% The Current Maintainer of this work is M. Y. Name.
%%
```

```
%% This work consists of the files pig.dtx and pig.ins
%% and the derived file pig.sty.
```

Given such a notice and statement in a file, the conditions given in this license document would apply, with the ‘Work’ referring to the three files `pig.dtx`, `pig.ins`, and `pig.sty` (the last being generated from `pig.dtx` using `pig.ins`), the ‘Base Interpreter’ referring to any ‘LaTeX-Format’, and both ‘Copyright Holder’ and ‘Current Maintainer’ referring to the person M. Y. Name.

If you do not want the Maintenance section of LPPL to apply to your Work, change ‘maintained’ above into ‘author-maintained’. However, we recommend that you use ‘maintained’ as the Maintenance section was added in order to ensure that your Work remains useful to the community even when you can no longer maintain and support it yourself.

A.6.4 Derived Works That Are Not Replacements

Several clauses of the LPPL specify means to provide reliability and stability for the user community. They therefore concern themselves with the case that a Derived Work is intended to be used as a (compatible or incompatible) replacement of the original Work. If this is not the case (e.g., if a few lines of code are reused for a completely different task), then clauses 6b and 6d shall not apply.

A.6.5 Important Recommendations

A.6.5.1 Defining What Constitutes the Work : The LPPL requires that distributions of the Work contain all the files of the Work. It is therefore important that you provide a way for the licensee to determine which files constitute the Work. This could, for example, be achieved by explicitly listing all the files of the Work near the copyright notice of each file or by using a line such as:

```
%% This work consists of all files listed in manifest.txt.
```

in that place. In the absence of an unequivocal list it might be impossible for the licensee to determine what is considered by you to comprise the Work and, in such a case, the licensee would be entitled to make reasonable conjectures as to which files comprise the Work.

A.7 Script to generate data files

Run this before you run the test file.

A.8 Test document

Run this with XeLaTeX then run *biber*, then XeLaTeX again.

Change History

v0.1
General: First packaged draft: Done manually from .tex file. 1
v0.2
General: Started documentation: Code doc done, user doc still missing. 1
v0.3
General: Finished first pass on documentation: 1) Done preliminary testing; 2) Script adapted for Mac OS X. 1
v0.4
General: Completed documentation: 1) Updated note on bug in biber when processing sgml.bib; 2) Removed sgml.bib as example until problems are resolved; 3) Backtracked on attempt to use the monographic title for articles, chapters, etc; 4) Revised notes on production. 1
v0.5
General: Finished initial testing: Replaced hyperref with hypdoc to avoid makeindex bug. 1
v0.6
General: More testing: Small bug fixes. 1
v0.7
General: Feedback: Added exclusion for @Comment from bib files in script, and the Braille font on Macs (thanks to Murray Eisenberg on tex.se). 1
v0.8
General: Development: Bugfixes and suggested patches from Boris Veytsman. 1

Index

Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.

T

U

W

X