Article

R bookdownplus: Authoring Articles, Mails, Guitar Chords, Chemical Molecular Formulae and Equations with R bookdown

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1   **Abstract:** Everyone knows that `bookdown` is an excellent package for authoring books on programming
2   languages. But it is only one side of the coin. It can do more than expected. Therefore I am developing
3   `bookdownplus`. `bookdownplus` is an extension of `bookdown`. It helps you write academic journal
4   articles, guitar books, chemical equations, mails, calendars, and diaries.

5   **Keywords:** dragon; dagger; bear; keyword 3 (list three to ten pertinent keywords specific to the
6   article, yet reasonably common within the subject discipline.)

1. Introduction

8   The R package `bookdownplus` [1] is an extension of `bookdown` [2]. It is a collection of multiple
9   templates on the basis of LaTeX, which are tailored so that I can work happily under the umbrella of
10   `bookdown`. `bookdownplus` helps you write academic journal articles, guitar books, chemical equations,
11   mails, calendars, and diaries.

12   `bookdownplus` extends the features of `bookdown`, and simplifies the procedure. Users only have to
13   choose a template, clarify the book title and author name, and then focus on writing the text. No need
14   to struggle in YAML and LaTeX.

15   With `bookdownplus` users can

16   • record guitar chords,
17   • write a mail in an elegant layout,
18   • write a laboratory journal, or a personal diary,
19   • draw a monthly or weekly or conference calendar,
20   • and, of course, write academic articles in your favourite way,
21   • with chemical molecular formulae and equations,
22   • even in Chinese,
23   • and more wonders will come soon.

24   Full documentation can be found in the book R bookdownplus Textbook. The webpage looks
25   so-so, while the pdf file might give you a little surprise.

2. Materials and Methods

27   Although this section might not be the latest version, the general idea won't change. Please see R
28   bookdownplus Textbook to keep up with the update.

2.1. Preparation

Before starting, you have to install R, RStudio, bookdown package, and other software and packages (i.e. Pandoc, LaTeX, rmarkdown, rticle, knitr, etc.) which bookdown depends on. See the official manual of bookdown for details. Additionally, if you want to produce a poster, phython must be installed before using, and the path of phython might have to be added to the environmental variables for Windows users.

2.2. Installation

```
install.package("bookdownplus")
# or
devtools::
  install_github("pzhaonet/bookdownplus")
```

2.3. Generate demo files

Run the following codes, and you will get some files (e.g. `index.Rmd`, `body.Rmd`, `bookdownplus.Rproj`) and folders in your working directory.

```
getwd() # this is your working directory. run setwd() to change it.
bookdownplus::bookdownplus()
```

2.4. Build a demo book

Now open `bookdownplus.Rproj` with RStudio, and press `ctrl+shift+b` to compile it. Your will get a book file named `*.pdf` in `_book/`folder.

2.5. Write your own

Write your own text in `index.Rmd` and `body.Rmd`, and build your own lovely book.

2.6. More outputs

By default, the book is in a pdf file. From 'bookdownplus' 1.0.3, users can get more output formats, including 'word', 'html' and 'epub'. Run:

```
bookdownplus::
  bookdownplus(template = 'article',
               more_output = c('html', 'word', 'epub'))
```

2.7. Recommendations

I have been developing some other packages, which bring more features into 'bookdown', such as:

- mindr [3], which can extract the outline of your book and turn it into a mind map, and
- pinyin [4], which can automatically generate '{#ID}' of the chapter headers even if there are Chinese characters in them.

Both of them have been released on CRAN and can be installed via:

```
install.packages('mindr')
install.packages('pinyin')
```
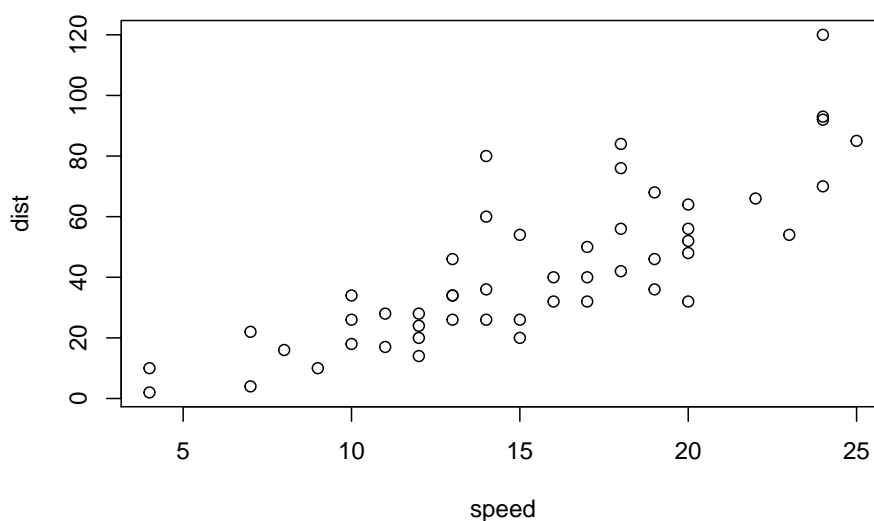
Enjoy your bookdowning!

Figure 1. caption

2.8. Models

Eq. (1) is an equation.

$$E = mc^2 \tag{1}$$

It can be written as $E = mc^2$.

3. Results and Discussions

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4. Conclusions

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Table 1. Here is a nice table!

Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
5.1	3.5	1.4	0.2	setosa
4.9	3.0	1.4	0.2	setosa
4.7	3.2	1.3	0.2	setosa
4.6	3.1	1.5	0.2	setosa
5.0	3.6	1.4	0.2	setosa
5.4	3.9	1.7	0.4	setosa
4.6	3.4	1.4	0.3	setosa
5.0	3.4	1.5	0.2	setosa
4.4	2.9	1.4	0.2	setosa
4.9	3.1	1.5	0.1	setosa
5.4	3.7	1.5	0.2	setosa
4.8	3.4	1.6	0.2	setosa
4.8	3.0	1.4	0.1	setosa
4.3	3.0	1.1	0.1	setosa
5.8	4.0	1.2	0.2	setosa
5.7	4.4	1.5	0.4	setosa
5.4	3.9	1.3	0.4	setosa
5.1	3.5	1.4	0.3	setosa
5.7	3.8	1.7	0.3	setosa
5.1	3.8	1.5	0.3	setosa

Conflicts of Interest: The authors declare no conflict of interest. The founding sponsors had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, and in the decision to publish the results.

Abbreviations

The following abbreviations are used in this manuscript: GOT: Games of Thrones.

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