Elsearticle class for Typst

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MIT

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ELSEARTICLE is a Typst template that aims to mimic the Elsevier article IFTEX class, a.k.a. elsearticle.cls, provided by Elsevier to format manuscript properly for submission to their journals.

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Part I.

About

ELSEARTICLE is a Typst template that aims to mimic the Elsevier article LATEX class, a.k.a. elsearticle.cls, provided by Elsevier to format manuscript properly for submission to their journals.

ELSEARTICLE is designed to be as close as possible to the original class, whose specification can be found in the documentation. The template is still in development and may not be fully compatible with all Elsevier journals.

This manual provides an overview of the features of the ELSEARTICLE template and how to use it.

The template is provided as is by the Typst community and is not affiliated with Elsevier.

Part II.

Usage

II.1. Using Elsearticle

To use the ELSEARTICLE template, you need to include the following line at the beginning of your typ file:

```
#import "@preview/elsearticle:0.1.0": *
```

II.2. Initializing the template

After importing Elsearticle, you have to initialize the template by a show rule with the #elsearticle() command. This function takes an optional argument to specify the title of the document.

```
#show: elsearticle.with(
   ...
)
```

#elsearticle() takes the following arguments:

```
Argument (title): none str
```

```
Argument

(authors): ()

List of the authors of the paper

Each element of the array is a dictionary definining an author. The author dictionary has the following keys:

• name str: Name of the author

• affiliation str: Affiliation of the author

• corr str none: email address of the corresponding author
```

```
• id str : ID of the author
   authors: (
          name: "J. Doe",
          affiliation: "Laboratory 1, University 1, City 1",
          corr: "jdoe@univ.edu",
id: "a",
          name: "J. Smith",
          affiliation: "Laboratory 2, University 2, City 2",
          corr: none,
id: "b"
       ),
     )
                                                                                 content
<abstract>: none
 Abstract of the paper
⟨journal⟩: none
                                                                                      str
 Name of the journal
⟨keywords⟩: none
                                                                                    array
 List of the keywords of the paper
 Each element of the array is a str representing a keyword.
   keywords: ("Keyword 1", "Keyword 2")
⟨format⟩: "review"
                                                                                      str
 Format of the paper. Possible values are "preprint", "review", "1p", "3p", "5p", and "final"
   Only the "final" format is currently missing.
\langle numcol \rangle: 1
                                                                                   number
 Number of columns of the paper. Possible values are 1 and 2
```

According to the documentation of elsearticle.cls (see here), the number of columns is related to the format of the paper:

- 1p: Single column only
- 3p: Single or double column possible
- 5p: Double column only

To avoid unexpected behaviors, the value of the numcol argument is set to 1 by default and restricted to 1 or 2.

II.3. Additional features

The ELSEARTICLE template provides additional features to help you format your document properly.

II.3.1. Appendix

The template allows you to create appendices using the #appendix() environment. The appendices are then numbered with capital letters (A, B, C, etc.). Figures, tables and equations are numbered accordingly, e.g. Eq. (A.1).

To activate the appendix environment, all you have to do is to place the following command in your document:

```
#show: appendix
// Appendix content here
```

II.3.2. Subfigures

Subfigures are not built-in features of Typst, but the **ELSEARTICLE** template provides a way to handle them. To create a subfigure, you can use the following syntax:

```
#figure(
   grid(columns: 2, gutter: 1em,
   [#subfigure(image("image1.png")) <figa>],
   [#subfigure(image("image2.png")) <figb>]
   ),
   caption: [(a) Left image and (b) Right image],
) <fig>
```

The #ref() function is customized to properly handle the subfigures reference (e.g. Fig. 1a) and cross-reference (via the #link() function).

More generally, the #figure() function is also modified to follow the guidelines of the LATEX elsearticle class.

II.3.3. Equations

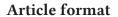
The equations are numbered with the format "(1)", "(2)" in normal sections and with the format "(A.1)", "(A.2)" in appendices. In addition to these numbering patterns, the Elsearticle template provides the #nonumeq() to create unnumbered equations. The latter function can be used as follows:

```
#nonumeq[$
    y = f(x)
    $
]
```

Part III.

Roadmap

The Elsearticle template is still in development. Here are some of the features that are planned for future releases :



- Preprint
- Review
- **✓** 1p
- **✓** 3p
- **5**p
- ☐ Final Work started by @JamesXx

Environment

✓ Implementation of the appendix environment

Figures and tables

- ✓ Implementation of the subfigure environment
- ✓ Proper referencing of figure, subfigures and tables w.r.t. the context
- ☑ Recreation of the link to cross-reference figures, subfigures and tables

Equations

- ✓ Proper referencing of equations w.r.t. the context
- Numbering each equation of a system as "(1a)" On going discussions at the Typst dev level

Other features

☐ Line numbering - a PR is currently open on the Typst repo – See here

Part IV.

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