A better way to format your document for CEUR-WS

Dmitry S. Kulyabov^{a,b}, Ilaria Tiddi^c and Manfred Jeusfeld^d

^{a}*Peoples' Friendship University of Russia (RUDN University), 6 Miklukho-Maklaya St, Moscow, 117198, Russian Federation*

^{b}*Joint Institute for Nuclear Research, 6 Joliot-Curie, Dubna, Moscow region, 141980, Russian Federation*

^{c}*Vrije Universiteit Amsterdam, De Boelelaan 1105, 1081 HV Amsterdam, The Netherlands*

^{d}*University of Skövde, Högskolevägen 1, 541 28 Skövde, Sweden*

Abstract

A clear and well-documented LaTeX document is presented as an article formatted for publication by CEUR-WS in a conference proceedings. Based on the "ceurart" document class, this article presents and explains many of the common variations, as well as many of the formatting elements an author may use in the preparation of the documentation of their work.

Keywords

LaTeX class, paper template, paper formatting, CEUR-WS

1. Introduction

CEUR-WS's article template provides a consistent LaTeX style for use across CEUR-WS publications, and incorporates accessibility and metadata-extraction functionality. This document will explain the major features of the document class.

If you are new to publishing with CEUR-WS, this document is a valuable guide to the process of preparing your work for publication.

The "ceurart" document class can be used to prepare articles for any CEUR-WS publication, and for any stage of publication, from review to final "camera-ready" copy with *very* few changes to the source.

This class depends on the following packages for its proper functioning:

1. natbib.sty for citation processing;
2. geometry.sty for margin settings;
3. graphicx.sty for graphics inclusion;
4. hyperref.sty optional packages if hyperlinking is required in the document;

All the above packages are part of any standard LaTeX installation. Therefore, the users need not be bothered about downloading any extra packages.

2. Modifications

Modifying the template — including but not limited to: adjusting margins, typeface sizes, line spacing, paragraph and list definitions, and the use of the \vspace command to manually adjust the vertical spacing between elements of your work — is not allowed.

3. Template Styles

The primary parameter given to the "ceurart" document class is the *template style*. This parameter is enclosed in square brackets and is a part of the documentclass command:

```
\documentclass[STYLE]{ceurart}
```

Now this is only one style:

- twocolumn: Two column layout.

4. Front matter

4.1. Title Information

The titles of papers should be either all use the emphasizing capitalized style or they should all use the regular English (or native language) style. It does not make a good impression if you or your authors mix the styles.

Use the title command to define the title of your work. Do not insert line breaks in your title.

4.2. Authors and Affiliations

Each author must be defined separately for accurate metadata identification. Multiple authors may share

one affiliation. Authors' names should not be abbreviated; use full first names wherever possible. Include authors' e-mail addresses whenever possible.

`\author` command have the below options:

1. `style`: Style of author name (chinese)
2. `prefix`: Prefix
3. `suffix`: Suffix
4. `degree`: Degree
5. `role`: Role
6. `orcid`: ORCID

Author names can have many kinds of marks and notes:

1. affiliation mark: `\author[<num>]`,
2. email: `\ead{<email>}`,
3. url: `\ead[url]{<url>}`.

The author names and affiliations could be formatted in two ways:

1. Group the authors per affiliation.
2. Use an explicit mark to indicate the affiliations.

Author block example:

```
\author[1,2]{Author Name}[%
    prefix=Prof.,
    degree=D.Sc.,
    role=Researcher,
    orcid=0000-0000-000-0000
]
\ead{<email>}
\ead[url]{<url>}

\address[1]{Affiliation #1}
\address[2]{Affiliation #2}
```

4.3. Abstract and Keywords

Abstract shall be entered in an environment that starts with `\begin{abstract}` and ends with `\end{abstract}`.

```
\begin{abstract}
  This is an abstract.
\end{abstract}
```

The key words are enclosed in a `{keyword}` environment. Use `\sep` to separate keywords.

```
\begin{keywords}
  First keyword \sep
  Second keyword \sep
  Third keyword \sep
  Fourth keyword
\end{keywords}
```

At the end of front matter add `\maketitle` command.

Table 1
Frequency of Special Characters

Non-English or Math	Frequency	Comments
Ø	1 in 1,000	For Swedish names
π	1 in 5	Common in math
$	4 in 5	Used in business
Ψ_1^2	1 in 40,000	Unexplained usage

5. Sectioning Commands

Your work should use standard LaTeX sectioning commands: `section`, `subsection`, `subsubsection`, and `paragraph`. They should be numbered; do not remove the numbering from the commands.

Simulating a sectioning command by setting the first word or words of a paragraph in boldface or italicized text is not allowed.

6. Tables

The "ceurart" document class includes the "booktabs" package — https://ctan.org/pkg/booktabs — for preparing high-quality tables.

Table captions are placed *above* the table.

Because tables cannot be split across pages, the best placement for them is typically the top of the page nearest their initial cite. To ensure this proper "floating" placement of tables, use the environment `table` to enclose the table's contents and the table caption. The contents of the table itself must go in the `tabular` environment, to be aligned properly in rows and columns, with the desired horizontal and vertical rules.

Immediately following this sentence is the point at which Table 1 is included in the input file; compare the placement of the table here with the table in the printed output of this document.

To set a wider table, which takes up the whole width of the page's live area, use the environment `table*` to enclose the table's contents and the table caption. As with a single-column table, this wide table will "float" to a location deemed more desirable. Immediately following this sentence is the point at which Table 2 is included in the input file; again, it is instructive to compare the placement of the table here with the table in the printed output of this document.

7. Math Equations

You may want to display math equations in three distinct styles: inline, numbered or non-numbered dis-

Table 2
Some Typical Commands

Command	A Number	Comments
\author	100	Author
\table	300	For tables
\table*	400	For wider tables

play. Each of the three are discussed in the next sections.

7.1. Inline (In-text) Equations

A formula that appears in the running text is called an inline or in-text formula. It is produced by the `math` environment, which can be invoked with the usual \begi ...\end construction or with the short form $ ...$. You can use any of the symbols and structures, from α to ω, available in LaTeX [1]; this section will simply show a few examples of in-text equations in context. Notice how this equation: $\lim_{n\to\infty} \frac{1}{n} = 0$, set here in in-line math style, looks slightly different when set in display style. (See next section).

7.2. Display Equations

A numbered display equation—one set off by vertical space from the text and centered horizontally—is produced by the `equation` environment. An unnumbered display equation is produced by the `displaymath` environment.

Again, in either environment, you can use any of the symbols and structures available in LaTeX; this section will just give a couple of examples of display equations in context. First, consider the equation, shown as an inline equation above:

$$\lim_{n\to\infty} \frac{1}{n} = 0. \tag{1}$$

Notice how it is formatted somewhat differently in the `displaymath` environment. Now, we'll enter an unnumbered equation:

$$S_n = \sum_{i=1}^{n} x_i,$$

and follow it with another numbered equation:

$$\lim_{x\to 0}(1 + x)^{1/x} = e \tag{2}$$

just to demonstrate LaTeX's able handling of numbering.

Figure 1: 1907 Franklin Model D roadster. Photograph by Harris & Ewing, Inc. [Public domain], via Wikimedia Commons. (https://goo.gl/VLCRBB).

8. Figures

The "`figure`" environment should be used for figures. One or more images can be placed within a figure. If your figure contains third-party material, you must clearly identify it as such, as shown in the example below.

Your figures should contain a caption which describes the figure to the reader. Figure captions go below the figure. Your figures should also include a description suitable for screen readers, to assist the visually-challenged to better understand your work.

Figure captions are placed below the figure.

9. Citations and Bibliographies

The use of BibTeX for the preparation and formatting of one's references is strongly recommended. Authors' names should be complete — use full first names ("Donald E. Knuth") not initials ("D. E. Knuth") — and the salient identifying features of a reference should be included: title, year, volume, number, pages, article DOI, etc.

The bibliography is included in your source document with these two commands, placed just before the `\end{document}` command:

```
\bibliography{bibfile}
```

where "`bibfile`" is the name, without the "`.bib`" suffix, of the BibTeX file.

9.1. Some examples

A paginated journal article [2], an enumerated journal article [3], a reference to an entire issue [4], a monograph (whole book) [5], a monograph/whole book in a series (see 2a in spec. document) [6], a divisible-book such as an anthology or compilation [7] followed by the same example, however we only output the series if the volume number is given [8] (so series should not be present since it has no vol. no.), a chapter in a divisible book [9], a chapter in a divisible book in a series [10], a multi-volume work as book [11], an article in a proceedings (of a conference, symposium, workshop for example) (paginated proceedings article) [12], a proceedings article with all possible elements [13], an example of an enumerated proceedings article [14], an informally published work [15], a doctoral dissertation [16], a master's thesis: [17], an online document / world wide web resource [18, 19, 20], a video game (Case 1) [21] and (Case 2) [22] and [23] and (Case 3) a patent [24], work accepted for publication [25], prolific author [26] and [27]. Other cites might contain 'duplicate' DOI and URLs (some SIAM articles) [28]. Multi-volume works as books [29] and [30]. A couple of citations with DOIs: [31, 28]. Online citations: [32, 18]. Artifacts: [33] and [34].

10. Acknowledgments

Identification of funding sources and other support, and thanks to individuals and groups that assisted in the research and the preparation of the work should be included in an acknowledgment section, which is placed just before the reference section in your document.

This section has a special environment:

```
\begin{acknowledgments}
  These are different acknowledgments.
\end{acknowledgments}
```

so that the information contained therein can be more easily collected during the article metadata extraction phase, and to ensure consistency in the spelling of the section heading.

Authors should not prepare this section as a numbered or unnumbered `\section`; please use the "`acknowledgments`" environment.

11. Appendices

If your work needs an appendix, add it before the "`\end{document}`" command at the conclusion of your source document.

Start the appendix with the "`appendix`" command:

```
\appendix
```

and note that in the appendix, sections are lettered, not numbered. This document has two appendices, demonstrating the section and subsection identification method.

Acknowledgments

References

[1] L. Lamport, LaTeX: A Document Preparation System, Addison-Wesley, Reading, MA., 1986.

[2] P. S. Abril, R. Plant, The patent holder's dilemma: Buy, sell, or troll?, Communications of the ACM 50 (2007) 36–44. doi:10.1145/1188913.1188915.

[3] S. Cohen, W. Nutt, Y. Sagic, Deciding equivalances among conjunctive aggregate queries, J. ACM 54 (2007). doi:10.1145/1219092.1219093.

[4] J. Cohen (Ed.), Special issue: Digital Libraries, volume 39, 1996.

[5] D. Kosiur, Understanding Policy-Based Networking, 2nd. ed., Wiley, New York, NY, 2001.

[6] D. Harel, First-Order Dynamic Logic, volume 68 of Lecture Notes in Computer Science, Springer-Verlag, New York, NY, 1979. doi:10.1007/3-540-09237-4.

[7] I. Editor (Ed.), The title of book one, volume 9 of The name of the series one, 1st. ed., University of Chicago Press, Chicago, 2007. doi:10.1007/3-540-09237-4.

[8] I. Editor (Ed.), The title of book two, The name of the series two, 2nd. ed., University of Chicago Press, Chicago, 2008. doi:10.1007/3-540-09237-4.

[9] A. Z. Spector, Achieving application requirements, in: S. Mullender (Ed.), Distributed Systems, 2nd. ed., ACM Press, New York, NY, 1990, pp. 19–33. doi:10.1145/90417.90738.

[10] B. P. Douglass, D. Harel, M. B. Trakhtenbrot, Statecarts in use: structured analysis and object-orientation, in: G. Rozenberg, F. W. Vaandrager (Eds.), Lectures on Embedded Systems, volume 1494 of *Lecture Notes in Computer Science*, Springer-Verlag, London, 1998, pp. 368–394. doi:10.1007/3-540-65193-4_29.

[11] D. E. Knuth, The Art of Computer Programming, Vol. 1: Fundamental Algorithms (3rd. ed.), Addison Wesley Longman Publishing Co., Inc., 1997.

[12] S. Andler, Predicate path expressions, in: Proceedings of the 6th. ACM SIGACT-SIGPLAN symposium on Principles of Programming Languages, POPL '79, ACM Press, New York, NY, 1979, pp. 226–236. doi:10.1145/567752.567774.

[13] S. W. Smith, An experiment in bibliographic mark-up: Parsing metadata for xml export, in: R. N. Smythe, A. Noble (Eds.), Proceedings of the 3rd. annual workshop on Librarians and Computers, volume 3 of *LAC '10*, Paparazzi Press, Milan Italy, 2010, pp. 422–431. doi:99.9999/woot07-S422.

[14] M. V. Gundy, D. Balzarotti, G. Vigna, Catch me, if you can: Evading network signatures with web-based polymorphic worms, in: Proceedings of the first USENIX workshop on Offensive Technologies, WOOT '07, USENIX Association, Berkley, CA, 2007.

[15] D. Harel, LOGICS of Programs: AXIOMATICS and DESCRIPTIVE POWER, MIT Research Lab Technical Report TR-200, Massachusetts Institute of Technology, Cambridge, MA, 1978.

[16] K. L. Clarkson, Algorithms for Closest-Point Problems (Computational Geometry), Ph.D. thesis, Stanford University, Palo Alto, CA, 1985. UMI Order Number: AAT 8506171.

[17] D. A. Anisi, Optimal Motion Control of a Ground Vehicle, Master's thesis, Royal Institute of Technology (KTH), Stockholm, Sweden, 2003.

[18] H. Thornburg, Introduction to bayesian statistics, 2001. URL: http://ccrma.stanford.edu/~jos/bayes/bayes.html.

[19] R. Ablamowicz, B. Fauser, Clifford: a maple 11 package for clifford algebra computations, version 11, 2007. URL: http://math.tntech.edu/rafal/cliff11/index.html.

[20] Poker-Edge.Com, Stats and analysis, 2006. URL: http://www.poker-edge.com/stats.php.

[21] B. Obama, A more perfect union, Video, 2008. URL: http://video.google.com/videoplay?docid=6528042696351994555.

[22] D. Novak, Solder man, in: ACM SIGGRAPH 2003 Video Review on Animation theater Program: Part I - Vol. 145 (July 27–27, 2003), ACM Press, New York, NY, 2003, p. 4. URL: http://video.google.com/videoplay?docid=6528042696351994555. doi:99.9999/woot07-S422.

[23] N. Lee, Interview with bill kinder: January 13, 2005, Comput. Entertain. 3 (2005). doi:10.1145/1057270.1057278.

[24] J. Scientist, The fountain of youth, 2009. Patent No. 12345, Filed July 1st., 2008, Issued Aug. 9th., 2009.

[25] B. Rous, The enabling of digital libraries, Digital Libraries 12 (2008). To appear.

[26] M. Saeedi, M. S. Zamani, M. Sedighi, A library-based synthesis methodology for reversible logic, Microelectron. J. 41 (2010) 185–194.

[27] M. Saeedi, M. S. Zamani, M. Sedighi, Z. Sasanian, Synthesis of reversible circuit using cycle-based approach, J. Emerg. Technol. Comput. Syst. 6 (2010).

[28] M. Kirschmer, J. Voight, Algorithmic enumeration of ideal classes for quaternion orders, SIAM J. Comput. 39 (2010) 1714–1747. URL: http://dx.doi.org/10.1137/080734467. doi:10.1137/080734467.

[29] L. Hörmander, The analysis of linear partial differential operators. IV, volume 275 of *Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences]*, Springer-Verlag, Berlin, Germany, 1985. Fourier integral operators.

[30] L. Hörmander, The analysis of linear partial differential operators. III, volume 275 of *Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences]*, Springer-Verlag, Berlin, Germany, 1985. Pseudodifferential operators.

[31] IEEE, Ieee tcsc executive committee, in: Proceedings of the IEEE International Conference on Web Services, ICWS '04, IEEE Computer Society, Washington, DC, USA, 2004, pp. 21–22. doi:10.1109/ICWS.2004.64.

[32] TUG, Institutional members of the TeX users group, 2017. URL: http://www.tug.org/instmem.html.

[33] R Core Team, R: A language and environment for statistical computing, 2019. URL: https://www.R-project.org/.

[34] S. Anzaroot, A. McCallum, UMass citation field extraction dataset, 2013. URL: http://www.iesl.cs.umass.edu/data/data-umasscitationfield.

A. Research Methods

A.1. Part One

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi malesuada, quam in pulvinar varius, metus nunc fermentum urna, id sollicitudin purus odio sit amet enim. Aliquam ullamcorper eu ipsum vel mollis. Curabitur quis dictum nisl. Phasellus vel semper risus, et lacinia dolor. Integer ultricies commodo sem nec semper.

A.2. Part Two

Etiam commodo feugiat nisl pulvinar pellentesque. Etiam auctor sodales ligula, non varius nibh pulvinar semper. Suspendisse nec lectus non ipsum convallis congue hendrerit vitae sapien. Donec at laoreet eros. Vivamus non purus placerat, scelerisque diam eu, cursus ante. Etiam aliquam tortor auctor efficitur mattis.

B. Online Resources

Nam id fermentum dui. Suspendisse sagittis tortor a nulla mollis, in pulvinar ex pretium. Sed interdum orci quis metus euismod, et sagittis enim maximus. Vestibulum gravida massa ut felis suscipit congue. Quisque mattis elit a risus ultrices commodo venenatis eget dui. Etiam sagittis eleifend elementum.

Nam interdum magna at lectus dignissim, ac dignissim lorem rhoncus. Maecenas eu arcu ac neque placerat aliquam. Nunc pulvinar massa et mattis lacinia.