The **easychair** Class File Documentation and Guide, for Authors and Editors

Serguei A. Mokhov[*]
Concordia University
Montreal, Quebec, Canada
mokhov@cse.concordia.ca

Geoff Sutcliffe[†]
University of Miami
Miami, Florida, U.S.A.
geoff@cs.miami.edu

Andrei Voronkov[‡]
University of Manchester
Manchester, U.K.
andrei@voronkov.com

Abstract

In order to ease the lives of authors, editors, and trees, we present an easy-to-read guide to the easy-to-use **easychair** LaTeX2e document style class for EasyChair-based electronic and on-paper publishing of workshop and conference proceedings.

1 Introduction

The **easychair** class was designed to be easy to use, and specifically favoring electronic and on-paper publishing by the EasyChair conference system [33]. EasyChair is a free conference management system that is flexible, easy to use, and has many features to make it suitable for various conference models. It is currently probably the most commonly used conference management system [33]. The **easychair** class was designed according to some requirements, which are described in Appendix A.

Figure 1: EasyChair logo

2 Typesetting

Typesetting with **easychair** is, well, easy. Just by using the document class entry in the document's preamble as follows: `\documentclass{easychair}` the typesetting work is nearly done. The **easychair** class is a relatively conservative extension of the standard `article` class, so most of the environments, section headers, etc. defined by `article` are available.

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[*]Designed and implemented the class style
[†]Did numerous tests and provided a lot of suggestions
[‡]Masterminded EasyChair and created version 3.0 of the class style

2.1   Generalities

The following are the general default parameters easychair introduces into the typesetting aspect of articles. If you use easychair for proceedings or other kinds of publishing through EasyChair, do not alter these – papers deviating from the formatting standards will be rejected by Easy-Chair.

1. The default paper size is US letter. It can be explicitly set to A4 (`a4paper`) or letter (`letterpaper`) paper in the document class entry, e.g.:
   `\documentclass[a4paper]{easychair}`

2. The print area for both letter and A4 paper sizes is 145x224 mm. This size has been selected to allow for inexpensive printing using our current print-on-demand publisher.

3. The base font is Computer Modern, and the sans-serif font is Helvetica. The base font size is 10pt.

4. The references list is condensed. The default bibliography styles, such as `plain`, `abbrv`, and `alpha`, are suggested.

5. PNG, JPG, and PDF images are supported, i.e., those that are supported by the standard `graphicx` package [2], and render nicely in online versions of PDF documents. This document shows some examples of JPG and PDF images, in Figures 1, 2, and 3. If the papers are designed for publishing in print, the images should be at least 300dpi in resolution.

Figure 2: Easy Chair

2.2   Front Matter

The front matter of an easychair article follows the `article` style, augmented with the `\titlerunning` and `\authorrunning` commands for use by authors, and the `\volumeinfo` for use by editors. For the `\author` command with multiple authors, use `\and` to separate authors from different institutions, as done in this document. If the authors are from the same institution they can be separated by commas or `\\` preceding their institution. If the order of authors from the same institution is not consecutive, follow the same principle as for authors from the separate institutions. Authors must set the `\titlerunning` and `\authorrunning`. Listing 1 is the authors' front matter of this document.

```
\title{The {\easychair} Class File \\
Documentation and Guide, for Authors and Editors}
\titlerunning{The {\easychair} Class File}

\author{
    Serguei A. Mokhov\thanks{Did all the difficult work}\\
    \affiliation{Concordia University}\\
    \affiliation{Montreal, Quebec, Canada}\\
    \affiliation{\url{mokhov@cse.concordia.ca}}\\
\and
    Geoff Sutcliffe\thanks{Did numerous tests and provided a lot of suggestions}\\
    \affiliation{University of Miami}\\
    \affiliation{Miami, Florida, U.S.A.}\\
    \affiliation{\url{geoff@cs.miami.edu}}\\
\and
    Andrei Voronkov\thanks{Masterminded EasyChair and created version
      3.0 of the class style}\\
    \affiliation{University of Manchester}\\
    \affiliation{Manchester, U.K.}\\
    \affiliation{\url{andrei@voronkov.com}}
}
\authorrunning{Mokhov, Sutcliffe, and Voronkov}

\maketitle
```

Listing 1: Example Front Matter

2.3   For Editors not Using EasyChair

If you are not a proceedings volume editor or a volume editor who creates a volume in EasyChair, you may safely skip this section. EasyChair has its own environment for producing volumes and automates editor's work.

The editors have a command to the starting page number, volume and issue numbers, etc. For example,

```
\volumeinfo
    {J. Bloe}   % editor(s)
    {1}         % No. of editors
    {CONF 2009} % event title
    {1}         % volume number
    {4}         % issue
    {134}       % starting page number
```

The command goes into the front matter of the document. The first parameter is the editor(s)'s name(s). The second parameter is the number of the editors: if there is more than one then the label "(ed.)" becomes plural "(eds.)". If you do not require volume information for your proceedings, simple do not use the command. If you don't have either the volume number or issue fields, enter 0 (zero) in the corresponding parameters. The rest of the parameters are self-explanatory.

2.4   Page Numbering

Page numbers are at the bottom of every page. Authors must leave the page numbers in as-is. When the proceedings are prepared, the volume editors will insert the page numbers (see Section 2.3). If EasyChair is used for preparing the volume, it will take care of page numbering.

2.5   Section Headings

Section and paragraph headings in easychair are invoked via the standard commands, such as \section, \subsection, \subsubsection, and \paragraph. Generally, every non-trivial word must be capitalized according to general capitalization guidelines. A reasonable rule to use is that all prepositions, coordinating conjunctions and articles having four or fewer letters should not be capitalized. If you do not know what it means, simply do not capitalize the following words: *amid, anti, as, at, atop, but, by, down, for, from, in, into, like, near, next, of, off, on, onto, out, over, pace, past, per, plus, qua, save, than, till, to, up, upon, via, with, for, and, nor, but, or, yet, so, a, an, the.*

Paragraph headings should have a trailing period. See the examples in this document, e.g., Section 2 is a section, this (Section 2.5) is a subsection, and Section 2.5.1 is a subsubsection.

2.5.1   Subsubsection Header

This is a subsubsection.

Paragraph header.   This is a paragraph. One way of saving space when hyper-references are not essential is to use paragraphs instead of subsubsections.

2.6   Mathematics

Mathematics can be done inline for simple things, e.g., an equation $x = 0$, possibly with super and subscripts, e.g., $x_k^2 \approx 27$, Greek letters, e.g., $\alpha \cup \Theta \neq \gamma$, etc. Larger formulae must be done using \[\] bracketing, e.g.,

$$\int_0^1 x dx = \left[\frac{1}{2}x^2\right]_0^1 = \frac{1}{2}$$

or using \begin{equation} and \end{equation} for numbered equations, e.g.,

$$e^x = \sum_{n=0}^{\infty} \frac{x^n}{n!} = \lim_{n \to \infty} (1 + x/n)^n \tag{1}$$

Use \begin{align*} and \end{align*} (or without the * include number) to align equations, e.g.,

$$x^2 + y^2 = 1$$
$$y = \sqrt{1 - x^2}$$

Fonts, using \matcal and others can also be used in the math mode: $\mathcal{ALC}$.

2.7   Tables

Table 1 shows an example of a table of data that was conveniently available (i.e., the data has nothing to do with easychair) apart from being related to the research of two of its authors.

ATP System	LTB /100	Avg time	Prfs out	SOTA Con.	μ Eff.	CYC /35	MZR /40	SMO /25
Vampire-LTB 11.0	69	24.5	69	0.37	28.1	23	22	24
iProver-SInE 0.7	67	76.5	0	0.36	8.8	28	14	25
SInE 0.4	64	75.3	64	0.32	8.5	26	13	25
leanCoP-SInE 2.1	35	110.8	35	0.23	3.2	23	1	11
E-LTB 1.1pre	18	63.4	0	0.21	2.8	7	9	2
EP-LTB 1.1pre	18	77.8	18	0.21	2.3	7	9	2
E-KRH'-LTB 1.1.3	0	–	–	–	–	0	0	0

Table 1: LTB division results

2.8   References

References must be provided in a `.bib` file, so that BIBTEX can be used to generate the references in a consistent style in a volume. The preferred styles are `plain` and `alpha`. For example, the references for this paper are generated from the lines

```
\bibliographystyle{plain}
\bibliography{easychair}
```

and a way to compose the entires, e.g. citing this class style [13] is below:

```
@misc
{
  easychair-latex-class,
  author       = {Serguei A. Mokhov and Geoff Sutcliffe and Andrei Voronkov},
  title        = {The {\sf easychair} Class File Documentation and Guide,
                  for Authors and Editors},
  year         = {2008--2010},
  howpublished = {[online]},
  note         = {Available at \url{http://easychair.org/easychair.zip}}
}
```

3   Installation and Usage Instructions

3.1   Installation

The "installation" of the easychair document class is easy. Download the `easychair.zip` package from `http://www.easychair.org/easychair.zip` and unzip it in the directory where you will prepare your paper. You will get the following files, out of which you may need to keep only the `easychair.cls` style class if you are familiar with the rest of the files and do not require them to get started. We are also working to make easychair available from CTAN [27], such that it can be installed with the popular TEXLive [18] and MiKTEX [19] LATEXpackage management systems.

- `easychair.cls` – the class file that this is all about.

- `easychair-letter.pdf` – the PDF version of this guide rendered using the `letterpaper` option, and `easychair-a4.pdf` – the PDF version of this guide rendered using `a4paper` option.

- `easychair.tex` – the LaTeX source of this guide, and `easychair.bib` – the supporting bibliography entries found starting on page 8.

- `Makefile` – a "project" file for `make`, to automate compilation of this document on UNIX/Linux-like platforms, and `easychair.tcp` – a "project" file for TeXnicCenter, to automate compilation of this document on Windows. See Section 3.4.

- `logoEC.pdf` – the PDF version of the EasyChair logo rendered in Figure 1, `chairEC.pdf` – the PDF version of the easy chair rendered in Figure 2, and `throneEC.jpg` – the JPG version of the easy throne rendered in Figure 3.

3.2 Required Packages

The easychair class relies only on packages deemed standard and shipped by most LaTeX distributions in the worlds of Linux (current `texlive` [18] or older `tetex`), MacOS X, and Windows (via Cygwin or MiKTeX). If for some reason your distribution is old or doesn't have the packages listed below, you can always obtain a copy from CTAN [27].

- `inputenc` [10] – with the default option `utf8`, primarily to allow for UTF-8 characters.

- `url` [1] (included also by `hyperref` automatically) – to provide URL rendering support for the monospaced font, which takes care of special characters as well as line wrapping.

- `hyperref` [17] – to allow hyperlinking of URLs and cross references within an article. Its options are set to either `letterpaper` or `a4paper`, depending on the `\documentclass` options.

- `graphicx` [2] – the standard package for rendering PNG, JPG, and PDF graphic images, primarily in `figure` environments.

- optional `mathptmx` [20] – Times base font for compactness (use with the `withtimes` easychair option).

- `helvet` [21] – Helvetica as sans-serif.

- `listings` [14] – to allow highlighted source code listing styles.

- `latexsym` [29] – to provide common math and other symbols.

- `amsthm` [26] – to provide $\mathcal{AMS}$ theorem-like environments.

- `empheq` [9] – to provide equation environments, etc.

- `geometry` [31] – to set easychair margins, outlined in Section 2.1.

- `lastpage` [6] – to allow computationally referencing the last page.

- `fancyhdr` [32] – for running heads.

- `footmisc` [3] – to ensure that footnotes are always at the bottom.

- optional `makeidx` [30] – for index generation (use with the `thesis` easychair option).

- `eso-pic` [15] – for draft versions and checking page overflows vs. a border drawn around the headers, footers, and the main body of the article.

3.3   Recommended Packages

Here is a list of some packages that this guide's authors have experimented with, and which are suitable for inclusion if needed by article authors. These packages must be loaded using `\usepackage`. In general, authors may use any standard packages provided they do not change the basic layout and font settings established by the easychair class. Such packages must be provided with the submission of articles.

- `rotating` [4] – to rotate floats (figures and tables) on the page, when wide tables or figures do not fit in portrait layout.

- `pdflscape` [16] – similar to `rotating`, but also allows rotating text to make it conveniently viewable in a PDF viewer that supports individual rotated pages. A possible disadvantage is that a page break is forced, which may create gaps before or after the landscape page.

- `algorithm2e` [5] – provides a figure-like algorithm environment for formal algorithm presentation with highlighting.

3.4   Compiling

`pdflatex` [8] is the preferred tool for producing PDF files with easychair class documents. The author kit (`easychair.zip`) includes some minimal automation that authors can use at their discretion.

- Linux and UNIX-like platforms (also works under Cygwin and MacOS X): A `Makefile` is provided for the GNU `make` [23] utility, so this document can be compiled by typing `make` at the terminal prompt (on the systems where both GNU and non-GNU versions of `make` are installed, one may need to use `gmake`).

- Microsoft Windows: TEXnicCenter [34] or LEd [22] and MiKTEX [19] as their backend are common tools for LATEX processing under Microsoft Windows. The former provide a GUI front-end to LATEX, and the latter is the Windows native-compiled binaries and standard packages with a comprehensive package update tool. The `easychair.tcp` project file is provided for TEXnicCenter users, as well as `easychair.lpr` for LEd users.

- MacOS X: TeXShop [11] is a tool for LATEX processing under Mac OS X. It provides a GUI front-end to LATEX. The backend can be installed through the `fink` [28] repository or the Darwin Ports.

3.5   Bug Reports

Please report bugs, errors, and omissions you find with the easychair class to its current maintainer, Andrei Voronkov, at `andrei@voronkov.com`. Any *constructive* feedback is always welcome. If anybody has a very hard question, we might be unable to answer it without Sergei. If anybody knows his whereabouts, Geoff and Andrei have the ransom money ready.

4   Conclusion

An article that occupies approximately 15 LNCS-formatted pages takes up approximately 14 easychair pages.

4.1 Future Work

We plan to further strengthen the easychair class and promote it for electronic publishing for EasyChair-powered conferences and workshops, and take over the world, as shown in Figure 3.
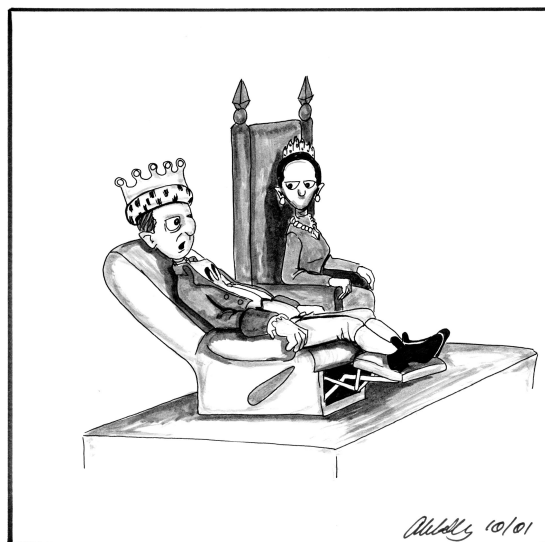
"Because I like it better than the old one,
that's why."

Figure 3: Easy Throne

4.2 Acknowledgments

- Aleksander Kosenkov for the graphics that are used here and on the EasyChair website [33].

- The CTAN [27] and LaTeX communities [34, 19].

- Leslie Lamport for LaTeX [12].

- Peter Grogono for his neat kickstart LaTeX introduction [7].

- Guilin Qi, Jasmin Christian Blanchette, Leslie Lamport, Uwe Pfeiffer, and others for constructive feedback on the style, most of which got incorporated into the version 2 of the class style.

4.3 History

- easychair version 3.0 – May 2011, changed to use a 10pt font.

- easychair version 2.0 – April 2010

- easychair version 1.0 – June 2008, initial release, used in ESARM'08 [24, 25] and 5 other workshops [33].

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A   **easychair** Requirements Specification

The following high-level requirements were set for the development of the easychair class, and were refined as development went along.

1. The style should be easy to use. The average LATEX user should not need to read a long manual.

2. It should be economical in space but the text should be nice-to-read.

3. It should use fonts producing a reasonable-quality PDF.

4. The bibliography should produce hyperlinks.

5. Sections should produce menu sections in PDF.

6. The text should look good on both A4 and letter paper.

7. The style should be single-column.

8. The print area should be convenient for printing using print-on-demand publishers.

9. Running heads.

10. A way to specify the first page number.

11. A way to specify the volume name and number, and have it printed.