INSTRUCTIONS TO USE NJC STYLE FILES

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Abstract. Each paper must include an abstract that summarizes the paper. Recommended length is at most 150 words. The abstract should not contain any references or displayed equations. LaTeX-environment is `abstract`.

ACM CCS Categories and Subject Descriptors: Each paper should provide the ACM CCS Categories and Subject Descriptors (see e.g. at http://www.acm.org/class/1998/). LaTeX-environment is `subject`.

Key words: List of keywords (4–6). LaTeX-environment is `keywords`.

1. Introduction

N J C encourages the authors to use LaTeX in preparing the manuscripts with the LaTeX style file `njcarticle.cls` and the BibTeX style file `njcarticle.bst`. The figures must be either in the LaTeX `picture` environment or in Encapsuled Postscript.

This document describes how the LaTeX style file `njcarticle.cls` and the BibTeX style file `njcarticle.bst` are to be used. The files can be obtained through anonymous `ftp`, as follows:

```
%ftp ftp.cs.Helsinki.FI
Name: anonymous
Password: <your email address>
ftp> cd pub/Nordic_Journal_of_Computing/Style_Files
ftp> get njcarticle.cls
ftp> get njcepsmacros.sty
ftp> get njcarticle.bst
ftp> get njcdoc2e.tex
ftp> get njcdoc.bib
ftp> get njclogo.ps
ftp> quit
```

The LaTeX-file of an accepted paper, in the final form, should be send through email to `njc@cs.Helsinki.FI`. If the paper contains Encapsuled Postscript files and/or BibTeX is used send the files separately and an email that explains the files sent.

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2. General

The LaTeX style file `njcarticle.cls` does not accept any options. In `\documentstyle`-command all options given in brackets are simply omitted. The layout of page should not be changed.

Redundant spaces ought to be minimized by careful arrangement of tables and figures. Read your `.log` file carefully. Remember there should be no `Overfull \hbox` (as here) and certainly no visible one (more than `1pt`). If necessary, reword the text. The preamble command `\draft` can be used to produce a visible overfullrulebox in the margin.

The style file provides macros to create running heads. The `\authorhead` contains the authors' names as "Fistname Surname", "F. Surname1, F. Surname2", and "F. Surname1, F. Surname2, F. Surname3" for up to three authors, and "Surname1 et al." for four or more authors. The `\titlehead` contains a short form of the title, not more than 30 characters.

The argument of `title`-command must be written in capitals. When the paper has more than one author, the authors in the argument of `author`-command are separated by usual `\and`-command or by `\AND`-command that inserts vertical glue between the blocks of authors' names, affiliations, etc.

Neither footnotes nor appendices should be used. However, if appendices are really necessary, their place is after **Acknowledgements** and before **References**.

3. Sectioning, numbering, etc.

3.1 Sectioning

The following three LaTeX-sectioning commands are available:
`\section`, `\subsection`, and `\subsubsection`.

3.2 Numbering

The numbering of displayed equations, theorems, figures, tables, and other "numbered" environments follows one of two styles: either consecutive in each section, or consecutive through the whole paper (default). If you prefer the first style, the style file provides `\twolevelnumbering`-command. The argument of the command is a list of environments that are numbered consecutively in each section, e.g.

```
\twolevelnumbering{figure,equation,theorem}
```

Tables should be referred to "Table I". Equations and figures should be referred to in abbreviated forms: "Eq. (4.1)" and "Fig. 5.1". Use macros `\eqnref{`*eqn-label*`}`, `\figref{`*fig-label*`}`, and `\tableref{`*tab-label*`}` to generate the references.

3.3 Lists of items

The depths of LaTeX-environments `itemize` and `enumerate` are restricted to two.

3.4 Spacing before and after environments

Extra space is added at the top of list if the input file has a blank line before any list-making environment. The vertical space after the environment is the same as the one preceding it. The list-making environments are: `quote`, `quotation`, `verse`, `itemize`, `enumerate`, `description`, `center`, `flushleft`, and `flushright`, as well as the theorem-like environments.

3.5 Tabbing environment

The style file defines `\tabbingstretch` to specify the strut to be used in the `tabbing` environment. The functionality of `\tabbingstretch` is the same as that of `\arraystretch` in `array` and `tabular` environments.

4. Theorem-like environments

The style file defines the following theorem-like environments:

`theorem`	`proposition`	`claim`	`fact`
`lemma`	`definition`	`problem`	`remark`
`corollary`	`conjecture`	`example`	`observation`

These are "numbered" environments. The style file also defines the corresponding "unnumbered" environments: `theorem*`, ..., `observation*`. The proofs can be typed within the environment `proof`.

For example, the LaTeX source

```
\begin{theorem}[Chebychev's Inequality]
If $X$ is any random variable, then
\begin{equation}
\Pr[|X|\ge a] \le \mbox{\rm E}(X^2)/a^2\;.
\label{eqn:example}
\end{equation}
\end{theorem}
```

produces

T 1. (C ' I) *If X is any random variable, then*

$$\Pr[|X| \geq a] \leq \mathrm{E}(X^2)/a^2\;. \tag{4.1}$$

P . If $F(x)$ denotes the distribution function of the random variable X, then

$$\Pr[|X| \geq a] = \int_{|x|\geq a} d\,F(x)\;.$$

Since in the region of integration $|x|/a \geq 1$, it follows that

$$\int_{|x|\geq a} d\,F(x) \leq \frac{1}{a^2}\int_{|x|\geq a} x^2\,d\,F(x)\;.$$

By extending the integration to all values of x, we merely strengthen the inequality:

$$\int_{|x|\geq a} d\,F(x) \leq \frac{1}{a^2}\int_{|x|\geq a} x^2\,d\,F(x) \leq \frac{1}{a^2}\int x^2\,d\,F(x) = \mathrm{E}(X^2)/a^2\;. \ \square$$

When a proof ends with a displayed equation as above, the box "□" should be at the right end of the formula rather than at the beginning of the next line. In this case, the box must be inserted through `\qed` at the end of the equation, and a blank line must be left between the closing of the equation and the `\end{proof}`. (See the source of these instructions.)

5. Figures and tables

Figures and tables are to be inserted in the text nearest their first reference. They should be arranged so as not to cause an excessive amount of blank space on the remainder of the page.

The captions are centered below the figures and above the tables. If a table needs to extend over to a second page, the continuation of the table should have a caption: "Table II *(cont.)*". Macro `\continued` generates this caption. Example:

```
\begin{table}
\continued   % Instead of \caption
   ...
\end{table}
```

Fig. 5.1 is an example of inserting an Encapsuled Postscript file. The style file provides the command `\usenjcepsmacros` to read the option file `njceps-macros.sty`. The Encapsuled Postscript file is inserted using the command:

`\makeepsbox[`*pos*`]{`*filename*`}[`*scaling*`]`

The optional argument *pos* tells how the box is placed on the page:
`c` centered (default)
`l` leftmargin justified
`r` rightmargin justified

The optional argument *scaling* tells how the eps-file is to be scaled. The possible values of the argument are:
`scale=<factor>` scaling factor = `<factor>/1000`
`width=<dimen>` scaling factor = `<dimen>/<natural_width>`
`height=<dimen>` scaling factor = `<dimen>/<natural_height>`

Since the TEX-command `\special` is used, all device drivers may not understand the format. If your driver has problems, you can use `\epsdraft`-command in the preamble. This command changes the `\makeepsbox`-command to omit the `\special`-command. In this case the only visible effect is reservation of space.

Observe that an Encapsuled Postscript file must begin with "`%!`" and must contain a commentline

```
%%BoundingBox: llx lly urx ury
```

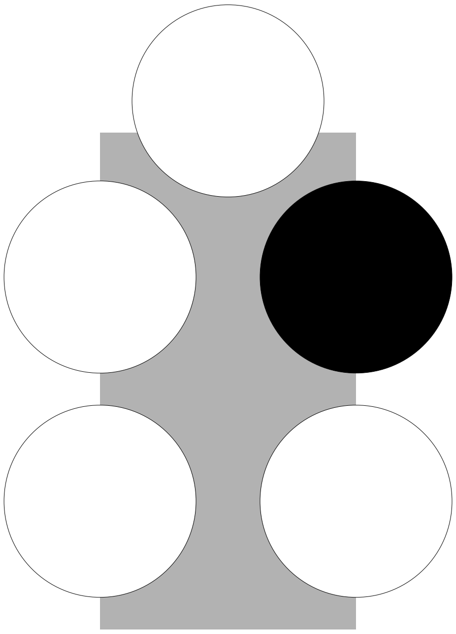

Fig. 5.1: An example.

If the BoundingBox-comment is not found, the file is omitted.

Remember that **previously published material must be accompanied by written permission from the author and publisher!**

6. References

The preferred style of referring to the bibliography is: "Raatikainen [1993] proposed to use the Bonferroni inequality [see Kleijnen 1987, pp. 41–43; Law and Kelton 1991, Ch. 9.4]."

Note that the years are in brackets in the running text, but without brackets if the reference itself is in brackets. For three or more authors, use *et al.* Several papers in the same year are distinguished as "Raatikainen 1994a, Raatikainen 1994b". When an article has more than two authors, the citation should be Kojo *et al.* [1996].

The second possible style is to use numbered references and the standard LaTeX-environment `thebibliography`.

The style file provides the command `\njccitationstyle` to activate the preferred citation style. The following macros are defined to simplify the preferred style:

macro	procudes
`\cite{bibreflabel}`	“Author [Year]”
`\cite[note]{bibreflabel}`	“Author [Year, note]”
`\shortcite{bibreflabel}`	“Author Year”
`\shortcite[note]{bibreflabel}`	“Author Year, note”
`\citeauthor{bibreflabel}`	“Author”
`\citeyear{bibreflabel}`	“Year”
`\bracketcite{bibreflabel}`	“[Author Year]”
`\bracketcite[note]{bibreflabel}`	“[Author Year, note]”
`\citemul{bibreflabel1,bibreflabel2}`	“Author [Year1, Year2]”

The macros above assume that your bibliography items are written as

```
\bibitem[{Author}{Year}]{bibreflabel}
\bibitem[{Author}{Year1}]{bibreflabel1}
\bibitem[{Author}{Year2}]{bibreflabel2}
```

The BibTeX style file `njcarticle.bst` generates the bibliography items in the format above.

O that the `\citemul`-command assumes that the authors of the references are one person (or same persons): Raatikainen [1993, 1994a, 1994b].

7. Use of the style files

N J C provides the following files:

(1) `njcarticle.cls` contains the LaTeX code for producing camera-ready output accepted by N J C .

(2) `njcepsmacros.sty` contains the LaTeX code for including Encapsuled Postscript in the camera-ready output.

(3) `njcarticle.bst` contains the BibTeX code for producing a reference list suitable for N J C .

(4) `njcdoc2e.tex` contains the LaTeX-source of these instructions.

(5) `njcdoc.bib` contains the BibTeX-source of these instructions.

(6) `njclogo.ps` contains the Encapsuled Postscript file used in these instructions.

To format the document, type:

```
latex njcdoc2e
bibtex njcdoc2e
latex njcdoc2e
latex njcdoc2e
```

8. Disclaimer

The macros are not guaranteed to be free of errors. Any bugs, inconsistencies, suggestions, and other comments should be reported to N J C by email to `njc@cs.Helsinki.FI`.

Acknowledgements

This section comes before the References and is unnumbered. LaTeX-environment is `acknowledgements`.

References

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