The Maps style[*]

Abstract
This paper introduces the renewed Maps classfile and includes some usage notes.

Keywords
Maps Latex classfile Context module fonts

You may have noticed some changes to the Maps style: a simpler article title, different headers, no footers, a different choice of fonts.

The main motivation, from my part, was simply a desire for something new.

Fonts

The revised Maps makes use of free fonts exclusively: Bitstream Charter as main text font, Euler[1] for math and Latin Modern[2] for everything else.

There are some nice correspondences in letterforms between Charter and Latin Modern Sans. However, the large x-height of Charter and the small x-height of Latin Modern Sans makes them tricky to combine. Charter is scaled to 95% to compensate for this.

Unfortunately, smallcaps for Charter don't belong to the free set. Therefore, the Maps style does not use smallcaps.

Getting the Maps style

If you are writing for the Maps, you may want to format your paper yourself in the Maps style. There is no real need to do this; the standard Latex article style or simple Context markup serve just as well.

There should be a download link on http://www.ntg.nl/maps.html. The package includes Latex- and Context sample files. The Maps font setup has not been activated, in order to avoid unnecessary complexities and incompatibilities for authors.

Using the Latex version

Document class options
Layout options. The default Latex Maps layout is two-column, with the title and the optional subtitle over both columns. There are two single-column layouts, a
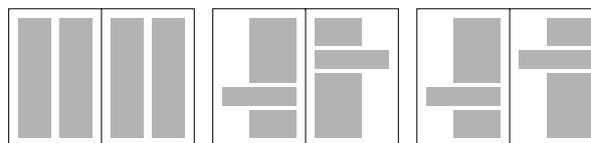
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[*]We thank the TeX Live people for providing us with a rich ready-to-run TeX environment.

Figure 1. The three Maps layouts: two-column, one-column and asymmetric. The latter two layouts each have 'wide' sections, sticking out into the wide margins.

symmetric one (document option `onecolumn`) and an asymmetric one (document option `asym`).

The default two-column layout option is implemented with the built-in Latex two-column option rather than with the `multicol` package.

Other document options. There are two additional options to tune the look of your paper:

☐ `nosubsub` defines only two different levels of sectioning. If you use the two-column layout and don't need more, then this option will probably improve the look of your paper.

☐ `deftables` suppresses extra vertical space around vertical rules in tabulars; see the section on tabulars.

Article start
An article may start like this:

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
\documentclass {maps}
\usepackage{graphicx}
\begin{document}
\author[Anton Ulrich Thor]{%
  Anton Ulrich Thor\\
  Institute of Indefinite Studies\\
  Unseen University\\
  Ankh Morpork\\
    \texttt{a.u.thor@uu.am.dw}}
\title[Short title]{%
  Long title,\\
  which may not fit one one line%
    \thanks{Whoever...}}
%\subtitle{An optional subtitle}

\maketitle

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

```
\end{abstract}

\begin{keywords}
Example, Maps, Latex
\end{keywords}

\section{A section}
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

The optional short author parameter will be used for the first and all odd page headers. The long author parameter, which has no particular structure, will be typeset at the end. You should include the optional parameter if the `author` command is long or complex or includes newlines.

Because the full author parameter is typeset at the very end, a `thanks` command is only supported for the title.

It is strongly recommended to include abstract- and keywords environments.

Section numbering
Use section numbers only if you actually refer to them. To encourage this, the classfile turns off section numbering even for sections. You can turn it back on with

```
\setcounter{secnumdepth}{..}
```

Lists
If you have lists with long entries and use the default two-column layout, give the `itemouter`, `enumouter` and `descript` environments a try. These avoid protracted indentation:

```
\begin{itemouter}
\item This is the first item of a
  non-indented itemized list,
  produced with the \texttt{itemouter}
  environment.
\item This is the second item.
\end{itemouter}
```

produces

☐ This is the first item of a non-indented itemized list, produced with the `itemouter` environment.

☐ This is the second item.

Tabulars
The Maps classfile adds some vertical space around horizontal rules in tables. This makes vertical rules look funny, but most of the time you are better off without vertical rules anyway; see table 1. If you really insist on vertical rules, use the `deftables` document option.

var	value	var	value
$Q_{s,max}$	0.18	$Q_{s,max}$	0.18
K_s	1.0	K_s	1.0
$Y_{x/s}$	0.5	$Y_{x/s}$	0.5
$Y_{p/s}$	0.854	$Y_{p/s}$	0.854
$Q_{p,max}$	0.0045	$Q_{p,max}$	0.0045
μ_{crit}	0.01	μ_{crit}	0.01
k_h	0.002	k_h	0.002
m_s	0.025	m_s	0.025

Table 1. Tabulars with and without vertical rules

Footnotes
Footnotes have been turned into endnotes. You need to manually add a command `\theendnotes` to get them to print. The title of the notes section is defined by the command `\notesname`.

Wide typesetting in single-column layout
For both single-column layouts, there are environments `fullwidth` and `verboutdent` which typeset their content across the full page, including most of the wide margin; see figure 1.

```
\begin{fullwidth}
x x x x x x x x x x x x x x x x x x x x x
x x x x x x x x x x x x x x x x x x x x x
x x x x x x x x x x x x x x x x x x x x x
x x x x x x x x x x x x x x x x x x x x x
\end{fullwidth}

\begin{verboutdent}
{}\/$xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
\end{verboutdent}
```

The implementation of `fullwidth` is rather simplistic and may easily break, in which case more sophisticated hackery will be needed.

The Context version

The Context version supports the same general layouts but not all the features of the Latex version. Consult the sample file in the Maps package.

Article start
A Context Maps article might start as follows:

```
% non-default layouts:
%\enablemode[onecolumn]
%\enablemode[asym]
% subsection lowest level of sectioning
%\enablemode[nosubsub]
\usemodule[map-se]
```

```
\starttext
\startArticle [%
   Page=13,
   Title={An example document},
   SubTitle={with an optional subtitle},
   Author={%
      Anton Ulrich Thor\\
      Institute of Indefinite Studies\\
      Unseen University\\
      Ankh Morpork\\
      \type{a.u.thor@uu.am.dw}},
   RunningAuthor={Anton Ulrich Thor}%
]

\startAbstract
...
\stopAbstract

\startKeywords
...
\stopKeywords

\section{...}
```

Section numbering
Use section numbers only if you actually refer to them. To encourage this, the Maps module turns off section numbering even for sections. You can turn them back on with

```
\setupheads [sectionnumber=yes]
```

Lists
A Context counterpart of the `itemouter` Latex environment is `outeritemize`:

```
\startouteritemize
\item ...
\item ...
\stopouteritemize
```

Full-width verbatims are also available:

```
\startwidetyping
...
\stopwidetyping
```

The Context version, like the Latex version, turns foot-notes into endnotes. You may want to put a command such as

```
\def\notesname{Footnotes}
```

in your preamble. You also need to explicitly place the footnotes:

```
\placefootnotes
```

More advice

As mentioned above, we certainly don't require authors to use the Maps style. We basically publish the Maps style because people ask for it. The Maps style is a work in progress anyway.

If you want to facilitate production, the following will make more of a difference to us:

□ Use clean, minimalist markup.

□ Don't try to fix typographic or layout problems yourself; your hacks are likely to get in our way.

□ Minimize your use of packages. Don't use packages that merely serve to improve the appearance of your paper.

□ Make sure you send a complete submission, including all the less-standard packages that you use.

□ Use eps, pdf, png or jpg formats for graphics; jpg only for photographs.

□ Don't convert screenshots to jpg; both compression rate and quality will be disappointing.

□ Include a pdf of your document, as a check for us.

Notes

1. The eulervm package by Walter Schmidt makes the Euler math font family a suitable drop-in replacement for Computer Modern, and combines well with many commercial fonts.
2. Latin Modern is a Type 1 reimplementation of Computer Modern with a large character set, which supports the T1 encoding.

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