Manual for PDF and HTML generation of your article

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This manual explains how the PDF and the HTML version of your article are created on SJS. SJS aims at achieving the best graphical quality through an entirely automated process. As this is far from trivial, you should know what we have and what we have not implemented so that you can have optimal control over the output of this process.

The PDF and HTML versions of your article are automatically generated from source files which must be provided in the LaTeX format (*i.e.* with .tex extension). SJS does not handle other formats such as .doc. **For users who do not know LaTeX**, we have specially designed a very efficient tutorial which is available at the **tutorial** pages of SJS. It has been successfully tested by many non-Latex users.

If the content of this manual is not adequate to solve any problem you might encounter, please report to michael@sjscience.org

1 PDF generation

SJS runs on an Ubuntu server using the latest LaTeXdistribution. To generate the PDF file, all files submitted by you during the publication process are put in the same folder and the command

```
latexmk -pdf your_main_text.tex
```

is run. Therefore, you have full control of the layout of the PDF file of your article: it should be exactly the same as what you designed on your computer. No change will be made except for a cover page which will be generated separately and added to the PDF file.

If your .tex file is standard, nothing should really go wrong. Common possible mistakes are:

- there was a bug when we generated the cover page. It can happen for example if you used a \cite or a \ref in the abstract. These macros cannot be used in the abstract as it is processed separately.
- you forgot to submit a figure file.

- figure files are given a special path in the .tex file. No path is needed as figures are stored in the same folder as the .tex.
- you enforced compilation options like dvips that are irrelevant to us.

The log file of *latexmk* will be always available anyway, should this first stage fail. If so, errors are generally reported at the end of this log file. If it is uninformative, the problem certainly occurred during the generation of the cover page.

2 HTML generation

To achieve the level of graphical quality of SJS, we developed from scratch our own HTML generator. It is not universal but has been tested on hundreds of .tex files downloaded from arXiv and proved to handle most of them with only minor and simple changes to do. We implemented a list of macros that are interpreted by our generator. In particular, the converter cannot understand other macros and does not read packages. The list of macros implemented was selected according to usage frequency. Therefore, anything you want to do can certainly be performed using these macros. Anyway, we will develop it further according to users' feedback.

Note that some commands or macros have no effect on the HTML output, although they do have one on the PDF output. This is done to optimize the visual rendering of the text. For example, the macros that control script size (e.g. \Huge) have no effect on the HTML version. They are known but affect only the PDF file.

All macros not listed below will just appear as text in the HTML, which might be very inconvenient for readers.

Here is the list of macros (blue) and environments (red) understood by SJS' HTML generator:

1. Preamble macros

   - \newcommand
   - \renewcommand
   - \DeclareMathOperator and \DeclareMathOperator*
   - \definecolor
   - \newtheorem
   - \theoremstyle

   Please note that \def is not implemented as it is considered a deprecated Tex command. \def\XX {*} can be simply rewritten as \newcommand{\XX}{*} or \renewcommand{\XX}{*} to be handled by SJS HTML generator. Note also that \newenvironment is not implemented yet.

2. Structure of the article

   - \section and \section*

- \subsection and \subsection*
- \subsubsection and \subsubsection*
- \paragraph and \paragraph*
- \footnote
- \\
- list
- enumerate
- appendix
- acknowledgment

3. Graphics

figure and figure*
with \includegraphics, \includegraphics*, \caption, \scalebox and \resizebox. Please write explicitly the extension of your image file (.eps, .pdf, .jpg, .png or .gif).

To have two figures displayed side-by-side, with individual captions (a) and (b) and a general caption, we propose the following code :

```
\begin{figure*}
\begin{tabular*}{\textwidth}{ p{0.46\textwidth} p{0.08\textwidth} p{0.46\textwidth} }
\includegraphics[width=0.46\textwidth ]{Figa.pdf} & &
\includegraphics[width=0.46\textwidth ]{Figb.pdf} \\
(a) \textit{Caption_a} & & (b) \textit{Caption_b}
\end{tabular*}
\caption{general_caption}
\label{your_label}
\end{figure*}
```

4. Tables

table, tabular and ruledtabular
with \hline and \caption (note : not possible yet to fuse rows or columns) If your table is more complex, please export it as an image.

5. Maths

- The powerful open source suite MathJax is used. MathJax manages very nicely a broad range of math environments but there are still some small restrictions though.
  Some examples worth citing here are:
  - Some packages, as *bm* or *cool* are not supported.
  - Some environments, as *subequations* or $$ . . . $$, are not supported (for the latter, use equation* instead)
  - \cite does not work in a context handled by MathJax
  - labelling a non-numbered equation (e.g. because \nonumber has been used) fails to generate the proper reference.
  - \bf is not supported by MathJax: \mathbf is the way

   - \newtheorem
   - \theoremstyle with argument **plain**, **remark** or **definition**
   - proof

6. Text

   - All special characters
   - Italic: \textit, \emph (\em is not supported)
   - bold: \textbf (\bf is not supported)
   - color: \textcolor, \color. \textcolor is to be preferred
   - scriptsize: normalsize, scriptsize, tiny, small, large, Large, LARGE, huge, Huge. For instance, use \begin{Large} . . . \end{Large} instead of {\Large . . . }.
   - police: \textsf, \texttt, \textsc
   - \par
   - verbatim and \verb

7. Layout Note: the following macros can be used to shape the PDF version but will have no effect on the HTML version.

   - flushleft
   - flushright
   - minipage
   - multicols, multicols*
   - centering : center (\centering and \centerline are not supported)
   - vertical space: \vspace, \smallskip, \medskip, \bigskip, \vfill
   - horizontal space: \hspace
   - page break: \newpage, \clearpage, \pagebreak, \nopagebreak, \eject
   - line break: \linebreak, \nolinebreak
   - \setlength, \addtolength

8. References and labelling

   - thebibliography
   - \bibliography
   - \bibliographystyle
   - \bibitem
   - \cite
   - \newblock

9. Hyperlinks

   - \label

- \ref
- \eqref
- \url
- \href