Using groff to prepare your paper

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ABSTRACT

groff (GNU troff) is a typesetting system that reads plain text mixed with formatting commands and produces formatted output. Output may be PostScript or PDF, HTML, or text for display at terminal. Present on most Unix/Linux systems owing to its long association with Unix manuals, *groff* is capable of producing typographically sophisticated documents while consuming only minimal system resources.

1. History

The first version of UNIX was developed on a PDP-7 which was sitting around Bell Labs. In 1971 the developers wanted to get a PDP-11 for further work on the operating system. In order to justify the cost for this system, they proposed that they would implement a document formatting system for the AT&T patents division. This first formatting program was a reimplementation of McIllroy's 'roff', written by J. F. Ossanna.

James Clark began work on a GNU implementation of 'ditroff' in early 1989. It was declared a stable (i.e. non-beta) package with the release of version 1.04 around November 1991.

2. Why using groff?

Although WYSIWYG† systems may be easier to use, they have a number of disadvantages compared to 'troff':

** They must be used on a graphics display to work on a document.

** Most of the WYSIWYG systems are either non-free or are not very portable.

** 'troff' is firmly entrenched in all UNIX systems.

** It is difficult to have a wide range of capabilities available within the confines of a GUI/window system.

** It is more difficult to make global changes to a document.

"GUIs normally make it simple to accomplish simple actions and impossible to accomplish complex actions." -Doug Gwyn (22/Jun/91 in 'comp.unix.wizards')

3. Table

This is an example of how to create table using tbl.

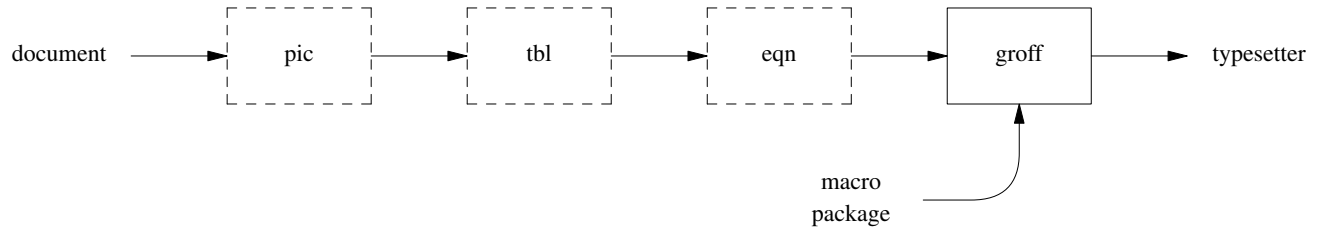| Table a01: Some well-known TCP Ports	
23	telnet
25	simple mail transfer protocal(SMTP)
80	hyper text transfer protocal(HTTP)
110	post office protocol(POP)

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† WYSIWYG: What you see is what you get.

4. Equation

This is an example of how to write math equation using eqn.

$$f(\zeta)- = -\frac{1}{2\pi i}\int\limits_C \frac{f(z)}{z-\zeta}\,dz \qquad\qquad (1.a01)$$

5. Picture

This is an example of how to draw picture using pic.

6. Convert it to pdf

Suppose your file has been saved as a01.ms, then you can convert it to a01.pdf using command as follows:

groff -t -e -p -ms a01.ms | ps2pdf - a01.pdf

Look, it is so simply, enjoy your work!