



Ted

Ted, an easy rich text processor

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1) Introduction

Ted is a word processor running on the Unix/Linux desktop. *Ted* was developed as a standard easy word processor, having the role of *Wordpad* on MS-Windows. Since then, *Ted* has evolved to a real word processor that still has the same easy appearance as the original. The possibility to type a letter, a note or a report on a Unix/Linux machine is clearly missing. Only too often, you have to turn to MS-Windows machine to write a letter or a document. *Ted* was made to make it possible to edit rich text documents on Unix/Linux in a *wysiwyg* way. RTF files from Ted are fully compatible with MS-Word. Additionally, *Ted* also is an RTF to PostScript and an RTF to Acrobat PDF converter. *Ted* is a simple standalone program to edit RTF files and to convert them to PostScript and to PDF. It is not part of an office suite that can do about anything. *Ted* focuses on doing the two things that it was made for well. It leaves the rest to the heavyweight multipurpose software suites.

Compatibility with popular MS-Windows applications played an important role in the design of *Ted*. Every document produced by *Ted* fully compatible with MS-Word without any loss of formatting or information. Compatibility in the other direction is more difficult to achieve. *Ted* supports many of the formatting features of the Microsoft applications. Other formatting instructions and meta information are ignored.¹ By ignoring unsupported formatting *Ted* tries to get the complete text of a document on screen or to the printer. *Ted* can be used to read formatted e-mail sent from a Windows machine to Unix, to print an RTF document, or to convert it to Acrobat PDF format. Below we explain how to configure *Ted* as an application to open RTF documents and

¹ Some of the ignored information is not saved either when you modify and then save an RTF document with *Ted*.

how to convert an RTF document to PDF with *Ted* and *GhostScript*.

I hope that you will find *Ted* useful. Please report the bugs you find, such that I can fix them.

This is the documentation for *Ted* 2.23 released on Feb 3, 2013. Release Notes with a change log are in a [separate document](#).

The picture of a writing schoolboy on the application window is the lower right corner of a woodcut by Albrecht Dürer dated 1510. It represents a schoolmaster teaching a class of children. Its motto is: *Wer recht bescheyden wol werden, Der pit got trum bye auff erden.*

2) *Ted* for Linux: copyright and disclaimer

Ted is free software. By making *Ted* freely available, I want to contribute to the propagation of Linux as a viable platform for technical computer enthusiasts. As *Ted* is free software, I assume no responsibility for the consequences of using it. It is up to you to decide whether *Ted* suits your purpose or not. *Ted* is distributed with **absolutely no warranty** under the terms of the [GNU Public License](#).

3) How to invoke *Ted*

To start *Ted* as an interactive program, just invoke `Ted &`. To start *Ted* with a certain file invoke `Ted some.rtf &`. Several special purpose calls of *Ted* are documented below. Note that from *Ted* 2.22, *Ted* keeps a trace of your editing activity. The name of the trace file is the name of the document that you are editing with `.Ted` appended. If the current directory is not writable, *Ted* uses a trace file in `/tmp`. For fresh documents, *Ted* uses a trace file with a unique name ending in `.Ted`. After abnormal termination of an edit session, the trace file may be left over. Open it with *Ted* to try to recover your work, or delete it to unlock the document. *Teds* recovery does not include the very last edit action. Use the Repeat menu option to perform the last action of a recovered session.

4) How to install *Ted*

The installation of *Ted* depends on the platform and on the kind of distribution. Binary distributions for Intel ix86 Linux are available from the download site <http://ftp.nluug.nl/pub/editors/ted>. The distribution comes in the form of compressed tar archives and as Red Hat package manager (RPM) packages and Debian installer packages (DEB). Binary distributions for other platforms might be available. For more or more recent information refer to the *Ted* web site <http://www.nlgg.nl/Ted>. All binary installer `.tar.gz` packages are packaged relative to `/`.

To install *Ted* or one of the localization packages from an RPM package, log in as root, (Or any system user with sufficient permissions to install packages.) and give the command `rpm -i <package-details>.rpm`. To upgrade from a previous version of *Ted* give the command `rpm -U <package-details>.rpm`. The corresponding command on Debian based Linux versions like Ubuntu is `dpkg -i <package-details>.deb`. It takes care of installing as well as of upgrading. I used Ubuntu 12.04.1 to build the `*.deb` and `*.tar.gz` files and fedora 17 to build the `*.rpm` files. A Solaris build can be installed with `pkgadd -d <package-details>.pkg`.

To compile *Ted* from source. Refer to the compilation instructions at the end of this document.

Overview of the different packages:

Package	Package files
Basic binary package for Intel Linux. (Includes American spelling)	ted-2.23-i386.deb ted-2.23-amd64.deb ted-2.23-linux-i386.tar.gz ted-2.23-linux-amd64.tar.gz ted-2.23-1.i386.rpm ted-2.23-1.x86_64.rpm
Source ²	ted-2.23-1.src.rpm ted-2.23.src.tar.gz
Original Documentation and Release Notes	TedDocument-en_US.rtf TedDocument-en_US.html TedDocument-en_US.pdf announce.html

² Please read the [compilation instructions](#) at the end of this document before you start compiling *Ted*. They are short and easy.

Package	Package files
rtf to pdf script rtf to PostScript script rtf to HTML script rtf to EPUB ebook script rtf to plain text script	rtf2pdf.sh . rtf2ps.sh rtf2html.sh rtf2epub.sh rtf2txt.sh
Dutch spelling and messages	ted_nl_NL-2.23.all.deb ted_NL_nl.tar.gz ted_nl_NL-2.23-1.noarch.rpm
British spelling	ted_en_GB-2.23.all.deb ted_en_GB.tar.gz ted_en_GB-2.23-1.noarch.rpm
German spelling and messages.	ted_de_DE-2.23.all.deb ted_de_DE.tar.gz ted_de_DE-2.23-1.noarch.rpm
Spanish spelling and messages	ted_es_ES-2.23.all.deb ted_es_ES.tar.gz ted_es_ES-2.23-1.noarch.rpm
Argentinian Spanish spelling and messages	ted_es_AR-2.23.all.deb ted_es_AR.tar.gz ted_es_AR-2.23-1.noarch.rpm
Portuguese spelling	ted_pt_PT-2.23.all.deb ted_pt_PT.tar.gz ted_pt_PT-2.23-1.noarch.rpm
Brazilian Portuguese messages	ted_pt_BR-2.23.all.deb ted_pt_BR.tar.gz ted_pt_BR-2.23-1.noarch.rpm
French spelling and messages.	ted_fr_FR-2.23.all.deb ted_fr_FR.tar.gz ted_fr_FR-2.23-1.noarch.rpm
Italian spelling and messages	ted_it_IT-2.23.all.deb ted_it_IT.tar.gz ted_it_IT-2.23-1.noarch.rpm
Czech spelling and messages	ted_cs_CZ-2.23.all.deb ted_cs_CZ.tar.gz ted_cs_CZ-2.23-1.noarch.rpm
Danish spelling and messages	ted_da_DK-2.23.all.deb ted_da_DK.tar.gz ted_da_DK-2.23-1.noarch.rpm
Swedish spelling	ted_sv_SE-2.23.all.deb ted_sv_SE.tar.gz ted_sv_SE-2.23-1.noarch.rpm
Norwegian spelling and messages	ted_nb_NO-2.23.all.deb ted_nb_NO.tar.gz ted_nb_NO-2.23-1.noarch.rpm
Polish spelling and messages	ted_pl_PL-2.23.all.deb ted_pl_PL.tar.gz ted_pl_PL-2.23-1.noarch.rpm
Slovak spelling and messages	ted_sk_SK-2.23.all.deb ted_sk_SK.tar.gz ted_sk_SK-2.23-1.noarch.rpm
Hungarian messages	ted_hu_HU-2.23.all.deb ted_hu_HU.tar.gz ted_hu_HU-2.23-1.noarch.rpm
Malagasy messages and manual	ted_mg_MG-2.23.all.deb ted_mg_MG.tar.gz ted_mg_MG-2.23-1.noarch.rpm
Bulgarian spelling	ted_bg_BG-2.23.all.deb ted_bg_BG.tar.gz ted_bg_BG-2.23-1.noarch.rpm

Package	Package files
Russian spelling	ted ru RU-2.23.all.deb ted ru RU.tar.gz ted ru RU-2.23-1.noarch.rpm
Croatian spelling	ted hr HR-2.23.all.deb ted hr HR.tar.gz ted hr HR-2.23-1.noarch.rpm
Finnish spelling	ted fi FI-2.23.all.deb ted fi FI.tar.gz ted fi FI-2.23-1.noarch.rpm
Translated Documentation	TedDocument-de DE.rtf TedDocument-de DE.html TedDocument-de DE.pdf TedDocument-fr FR.rtf TedDocument-fr FR.html TedDocument-fr FR.pdf TedDocument-mg MG.rtf TedDocument-mg MG.html TedDocument-mg MG.pdf
Spelling dictionary examples. ³	tedSpellExamples.tar.gz
Translated resource files for translators and those that like to install them by hand.	Ted-cs CZ.properties Ted-da DK.properties Ted-de DE.properties Ted-es ES.properties Ted-es AR.properties Ted-pt BR.properties Ted-fr FR.properties Ted-hu HU.properties Ted-it IT.properties Ted-nl NL.properties Ted-sk SK.properties Ted-nb NO.properties Ted-pl PL.properties Ted-mg MG.properties Ted.properties.sample

5) The rtf file format

Ted uses rtf as its native file format. I have chosen the rtf format because it is an old file format that is understood by many text processing programs. The first version of the Microsoft RTF file format specification dates from 1987 and RTF has since then become the lingua franca for document exchange between word processors on the Apple Macintosh and on other computers: Many applications can understand RTF files and most people have a program that can render RTF installed on their computer. Not only word processors like *Microsoft Word*, *AbiWord*, *Calligra Words* and *Libre Office*, but also standard programs operating system programs like *WordPad*, *TextEdit* and *write.exe* understand the RTF file format. This makes RTF a good file format to reach a heterogeneous audience with many different computers and operating systems. From its origin, RTF has been a Microsoft file format. Some of us may fear that the legions of evil might infest his computer once he begins to use it. In practice however, it is a good simple portable file format. If it were formally standardized, it could be seen as an open standard for simple word processing documents.

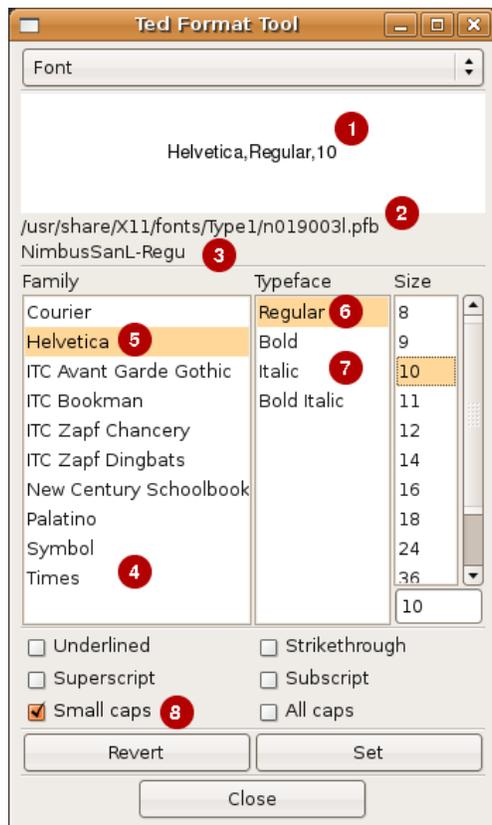
As the Microsoft Word export file format, RTF describes Word documents. The current rtf 1.9 specification covers most of the functionality of MS-Word 2007. This does not mean that a program that reads and writes RTF has to be as elaborate as Microsoft Word. In fact almost no software that reads and writes RTF is as elaborate as Microsoft Word. Almost any application that reads rtf files [including *Ted*] silently ignores unknown RTF control words. This even applies for MS-Word itself. The result is that no two programs write exactly the same RTF variant and that many consciously designed or accidentally born RTF dialects exist. Examples of accidental variants are the typo `\fc` tag for `\cf` on the NextStep platform fifteen years ago or the recent `\nobdr` tag in Open

³ Please refer to the explanation at the end of this document.

Office that seems to mean the same thing as `\bdrnone` in the Microsoft specification. An example of consciously designed deviations are the `{*\pgdsctable}` and `{\pgdscN}` groups that Star Office emits. Sun could be excused for this because an `{*\something}` group is there to be ignored. The fact that the tags are undocumented is not nice however.

The RTF file format is relatively well documented. Every few years, Microsoft issues a fresh specification that matches a recent version of MS-Word. The latest version that I have seen is the rtf 1.9 specification. It corresponds to MS-Word 2007. The location on the Microsoft site changes all the time. The easiest way to find the document is to search for "Rich Text Format (RTF) Specification" with *Google*. (Note the double quotes.) Though the document gives many details of the file format and all the RTF control words, the meaning of the control words is only concisely explained. The O'Reilly *RTF Pocket Guide* by Sean M. Burke is a good introduction to RTF and a valuable companion to the Microsoft file format document. An email discussion list of the RTF file format can be found at <http://list.unm.edu/archives/rtf-l.html>.

6) Font



- ① A preview of the font
 - ② The file name of the font
 - ③ The implementation name of the font
- The rest is illustrated by the example below

She puzzled over this for some time, but at last a bright thought struck her. 'Why, it's a Looking-glass book, of course! And if I hold it up to a glass, the words will all go the right way again.'

This was the poem that Alice read :

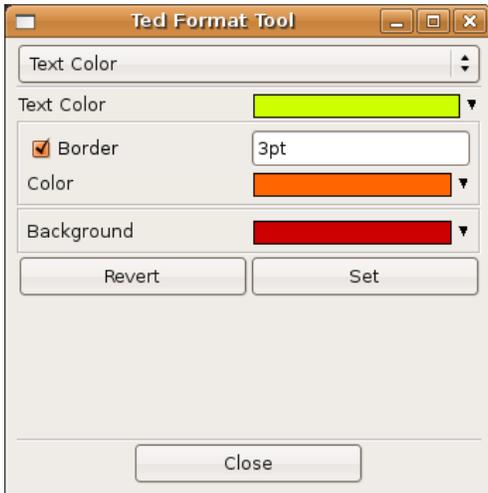
JABBERWOCKY^⑧

'Twas brillig, and the slithy toves
Did gyre and gimble in the wabe;
All mimsy were the borogoves,
And the mome raths outgrabe.

etc^⑤

'It seems very pretty,' she said when she had^④ finished^⑥ it, 'but it's *rather*^⑦ hard to understand!' (You see she didn't like to confess, ever to herself, that she couldn't make it out at all.) 'Somehow it seems to fill my head with ideas —only I don't exactly know what they are! However, somebody killed *something*: that's clear, at any rate—'

7) Text Color



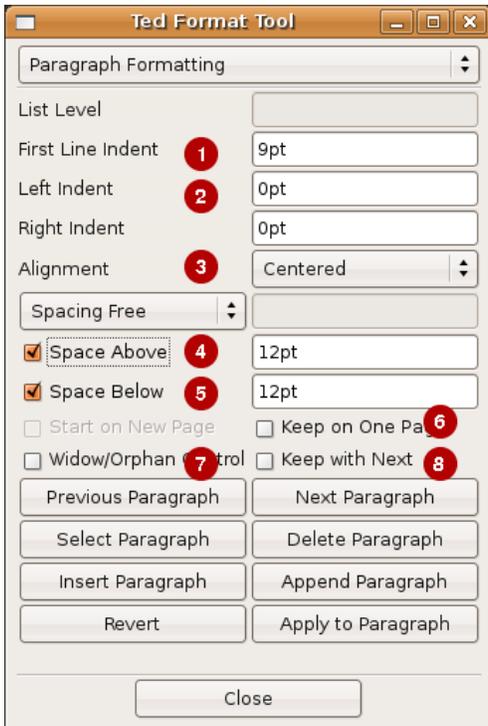
The ugly example below shows the meaning of the different controls.

JABBERWOCKY

'Twas brillig, and the slithy toves
Did gyre and gimble in the wabe;
All mimsy were the borogoves,
And the mome raths outgrabe.

etc

8) Paragraph Layout



- ⑥ If possible, keep all lines of the paragraph on one page
 - ⑦ Widow/Orphan control is the mechanism that avoids that the first or the last line of a paragraph lands on a different page than the rest.
 - ⑧ Keeps the paragraph on the same page as the next one. E.G. Because the paragraph is the header of the next one.
- The others are best illustrated by the example below.

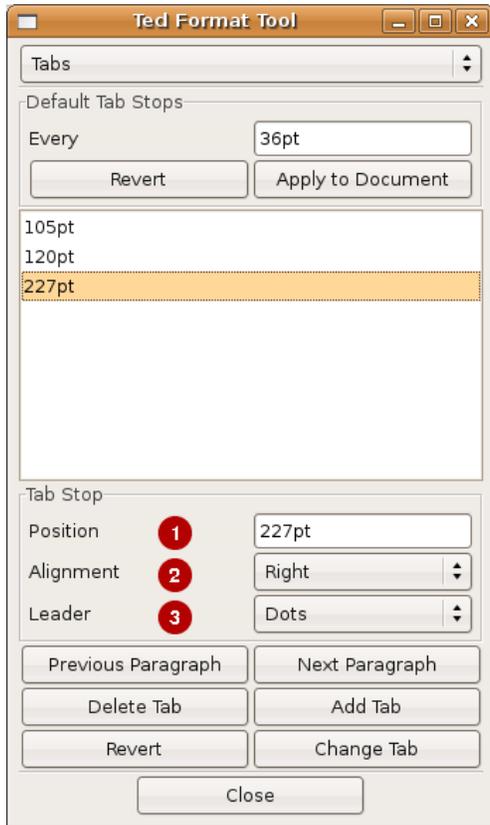
Queen Alice ③

And hundreds of voices joined in the chorus:

② Then fill up the glasses as quick as you can, ④
And sprinkle the table with buttons and bran:
Put cats in the coffee, and mice in the tea—
And welcome Queen Alice with thirty-times-three! ⑤

① Then followed a confused noise of cheering, and Alice thought to herself, 'Thirty times three makes ninety. I wonder if any one's counting?' In a minute there was silence again, and the same shrill voice sang another verse;

9) Tab Stops



Before the introduction of tables, tab stops existed as a primitive means to align the text in subsequent paragraphs of the same document. Though tables are a more comfortable solution, tab stops still play an important role in text processing. *Ted* supports four types of tab stops.

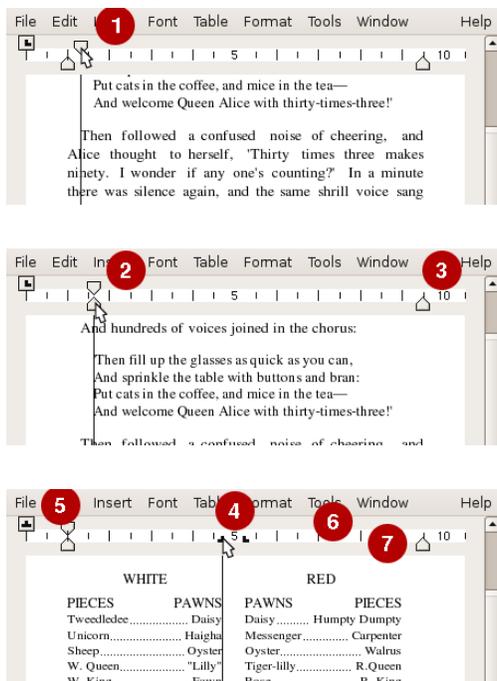
- The text after the tab stop is left aligned to the tab stop.
- The text after the tab stop is right aligned to the tab stop. Effectively the text appears left of the tab stop.
- The text after the tab stop is centered around the tab stop.
- The text after the tab stop is right aligned to the tab stop. The decimal point in the text is placed at the tab stop position.

The meaning of the controls on the tool is best illustrated by an example:

DRAMATIS PERSONÆ²

WHITE ²	RED ²
PIECES ³	PAWNS ²
Tweedledee	Daisy
Unicorn	Haigha
Sheep	Oyster
W. Queen	"Lilly"
W. King	Fawn
Aged Man	Oyster
W. Knight	Hatta
Tweedledum	Daisy
	PIECES ²
	Daisy
	Humpty Dumpty
	Messenger
	Carpenter
	Oyster
	Walrus
	Tiger-lilly
	R. Queen
	R. King
	Rose
	R. King
	Oyster
	Crow
	Frog
	R. Knight
	Daisy
	Lion

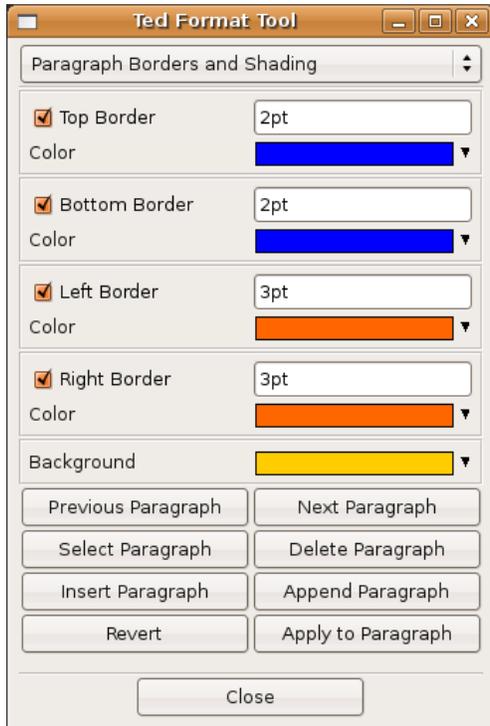
10) Paragraph Ruler



You can also manipulate the paragraph ruler with the mouse.

- 1 Move the First Line Indent.
- 2 Move the Left Indent
- 3 Move The Right Indent
- 4 Move Tab stops
- 5 Clicking the button selects the kind of tab you make.
- 6 Make new tab stops by clicking in the white band
- 7 Remove tab stops by dragging them from the white band.

11) Paragraph Borders and Shading



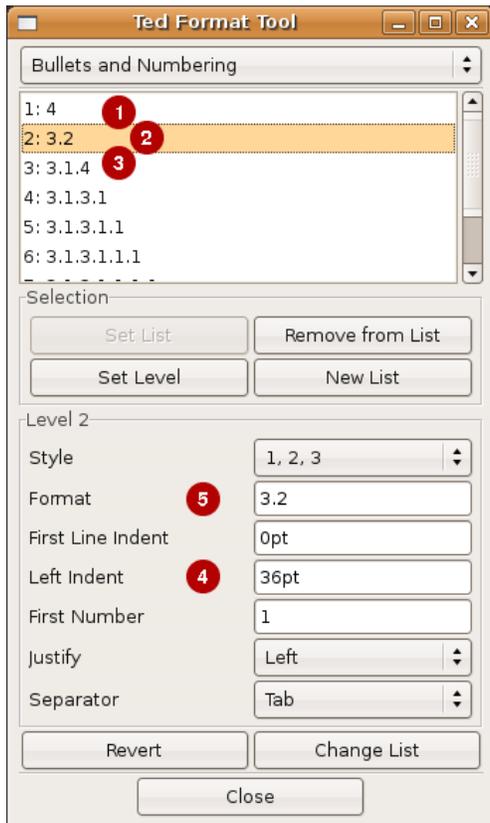
Best Illustrated by yet another ugly example



'Twas brillig, and the slithy toves
Did gyre and gimble in the wabe;
All mimsy were the borogoves,
And the mome raths outgrabe.

The maximum border width is 3.75pt

12) Bullets and Numbering



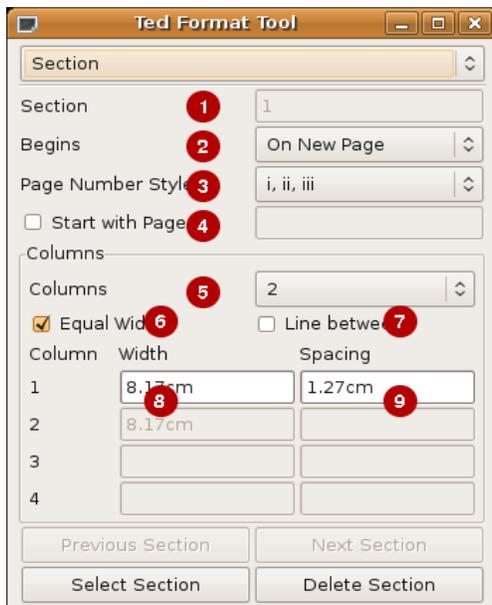
The example list below mentions some controls on the *Bullets and Numbering* tool. The controls are organized in a list that has the same hierarchy as the controls have on the tool.

In the text box for the use <control>digit to insert placeholders for the level numbers. <control>1 is the top level. To join an existing list in the document, use the copy/paste menu options for the paragraph ruler. Use the *Font* and *Text Color* tools to change the presentation of the paragraph number.

Bullets and Numbering tool

- 1 List of List Levels
- 2 Operations on the Selection
 - 2.1 Set List
 - 2.2 Remove from List
 - 2.3 etc
- 3 **1** Properties of the current List Level. **4** This Item also shows the working of the left indent.
 - 3.1 Style
 - 3.1.1 **3** 1, 2, 3
 - 3.1.2 I, II, III
 - 3.1.3 etc.
 - 3.2 **2** **5** Format
 - 3.3 First Line Indent
 - 3.4 Left Indent
 - 3.5 First Number
 - 3.6 Justify
 - 3.6.1 Left
 - 3.6.2 Centered
 - 3.6.3 Right
 - 3.7 Separator
- 4 Revert
- 5 Change List

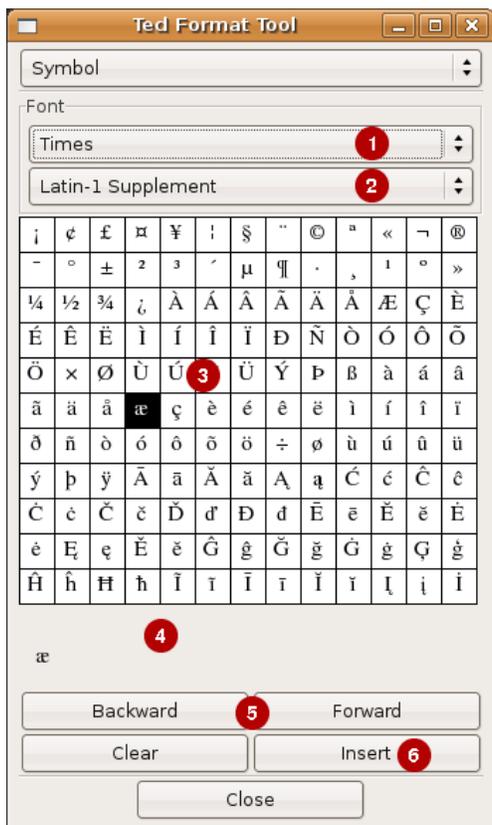
13) Section properties



- 1 The number of the current section in the document.
- 2 Determines whether the section starts in on a new page, or in a new newspaper style column. (As opposed to table columns)
- 3 Select the page number style. In an introduction or an appendix you can use roman style numerals.
- 4 If you want page numbering in this section to start from the beginning, you can give the number of the first page.
- 5 Choose the number of newspaper style columns.
- 6 Decide whether all columns should have the same width
- 7 Check to get a line between the columns.
- 8 The width of the column
- 9 The width of the spacing between the columns

The concept a section that starts on a column break is a bit strange as the number of columns is a property of the section itself. This can only predictably be done if the previous section has the same column layout. Experimentation with MS-Word showed that the columns of a section are balanced if and only if the next section starts immediately below the section that is to be balanced. I.E. it does not start in the next column, or on a subsequent page. To get balanced columns, you sometimes have to insert an empty dummy section.

14) Including symbols and accented characters

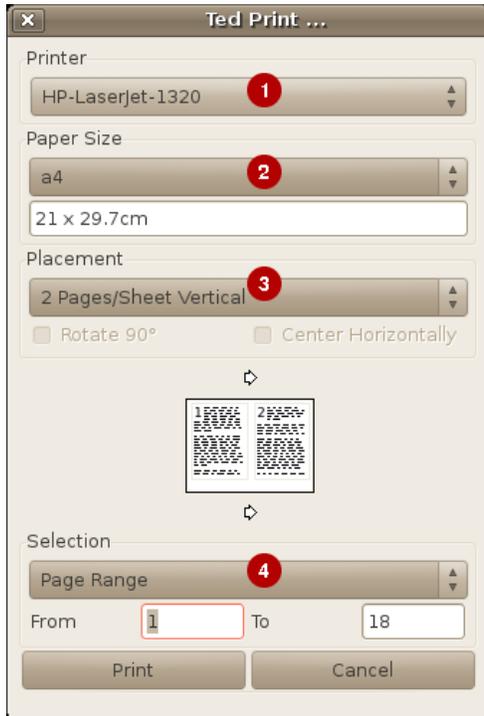


If your desktop is correctly configured, the local input method that is compiled into the libraries supports a compose key. The <compose> key allows you to insert accented characters by typing <Compose> <Letter> <Accent> or <Compose> <Accent> <Letter>. Where <Accent> is an ASCII character that resembles the intended accent. E.G. <Compose> a ' results in á. Another example: <Compose> a e results in æ. On PC keyboards the 'Compose' key is often labeled 'Scroll Lock' for your amusement. Refer to the paragraph on desktop configuration for some further remarks. Besides that, you can use the symbol tool to insert arbitrary symbols.

- 1 Select the font you want to use.
- 2 If you know, select the unicode block your symbols belong to.
- 3 Pick symbols to insert.
- 4 They are collected at the bottom of the tool.
- 5 Navigate over the unicode blocks
- 6 Insert the symbols that you have collected.

And once she had really frightened her old nurse by shouting suddenly in her ear, 'Nurse! Do let's pretend that I'm a hungry hyæna, and you're a bone.'

15) Printing



- 1 Select a printer or 'Print To File'.
- 2 Tells what the format of the paper in the printer is. The default comes from libpaper or the contents of the `/etc/papersize` file.
- 3 Determine how the pages of the document are placed on the sheets in the printer. The diagram below gives a clue about what the options mean.
- 4 If you only want to print certain pages you can select them here.

The list of printers is determined by calling the operating system printer management command. The following commands are tried in the order given. The first command that returns any printers determines the list of available printers and the print command that is used. (`lp` or `lpr`.)

- `lpstat -a` (Use `lp` to print)
- `lpc status` (Use `lpr` to print)
- `/usr/sbin/lpc status` (Use `lpr` to print)
- `enq -As` (An AIX command, use `lp` to print)

Probably you use a special command to print to a PostScript printer. You can print to a custom printer by setting two properties in the configuration file. The property `Ted.customPrintCommand` is the command to print to the custom printer.

`Ted.customPrinterName` is the name of the custom printer. If **both** properties are set, *Ted* inserts an extra option in the printer selection menu to print through the given command. Because the custom printing command is something special, *Ted* makes it the default printer. The value of `customPrinterName` is a short string that is used in the menu to select the custom printer. The value of `customPrintCommand` is an arbitrary shell command to print to the custom printer. If `customPrintCommand` contains the pattern `%f` the pattern is replaced with the name of a temporary file to print. Otherwise the PostScript to print is piped into the custom print command. If you use `%f` in `customPrintCommand`, it is the responsibility of `customPrintCommand` to delete the temporary file. To configure a second custom printer use the `Ted.customPrintCommand2` and `Ted.customPrinterName2` properties. The second custom printer will not become the default printer.

Configure a print preview through *evince* in the following way:

```
Ted.customPrinterName: Preview via evince
Ted.customPrintCommand: evince %f
```

16) How to configure *Ted* as the application to open rtf files

On modern *Gnome* or *KDE* based desktops, you can configure what applications to use to open certain file types. For details, see the documents on www.freedesktop.org. In the context of this manual, it is sufficient to know that this can be done by copying the file `@DATADIR@/Ted/varia/Ted.desktop` to your `$HOME/.local/share/applications` directory. For a system wide installation, the file goes to the `@DATADIR@/applications` directory. This will add *Ted* to the *Office* menu of the desktop as well. The *Ted* rpm and deb installers install the desktop file for you.

Older `rfc1524` based systems might still use the `mailcap` functionality. Example contents to add to `$HOME/.mailcap` or `/etc/mailcap` is offered in `@DATADIR@/Ted/varia/Ted.mailcap`. It might also be necessary to associate the `rtf` file extension to the `application/rtf` content type. This can be done in `$HOME/.mime.types` or in `/etc/mime.types`.

17) Configuring *Ted*

In general, it is not necessary to configure or customize *Ted*. All texts and default settings of *Ted* are however configurable. *Ted* has its own configuration mechanism. Additionally the texts and settings can be configured through *Ted* property files.

Teds own settings can be configured in two settings files: `@DATADIR@/Ted/Ted.properties` and `$HOME/.Ted.properties` in the users home directory. The file format is similar to the X11 resource file format or the Java properties file format: Every line consists of a name value pair. The name has the format `Ted.property: value`. Contrary to the X11 format trailing white space on the line is ignored. *Ted* does not support the line continuation syntax of the X11 configuration files. Completely empty lines and lines beginning with a number sign or an exclamation mark are ignored. Properties that do not begin with `Ted.` or `Ted*` are ignored. For compatibility reasons, an equal sign is accepted for the colon after the name of the property. System wide properties are set in `@DATADIR@/Ted/Ted.properties`. Private settings for a particular user are set in her `$HOME/.Ted.properties` file. Settings for a particular invocation are given with `--setProperty name value` arguments to *Ted*. Private settings have priority over system wide settings. Command line settings have priority over system wide settings and over private settings. You can use as many `--setProperty` arguments in a *Ted* invocation as you want. The arguments are handled before any of the other command line arguments. Unknown and misspelled properties are silently ignored. This applies for the properties in the settings files and for those that are given on the command line.

Most settings relate to the texts of the different controls on the windows. These are not covered in this introductory manual. If you want to change the texts, for example to make localized *Ted* installations, refer to the `config/Ted.properties.sample` file for an example and an explanation. As the sample file contains all the defaults that are compiled into *Ted*, only what you change is relevant. The example property file is extensively documented.

The following properties influence *Teds* functionality:

magnification:	Magnification for drawing documents on the screen. The default value is 100%. The alternative format 1.0 for 100% is also supported. It has the disadvantage that it depends on the decimal sign of the current locale. (E.G: 1,2 for 120% in Western Europe.) Very small and very big values are ignored. 100% magnification translates to 96 DPI on screen.
unit:	The unit that is used by default. This property influences the appearance of the ruler and the interpretation of numbers entered in the format tool. Possible values are: inch, ", cm, mm, points, pt, picas, pi. The default is inch.
paper:	The format of the paper in the printer. The paper format is also used as the default page size for new documents. If a smaller page size is used for a document, <i>Ted</i> uses the <code>Ted.paper</code> property to print in the upper left corner of the paper. Possible values are: a4, a5, letter, legal, executive and strings in the form <code><Width> x <Height></code> or <code><Width> x <Height> <Unit></code> where <code><Width></code> and <code><Height></code> are numbers. Values for units are given above. If <code><Unit></code> is omitted, the value of the 'unit' property is assumed. Plain text files do not store a paper size for the file inside the file. The <code>Ted.paper</code> property is used for the page layout of every plain text file that <i>Ted</i> opens. Note that <i>Ted</i> uses the default paper size of the system as it is set with the <code>papeconfig</code> command and it is stored in the file <code>/etc/papersize</code> . The default format can be overridden with any of the configuration mechanisms.
overridePaperSize:	Use the value of the <code>paper</code> property as the paper size of documents as they are opened. If the default paper size is a portrait paper size and a section in the the document has a landscape orientation, it is rotated to landscape orientation before it is applied to that section. This setting is more useful for file conversions than for editing.
leftMargin, topMargin, rightMargin, bottomMargin:	The default width of the page margins. The format is <code><Width></code> or <code><Width> <Unit></code> . Width is a number. Unit is one of the units mentioned above. The default unit is the value of unit above.
defaultPrinter:	If you want to use a different printer than the system default printer as the default printer from <i>Ted</i> , you can set this property to select that printer the first time you use the Print Dialog. The value is the name of a printer. Use the same names that you use in the <code>lp -d somePrinter</code> , or the <code>lpr -P somePrinter</code> commands.
afmDirectory:	The directory where <i>Ted</i> looks for font metric files. <i>Ted</i> only uses font metric files if <code>fontconfig</code> is disabled. Without <code>fontconfig</code> , only fonts that have a metric file in this directory can be used by <i>Ted</i> . In a default installation, metric files are expected in

@DATADIR@/Ted/afm. This property is particularly useful when you cannot install *Ted* as root, and hence you have to store the metric files in some private directory. You can also make the `afmDirectory` point to the GhostScript fonts directory. E.G. to `/usr/share/ghostscript/fonts`. Refer to the section on adding fonts for more details. Use the `gs -h` command to find the exact location of the GhostScript afm files.

`spellToolSystemDicts`: The directory where *Ted* looks for spelling dictionaries. In a default installation, spelling dictionaries are expected in `@DATADIR@/Ted/dfa`. This property is particularly useful when you cannot install *Ted* as root, and hence you have to store the dictionaries in some private directory.

`documentFileName`: The name of this online document file. In a default installation this is `@DATADIR@/Ted/TedDocument-en_US.rtf`.

`customPrintCommand`: A command to print through a custom printer command. Refer to the paragraph on printing for details.

`customPrinterName`: The name that is used to designate the custom printer command on the Print Dialog. Refer to the paragraph on printing for details.

`customPrintCommand2`, `customPrinterName2`: To configure a second custom printer.

`printDialogShowPlacementDrawing`: Some laptops have microscopic screens. Setting this property to 0 hides the diagram that shows the placement of the document pages on the sheets of paper. This is to make the dialog a lot lower and to fit on the screen of this kind of computer.

`showTableGrid`: By default, *Ted* draws a grid to show the structure of tables without borders. If you set this property to 0 no grid will be drawn on screen.

`fontDirectory`: The directory where *Ted* looks for fonts to include (embed) in its printed documents. Refer to the section on adding fonts for more details. Use the `gs -h` command to find the exact value. This property is only used on traditional UNIX systems that do not use `fontconfig`. AFM files that have been generated by *Ted* have a *Ted* specific comment that gives the font file name. So this property is only relevant is neither `fontconfig`, nor *Ted* generated AFM files are used.

`usePostScriptFilters`: PostScript levels 2 and 3 support the concept of filters. Filters make it possible to code the images in a PostScript file much more efficiently. You can deactivate this option when you have a printer that does not support level 2 filters and the `/FlateDecode` filter. Recent versions of GhostScript support both. If you cannot print all images deactivate this setting. To deactivate set the value to 0.

`usePostScriptIndexedImages`: PostScript level 2 has a variant of the image operator that makes it possible to include images with a color indirection via a palette in the PostScript file. As many if the images included in rtf documents are of this kind, setting this property can help you to reduce the volume of the PostScript that is sent to the printer. All level 2 implementations, including GhostScript support indexed images. If you cannot print all images deactivate this setting. To deactivate set the value to 0.

`customPsSetupFilename`: The name of a PostScript file that is used for special printer setup and configuration. The contents of the file are inserted as part of the Setup section of the PostScript output.

`skipBlankPages`: If this parameter is set to 1, *Ted* skips blank pages while printing. Pages that are completely empty will not be printed. If the document has headers and footers, the relevant headers and footers will be printed on the page and the page will not be blank.

`skipEmptyPages`: If this parameter is set to 1, *Ted* skips empty pages while printing. Pages that are completely empty will not be printed. A page is not considered to be empty if it actually is empty, but the document has headers and footers. Under many circumstances the page would contain a header and a footer and it will be printed.

`omitHeadersOnEmptyPages`: If this parameter is set to 1, *Ted* will not print the page headers and footers on pages that do not contain any text from the document body or from notes. By design, this property interacts with the `skipEmptyPages` and `skipBlankPages` in the following surprising way: If both `omitHeadersOnEmptyPages` and `skipBlankPages` are set, a page without any body content will not be printed at all. However, if both `omitHeadersOnEmptyPages` and `skipEmptyPages` are set, a page without any body content will be printed as an empty page.

`findToolExplicitFocus`: Tell the find tool to get the keyboard focus when you activate it. Usually this is desirable behavior. However some window managers make *Ted* crash when it tried to manipulate the keyboard focus. For that reason you can set the `findToolExplicitFocus` to 0 to tell *Ted* not to move the keyboard focus to the find tool to avoid problems.

`autoHyphenate`: If a word in a line of text is wider than the width allocated for the paragraph, *Ted* makes the word protrude beyond the right margin. If you set the `autoHyphenate` property to 1,

Ted will automatically insert optional hyphens (\-) to fold the word. In general this is undesirable behavior. Only set the property on the command line and only if you use *Ted* to format documents. If the `autoHyphenate` property is set while you edit documents, the optional hyphens will end up in completely arbitrary locations in the document.

- avoidFontconfig: If *Ted* has been compiled to use *fontconfig* and *freetype*, setting this option to 1 tells *Ted* not to use *fontconfig* or *freetype*. It will fall back to the afm files and plain ugly X11 text rendering. Turning off *fontconfig* has the disadvantage that fewer fonts are available and that text looks far worse on screen. For rtf to *PostScript*/*PDF* conversion it has the advantage that *Ted* is less dependent on the environment and that documents, that use standard fonts, are formatted even more more similar to what MS-Word does.
- preferBase35Fonts: If *Ted* has been compiled to use *fontconfig* and *freetype*, setting this option to 1 tells *Ted* not to use *fontconfig* to obtain the list of fonts. It will use the Adobe collection of 35 core *PostScript* fonts. Turning off *fontconfig* had the disadvantage the fewer fonts are available. The advantage is that the documents that you make only use a set of widely supported standard fonts.
- embedFonts: If *Ted* knows the name and location of font files on the file system, it will embed the fonts in its print out. This has the advantage that the generated *PostScript* will print identically on all printers. The disadvantage is that the files are bigger and possibly print slower. If you set this property to 0, *Ted* will not embed any fonts in its printout.
- useKerning: If set to 0, *Ted* will ignore kerning information in the afm files. This will make *Ted* start a little faster. The name suggests that otherwise, *Ted* will use kerning. That is not the case. The current version of *Ted* will never produce kerned output. The pretentious name was chosen because it is simple an it can be used in the future for what it actually suggests.
- shadingMeshTwips: The rtf file format supports 12 shading patterns that can be used as a background in the document. A shading can be applied to table cells, paragraphs and even separate pieces of text. Though *Ted* does not support shading patterns in the user interface, it does so if you print a document, or if you convert existing documents with a shading to *PostScript* or to convert them to Acrobat *PDF*. For printing, fine patterns are preferable to coarse ones and for *PDF* files that you want to view on screen, coarse patterns are preferable. For that reason, the default value of 3 points for the grain of the pattern is often undesirable. With this parameter, you can set the distance between the lines that make up the shading. The value is the distance between the lines in twips. Sensible values are between 10 and 100 twips. (0.5 and 5 points)
- lenientRtf: In normal operation, *Ted* performs elementary checks on the validity of rtf files. E.G. It checks whether the braces in the rtf file match. If you set this property to 1, the checks are more lenient and *Ted* will try to open files that are syntactically incorrect.
- traceEdits: In normal operation, *Ted* keeps a trace of your editing actions. *Ted* uses the trace file to remember the information that it needs to execute *Undo* en *Repeat* actions. The trace is also used to recover your work after a crash. If you set the `traceEdits` property to 0 (zero) *Ted* will not make a trace. This also deactivates the *Undo*, *Repeat* and *Recover* actions.
- pdfOutline: By default, *Ted* inserts pdfmarks in the *PostScript* that it issues to produce an outline when the *PostScript* is converted to Acrobat *PDF*. Set this value to 0 (zero) if you do not want an outline.
- styleTool: By default, *Ted* uses GTK styles to make its tool window smaller. If you prefer a big tool window, set this value to 0 (zero).

18) Command line arguments

Below is an overview of the different ways to invoke *Ted*. All invocations with a `--something` argument have a `++something` equivalent. The `--` variant of a command does not initialize the GUI (GTK/X/Motif), the `++` variant does. In general, the difference is not really relevant and the `--` variant is preferable as it is less expensive.

Command	Meaning
<code>Ted</code>	Show initial window with menu options to open files.
<code>Ted file1.rtf file2.txt ..</code>	Open the files on the command line.
<code>Ted --Find pattern f1.rtf f2.txt</code>	Open the files on the command line and search for pattern.

Command	Meaning
<code>Ted --RegFind pattern f1.rtf f2.txt</code>	Open the files on the command line and search for pattern. Pattern is a regular expression. Ted uses the pcre regular expression matching library by Philip Hazel. For documentation see http://www.pcre.org . (Please realize that the casual user does not need to use or understand regular expressions.)
<code>Ted --TtfToAfm x.ttf y.afm</code>	Make an afm file that describes a true type font. This can be practical when you manually configure fonts for <i>Ted</i> .
<code>Ted --RtfToPs < x.rtf > y.ps</code>	Obsolete invocation: Use <code>--printToFile</code> .
<code>Ted --RtfToPsPaper A4 < x.rtf > y.ps</code>	Obsolete invocation: Use <code>--printToFilePaper</code> .
<code>Ted --RtfToPsPaper 100x141mm < x.rtf > y.ps</code>	
<code>Ted --version</code>	Show the version of <i>Ted</i> .
<code>Ted --platform</code>	Show the platform for which <i>Ted</i> was built.
<code>Ted --build</code>	Show the host and the date where <i>Ted</i> was built.
<code>Ted --fullVersion</code>	Show version, platform and build.
<code>Ted --saveTo f1.rtf f2.txt</code>	Read a file and save it. (in a different supported format)
<code>Ted --saveTo f1.rtf f2.pdf</code>	Supported formats are *.txt *.rtf, *.ps, *.epub and *.html.
<code>Ted --saveTo f1.rtf f2.ps</code>	As <i>Ted</i> writes relatively readable rtf, this can be used as a kind of rtf pretty-printer. With the GhostScript
<code>Ted --saveTo f1.rtf f2.epub</code>	<code>ps2pdf</code> command on the PATH, *.pdf is also supported. Note that ps and pdf files are saved with the paper size of the document.
<code>Ted --saveTo f1.rtf f2.html</code>	
<code>Ted --printToFile x.rtf y.ps</code>	Convert a document to PostScript. Format for the default paper format. Use <code>-rtf-</code> for the document name to read the document from standard input. Use <code>-ps-</code> as output name to emit PostScript to standard output.
<code>Ted --printToFile -rtf- -ps- < x.rtf > y.ps</code>	This call is used by the <code>rtf2pdf.sh</code> script. If you use the script from an internet scripting tool like PHP, make sure that both <i>Ted</i> and <i>gs</i> are in the PATH. Note that this produces ps files with <i>Teds</i> default paper size.
<code>Ted --printToFilePaper x.rtf y.ps A4</code>	Convert a document to PostScript. Format for the paper size given. Refer to <code>--printToFile</code> for IO redirections. Note that this produces ps files with the given paper size.
<code>Ted --printToFilePaper -rtf- -ps- A4 < x.rtf > y.ps</code>	
<code>Ted --print x.rtf</code>	Print the document on the default printer. Format for the default paper size.
<code>Ted --printPaper x.rtf a4</code>	Print the document on the default printer. Format for the paper size given.
<code>Ted --printPaper some.rtf 100x141mm</code>	
<code>Ted --printToPrinter x.rtf lp1</code>	Print the document on the printer given. Format for the default paper size.
<code>Ted --printToPrinterPaper x.rtf lp1 letter</code>	Print the document on the printer given. Format for the paper size given.
<code>Ted --setProperty property value</code>	Sets the property to a value. In a command line run the effect is that of setting <code>Ted.property: value</code> in one of the configuration files. The command line arguments have priority over the values that come <i>Teds</i> configuration files. You can use as many <code>--setProperty</code> arguments as you want to. Unknown properties are silently ignored.
<code>Ted --FontsDocuments /tmp/fontsdocs</code>	Create a directory and for every font that <i>Ted</i> knows about, store a document with all the symbols in the font. This is excellent testing material. It can also be used to view the fonts. The <code>checkfontsdocs.sh</code> job can be used to check whether the documents are correctly handled.

Command	Meaning
Ted --GSFontmapForFiles `pwd`/*.ttf	Emit a fragment for a <i>GhostScript</i> Fontmap file. The second and subsequent arguments are *.ttf, *.pfa or *.pfb file names. It always makes sense to use absolute font file names: <i>GhostScript</i> needs to know where to look for the fonts.
Ted --GSFontmapForFiles `pwd`/*.pfb	
Ted ++AfmForFontFiles `pwd`/*.ttf	
Ted ++AfmForFontFiles `pwd`/*.pfb	Create an afm file for all *.pfa, *.pfb, *.ttf files on the command line. Note that to run the command, you need to have writing permission to the <i>Ted</i> afm directory, or at least in the <code>localfonts</code> subdirectory. Also note that you need to run the command with a <code>umask</code> that gives the generated afm files the correct permissions (022). The ++ variant tries to leave information in the AFM files on how to match X11 fonts to the fonts. If you use <code>fontconfig</code> , that is not really relevant.
Ted --AfmForFontFiles `pwd`/*.ttf	

19) How to use *Ted* in your language

This section describes how you can translate the texts on the *Ted* windows and where you can install translations. *Ted* uses property files both for its configuration and for translated messages. If you want to install translated *Ted* messages for yourself or for all users of your computer all you have to do is to create a translated property file and to install it in the correct location. *Ted* comes with an example file that can serve as a starting point. In the section on configuring *Ted* I give some additional details. The comments in the example *Ted* configuration file are yet a little more elaborate.

Suppose you want to use *Ted* in the Erewhonian language. The first step is to obtain translated messages. Inspect the value of the `LANG` environment variable and check the *Ted* download site for an Erewhonian resource file. Let us assume that `LANG=eg_ER`. If an rpm package is available, just install it and all files end up in the correct location. After a manual installation of one of the `ted_eg_ER.tar.gz` packages (Unpack in /), you will find a file `@DATADIR@/Ted/ad/Ted_eg_ER.ad.tar` on your computer. Users with the correct `LANG=eg_ER` should now see *Ted* in Erewhonian. Evidently installing an Erewhonian resource file `Ted-eg_ER.properties` file as `@DATADIR@/eg_ER/app-defaults/Ted` would have done the same thing.

Now suppose *Ted* is not as popular in your country Zembla as it is in Erewhon. This means that you have to make a translation yourself. Check the value of the `LANG` environment variable. On correctly configured Zemblan Unix/Linux systems `LANG=zz_ZZ`. The *Ted* distribution contains an example resource file `@DATADIR@/Ted/Ted.properties.sample`. It is a property file that contains all resource values that are compiled into *Ted* as defaults. Copy the file to some private directory. Call it `Ted-zz_ZZ.properties`. `Ted-zz_ZZ.properties` is the starting point of your translation of the *Ted* windows to Zemblan. Open the file in a plain text editor like `vi` or `emacs`. Change all values you want to change. As you intend to translate the file to Zemblan you only change the texts that *Ted* shows on its windows. You leave the other values alone. Probably it is even better to delete the lines that do not give user interface texts. The *Ted* program uses suitable default values for all values that are not given in the resource file. In addition to the window texts please enter following values to identify the translator:

```
Ted.localeTranslatedTo: zz_ZZ
Ted.localeTranslatorName: Charles Kinbote
Ted.localeTranslatorEmail: V.Botkin@wordsmith.edu
```

As Zembla is a civilized country that uses the Metric System and ISO A4 size paper also override the American defaults that are compiled into *Ted*:

```
Ted.unit: cm
Ted.paper: a4
```

Please leave configuration settings alone. Remember that you are translating the window texts. You are not trying to impose your personal taste upon others. Just delete the lines with configuration settings from the file. As your translated texts have an influence on the size of the *Ted* windows, try to be concise. The Microsoft *Word at a Glance* booklets are translated to almost any language. They are not only a good reference to Word but also an excellent source of phrases and window texts.

To test your file while you work on your translation place the translated file in your HOME directory as `~/Ted.properties`. The next time that you start *Ted* the windows will be in Zemblan independently of the LANG setting. Once you are ready you can install the translated `Ted-zz_ZZ.properties` file as `@DATADIR@/Ted/Ted-zz_ZZ.properties`. I would be delighted to get a copy of your `Ted-zz_ZZ.properties` file for the *Ted* distribution.

Now that you have started to translate *Ted* related texts, you could as well translate the full manual: Copy `@DATADIR@/Ted/TedDocument-en_US.rtf` to `@DATADIR@/Ted/TedDocument-zz_ZZ.rtf` and translate the file. When you have finished the translation tell *Ted* to use the Zemblan translation for Zemblan users. Insert the value

```
Ted.documentFileName: @DATADIR@/Ted/TedDocument-zz_ZZ.rtf
```

in the `Ted-zz_ZZ.properties` file and deploy it again. You can imagine that the translated manual is as welcome in the *Ted* distribution as the translated window texts.

20) Fonts and font configuration

To use the the standard Microsoft core fonts, install the `tff-mscorefonts-installer` package. It helps a lot if you have to render documents made with MS-Word.

If *fontconfig* and the *Xft* font renderer are available on your machine, *Ted* uses these libraries to find the list of available fonts and to draw texts on screen. With these libraries *Ted* will use *fontconfig* to resolve the names of the fonts in your documents and to find the font files to include in the *PostScript* that goes to the printer or that is saved via the `--printToFile` calls. With *fontconfig* and *Xft* available, the rest of this section is hardly relevant as the libraries do the hard work and configuration is that of the libraries. On simple old Unix boxes life is harder: You need to do a lot to get fonts working with more than one program. So if you do not use a modern Linux desktop machine, the rest of this section will tell you how to configure more fonts if you really have to.

By default *Ted* is configured to use the standard Base35 set of *PostScript* fonts: AvantGarde, Bookman, Courier, Helvetica, NewCenturySchlbk, Palatino, Symbol, Times, ZapfChancery and ZapfDingbats fonts in the Latin1 character set. To render documents with other fonts on screen *Ted* uses rather crude heuristics to substitute one of the available screen fonts for the document fonts. On one hand this approach avoids font configuration issues. On the other hand it limits the the rendering and editing possibilities of *Ted*. As the standard afm files that come with *Ted* only support a limited number of font encodings, you will have to use afm files that describe the additional characters in other encodings. The somewhat more experienced user can extend the collection of fonts that are available in *Ted*. This section of the manual explains how to configure your environment to use more fonts than those in the basic set from *Ted*. Unfortunately the availability of fonts does not depend on the *Ted* configuration only. To edit a document on screen, an acceptable mapping from the fonts in the document to those that are used on screen must be possible. To print the document, or to convert it to Acrobat PDF format, the fonts must be available for the printing system or the *PostScript* to PDF conversion software. On Linux the *GhostScript* software is used for both. In this document I will not discuss the various issues with the configuration of *GhostScript* and the X11 Window system in detail. If the simple procedure does not work, refer to the various font related HOWTO documents and to the *GhostScript* documentation. The strong suggestion of this section is to use the *GhostScript* fonts with *Ted* whenever you believe that the basic font configuration is insufficient.

Sources for Font Names

Every rtf Document contains a font list: A list of the names of the fonts that are used in the document. To display or to print a document a text processor program like *Ted* or MS-Word uses the fonts in the document font list if they are available. If the fonts are not available, fonts that can be found on the computer are substituted for the fonts in the document. *Ted* uses heuristics to substitute fonts. Your printer, *fontconfig* and *GhostScript* use heuristics as well. The heuristics may very well differ and the result will be ugly.

Another source for font names is the collection of fonts that are available to *Ted*. On Linux the list comes from *fontconfig*. On an old fashioned Unix system, it is not the collection of fonts but a collection of font descriptions. The fonts are described by Adobe Font Metric files. (afm files) The configurable parameter `Ted.afmDirectory` points to the directory where *Ted* reads its afm files. *Ted* opens all afm files in the directory. *Ted* shows the names of the fonts in the document font list and the font names it found in the afm files in the font tool. As explained above, *Ted* uses crude heuristics to match fonts from the afm files to the ones in the document font list. With an acceptable set of afm files this usually succeeds. This means that the document can be formatted and converted to a *PostScript* file. Unfortunately this does not mean that that the document can be displayed on screen, or that it can be printed on any printer. Additionally, the crudeness of the font matching heuristics could be less than satisfactory to you.

Adding more Font Metric Files Manually

If you add more afm files to *Teds* afm file directory you tell *Ted* that those fonts are available and you provide sufficient information to *Ted* to format documents on the basis of the descriptions that you have provided. Every afm file is accepted as the absolute truth: The font is mentioned so it exists. For acceptable results when the document is printed, the font or a substitute must eventually be available. *Ted* uses the Full name and the FamilyName of the *PostScript* font to match it to the document font. It uses the FontName to print. As you are the source of the information, you can easily tweak it a little to influence *Teds* behavior. With extra afm files you can provide information on extra fonts. If you tweak them, you can use them to influence the way in which *Ted* matches *PostScript* fonts to document fonts. As long as your printing system (printer or *GhostScript*) accepts the FontName values from the afm files you can format them and print them using the correct fonts. *Ted* matches the font names in the font table of the document with the FamilyName in the AFM file. Ideally, for every value of FamilyName, there are four afm files: one for the plain font that has the same name as the family, a bold one, an italic one and a bold-italic one. To display additional fonts on screen more is needed. Finally, if the information in an afm file does not match the font, your print out can be ugly. The afm file is a description of an available font. If the font is not available, or it is different, the results will be ugly. Do not give *Ted* afm files for fonts that your printer or *GhostScript* does not support. Please note that the procedure described in this paragraph is a mechanism to provide *PostScript* fonts for the fonts listed in rtf documents. It only applies if you have disabled fontconfig support.

Matching X11 fonts to PostScript Fonts

Again: *Ted* uses crude heuristics to match fonts. For the base set of afm files that come with *Ted*, the heuristics usually work. If you add afm files to your installation the heuristics that are based on the FullName and FamilyName values are likely to fail. You will need to tell *Ted* what screen fonts to use for the *PostScript* fonts that it knows about from the afm files. You can provide this information in the afm files. *Ted* recognizes special comments in afm files that tell about screen fonts. The comment lines look like this: `Comment X11Font -urw-urw chancery 1-medium-i-normal-medium-0-0-0-0-p-0-iso8859-1`. The first word is the afm Comment word. The second word tells *Ted* that this is a screen font. The rest of the line is the name of an X11 scalable font. The format for the X11 font name exactly follows that of the second column of the `fonts.dir` or `fonts.scalable` files that the X11 server uses. The zero sizes indicate scalable fonts.

Font Embedding

The fact that you have the fonts on the hard disk of your computer does not necessarily mean that you can use the fonts on your printer. If you print with *GhostScript*, you probably do not need to do anything to make printing of non-standard fonts possible: You have installed them for *GhostScript* and *GhostScript* takes care of the printing. If you use a real *PostScript* printer, it may very well be possible that the fonts that you just have installed are not known to the printer. So you have to make them known to the printer. Evidently you could have uploaded them to the printer, (See below) but *Ted* can also embed the fonts in the printout of your document. *Ted* will embed fonts in the printout if it is configured to do so. All pfa, pfb (Type 1) and ttf (TrueType) true type fonts that can be included will be included. Type 1 fonts in pfa format are directly included. Type 1 fonts in pfb format are converted to pfa format. TrueType fonts are converted to PostScript Type 42 format. Most modern *PostScript* engines, including *GhostScript*, support Type 42 fonts. *Ted* recognizes special comments in afm files that tell where the font file can be found. The comment lines look like this: `Comment FontFileName /home/mark/.fonts/marvosym.ttf`. The first word is the afm Comment word. The second word tells *Ted* that this is the name of the font file. The rest of the line is the name of the file that contains the font. Use the `embedFonts` property to disable font embedding. Additionally, on traditional UNIX systems *Ted* uses the *GhostScript* Fontmap and the fontDirectory properties. *Ted* uses the *GhostScript* Fontmap to find the name of a font file in the font directory. Every pfa, pfb or ttf file that can be found in that way will be included in the *PostScript* that *Ted* emits.

Building an Afm Directory for local Fonts

Ted finds the afm files for the standard 35 fonts that are in most printers in its AFM directory. Usually that is in `@DATADIR@/Ted/afm`. Fonts that are special for a particular installation are picked up from the `@DATADIR@/Ted/afm/localfonts` subdirectory of the afm directory. Afm files in the `localfonts` directory often have special comments that help *Ted* with finding screen fonts and to embed the font in its printout. For fonts that are supported by *GhostScript* you can use *Ted* to populate the `localfonts` directory with afm files. Use the command `Ted ++AfmForFontFiles <files>` to create an afm file for all *.pfa, *.pfb, *.ttf files on the command line. Note that to run the command, you need to have writing permission to the afm directory. Also note that you need to run the command with a umask that gives the generated afm files the correct permissions (022).

Diagnosing Font Problems

To render RTF documents in a Unix/Linux environment *Ted* has to reconcile several different ideas about fonts fonts: (1) The font names in the RTF file. (2) The *PostScript* font descriptions that it has available in the AFM files on the machine (3) The actual font files on the machine and (4) The X11 or Xft fonts to draw on screen. None of the font resources are completely under *Teds* control. The `++AfmForFontFiles` command helps to at least reconcile (2) and (3). If the X11 fonts are correctly configured they also help to reconcile (3) and (4). The use of fontconfig, freetype and Xft will hopefully reconcile (1) with the rest. Unfortunately that may be restricted to Linux desktop machines. Besides that I notice that *Teds* matching heuristics are often better than the matches by fontconfig. So fonts remain a source of trouble and confusion. *Ted* has some options to help you diagnose.

- 1 The possibility to generate documents on all fonts: `Ted --FontsDocuments <directory>` will produce a document for every font in the given directory. It will show you what fonts are available and what characters exist in the font. The generated documents can be used to test the document on screen or to inspect the result of conversions to *PostScript* or to PDF.
- 2 The Font page of the format tool: Immediately below the font drawing are two lines. If a font file is known the first one shows the name of the font file. The second line shows the name of the screen font. With X11 fonts that is the X11 LFD name. With Xft it is the font name that is matched by fontconfig and that passed to Xft.

Recipe for Installing Fonts

Suppose that you want to install a set of new fonts to be used with *GhostScript* and with *Ted*. Let us take the Lucida fonts that come with the Sun Java JRE as an example. Most probably it is not legal to install the fonts in another context than the Sun Java JRE but this is only an example.

- 1 Assume that you are on a Linux Desktop machine and that you have a *Ted* version with fontconfig and Xft support. Copy the eight ttf files to `$HOME/.fonts`. Update the fontconfig configuration by invoking `fc-cache -f -v`. In this case the location `$HOME/.fonts` is dictated by fontconfig.
- 2 Start *Ted* and make a new document. Notice that the Lucida fonts are visible on the Font page of the Format Tool.
- 3 Run `Ted --FontsDocuments /tmp/fontsdocuments`. Notice the `Lucida*.rtf` files in `/tmp/fontsdocuments`. Convert a few of them to *PostScript* and notice that the ttf file is included and that the *PostScript* actually prints Lucida on your printer.

That was all on Linux Desktop machine. Now we will do the same on a simple Unix box or with a *Ted* version without fontconfig or Xft.

- 1 Manually copy the files to `$HOME/.fonts` or any other directory. We now have to add the fonts to the *GhostScript* Fontmap file. Run `Ted --GSFontmapForFiles $HOME/.fonts/Lucida*.ttf > /tmp/Fontmap`. It is important to refer to the font files by their absolute name. Add the contents of `/tmp/Fontmap` to the *GhostScript* Fontmap. Now the fonts are known to *GhostScript*. The call is restricted to `*.pfa`, `*.pfb` and `*.ttf` font files.
- 2 Check that *GhostScript* really picks up the font. Issue the command `gs -sDEVICE=x11 /usr/share/ghostscript/8.64/lib/prfont.ps`. Type `/LucidaSans DoFont` at the prompt. Check the cryptic messages to see that the correct font is loaded.
- 3 We will not make the fonts available to X11 so they cannot be used on screen by *Ted*. Refer to the standard X11 system administration HOWTO documents to do so.
- 4 Now that *GhostScript* knows the fonts run `Ted ++AfmForFontFiles $HOME/.fonts/Lucida*.ttf`. This will build AFM files for *Ted*. Configure the fonts in X11 before you build the AFM files: *Ted* attempts to keep track of the match between X11 fonts and *PostScript* fonts while building the AFM files. The information is stored in comments inside the AFM files.
- 5 Run `Ted --setProperty avoidFontconfig --FontsDocuments /tmp/fontsdocuments`. Notice the `Lucida*.rtf` files in `/tmp/fontsdocuments`. Convert a few of them to *PostScript* and notice that the ttf file is included and that the *PostScript* actually prints Lucida on your printer. The instruction to avoid fontconfig is only needed if fontconfig is available.

21) Issues with fonts and font configuration

As I explained above, matching fonts either depends on the collection of afm files that describes the fonts to *Ted*, or on the fontconfig library. Sometimes the matches by fontconfig are undesired. For that reason *Ted* has the `avoidFontconfig` property. Setting it to 1 makes *Ted* fall back to the afm files even if fontconfig is available.

Let me give a few examples of undesirable fontconfig behavior.

- The SuSE fontconfig configuration matches the Helvetica font family to *SuSE Sans* rather than to the very similar *Nimbus Sans* font family. *SuSE Sans* is very wide and has huge ascenders and descenders.
- The DeJaVu condensed fonts do not store the fact that the fonts are condensed inside the font file. So font matchers cannot know that the fonts are condensed indeed.
- The standard fontconfig configuration does not map all standard base 35 *PostScript* fonts to the

corresponding URW++ fonts.

The Adobe base 35 font set is a set of 35 *PostScript* fonts that comes with almost any *PostScript* implementation, including *GhostScript*. Unfortunately, some Linux distributions prefer configurations where some of the fonts are mapped to dissimilar TTF fonts because the TTF fonts look nicer on screen. Depending on what you want to achieve, that may be very nice or very unfortunate. The *Ted* distribution contains a test document `@DATADIR@/Ted/varia/base35.rtf` that uses all base 35 fonts and that has images of the real base 35 fonts. In this way you can decide whether you are happy with the fontconfig configuration or not. `@DATADIR@/Ted/varia/base35.fonts.conf` is an example that shows how to use the URW++ fonts as originally intended: As a replacement for the Adobe base 35 fonts for *GhostScript*.

22) Annoyances on traditional Unix systems

The local input method that is compiled into the X11 libraries supports a compose key. Sometimes it is not configured; sometimes you have to try many keys before you find it. In older versions of Xfree386, the compose (`Multi_key`) is the one labeled `ScrollLock` on American keyboards. In newer versions, it is not always configured. By inserting a line like `xmodmap -e 'keycode 78 = Multi_key'` in your private `.xinitrc` file, you can configure a compose key.

Sometimes, no `BackSpace` key is configured in X11. All keys that backspace are configured as `Delete` keys. If pushing the backspace key deletes the character after the I-Bar, configure a `BackSpace` key. In Xfree386 this can be done with the command `xmodmap -e 'keycode 22 = BackSpace'`

The vertical scrollbar of a document window can be controlled with the mouse wheel as it can be configured in XFree86. Include the line `ZAxisMapping 4 5` in the `pointer` section of a version 3.x XF86Config file, or the line `Option "ZAxisMapping" "4 5"` in the `InputDevice` section of a 4.x XF86Config file. Both have been tested with IMPS/2 protocol mice.

23) Compiling Ted from source

To compile and link *Ted*, get the source code from the download site <http://ftp.nluug.nl/pub/editors/ted>. Unpack the archive and follow the instructions below. If you use other Unix versions than Linux, realize that the construction of a distribution package uses the `gzip` compression utility and the `chown root:root` syntax.

I want to express my gratitude to the authors of all the free software libraries I have used for *Ted*. Without them, a project like *Ted* would have been impossible.

To compile *Ted* on a debian based Linux based system you need the following development packages: `build-essential`, `zlib1g-dev`, `libpcre3-dev`, `libx11-dev`, `libxpm-dev`, `libtiff4-dev`, `libjpeg62-dev`, `libpng12-dev`, `libgtk2.0-dev`, `libpaper-dev`. Use `apt-get install` to install them. The `deb` makefile target does this for you. On rpm based systems the packages are called `gcc`, `zlib-devel`, `pcre-devel`, `libX11-devel`, `libXpm-devel`, `libtiff-devel`, `libjpeg-devel`, `libpng-devel`, `gtk2-devel`, `libpaper-devel`. Use `yum install` to install them. *Ted* was compiled on the Solaris 11 live VM with the `developer-gnu` packages installed. Use `pkg install developer-gnu` to install them.

Unpacking the source archive results in a `Ted-2.23` directory. To compile the executable simply issue the command `make` in the `Ted-2.23` directory. There is no need to call `configure` as this is done by `make`. You can change some compilation options by editing the top level makefile. Refer to the comments in the top of the file. When `make` is successful, there is a *Ted* executable in the *Ted* directory. To make an installation package, call `make package`. On traditional Unix systems that do not use `gnu tar`, this must be done **as root**. The installation package `tedPackage/ted_<platform>.tar.gz` is now ready. To install it on your machine, call `make install`. Installation must be done **as root**. (Or by a system user with sufficient permission to install software in `/usr`.) Those that cannot perform the last steps as root can call `make private` to get a private installation. The `make private` call will suggest the necessary modifications to your `~/.Ted.properties` file to run from a private installation. The ultimate possibility is to copy the *Ted* executable to a suitable location and to unpack the relevant files from the `tedPackage/TedBindist.tar` archive. Refer to the sections on installation and configuration for details.

Note the `deb` and `sysvpkg` targets for packaged distributions in the root `Makefile`. To build the rpm package use `rpmbuild -ta ted-2.23.tar.gz --rmsource` or `rpmbuild --rebuild ted-2.23-1.src.rpm` if you like the Red Hat way. The `rpmbuild` program is part of the `rpm-build` package. Use `yum install rpm-build` to install it.

24) Making spelling dictionaries for *Ted*

On the *Ted* web site, or in the source directory of the CD you can find two example programs that build a spelling dictionary for *Ted*. On the basis of these examples, it should not be too difficult to build a Language.dfa file. If you install this file in your private dictionaries directory, or in the system wide one, 'Language' will appear in the spelling tool and you can check spelling in that Language. For the locations to install Language.dfa files, see the section on configurable properties.

To use the examples, you will need

- [The example source code](#).
- The ispell material is used in the example on how to make a checker from an affix file and dictionaries. It can be found [on ftp.cs.ucla.edu](http://ftp.cs.ucla.edu).
- The French épelle material is used in the example on how to make a checker from a flat list of words. The French spelling material can be obtained [from ftp://ftp.inria.fr](ftp://ftp.inria.fr).

For a list of ispell dictionaries that might be converted, and the original ispell material refer to the ispell site.

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Feb 3, 2013

More or more recent information on *Ted* might be available from the *Ted* web site <http://www.nlgg.nl/Ted>. The latest versions and the source code from <http://ftp.nluug.nl/pub/editors/ted>.

P.S. Please do not insert my mail address in web pages that refer to me or to *Ted*. Plain text email addresses are automatically harvested from the web to send unsolicited email. You can either refer to the web page or use an image.