

A Survey on Performance of different Text Editor

Virendra Kumar Swarnkar, K. J. Satao

Abstract: A program that allows its user to pen, view, and edit plain text files is known as Text Editor. On contrary to word processors, text editors focuses on editing functions for plain text instead of adding formatting to text. Text editors serve wide variety of people with wide variety of purposes. Text Editors are generally used by software programmers and web developers use text editors to write and edit in programming and markup languages. However, text editors are ideal tools for anyone who needs to write quickly and simply, read source code, or create text files. One of the most useful tools in a text editor's repertoire is Syntax Highlighting. Programming/markup languages codes are written in color. Text Editing can be efficiently done both in static as well as dynamic environment using a efficient Text Editor.

Keywords: Text, Editor, Word Processors, Syntax Highlighting, Repertoire, Dynamic Text Editor, Static Text Editor.

I. INTRODUCTION

A text editor is program that allows you to open, view, and edit plain text files. Unlike word processors, text editors do not add formatting to text, instead focusing on editing functions for plain text. Text editors are used by a wide variety of people, for a wide variety of purposes. The main objective of text editor for software programmers and web developers is to use the text editors for writing and editing in programming and markup languages. The other features of text editing software are built to help the users for reading and writing the code. However, text editors are ideal tools for anyone who needs to write quickly and simply, read source code, or create text files.

More advanced text editors comes with more advanced and useful features. Syntax highlighting, one of the most useful tools in a text editor's repertoire. Color code text based on the programming/markup language is written in different languages. Other staple text editing features not included in Notepad are large file support, advanced find and replace, vertical selection editing, and document comparison, and many more.

Highlight a section that you want to designate with a certain style, and then select the appropriate name on the style menu. The style will adjust your fonts and line spacing. Do not change the font sizes or line spacing to squeeze more text into a limited number of pages. Use italics for emphasis; do not underline.

II. BASIC FEATURES

Code folding and text folding:

Expand and collapse, outlining, and code hiding, folding is a useful feature in text editing programs that allows the users to hide or display sections of code or text [1].

By folding sections of a document, the users can reduce clutter in the document and just focus on the areas that are important at any given moment. Essentially, folding creates an outline based on the document, and allows the users to collapse levels of the outline when the users want to.

Line and word wrapping:

Lines are endless (or very nearly so) until the user hit enter and start a new line. Line wrapping is a display preference in most text editors that will wrap (or break) lines when they reach a certain length. The wrapping does not affect the line itself, but it shows only how it is displayed to the users. Any wrapped line is still treated as one line for all functional purposes, but is displayed as two or more lines in your text editor [1]. Word wrapping is a supplementary feature for line wrapping that will wrap lines between words rather than in the middle of words. Again, this readability feature rather than one that affects the text itself. Word wrapping is usually included in the same function as line wrapping.

Right-to-left and bidirectional text:

Support for right to left (RTL) texts (like Hebrew, Arabic, Persian) and the mixture of left to right (LTR) and RTL known as bidirectional (bidi) support [2].

Depending on the algorithm used in the programs they might only render the bidirectional text correctly but may not be able to edit them. (e.g. Notepad++ 5.1.3 shows bidirectional texts correctly but you cannot edit it and you should change the window direction to be able to edit right to left texts correctly.)

Unicode and other character encodings:

To support specified character encoding, the editor must be able to load, save, view and edit text in the specific encoding and not destroy any characters [2]. For UTF-8 and UTF-16, this requires internal 16-bit character support.

Partial support is indicated if:

- The editor can only convert the character encoding to internal (8 bit) format for editing.
- If some encodings are supported only in some platforms.
- If the editor can only display specific character set (such as OEM) by loading corresponding font, but does not support keyboard entry for that character set.

Following are the list of text editors that are commonly used for editing. [3]

c	Creator	First public release	Latest stable version	Programming language
Acme	Rob Pike	1993	Plan 9 and Inferno	C
BBEdit	Rich Siegel	1992	10.5.1	C

Manuscript received July, 2013.

Virendra Kumar Swarnkar, Computer Science & Engineering, CSVTU Bhilai, Durg, India.

K.J.Satao, Computer Science & Engineering, CSVTU Bhilai, Durg, India.

A Survey on Performance of different Text Editor

Bluefish	Bluefish Development Team	1999	2.2.2	C
Crimson Editor	Ingyu Kang, Emerald Editor Team	1999	3.72	C++
ed	Ken Thompson	1970	unchanged from original	C
gedit	GNU Project	2000	3.2.2	C
jEdit	Slava Pestov	1988	5.0.0	Java
MS-DOS Editor	Microsoft	1991	2.0.026	
Notepad	Microsoft	1985	6	MASM (originally)
Notepad++	Don Ho	2003	6.3	C++
Notepad2	Florian Balmer	2004	4.1.24	C++
Note Tab	Eric Fookes, Fookes Software	1995	7.1	Object Pascal (Delphi)
Text Edit	AppleIn.	2001	1.7	
Vim	Bram Moolenaar	1991	7.3	C, Vimscript
XEmacs	Lucid Inc.	1991	21.4.22	C, Emacs Lisp

The various Cross-Platform Open Source Editors are as follows. [4]

- A. Vim and Gvim - A cross-platform vi-derivative editor (with many enhancements) with a Windows-conventions-emulating configuration. It has many plug-in available on the site. It supports Unicode and encodings, syntax highlighting, has both console and a GUI versions. Xemacs- cross-platform Emacs derivative, with console and GUI versions. Is mostly written in and extendable with the built-in Emacs Lisp scripting language.
- B. gedit- A text-editor for the Gtk+ / GNOME environment, with many plug-in and extensions, and good Unicode support.
- C. geany- It is another Gtk+-based programmer's editor.
- D. jedit- It is a cross-platform programmer's text editor written in Java, with many plug-in.
- E. Komodo Edit- It is a cross-platform text editor for dynamic programming languages from active State.
- F. Kate- It is a programmer's editor for KDE (the K Desktop Environment). It crashes a lot on MS-Windows but it contains syntax highlighting, good support for Unicode and bi-directional scripts.
- G. Bluefish- It is an open-source editor geared towards web-designers.

The various Cross-Platform Open Source IDEs are as follows. [5]

- A. Eclipse- It is an open-source IDE written in Java. Very comprehensive and contains intelligence, automated refactoring, code completion, and enhanced browsing tools for Java and other languages.
- B. Netbeans- It is a Java IDE from Sun which uses SWING with good support for Java and support for other languages.

- C. SharpDevelop and Monodevelop- It is an open-source IDEs for Microsoft .NET / Mono.
- D. The Eric Python IDE - It is a "full featured Python and Ruby editor and IDE, written in Python".
- E. Padre, the Perl IDE - It is an open-source IDE written in Perl, and intended primarily for Perl development.
- F. Lazarus, the Free Pascal IDE - It is an IDE written in the Free Pascal Compiler (FPC). It allows cross-platform and cross-UI development.
- G. Anjuta: the GNOME IDE - It is an IDE for the GNOME environment. (Open-source, GPLed).
- H. KDevelop - It is an IDE for the KDE desktop environment, written in Qt/C++ and primarily intended for C/C++. As of this writing (February, 2010), may have stability problems on Windows. (open-source, GPLed).
- I. Qt Creator - It is a cross-platform IDE written in Qt/C++, and primarily intended for developing Qt applications.
- J. Code Blocks - It is an IDE written in C++, using the Widgets toolkit. It runs on Windows, Linux/Unix, and Mac OS X and supports multiple compilers.
- K. Leo - It is an IDE written in Python, using PyQt, for Python and other languages. It takes the unusual approach of integrating project management, rendering engine, and a music and video player.

The various Platform-specific Open Source Editors are as follows. [5]

- A. Notepad++ - It is a free source code editor for Microsoft Windows with syntax highlighting, scripting and many extensions.
- B. TextMate - Text Mate is a commercial programmer's editor that has become popular on Mac OS X. It used to be non-open-source, but the source code for its 2.0 version was made available under the GPLv3 licence.
- C. E Text Editor - E Text Editor is a commercial version for Windows, with source available for compiling on Linux and other systems.

III. ESSENTIAL FEATURES

The various essential features of text editors are:

- A. Syntax highlighting: Displays the text in different colors and fonts according to the category of terms.
- B. Function list: It will list all functions from current file in a window or sidebar and allows user to jump directly to the definition of that function for example by double clicking on the function name in the list. More or less real time (does not require creating a symbol database).
- C. Symbol database: Database of functions, variable and type definitions, macro definitions etc. in all the files belonging to the software being developed. The database can be created by the editor itself or by an external program such as ctags. The database can be used to instantly locate the definition even if it is in another file.
- D. Bracket matching: It finds matching parenthesis or bracket, taking into account nesting.
- E. Auto indentation: It may refer for simple indenting to the same level as the line above, or intelligent indenting that is language specific, e.g., ensuring a given indent style.
- F. Compiler integration: It allows running compilers/linkers/debuggers within editor, capturing the compiler output and stepping through errors by automatically moving cursor to corresponding location in the source file.

IV. CONCLUSION

Text Editors are software programs which allows user to pen, view, and edit plain text files. Text Editors allows effective and efficiently way of editing static as well as dynamic text. Multiple features are being provided in most of the text editors like, Syntax highlighting, Function list, Symbol database, Bracket matching, Auto indentation, Compiler integration etc. Still there is huge scope for Text Editors and they will continue to evolve with new and advance operating systems.

REFERENCES

1. <http://www.text-editor.org/>
2. Proceedings of ACM Conference on Computer Human Interaction 2003, pp. 914-915.
3. http://en.wikipedia.org/wiki/Comparison_of_text_editors
4. Dix, A., Finlay, J., Abowd, G., Beale, R., 2004. Human-Computer Interaction, third ed. Prentice Hall, pp. 71-78.
5. <http://www.shlomifish.org/open-source/resources/editors-and-IDEs>

AUTHORS PROFILE



Virendra Swarnkar, did his B.E from R.C.E.T., Bhilai, Dist: Durg Chhattisgarh, India. Currently he is pursuing M.Tech in Software Engineering from branch from Rungta College of Engineering & Technology, Bhilai, Chhattisgarh, India.



Prof. K. J. Satao, is a Professor in Computer Science & Engineering at Rungta College of Engineering and Technology, Bhilai(C.G.). He has obtained his M.S. degree in Software Systems from BITS, Pilani (Rajasthan) in 1991. He has published more than 40 Papers in various reputed Journals, National & International Conferences.

He is a Dean of the Computer Engineering & Information Technology in Chhattisgarh Swami Vivekanand Technical University, Bhilai. He is a member of the Executive Council and the Academic Council of the University. He is a member of CSI and ISTE since 2000. He has worked in various other Engineering Colleges for about 25 Years and has over 4 Years industrial experience as well. His area of research includes Operating Systems, Editors & IDEs, Information System Design & Development, etc.