A Japanese Word Processor for Windows
*μ §*μ *§*
Version 1.1

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CHAPTER 1

Introduction

What is JWP Anyway?

JWP is a *freeware* Japanese word processor, available *free* to anyone under the terms of the *GNU General Public License*. You are welcome to make a copy for your own uses, as well as to distribute it to other people. The *GNU General Public License* binds you to the agreement that you always distribute *full* copies of the program, and that you can charge a distribution fee for distributing it.

When designing JWP, the highest priority was given to basic Japanese word processing functions. It does not (yet) have fancy font-control and advanced layout features found in other high-end English word processors. You can always use Japanese *PageMaker™* for that purpose.

It is assumed that JWP will be used mainly to handle Japanese text with an occasional English word or two. The program is not optimized to handle writings with large amount of English text and a few Japanese characters; for those circumstances, it is much better to employ a normal English word processor and paste in Japanese bitmaps. (See page 17 for more details)

Please support JWP in any way you feel like (sending a fan mail to some of the people involved in the project sounds nice). If you value this program and its further development, send me a check for whatever amount you feel it is worth to you. This way, I will be able to give a financial incentive to attract volunteers to upgrade JWP's features. I have limited free time myself and new releases are not likely to happen quickly without additional help.

What is the GNU General Public License?

A description of the *GNU General Public License* is shown below, taken directly from the License document itself. You should have a copy of the License together with this package. They are in the files called **GNUGPL.WRI** (*Windows Write* format), **GNUGPL.DOC** (*Microsoft Word for Windows* 2.0 format), **GNUGPL.RTF** (RTF format) and **GNUGPL.TXT** (straight text).

The license agreements of most software companies try to keep users at the mercy of those companies. By contrast, our *General Public License* is intended to guarantee your freedom to share and change free software — to make sure the software is free for all its users. The *General Public License* applies to the Free Software Foundation's software and to any other program whose authors commit to using it. You can use it for your programs, too.

When we speak of free software, we are referring to freedom, not price. Specifically, the *General Public License* is designed to make sure that you have the freedom to give away or sell copies of free software, that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of a such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must tell them their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

All these basically mean that you are free to get a copy of the program if you want, *including the full source code.*

Disclaimers

Because this program is free software, it is distributed in the hope that it will be useful, but **Without Any Warranty**; without even the implied warranty of **Merchantability** or **Fitness For A Particular Purpose**. This means that if you lose

millions of dollars because you used the program, tough. So there.

You should choose "Help About-JWP" from the menu to read some of the background information concerning JWP. In particular, you can:

> 1) Read the disclaimer the comes with JWP
> 2) Read the *GNU General Public License*
> 3) See the names of people involved in JWP's development

You are encouraged to contact the people involved in the JWP project. They may have resources and software that you'll like.

CHAPTER 2

Installing
JWP

Hardware and Software Requirements

JWP is designed to be run on IBM PC and compatible computers under the *Microsoft Windows* operating environment, version 3.0 or higher. It currently does *not* run under the real mode of *Windows*; as a result, a computer with an 80286 CPU or higher is **required**. Although you can run *Windows* under protected mode by having 2 MB of RAM in the computer, the minimum recommended set-up is 4 MB for acceptable performance.

JWP is very processing-intensive. A faster computer will greatly enhance the program's responsiveness. It is highly recommended that you use at least a 33 MHz 80386 or 80486SX computer. Slower computers may give annoying delays, especially when working with large paragraphs.

Support for *Windows 3.0* has been dropped in this version. The software is optimized for *Windows 3.1*, which as an operating environment has many enhancements over version 3.0, including scalable TrueType fonts. Because of the amount of internal scaling that JWP does, it is **strongly** recommended that you upgrade to *Windows* version 3.1, if you have not already done so. By itself, 3.1 is much more stable than 3.0, and its TrueType support enables JWP to scale fonts more satisfactorily. The latest versions of JWP have *not* been tested with *Windows 3.0*, but that does not mean that it will not run correctly.

Installing and Running JWP

       To install JWP, follow the steps outlined below. I realize that this installation process is more manual than necessary; however, since JWP is a freeware project, I do not have the option of bundling a commercial installer. Maybe someday I'll write one. . . Meanwhile, sorry for the inconveniences.

Prepare: Make sure you are in DOS and not *Windows*. If you are currently running *Windows*, either exit it or run a DOS window. To exit *Windows*, choose "File Exit" from the *Program Manager* menu. To run a DOS window, double-click on the "DOS Prompt" icon in the "Main" program group.

Step 1:   Create a new directory for JWP. For example, if you want to call the directory **C:\JWP**, you should type:

> **C:** *<Return>*
> **MD \JWP** *<Return>*

Step 2:   Switch to the directory. For example:

> **CD \JWP** *<Return>*

Step 3:   If you have obtained JWP through the Internet, unpack all the 'zip' files into the new sub-directory. For example:

> **PKUNZIP JWPPROG.ZIP** *<Return>*
> **PKUNZIP JWPFONTS.ZIP** *<Return>*
> **PKUNZIP JWPDICT.ZIP** *<Return>*
> **:**
> **:**

If you have obtained JWP on diskettes, *copy* all the files into the new sub-directory. For example:

> **COPY A:*.*** *<Return>*

for each diskette.

Step 4:   Make sure that you have all the files necessary for JWP. A list of all the files can be found at the end of this chapter. The DOS command "**DIR /P**" will display a list of all the files in the current directory.

Step 5: Copy the file **CTL3D.DLL** to your *Windows System* directory. In many systems, the *Windows* directory is something like **C:\WINDOWS**. To copy the file, you should issue a command like:

> **COPY CTL3D.DLL C:\WINDOWS\SYSTEM** *<Return>*

If you *already* have the file **CTL3D.DLL** in your *Windows System* directory, you should double-check the dates on the two files. Use the most recent one.

Step 6: Type the command:

> **MAKEINI** *<Return>*

This program will create a default initialization file called **JWP.INI**, using the name of the current directory. Because of this, it is ***critical*** that you are in the JWP directory when you do this. (In other words, please follow the steps *closely*)

You will also be asked to type in the name of the *Windows* directory. **MAKEINI** will attempt to create the initialization file in your *Windows* directory.

Step 7: If all goes well without errors (Whew!), JWP is ready to run. Unlike many commercial *Windows* programs, JWP does not automatically install itself into the Program Manager. It is necessary for you to use the "File New" command and add a program item into the appropriate program group.[1] You can now run JWP by double-clicking on the JWP icon.

What Files Should I Get in the Package?

You must have the following files in order to install and run JWP:

JWP.EXE	• JWP program
JWP.HLP	• JWP help file
CTL3D.DLL	• DLL to create 3D dialog boxes (Microsoft)

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1 Consult the *Windows* User Manual for details.

MAKEINI.EXE	• Program to create user initialization file
EDICT	• Jim Breen's Japanese–English dictionary
EDICT.JDX	• Index to **EDICT**
K16X16.F00	• 16×16 kanji font
K24X24.F00	• 24×24 kanji font
K48X48.F00	• 48×48 kanji font
KINFO.DAT	• Kanji information data
KINFO.IDX	• Index to **KINFO.DAT**
WNN.DCT	• Kana-to-kanji conversion dictionary
WNN.IDX	• Index to **WNN.DCT**

The following files should come with the JWP package, but they are not critical. If you do not have them, however, you should check with the place you obtained the JWP package from.

MANUAL.DOC	• This User's Manual (in *Microsoft Word for Windows* 2.0 format)
GNUGPL.WRI	• The *GNU General Public License* (in *Windows Write* format)
GNUGPL.DOC	• The *GNU General Public License* (in *Microsoft Word for Windows 2.0* format)
GNUGPL.RTF	• The *GNU General Public License* (in RTF format)
GNUGPL.TXT	• The *GNU General Public License* (straight text)
GLOSSARY.DAT	• User glossary
BTNMAD.EXE	• Recreational program: *Button Madness!*
BTNMAD.DOC	• Documentation to *Button Madness!*
PUZZLE.EXE	• Recreational program: *Puzzle*
PUZZLE.HLP	• Help file for *Puzzle*

The following files *may* come with your package. They are *not* part of the standard JWP distribution and are likely to be personal files left over by the previous user from whom you received this package. It is up to you whether to keep them or not.

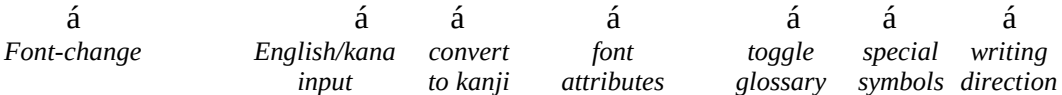|	
USERDICT.DCT	• User Kana-to-kanji conversion dictionary
CNVCACHE.SAV	• Kana-to-kanji conversion choices

CHAPTER 3

Entering Text

How to Type Japanese and English Text

JWP is designed to be as "modeless" as possible and as "direct" as possible. Many Japanese word processors and editors on PC's, Macintosh's and UNIX systems use a separate "input area" at the bottom of the screen. The user types in Japanese words in romaji, such as:

watashi ha nihongo wo benkyou shite imasu.

The user then presses some "convert" button, and the romaji-ized sentence is converted to kanji's and entered. In the shareware version of MOKE[1] for the IBM PC, for example, hiragana's will be entered when the user presses the space bar. If the user types a single word and presses **F2**, then the word's kanji reading will be entered.

This is a rather "modal" approach to kana-kanji conversion. The approach taken by JWP is different; when you first run it, you will instead see something that looks very much like a rip-off of *Word for Windows*. There is an iconbar on top of the screen:

µ §

á	á	á	á	á	á	á
Font-change	*English/kana input*	*convert to kanji*	*font attributes*	*toggle glossary*	*special symbols*	*writing direction*

The only icons currently functioning are the "English/kana input" pair, the "convert to kanji" button, "toggle glossary" button and the "show special symbols" button. Other buttons and features, including the font box on the left, is grayed out. They are not

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1 The commercial version of **MOKE**, however, uses an input method similar to JWP's.

supported by the current version of JWP, and they are reserved for future implementations.

Clicking on the English button will enter English alphabetic letters on everything you type; just like a normal English word processor. Clicking on the hiragana button will enter hiragana's. There is also a *hot-key* that you can define so that, whenever you press it, JWP will toggle between entering English and hiragana's. That hot-key is originally assigned to **F4**, but you can change it easily.

Start typing the above sentence in JWP. Type:

watashihanihongowobenkyoushiteimasu.

You will see hiragana's appearing on the screen while you type. If you look down to the status bar while typing, you will actually see the characters you typed. The complete sentence will come out to be:

JWP will enter a hiragana automatically *as long as* there are no ambiguities. For example, an "n" can either be the beginning of "na ni nu ne no" ( ) or the hiragana . You can also type " n' " for ; that will make it unambiguous. Because the program cannot decide which kana character you are entering, all it can do is to register that you have typed an "n". You will see that the letter "n" appears in the status bar. When you type an "a" immediately afterwards, for example, the hiragana will be entered. When you type a "t", however, JWP is aware of the fact that there is no hiragana starting with "nt", and it will deduce that the first "n" should be interpreted as the hiragana . It will then enter an and register the letter "t", so that, when you press an "a" later, the hiragana will be entered.

You can enter the small hiragana's by putting a plus sign ("+") in front of them. For example, "+a" will enter . "+tu" will enter . There is another short-cut for , however. If you type a leading letter twice (such as "tt", "ss" etc.), JWP will assume that you want to enter the first letter as a . For example, typing "tukatte" will enter the following: .

Nevertheless, ambiguities may still happen when entering kana's. For instance, JWP will be confused if you want to enter by typing "tennou"; you will see instead. In these cases, you will need to type "ten'nou".[1]

JWP understands shorthands such as "sha", "kyu", etc. "Shi" can be used in place of "si". "Chi" and "ci" can be used in place of "ti". "Tsu" and "tzu" can be used in place of "tu".

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1 It is possible to tell JWP that the first "**n**" of "**nn**" represents a instead of a . See page 28, *How to Change Options,* for more details.

Several English symbols have Japanese equivalents, and several Japanese symbols have equivalent combinations of English key-strokes.

Engli
Comr
Perio
Open
Close
Dash
f–
y=

Most of the other symbols in the ASCII character set will be translated to the equivalent character in the Japanese JIS character set.

You enter katakana's by typing the entire hiragana in Capitals. For example, "KU" will enter the katakana . Entering katakana's for   might be a little more complicated. As you will see, capitalized words will be converted to kanji's in JWP, so the program must know whether the user actually means to enter the character , for

example, or whether he actually means to enter the kanji . JWP resolves this conflict by assuming that, if any non-capitalized letters follow the capitalized letter, it will be assumed as a kanji conversion. If capitalized letters follow, it will be assumed as a katakana. In order to enter , however, you must type "A" and press the convert hot-key (originally set to **F2**).

The default English font is Times New Roman 12 points, but you can easily change this font to another you choose. Pressing the "tab" key will skip the cursor to the next hiragana position. This is mainly used for aligning kanji's to fixed positions after English text, because English text usually do not end in neat Japanese cell boundaries.

How to Enter Kanji's

You start a kanji conversion by typing the *first* letter of the *first* kana of a word in capital letter. JWP will highlight that hiragana, and every hiragana you type afterwards will also be highlighted. The highlight indicates that a kanji conversion is taking place. When JWP reaches a point where it is impossible to find a conversion for the string of hiragana's you have just typed in, it will replace the *longest* string of hiragana's that can be converted to kanji's.

This is especially desirable in writing Japanese. For example, typing "Watashi" will enter the three hiragana's , but they will be highlighted. Type in "ha", and the character   will appear at the end of , highlighted also. As the characters ,   and   are entered, JWP realizes that it is possible to delay the conversion because there are kanji's whose readings start with   (e.g.),   (e.g.) and   (e.g.). But, after searching the database, it will realize that there are no kanji's starting with . The *longest* hiragana string will be converted, in this case . The character   will stay where it is.

Sometimes, the longest reading may not be the desired one. In that case, pressing **F2** (or choosing Kanji-Convert from the menu) will force a conversion right at that point.

When hiragana's are converted to kanji's, the choices are listed on the *kanji list*. The *kanji list* can be detached and floated around the desktop, or it can be placed on the top or at the bottom. By default, the first item on the list is chosen. Pressing **F2** will skip to the next item. Pressing the hot-key for backward conversion (originally set to **Shift-F2**) will skip to the *previous* item. You can also use the scrollbar under the kanji list to run through a long list quickly. Clicking on an item in the list will automatically select it. The *last* choice will always be the kana reading of the kanji so that you can revert back to the original kana string if necessary.

JWP will also *remember* the last choice you have made on this particular kana-to-kanji conversion. Any subsequent conversion of the same hiragana pattern will convert to the last kanji that you picked. For example, to enter the above sentence with kanji's, type:

WatashihaNihongowoBenkyoushiteimasu.

Notice that, as soon as "Watashiha" is typed, it is replaced by . There are two possible readings for , so the first one (which happens to be the correct one) is chosen. The whole sentence comes out as the following:

Start every kanji word with capitals. "Nihongo" will be rendered . Notice also that you don't have to press **F2** even once. Sometimes you will have to, though. Pressing the hot-key after the conversion will switch to the next choice. Of course, both and   has only one kanji reading. Try out other ones, such as , , etc.

How to Define New Kana-to-Kanji Conversions

Although the kana-to-kanji conversion dictionary that comes with JWP is comprehensive, it is always the case that certain conversions important to some users are not included. You can supplement that standard conversion dictionary with your own conversions, and you can define these user conversions by choosing "Utilities User-Dictionary".

Two lists in the dialog box will show up. The kana readings of all currently defined user conversions will be listed on the left. When a reading is selected, the kanji's associated with it will be listed on the right. You can add a new user conversion by pressing the "Add" button. You can also edit any existing user conversion by double-clicking on the entry or selecting it and pressing the "Edit" button.

Care must be given when adding a kana reading for a user conversion. If you enter all hiragana's, then those particular kanji's associated with it will *only* match that *precise* hiragana string. However, you can put *one* (and *only one*) of the following letters at the *end* of the hiragana reading:

u k g s z t d n m h b p r

These letters correspond to the first letter of the *romaji* representation of the ending kana if the reading is categorized under the   group. For example, the kana reading " k" will match the strings , , ,   or . Kanji's assigned to this reading will match strings such as:

 , , , etc.

How to Change Paragraph Formatting

Each paragraph can have its own *formatting*. In the current version, paragraph formatting is limited to "indentations" and "line spacing".

The *ruler* on top of every file window shows the cell boundaries for Japanese characters as well as a few triangles indicating the *indentations* of the current paragraph. The left triangle is divided into two halves; the upper half indicates the left indentation of the *first* line of the paragraph, while the lower half indicates the left indentation of the *rest* of the paragraph. The right triangle indicates the right indentation of the paragraph.

To indent the entire paragraph by three characters, for example, you click on the *lower* half of the *left* triangle, dragging it out to the third character position, and then releasing the mouse button. You will see the paragraph being reformatted. To indent the paragraph *inwards* from the right margin, drag the right triangle instead.

Alternatively, you can change any paragraph formatting parameter, including line spacing, by choosing "Format Paragraph" from the menu. A "1.5" line spacing, for example, will put half a line of blank space after each line in that paragraph.

Remember that, however, the "first" indentation in this dialog box refers to an *offset* from the "left" indentation. For example, if the left margin of your paragraph is indented by 4 characters, the number "2" will indent the first line by **6** characters (i.e., 4 + 2). On the other hand, the number "–2" will indent first line by only **2** characters (i.e., 4 – 2).

How to Use the Draft View

Because mixing English text with Japanese text requires quite a lot of formatting, entering English text can be slow, especially on slower systems. The "Draft View" will display and format all English text in the standard *Windows* font, which will be a little faster than a more WYSIWYG[1] view. It is strongly recommended that you use the Draft View when entering large amount of English. You can toggle between the Draft View and the standard view by choosing "View Draft-View" from the menu. You can also assign a *hot-key* for this function, if you switch between views on a regular basis.

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1 "What You See Is What You Get"

CHAPTER 4

Moving Around the Document

How to Move Around Using the Keyboard

Key
Left-arrow
Right-arrow
Up-arrow
Down-arrow
Ctrl-left-arrow
Ctrl-right-arrow

Home	
End	
Ctrl-Home	
Ctrl-End	
PgUp	
PgDn	
Ctrl-PgUp	
Ctrl-PgDn	
Shift-Return	

How to Select Text

You can select text by moving the cursor while pressing the **Shift** key. Any text selected will be highlighted. You can also select text by clicking on the file window with the mouse and dragging it. Text selection is critical for many JWP features, including kanji info, cut and paste, formatting, etc.

If you choose "Edit Select-All" from the menu, the entire file will be selected. The cursor will move to the end of the file.

How to Use Cut And Paste

You can delete, copy or move blocks of text through a process called "Cut and Paste". To delete or move a block of text, select it and choose "Edit Cut" from the menu or press **Shift-Del**. The text will be cut into the *Windows* clipboard. You can then insert it into another position or even another file by choosing "Edit Paste" or pressing **Shift-Ins**.

To copy a block of text, select it and choose "Edit Copy" from the menu or press **Control-Ins**. The text will be copied into the *Windows* clipboard and will also remain in the file. You can then insert it into another position.

If you run a "clipboard viewer", such as the one supplied with *Windows*, you will notice that the data selected into the clipboard exists in several formats. First of all, the "Text" and "OEM Text" formats will show only text, without any formatting, in any standard Japanese coding format you have chosen. You can set the clipboard coding format with "Utilities Options" from the menu.

The "Owner Display" format will show the data fully formatted within the clipboard viewer's window. If the clipboard window is resized, the text will be reformatted to fit in the new window size. All formatting will be retained. You will be able to see Japanese text as is.

The "Bitmap" format is simply a bitmap snapshot of the text you have selected, rendered in exactly the same manner as JWP does in the file windows. You can run PaintBrush or some other bitmap program to paste it in as a picture. It is particularly useful in situations when you want to paste in a paragraph or two of Japanese text into an English word processor, such as *Word for Windows*.[1] It is recommended that you change the display kanji font to a higher resolution font (such as 24×24 or 48×48) before creating a bitmap. You can change the display kanji font with "Utilities Kanji-Fonts" from the menu.

How to Undo and Redo Changes

Regardless of how easy it is to enter a kanji into a computer, it is still (in my opinion) much more time-consuming than entering English characters. Because of this, it will be rather dangerous if JWP does not have a comprehensive undo feature; a user can accidentally delete a kanji character and spend the next 20 minutes searching for it again.

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1 In fact, this document was compiled with Word for Windows 2.0, with Japanese bitmaps pasted in throughout the document.

For your protection, JWP automatically retains the changes you have made to a document so that you can "undo" them if necessary. JWP also saves all changes into the document file so that you can undo them in later sessions. By default, *all* changes are retained. If JWP runs out of memory to store changes, it will delete the oldest change you have made to make room for new changes. You can limit the number of changes that JWP will keep by choosing "Utilities Options" from the menu. You can also tell JWP to trim off old changes when saving the file.

To undo the last change, choose "Edit Undo" from the menu or press **Alt-Backspace**. You can "redo" this change later by choosing "Edit Redo" from the menu or pressing **Alt-Shift-Backspace**. Remember, though, that all changes you have "undo-ed" will disappear once you make a *new* change to the document and you will no longer be able to redo them.

How to Search for and Replace Text

Search and Replace functions are accessed through the Edit menu. You can assign a hot-key to the "Search", "Replace", and "Find/Replace Next" functions.

You have the option of ignoring all case (default), equating English alphabetic letters in the JIS character set with normal English alphabetic letters (default), searching the entire file, and wrapping around when the search hits the bottom of the file. In Replace, you can also turn off confirmations and replace the entire file.

One of the most powerful features of JWP is the support of "regular expressions". A regular expression gives you amazing power in searching and replacing text throughout the file. You must turn on the "Regular Expression" check box in order for JWP to recognize a search string as a regular expression. The following characters have special meanings when inside a regular expression (JIS equivalents will also work):

Charac
^
$
*

?
\n
\p
\t
\x
\k
\a
****

In addition, any character grouped within a pair of square brackets will match exactly *one* character within the group. For example,

> **[abc]**　　　　Matches either 'a', 'b' or 'c'
> **[a-def-h]**　　　　Matches anything within the range 'a' to 'd', the character 'e', or the range 'f ' to 'h'
> **[-m]**　　　　Matches anything before and including 'm'
> **[m-]**　　　　Matches anything after and including 'm'

All of the English characters above can be replaced by a kana, a kanji, or any of the standard symbols in the JIS character set. The JIS ordering is used to compare the relative positions of characters. All ASCII characters come before JIS characters. For

example,

will match *any* of the following:

> *Any* English alphabetic letters and symbols in the ASCII character set

> If an exclamation mark (!) is placed at the beginning of the group, then the expression will match anything *not* within the group. For example,

> **[!a-m]** Matches anything *not* within 'a' to 'm'

Anything placed within a pair of parentheses can be divided into "substrings", separated by a comma (either the English comma ' , ' or the Japanese comma ' '). For example,

> **(abc,def,ghi)** Matches the strings 'abc', 'def', or 'ghi'

One practical use of this structure is to search for a Japanese string regardless of whether it has been rendered in kana or kanji. For instance, the regular expression:

will match either   or .

> Finally, a pair of curly brackets '**{}**' have meaning only when you are performing a replace. In the replacement string, you can indicate that substrings from the original string should be placed within the new replacement string. Curly brackets in the search string are numbered sequentially, starting from one, and are represented by placing a number between two curly brackets, e.g. "**{1}**". You can have up to 9 curly text strings enclosed in curly brackets within the search string.

> The numbering is depth-first, meaning that a pair of curly brackets enclosed within another pair is numbered before curly brackets following the enclosing pair are numbered. For example, in the regular expression:

> **{ a { bc { def } g { hi } } jk { lm } }**

> **{1}** = '**abcdefghijklm**'   **{4}** = '**hi**'
> **{2}** = '**bcdefghi**'   **{5}** = '**lm**'
> **{3}** = '**def**'

CHAPTER 5

Managing Kanji's

How to Get Information About a Kanji Character

You can get very complete information about any kanji character in JWP. First select the kanji character you want, then choose "Kanji Get-Info" from the menu. A dialog box will pop up showing, among others:

1) a large picture of the kanji
2) its stroke count
3) its bushu (both in number and in actual bushu)
4) its JIS coding (in hex)
5) its grade (grade 1 to grade 10, referring to difficulty)
6) its coding in the Nelson dictionary
7) its "On" and "Kun" readings, if any
8) its meanings in English, if available

A bracketed hiragana string in the readings indicates an okurigana. "Kanji Get-Info" is also available in the dialog boxes of many other character look-up features of JWP.

The "Kanji Info" database is being maintained by Jim Breen in Australia (who also produced the Japanese–English dictionary). He has also developed a "Japanese File Viewer" called JREADER that offers dictionary and kanji info support. It is possible for you to keep one single copy for both programs.[1] (See also page 25)

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1 To specify a different location for the kanji information file, you must change the following lines in JWP's initialization file **JWP.INI** in the *Windows* directory:

How to Look Up a Kanji Character

If you are not sure of the precise kana reading of a particular kanji, you can look it up by stroke count or by bushu. Choose "Kanji Lookup" from the menu, and you will see a dialog box with a slide-rule containing a list of kanji's, originally sorted by stroke count. You can use the scroll-bar directly beneath the slide-rule to find the particular kanji you are looking for.

Alternatively, you can use the stroke count and bushu scroll-bars to move to a particular range of kanji's quickly. You then use the slide-rule to choose from a limited list.

You also have the option of sorting the kanji list by bushu; simply click on the radio button next to the bushu scroll-bar and the kanji's listed in the slide-rule will automatically resort themselves.

When you have found the kanji you are looking for, double-click on it or highlight it and then clicking "Insert to File". The kanji will be automatically inserted into the current file at the cursor position.

How to Enter Any JIS Character

It is possible for you to enter *any* character currently defined in the JIS character set, both level 1 and level 2.

The first method is to choose "Kanji JIS-Table" from the menu. You will be presented with a large 16×6 table with each JIS character appropriately placed according to their JIS coding. The size of the table is 16×6 for a reason: standard JIS coding starts at hex 21 (first printable non-blank character in the ASCII character set) and goes up to hex 7E (last printable character in the ASCII character set, just before the non-printable Del character). This corresponds to almost 6 rows of 16 characters each, following the hex coding. The first character of each row corresponds to the digit zero in the last four bits of the JIS code, the next character representing the digit one, and so on. The first row of the table represents the digit 2 in the second four bits of the JIS code, the second row represents the digit 3, and so on.

The JIS character set is designed such that different types of symbols occupy different areas in the 93×93 coding space. The JIS table JWP uses is divided into *pages*. The first page represents the byte 21 (in hex) in the last eight bits of the JIS code.

Kanji Info=<*directory*>**\KINFO.DAT**

Unfortunately, the *index files* used by JWP and JREADER are different. When installing new versions, you must rebuild JWP's index file through the following command **KINFOIDX** (**KINFOIDX.C** is available with the source code).

Definitions of the different pages are:

Page (hex)
21, 22
23
24
25
26
27
28 to 2F
30 to 4F
4F to 73

You can move to the next or previous page through the scroll-bar or the "Next" and "Prev" buttons. You can also jump to a particular page by dragging the scroll-bar. The number of the current page (both in hex and in decimal) will be constantly displayed.

You can insert any character in the table by double-clicking on it or clicking it and then pressing the "Insert to File" button.

If you know the JIS coding of the character you want to enter, you can choose "Kanji JIS-Input" from the menu. Remember that you must enter the JIS code in **hex**.

CHAPTER 6

Special
Features

How to Use the Japanese–English Dictionary

JWP comes with a Japanese–English dictionary, kindly donated by Jim Breen from the Deep South (Australia). Jim Breen's dictionary contains English meanings of many common Japanese words; its dictionary and index formats are compatible with MOKE. Therefore, you have the option of using one single copy of the dictionary for *both* MOKE and JWP. Jim Breen constantly updates and expands the dictionary; look for releases of newer versions.

You can access the dictionary by choosing "Utilities Dictionary" from the menu. JWP allows you to search either by Japanese or English, but not both. An English entry must be at least 3 letters long. Pressing the "Search" button will start the search.

If any dictionary entry matches your search string, it will be listed. You can select any line listed an insert it into your file by double-clicking on it or pressing the "Insert to File" button.

To keep one single copy of the dictionary for use with JWP, MOKE and Jim Breen's JDIC, you must make changes to either the **JWP.INI** file in your *Windows* directory or the configuration files of MOKE and JDIC.[1]

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1 If you decide to keep the dictionary file (**EDICT**) and index file (**EDICT.JDX**) in the MOKE / JDIC directory, you should edit the following sections in **JWP.INI**:

Japanese Dictionary=*<directory>***\EDICT**

Japanese Dictionary Index=*<directory>***\EDICT.JDX**

How to Use the Dynamic Glossary

It is usually slow to type kanji's. JWP has a full *dynamic* glossary system to help you with frequently-used phrases. A *dynamic* glossary is different from a normal glossary in that it constantly looks at what you type instead of forcing you to press a magic "Glossary" key.

You can access the glossary by choosing "Utilities Glossary" from the menu. All the glossary items currently defined will be listed. You can add a new glossary item by pressing the "Add" button. You can also edit an existing glossary item by double-clicking on it or selecting it and pressing the "Edit" button.

A glossary item consists of a "short-cut" string, which can either be *all-kana* or *all-English*. If you try to add an item with a short-cut string that is the same as that of an existing glossary item, the new "phrase" will replace the original phrase. If the short-cut string does not match any existing glossary item, it will be added to the glossary.

To recall a glossary when typing in the file window, you only need to type the short cut string and JWP will automatically replace the glossary short-cut with the glossary phrase. Because dynamic glossary items are matched dynamically, avoid using a lot of short-cut strings that are very similar to each other; otherwise, you may overflow the glossary stack and generate an error.

You have the option of turning off the "dynamic" switch on an item so that it will not be matched dynamically. A non-dynamic glossary item can only be entered through the pop-up glossary list.

Choose "View Glossary" from the menu or press the glossary button on the iconbar and the glossary list will pop-up on top of JWP. You can enter any glossary item listed simply by clicking on it. A glossary item will not show up in the list if it is tagged "hidden" (when adding that item) though.

JWP originally comes with a glossary file consisting of many short-cuts for symbols in the JIS character set. All of these symbols are originally tagged hidden. You are welcome to retain only the ones that you feel are useful and add others.

How to Assign Hot-keys to Functions

One of the flexibilities of JWP is that you can set your own key bindings for most of the most used features. Choose "Utilities Hotkeys" from the menu and you can assign one hot-key to each function, including "Toggle Kana/Text mode", "Convert to Kanji", "File Save", etc.

To assign a hot-key to a function, double-click its entry in the list or select it then press "Edit". Hot-keys are restricted to Shift and Control combinations of function keys 1 to 12, as well as the control keys **Ctrl-A** to **Ctrl-Z**. However, you cannot assign control characters like **Ctrl-M** and **Ctrl-H** to functions because they have special meanings within JWP. JWP automatically saves new hot-key bindings.

It is *strongly* recommended that you assign a hot-key to the various kanji look-up functions because it will be the only method that you can access those functions within a Japanese edit control inside a dialog box.

How to Look at JWP Statistics

JWP keeps its own kanji font cache and other buffers for its internal operations. Choosing "Utilities Statistics" from the menu will give you some of the internal statistics, probably useful only to JWP developers. The numbers shown in the "File" box include the total number of characters in the current file and the total number of changes that you can undo.

How to Toggle the Iconbar, Status Bar, File Rulers, Kanji List, Glossary List and Special Symbols Display

You can turn off the iconbar, the status bar, the kanji list, or the file ruler that appears on top of every file window through choices under the "View" menu. You can also toggle the glossary list by choosing "View Glossary" or by pressing the glossary list icon on the iconbar. You can decide whether JWP will display special symbols by selecting "View Special Symbols" from the menu or by pressing the special symbols icon on the icon bar.

If turned on, the following special symbols will be displayed on the screen:

Space	·
Tab	»
Soft return	«
Hard return	¶

This feature also makes it convenient to edit text originally imported from other text based Japanese formats.

How to Change Options in JWP

You have control over a number of JWP options that determine the behavior of many JWP features. Choose "Utilities Options" from the menu and you will be presented with a dialog box with the current settings to all JWP options. The following is a description of each applicable option:

Option
Relax margin for punctuation
Show all possibiliti conversion
3D Dialog Boxes
NN Conversion

Option	
Glossary Disappear After Selection	
Conversion bar pos	
Clipboard format	
Number of Undo L	

CHAPTER 7

Working with Files

How to Edit File Summaries

Every JWP file can contain a "summary". There are five items in a file summary: 1) Title, 2) Subject, 3) Author, 4) Keywords, 5) Comments. It is highly recommended that you include a meaningful summary with *every* Japanese file that you create because it will greatly enhance the chance of you finding the file again quickly. As you may know, DOS limits the name of each file to eight upper case characters, hardly adequate to hold an even remotely meaningful Japanese file name.

You can edit the file summary by choosing "Edit Summary" from the menu. It is also recommended that you create a glossary item for the unchanging parts of the summary, such as the Author, so that such text can be entered quickly and painlessly.

How to Find a File

It is sometimes very difficult to look for a particular Japanese file, named with English characters, especially when the typical file name is restricted to only **eight** upper case characters. This is the lame design of DOS that we must all live with.

JWP has integrated support for finding files hidden somewhere within your machine. Choose "File Find" from the menu to access this feature.

Inside the File Find dialog box, the current directory will be shown in the upper right hand corner. You can change to a different directory or a different disk drive by double-clicking on the list below it.

You can indicate whether you want to search only the current directory, the current directory and *all* subdirectories, the entire disk, or all disk drives on your system.

Pressing the "Search" button will put you to another dialog box. There, you can specify the file names you want to search in (for example, '**.jwp**' for JWP files only, '**.** ' for all files, '**.euc**' for EUC files, or a specific file if you remember its name). You can also type in words to search for in each of the five summary categories. A file is found if it matches *all* the criteria; that is, its name matches the file name criteria and, if summary criteria are present, that it is a JWP file, and that each of its summary entry contains the string of words specified in the criteria (not necessary in the beginning).

The full path names of all the matched files will be listed out after the search. You can get further information on any file by selecting it and clicking the "Get Info" button. You can open that file by double-clicking it or selecting it and choosing "Open".

How to Read and Open Files

Choose "File Open" from the menu when you want to open a file that you have previously saved. JWP can read from many file formats, including:

1) JWP's own JWP format
2) Enhanced UNIX code (EUC)
3) Shift JIS
4) New JIS (*Escape* **$ B** to start kanji's, *Escape* **(J** to end)
5) Old JIS (*Escape* **$ @** to start kanji's, *Escape* **(J** to end)
6) NEC JIS (*Escape* **K** to start kanji's, *Escape* **H** to end)

There is also an "Auto-detect" feature that will automatically detects the input file type, with reasonable accuracy.

The option "Paragraphs", when chosen, will try to create paragraphs out of plain text documents. The option "Align kanji's", when chosen, will automatically insert a *tab* after an English letter if it is followed by a Japanese character. This way, all Japanese text will be aligned to discrete positions. This option is defaulted on and is highly recommended because it enhances printing.

If you do not remember the name or directory of the file you are looking for, click on the "Find File" button and you will be able to search for the file based on a few criteria.

JWP remembers the last four files that you have worked on and puts their names at the bottom of the "File" menu, the most recent file first. You can open the file quickly by choosing it from the menu instead of going through the "File Open" dialog box.

If the file is in the "JWP Normal" format, and if there are changes saved with the

e

document, you will be able to undo the changes that you have made during *previous* sessions.

How to Create a New File

You can create a new file window by selecting the "File New" menu option. The new file window created will inherit the current option settings. It will initially be named "Untitled".

If there are templates available, a list will be displayed and you can choose whether to base the new file on an existing template or not. For more details, see the section "How to Use Templates".

How to Save a File

"File Save" works in a similar way as "File Open". You can also specify what file format to save the file in, though most of the time you will probably want to save in "JWP Normal" format so that all formatting is retained. Saving a file into another standard format will enable you to share that file with another Japanese application.

When you try to save a file originally opened in another format, JWP will ask you whether you would like to replace that file with the JWP-Normal format instead. JWP will also prompt you for a "File Summary" if you are saving the file for the first time.

The default, when saving to a non-JWP-Normal format, is the save each paragraph as one long line. If you turn on the "Line Length" option and specify a line length, JWP will break the lines at exactly the specified length.

When the "Template" file format is chosen, JWP will attempt to create a *template* based on your current file. All templates have the extension **.TPL**. JWP automatically saves the template in the JWP directory; because of this, you should omit the file's path when you are saving a template. Templates not saved within the JWP directory cannot be found.

You should also provide a *title* to the file summary of the template. JWP will use this title as the formal name of the template.

When saving a file in the "JWP Normal" format, you can indicate how much of the changes made to the document are to be save. Those changes can then be reversed through the undo feature in later sessions. The default is to keep as many changes as possible. However, you can change this by choosing a new number from the list. If you turn off the "Retain Changes" check box, no changes will be saved with the file.

How to Use Templates

Unlike many word processors, templates in JWP are simple, normal document files, the only difference being the extension (**.TPL** instead of **.JWP**). You can open a template file just like a normal file and edit it. You can also save the template just like a normal file.

There are advantages of saving a template in "Template" format, though. JWP automatically saves any template in the JWP directory, where it **must** reside in order to be found, *provided* that you do not explicitly specify a path with the filename.

The practical use of templates is to provide standardized, automatic settings for different types of documents. Every time a new file is created (through the File New command), JWP will prompt you for a template to base on, if any. The name of each template listed will be the *title* that you specified in each template file's summary.

For example, you can create a form-letter template that contains the name of the author, the subject, header/footer strings, specified page settings, and base text. When you create a new file based on this template, it will be as if you have made a copy of that form letter. All summaries, customized settings and text will appear in the newly-created file.

How to Close a File

You can close a file by choosing "File Close" from the menu. If you have made changes to that file since you last saved it, JWP will ask you to confirm whether you really want to throw those changes away.

CHAPTER 8

Printing

Concepts About Japanese Fonts and Printing

Printing a Japanese document is significantly different from printing an English document. It will become apparent almost immediately that many layout features important to an English word processor (such as hyphenation, text justification, proportional spacing, kerning, multiple fonts, character attributes, etc.) take on a much less dominant role in Japanese printing. On the other hand, many layout features unique to Japanese printing (such as discrete text blocks, vertical writing, etc.) are universally ignored in most English word processors.

The issue of printing is further complicated by the need to show a page of Japanese text on a computer screen in a way that closely resembles how it will eventually be printed out on the printer. A user might choose to print Japanese characters in 10 points (about the typical size for Japanese novels), but a 10 point kanji character is very likely not to be readable on the screen (about 8×8 or less in VGA resolution). As a result, there is always a certain level of magnification involved when displaying Japanese text.

Currently you can only print Japanese and English text in one size (for now). Support for multiple font faces and sizes on the same page is planned for a future release. Three Japanese fonts come with this package: 16×16, 24×24 and 48×48. On a 24 pin dot matrix printer, the 16×16 font will probably print at 6 points, the 24×24 font at 10 points and the 48×48 font at 18 points. On a 300 dpi laser printer, the 16×16 font will print at almost 4 points (hardly readable), the 24×24 font at almost 6 points (barely readable) and the 48×48 font at almost 12 points (readable). When displayed on the screen, however, the 16×16 font is adequate for monitors with resolutions up to 800×600 (Super VGA resolution). The 24×24 may be more suitable for a monitor with 1024×768 resolution

(8514A resolution).[1]

       In JWP, the kanji font that you want to display on the screen is called the "Display Font" and the kanji font that you want to print with is called the "Print Font". After you have decided on a print font and a display font, JWP will automatically take care of all scaling and spacing to make sure that what you see on the screen is reasonably close to what you will eventually get from the printer.

       You can change the default font selections by choosing "Utilities Kanji-Fonts" from the menu. Sometimes, the base resolution of a print font is not enough. For example, the 48×48 font will print in 11.5 points on a 300 dpi laser printer; you will have to magnify the font 1.5 times to get a 16 point Japanese font. In JWP, you can specify the *exact* point size that you want your kana's and kanji's to be printed in. A message in the dialog box will show you exactly what the base resolution of the font means in terms of point sizes.

       The "text font" column refers to the English font that you want to print all English text in. A font name with an asterisk (*****) in front is a font available on your printer as a native font. It is strongly recommended that you select a text font that is *smaller* than the size of your kanji print font. Because JWP is designed to handle mainly Japanese text, each line is *exactly* the height of a line of Japanese text. If you choose a text font larger than the kanji printing size, you will have English text intruding into previous lines.

       Remember, though, that any changes in this magnification ratio will affect the look of your screen because JWP automatically renders the printing font (in the printing size) with your selected display font.

How to Put in Headers and Footers

       Headers are lines of text that automatically appear at the top of every single printed page. Similarly, footers appear at the bottom of each page. You have the option of adding a line of header and a line of footer to any file you print. Choose "Edit Header/Footer" from the menu to edit the header or footer of the current file.

       You also have an option of specifying a different header/footer for left and right pages, as well as suppressing headers and footers on the first page of the document.

       A header is always printed one line above the first line of the page, and a footer one line below the last line of the page. Each header and footer is divided into three pieces: Left, Center and Right. The "Left" portions of the header and footer will be

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1 JWP's "Base Font" (i.e., the font to be used in dialog boxes, etc.) is originally set to 16×16. You can change it by editing the line "**Default Base Font=**" in **JWP.INI**. (See page Error: Reference source not found for more details)

aligned to the left margin of the page. The "Center" portions are centered, and the "Right" portions are aligned to the right margin of the page. If any of the following special text is present in a header or footer, it is expanded:

How to Set up Page Margins

You can specify top, bottom, left and right margins for the paper size of your active printer by choosing "Format Page-Setup" from the menu. Margins can be expressed in inches, centimeters, millimeters, points and pixels (dots). You are free to choose the measurement that you are most comfortable with, and your choice will be remembered whenever you run JWP again.

You can also change the page margins individually for each file. When you change the default margins, any new files that you create will inherit the new margins.

You can print in landscape by changing the paper orientation option from the *Windows* Control Panel. Alternatively, you can specify "Landscape" as the printing orientation in the dialog box.

Vertical writing and printing is planned for a future release.

How to Print a File

To print a file, choose "File Print" from the menu. Among other options in the printing dialog box, you can specify how you want your English text to align. To use this feature, however, you **Must** put a *tab* after an embedded English string to align the next Japanese character to a discrete character boundary. Otherwise, Japanese text will always follow immediately after the English text, without regard to character boundaries.

The "Short Text" justification tells JWP how to justify English text that is sandwiched between Japanese characters. The most satisfying justification appears to be "Center", then "Justify". The "Long Text" justification tells JWP how to justify text that are long enough to dominate the line. You may want to choose "Justify" for this setting so that all English text will be aligned with the right margin of Japanese text.

How to Install More Fonts

Currently, JWP comes with three Japanese fonts: 16×16, 24×24 and 48×48 . *If* more fonts are released in the future, you can install them by modifying JWP's initialization file **JWP.INI** in the *Windows* directory. The section **[Kanji Fonts]** contains information about all the installed Japanese fonts on your JWP set-up. You should modify this section as follows:

> **Number of Kanji Fonts=***<Total number of fonts>*
> **Font #1=K16X16.F00**   **Font #2=K24X24.F00**
> **Font #3=K48X48.F00**
>   **:**
>   **:**

Each font is referred to by its number. In the example above, for instance, font number one refers to the 16×16 font. You can change the default "Base Font" and the Printing Font by editing the appropriate lines.

CHAPTER 9

Technical Support

Future Releases of JWP

Depending on time, I would like to keep enhancing the program. Among the features tentatively scheduled for the next release are:

1) Font attributes (**bold**, *italics*, underline, µ §, etc.)
2) Changing font sizes in the same page
3) More paragraph and layout options
4) DDE and macros
5) Object Linking and Embedding (OLE)
6) JWP installation program
7) Kanji font editor

If you have access to the Internet, the distribution site of JWP for the foreseeable future is **kilroy.Jpl.Nasa.Gov** under the directory **/pub/misc**. The current archiver of JWP is Cliff Yamamoto (**cyamamot@kilroy.Jpl. Nasa.Gov**). There, you will also find archives of JWP's source code. Since JWP files are large, please be considerate and only download the package during non-prime hours.

Support for JWP

The project that eventually turned into JWP was supported by many people

around the world. Many of them donated code, entered databases, and did numerous editing work to make JWP a reality. Even more users tested JWP from the very first versions. Their comments, opinions and bug reports were invaluable to the project.

If you find errors in the dictionary or in the kanji information database, please notify me as soon as possible. You also are encouraged to communicate any comments, suggestions, and bug reports to me. I would love to hear from you, if only to know that you are using the program and like it (or hate it). To get in touch with me, you can either:

1) Write to: Stephen Chung
                               34 Bridge Street
                               Lane Cove, NSW 2066
                               Australia

2) Call me at home: Australia (02) 427-4238

3) Send me electronic mail at:

     schung@kilroy.Jpl.Nasa.Gov
     schung@cogsci.Berkeley.EDU

Keep in mind, however, that my address and phone number is likely to change frequently. Email is likely to be more reliable.