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Overview

The WinSpeech speech engine uses its internal rules to pronounce words. For words that are mispronounced by the rules, dictionaries are used for looking up their correct pronunciations. The Dictionary Editor is a tool for editing custom dictionaries to be used in applications that incorporate WinSpeech speech engine.

The system requirements for using the Dictionary Editor are:

- .IBM PC or compatible system running Windows 3.1 or higher.
- .A mouse or equivalent pointing device.
- .3 MB of free disk space.
- .Sound card recommended.

Main Window

The main window appears after the dictionary editor is started. It contains the menu bar and three scroll bars for volume, tempo, and pitch controls.

Menu bar The menu bar contains the following menu selections:

Dictionary For invoking the dictionary editing window.

Voice Font To select the voice font file to be used for speaking.

Information For HELP and ABOUT information.

Volume A scroll bar to adjust the volume to the audio device. Move left to decrease the volume, move right to increase the volume.

Tempo A scroll bar to adjust the tempo of the speech. Move left to speak slower, move right to speak faster.

Pitch A scroll bar to adjust the pitch of the voice. Move left for lower pitch voices, move right for higher pitch voices.

Dictionary Editor

After "Dictionary" is selected from the main menu, a dialog box will pop out for users to select a dictionary file for editing. Dictionary files are usually in ".wsd" extension, but other names are allowed too. Choose the dictionary that you want to edit, or enter a new file name for creating a new dictionary. After the file name is given, the Dictionary editing window will appear.

Word For entering the word body of an entry, which consists of the 26 English alphabets plus two special symbols: "" and ".". A word can be entered by typing in manually, or by copying from an existing entry by double clicking an item from the *Dictionary Entries* list box.

Pronunciation For entering the pronunciation part of an entry. The pronunciation of a word can be entered by typing in manually, or by copying from an existing entry by double clicking an item from the *Dictionary Entries* list box. The pronunciation of a word is specified by a sequence of phonic symbols. The phonic symbol set consists of 41 phonemes and two special symbols: "" and "_". The sound example of each phoneme can be found in the right half part of the dictionary editing window, enclosed by the *Phoneme* group box. The symbol "" is used to put stress to the vowel phoneme that immediately follows the stress symbol. The rest symbol "_" is to add a short period of silent. A detailed description of the phonic symbols can be found in the appendix A.

Original Sound To speak out the word that is pronounced by the internal rules.

Custom Sound To speak out the sound that is described in the *Pronunciation* edit box.

Dictionary Entries Contains the listing of the word body of the existing dictionary entries. Double clicking an entry will copy the word body to the *Word* edit box and the pronunciation to the *Pronunciation* edit boxes for editing.

Phonemes Contains a set of buttons with all the phonic symbols. Press the button to hear the sound pronounced, as well as to insert the phoneme to the *Pronunciation* edit box. There are three short cut buttons at the bottom of the Phonemes group box for easy editing of the *Pronunciation* edit box. Use the left arrow "<-" and right arrow "->" buttons to move the cursor inside the *Pronunciation* edit box. Use the backspace "<<" button for deleting phonemes. Note that pressing buttons in the *Phonemes* group box is for editing the contents in the *Pronunciation* edit box, so the input focus (cursor) must be first placed to the *Pronunciation* edit box. If the focus is not on the *Pronunciation* edit box, pressing these buttons will simply bring the focus to it.

New To start defining a new entry from scratch.

Undo To undo changes made to the *Word* or the *Pronunciation* edit box.

Insert To insert the contents in the *Word* and the *Pronunciation* edit boxes into the *Dictionary Entries* list. Note that the editing is only done to the *Dictionary Entries* list box. The dictionary itself is not actually updated until the *Save* button is pressed.

Delete To delete the entry currently selected (highlighted) in the *Dictionary Entries* list box. Note that the dictionary itself is not actually updated until the *Save* or *Save As* button is pressed.

Save To save all the editing in the *Dictionary Entries* to the opened dictionary file.

Save As To save all the editing in the *Dictionary Entries* to a specified file. A dialog box will pop out for the file name.

Restore To cancel all the editing done to the *Dictionary Entries* list box. Restore the *Dictionary Entries* list box from the dictionary file.

Exit To close and exit from the Dictionary editing window.

Voice Font

Voice Font files contain the voice database for the WinSpeech speech engine to produce speech. Different Voice Font files can have different voice characteristics (e.g., male vs. female, enunciation styles), processed sampling rates or digitized resolutions. Voice Font files used by WinSpeech speech engine have the ".wsf" extension.

APPENDIX A Phonemes Information

- ' Represents that the following vowel to be stressed.
- _ Represents a "silence" sound.
- Aa** Represents a "short O" sound, as in *ox* , *odd*.
- Ae** Represents a "short A" sound, as in *map* , *bat*.
- Ah** Represents a "short U" sound, as in *up* , *love*.
- Ao** Represents a "medium O" sound, as in *ball* , *raw*.
- Aw** Represents a long vowel sound heard in *out* , *loud*.
- Ax** Represents a "weak A" sound, as in *along* , *system*.
- Ay** Represents a "long I" sound, as in *bite* , *ice*.
- Eh** Represents a "short A" sound, as in *get* , *set*.
- Er** Represents a long vowel sound as in *hurt* , *merge*.
- Ey** Represents a "long A" sound, as in *cape* , *aide*.
- Ih** Represents a "short E" sound, as in *big* , *if*.
- Iy** Represents a "long E" sound, as in *bee* , *mighty*.
- Ow** Represents a "long O" sound, as in *over* , *boat*.
- Oy** Represents a diphthong, starts with a "short O" and then becomes a "short E", as in *toy* , *oil*.
- Uh** Represents a "short U" sound, as in *book* , *mood*.
- Uw** Represents a "long U" sound, as in *two* , *zoo*.
- B** Represents a voiced consonant "B" sound, as in *buy* , *cab*.
- Ch** Represents a voiceless consonant sound, as in *child* , *beach*.
- D** Represents a voiced consonant "D" sound, as in *do* , *hood*.
- Dh** Represents a voiced consonant sound, as in *that* , *either*.
- F** Represents a voiceless consonant "F" sound, as in *fit* , *beef*.
- G** Represents a voiced consonant "G" sound, as in *go* , *big*.
- Hh** Represents a voiceless consonant "H" sound, as in *hit* , *behave*.
- Jh** Represents a voiced consonant "J" sound, as in *joy* , *fudge*.

- K** Represents a voiceless consonant "K" sound, as in *kid* , *took*.
- L** Represents a voiced consonant "L" sound, as in *list* , *final*.
- M** Represents a voiced consonant "M" sound, as in *mom* , *him*.
- N** Represents a voiced consonant "N" sound, as in *now* , *on*.
- Ng** Represents a voiced consonant sound, as in *ink* , *ring*.
- P** Represents a voiceless consonant "P" sound, as in *pig* , *stop*.
- R** Represents a voiced consonant "R" sound, as in *red* , *or*.
- S** Represents a voiceless consonant "S" sound, as in *sit* , *miss*.
- Sh** Represents a voiceless consonant sound, as in *she* , *bush*.
- T** Represents a voiceless consonant "T" sound, as in *too* , *fit*.
- Th** Represents a voiceless consonant sound, as in *thin* , *path*.
- V** Represents a voiced consonant "V" sound, as in *vote* , *live*.
- W** Represents a semivowel "W" sound, as in *win* , *away*.
- Wh** Represents a combined sound of "H" and "W", as in *why* , *what*.
- Y** Represents a semivowel "Y" sound, as in *year* , *lawyer*.
- Z** Represents a voiced consonant "Z" sound, as in *zoo* , *those*.
- Zh** Represents a voiced consonant sound, as in *vision* , *leisure*.

