Voice Recognition Software: Advanced Features and Concepts

What's the purpose of this sheet?

Explain Advanced Features:	See "Voice Recognition: an Introduction" for an overview of the subject.
Compare programs:	The features in the common versions of NaturallySpeaking and ViaVoice are compared

Features explained:

Vocabularies

Voice recognition systems match the words they hear to a list of words stored in the computer's memory. They also have a backup dictionary of words that are held on the hard disk and this list is used during correction. The number of words held in memory varies between the programs – but all modern programs hold very large lists (150,000 words in the case of IBM ViaVoice).

As new words are added, words that have not been used recently are removed from the active vocabulary. They remain on the computer's disk in the backup dictionary for future use.

Personalising the Vocabulary

As corrections are made the vocabulary will change to reflect any special words that are used and will adapt to match the writing style of the user. This process can be "kick-started" by using a number of tools provided by the software programs – these make it possible to:

- Add individual words
- Add lists of words
- Analyze entire documents – new words can be added, and the program can learn about writing styles.

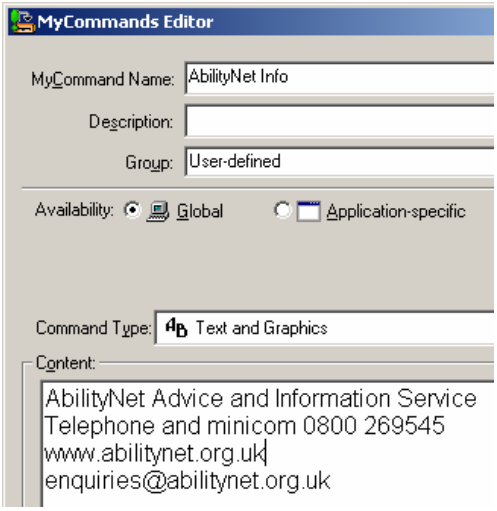
Natural Language Commands

Voice recognition systems incorporate large command sets that make it easier to control applications and manipulate text. Rather than having to use logical steps involving multiple menu selections, "Natural Language Commands", make it possible to "say what you want to do".

Examples of formatting commands provided by NaturallySpeaking for use in Microsoft Word:	*"Bold this paragraph"* *"Increase the indent by three centimetres"* *"Bullet the rest of the page"* *"Make it arial"* *"Move this paragraph down"*

Dictation Shortcuts/Text Macros

When writing, people often make use of standard phrases or paragraphs. These portions of text can be stored in the voice recognition program and, once stored, they can be typed out in full by saying a short command.



In this example saying "*AbilityNet Info*" will result in the contact information being entered into the document.

Command Macros

Some versions of voice recognition software have a facility to allow the user to create "command macros". These record a series of steps which can then be executed with a single command. As an example, you could record the steps needed to send a document from your computer by fax to one of your colleagues. Once recorded you could say "*Fax this to Tom*".

Text to Speech

Text-to-speech facilities are provided in speech recognition programs to provide a proof-reading tool. They allow the user to listen to what the computer has recognised. Typically there are voice commands to allow you to:

- "*Read Paragraph*", "*Read Document*",
- "*Read Up To Here*", "*Read Down From Here*"

Recorded Speech

Sometimes what the program types looks very different to what was actually said. To make correcting mistakes easier, some of the programs record what was said along with the text that is recognised. The recording can be played back when work is checked. Then you hear what was actually said and can compare that with what is on the screen.

Delegated Correction

Some people will find it helpful to dictate work and then ask someone else to make corrections for them at a later time. To do this they need to be able to save their recorded speech with the documents they have created. A helper can then load the files later, listen to what was said and make corrections.

Working on the move

Voice recognition software can be installed and used on lightweight laptop computers. A more portable solution can be provided by using a hand-sized recording device. These record speech digitally. The digital recordings are transferred onto the computer at a later time and can then be transcribed using the voice recognition software.

If considering the use of a mobile recorder:

- *Seek advice from a specialist supplier:* not all devices are suitable
- *Remember that good dictation skills are needed:* the user will not be able to refer to text on the screen.

Hands-free facilities

People who have little or no use of their hands need to use a computer entirely by voice. A hands-free user will need to have the following:

- *Microphone listening at start up:* The voice recognition program can start with the microphone listening out for commands. It is normal to set the microphone to be on, but "asleep" – once the program is loaded the use can simply say "wake-up" to start it.
- *Make corrections by voice*
- *Select menus and launch programs by voice*
- *Move and click the mouse by voice:* different programs offer different ways of achieving this. Typical commands are "*Move mouse right", "Mouse double click", "Mouse up 10"*
- *Navigate the internet by voice*: all the programs detailed here offer voice browsing using Internet Explorer
- *"Press" keys by voice:* Some programs allow you to send individual keystrokes to the computer eg: "Press Alt-key f".

"Select and Say" Dictation

All of the programs detailed in this sheet make it possible to dictate, edit and correct easily by voice in Microsoft Word. In this application words can be selected simply by saying "*select*" followed by the word.

It is not possible to use this "Select and Say" dictation in all programs and sometimes it is necessary to dictate into a "well behaved" wordprocessor and then transfer the corrected dictation. For this reason NaturallySpeaking and ViaVoice supply a simple wordprocessing application which can be used easily by voice.

Comparison of popular systems

	Naturally-Speaking Preferred V7	**Naturally-Speaking Professional V7**	**ViaVoice Standard V10**	**ViaVoice Professional V10**
Vocabulary Tools				
Natural Language Commands	In DragonPad, Internet Explorer, Word, Wordperfect and Excel, Outlook Express	DragonPad, Internet Explorer, Word, Wordperfect, Excel, Outlook, Powerpoint + navigation commands for Outlook & Lotus Notes	Speakpad and Word 97 & 2000	SpeakPad Word, Outlook, Excel
Text Macros	Yes	Yes	Yes	Yes
Command Macros	No	Yes	No	Yes
Text To speech	Yes - RealSpeak	Yes – Realspeak	Yes – ViaVoice Outloud	Yes – ViaVoice Outloud
Dictation Playback	Yes	Yes	Yes	Yes
Delegated Correction	No	Yes	Yes	Yes
Mobile recorder support	Yes	Yes	No	Yes
Microphone supplied	Yes – Headset	Yes- Headset	Yes – Headset	Yes – USB Headset

Hands-free facilities

	Naturally-Speaking Preferred V7	Naturally-Speaking Professional V7	ViaVoice Standard V10	ViaVoice Professional V10
Microphone listening at startup	Yes - but this needs to be set as an option in each program			
Hands-free correction and editing in own word-processor	Yes – DragonPad		Yes - SpeakPad	
Hands free correction and editing in Microsoft Word	Yes	Yes	Yes	Yes
Control desktop and applications menus by voice	Yes	yes	Only in SpeakPad, Word and Internet Explorer	yes
Move the mouse by voice	Yes	Yes	Yes	Yes
Navigate the Internet by voice	Yes – Internet Explorer	Yes – Internet Explorer	Limited – Internet Explorer	Yes – Internet Explorer
Mouse movement by voice	Yes	Yes	No	Yes
Press keys by voice	Yes	Yes	Not all	Not all – macros could be written for some
Approx Price Guide (excl VAT)	£130	£450	£40	£80

Useful Factsheets

This sheet gives an overview of voice recognition software. The following information sheets are available to cover more advanced topics:

- Dyslexia and Voice Recognition Software

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