Computer Speech Recognition and Programming Consulting Services

Speech Recognition as an Appropriate Accommodation

*Applying Speech Recognition Technology Effectively as a
Reasonable Accommodation in a Business Productivity Environment*

Background

As Speech recognition becomes more recognized as a potentially powerful productivity tool in the business community, the big question becomes "In what situations is speech recognition appropriate and in what situations is it not?" Why are some users so successful while others experience expensive and time consuming failures.

Part of the problem lies in the vast constellation of factors that will have an impact on the ultimate outcome of using speech recognition in an office environment. To limit that constellation to some degree, this discussion will assume an enabling technology solution is being considered and that both management and the end user are motivated to have a successful outcome.

In order to avoid problems, organizations typically do make good faith efforts to determine the appropriateness of speech recognition for a position before attempting to implement it. Unfortunately the limitations of an organization's technical and budgetary resources and speech recognition experience often lead to doomed attempts to use the technology in both appropriate and inappropriate situations. These scenarios frequently result in unnecessary expenditures, delays, and legal actions which can easily add up to thousands or tens of thousands of dollars. Tragically, they also tend to foster unwarranted and misguided perceptions of management indifference or hostility to the disabled user and all the problems associated with those sentiments.

When is Speech Recognition generally appropriate?

The more text a user needs to generate, the more successful Speech recognition is likely to be "out of the box". Sadly, this is as far as most evaluations get. Powerful Speech recognition engines, such as Dragon NaturallySpeaking Professional Edition, have extensive customizing options that make it possible to extend highly successful outcomes to job descriptions other than text generation. Successful productivity rates are possible for data entry (Spreadsheets, inventory, accounting, etc.), graphic design, CAD applications, and even non-Windows applications being accessed via 3270 emulation.

When is Speech Recognition generally not appropriate?

- **Background Noise:** Some Speech Recognition programs can work quite well in relatively noisy environments with general "hubbub" background noise, however all will perform poorly with clangy, bangy, screechy or sudden (such as a respirator) background noises.

- **Confidentiality:** If confidential information is to be transcribed, speech recognition may not be appropriate unless the user can be provided an appropriate private location or office.

- **Speech Patterns:** National or regional accents are generally not a problem with leading Speech recognition programs as long as the user speaks clearly and consistently, however users with certain speech impediments such as stuttering or other hard startup sounds are likely to have problems.

- **Learning issues:** Most Speech recognition programs are not difficult to learn, but users must be able to recognize errors and follow procedures to make corrections and revisions. Certain learning disabilities may increase the training time required or make success unlikely.

What will it take to implement Speech Recognition successfully?

The degree of success with speech recognition will depend on the computer applications to be used by the speech recognition program, how speech friendly these applications are, the difficulty of accessing critical functions by voice, the users ability to creatively apply the capabilities of the technology to their own needs, and the user's access to the necessary training and support services.

The amount of training and support services required to achieve success will depend on the user's ability to adapt to the technology, the amount of customizing (if any) required to achieve the target work flow, the number and type of applications to be accessed by voice and the total reduction of keyboarding and mouseing to be achieved.

Any particular job is likely to involve a variety of standard and non-standard computer applications. Most commercial programs will be speech friendly but some programs can be downright "speech hostile". The irony is that, with proper support, speech recognition can actually be more successful and productive with speech hostile programs than with speech friendly programs.

The Evaluation

An effective evaluation should be performed by an experienced speech recognition professional qualified to recognize and create the advanced customizing commands that might be required to achieve the productivity levels required for success by the user. Representatives from management and IT should be in attendance along with the intended user, so that IT issues and productivity goals can be clearly defined and agreed to; including the percentage of keyboarding and mousing reduction to be achieved. The evaluation should include installing the speech recognition program on a system suitable to the end user's needs and configured properly for speech recognition. With the assistance of the potential end user and the management representatives, each program to be used should be accessed by voice and all of the critical functions should be evaluated for potential operational, compatibility and/or performance problems.

The Results

At the conclusion of the evaluation the evaluator should be able to provide information on:

- The appropriate speech recognition software
- Any IT issues that need to be resolved
- Any additional equipment that may be required (specialty microphone, alternative input device, etc.)
- An estimate of the amount of support and programming services required
- An estimate of the amount of training to be required
- Any other issues that need to be addressed
- Any problems that are not likely to be resolved
- An estimate of the overall probability of success

With this information, management can then make appropriate decisions with supporting documentation.

Section 502 Certification: Dragon NaturallySpeaking Professional edition is the only speech recognition product on the market that we are aware of to have the Federal Section 502 certification for enabling technologies. NaturallySpeaking "light" versions such as Preferred and Standard editions have most of the enabling adaptation capabilities removed and are not Section 502 certified. NaturallySpeaking Medical, Medical Small Practice Edition, and Legal editions are based on the Professional Edition and are therefore also Section 502 certified.

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