Speech Technology

Speech is a natural interface

The interaction between a human and a machine becomes more natural when speech provides the interface. This is accomplished through speech recognition (when the machine performs in response to spoken words) or speech synthesis (when the machine uses speech to convey information). The optimal use of speech technology is the speech-to-speech interface, which supplements more traditional forms of interfacing and may someday make other input/output devices unnecessary. In this application, both data entry (from the human user) and data delivery (from the machine) are accopmlished through the use of the spoken word.

ATL offers experience and service

At Advanced Tehnology Laboratories, engineers are well versed in the use of speech technology, paticularly for information delivery systems. Staff members have successfully integrated speech capabilities into embedded-architecture microprocessor-based products, and they can provide the skill--with all the necessary support services--to help other companies develop new talking or listening machines, or integrate speech capabilities into existing products.

ATL's full range of services includes the development of product concept and design; generation of functional specifications and parts lists; hardware, software, and systems engineering; cost analyses; documentation preparation; and manufacturing support. Depending upon the wishes of a client, ATL will take primary responsibility and supply a completed product or work in a supporting capacity. For example, the company can develop speech technology to augment the capabilities of organizations working in industrial design, instructional delivery systems, human factors, training, or point of sale systems.

Speech technology improves products

The addition of speech to machines may provide a significant marketing edge. Studies have indicated that this technology increases efficiency, accuracy, and productivity in industry. In training, carefully designed speech-based systems allow more elaborate feedback; they also appear to save time and maintain employee interest.

ATL is applying the latest concepts of speech recognition and synthesis to low-end information-delivery systems including:

- job performance aids
- maintenance systems procedures
- training systems and equipment
- educational delivery systems
- advertising systems
- point of sale displays

Army uses talking Tutor to train soldiers

Among its recent projects, ATL was responsible for enhancing the hand-held vocabulary Tutor. The Tutor, a product of the U.S. Army Research Institute for Behavioral and Social Sciences (ARI) and developed by ATL engineers, is used to help military personnel (both active and reserve) learn the special vocabularies of their military occupational specialities (MOS).

ATL is ready to help

The use of speech technology once seemed a futuristic concept, but Advanced Technology Laboratories is already there, prepared to help others move ahead.

ATL applies tomorrow's technology today

ADVANCED TECHNOLOGY LABORATORIES