

Two-way multilingual conversation system

Overview

The Ambassador is a portable, wearable speech translation device. It is designed to be minimally intrusive during normal use. It can overcome moderate noise levels and the device can connect to an external speaker for situations requiring extra volume.

The Ambassador uses a mobile version of AppTek's SpeechTrans™ System for real-time translation of a conversation between two speakers of different languages. The speech-to-speech translation process is composed of three processes/technologies: Automatic Speech Recognition (ASR), Automatic Text Translation (Machine Translation/MT) and Text-to-Speech (TTS).



Capabilities

The Ambassador™ is a portable, wearable field translation device. The user using it trains the device on their voice for better performance and can optionally continue to train the system during field use. Additionally, anyone else may also use the device without training it.

The user holds down a button and speaks a phrase they want translated. The "press to talk"

option ensures translation occurs only when desired and also extends the battery life by not requiring the system to constantly monitor the environment for key command phrases. A directional microphone picks up their voice and the Ambassador™ separates it from ambient noise received from another microphone. The Ambassador™ first recognizes what was said in English, translates it into the other language and repeats it through a high-quality speaker. When the foreign speaker responds, the Ambassador™ recognizes the language, translates it, and repeats it back in English through the same speaker or a separate headset if desired. Context is addressed with domain-adaptable language tools.

- ✦ A dictionary Maintenance Utility to add user-defined words or custom lexicons.
- ✦ Constantly maintained and updated language and dialect models

Functionality

The Ambassador™ was designed for simple operation in the field. The system allows a user to operate the device and have a two-way conversation without having to carry the dialogue through a translator, and avoid having to shift their attention from the person in front of them.

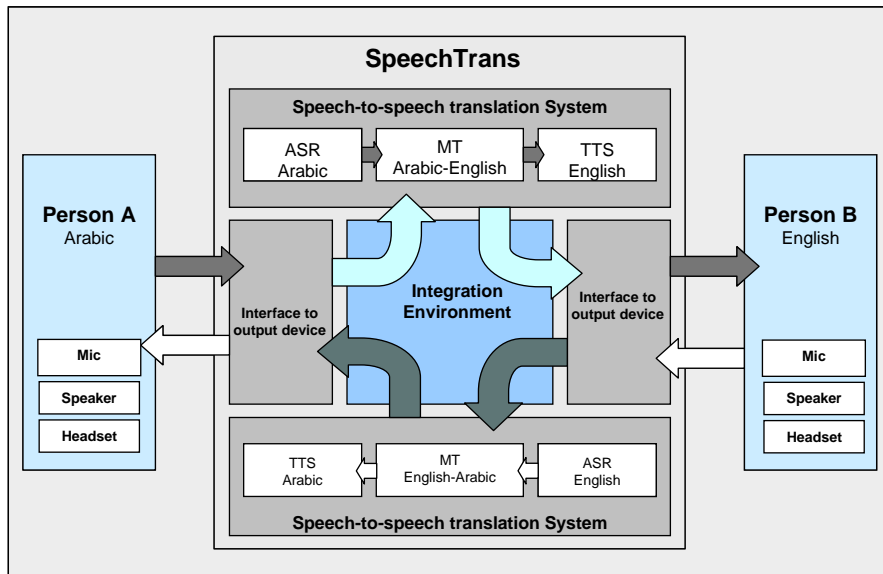
- ✦ Two-way speech translation in a foreign environment
- ✦ 1-click operation
- ✦ No complex menus or complicated navigation
- ✦ Internal translation storage memory
- ✦ Expandable memory for recording of phrases and conversations
- ✦ Swappable dictionaries on Micro SD card (32GB capacity)
- ✦ Capture photos associated with conversation
- ✦ Bluetooth capable for hands-free operation



Bridge the Language Gap

SpeechTrans™ Software

The Software used to enable the portable bilingual speech translator is designed based on the AppTek Speech Translation System (SpeechTrans™), which currently runs on Windows PCs and servers.



The mobile version of SpeechTrans™ was ported to work on the Ambassador™ handheld and also runs on a variety of other hardware platforms, including the ruggedized Panasonic U1.

The bi-directional speech translation process in the SpeechTrans™ system is composed of three processes/technologies: Speech Recognition, Automatic Text Translation and Text-to-Speech. These steps are processed using the following software Modules:

- **PlainSpeech™ (Speech Recognition):** This software tool is used to recognize utterances spoken (words) and convert them into electronic text.
- **TranSphere™ (Machine Translation):** This software tool is used for automatic text translation between two languages.
- **Text-to-Speech (TTS):** This software tool is used to convert written text into spoken words.



For more information about AppTek's Ambassador® system and our other human language technologies, please call or write:

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