# Spoken Language Translation Software

Spoken language translation, or translation of speech to speech is still mainly in the research phase even though some examples of it have been made available. Translation of speech to speech is a highly problematic area of computing that combines the development of a few different and difficult areas. In order for a successful application to be developed it would need to contain speech to text recognition, translation and speech to text synthesis as well. Each of these areas can be difficult to implement and offers many challenges for software engineers and manufacturers to overcome. Until very recently speech to speech translation was considered too difficult to implement for a commercial application, however recent progress has been made. These successes have come from combining the already existing parts of this process together into a linear chain. First the computer deals with the speech recognition problem. A lot of progress has been made in recent years in this field and there now exists several products on the marketplace that offer a solution. Next the machine translation or text to text translation takes place, an area which is also a hot topic for research and development around the world. Finally in what is perhaps the most developed area, speech synthesis occurs and completes the chain. {mosgoogle center} The Japanese are leading the way with speech translation and many Japanese computers now come with speech recognition, machine translation and speech synthesis programs already installed. These systems are basic in many ways but do allow input and output in both text and speech formats. It is the translation between English and Japanese that these applications are primarily interested in, but this of course could be expanded to include any language in the future. The first aspect to the spoken language translation problem is with speech recognition. In these systems a distinction is normally made between programs that are trained to work with one particular speaker, which are known as speaker dependent applications; and those that are set up to work with anyone, or speaker independent applications. The dependent programs perform much better as the software can get use to the users voice patters and pronunciation idiosyncrasies. Machine translation or text to text translation is the process that occurs once the initial speech has been made into text. There are many levels of sophistication when it comes to this translation, some applications simply replace individual words with their equivalent while others look for phrase relationships and contextual language structures. The final hurdle for a successful spoken language translation to take place is that of speech synthesis. This area can be evaluated for its accuracy easily due to how well the language output is understood by the end user. One potential pitfall with future spoken language translation is that these three processes will have to be linked together in order to create a streamlined application. When you cut off the checking and verification stages at the end of each step the possibility for errors being introduced into the system increases greatly. That is one of the main reasons why this area of development is still considered to be a challenging one and is yet to be perfected.