Translation Systems under the C-STAR framework

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Abstract

This talk will review our work on Speech Translation under the recent worldwide C-STAR demonstration. C-STAR is the Consortium for Speech Translation Advanced Research and now includes 6 partners and 20 partner/affiliate laboratories around the world. The work demonstrated concludes the second phase of the consortium, which has focused on translating conversational spontaneous speech as opposed to well formed, well structured text. As such, much of the work has focused on exploiting semantic and pragmatic constraints derived from the task domain and dialog situation to produce an understandable translation.

Six partners have connected their respective systems with each other and allowed travel related spoken dialogs to provide communication between each of them. A common Interlingua representation was developed and used between the partners to make this multilingual deployment possible. The systems were also complemented by the introduction of Web based shared workspaces that allow one user in one country to communicate pictures, documents, sounds, tables, etc. to the other over the Web while referring to these documents in the dialog. Some of the partners' systems were also deployed in wearable situations, such as a traveler exploring a foreign city. In this case speech and language technology was installed on a wearable computer with a small hand-held display. It was used to provide language translation as well as human-machine information access for the purpose of navigation (using GPS localization) and tour guidance. This combination of human-machine and human-machine-human dialogs could allow a user explore a foreign environment more effectively by resorting to human-machine and human-human dialogs wherever most appropriate.