EU-BRIDGE Partner

Karlsruhe Institute of Technology, Germany

Contacts

Karlsruhe Institute of Technology
Adenauerring 2
D-76131 Karlsruhe
http://isl.anthropomatik.kit.edu
Prof. Alex Waibel
Alexander.waibel@kit.edu

Automatic Simultaneous
Translation Service for Voting Sessions

Description and Exploitable Knowledge

Voting sessions are generally held by a multilingual confluence. Each person's contribution is held in it's respective native language. To overcome language barriers between the members of parliament, humans interpret the spoken contributions in real time. While this is an effective solution to this problem, it is costly in terms of human effort and it is a highly demanding task for the interpreters, as voting sessions can take a considerable amount of time, where speaker changes occur rapidly, and the demand for real time translations is high.

Our automatic simultaneous translation system for voting sessions is tailored to solve this issue by providing profound aid for the audience that follows a session and interpreters that are translating. In this system we employ state of the art spoken language translation (SLT) technology, which combines automatic speech recognition (ASR) and machine translation (MT), along with auxiliary components to build a system that is able to simultaneously translate speech produced in voting sessions. Recognition of the voiced contributions as well as the translation into the target languages takes place in real time, thus precisely matching the demands of the voting sessions.

The system works with the help of a cloud based service infrastructure. The speech in the parliament is recorded via a local client and is subsequently sent to the service infrastructure. The data flow is then automatically managed and passes through ASR, MT and auxiliary components. The final translation result is made available in form of a text flow that can be accessed by the audience.

In order to match the system to the needs of the voting session environment, it is trained on large amounts of parallel and monolingual data. The incorporated subsystems use publicly available data collections such as the EPPS or News commentary corpora, as well as data that has been specifically collected for this task.

Project Coordinator

Karlsruhe Institute of Technology
Adenauerring 2
D-76131 Karlsruhe
http://isl.anthropomatik.kit.edu
Prof. Alex Waibel
alexander.waibel@kit.edu

The work leading to these results has received funding from the European Union under grant agreement n°287658

www.eu-bridge.eu

EU-BRIDGE - the Project

EU-BRIDGE is a European Integrated Project that aims at developing automatic transcription and translation technology that will permit the development of innovative multimedia captioning and translation services of audio-visual documents between European and non-European languages.

Infrastructure

The EU-BRIDGE service architecture allows a server based recognition and translation of an audio stream, by providing a well-defined and light-weighted API. Voting sessions can be monitored in real time via a client that is connecting to the service. ASR, MT and auxiliary components run as individual workers in the EU-BRIDGE infrastructure.

The service architecture enables a connection-based communication with multiple service requests at the same time. A client connects to the mediator on the server side and the mediator establishes a workflow of the client's output media stream through suitable components in order to accomplish a specific service request. The client's task is to capture the voiced audio of the voting sessions and present it to the server-side service architecture. The individual workers such as speech recognition and machine translation will be requested and allocated in order to complete the requested task.

Application Sectors

Voting sessions, Parliament talks

Technical Requirements

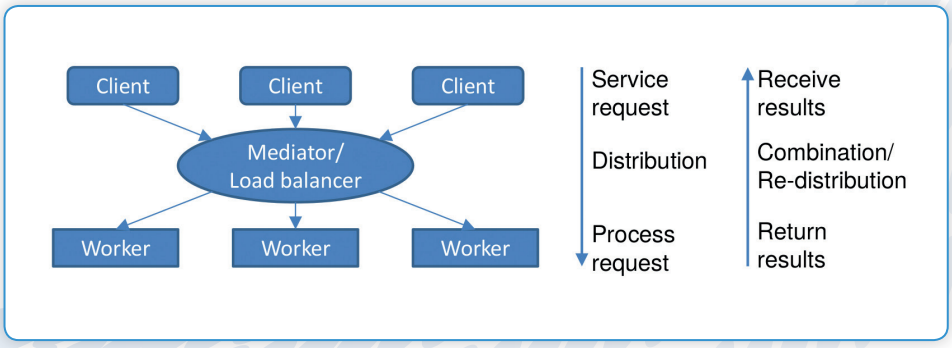
Fast Internet connection for communication with the server based service infrastructure. Recording equipment on client side.

Terms of Availability

Can be inquired at the Karlsruhe Institute of Technology (Prof. Alex Waibel)

IPR Protection

Karlsruhe Institute of Technology (Germany), EU-BRIDGE Consortium



Schematic overview of the service architecture