EU-BRIDGE Partners

Karlsruhe Institute of Technology (Germany), PEV

Contacts

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

Automatic Transcription:
Audio into Text in Real Time

Description and Exploitable Knowledge

We turn audio into text in real time with a low latency. Each speech transcription worker contains two models, an acoustic model and a language model. 300+ hours of transcribed audio (Euronews, TED, podcasts, EPPS, etc.) are used for training the neural network or GMM acoustic model. The language model is trained on over 1,000 million words (from newspapers, transcripts, web dumps, etc.). These models can be optimized towards different tasks (Weatherview / Euronews / lectures / etc.) and/or different speakers resulting in many different possible workers.

Infrastructure

- Server - mediator - client setup
- The mediator receives transcription requests and audio from the client and forwards the audio to the corresponding ASR worker which then returns the transcription to the mediator.
- ASR workers run constantly on a server waiting for audio. They use up no CPU time when not receiving audio or when the audio only contains silence.
- As soon as a worker is selected by the mediator it starts to receive packets of audio data which it then decodes and returns text fragments to the mediator.
- These text fragments can then be combined into sentences by a separate segmentation/punctuation prediction component and then (if required) passed onto an MT worker.

Application Sectors

- Any situation which requires turning spoken speech into text
- News (e.g., channels like Skynews and Euronews)
- Webinars
- Lectures
- Parliamentary speeches
- Weather reports
- Captioning TV programs
- Speech translation

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.

Technical Requirements

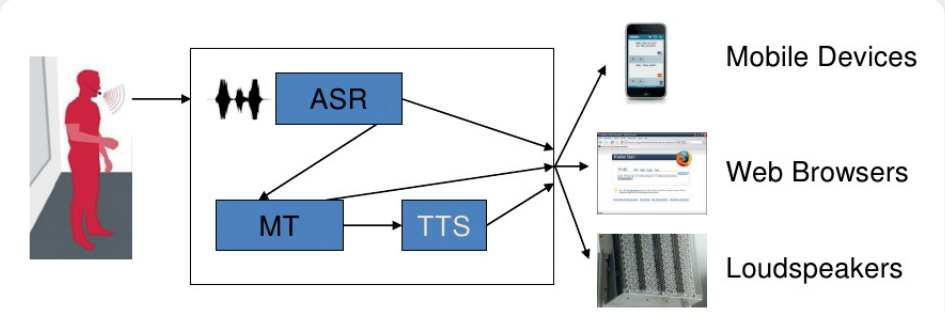
- Server with 8GB of RAM and 8 cores, 8 active systems can run in parallel on a modern server with 4 AMD Opterons (16 cores per CPU) as well as >>100 non-active but ready workers
- OS: Linux Ubuntu LTS 12.04 (Precise Pangolin) or similar
- Mediator connection: The workers can be accessed through the EU-BRIDGE Mediator service infrastructure

Terms of Availability

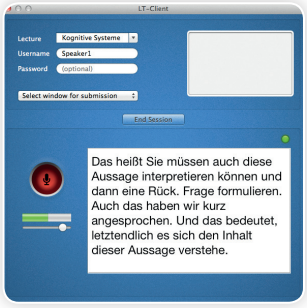
Can be inquired at the Karlsruhe Institute of Technology (Prof. Alex Waibel)

IPR Protection

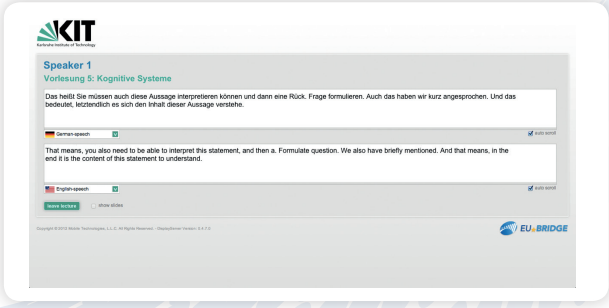
Karlsruhe Institute of Technology (Prof. Alex Waibel)



Lecture Translation



LT-Client



Display Server