



EU-BRIDGE Partners

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Automated Captioning of Multimedia Content

Description and Exploitable Knowledge

Multimedia content has to be accompanied by subtitles in order to be accessible for people with hearing disabilities. Although the process of captioning such content is already highly optimized towards accuracy and efficiency, it is a very costly and demanding part of the production pipeline.

The reason for this is that it demands a significant amount of manual labour performed by trained experts. Subtitles are predominantly created through the act of 're-speaking'. The subtitler listens to the audio of the television programme and repeats it into a highly optimized, personalized ASR (Automatic Speech Recognition) engine, within an idealized acoustic environment, free from noise and reverberation.



Respeaking



Respeaking

The subtitles are frequently created live, which means there are very stringent time requirements. Also, since there is no time to correct possible errors, accuracy is of paramount importance as well. Subtitling is therefore an extremely demanding and exhausting task for the human subtitler.

With the goal of producing subtitles more easily and cheaply, a system was designed to produce captions in an automated way, reducing the need for human intervention.

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

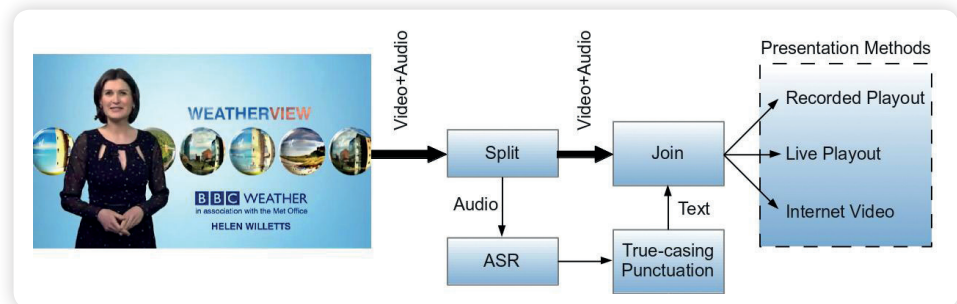


www.eu-bridge.eu

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.

A simplified schematic overview of the system is shown above. It is an end-to-end modular captioning system, that uses state-of-the-art speech and text processing technology. It generates highly accurate transcriptions of the spoken content, and converts the resulting transcriptions into readable text by breaking it in sentences, inserting punctuation, and making words upper-cased where appropriate. Assigning a time stamp to each subtitle is automatically done by the ASR module.



Schematic Overview

Application Sectors

Currently, two versions of the system have been set up and are in the process of being tested at Red Bee Media®:

1. Weather reports
2. Broadcast news

Although quality and accuracy of the resulting subtitles are not yet on par with manually produced ones, the system provides a valuable and dependable back-up, should the manual production of subtitles fail.

IPR Protection

Red Bee Media®