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Translation And Transcription Of Educational Videos

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Abstract

Manual translation (also known as Human Translation or HT) is a service demanded worldwide on a large scale, but can be quite expensive. As a result, Machine Translation (MT) has boomed in the last decade, trying to provide an automatic, and faster solution. However, MT does not always generate a good quality output, and human intervention is necessary to correct it. This intervention is called Post-Editing (PE) , which consists in improving a machine-translated text grammatically and semantically by a human.

In this abstract, we present the development of a PE environment and the incorporation of MT into an existing on-line video translation platform named Amara, which allows to translate subtitles for online videos. The integration of MT in Amara will allow faster translation of educational videos, and will thus contribute to education.

Human Translation Experiments
To measure the impact of PE for the translation of video subtitles, preliminary experiments were conducted. Users were asked to translate into English the subtitles of two videos, first manually, and then via PE. The translation times, including access to external resources such as online dictionaries, were recorded. Figure 1 shows the experimental setup.

Figure 2 shows the differences in HT speed (blue) vs. PE speed (red) of the two users. The speeds are measured in function of the length of the translated video. For instance, a speed of 6x means that if a video lasts 1min, the translation process lasts 6 minutes.

As can be seen, in the case of the first user, the time to PE is almost half of the time to HT. The difference in the case of the second user is lower (~37%) but still significant.

Feasibility Survey
We conducted a user study where we asked users to rank different features for their usefulness, research value and ease of implementation. Details about the selected&implemented features (user log feedback, time tracking, and external resources search), as well as the way they improve the current system, will be provided in the final article.

Conclusion
Manual translation of educational videos can be time consuming. In this abstract we presented experiments that show the usefulness of assisting the translation process with post-editing and other time-saving features. In the future, we plan to make such features available to the public through a collaboration with the Amara platform.

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