plain X: 4-in-1 multilingual adaptation platform

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Abstract

plain X is a 4-in-1 solution for language adaptation. The software is an outcome of European HLT research and is by now in use as the major artificial-intelligence-powered human language processing platform at Deutsche Welle. plain X is a one-stop-shop for automated transcription, translation, subtitling and voice-over, with human correction options at all stages. We demonstrate how the platform works and show new features and developments of the platform in the framework of the SELMA project.[1]

1 Introduction

plain X is a 4-in-1 software enabling the use of multiple AI language engines and feature-driven workflows for transcription, translation, subtitling and (synthetic) voice-over.

The platform is an outcome of European Research projects and is a joint development by the Portuguese SME Priberam and the German public world broadcaster Deutsche Welle (DW).

2 Current Use

plain X is currently live in DW, so used in production, and being rolled out further in the organization to enable thousands of editors to work with the platform. At present, some 1000 are registered. It is used to subtitle news items and documentaries in the source language, as well as to create adaptations into the 32 languages currently covered by DW. The objective for DW is to have a system in place that enables it to subtitle all its newly published content by the end of 2025.

Since late 2022, the platform is available to any organization, as a software-as-a-service offering. It is in active use by some media and content clients and in test phase by more. Not only the media sector is targeted, but potentially any organization, large or small, dealing with content that needs subtitling or adaptation.

Ongoing efforts involve integration of the platform in the clients' infrastructures, ensuring the different systems are linked and exchanging information and data.

3 plain X Basics

A few concepts are key to the platform.

It has been co-developed by Deutsche Welle and user requirements are very much at the heart of the platform. User feedback and demands over the past two years helped to simplify the workflow and to increase productivity.

plain X serves as a one-stop shop. It provides a single, user-friendly, tool for four major functions, i.e., transcription, translation, subtitling and voice-over. Instead of juggling between different tools, the user can do all that in one and the same platform. For many users it is the first encounter with new AI engines as part of their daily work.

The platform works as a gateway to different service providers, such as Google Translate, DeepL, eTranslation or GoURMET[2] MT tools. This also allows us to keep up to date on new developments and add new engines and services in a fairly short timeframe. The platform can connect to any language engine with an API. This flexibility is very important, as new developments and even entirely new AI content tools come to the market. Being able to add new

[1] https://selma-project.eu
[2] https://gourmet-project.eu/

engines when they become available is needed to not fall behind with the entire platform. At present, the platform integrates 10 MT service providers, covering 177 unique target languages, obviously resulting in a high number of language pairs. This aggregation approach takes us far from the traditional one-engine service and allows us to connect to a variety of engines. plain X acts as a hub for new engines. It is a sign of the times: plain X is both a result of and an answer to the issue of engines. Users should be guided to the best possible solution for each language pair, including low-resourced languages.

Figure 1: Translation mode with choice of engines in plain X

Deciding which engine is best for a given language pair is one of the major current challenges. Recently, DW has developed a user-friendly benchmarking system, incorporating both automated evaluation, using BLEU and chrF scores as well as TER (Translation Error Rate) for MT, and human rating. This enables us to involve native speakers and do a fast assessment in case of new or updated engines or to identify low-quality output for certain language pairs.

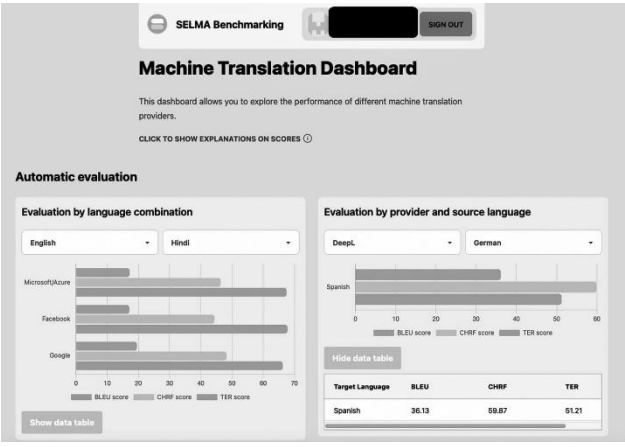

Figure 2: DW MT Benchmarking System

The platform is very goal oriented. For example: The user can instruct the platform to create English subtitles for a report in English, without having to go through every step manually. plain X would first transcribe, then translate and finally create the subtitles.

A key concept of plain X is to support the human in the loop. Users can intervene at all stages of the process. This is particularly important in the translation phase, as post-editing is definitely required before publication. In the end, the editor remains responsible for the quality of published content. We are aiming at efficiency, increased productivity, with accuracy at the center, yet without over-editing.

4 Enhanced Features

We will outline some major recent enhancements to the platform and the use of plain X.

We have added speaker diarization, resulting in adding speaker labels to a transcription and subsequent translation, subtitle or voice-over, which is particularly important in case of interviews or discussions.

Various export formats have been added for translation as well as subtitling output, following user demand. Customization and enhancement of subtitling templates allows users to set the subtitle style and font adapted to their language and brand, and ensuring that subtitles are not covering inserts, as is too often still the case.

Accessibility is also high on the agenda and the latest version takes into account aspects such as contrast colors, key shortcuts (reducing the need to work with the mouse), descriptive text for images and functions, etc.

The platform supports collaborative work and tasks can be assigned to teams as well as individuals, ensuring work can easily be shared with colleagues, vital in a time-critical multilingual news production environment. In particular for translations, the four-eyes principle is applied for adequate quality control.

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