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Dicta-Sign - Use of a Multilingual Corpus to Improve Sign Language Technology

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► **To cite this version:**

Thomas Hanke, Silke Matthes, Jakob Storz, Satu Worseck, Richard Bowden, et al.. Dicta-Sign - Use of a Multilingual Corpus to Improve Sign Language Technology. 4th Workshop of the Sign Language Corpus Network: Exploitation (SLCN 4 2010), Dec 2010, Berlin, Germany. . hal-03419837

HAL Id: hal-03419837

<https://hal.science/hal-03419837>

Submitted on 16 Nov 2021

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THE PROJECT

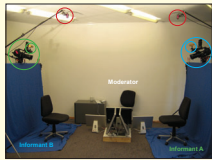
Dicta-Sign is a three-year EU-funded research project which started in January 2009. It aims to improve online communication for Deaf people by promoting the development of sign language based web applications. It will research and develop recognition and synthesis systems for sign languages at a level of detail necessary for recognising and generating authentic signing.



The project deals with four European sign languages: British (BSL), German (DGS), Greek (GSL) and French (LSF). As one of the first steps, a multilingual corpus on the domain „Travel in Europe“ was produced, parallelised for the four target languages as much as is possible for authentic sign language production. This corpus is used within the project to inform progress in areas such as video recognition of signs, formal language models and sign language animation using avatars. These technologies in turn are used to improve sign language technology, e.g. by providing semi-automatic tagging for sign language annotation tools.

Aside from this, Dicta-Sign is expected to result in three prototype applications: a sign language-to-sign language terminology translator, a search-by-example tool, and a sign language Wiki.

BUILDING THE MULTILINGUAL CORPUS

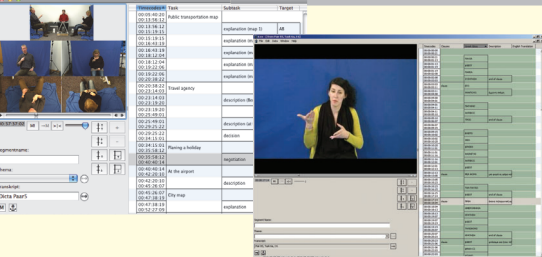
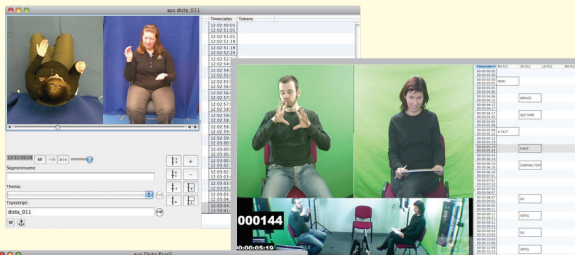


The studio

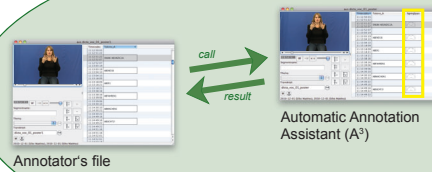


Elicitation materials

Annotating the video files:
BSL, LSF, DGS, and GSL



ANNOTATION TOOLS



Annotator's file

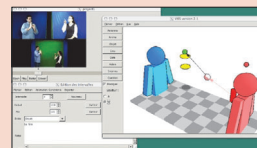
Automatic Annotation Assistant (A³)

RECOGNITION



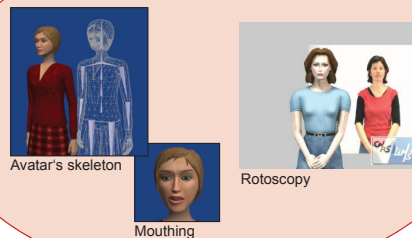
Skin mask extraction and labeling

LINGUISTIC MODELLING



Modelling the signing space

SYNTHESIS AND ANIMATION



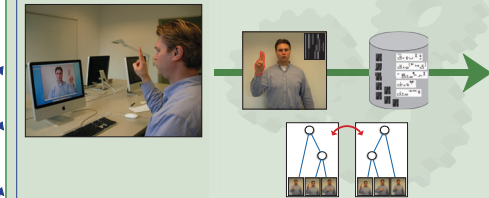
Avatar's skeleton

Mouting

Rotoscopy

PROJECT OUTCOMES

Sign Language Translator



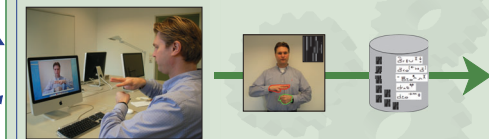
LSF TRANSLATION

Search by Example Tool



SEARCH RESULTS

Sign Language Wiki



For more information about the project see www.dictasign.eu