SEVENTH FRAMEWORK
PROGRAMME

SIGNSPEAK

Scientific understanding and vision-based technological development for continuous sign language recognition and translation

Grant Agreement Number 231424

Small or medium-scale focused research project (STREP) FP7-ICT-2007-3. Cognitive Systems, Interaction, Robotics

Project start date: 1 April 2009
Project duration: 36 months

Deliverable D.1.4: Create an additional NGT corpora with the extra features needed
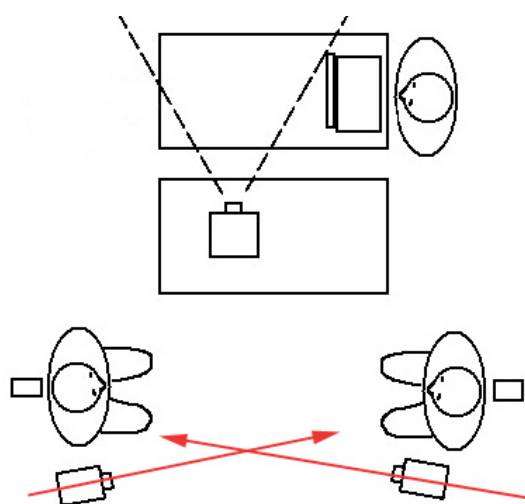
Dissemination Level: **Public**

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Introduction

Following discussions between RU and RWTH/ULg, a few short NGT fragments were recorded under different visual conditions. The recordings were not annotated.

While the recordings of the Corpus NGT showed a considerable amount of variation in terms of clothing and the details of the skin and hair colour (due to the fact that 92 different individuals were each recorded on one day only), one thing was particularly constant: the angle of the cameras, which was always a bit from the side. The following diagram illustrates this.

Aside from being a practical way of positioning the cameras, while interfering as little as possible with the conversation, this orientation of the cameras had the advantage that the combined view in the annotation software ELAN has a natural feel to it: while one does not view the two conversation partners from the side, it still looks as if they are oriented to each other rather than both looking straight ahead at the annotator. This is illustrated in the following image.

Although this orientation of the camera may well occur regularly in usage scenarios that are the target of SignSpeak (like a camera at a desk of a public service employee or at a post office counter), this may pose particular demands on the visual processing.

To compare the Corpus NGT movies with similar recordings in which the camera angle is frontal, a small set of recordings was created that all featured a frontal camera angle. The recordings were made with the same consumer-grade Sony HDV camera at its 1080i setting. A few different tasks were used to resemble the Corpus NGT task variety. In order to create some visual variation with only one signer, different colour shirts were worn.

Some additional variation was added and recorded that goes beyond the variation in the Corpus NGT: different backgrounds (the Corpus NGT recordings all featuring the same dark blue cloth background), and different zoom factors with the same camera.

List of files

SignSpeak_D1.4_[1-22].eaf

Conditions
- Differences in lighting
- Different clothes
- Different distances from camera; camera facing the signer
- Different backgrounds

Tasks
- Read and summarise a short text (from the deaf media sources W&G, doof.nl)
- Repeat a few short fragments from CNGT0531_S026.
- Literally repeat sentences from discussions (CNGT0531_S025: sentence between 02.19 and 02.34)

Description of each movie

Duration ranges approximately from 15 seconds to 2.5 minutes; averages 1.5 minutes (clip 1-7) and 15 seconds.

1. Task: response to text on deaf web site in magazine Woord & Gebaar. Conditions: poor light. Green shirt. 'Standard location'.
2. Task: response to text on deaf web site in magazine Woord & Gebaar. Conditions: *Good light*. Otherwise identical to 1.
3. Task: Discussion CNGT0531_S026. Condition: *Green shirt*. 'Standard location'. Good light.

4. Task: Discussion CNGT0531_S026. Condition: *Black shirt*. 'Standard location'. Good light.
5. Task: Discussion CNGT0531_S026. Condition: Black shirt. *Distant.* Good light.
6. Task: Discussion CNGT0531_S026. Condition: Black shirt. *Zoomed in*. Good light.
7. Task: Discussion CNGT0531_S026. Green shirt. 'Standard location'. Good light. TL lights on (otherwise identical to nr. 3)
8.-12. Task: Zin CNGT0531_S025; 02.19 to 02.34. Repeat same sentence five times. Condition: Green shirt. '*Standard location'*. Good light.
13.-17. Task: Zin CNGT0531_S025; 02.19 to 02.34. Repeat same sentence five times. Condition: Green shirt. *Distant*. Good light.
18.-22. Task: Zin CNGT0531_S025; 02.19 to 02.34. Repeat same sentence five times. Condition: Green shirt. *Zoomed in*. Good light.