

# Building 3D French Sign Language Lexicon

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marabtech

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**Aim: Set up a 3D FSL lexicon to be re-usable in software**

**how? Generic creation methodology**

**User based creation, step by step evaluation and validation**

**Existing corpora: Specific creation methodology**

## Samples video corpora

ARC-LSF



LIMSI-CNRS

LS-COLIN



Univ. Paris 4 & 8,  
LIMSI-CNRS, IRIT

NGT



Univ. Radboud  
Nijmegen



Univ. Boston

## 3D corpora

Signing Science  
Dictionary (SSD)



TERC, Voom3D

Avatar Signing  
Dictionary



Univ. East Anglia



LIMSI-CNRS

## Our generic methodology

1

### Participant selection



Gestural referent  
- deaf  
- skilful user of FSL  
- clear and fluent expression



FSL expert  
- deaf  
- skilful in a specific  
field or a related one



Specialist of the field  
- depends on the lexicon

2

### Sign and utterance selection



from a paper dictionary



from explanations by the specialist  
to the FSL expert  
via an interpreter



FSL expert passing on signs  
to the gestural referent

3

### Video corpus creation



- isolated signs and utterances  
- 2 cameras  
- control by the computer graphist while recording

4

### 3D corpus creation



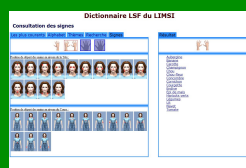
- copying the video corpus frame by frame  
- Adjusting style to 3D constraints

## Evaluation

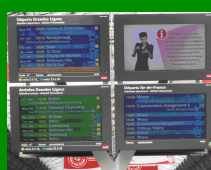
### In software



Web site's concepts  
explained in FSL



bilingual Web dictionary



in railway stations:  
Information display

### By user panels

- anonymous deaf users via Web or live questionnaires  
- deaf FSL experts in linguistics and ICT

## Validation

### Of different aspects

- referent, expert and specialist selection  
- sign and utterance selection  
- video corpus conception  
- 3D animations

### From several points of view

- linguistic  
- ergonomic  
- technical  
- design  
- purpose