The Digital Record Project (DReSS)

- An overview of DReSS (funded by ESRC), an interdisciplinary project involving linguistics, psychologists and computer scientists at the University of Nottingham.

- Project aims and objectives

- Introducing the NMMC:
  - 125,000 words single party talk
  - 125,000 dyadic supervisory meetings
Issues in MM corpus development

1. Data collection and collation:
   Capturing, transcribing and aligning, and adding gesture to transcription

2. Tracking, defining and coding gesture of interest:
   Using specifically developed software to track and automatically encode gestures according to a pre-defined kinesic coding scheme

3. Representing the data in an easy-to-use interface for further analysis:
   Constructing an intelligent corpus database and associated software (including a text/ gesture concordancer)
1. Data collection

Naturalistic data Vs usable images

**KEY:**
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- = DV Cameras
- = Microphones
- = Participants
- = Cameras’ Field Of View (FOV)
2. Tracking, defining and coding

- Refining the CL approach for relevant MM corpus analyses
- A Computer Vision (CV) tracker has been built to, initially, focus upon manually detecting the existence of the following in the video data:
  - Head nod behaviour (non-verbal backchanneling), HeadTalk
  - Iconic hand movements (relationship to verbal discourse markers)
- Key research questions asked
2a. Tracking gestures - HeadTalk
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2b. Gesture coding

- Coding schemes supporting the identification, representation and analysis of different elements, components and units that exist in spoken discourse proliferate.

- There is a lack of such schemes for marking-up non-verbal elements or for integrating it with verbal elements, those that exist focus on computational tools.

- Current schemes are generally developed to match a specific research need or are aimed at a particular user group.
2b. Coding HeadTalk

Integrating:

- **Continuers**: Maintaining the flow of discourse (see Schegloff, 1982)
- **Convergence tokens**: Marking agreement and disagreement
- **Engaged response tokens**: High level of engagement, with the participant responding on an affective level to the interlocutor.
- **Information receipt tokens**: Marking points of the conversation where adequate information has been received.

With:

Type A: small (low amplitude) nods with short duration
Type B: small (low amplitude), multiple nods with a longer duration than type 1
Type C: intense (high amplitude) nods with a short duration
Type D: intense and multiple nods with a longer duration than type 3
Type E: multiple nods, comprising of a combination of types 1 and 3, with a longer duration than types 1 and 3.
2b. Coding HandTalk

Combining movement and linguistic codes for analysis:

**MOVEMENT CLASSIFICATION**
- Stage 1: Type
- Stage 2: Shape/Trajectory
- Stage 3: Stroke
- Stage 4: Pragmatic category
- Stage 5: Frequency

**LINGUISTIC CLASSIFICATION**
- Stage 1: Discursive function
- Stage 2: Form
- Stage 3: Frequency (per speaker, and totals across each individual/ dyad and entire sample)

**Top-down**
Gesture Form – Function

**Bottom-up**
Linguistic Function – Form

The interaction of language and gesture-in-use for the generation of meaning in discourse
3a. Current tools for MM data representation

- Current tools tend to focus either on the management of data or upon the processes of coding and annotating previously collected data (examples include Transana, Anvil, NITE XML Workbench, ELAN)

![ANVIL (version 3.6)](http://www.dfki.de/~kipp/anvil/)
3c. The DRS - a demo
Future challenges

- Re-classification of categories in the light of new visual and audio evidence

- Sharing of tools, coding schemes and recording mechanisms with other research communities

- Ethical considerations and concerns
Project contacts and links

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Project website: http://www.ncess.ac.uk/research/digital_records/

DRS download:
http://www.mrl.nott.ac.uk/research/projects/dress/software/DRS/Home.html

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