NISLab/2.7.03/NOB/MC

NWB2 RELEASE NOTES

2nd release of NITE Workbench for Windows, 1st July 2003

1. New features in NWB2

NWB1 was released on 1.6.03 for the NITE user evaluation workshop in Pisa.
Compared to NWB1, NWB2 has been modified as follows:

- debugging has continued
- new example coding schemes and corresponding coding files have been added (see below)
- a set of standard queries have been produced (see below)

2. New example coding schemes and coding files

A *coding file* is the file generated by applying one or more coding schemes to a raw data file.
We have inserted a number of coding schemes which have all been applied to the same one-minute segment of a single raw data file, i.e. the NITE floorplan corpus Section1-NITE-Corpus-2.11.01-f.avi. The examples are part of the installation and can be found in C:\NITE WB SAMPLES. We have created a coding project for each coding exercise.
The purpose of these codings is to illustrate the scope of annotation which can be done with NWB2. The codings can be found in C:\NITE WB SAMPLES. They are:

1. *timestamped* (see Section 3) orthographic pure text transcription, see Ortho_Transc+spk.prj
2. timestamped orthographic text transcription with timestamped transcription tags, see Ortho_Transc+spk+events+time_stamps.prj
3. *order coded* (see Section 3) orthographic timestamped text transcription using the same transcription coding scheme as in (2), see Ortho_Transc+spk+events+order.prj
4. timestamped pure text orthographic transcription augmented with timestamped cross-modal deictics coding of speech deictics, gesture deictics, and gaze deictics, see Ortho_Transc+spk+deictics.prj This coding scheme is an exploratory one aimed at exploring deictic natural interactive behaviour.

5. (4) above as augmented with *structure coding* (see Section 3) of coordinated speech/gesture/gaze deictics, see Ortho_Transc+spk+deictics+coordination.prj

3. Types of coding with NWB

In NWB, we distinguish between timestamped coding, order coding, and structure coding, as follows:

- *timestamped coding* is the standard form of coding in NWB2. Based on one's coding scheme as represented in the tag palette, one selects and tags some segment or other phenomenon, and timestamps it as an interval or time-point;
- *order coding* is a form of coding in which *non-timestamped* tags (hence the name "order (-only) coding", are typed into (not using the tag palette) timestamped segments or other phenomena. If you do not need timestamps for within-segment (-phenomenon) phenomena, this is a fast coding option which, moreover, shows at-a-glance the exact location in the transcription of the tag(s) inserted. Note that the tags inserted can be queried just as can the timestamped tags;
- *structure coding* is coding which annotates the structure of already (or ultimately) timestamped codings, possibly at different coding levels annotated using different coding schemes, by relating several different tags to one another. Structure coding is optimal for coding complex coordinated, or otherwise structured (as in, e.g., co-reference), phenomena in natural interactive behaviour, such as the coordinated production by the communicator of (i) a spoken "this", (ii) a pointing gesture towards the object referred to by "this", and (iii) a gaze pointing towards the same object. Given the timestamp-based nature of NWB2, users presently have to do structure coding as timestamped coding, i.e. the structure coding tags do not yet inherit the timestamps of the structure constituents which have already been tagged.

Given these definitions, the coding examples included in NWB2 illustrate all the different general and abstract kinds of coding which can presently be done with the tool. Needless to say, the specific coding examples are only an insignificant fraction of the coding purposes which NWB2 can be used to serve.

4. Standard queries

We are aware that many of the users of NWB2 are not familiar with the SQL query language. As a first step towards providing an easy-to-use interface for SQL querying, NWB2 comes with a small set of frequently used queries. We have tried to express these queries at a relatively low level of abstraction, so that users only need to modify the queries in a very limited way in order to serve their own query purposes.

The queries are:

1. Default (full data) query, the data is presented in the tab view window by default.
2. Query for presenting speaker and transcription in the same row for better visualisation of the data already annotated and transcribed.
3. Transcription turns which include the tags (as part of the text) [t1,t2,t3, ... tn]
4. Turns which include the tags [t1,t2,t3, ... tn]
5. Transcription turns for speaker [S1-Sn]
6. Transcription turns for speaker [S1-Sn] which include the the words [w1,w2, ..., wn]
7. Transcription turns for speaker [S1-Sn] which include the tags [t1,t2,t3, ... tn]

The queries and the query examples are described in detail in Section 7 of the User Manual.

5. NWB3 Release due 1.8.03

Our present development priorities for NWB3 include features which will significantly improve the user-friendliness of the tool. The priorities are:

- the coding file display makes it easy to visually correlate speakers/communicators, transcribed turns, and any tags applied to a particular communicator/turn. In NWB2, this functionality is only available by using Query 2 in Section 4 above.
- export project components into XML files: coding files, query results, preserving data structure;
- millisecond-precision raw data control through mouse control of the graphical speech sound view. This will enable precise timestamping for, e.g., word-level segmentation, enable timestamped POS tagging, etc.
- colour and font coding customisation. This will enable easy and clear visualisation of anything of interest in the coding files;
- simulated *analogue coding view* (see below);
- more easy-to-use, typical queries;
- print coding files and query results from Access;
- more example coding schemes as appropriate;
- user support through FAQ list on the NITE website. Note that on-line support is available already (see Section 8).

6. Visualisation in NWB

In NWB, we distinguish between two basic kinds of coding visualisation, the symbolic-tabular view and the analogue view.

In the NWB2's present *symbolic-tabular view,* codings and query results are visualised in table format and tabular information is conveyed symbolically. It is a well-known fact from, e.g., data graphics research and modality theory, that *the same* information can be visualised in two basically different ways, either purely symbolically, as in the NWB symbolic-tabular view, in Excel sheets, etc., or in a partly analogue way, as when Excel sheet information is converted into bar graphs, line graphs, scatter plots, and the like.

In (partially) *analogue visualisation,* the information presentation itself has some visual similarity to the information represented. For instance, the size of individual bars in a bar chart corresponds to amounts of some kind, or the length of a horizontal box which includes a tag label, a word segment, or a turn segment, corresponds to its duration. If, for instance, the segmented dialogue turns of two different speakers are presented in two different horizontal display tiers relative to a timeline, it is possible to immediately visualise the duration of the turns, the presence of overlapping speech, etc. NWB3 will include a simulated analogue visualisation of the codings made.

In later releases, NWB will include a full analogue view of coding files, which will, furthermore, be equivalent in information to the symbolic-tabular view, so that it is possible to freely switch between the symbolic-tabular view and the analogue view as required during annotation and early analysis.

7. NWB Release 4 and later

After the release of NWB3, we will do our best to continue to improve the NWB with your input and suggestions.

8. User support, comments and suggestions

We are grateful for your input on which natural interactivity coding purposes the NWB cannot serve in its present form, as well as any other suggestions for improvements you might have. Your suggestions will be included in the development priorities for NWB3 and later releases.

Please provide your questions or suggestions via email: nwbsupport@nite.nis.sdu.dk.

The NWB team