GraphAnno: A lightweight tool for multi-level annotation

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Downloading and starting the programme

- GraphAnno is available on GitHub, maintained by Lennart Bierkandt (LBierkandt/graph-anoo)
- For today, we will get it from my account, as I have included some demo data for illustration; go to github and search for **grno**
- Download ZIP
- Unpack zip-file somewhere
- Open the folder `grno-master` and start `main.exe`
- Open browser and go tu URL `localhost:4567` (you can add a bookmark if you like)

Operating GraphAnno

- There is a comprehensive **documentation** (link in the bottom-right corner)
- GraphAnno is (basically) operated with the keyboard:
  - Commands in the command line in the left-bottom corner
  - Function keys

Importing data

- Data can be created manually (but we would not normally do that), e.g. with

  `ns 1 2 3 4 5`

  (create 5 new sentences with name '1, 2, 3, 4, 5'; cf. F9)

  `t This is an example` (tokenize "This is an example")

- Import of raw text

  `import text`

- Import through GraphPynt (Python interface to GraphAnno; allows preprocessing, e.g. parsing, assignment of tokens to speakers, etc.): Available on GitHub (account VolkerGast)

- GraphAnno-files are loaded with

  `load $file`

Operating GraphAnno

- Configuration:
  - `pref`: Customizing autocomplete options
  - `config`: customize layers
  - `metadata`: keys and values for metadata-annotation
  - `tagset`: define tagsets
  - `makros`: define annotation makros
  - `annotators`: create annotators (for multi-annotator projects)
  - `file`: some file settings

Navigating in GraphAnno

- Navigating with F-keys:
  - F6: Filter: allows us to show only specific annotation layers
  - F7: Search window: Allows us to search for nodes of a specific type and graph fragments
  - F8: Command history: Records all the commands of a session
  - F9: Navigation window (shows all the sentences)
- Navigating with keyboard showrtkuts
  - Navigation within the window is done with CTRL+SHIFT+[X], with [X] standing for
    - arrow keys: up, down, left, right
    - +, −: zom in/out
- Navigating within the corpus can be done with ALT+[ARROW]

An example: Spoken language

- `load demo/llc.json`
- Toggle navigation window with F9
- Select different portions of the corpus (e.g. sentences 7 and 8) by selecting them in the navigation window (multiple selection with CTRL [individual] or SHIFT [sequences of sentences]); confirm selection with RETURN.
- Inspect the data (toggle node identifiers with F4)

Some basic annotations: Intonation

- Annotate Intonation Phrases, e.g. for sentence 4

  `g n4..n6 cat:IP t`

  g: 'group' (create constituent)

  `n4..n6` node identifiers, equivalent to `n4 n5 n6`

  `cat:IP` category attribute is privileged, as shown without `cat`-key

  `t` annotate at 't-layer' (cf. config)

- We can create an annotation makro, e.g. `x` for the annotation `cat:IP`

  `g n4..n6 x`

Structural annotations

- Select a different layer, e.g. `s`
- It might make sense to make intonational annotations invisible with F6
- Annotate structural units such as the VALESCO-categoies *subact*, *act*, *intervention*, e.g.

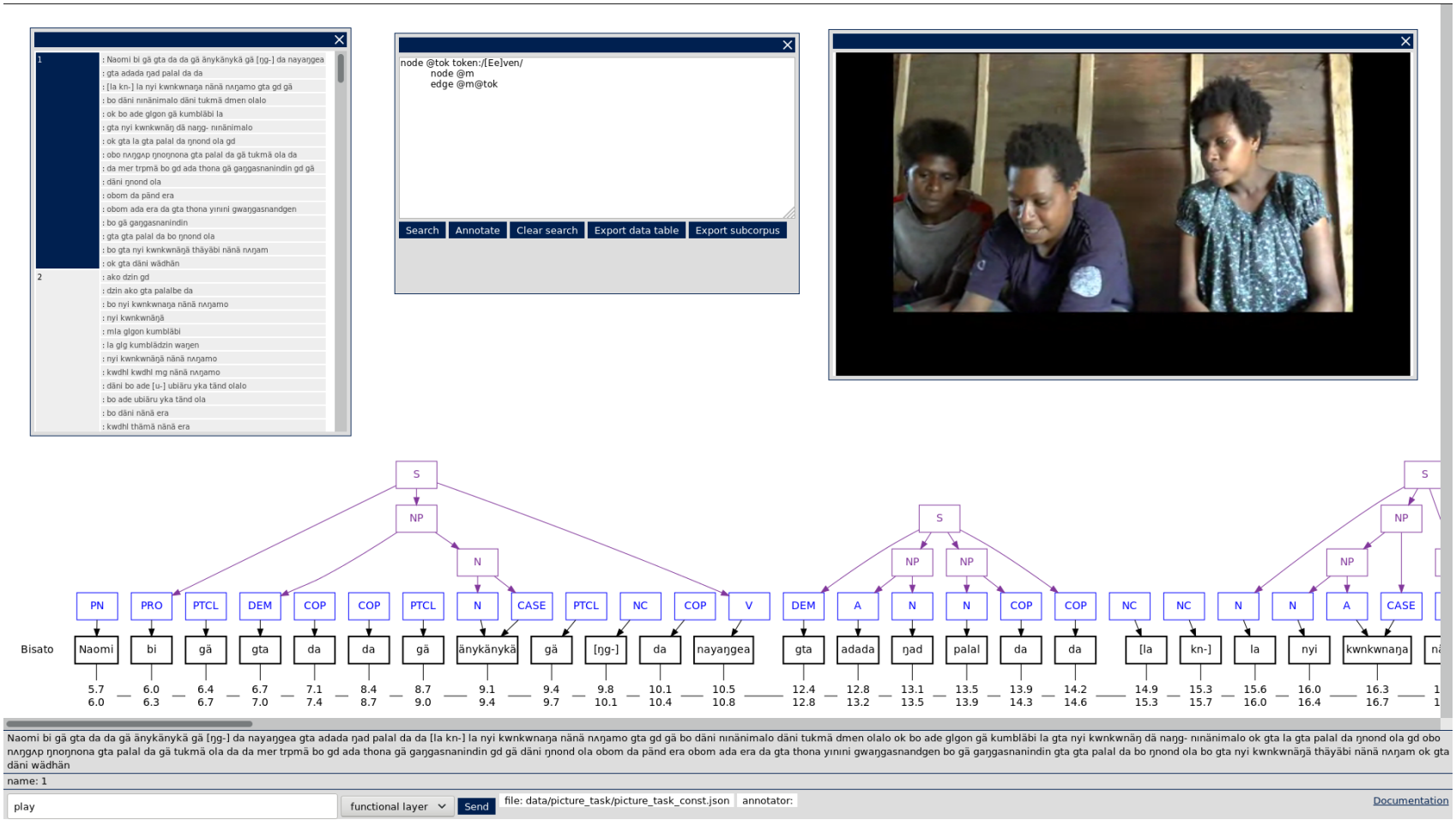
  ```
  g n8..n13 cat:SUBACT s g n5..n7 n31 cat:ACT
  ```

An example: hierarchical annotations

- `load demo/cc`: load file `cc.json` (with some data on concessives)
- Toggle internal windows: F6, F7, F8, F9
- Toggle node identifiers: F4
- Try to navigate in the window, inspecting the first sentence of the corpus (*Of course they have been put forward by political groups, ...*).
- Modify the tree with commands such as:
  - `a $node $key:$val$`
  - `di $node$` (delete node)
  - `g $node1 $node2 $key:$val`
  - `ni $node $edge $key:$val`

A final note

- There is a multi-media version of GraphAnno, fully functional on Linux and (very soon) also available for Windowd and Mac!



Some references

- Gast, V., L. Bierkandt, S. Druskat & C. Rzymski (2016). 'Enriching TimeBank: Towards a more precise annotation of temporal relations in a text'. In Nicoletta Calzolari et al. (eds.): *Proceedings of the Tenth International Conference on Language Resources and Evaluation (LREC)*. European Language Resources Association.
- Gast, V., L. Bierkandt & C. Rzymski (2015). 'Creating and retrieving tense and aspect annotations with GraphAnno, a lightweight tool for multi-level annotation'. In Bunt, H. (ed.): *Proceedings of the 11th Joint ACL-ISO Workshop on Interoperable Annotation*, 23-28. Tilburg: Tilburg Center for Cognition and Communication.
- Gast, V., L. Bierkandt & C. Rzymski (2015). 'Annotating modals with GraphAnno, a configurable lightweight tool for multi-level annotation'. In M. Nissim & P. Pietrandrea (eds.): *Proceedings of the Workshop on Models for Modality Annotation*, 19-28. Stroudsburg, PA : Association for Computational Linguistics (ACL).