

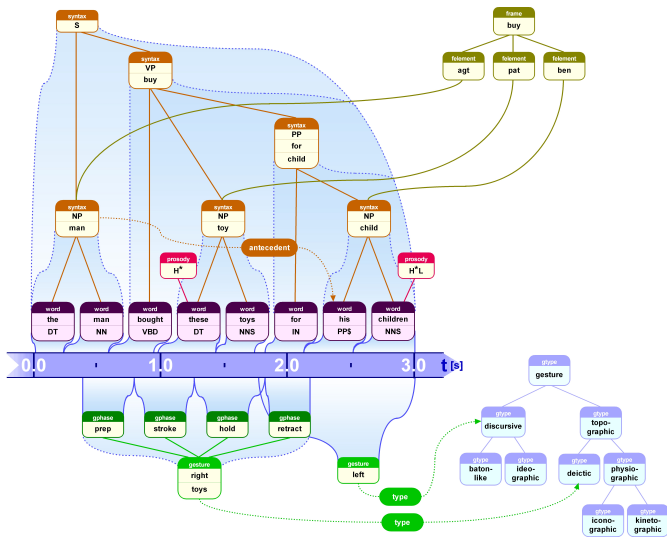
The NITE XML Toolkit

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Dec 2009

A toy example of linguistic data



- Open source toolkit for handling annotations with temporal ordering and full structural relations
- Data storage format designed to support distributed corpus development
 - Libraries for data handling, query, and writing graphical user interfaces
 - Configurable end user browsing and annotation tools for common tasks
 - Command line utilities for analysis, feature extraction

- stand-off annotation using multiple files under version control
- dependency structure for keeping track of which annotations rely on which versions of which other annotations
- multiple competing annotations for the same thing (different humans for a reliability assessment, different automatic processes for a competition)
- logical query language - because this is the only way to analyse this kind of data

What's wrong with NXT

- Flexibility makes it harder to just start using it
 - need to formally describe corpus structure
 - some users struggle with logic
- no indexing locations within still images or video frames
- Not enough packaging (connection to automatic tools, authoring corpus structure description)
- Not "sold" enough, not known very well in America

Butterflies: deixis

The screenshot displays the NITE (Natural Interaction Tool for Exploring) GUI. The main window shows a transcript of a conversation with various linguistic annotations. The transcript is as follows:

B: Do you think it's better to pick up a large number of people, um ...
A: Well, since (single_point_deictic this)'s on the (movement_descriptive way), you could just pick (single_point_deictic them) up, and then, go (movement_descriptive up (single_point_deictic here)), you could go (movement_descriptive around) like this and then (movement_descriptive down)?
B: But we have to find the shortest ra - road, right?
A: The shortest road, yeah.
B: So, we have to get, um ...
A: See, (single_point_deictic this) is the most number of people, (single_point_descriptive they)'re not too close to
A: Yeah, (single_point_descriptive they'd) force you to go, so we could pick up (single_point_descriptive these three), then go (movement_descriptive up to the (single_point_descriptive twenty - two)), and then
B: and then go (movement_descriptive back)
B: (movement_descriptive back to the (single_point_descriptive eleven)) ? How much is that?
B: Uh, (people_aggregate fourteen) ? (people_aggregate thirty - six) ?
A: (people_aggregate thirty - six) ... keep going ... (single_point_deictic here) ? (movement_descriptive To (single_point_deictic this one)) ? It would be forty, or, fifty - something?
B: (people_aggregate thirty - six), is (people_aggregate fifty - one) .
A: And then, um, we could go (movement_descriptive down)
B: What if we don't pick up, um, (single_point_deictic all the people (single_point_deictic here)), then we could have sixty, when we (single_point_deictic here), right?
A: Don't pick up all the people where?
B: (single_point_deictic Here) or (single_point_deictic here) . Because we need nine more people, and (single_point_deictic those) are ...
A: (single_point_deictic That)'s (single_point_descriptive this), yeah.
B: Uh - oh, Bad calculation .
A: That's ok, and we could go (movement_descriptive all the way up (single_point_deictic here)), and just grab a few, but that's ...
B: (single_point_deictic five) /, um ...
A: so, (other this) is ... ok . So instead of going like (movement_descriptive all the way up (single_point_deictic here)) which is further,
B: It just
A: Just go (movement_descriptive down (single_point_deictic here)) . . . or just go
B: If we had (single_point_deictic these)

The interface includes several panels: 'Gestures' (listing pen, stationary, trace), 'Links' (listing links vkarank 2-5), 'Link Actions' (Add new link, Delete link), and 'Speech elements' (containing the transcript). A search window shows results for '<matchlist size="5">' with matches for '<match no="1">', '<match no="2">', '<match no="3">', '<match no="4">', and '<match no="5">'. Below the transcript is a table of NITE data:

XLINK	NAME	@abs	@type	@dur	@mod	@agent	startI	endS
09-1...	link	09-10						
09-1...	RH-g...	09-10	RH-p...	0.52	G	trace	A	15.96 16.48
09-1...	refexp	09-10						

Processing took 0.94 seconds.

At the bottom, there is a 'NITE Clock' window with 'Sync Text Areas' checked, a time display of '0:00:49', and a 'skip: 5.0' field. Below that is a 'NITE Video player' showing a video of people interacting at a table.

Butterflies: Bible studies

The screenshot displays the NXG Generic Corpus Display application. The main window is titled "NXG Search Version 0.26" and shows search results for the word "word". The results are listed in a table with columns for XLINK, NAME, @orth, @order, @pdpsp, @psp, @surf_con, and @state. The results are filtered to show only the word "word" in the Genesis chapter.

XLINK	NAME	@orth	@order	@pdpsp	@psp	@surf_con	@state
genesis...	word	וַיְבָרֵךְ	10.0	0	0	H	-1

Processing took 0.2 seconds.

The interface also shows several other windows:

- word-layer**: A list of search results for the word "word" across various chapters and verses, with the 10th result highlighted.
- book-layer**: A list of books in the Bible, with "Genesis" selected.
- chapter-layer**: A list of chapters in Genesis, with chapter 10 selected.
- verse-layer**: A list of verses in Genesis chapter 10, with verse 2 selected.
- half_verse-layer**: A list of half-verses in Genesis chapter 10, with half-verse 2 selected.

Butterflies: movie review analysis

The screenshot displays the CrAg corpus utterance coder interface, which is used for analyzing movie reviews. It features several windows and panels:

- CrAg corpus utterance coder** (Main Window):
 - File Search**: A menu option.
 - Transcription** (Left Panel): Shows a list of utterances with their corresponding actions. For example, "a: okay" is followed by ">", and "a: (silence 2.77)" is followed by "< fight sequences unclear general not standalone".
 - Transcription** (Right Panel): Shows a detailed view of a transcription segment, including speaker labels (a, b), time stamps, and actions. For example, "b: but yeah" is followed by ">", and "b: I mean I didn't know m... anything about the film at all before I went to see it I I hadn't even hear of it so I know ... nothing a... about it" is followed by ">".
- Actions** (Bottom Left Panel): A list of actions that can be applied to utterances, organized into categories. The "affect" category includes "positive", "negative", "mixed", "unclear", and "specificity". The "film" category includes "film", "genre", "general", and "other". The "standalone" category includes "standalone", "true", and "false".
- NITE Audio player** (Bottom Right Panel): A window for playing audio files, featuring a volume slider, play/pause buttons, and checkboxes for "Synchronise" and "Mute".

Butterflies: dialogue system strategy

The screenshot shows a web browser window with a menu bar (File, New, Bookmarks, Desktop, Windows, Help) and a toolbar (File, Lesson, Display). The page title is "145" and the date is "Mon 26 15:16:12 GMT 2004".

The main content area is titled "Activity" and contains the text: "In which of the following 5 diagrams do you think the bulbs would be lit? List the number(s) in the chat window." Below this text are five circuit diagrams labeled (1) through (5).

Diagram (1) shows a battery connected to a bulb in a simple series circuit.

Diagram (2) shows a battery connected to a bulb, but the circuit is incomplete on the right side.

Diagram (3) shows a battery connected to a bulb, with a second bulb connected in parallel to the main circuit.

Diagram (4) shows a battery connected to a bulb, with a second bulb connected in parallel to the main circuit, but the circuit is incomplete on the right side.

Diagram (5) shows a battery connected to a bulb, with a second bulb connected in parallel to the main circuit, but the circuit is incomplete on the right side.

Below the diagrams is a "BEE Tutorial Annotator" window. It has a "Transcribe Display" tab and a "Segments" tab. The "Transcribe Display" window shows a transcript of a dialogue between a student and a tutor. The "Segments" window shows a list of segments with their start and end times and completion status.

The transcript shows the following dialogue:

- auto14: 15:16:10 student:
- auto13: Student Action: Correctness = R
- sm4: 15:16:11 student:
- utt9: student: the circuit on the left is 3,
- utt10: student: right circuit is 1
- tm4: 15:16:40 tutor:
- utt11: tutor: OK-
- utt12: tutor: that looks good.
- utt13: tutor: Remember you can press clear when you want to start a new circuit.
- utt14: tutor: You should move on now.
- auto15: 15:16:48 slide:
- sl13: Loaded slide: img12 of type EVALUATE
- sm5: 15:17:24 student:
- utt15: student: one pole of the bulb has to be connected with the + of the battery,
- utt16: student: the other pole has to be connected with the-
- tm5: 15:17:45 tutor:
- utt17: tutor: Yes-
- utt18: tutor: that looks fine.
- utt19: tutor: You'll see our rule on the next page.
- auto16: 15:17:51 slide:
- sl14: Loaded slide: img13 of type READ

The "Segments" window shows the following segments:

- teach(concept)[complete_circuit, PVE] start: Initiate end: Complete
- task(predict) start: Initiate end: Complete
- task(overN) start: Initiate end: Complete
- do(performAccess) start: Initiate end: Complete

At the bottom of the browser window, there is a navigation bar with buttons for "rew", "prev", "stop", "play", "next", "ff", "-15", "-10", "-5", "+5", "+10", and "+page".

Butterflies: eyetracking

The screenshot shows a software interface with a central video player and four surrounding data displays. The video player, titled "NITE video player", shows a scene with a path and a timestamp of 02:21:35:04. The displays are:

- FeedbackGaze Display:** A list of gaze events for feedback, such as "s10b-m-ft.fbg.58: not-feedback".
- Feedback Display:** A list of gaze events for feedback, such as "s10b-m-ft.fb.6: travel".
- RouteGaze Display:** A list of gaze events for route, such as "s10b-m-ft.rg.71: route".
- Transcription Display:** A list of transcription events, such as "Instruct_move: and then ehmm come go up to the waterfall".

At the top, there are playback controls (play, stop, next) and checkboxes for "Synchronise to text view" (checked) and "Mute".

Butterflies: eyetracking

The screenshot displays the Named Entity Coder (NECL) software interface, which is used for analyzing eye-tracking data. The interface is divided into several main sections:

- Transcription:** A text area on the left containing a transcript of a conversation. The transcript includes lines such as:
 - a: ??
 - b: Right. Um do (a. you) wanna pick (gen. one) up first?
 - a: Um yeah. I'll take (or. i.11. this one) 'cause (or. i.11. it's) big. Big and in the way of (gen. everything else). Uh it's gotta go (work. that way). Okay. No no. (or. i.11. I'm) not quite aligned. [vocal sound] Uh there, okay, (a. I'm) hanging on.
 - b: Right. Uh and (b. I'll) go for (pl. the yellow one).
 - a: Do (a. you) wanna just put (or. i.11. it) over um (work. to the left) so that (we. we've) got (work. more space)? Yeah.
 - a: Oh yeah, so (unsure. the ??) yeah, okay. Yeah.
 - b: Okay.
 - a: Um.
 - b: There we go. Uh uh can (a. you) go for (sq. the pink one)?
 - a: 'Kay um [disfmarker]
 - a: Yeah. (a. I) think (sq. that's) probably (gen. the no right one) to do next.
 - b: Oh, come on. There we go. Uh hang on a sec. Oh.
 - a: Right. yeah.
 - a: Um (a. I) think (ol. s.12. this one) is probably [disfmarker] okay, and (a. I'll) just go straight in. Okay, can (a. I) get this in without hitting on (comp. the slide)? [vocal sound] Uh there. Yeah. Okay.
 - b: Okay.
 - a: Uh yeah, (ol. s.12. thata) will go in easy.
 - b: Uh yeah, close enough. Um (re. m. t. re) (b. I) think (re. m. t. the red one) next.
 - a: Yeah. (a. I) think so, (unsure. it's) nice and [disfmarker] (comp. a nice big angle).
 - b: There we go.
 - a: Okay uh, (a. I'll) just hang on to ((comp. this) still and (b. you) can [disfmarker].
 - b: Uh yep, and (a. I) go for ((cy. l.12. the mn blue)).
 - a: Yeah, and do (b. you) wanna just go get (s. a. s.11. the last one) ??? Yeah.
 - b: Yeah. May as well just do it, yeah.
 - b: Uh let's make it trickier.
 - a: Okay.
 - a: Yeah.
 - a: There. Okay ??
 - b: There we go.
 - b: Yes. Look at that. [vocal sound]

- NECL Tree:** A hierarchical tree structure in the center showing the analysis of the transcript. The root is 'ne-root', which branches into 'REGIONS' and 'PARTS'. 'REGIONS' includes 'TARGET', 'WORKAREA', 'NEWPARTAREA', 'CLOCK', 'BROADS', 'ENDSCORE', 'MISCELLANEOUS', 'NOTONSCREEN', and 'RECENTVP'. 'PARTS' includes 'MAGENTA SQUARE', 'SANDSMALLTRIANGLE', 'OLIVESMALLTRIANGLE', 'REDMEDIUMTRIANGLE', 'ORCHIDLARGETRIANGLE', 'CYANLARGETRIANGLE', 'YELLOWPARALLELOGRAM', 'COMPOSITE', 'GENERIC', and 'UNCERTAIN'. Below these are 'CURSORS' (OHMHOUSE, OTHERHOUSE, GAZE) and 'PARTICIPANT' (A, B, WE).
- Video Players:** Two windows on the right, both titled 'NITE Video player'. The top window is labeled 'Master' and the bottom one 'reconstructed'. Both show a video frame with a blue background and several colorful geometric shapes (triangles and squares) overlaid. A 'New Parts' button is visible at the bottom of each player.
- NITE Clock:** A control panel at the bottom center. It features a 'Signal' dropdown menu, a progress bar, and three green play buttons. Below the play buttons is a 'Rate' slider ranging from -4x to 4x, with a 'Reset' button. A 'Sync Text Areas' checkbox is checked, and a 'time: 0:00:06 skip: 5' display is present.
- Status and Feedback Window:** A small window at the bottom left showing the text 'Initialization complete' and '<< START'.

Flock of birds



Google Earth mashup

The image displays a software interface for a Google Earth mashup, divided into two main sections: a data list and a map view.

Location Annotation Window:

- Entry Search Results:**
 - (1) E ROMANA ST; MACKEY ALY
 - (2) E ROMANA ST; S ALCANIZ ST
 - (3) E ROMANA ST; S FLORIDA BLANCA ST
 - (4) CALLE DE SANTIAGO; E ROMANA ST
 - (5) E ROMANA ST; MANRESSA ST
 - (6) CALLE DE SANTIAGO; E ROMANA ST
 - (7) E ROMANA ST; S TARRAGONA ST
 - (8) CEVALLOS ST; E ROMANA ST
 - (9) E ROMANA ST; S BRUE ST
 - (10) E ROMANA ST; S JEFFERSON ST
 - (11) E ROMANA ST; S 9TH AVE
 - (12) E ROMANA ST; S PALAFOX ST; W ROMANA ST
 - (13) E ROMANA ST; S 10TH AVE
 - (14) S BAYLEN ST; W ROMANA ST
 - (15) BAYFRONT PKY; E ROMANA ST
 - (16) BAYFRONT PKY; E ROMANA ST
- Text Display:** A list of words with corresponding text fragments, such as "word_w_110: the", "word_w_111: intersecto", "word_w_112: al", "word_w_113: Cevallos", "word_w_114: Street", "word_w_115: and", "word_w_116: Romana", "word_w_117: procedin", "word_w_118: east", "word_w_119: to", "word_w_120: the", "word_w_121: main", "word_w_122: nats".
- Buttons:** "Add to corpus" and "Save corpus" are visible at the bottom right of the list.
- Navigation:** A "NITE Clock" with play/pause buttons and a "Rate" slider (set to -4x, -3x, -2x) are located on the left side.

NITEGEPlayer Map View:

- Shows a satellite view of a city street grid.
- Red location pins are placed on the map, corresponding to the entries in the list.
- Street names are labeled on the map, including "CEVALLOS ST; E ROMANA ST", "E ROMANA ST; S FLORIDA BLANCA ST", "E ROMANA ST; S JEFFERSON ST", "E ROMANA ST; S 10TH AVE", "E ROMANA ST; S PALAFOX ST; W ROMANA ST", "E ROMANA ST; S 9TH AVE", "S BAYLEN ST; W ROMANA ST", "BAYFRONT PKY; E ROMANA ST", "CALLE DE SANTIAGO; E ROMANA ST", and "E ROMANA ST; MACKEY ALY".
- Map navigation controls (compass, zoom, pan) are visible in the top right corner.