



LEXUS and ViCoS

Jacqueline Ringersma

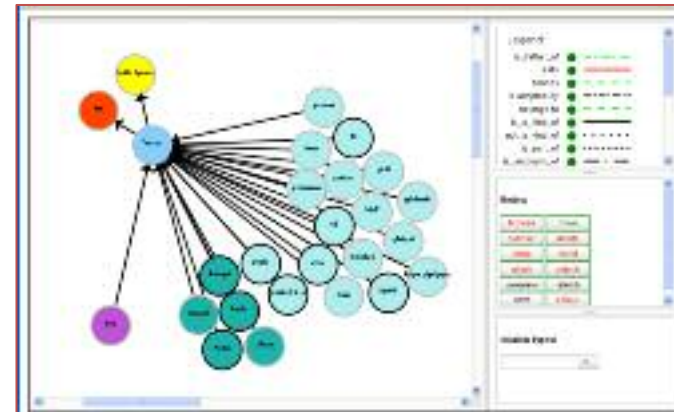
The Language Archive
Max Planck Institute for Psycholinguistics

LEXUS & ViCoS: From lexical to conceptual spaces



LEXUS: a web based tool for the creation of multi media encyclopedic dictionaries and lexica

ViCoS: a web based tool for constructing and visualizing conceptual spaces. Enrichment of lexical information with conceptual knowledge



LEXUS & ViCoS: From lexical to conceptual spaces



Structure

Structure of lexicon depends on language, linguistic theory, purpose

Conceptual

Large variation in linguistic concepts (attribute) and value naming

Format

Large variation in formats (XML, Shoebox, Chat, Word)

Data interoperability problem

cross lexica searches, merging, comparison

Archive requirements

Representation format (XML)

One archive exploitation framework



LEXUS development

LEXUS & ViCoS: Development

2005: First version of LEXUS developed with some input from DoBeS
2006: Construction of Yeli Dnye multi media lexicon (Steve Levinson)

Multimedia lexicon



Typed relations within the lexicon



LEXUS & ViCoS: Development



2007: Start of Marquesan and Tuamotuan dictionary project
(Gaby Cablitz, Edgar Tetahiotupa, Jean Kape, others)

- Many improvements on the LEXUS functionalities
- Many improvements on interoperability with Toolbox and XML
- Initial development of ViCoS, based on ideas from Gaby Cablitz and the Tuamotuan participants in the project
- Input on the new LEXUS user interface from the Marquesan and Tuamotuan participants in the project

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LEXUS development

2009: Launch of the tools, Workshop April 2, 2009

2006→2009: Do we (&you) still need these tools?

Christopher Doty: Bridging the Gap between Linguistics and Community: Producing materials for language maintenance

Ulrike Mosel: Turning the linguist's lexical database into a community dictionary “the differences between a lexical data base as it typically results from a language documentation project and the kind of dictionaries the speech community wants”



LEXUS technicalities

LEXUS & ViCoS: Technicalities



Based on two ISO TC 37 standards for linguistic resources

LMF : Lexical Markup Framework (lexicon structure)

DCR: set of standardized data categories to be used as a reference for the definition of linguistic annotation schemes or any other formats used in the area of language resources (concept naming)

LMF/DCR:

- A modular structure for content interoperability between lexical resources.
- Archiving exploitation framework, XML based

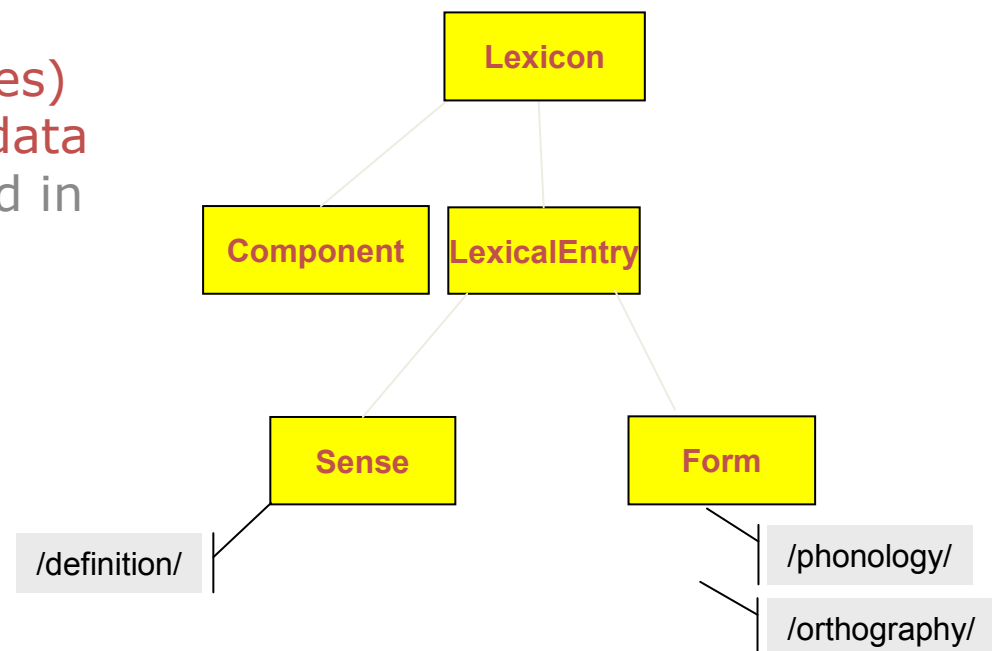
LEXUS & ViCoS: Technicalities



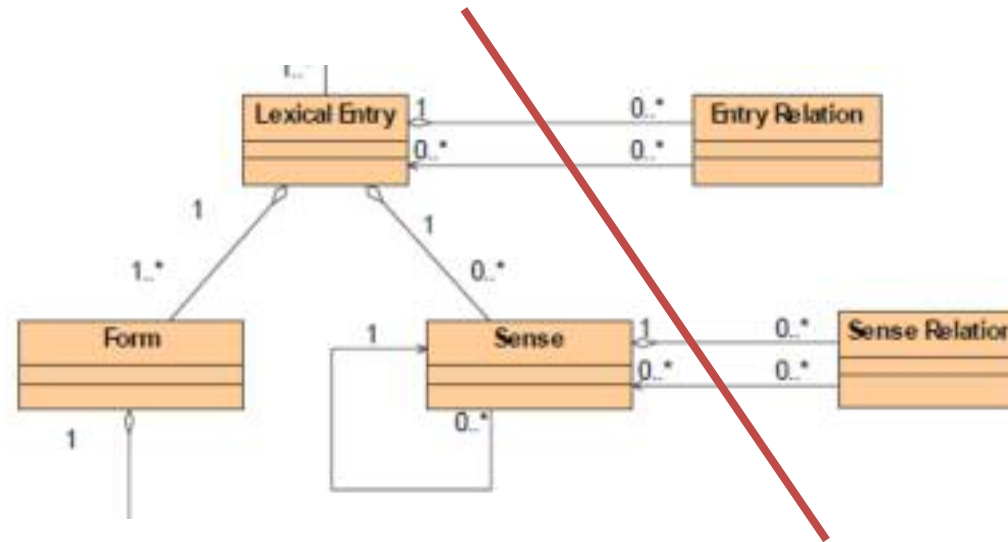
Lexical Markup Framework: defines the default structure of a lexicon

The lexicon schema is seen as lexical attributes (**data categories**) grouped together with others (**data category groups**) and embedded in a tree structure

A lexicon needs a structure first. Content can be build on this structure



LEXUS & ViCoS: Technicalities



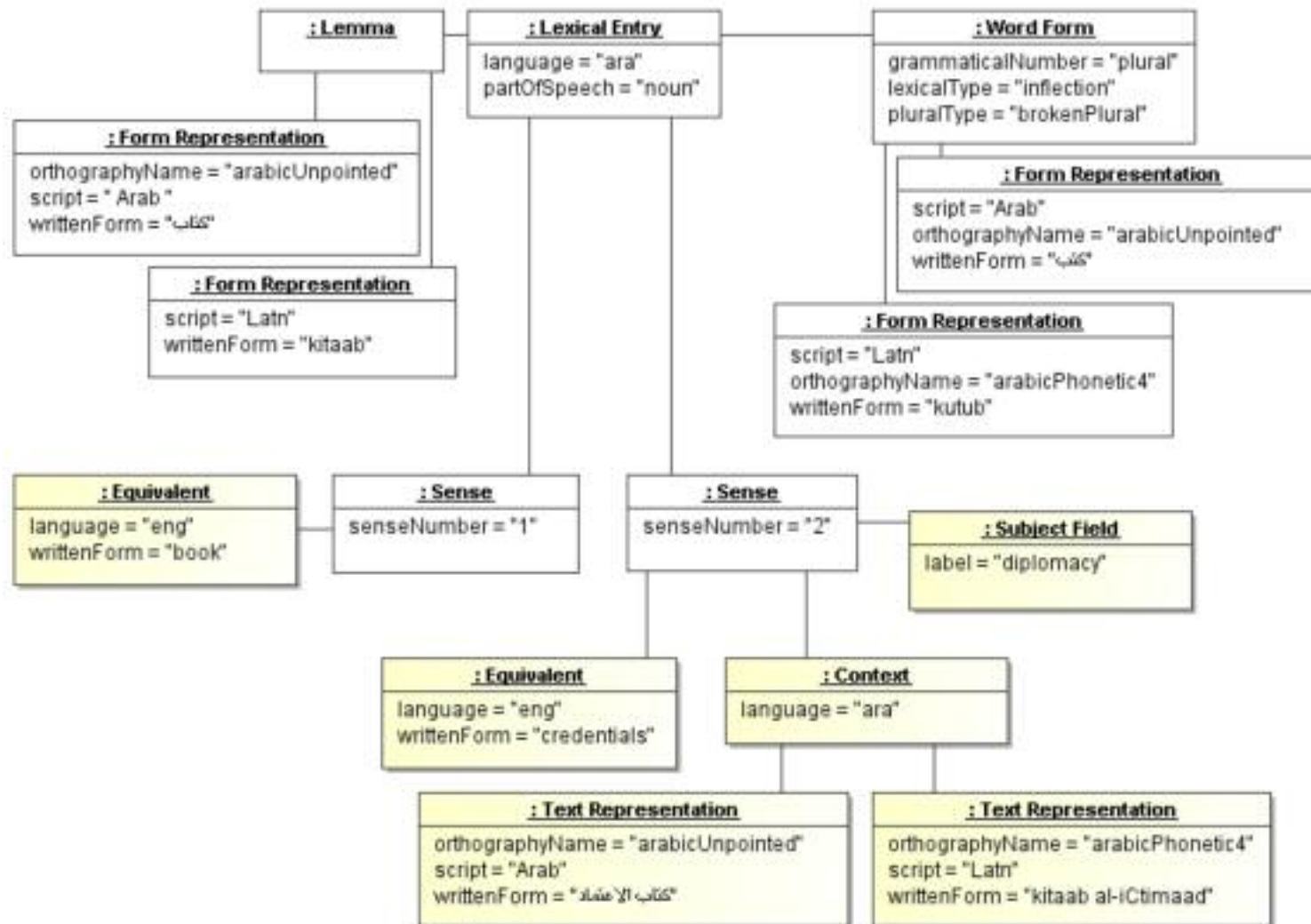
LexicalEntry: container for managing one or several forms and possibly one or several meanings in order to describe a lexeme

Lexeme: abstract unit, generally associated with a set of forms sharing a common meaning

Form: text string representing the word

Sense: specifies the meaning and context

LEXUS & ViCoS: Technicalities



LEXUS & ViCoS: Technicalities



Data category registry:

A set of standardized data categories to be used as a reference for the definition of linguistic annotation schemes or any other formats used in the area of language resources (concept naming)

A modular structure for content interoperability between lexical resources → this facilitates searching cross lexica, sharing & merging

Archiving exploitation framework, XML based

LEXUS & ViCoS: Technicalities

The screenshot displays the LEXUS & ViCoS interface. At the top, there are browser tabs and a menu bar. The main content area shows a lexical entry for 'Adv. C.' with the Dutch term 'Nederlandse term: Adv. C.' and the English term 'Engelse term: Adverbial constituent'. A sidebar on the left shows a tree view of the lexicon structure, with a circle highlighting the 'form' folder. Two inset windows show proposed new structures for TKL in NGT. The left inset shows a structure with folders for 'lexiconInformation', 'lexicalEntry', 'form' (containing 'English', 'Dutch', 'Sign'), and 'sense' (containing 'Meaning'). The right inset shows a structure with folders for 'lexiconInformation', 'lexicalEntry', 'rank', 'form' (containing 'Form representation' with sub-items 'Language', 'Modularity', '(Written) Form'), and 'sense' (containing 'definition').

Lexicon structure

- lexicon
 - lexiconInformation
 - lexicalEntry
 - rank
 - form
 - Form representation
 - Language
 - Modularity
 - (Written) Form
 - sense
 - definition



LEXUS functionalities

LEXUS Functionalities

- Creation of lexica from scratch, import lexica from other formats (Toolbox, XML, Chat)
- User definable views of word list and lexical entries

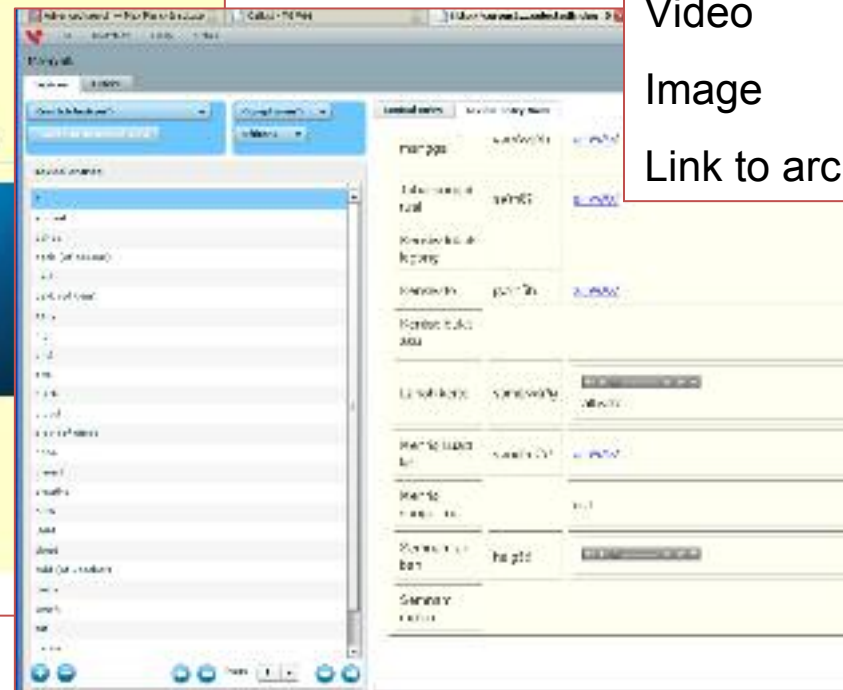
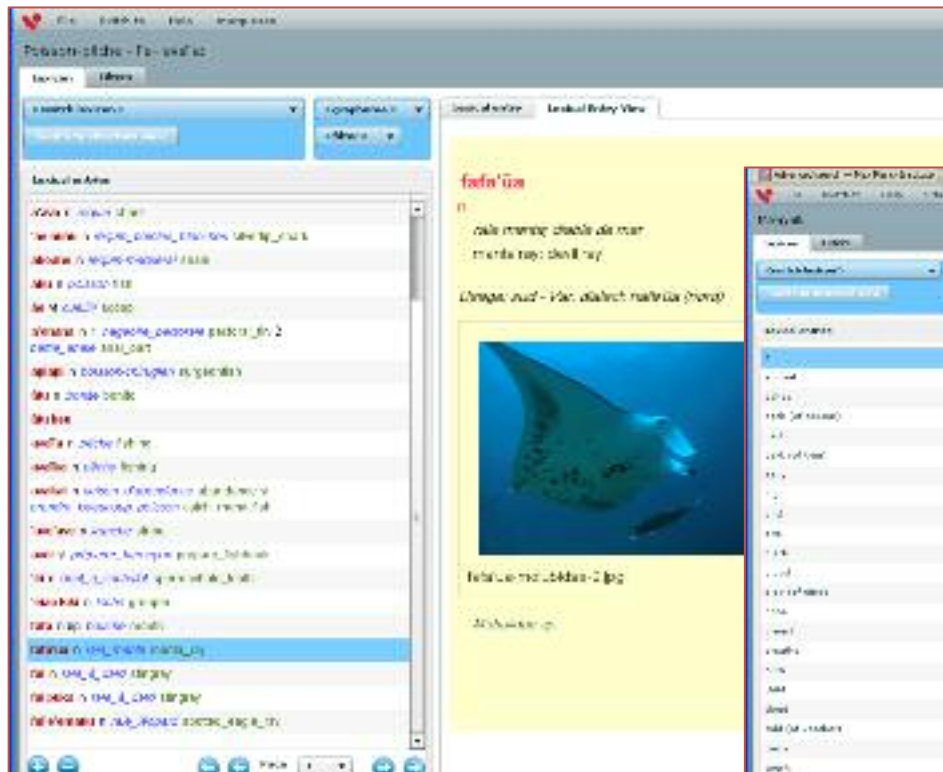
The screenshot displays the LEXUS software interface, which is used for creating and managing lexical entries. The interface is divided into several sections:

- Left Panel:** A sidebar containing a list of words or entries, with one entry selected and highlighted in blue.
- Central Panel:** A detailed view of a selected lexical entry. It shows the word 'bedu' and its various forms and meanings, including 'bedu' (noun), 'bedu' (verb), and 'bedu' (adjective). Each form is accompanied by a brief description and a small image.
- Right Panel:** A section titled 'apau kokomi' (01) showing a photograph of a hand holding a small object, and another section titled 'apau kokomi' (02) showing a photograph of a person's hands working with a pot.

The interface includes various navigation and editing tools, such as buttons for 'Add', 'Delete', 'Copy', and 'Paste', and a search bar at the top.

LEXUS Functionalities

- Creation of lexica from scratch, import lexica from other formats (Toolbox, XML, Chat)
- User definable views of word list and lexical entries
- Linking multi media fragments to lexical entries



Audio
Video
Image
Link to archived files

LEXUS Functionalities

- Creation of lexica from scratch, import lexica from other formats (Toolbox, XML, Chat)
- User definable views of word list and lexical entries
- Linking multi media fragments to lexical entries
- Setting sort orders at workspace level

Workspace
Yeni Dnye Lexicon

Sort order editor

Name:

Iwida

Description:

Start letter	Character
a	[a][b][c][d][e][f][g][h][i][j][k][l][m][n][o][p][q][r][s][t][u][v][w]
b	[b][c][d][e][f][g][h][i][j][k][l][m][n][o][p][q][r][s][t][u][v][w]
d	[d][e][f][g][h][i][j][k][l][m][n][o][p][q][r][s][t][u][v][w]
i	[i][j][k][l][m][n][o][p][q][r][s][t][u][v][w]
l	[l][m][n][o][p][q][r][s][t][u][v][w]
k	[k][l][m][n][o][p][q][r][s][t][u][v][w]
f	[f][g][h][i][j][k][l][m][n][o][p][q][r][s][t][u][v][w]
id	[i][d][j][k][l][m][n][o][p][q][r][s][t][u][v][w]
m	[m][n][o][p][q][r][s][t][u][v][w]
n	[n][o][p][q][r][s][t][u][v][w]
ng	[n][g][o][p][q][r][s][t][u][v][w]
e	[e][f][g][h][i][j][k][l][m][n][o][p][q][r][s][t][u][v][w]
r	[r][s][t][u][v][w]
t	[t][u][v][w]
u	[u][v][w]
v	[v][w]
w	[w]

Add
Remove
Clear all

LEXUS Functionalities

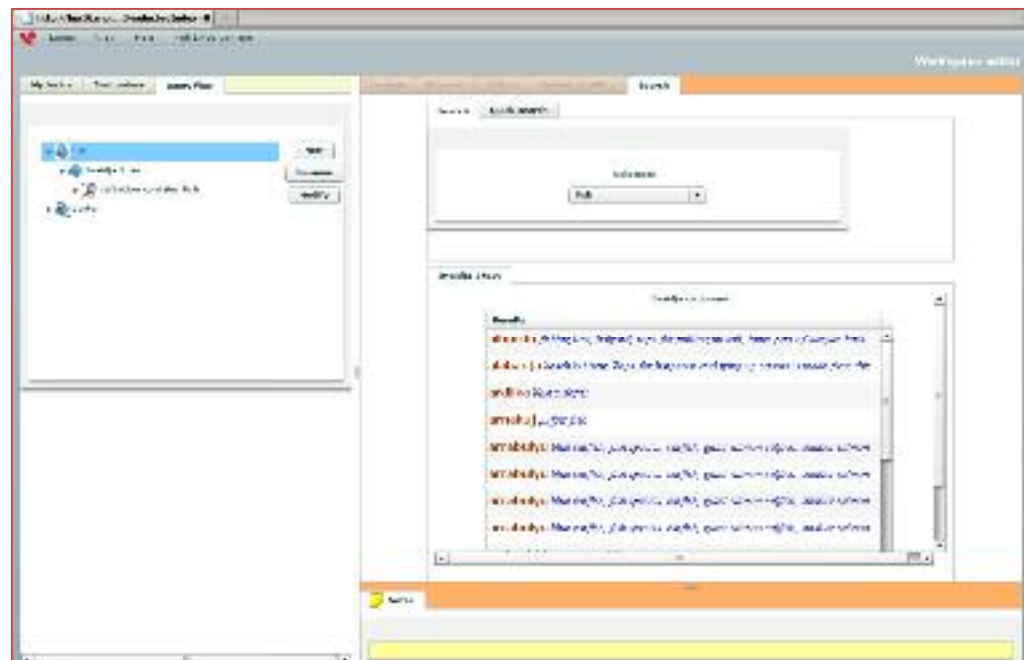
- Creation of lexica from scratch, import lexica from other formats (Toolbox, XML, Chat)
- User definable views of word list and lexical entries
- Linking multi media fragments to lexical entries
- Setting sort orders for each data category
- Using different character sets (UTF-8 is required).
- Input of non-Latin characters



LEXUS Functionalities



- Creation of lexica from scratch, import lexica from other formats (Toolbox, XML, Chat)
- User definable views of word list and lexical entries
- Linking multi media fragments to lexical entries
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- Using different character sets (UTF-8 is required).
- Input of non-Latin characters
- Search all lexica in the workspace or
- Setting filters on the word list of one lexicon



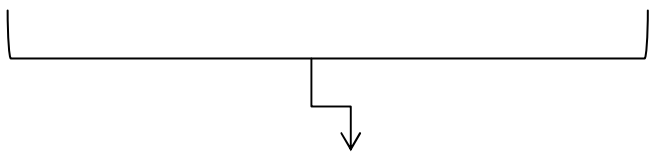
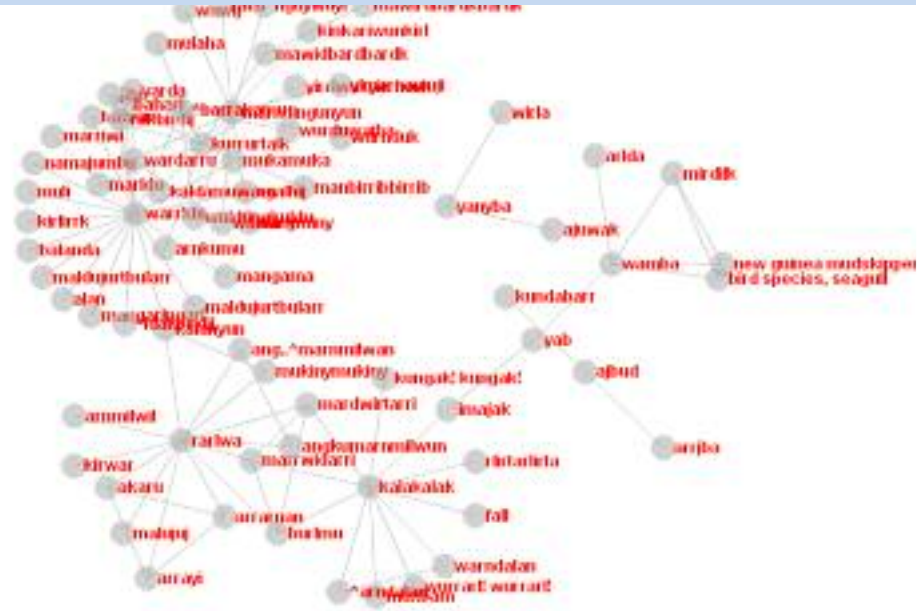
LEXUS Functionalities



- Creation of lexica from scratch, import lexica from other formats (Toolbox, XML)
- User definable views of word list and lexical entries
- Linking multi media fragments to lexical entries
- Setting sort orders for each data category
- Using different character sets (UTF-8 is required)
- Search all lexica in the workspace or
- Setting filters on the word list of one lexicon
- Access rights (read/write) for registered users
- New: import to existing lexica

[Demo of LEXUS](#)

ViCoS



LEXUS:

- Accessible online
- Rich in multimedia
- Adjustable display



Still it is a list of isolated entries



- Existing lexical resource is starting point
 - Words offer key access
- ViCoS is technology to link words – and the associations they evoke – to other words
- Ease-of-use to empower community members to
 - actively describe their language & culture
 - and to learn from such resources
 - resources targeted for human consumption
- Resulting Conceptual Spaces = sort of informal ontology of fuzzily-defined concepts and relationships
 - but where concept nodes are anchored in corresponding formal resources (lexica)



[ViCoS demo](#)



Toolbox2LEXUS

The Iwaidja language of the Cobourg Peninsula, Northern Territory, Australia (approximately 200 speakers)



Hans-Jorgen Sasse - Koln
 Nick Evans - Melbourne
 Linda Barwick - Sydney
 Bruce Birch – Melbourne
 Dr Murray Garde - Jabiru
 Joy Williams - Minjilang
 Janet Fletcher - Melbourne

c	Mangu	Iwaidja	Igar	Tiwi	Kunwinjku
'eye'	dhakda	yarta	yarta	pijara	kun-mim
'eyebrow'	bunuri	umbumuri	umbumuri	wumuringa	kun-mihngalk
'elbow'	waharti	waharti	waharti	jimpunga	kun-ney
'(his) foot'	hi-riud	ruil	yi-ridul	kintanga	kun-denge
'moon'	rrana	gurrana	hali	japarra	did
'long ago'	larud	wularud	wularud	parlingarti	koroko
'water'	wubaj	wubaj	wubaj	kukkuni	kukku

More information on <http://www.mpi.nl/DOBES/projects/iwaidja>

Toolbox2LEXUS



Minjiang Endangered Languages Publication (MELP) project

Lexus multi media lexicon

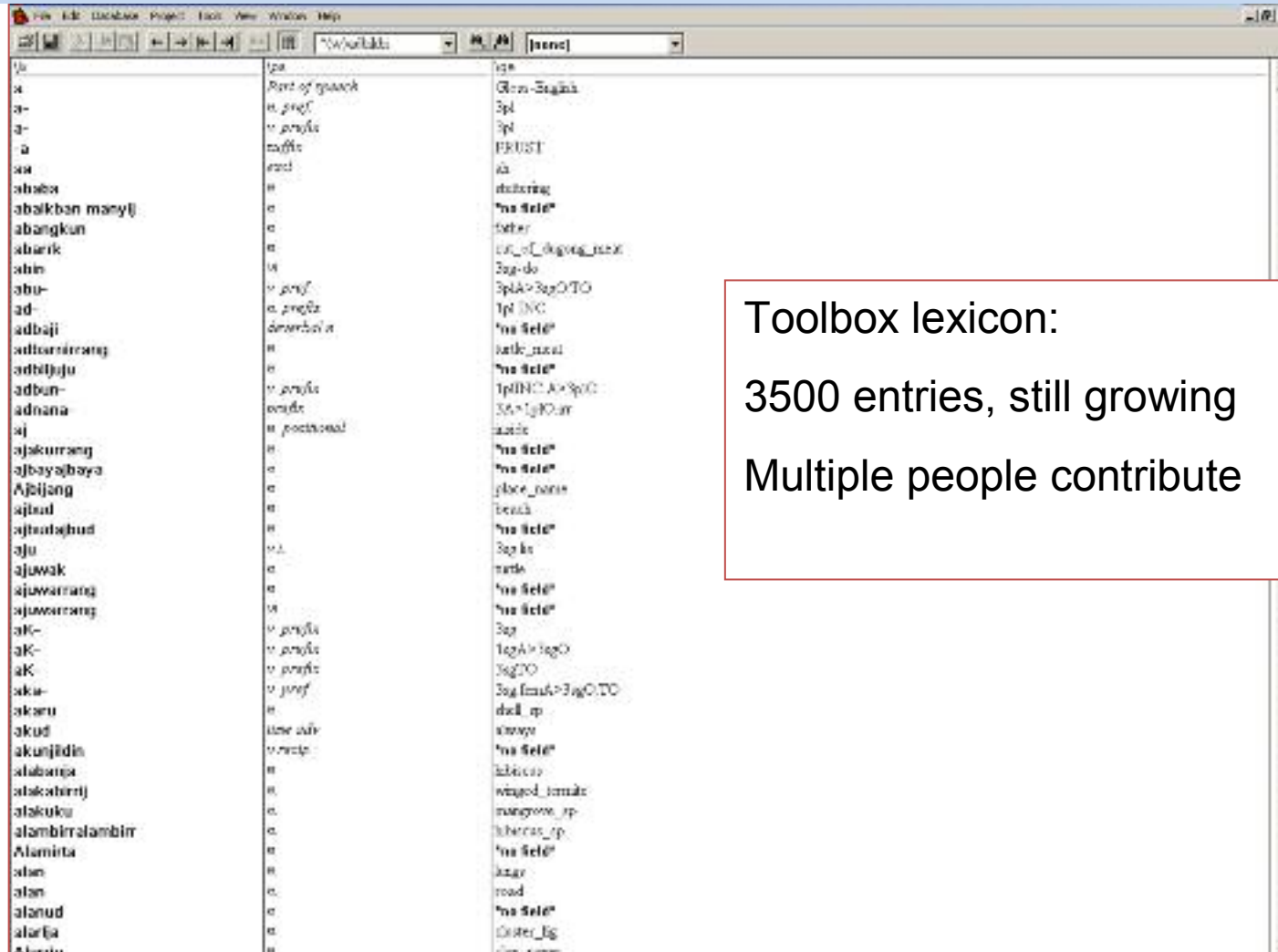
ViCoS conceptual spaces

More involvement of the speech community

The creation of an accessible and attractive online dictionary, with multimedia capability and cross-referenced conceptual spaces will contribute to conservation, revitalization and empowerment of the language and community



Toolbox2LEXUS



Indonesian Word	Indonesian Part of Speech	English Translation
Ya	ipa	ipa
a	Part of speech	Gen-English
a-	n. pref	3pl
a-	v. prefix	3pl
a	partic	FRUST
aa	part	Aa
ababa	n	ababang
abakban manyi	n	'no field'
abangkun	n	abey
abarik	n	ab_e_d_dgong_mad
abin	ia	3ag-do
abu-	v. pref	3plA>3agOTO
ad	n. prefix	1pl INC
adbaji	derivative	'no field'
adhamarang	n	adik_mad
aditju	n	'no field'
adun-	v. prefix	1plINC A>3plC
adnana	partic	3A>1plOun
aj	n. postnom	adik
ajakurang	n	'no field'
ajbayabaya	n	'no field'
Ajijang	n	place_name
ajbud	n	beach
ajhatsbud	n	'no field'
aju	v.i.	3ag in
ajuwak	n	uruk
ajuwaring	n	'no field'
ajuwaring	ia	'no field'
ak-	v. prefix	3ag
ak-	v. prefix	1agA>3agO
ak	v. prefix	3agDO
aka-	v. pref	3ag fmaA>3agOTO
akaru	n	dudl_op
akud	line sub	akaya
akunjidin	v.verb	'no field'
akabaga	n	akicag
akakhirij	n	winged_fruit
akaku	n	mangrove_op
alambiralambir	n	liberac_op
Alamita	n	'no field'
alan	n	lang
alan	n	road
alanud	n	'no field'
alarja	n	Center_Eg
Alabu	n	car_name

Toolbox lexicon:
3500 entries, still growing
Multiple people contribute

Toolbox2LEXUS



Structure comes from *.typ file

Content comes from *.lex (or *.dic) file

*.typ file consists of marker definitions

\+mkr ps

\nam part of speech

\Ing Default

\mkrOverThis lx

\-mkr

\+mkr sn

\nam sense number

\Ing Default

\mkrOverThis ps

\-mkr

Toolbox2LEXUS



Structure comes from *.typ file

Content comes from *.lex (or *.dic) file

*.lex file consists of lexical entries

```
\lx ababa
\lc ababa
\ps n
\de stuttering
\ge stuttering
\dt 26/Dec/2006
```

```
\lx abarrk
\lc abarrk
\ps n.
\de cut of dugong meat taken from side of belly
\ee Unlike most named dugong cuts, there is no equivalent
human part for this one.
\rf lwNo9Ma05
\ge cut_of_dugong_meat
\dt 09/Dec/2005
\sd dugong
\sd butchering
```

Toolbox2LEXUS



Problem!

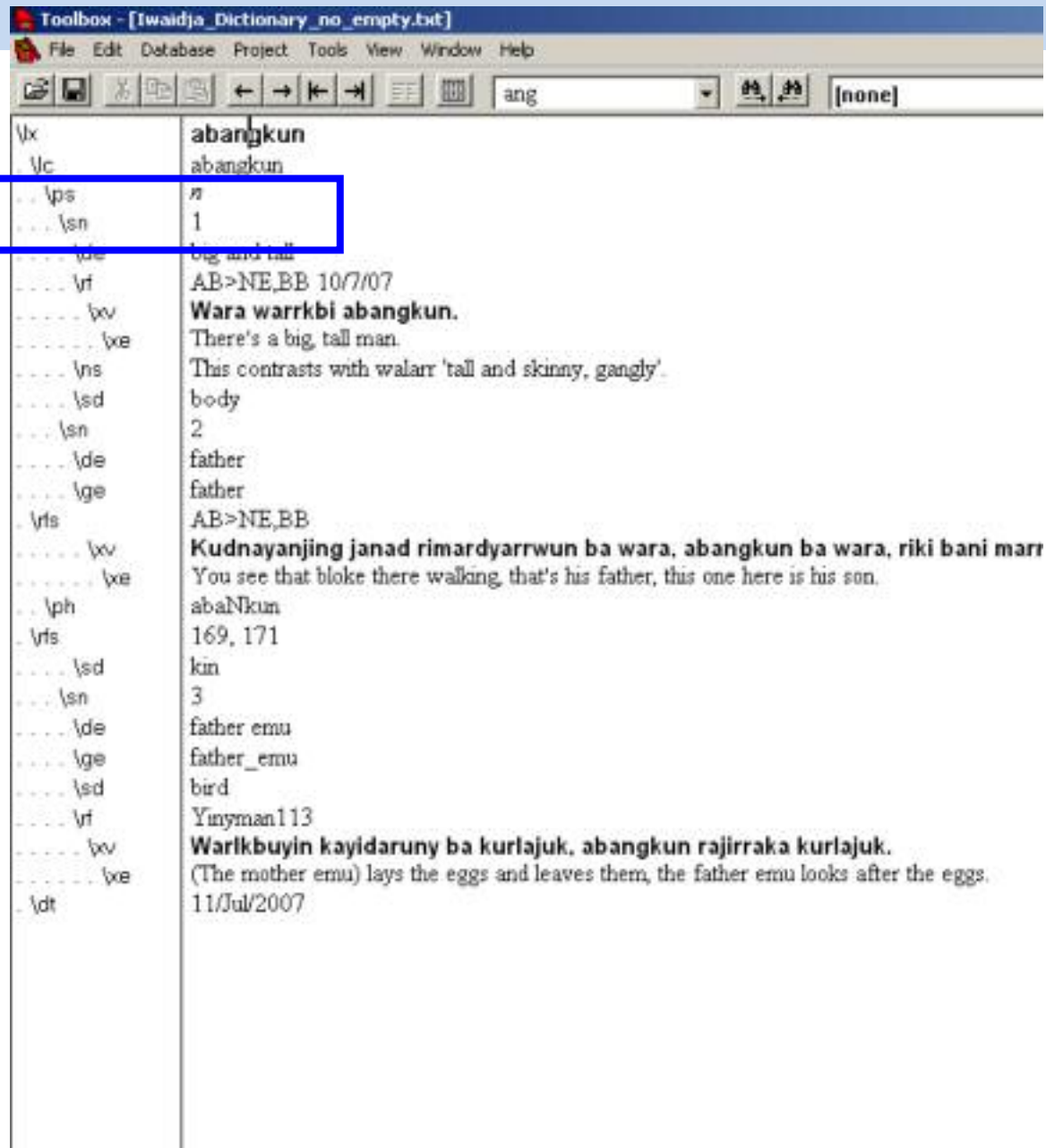
Toolbox is **too liberal** in allowing the variations in the structure of the lexical entries

No need to be consistent with the *.typ file

For the human eye: no problem

but: computers cannot make interpretations

Toolbox2LEXUS



The screenshot shows the Toolbox2LEXUS software interface. The title bar reads "Toolbox - [Iwaidja_Dictionary_no_empty.txt]". The menu bar includes "File", "Edit", "Database", "Project", "Tools", "View", "Window", and "Help". The toolbar contains various icons for file operations and a search field with "ang" entered. The main window displays a dictionary entry for "abangkun". The entry is structured as follows:

ix	abangkun
Vc	abangkun
.. ps	n
... sn	1
... de	big and tall
.... vf	AB>NE,BB 10/7/07
..... xv	Wara warrkbi abangkun.
..... xe	There's a big, tall man.
.... ns	This contrasts with walarr 'tall and skinny, gangly'.
.... sd	body
... sn	2
.... de	father
.... ge	father
.. fs	AB>NE,BB
.... xv	Kudnayanjing janad rimardyarwun ba wara, abangkun ba wara, riki bani marr
..... xe	You see that bloke there walking, that's his father, this one here is his son.
.. ph	abaNkun
.. fs	169, 171
.... sd	kin
... sn	3
.... de	father emu
.... ge	father_emu
.... sd	bird
.... vf	Yinyman113
..... xv	Warlkbuyin kayidaruny ba kurlajuk, abangkun rajirra kurlajuk.
..... xe	(The mother emu) lays the eggs and leaves them, the father emu looks after the eggs.
.. dt	11/Jul/2007

Toolbox2LEXUS

The screenshot shows the Toolbox2LEXUS software interface. The title bar reads "Toolbox - [Iwaidja_Dictionary_no_empty.txt]". The menu bar includes "File", "Edit", "Database", "Project", "Tools", "View", "Window", and "Help". The toolbar contains various icons for file operations and navigation. The main window displays a dictionary entry for "alabanja" in the "ang" language, with "fish names" selected in the dropdown menu. The entry is structured as follows:

x	alabanja
. c	alabanja
... sn	1
.. ps	<i>n</i>
.... de	beach hibiscus. Rope for harpoons and tying up canoes is made from this tree species, and the timber is used to make fv (lan
.... sc	<u><i>Hibiscus tiliaceus</i></u>
.... ge	hibiscus
.... re	hibiscus, beach
. ts	205,410; IE 84
.... sd	plant
.... sd	material
.... rf	Iwa05.Feb2
.... w	alabanja alhurdu
..... e	hibiscus string/rope
... sn	2
.. ps	<i>n</i>
.... de	short-finned batfish
.... ge	short-finned batfish
.... re	batfish, short-finned
.... sc	<u><i>Zabidius novaemaculatus</i></u>
.... sd	animal
.... sd	fish
.... rf	Iwaidja Fish Names.xls
.... so	MELP project elicitation
. eb	SH
. dt	19/Dec/2006
. ch	Language consultants identify other fish species which have a moon-like shape as alabanja (e.g. juvenile of diamond trevally)

Toolbox2LEXUS



Solution: chunking!

```
1 : \lx\lc\ a \ps\ge\de\xv\xe\rf\dt
1 : \lx\lc\ a \ps\ng\sn\de\xv\xe\rf\ch\sn\de\sn\de\xv\xe\rf\dt
1 : \lx\lc\ a \ps\pl\de\ge\re\ph\rf\ng\ng\sd\rf\xv\xe\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\re\re\ng\sd\rf\xv\xe\rf\xv\xe\rf\xv\xe\xv\xe\rf\xv\xe\sn\de\xv\xe\sn\de\rf\xv\xe\pd\ee\
1 : \lx\lc\ a \ps\sn\de\ge\ge\ge\rf\xv\xe\sn\de\ge\re\dt\pd
1 : \lx\lc\ a \ps\sn\de\ge\ge\re\sn\de\rf\xv\xe\sn\de\ge\re\3s\ph\ a \ a \sd\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\ge\dt\sn\de\ge\ge\re\re\rf\xv\xe\rf\xv\xe
1 : \lx\lc\ a \ps\sn\de\ge\re\ng\sd\rf\xv\xe\dt\sn\de\ge\re\sd\rf\xv\xe
1 : \lx\lc\ a \ps\sn\de\ge\re\ng\sd\rf\xv\xe\dt\sn\de\xv\xe\rf\pd\sn\ps\de\re\pd\2D\so\eb\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\re\re\rf\xv\xe\rf\xv\xe\rf\xv\xe\rf\xv\xe\sn\de\ge\re\re\ng\sd\dt\pd
1 : \lx\lc\ a \ps\sn\de\ge\re\re\rf\xv\xe\rf\xv\xe\rf\xv\xe\rf\xv\xe\sn\de\ge\re\rf\xv\xe\rf\xv\xe\pa\sd\sd\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\re\sd\sd\xv\xe\rf\ng\sn\de\ge\re\xv\xe\rf\sn\de\ge\re\rf\ng\sn\de\ge\re\re\xv\xe\rf\sn\
1 : \lx\lc\ a \ps\sn\de\ge\re\re\sn\de\ge\re\re\rf\sd\ng\pd
1 : \lx\lc\ a \ps\sn\de\ge\re\re\sn\de\ge\re\sd\rf\xv\xe\dt\pd
1 : \lx\lc\ a \ps\sn\de\ge\re\re\sn\de\ge\re\sd\rf\xv\xe\ng\sn\de\ge\re\sd\sn\de\sd\so\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\rf\cf\ng\rf\xv\xe\dt\rf\xv\xe\sn\de\re\ge\re\re\xv\xe\rf\xv\xe\rf\pd
1 : \lx\lc\ a \ps\sn\de\ge\re\rf\xv\xe\sn\de\ge\ng\dt\pd
1 : \lx\lc\ a \ps\sn\de\ge\re\rf\xv\xe\sn\de\ge\re\rf\ng\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\rf\xv\xe\sn\de\re\re\ng\pd\rf\sd\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\sd\re\sn\de\ge\sn\de\ge\re\rf\xv\xe\sd\dt\rf\
1 : \lx\lc\ a \ps\sn\de\ge\re\sd\rf\xv\xe\dt\sn\de\ge\re\rf\xv\xe\rf\sd\sd\dt\eb
1 : \lx\lc\ a \ps\sn\de\ge\re\sd\rf\xv\xe\sn\de\re\ge\sd\ng\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\sd\sd\sn\de\ge\re\pl\sd\sd\dt\eb
1 : \lx\lc\ a \ps\sn\de\ge\re\sn\de\ge\cf\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\sn\de\ge\re\re\sn\de\ge\re\rf\xv\xe\ng\sd\sd\rf\xv\xe\dt\pd
1 : \lx\lc\ a \ps\sn\de\ge\re\sn\de\ge\re\rf\xv\xe\sn\de\rf\xv\xe\dt\pd\cf\ng\sd\ps\de\re\ge\pd
1 : \lx\lc\ a \ps\sn\de\ge\re\sn\de\ge\re\sn\de\ge\re\rf\xv\xe\sn\de\ge\re\sn\de\ge\re\rf\xv\xe\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\sn\de\re\ge\ng\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\sy\xv\xe\rf\sn\de\ge\re\xv\xe\rf\ng\so\dt\eb
1 : \lx\lc\ a \ps\sn\de\ge\re\xv\xe\ph\sn\de\re\rf\xv\xe\sd\xv\xe\rf\dt\eb\ng\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\xv\xe\xv\xe\rf\dt\sn\de\ge\re\rf\xv\xe\ng\dt
1 : \lx\lc\ a \ps\sn\de\ge\sn\de\re\rf\xv\xe\rf\ps\sn\de\sn\de\ge\re\re\rf\sd\sd\dt\eb
1 : \lx\lc\ a \ps\sn\de\ng\ge\re\rf\xv\xe\rf\xv\xe\rf\xv\xe\sn\de\re\ge\rf\xv\xe\ng\dt
1 : \lx\lc\ a \ps\sn\de\re\ge\sn\de\re\re\re\rf\xv\xe\sn\de\ge\re\re\sn\de\ge\re\rf\sd\dt
1 : \lx\lc\ a \ps\sn\de\re\re\ge\sn\de\re\ge\pd\dt
1 : \lx\lc\ a \ps\sn\de\re\re\sn\de\re\re\sn\de\rf\xv\xe\pd\dt
1 : \lx\lc\ a \ps\sn\de\rf\xv\xe\ng\ge\sn\de\sn\de\uv\rf\xv\xe\rf\xv\xe\sd\ng\dt
1 : \lx\lc\ a \ps\sn\de\rf\xv\xe\rf\xv\xe\rf\xv\xe\sn\de\ge\ge\re\sn\de\ge\re\rf\xv\xe\ng\dt
1 : \lx\lc\ a \ps\sn\de\rf\xv\xe\sn\de\rf\xv\xe\sn\de\ge\ng\ng\sn\de\xv\xe\rf\xv\xe\rf\xv\xe\rf\so\eb\dt
1 : \lx\lc\ a \ps\sn\de\rf\xv\xe\sn\de\sn\ps\de\xv\xe\ge\ng\dt
1 : \lx\lc\ a \ps\sn\de\sn\de\xv\xe\ge\ge\ge\ge\ a \sn\de\rf\xv\xe\dt\pa\ng\rf\
1 : \lx\lc\ a \sn\ps\de\ge\ng\rf\xv\xe\rf\xv\xe\sn\de\ge\de\rf\xv\xe\rf\xv\xe\sn\ps\de\dt
1 : \lx\lc\ a \sn\ps\de\ge\re\dt\xv\xe\rf\sd\sn\ps\de\xv\xe\rf\sd
1 : \lx\lc\ a \sn\ps\de\ge\re\re\re\re\rf\ng\sd\xv\xe\rf\xv\xe\rf\dt\sn\ps\sn\de\ge\re\re\re\ng\sn\de\re\rf\sd\sd\dt\
```

Toolbox2LEXUS



```
1 : \lx\lc\ a \ps\sn\de\ge\ a \re\re\ng\sd\rf\ xv\ xe\rf\ xv\ xe\rf\ xv\ xe\ xv\ xe\rf\ xv\ xe\sn\de\ xv\ xe\sn\de\rf\ xv\ xe\pd\ee\
1 : \lx\lc\ a \ps\sn\de\ge\ge\ge\rf\ xv\ xe\sn\de\ge\re\dt\pd
1 : \lx\lc\ a \ps\sn\de\ge\ge\re\sn\de\rf\ xv\ xe\sn\de\ge\re\3s\ph\ a \a \sd\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\ge\dt\sn\de\ge\ge\re\re\rf\ xv\ xe\rf\ xv\ xe
1 : \lx\lc\ a \ps\sn\de\ge\re\ng\sd\rf\ xv\ xe\dt\sn\de\ge\re\sd\rf\ xv\ xe
1 : \lx\lc\ a \ps\sn\de\ge\re\ng\sd\rf\ xv\ xe\dt\sn\de\ xv\ xe\rf\ pd\sn\ps\de\re\pd\2D\so\eb\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\re\re\rf\ xv\ xe\rf\ xv\ xe\rf\ xv\ xe\rf\ xv\ xe\sn\de\ge\re\re\ng\sd\dt\pd
1 : \lx\lc\ a \ps\sn\de\ge\re\re\rf\ xv\ xe\rf\ xv\ xe\rf\ xv\ xe\rf\ xv\ xe\sn\de\ge\re\rf\ xv\ xe\rf\ xv\ xe\pa\sd\sd\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\re\sd\sd\ xv\ xe\rf\ ng\sn\de\ge\re\ xv\ xe\rf\sn\de\ge\re\rf\sn\ng\sn\de\ge\re\re\ xv\ xe\rf\sn\
1 : \lx\lc\ a \ps\sn\de\ge\re\re\sn\de\ge\re\re\rf\sd\ng\pd
1 : \lx\lc\ a \ps\sn\de\ge\re\re\sn\de\ge\re\sd\rf\ xv\ xe\dt\pd
1 : \lx\lc\ a \ps\sn\de\ge\re\re\sn\de\ge\re\sd\rf\ xv\ xe\ng\sn\de\ge\re\sd\sn\de\sd\so\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\rf\sn\cf\ng\rf\ xv\ xe\dt\rf\ xv\ xe\sn\de\re\ge\re\re\ xv\ xe\rf\ xv\ xe\rf\pd
1 : \lx\lc\ a \ps\sn\de\ge\re\rf\ xv\ xe\sn\de\ge\ng\dt\pd
1 : \lx\lc\ a \ps\sn\de\ge\re\rf\ xv\ xe\sn\de\ge\re\rf\sn\ng\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\rf\ xv\ xe\sn\de\re\re\ng\pd\rf\sd\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\sd\re\sn\de\ge\sn\de\ge\re\rf\ xv\ xe\sd\dt\rf\sd
1 : \lx\lc\ a \ps\sn\de\ge\re\sd\rf\ xv\ xe\dt\sn\de\ge\re\rf\ xv\ xe\rf\sd\sd\dt\pd
1 : \lx\lc\ a \ps\sn\de\ge\re\sd\rf\ xv\ xe\sn\de\re\ge\sd\ng\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\sd\sd\sn\de\ge\re\pl\sd\sd\dt\eb
1 : \lx\lc\ a \ps\sn\de\ge\re\sn\de\ge\cf\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\sn\de\ge\re\re\sn\de\ge\re\rf\ xv\ xe\ng\sd\sd\rf\ xv\ xe\dt\pd
1 : \lx\lc\ a \ps\sn\de\ge\re\sn\de\ge\re\rf\ xv\ xe\sn\de\rf\ xv\ xe\dt\pd\cf\ng\sd\ps\de\re\ge\pd
1 : \lx\lc\ a \ps\sn\de\ge\re\sn\de\ge\re\sn\de\ge\re\rf\ xv\ xe\sn\de\ge\re\sn\de\ge\re\rf\ xv\ xe\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\sn\de\re\ge\ng\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\sy\ xv\ xe\rf\sn\de\ge\re\ xv\ xe\rf\ np\so\dt\eb
1 : \lx\lc\ a \ps\sn\de\ge\re\ xv\ xe\ph\sn\de\re\rf\ xv\ xe\sd\ xv\ xe\rf\dt\eb\ng\dt
1 : \lx\lc\ a \ps\sn\de\ge\re\ xv\ xe\ xv\ xe\rf\dt\sn\de\ge\rf\ xv\ xe\ng\dt
1 : \lx\lc\ a \ps\sn\de\ge\sn\de\re\rf\ xv\ xe\rf\ps\sn\de\sn\de\ge\re\re\rf\sd\sd\dt\pd
1 : \lx\lc\ a \ps\sn\de\ng\ge\re\rf\ xv\ xe\rf\ xv\ xe\rf\ xv\ xe\sn\de\re\ge\rf\ xv\ xe\ng\dt
1 : \lx\lc\ a \ps\sn\de\re\ge\sn\de\re\re\re\rf\ xv\ xe\sn\de\ge\re\re\sn\de\ge\re\rf\sd\dt
1 : \lx\lc\ a \ps\sn\de\re\re\ge\sn\de\re\ge\pd\dt
1 : \lx\lc\ a \ps\sn\de\re\re\sn\de\re\re\sn\de\rf\ xv\ xe\pd\dt
1 : \lx\lc\ a \ps\sn\de\rf\ xv\ xe\ng\ge\sn\de\sn\de\uv\rf\ xv\ xe\rf\ xv\ xe\sd\ng\dt
1 : \lx\lc\ a \ps\sn\de\rf\ xv\ xe\rf\ xv\ xe\rf\ xv\ xe\sn\de\ge\ge\re\sn\de\ge\re\rf\ xv\ xe\ng\dt
1 : \lx\lc\ a \ps\sn\de\rf\ xv\ xe\sn\de\rf\ xv\ xe\sn\de\ge\ng\ng\sn\de\ xv\ xe\rf\ xv\ xe\rf\ xv\ xe\rf\so\eb\dt
1 : \lx\lc\ a \ps\sn\de\rf\ xv\ xe\sn\de\sn\ps\de\ xv\ xe\ge\ng\dt
1 : \lx\lc\ a \ps\sn\de\sn\de\ xv\ xe\ge\ge\ge\ge\ge\ a \sn\de\rf\ xv\ xe\dt\pa\ng\rf\sd
1 : \lx\lc\ a \sn\ps\de\ge\ng\rf\ xv\ xe\rf\ xv\ xe\sn\de\re\ge\de\rf\ xv\ xe\rf\ xv\ xe\rf\ xv\ xe\sn\ps\de\dt
1 : \lx\lc\ a \sn\ps\de\ge\re\dt\ xv\ xe\rf\sd\sn\ps\de\ xv\ xe\rf\sd
1 : \lx\lc\ a \sn\ps\de\ge\re\re\re\re\rf\ ng\sd\ xv\ xe\rf\ xv\ xe\rf\dt\sn\ps\sn\de\ge\re\re\re\ng\sn\de\re\rf\sd\sd\dt\
1 : \lx\lc\ a \sn\ps\de\ge\re\rf\ xv\ xe\dt\sn\ps\de\ge\re\pd\sn\ps\de\re\ge\pd\sd\sn\ps\de\ge\re\sd\sd\ xv\ xe\rf\dt\eb
1 : \lx\lc\ a \sn\ps\de\ge\re\ xv\ xe\rf\pd\sd\sd\sn\ps\de\ge\re\ xv\ xe\rf\so\dt\eb
1 : \lx\lc\ a \sn\ps\de\ge\re\ xv\ xe\rf\sn\de\ge\re\re\cf\ xv\ xe\rf\so\dt\eb
1 : \lx\lc\ a \sn\ps\de\ xv\ xe\ xv\ xe\rf\sn\ps\de\ xv\ xe\sd\sd\dt
```

Toolbox2LEXUS

[Show structure](#)

The screenshot displays the Toolbox2LEXUS interface. On the left, a hierarchical tree structure is shown, organized into several groups:

- headword group
 - headword
 - homonym number
 - citation form
 - date (last entered)
- loan word group
 - etymology
 - loan word
 - cognate
- alternate form group
 - alternate form
 - underlying
- variation group
 - variation
 - variant comment
- part of speech group
 - part of speech
- sense number group
 - sense number
- definition group
 - definition
 - English gloss
 - English reversal
 - usage (v)
 - Amurdak Translation
 - Kunwinjku translation
 - Manku

At the bottom of the tree view, there are two buttons: "Remove" and "New".

On the right side of the interface, a panel titled "schemaElement" is visible. It contains a section for "General information" with fields for "Name:", "Description:", "Admin Info:", "Mandatory:", and "Multiples allowed:". Below this, there are several "Sort order" controls, including a dropdown menu, a "Sort order" label, a "SortOrder" field with a "<No" button, and a "StartLetter" field.

Toolbox2LEXUS



Lexus View Help Tell Dnyx Lexus

Iwaidja.1 test: Iwaidja dictionary Lexical entry edit

List Tree Filters

- lexicalEntry
 - headwordGroup
 - headword
 - citation form
 - date (last entered)
 - part of speechGroup
 - part of speech
 - sense numberGroup
 - sense number
 - sense number
 - definitionGroup
 - definition
 - definition
 - English gloss
 - English gloss
 - English reversal
 - referenceGroup
 - reference
 - cross-referenceGroup
 - cross-reference
 - anGroup
 - semantic domain
 - semantic domain

Features

The following features may be added here:

- form
- headwordGroup
- sense

lexicalEntry View Lexical entry

lexicalEntry

headwordGroup

headword	ngadbunung
citation form	ngadbunung
date (last entered)	09/Jan/2007

part of speechGroup

part of speech	prefixed n
----------------	------------

sense numberGroup

sense number	1
sense number	2

definitionGroup

Multimedia Properties Notes

Modify

