International Conference on Language Technologies for All (LT4All)
Enabling Linguistic Diversity and Multilingualism Worldwide
International Year of Indigenous Languages – IYIL 2019

Tooling up a less-resourced language with NLP : the example of Corsican and the BDLC

Kevers L., Retali-Medori S., Guéniot F., Tognotti A.G.
UMR CNRS 6240 LISA - Università di Corsica

Roadmap

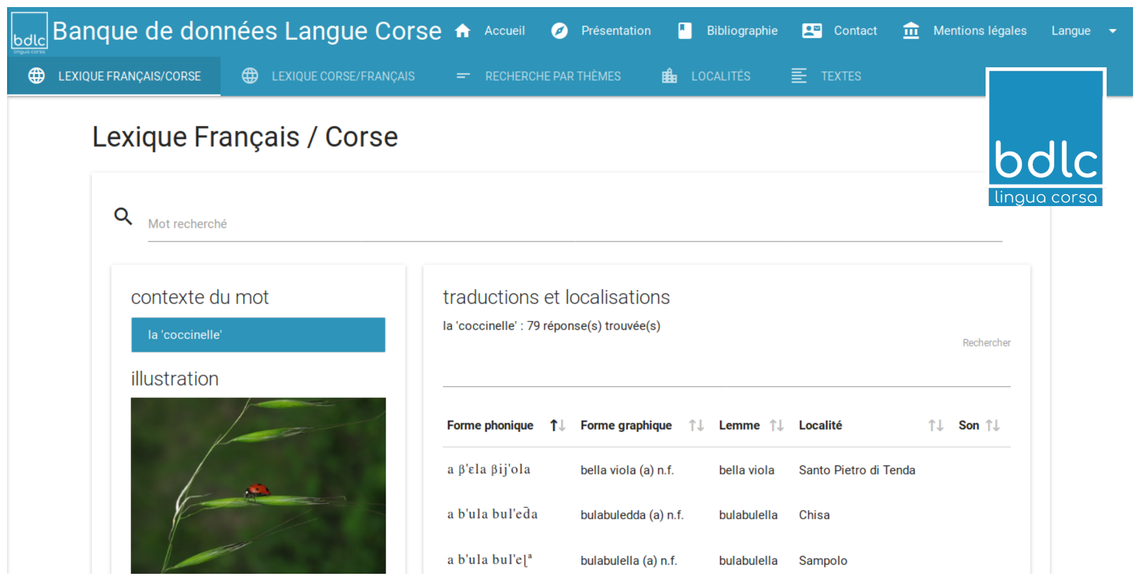
- [ ] **Corpora & consultation interface (concordancer)**
- [ ] **Electronic lexical resource for NLP**
- [ ] **Language detection tool**
- [ ] **Part-of-speech (POS) tagger**

1. The Corsican language & BDLC

- Latin language
- Italo-Romance domain
- Borrowings from various languages
- 4 to 5 dialectal areas
- Unstandardized writing
- Diglossia with French

BDLC (corsican language database): Linguistic data related to Corsican know-how and cultural traditions

- Field surveys
- Thematic questionnaires (FR wordlists)
  --> Corsican translations
  --> Ethnotexts (testimonies)
- Important variation
  * an object can be related to many lemmas
  * variations in transcripts :
    - keep the dialectal richness : *cerra*, *gerra*
    - hiatus accentuation : *durmìa*
    - enclitics : *fanne* = *fà* («to do») + *ne* («it»)
    - opening of the proparoxytones vowels : *pèrgula*
- **URL: http://bdlc.univ-corse.fr/**



2. Corpora collection

- More than 3MIO words collected from various online sources (Wikipedia, The Bible, press, blogs...)
- Usefull for the research usage of our team
- Most of the copora cannot be redistributed because of legal (licensing, copyright) issues
- Attempt to gather exploitable and redistributable corpora for all (eg. under license CC BY-NC-SA 4.0)

3. Corpora interface

- Online concordancer, linguistic search criteria (WIP)
- In the future : lemmatized corpora

4. Electronic dictionary

- DELA format:
  `form,lemma.gram_sem_codes:flex_codes/comment`
- Content : 20 875 forms
  - 17 860 simple forms (10 224 lemmas)
  - 3 015 compound forms (2 244 lemmas)
- Coverage : 49% (corpus: 160K forms / 15K unique)
- To be extended...
- Pending : how to deal with dialectal variation ?
  --> Lemma choice, use of upper level lemma... ?

5. Lemmatization procedure

- Based on the dictionary
- Two steps :
  1. Lexicographic study
  2. Disambiguation
- To be implemented under Unitex

6. Language detection tool

- No ready-to-use (good) software including Corsican
- Re-training and testing of different systems

8 languages :
- English
- German
- Dutch
- French
- Italian
- Spanish
- Portuguese
- Romanian

+ Corsican !

Method	8 languages	Corsican	9 languages
MyLetterDistrib	99.62	93.04	98.89
MyStopWords	99.62	93.56	98.95
CueLanguage	99.50	84.41	97.82
Libre TextCat	100	95.62	99.51
Langid.py	98.75	95.23	98.36
Langdetect	100	96.65	99.63
FastText	100	95.49	99.50
Lgid	**100**	**98.58**	**99.84**

- DEMO: http://bdlc.univ-corse.fr/tal/

7. Part-of-speech tagging

Possible options :
- Transfer methods (from Italian)
- Training of a Corsican version (long term)