From Toolbox Database to LATEX Dictionary

Purpose

The purpose of this project is to allow field lexicographers who use Toolbox to store language data to more easily and quickly disseminate their results.

Objective

Export data from Toolbox to PTEX with few intermediate steps

Program

The program contains two parts: Python Script to translate Toolbox fields into MTEX commands MTEX Styling sheet to define custom MTEX commands The following code grippet is an example of one

The following code snippet is an example of one of the custom $\&T_EX$ commands (for the \lx field marker in Toolbox):

\newcommand\LX[1] {\stepcounter{lx} \item[\textbf{#1}]

Context

The 7000-word dictionary of the Dagaare language (Niger-Congo, Gur) used in this project the result of a collaboration between language scholars in Ghana and linguists and computer scientists in the US over the course of five years.

Object-Oriented Approach

The benefits of using an object-oriented approach to representing the data in an intermediate stage include the following:

- Convenient encapsulation of the data
 Ability to calculate statistics across the database:
 - How many entries are missing certain verb paradigms?

The Python script executes the following code:

file = open("dagaare4.db")
outputfile = open("texConvert.tex", 'w')
text = file.read()
entries = parseTB(text)

or entry in entries: outputfile.write(entry.toTex() + '\n')

The flowchart below demonstrates how Toolbox, the Python script, and $\[mathbb{E}T_EX\]$ work together to create a formatted dictionary. An example of a formatted entry is also found below.

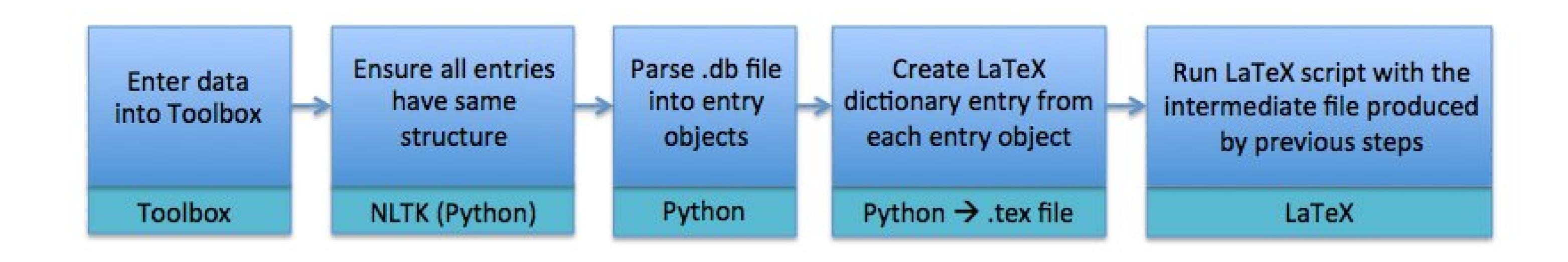
di [dì] v. (1) to eat, to consume • Bibiiri seŋ ka ba maŋ di bondirii kyɛ gaa sakuuri. (2) to burn, to blaze • Vũũ di la a tuu zaa. The whole shrub has been burnt down by fire. (3) to erode, to make sore • A bie noore die la ka ba sage na di bonzaa. The child has a sore mouth and refuses to eat anything. (4) to overcome, to win (5) to assume a throne (6) to judge · Ba di la ba zoore seree na baare. They have finished judging that case of fighting. diee, dire, dire, diribe, diraa, diribe di dansee to give witness di dapaalon to show elegance di demmo to converse di doolog to show bravery di dogee to suffer di kannyiri to be patient di nan to be scarce di naalon to gain wealth or authority

- What is the average number of senses per lexical item?
- Customize what Toolbox fields are ignored, such as notes and entry creation date

Key Results

This tool allows one to quickly and easily export
a Toolbox dictionary as a PDF. Additionally:
Making style modifications to every entry is

- simplified
- Users can quickly recreate a dictionary after adding to the database



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