

The Use of Technology in Multilingual Learning: Challenges and Opportunities:

LA JOURNÉE DE LA LANGUE MATERNELLE

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@SIL Cameroon



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**A copy of this presentation
can be found at:**

<http://LangTechCameroon.info/mt>



Introduction

- ◎ Over fifty years from independence language developers have been involved in developing Cameroonian languages in order to make them viable and learnable. Until independence little or no attention was paid to most Cameroonian Mother Tongues (MTs) at the levels of; sociolinguistics, phonology, morphology, lexicography, grammar, and syntax, which could eventually result in language endangerment and loss.

Introduction

- ◎ Soon after independence, attempts invested by language developers notably the Summer Institute of Linguistics (SIL), the National Association of Cameroonian Languages Committee (NACALCO), the Cameroon Bible Translation Association and Literacy (CABTAL), communities, and some state universities coupled with a favourable linguistic political atmosphere resulted in efforts of learning the MTs. In line with the attempted efforts, technological endeavours were implied.

Introduction

- ◎ The implication of technology establishes the basis for the examination of how it was/could be used in multilingual learning within the current technological era coupled with some challenges and opportunities. The discussion will also encompass who the learner is, how he uses technology, what elements of technology are used, and the location of the user.



Challenges

Personnel Challenges of Using Technology in Learning MTs:

- ◎ There is an imbalance in digital divide (urban and rural area folk disparity)
- ◎ Limited qualified trained personnel (many teachers/learners are not computer literate)
- ◎ Time demanding (Presentation preparation at home requires time)

Infrastructure Challenges of Using Technology in Learning MTs:

- ⦿ Financial barriers (e.g., purchase of equipment by have-nots)
- ⦿ Absence of power supply in typical rural settings
- ⦿ Limited connectivity (internet connection access hampers distance learning and research)

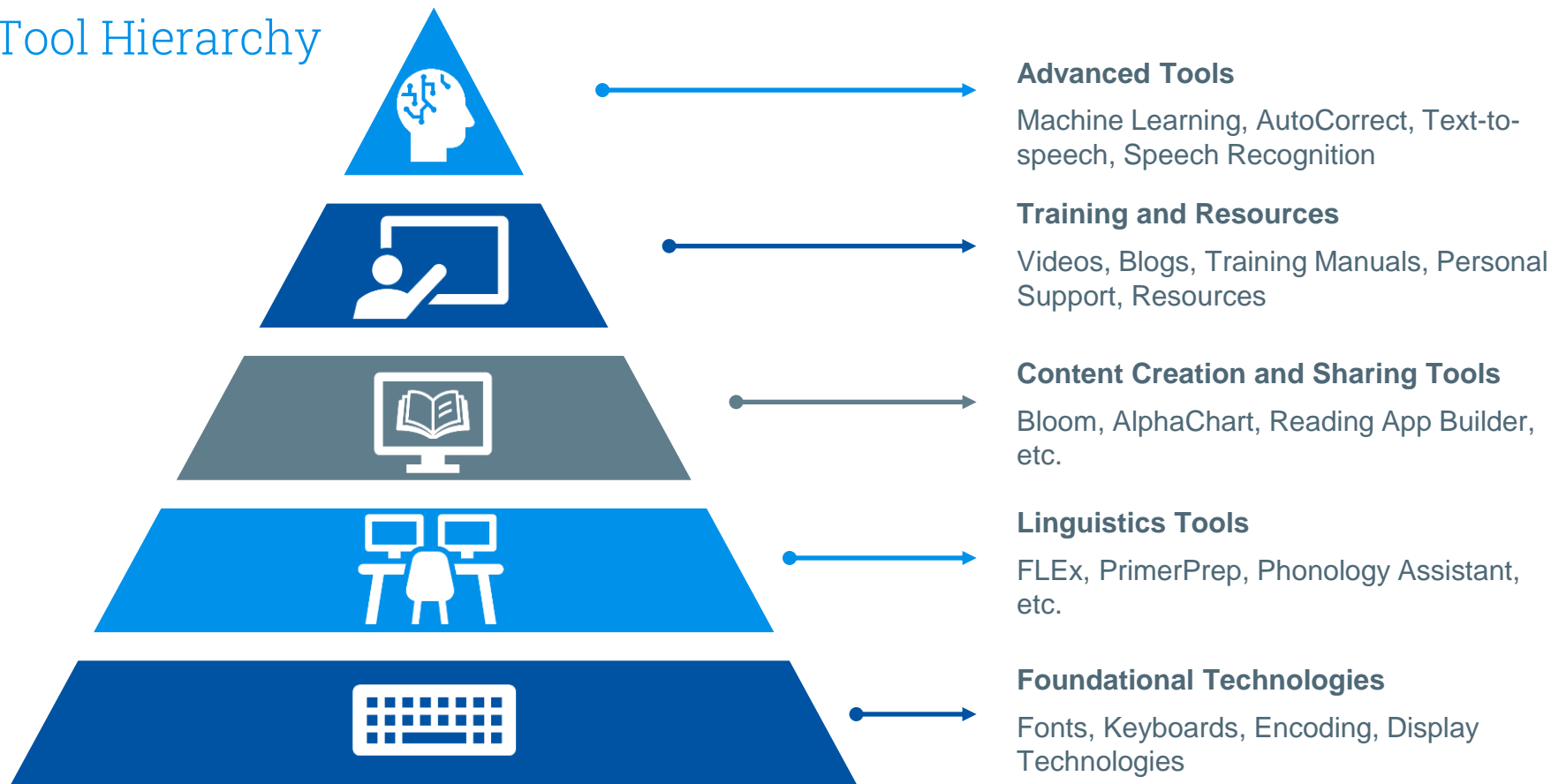
Language-Specific Tech Problems

- ◎ Some languages do not have established orthographies
- ◎ Mother Tongue fonts are limited in circulation
 - ◎ Few computers in public places have good MT fonts.
- ◎ Computers and phones do not currently assist with spelling in the mother tongue.
- ◎ Keyboards are not simplified for MTs
- ◎ Stress in combining characters to produce certain letters.



How can SIL Language Technology help?

Tool Hierarchy





Language Technology in Cameroon
La Technologie Linguistique au Cameroun

A Blog from
Un blog de

Promoting the mother tongues of Cameroon!
Promouvons les langues maternelles du Cameroun!

SIL
CAMEROON

Home Cameroon Keyboard/Clavier Fonts/Polices General Alphabet Tools About Contact

Welcome to LangTechCameroon.info

Posted on [July 12, 2016](#) by [Matthew](#)

- If you want to quickly download the **Cameroon Keyboard**, click [here](#)!
- If you are more interested in appropriate **fonts** for Cameroonian languages, click [here](#).
- Si vous désirez vite télécharger le **Clavier camerounais**, cliquez [ici](#)!
- Si vous vous intéressez plus aux **polices** pour les langues camerounaises, cliquez [ici](#).

External

- [Cameroon Keyboard for Android](#)
- [Detailed Language Software Information](#)
- [Lingtran Language Technology Training Website \(English\)](#)
- [LingTranSoft Language Technology Community](#)
- [Outilingua Formation en Technologie Linguistique \(Français\)](#)



Foundational Technologies

Foundational Technologies: Fonts

© Charis SIL

- <https://software.sil.org/charis/>

Charis SIL



Abdàéǵĩđđ
Abdàéǵĩđđ

Charis SIL est l'une des premières polices conçues pour les imprimantes laser. Il fournit un texte clair et concis. (Recommandé pour les livres imprimés, la littérature et des textes longs).

Foundational Technologies: Fonts

© Doulos SIL

- <https://software.sil.org/doulos/>

Doulos SIL



Αβδὰέḡĩṽṽ

Αβδὰέḡĩṽṽ

Doulos SIL est une police Unicode sérif semblable à Times New Roman. **Doulos SIL** est recommandé pour les transcriptions phonétiques, comme les caractères sont clairs et sans ambiguïté.

Foundational Technologies: Fonts

© Andika

- <https://software.sil.org/andika/>

Andika



A b d à á ġ ı ÷ ı

A b d à á ġ ı ÷ ı

Andika est une police d'Unicode sans-sérf conçue spécialement pour l'utilisation dans l'alphabétisation et pour les besoins des lecteurs débutants. L'accent est mis sur des lettres claires qui ne seront pas facilement confondus avec d'autres. **Andika** est recommandé pour les primeurs, livres pour enfants et ressources pour les lecteurs débutants.

Foundational Technologies: Fonts

© PrimaryLines

- <https://langtechcameroon.info/primarylines/>

Welcome to Cameroon!

ɛwəœyɥiɔ ødæ aɕbɲ

ɛwəœyɥiɔødæaɕbɲ

áǵáǎǎǎǎ



Foundational Technologies: Cameroon Keyboards

- ◎ AZERTY and QWERTY
 - MSKLC for Windows
 - ◎ <https://langtechcameroon.info/cam-keyboard-msk/>
 - Cameroon Keyboard for Android
 - ◎ <https://play.google.com/store/apps/details?id=info.lan-gtechcameroon.keyboard>
 - Keyman for Windows, Mac, Linux, Android, iOS
 - ◎ <https://keyman.com/keyboards/h/cameroon/>

Cameroon QWERTY (Desktop)



https://help.keyman.com/keyboard/sil_cameroon_qwerty/

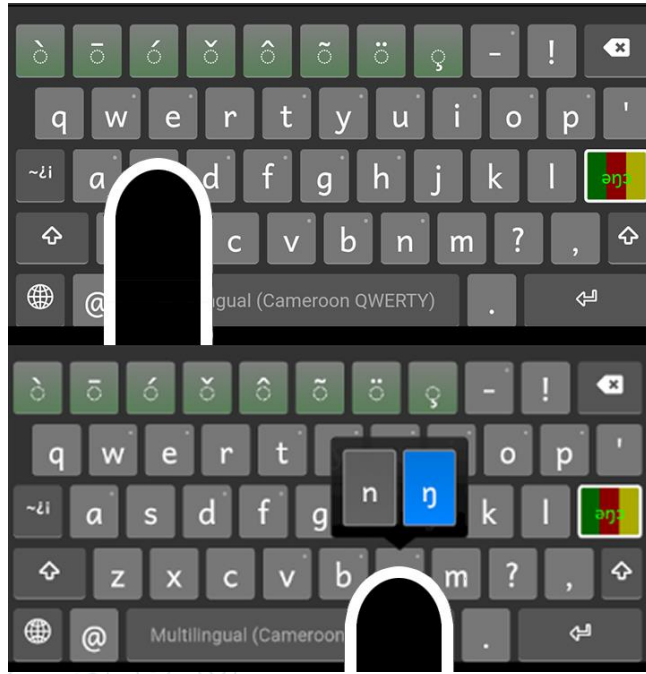
Cameroon AZERTY (Desktop)



https://help.keyman.com/keyboard/sil_cameroon_azerty/



Cameroon AZERTY and QWERTY Touch



<https://play.google.com/store/apps/details?id=info.langtechcameroon.keyboard>

Foundational Technologies: Minimum

- ◎ SIL maintains fonts and keyboards that cover all languages under the GALC
 - <https://www.sil.org/resources/archives/32295>
- ◎ There is an opportunity for simplified single-language keyboards and more decorative fonts.
- ◎ Word lists from languages can be added to Keyman keyboards to enable autocorrect.

IPA Keyboards

- ⦿ Mature IPA Keyboards for QWERTY/QWERTZ

- Keyman:

- ⦿ https://keyman.com/keyboards/sil_ipa

- Microsoft:

- ⦿ https://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&id=uniipakeyboard

- ⦿ Neither version is ideal for AZERTY

Need help!

Communication Tools

◎ Social Media:

- WhatsApp
- Telegram
- Facebook
- Ayoba
- Instagram
- TikTok

◎ Google Meet

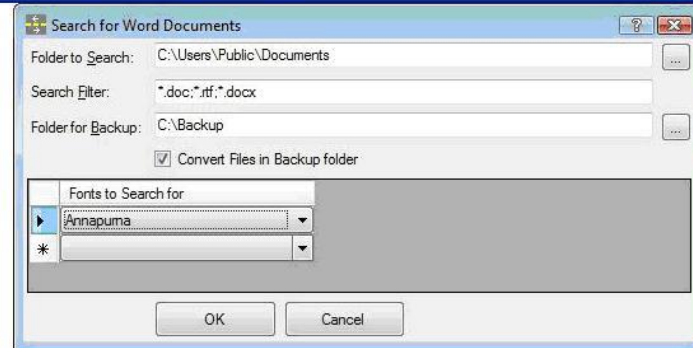
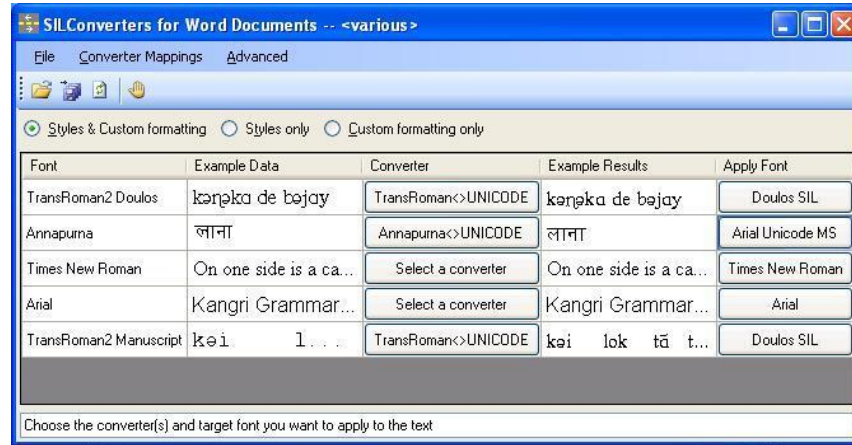
◎ Zoom

◎ Moodle

Taking it Online: Literacy Classes on WhatsApp?



SIL Converters





Linguistic Tools

Linguistic Tools: Fieldworks Language Explorer (FLEX)

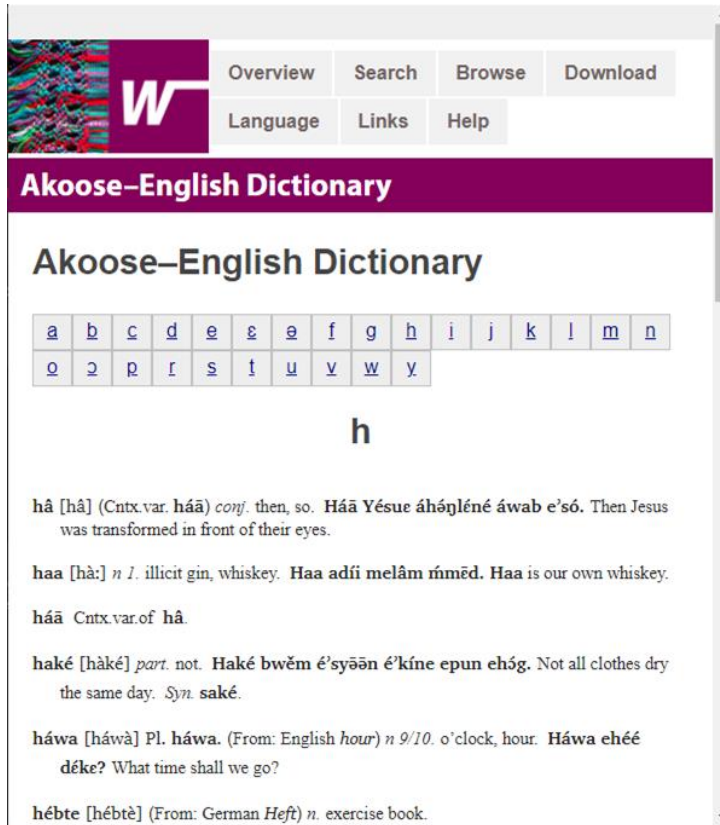
The screenshot displays the FLEX interface with three main panels:

- Lexicon:** A sidebar on the left containing navigation options: Lexicon Edit, Browse, Dictionary, Categorized Entry, Classified Dictionary, Bulk Edit Entries, Reversal Indexes, and Bulk Edit Reversal Entries.
- Entries:** A central table listing words with their forms and glosses. The entry for 'nkuz' is highlighted.
- Entry:** A detailed view of the selected entry 'nkuz', showing its morphological and grammatical information.

| Headword | Lexeme Form | Glosses (Eng) | Glosses (Por) |
|---------------|---------------|-------------------------------|--------------------------------------|
| nkuz | nkuz | make grow raise magnify | fazer crescer criar magnificar |
| nkhaba | nkhaba | not 1 | não 1 |
| nkhodolo | nkhodolo | back of head | nusa |
| nkhomole | nkhomole | cliff | precipício |
| nkolo | nkolo | henmaids | auxiliares |
| nkono-nkono | nkono-nkono | night side | o lado |
| nkusano | nkusano | day after tomorrow | depois de amanhã |
| nkudra | nkudz | become great | engrandecer |
| nomwe | nomwe | seven | sete |
| nota | nota | sharpen | afiar |
| naanga | naanga | fast | depressa |
| naanga-naanga | naanga-naanga | very fast | muito depressa |
| nsaa | nsaa | island | ilha |
| naanga | naanga | yeast liquid | fermento |
| nzazi | nzazi | gravy | molho |
| nzali | nzali | farin | muito dentro |
| nthalanda | nthalanda | area | area |
| nkubwa | nkubwa | a sickness | uma doença |

Entry Details for nkuz:

- Lexeme Form:** nkuz
- Morph Type:** root
- Citation Form:** nkuz
- Components:** (empty)
- Note:** (empty)
- Singular Plural:** (empty)
- Sense 1:** Gloss: make grow / fazer crescer / criar / magnify. Definition: (empty).
- Grammatical Info:** Verb
- Sense 2:** Gloss: raise / criar. Definition: raise a child / criar criança.



Overview Search Browse Download
Language Links Help

Akoose–English Dictionary

Akoose–English Dictionary

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a | b | c | d | e | é | f | g | h | i | j | k | l | m | n |
| o | ɔ | p | r | s | t | u | v | w | y | | | | | |

h

hâ [há] (Cntx.var. háá) *conj.* then, so. **Háá Yésue áhóhpléné áwab e'só.** Then Jesus was transformed in front of their eyes.

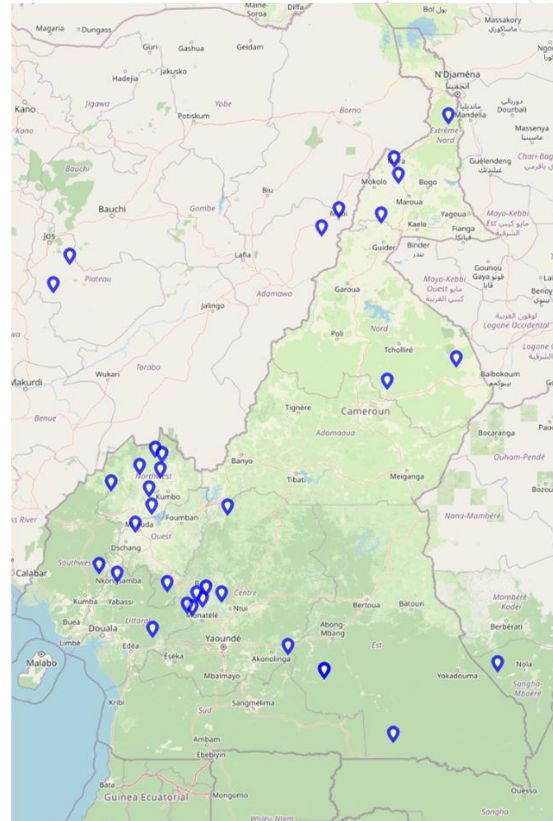
haa [há:] *n. l.* illicit gin, whiskey. **Haa adíi melám mímed.** Haa is our own whiskey.

háá Cntx.var.of **hâ**

haké [hàké] *part. not.* **Haké bwēm é'syāōn é'kíne epun chóg.** Not all clothes dry the same day. *Syn.* **saké.**

háwa [háwà] Pl. **háwa.** (From: English *hour*) *n* 9/10. o'clock, hour. **Háwa chéé déke?** What time shall we go?

hébte [hébtè] (From: German *Heft*) *n.* exercise book.



The screenshot displays the SayMore software interface. At the top, the window title is "C:\Users\John\Documents\SayMore\EdoloSample\EdoloSample.sprj - SayMore". Below the title bar is a "File" menu and three tabs: "Sessions", "People", and "Progress". The "Sessions" tab is active, showing a list of sessions on the left and a file list on the right. The file list has the following columns: Name, Type, Date Modified, and Size.

| Name | Type | Date Modified | Size |
|--------------------------|---------|----------------------|-----------|
| ETR009.session | Session | 6/24/2010 3:28:5... | 733 B |
| ETR009_Careful.wav | Audio | 3/27/2010 10:52:... | 352.79 MB |
| ETR009_Careful_Part2.wav | Audio | 3/27/2010 11:05:... | 159.09 MB |
| ETR009_MonoExtract.wav | Audio | 3/27/2010 9:57:0... | 89.53 MB |
| ETR009_Original.MOV | Video | 3/20/2010 5:25:4... | 505.76 MB |
| ETR009_Original.wav | Audio | 4/2/2010 7:50:15 ... | 59.68 MB |
| SceneAroundCamera.JPG | Image | 3/20/2010 5:45:3... | 1.06 MB |
| SceneHouse.JPG | Image | 3/17/2010 11:45:... | 1.05 MB |

Below the file list is an "Add..." button. At the bottom of the interface, there are three buttons: "New", "New From Files...", and "Delete". The "Video" tab is active, showing a video player with a paused video of two men sitting outdoors. The video player includes a progress bar, play/pause button, and volume control. The video is currently at 04:49.

Prestige

The screenshot displays the Prestige application interface. On the left, a video player shows a man speaking with the subtitle: "Il s'agit d'un standard universel unitaire afin que partout dans le monde on peut s'appeler un chat un chat." Below the video are three audio waveform tracks labeled "Original", "Careful", and "Translation".

On the right, a transcription table is visible with the following content:

| Start | Careful Clip | Transcription | Trans. Clip | Translation |
|---------|--------------|--|-------------|--|
| 0: | ▶ | %ignore% | | |
| 0.863: | ▶ | Salut à tous. Dans cette nouvelle et petite serie d'episodes nous allons faire ensemble le tour de ce qu'on appelle le tour de ce qu'on appelle le système Internationale d'unité, ou S.I. | ▶ | Hello everyone, in this new and short series of episodes, we will do together a tour of what is called the International System of Units, or SI. |
| 7.491: | ▶ | Il s'agit d'un standard universel unitaire afin que partout dans le monde on peut s'appeler un chat un chat. | ▶ | It is a universal standard so that everywhere in the world we can call "a cat a cat". |
| 12.012: | ▶ | Et ceux queques-soit sa langue, eh bien sûr, quand je dit partout dans le monde, c'est sans compter le Myanmar, le Liberia, | ▶ | and these no matter their language, and of course when I say everywhere in the world, that's without counting Myanmar, Liberia, |
| 17.49: | ▶ | et les États-unis d'Amerique. | ▶ | and the United States of America. |
| 19.062: | ▶ | Et pour ce premier episode, on va commencer par le commencement | ▶ | And for this first episode, we will start at the beginning, |
| 21.362: | ▶ | avec le metre. | ▶ | with the meter. |

At the bottom of the interface, there are buttons for "Choose File", "No file chosen", and "Load Folder".

Phonology Assistant

The screenshot shows the Phonology Assistant software interface. The current search pattern is `{p,b}/#_*`. The interface is divided into several sections:

- Patterns & Pattern Building:** A sidebar on the left containing a character list (Con., Vow., Other, Classes, De...), a list of recent patterns, and saved patterns.
- Main Results Table:** A table displaying search results for the pattern `{p,b}/#_*`. The table has columns for Phonetic, Gloss, CV Pattern, Phonetic Source, and Pa.

| Phonetic | Gloss | CV Pattern | Phonetic Source | Pa |
|---------------------------|------------------|------------|--------------------|-----|
| #_itta (2 records) | | | | |
| píttá | bark | CVCCV | PronunciationField | No |
| bíttā | acidic/sour | CVCCV | PronunciationField | Adj |
| #_illo (2 records) | | | | |
| pílló | to.have.dairhoea | CVCCV | PronunciationField | Ver |
| billó | cut.across | CVCCV | PronunciationField | Ver |

Below the table, it says "(no data)".

<https://software.sil.org/phonologyassistant/>

https://www.youtube.com/watch?v=IW_nv2kzeeg



Content Creation Tools

Paratext: Bible Translation

Paratext 9.2 Search menus/help

NBS11+ - La Nouv MAT 1

All Research Terms (NBS11+) ncrm | Found Problem

engendra Boes ; Boes, avec Ruth, engendra Yobed ; ⁶Yobed engendra Jessé ; Jessé engendra David.

Le roi David, avec la femme d'Urie, engendra Salomon ; ⁷ Salomon engendra **Roboam** ; **Roboam** engendra Abiya ; Abiya engendra

Asaph ¹Roboam (Ροβοαμ) ²osaphat ³prop.n indecl (proper noun indeclinable) ⁴ias ; ⁵h ⁶engendra ⁷Lenmas: Roboam (Ροβοαμ) ⁸Rehoboam ⁹Rendering not found in verse (ncrm)

Ozias ¹⁰engendra ¹¹Ezéchias ¹²Achaz ; Achaz engendra Ezéchias ; Ezéchias engendra Manassé ; Manassé engendra Amos ; Amos engendra Josias ; ¹³Josias engendra Jékonia et ses frères au temps de l'exil à Babylone.

Source language Defin

NBS11+

Généalogie

Βίβλος (Biblos geneeōs)

γένεσις (Biblos geneeōs)

βίβλος (biblos) ¹communiqué assez bref ...

Βίβλος (Biblos geneeōs)

γένεσις (genesis) ²persons of successive ...

filis de David, υἱοῦ Δαυὶδ (huiou Daud)

Δαυὶδ (David) roi d'Israël et un des ancêtres ...

υἱοῦ Δαυὶδ

Wo nda Nyii Kuɔ Təɔ

¹No be nɔwə nɔ nda i tɔ' dɔ' yie bətiətie Jiso Klai, nda ɔ lɔɔ kəɔɔr Debi, nda ɔ lɔɔ kəɔɔr Ablahar.

²Ablahar nɔ nə be tie Aisi.

¹Aisi nɔ nə be tie Jakɔ.

¹Jakɔ nɔ nə be tie Juda le'nə bəliɔ-bi.

²Juda nɔ nə be tie Bele ghɔɔr Sela nda nkwe-yəa nə be Tama.

¹Bele nɔ nə be tie Hesɔɔr.

¹Hesɔɔr nɔ nə be tie Alam.

²Alam nɔ nə be tie Aminada.

¹Aminada nə be tie Nashɔɔr.

¹Nashɔɔr nə be tie Salmu.

²Salmu nə be tie Boa nda nkwe-yəa kə be Laha. Boa nɔ nə be tie Obe nda nkwe-i kə be Lu.

¹Obe kə be tie Jesi.

²Jesi kə be tie Debi nda ɔ sɔ' fəɔɔ.

¹Debi kə be tie Salmu nda bi ghɔɔr woke nda ɔ nɔ' kə fəɔɔr be vi Ulia.

²Salmu kə be tie Lihobuaɔr.

¹Lihobuaɔr kə be tie Abija.

¹Abija kə be tie Asa.

²Asa kə be tie Jehoshafa.

¹Jehoshafa kə be tie Jolar.

¹Jolar kə be tie Osia.

²Osia kə be tie Jotəɔr.

¹Jotəɔr kə be tie Aha.

BVM: MAT 1:1 (Standard Translation)

ncrm: MAT 1:1 (Standard Translation)

Lukas 3:23-38

¹Yəɔ nə məɔkuɔ mə bətsi kinyi ki be Jiso Klitu wu Nfi wu Nywə ka kaa. Jiso Klitu Nfi ka nə mwə yi kinyi ki Nfəɔ Defi wu ka nə mwə yi kinyi ki Ablaham. ²Ablaham ka nə tsi Ajik, Ajik nə tsi Yakob, Yakob nə tsi Judas bə boɔ bə tsisi, ³Judas nə tsi Beles bə Sela bə ma bə ka nə Tama. Beles nə tsi Eslon, Eslon nə tsi Lam. ⁴Lam nə tsi Aminada, Aminada nə tsi Nashon, Nashon nə tsi Salmon. ⁵Salmon nə tsi Boas wu me ka nə Lahab. Boas nə tsi Obed wu me ka nə Lut. Obed nə tsi Jesse. ⁶Jesse nə tsi Nfəɔ Defi.

⁷Nfəɔ Defi nə tsi Salamu wu me ka nə kpee Uliaa.

⁷Salamu nə tsi Ləhubwəɔ, Ləhubwəɔ nə tsi Abija, Abija nə tsi Asa. ⁸Asa nə tsi Jehushəfat, Jehushəfat nə tsi Jolar, Jolar nə tsi Usaya. ⁹Usaya nə tsi Jotam, Jotam nə tsi Ahas, Ahas nə tsi Esikava, ¹⁰Esikava nə tsi Manase, Manase nə tsi Emos, ⁴Emos nə tsi Yosaya. ¹¹Yosaya nə tsi Jekonaya bə bə mwənshi bə. Bə ka bəki bə shiki chə nə kisiki bəni bə Babilon ka kwuyə bəni bə Isəael jəɔ bə bə wəɔ wubə wu Babilon nə.

¹²Fəfədzɔɔr, nə bə ka kwuyə bəni bə Isəael jəɔ bə bə

nhu: MAT 1:1 (Standard Translation)

(Luka 3:23-38)

¹Cyan nu ediee e bo'icee kfuu di bo Jisos Klistu le. Jisos Klistu to nu waa Nfon Dawe wvù to nu waa Abia'am.

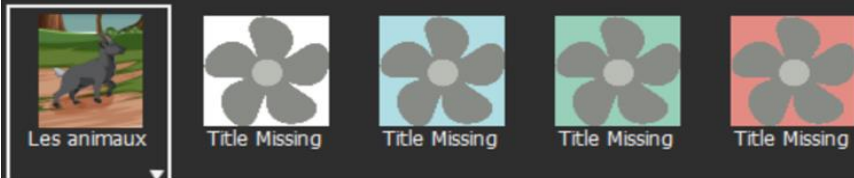
²Abia'am to nu icee Aysik, e Aysik nu icee Yakow, e Yakow nu icee Judas bò boom bo ice le, ³e Judas nu icee Beles bò Sela bò bwee bò to nu Tama. E Beles nu icee Eslon, e Eslon nu icee Lam. ⁴E Lam nu icee Aminada, e Aminada nu icee Na'shon, e Na'shon nu icee Salmon. ⁵E Salmon nu icee Boas wvù bwee to nu La'ab. E Boas nu icee Obed wvù bwee to nu Lut. E Obed nu icee Jesse. ⁶E Jesse nu icee Nfon Dawe.

E Nfon Dawe nu icee Saamun wvù bwee to nu kpwez Uliaa. ⁷E Saamun nu icee Le'ubwam, e Le'ubwam nu icee Abija, e Abija nu icee Asa. ⁸E Asa nu icee Je'ushəfat, e Je'ushəfat nu icee Jolar, e Jolar nu icee Usaya. ⁹E Usaya nu icee Jotam, e Jotam nu icee A'as, e A'as nu icee Esikava. ¹⁰E Esikava nu icee Manase, e Manase nu icee



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Livres en Français ▾



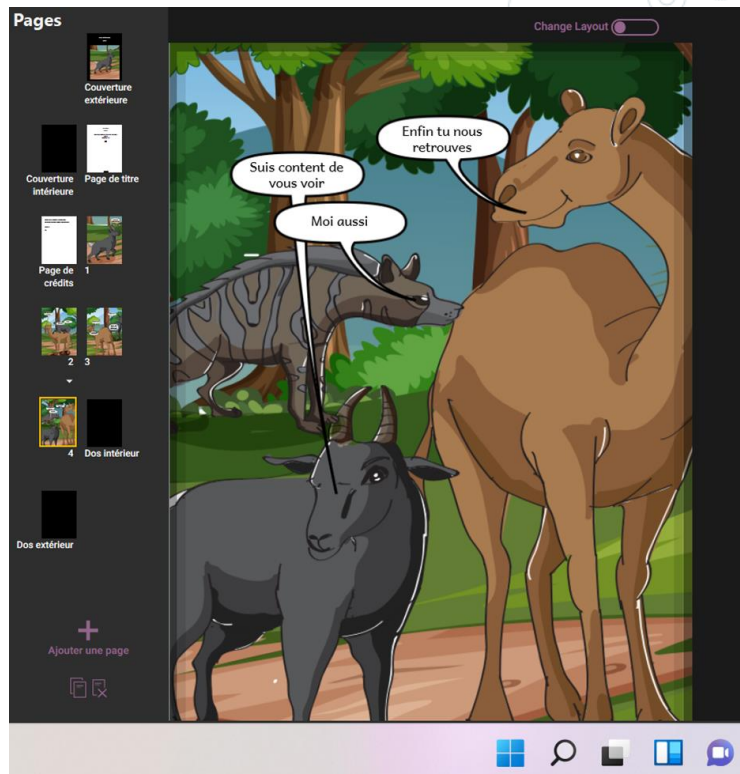
Sources pour des nouveaux livres

Modèles

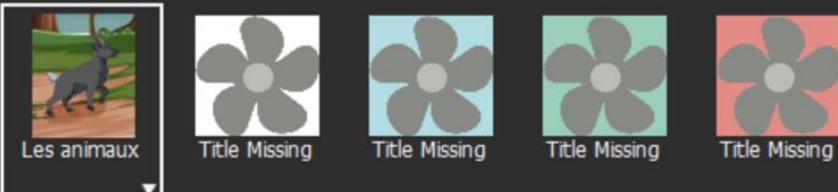


Livre canevas type

Bloom: Literacy Books

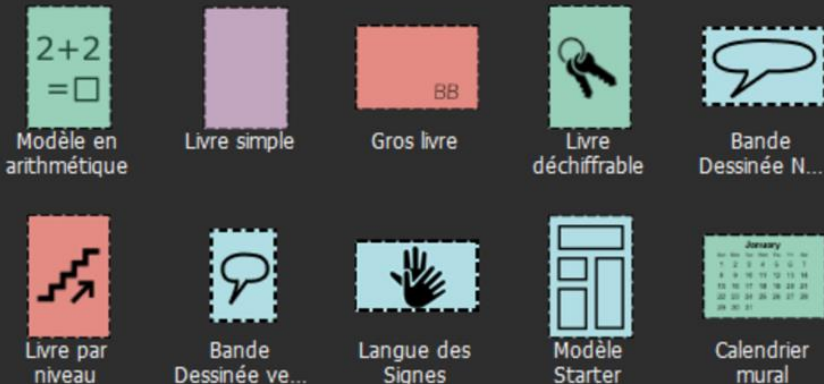


Livres en Français ▾



Sources pour des nouveaux livres

Modèles



Livre canevas type

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Bloom: Literacy Books

Outil de livre audio


- 1) Vérifiez que vous enregistrez dans le microphone adéquat et que ces niveaux apparaissent en bleu :




- 2) Regardez la phrase surlignée
- 3) Parler




- 4) Vérifiez




- 5) Suvant




Retour




Effacer



Écoutez l'intégralité de la page



Avancés

- Enregistrez toute la zone de texte, puis laissez Bloom la scinder en phrases par la suite.
-  Importer Enregistrement
- Afficher les boutons d'ordre de lecture

Créer un livre électronique qui lit des enregistrements audio en surlignant des phrases.

[Aide](#)

Plus...

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App Builders

Scripture App Builder

- <https://software.sil.org/scriptureappbuilder/>

Dictionary App Builder

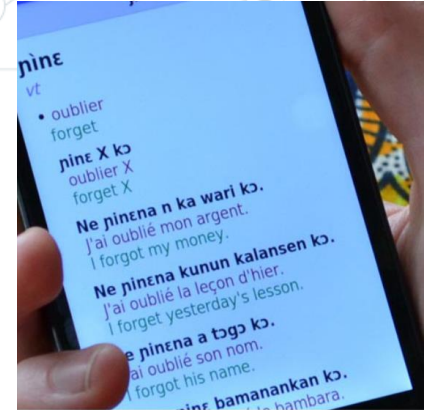
- <https://software.sil.org/dictionaryappbuilder/>

Reading App Builder















- <https://software.sil.org/readingappbuilder/>

Keyboard App Builder

- <https://software.sil.org/keyboardappbuilder/>



Jækwan ləlaɓ ma Daba

| | | | | | | |
|--|---|---|--|--|--|---|
| a b ɓ c d ɗ e ə f g gb gw h hw i j k kp kw l m mb mgb n nd nj ng ngw o p r s sl t u v vb w y z zl | | | | | | |
| A a  dahba | B b  bakalaf | Ɓ ɓ  ɓaram | C c  cevek | D d  dəvər | Ɗ ɗ  ɗawa | E e  beke |
| Ə ə  ərsła | F f  falam | G g  gənaw | Gb gb  gbəl | Gw gw  gwazla | H h  hidi | Hw hw  hwihwil |
| T t | L l | K k | Kp kp | Kw kw | l l | M m |

And others

- ◎ Microsoft Office
- ◎ Adobe InDesign
- ◎ LibreOffice
- ◎ Scribus
- ◎ Gimp

A decorative network diagram in the top-left corner, consisting of various sized grey circles connected by thin grey lines, some solid and some dashed, creating a web-like structure.

Training and Support

Support Sites

- ◎ General Technology
 - <https://community.software.sil.org/>
- ◎ Scripture Software
 - <https://community.scripture.software.sil.org/>

Training Resources

- ◎ Each software website:
 - i.e. <https://paratext.org/training-and-support-links/>
- ◎ Language Technology (English)
 - <https://lingtran.net/>
- ◎ Technologie linguistique: (French)
 - <https://outilingua.net/>



Advanced Tools

Spelling Checking and Predictive Text



LibreOffice Logo Source: <https://www.libreoffice.org/>



Predictive Text

<https://vimeopro.com/lingtransoft/keydev2020/video/399132672>

Text-to-Speech, Machine Translation, etc.

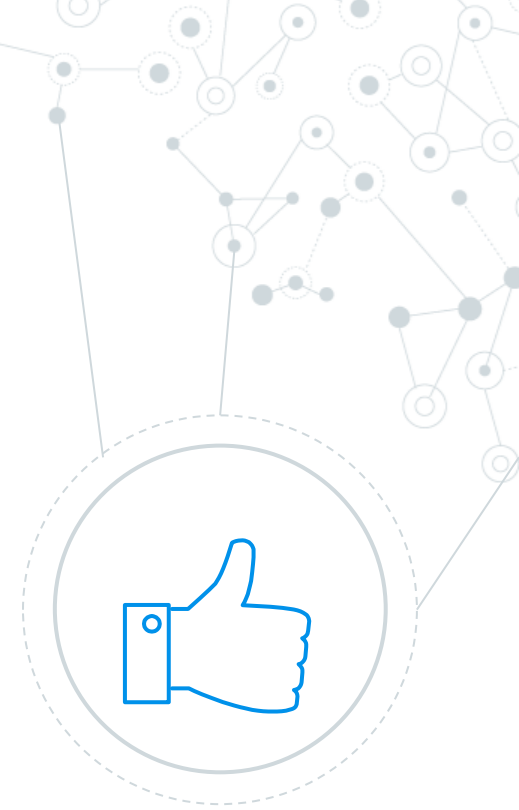
- © eSpeak
 - <http://espeak.sourceforge.net/>
- © Many others...



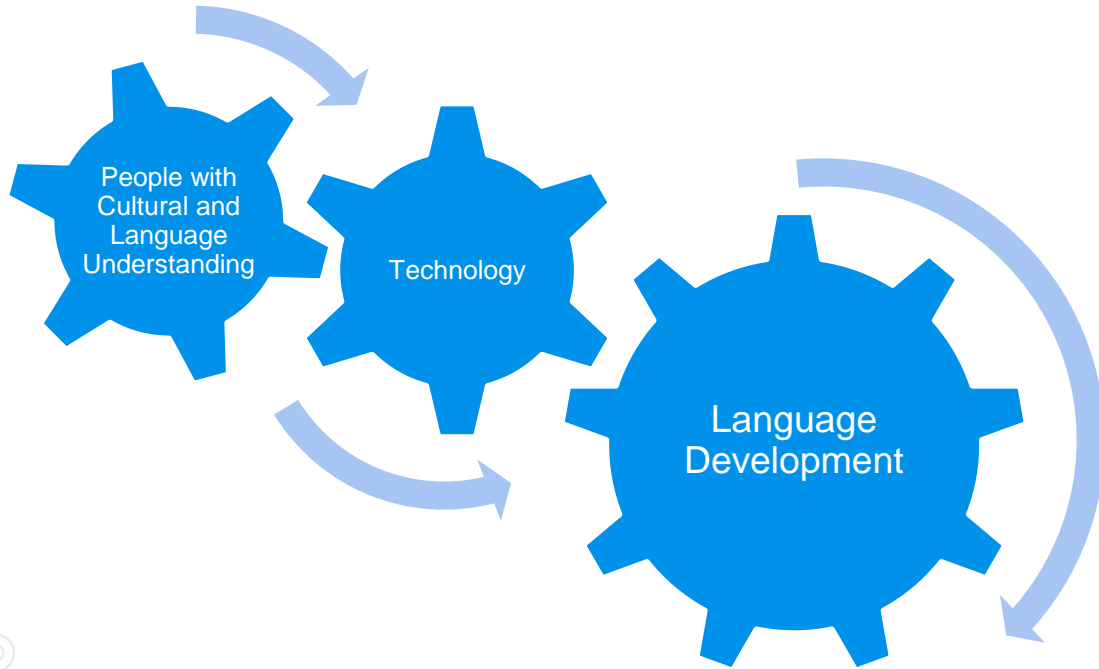
Where are we?

With the mature state of global language technology, developing or promoting a language is no longer a technical impossibility.

Challenges of personnel, communication, logistics, access, training, funding and resource development in the mother tongue are the next hurdles to overcome through working together.



Where are we?





Opportunities



Opportunities for using Technology in MT

- ◎ Collect wordlists and morphological information to create predictive text dictionaries for keyboards and spellcheck for desktops.
- ◎ Promote installation and use of the Cameroon Keyboard as high speed which results from practice.
- ◎ Language communities can create easier to use language-specific keyboards (with SIL's assistance if needed).
- ◎ Promote use of Cameroon-complete fonts.

Opportunities for using Technology in MT

- ◎ Community members and researchers can create and share base materials using available tools:
 - Books, Primers, Dictionaries, Talking Stories, etc.
- ◎ Government, communities and elites could create philanthropic centres and equip them.
- ◎ Resource centres could spread to cities to grant access to distance learning.
- ◎ Solar panels can provide reliable power for rural folk and schools.

Opportunities for using Technology in MT

- ◎ SIL, CABTAL, NACALCO and Universities are ready to offer help if sought
- ◎ SIL renders training on language technology (hundreds of lang workers are trained in communities and universities)
- ◎ Improve on the use of time through practice and reuse of prepared materials.

Conclusion

- © It is normal to face challenges in using technology for MT learning as it applies in every real-life situation. When there are challenges, efforts are made through research to overcome them. As such, challenges are a motivating factor to seek to exploit existing opportunities.

Conclusion

- ◎ Above all, communities without orthographies as a starting point can seek needed help from the institutions referred to in this discussion. These partnerships can promote language use and development (of both mother tongue and foreign languages) at home and abroad through domestic and distance education.
- ◎ Even if SIL cannot boast of having answers for every question, research is continuing to find solutions for further questions and challenges.



Thanks!

Any questions?

A copy of this presentation can be found at:

<http://langtechcameroon.info/mt>

