2025 LSPNG Presentation

Alpha Tiles
a new smartphone application from SIL
for tokples literacy

Ray Stegeman
SIL-PNG
Linguistics Consultant and Translator Trainer
ray_stegeman@sil.org

1

Smart Phones in PNG

Cell phone use is nearly ubiquitous throughout Papua New Guinea

Many Papua New Guineans are buying smartphones as their only way of accessing the internet and downloading apps; computers are too expensive

This allows them to:
- take care of business - email, contact colleagues, banking
- get educated / learn something
- stay in touch with family and friends
- have some fun, too

2

Outline of presentation

Introduce the app as a way forward in tokples literacy

What's needed from you

Features of the app

Comparison with other language learning apps

Limitations to the app

3

For Alpha Tiles, you are required to upload:

1. alphabet - every language will have a slightly different alphabet

2. syllables [optional] - V, CV, CVC, CVVC, CCV, etc. a unique syllable set for each language

3. words - words in different languages will have different spelling rules - 100 - 200 words to start; easy words first

4. sound files - these need to be in the mp3 format, for the alphabet letters, [syllables] and for whole words

5. picture files - these need to be copyright-free pictures; a good source is flaticon.com; jpg or png files only

4

Every language will have a unique alphabet

- English

a b c d e f g h i j k l m n o p q r s t u v w x y z

- Tok Pisin

a b d e f g h i j k l m n o p r s t u v w y
(depending on the source)

- Finongan (fag; Trans-New Guinea, Finisterre-Huon, Finisterre, Erap)

a ai b c d e f g gh i k kw l m n ng o p s t u w y

5

Other PNG language alphabets

- Rotokas (roo; North Bougainville, Rotokas) - only 12 letters!

a e g i k o p r s t u v

- Patep (ptp; Austronesian, ..., Eastern Malayo-Polynesian, ..., Hote-Buang, Buang, Mumeng) - 45 alphabet letters/combinations!!

a aa e ee ê êê i ii ɨ o oo ô ôô u uu b by bw d g gw
h j k kw l
m my mw n ny ng ngw p py pw s t ty v vy w x y z

6

3

Here's what you might put together for one entry

a spelled word, say "male" in an alphabetically ordered tokples list of words:
- ✓ male | warawo'

574	pigeon	warami
575	open1	warau
576	male	warawo'
577	search	warinpa
578	backpack	wari'sa

a picture of a man, titled:
- ✓ male.png or male.jpg

a recording of the word "male" in tokples, titled:
- ✓ male.mp3

The people at Alpha Tiles do the rest.

- The app monitors run an authorization of your data, to check for errors

- All the corresponding files (wordlist, pictures and sound files) must have exactly the same name

- Then they build an app and send you a link so that the app can be downloaded to one's smartphone.

- You check every game and every recording, to make sure the pictures match the recordings and everything is spelled correctly, etc.

- Send in all your corrections and wait for a 2.0 version

- Share it with your wantoks!

It's a lot of work to set up Alpha Tiles

- Alpha Tiles' design goal is to "create basic literacy games for a new language in less than one week."

[It took me longer - maybe 2 months, working part-time on it. But I'm told mine was the largest app to date - just over 600 word entries.]

- Testing is underway in 147 languages in 43 countries.*
- Alpha Tiles is an Android app that is fully functional offline.
- The Alpha Tiles platform is open source.

* Lately, I was told there are 186 completed apps plus another 260+ projects in progress.

9

Different levels of play

- random choices made by the app for wrong answers
- similar letter tiles as "distractor" tiles for wrong answers
    (letters that look similar to each other, like b and d, p and q, t and f, e and a, or they sound similar, like f and v, t and d, etc.)
- choosing the correct word from a list of words that each have a different first letter.

fupara

supara

tupara

kupara

10

How many games/lessons?

There can be over 100 different games to play including three levels of difficulty when playing each type of game.

These are based on the app's ability to adjust to what you've already played.

- The Finongan version has 116 games – including syllable recognition games
- The one I worked on has 96 games – no syllable recognition

11

the first screen - players' names

One phone download can have up to 12 players, so that you can take turns with your friends on the same phone, so you can always come back to your settings and it remembers how far along you are in the games.

Game instructions can be recorded in tokples and heard by the users. (Some games are more intuitive than others, so it's recommended that you record tokples instructions for those less intuitive games.)
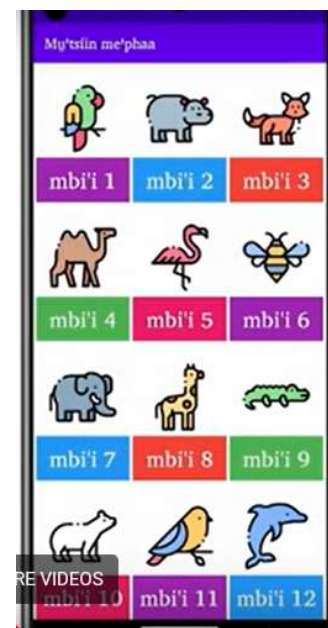
12

Some games teach you each letter/ symbol of the alphabet. The letter is highlighted, and a picture is seen of an item with that letter/sound as the first letter in that word.
No interaction
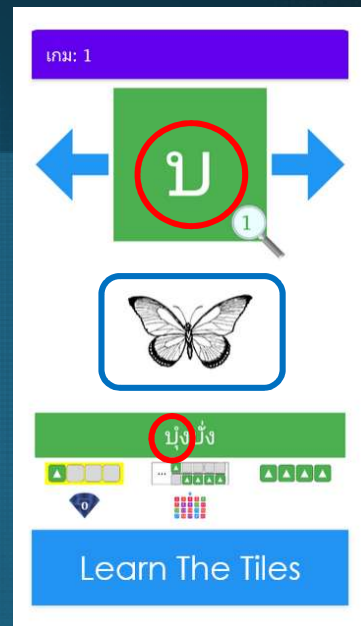
13

Some games show you a picture and then ask you to identify the initial letter/sound for that word from a list of letters.
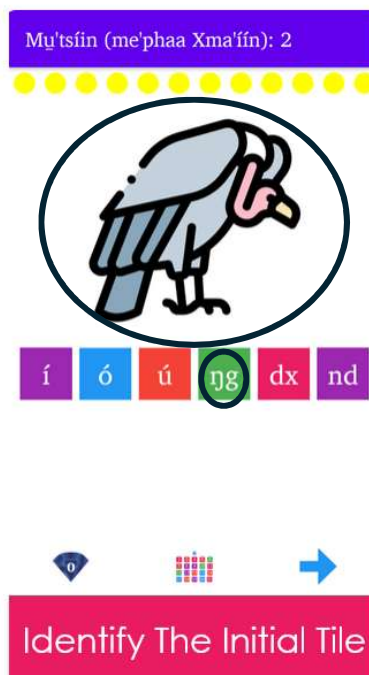
14

Some games ask you to identify the missing vowel or consonant letter from a group of letters. Fill in the blank with the missing letter.

Ma imjien: 3

ngul'u_s

e   x   i   u

0

Identify The Missing V/C

If you guess the wrong letter, you'll hear **a sad sound**.
But if you guess the right letter, you'll hear **a happy sound** - AND you'll hear someone pronounce the entire word correctly, so you'll have the picture, the word to read, and the word pronounced for you, all reinforcing tokples literacy.

15

The Memory Game: You touch two light bulbs and see if a word under one light bulb matches a picture under the other light bulb. When you make a correct match, the picture turns into the correct word, reinforcing good literacy in the player.

Mu̱'tsíin (me'phaa Xma'íín): 9

mañu

ixi̱   mañu

ixi̱

5
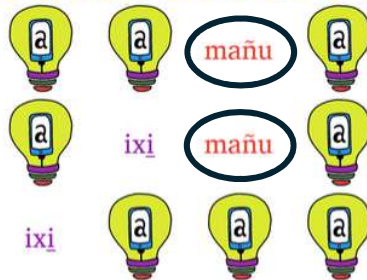
Memory

16

In this game, the user sees the picture only and must "build" the word from pairs of letters, of which only one is the correct first letter, and so on. Finally, the full word appears when the user has correctly spelled the word.
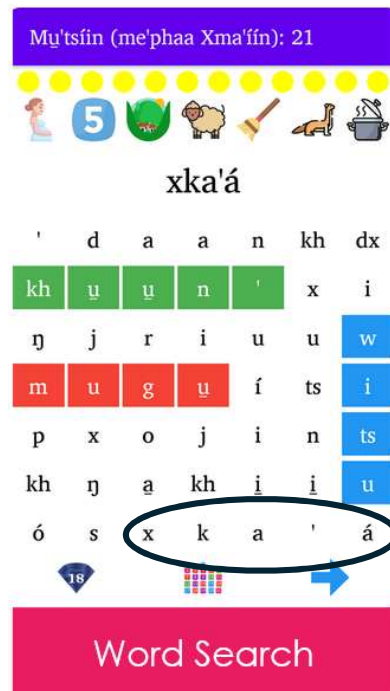
Mu̠'tsíin (me'phaa Xma'íín): 14

✓ ✓ ✓

| kh | a | ñb | a | a |

| h | e | mb | á | e |

Build The Word From Tile Pairs
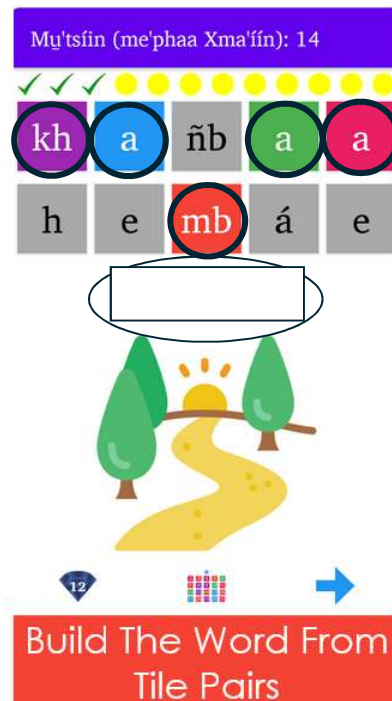
17

In this game, one must spell the word that the picture represents with the letter choices below. The word can be heard when you touch the picture, and that can help you correctly spell the word.

Mu̠'tsíin (me'phaa Xma'íín): 20

xax

a	e	i	o	u	´	_
'	b	c	d	f	g	h
j	k	l	m	n	ñ	ŋ
p	r	s	t	w	x	y
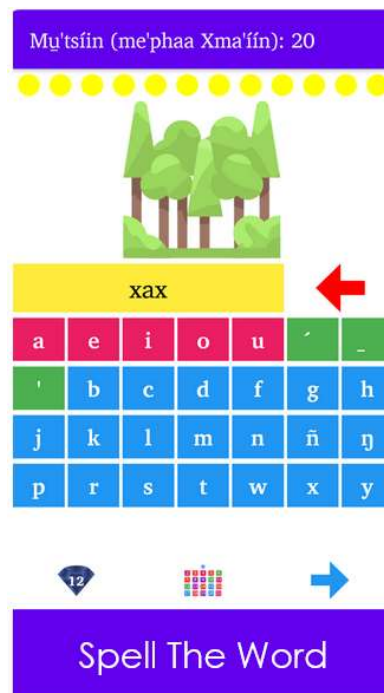
Spell The Word

18

In this game, the user clicks on the first and last letter of each word pictured above, until all the words are found in the puzzle below. (The full word is not seen above; only the pictures are seen until the user chooses the letters.)

Mụ'tsíin (me'phaa Xma'íín): 21

xka'á

'	d	a	a	n	kh	dx
kh	ụ	ụ	n	'	x	i
ŋ	j	r	i	u	u	w
m	u	g	ụ	í	ts	i
p	x	o	j	i	n	ts
kh	ŋ	a	kh	i	i	u
ó	s	x	k	a	'	á

18

Word Search

19

For this game, you hear the word and select the correct word from the list below.

At the top of the screen, you can monitor your play:
This word set is the eighth word set out of 12 (green checks and yellow circles), in the first group of 12 word sets for Game 55.
You can move on to the next word set by pressing the blue arrow; you can return to the numbered list of games by

55 1 ✓✓✓✓✓✓✓✓●●●● 8

e'tokʉ

ɨpʉrema

ka'nari

kamo'

20
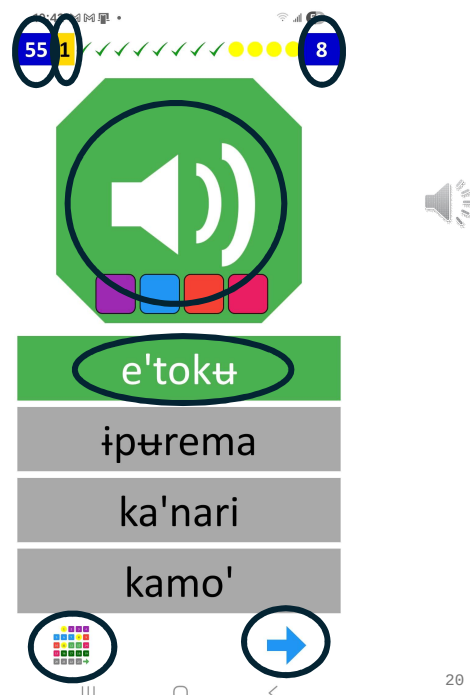
10

In the very next
game (56), the
choices of words
become more
restricted, with
"distractor letters"
that that are
similar* to the
right letter.
(This is according
to what you program
into the app.)

* similar in shape
or in sound

Distractor letters

each
lett
er
in
its
own
row

3
distractor
letters for
each letter

In the following game (57), you see that all the words in the word set begin with the same letter (k), so it's more challenging to choose the correct word that you hear.
A nice feature for this game is that you can touch the speaker icon and listen to the word again.

kami'

ka'

kani'tɬ

kami'sa
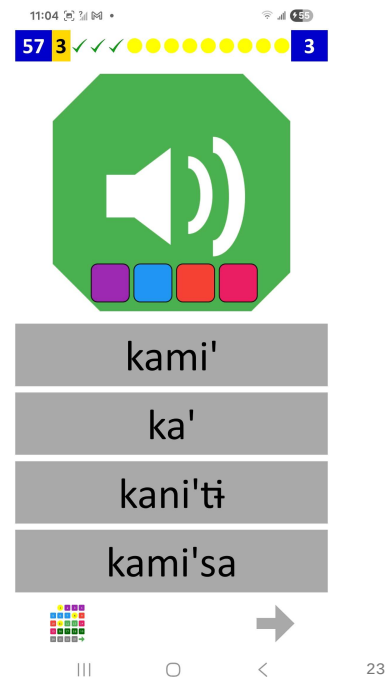
Game 59 – Listen to the sound file and then pick the missing letter from the middle of the word.

m__ta'na ye'

i

e

ʉ

o

19/12/2025

12
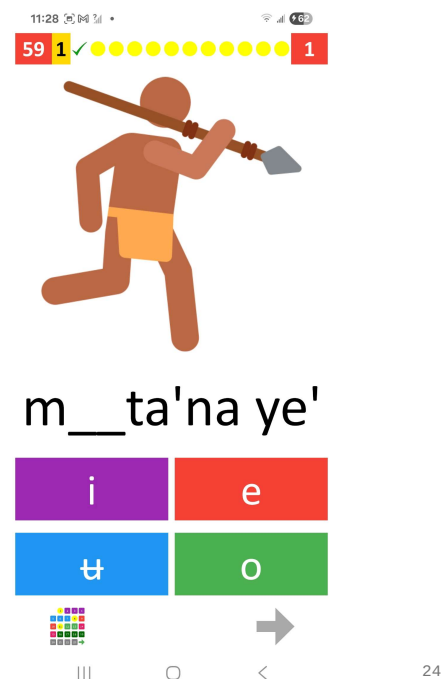
That's right! That vowel sound doesn't sound like the three regular letters you see, so it might be an easy guess.
This game tests hearing vowels correctly; the following game (60) tests hearing consonants.

Game 64 will show you a picture but there is NO SOUND RECORDING to go with the picture. You must guess the right word based only on the picture.

It does give you the sound recording once you choose the correct word.
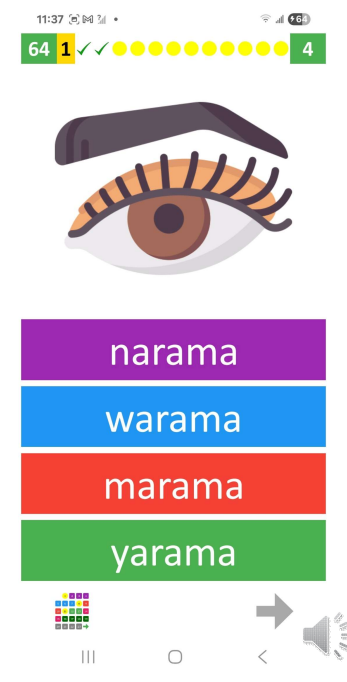
Of course, if this was your tokples, you would know the right word and then need to determine which spelling was correct.
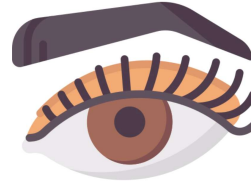
Here are the distractor letters for the letter w.

BINGO! - Keep pressing the right arrow and touch the words you hear below until you get 4 across, up and down, or diagonal.
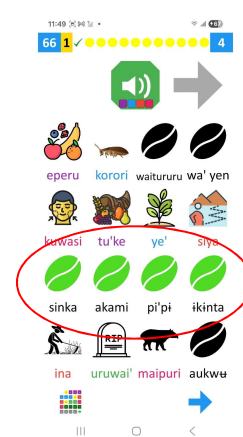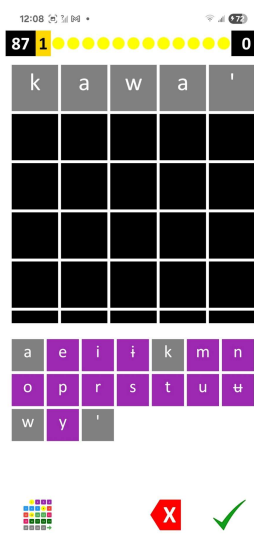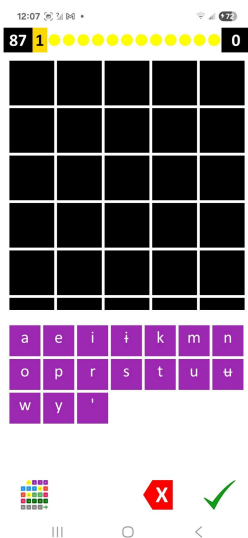
You see the picture but don't hear the word; then you need to spell the word correctly from the list of letters below.

After the word is spelled correctly, you can move onto the next picture by touching the blue arrow.
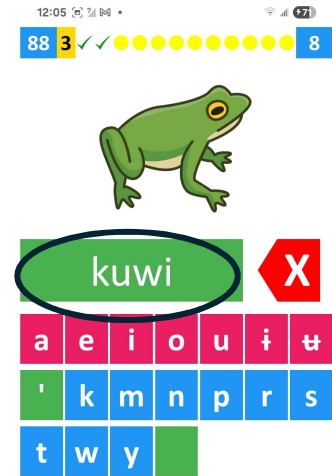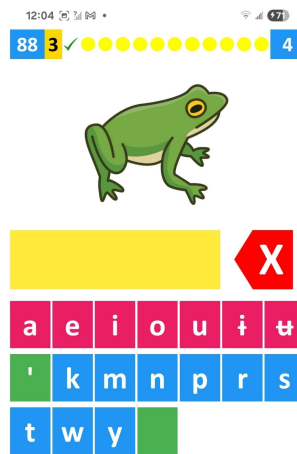
My favourite – WORDLE!
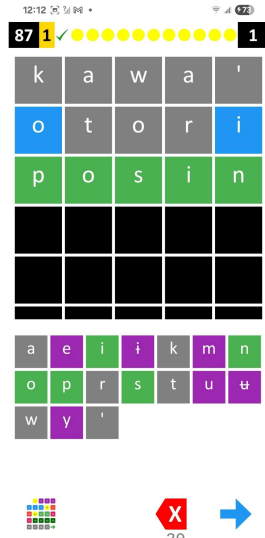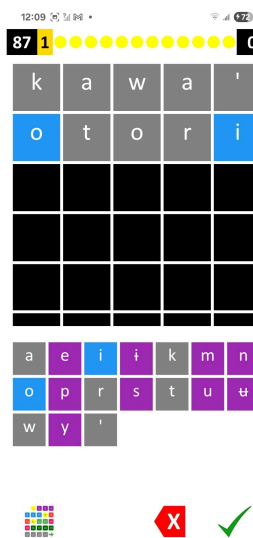
Other literacy apps available

duolingo.com
- free initially
- 40 languages
- tests reading/listening abilities

babbel.com
- 14 languages
- pay from the beginning

memrise.com
- free
- many international languages - some 200 minority languages, but
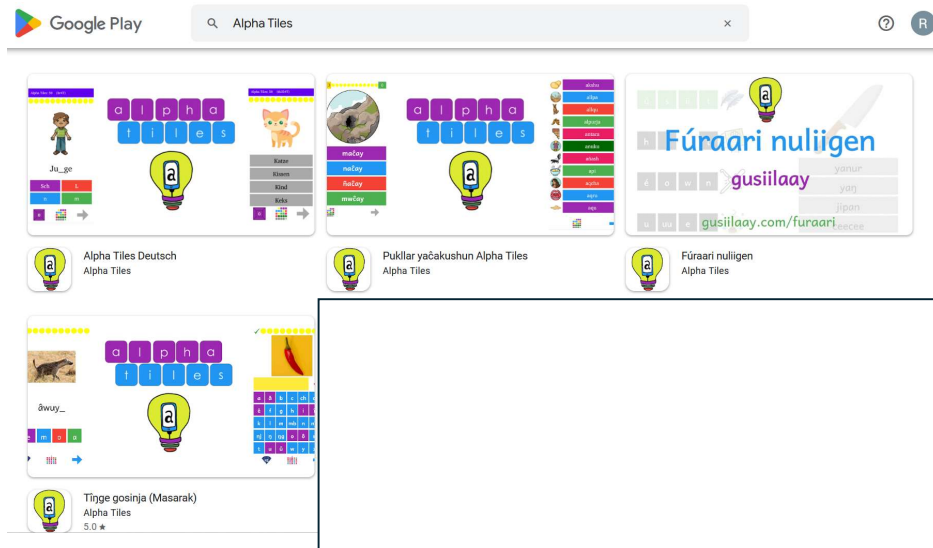- Google says Memrise have discontinued their "user-generated courses"

31

Alpha Tiles limitations

- a <u>beginning</u> literacy app
- sounds/letters and words/spelling
- no sentence capability

32

These Alpha Tiles projects are on the Playstore!

33

Alpha Tiles comes highly recommended

The Hundred Organization has listed Alpha Tiles as one of its HundrED Global Collection in 2024 and again in 2025 for being highly <u>scalable</u> and <u>impactful</u>.

✓Scalable means the app has the ability to grow efficiently and effectively as demand increases.

✓Impactful means the app has the potential to create a powerful and noticeable effect or influence.

34

- from the 2024 report from hundred.org
- begun by SIL in Mexico, in 2020
- used in 40 countries - 3 more countries in the last 10 months*

*in late 2024

35

Any Questions?

36

Bibliography

- for Alpha Tiles home page, click here.
  https://alphatilesapps.org/index.html
- to access Setup Instructions, click here.
  https://docs.google.com/presentation/d/1w-
  BTKk2MuJIwTFXfXP8cNShU0QI6MSXM5YJQxcaP4uk/edit?sli
  de=id.p2#slide=id.p2
- Voutilainen, M. Mariah, Ariunkhishig Gonchigdorj,
  Crystal Green, and Frederika Warren. HundrED
  Global Collection 2025. HundrED, 2024, p. 47.
  https://doi.org/10.58261/NPZB4474.
- for more information, contact me at
  ray_stegeman@sil.org

37