CS31620 Assignment 2020-21 Assignment: Report on the project

Discussion

At the beginning of preparation to start the project I had a lot of questions to ask myself. How the user will input primary language and foreign language, how the user will add words to their dictionary, if they would like to change a specific word, how would they do that, how would user test themselves on those words and finally how would they choose languages again and remove all data.

UI design

On the UI design, I have tried to do it in a really easy way for the user. This app is pretty straight forward to understand and add words the user would like to learn. Easily user can change words simply by pressing on previously added words.

By having a list from the beginning the user can scroll through all different languages to choose which one they want to choose, it is an easy way to decide which language they would like to use. I was thinking about that part for a while, but eventually list won. Maybe the user will not know what language they want to learn, they could just scroll through them and see which one will be interesting. (Pic. 1 & Pic. 2)

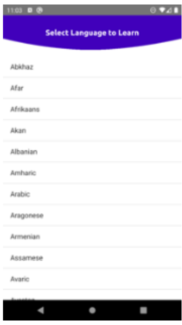
To use the "snackback button" was inspired by workshops, it is easy and efficient for adding words. It does look nice with its design. (Pic. 3)

Adding word is done by two "textEdit" and one button to submit the data input. Then it is showed in Dictionary. (Pic. 4)

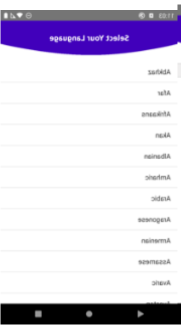
To use the "hamburger" button was inspired by workshops, it is a good way of adding more options to the app. I did not use the bottom navigation bar because there was no need for this in my app, without that option it does look clearer. (Pic. 5)

To make sure the user knows that after changing languages the data from the app will be deleted. (Pic. 6)

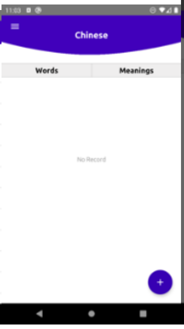
Testing the user on knowledge of words added to the dictionary, to go to the quiz the user needs to press the "hamburger" button. On the quiz screen, there is a word to find meaning to and 3 random words to peek the correct one from. (Pic. 7)This is a pretty simple testing example if I would have a bit more time, I would add more difficult testing method.



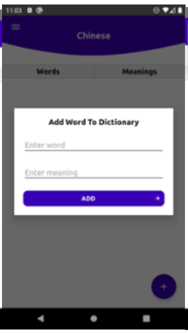
Pic. 1



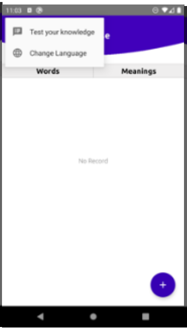
Pic. 2



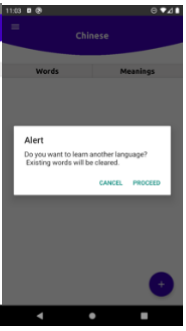
Pic. 3



Pic. 4

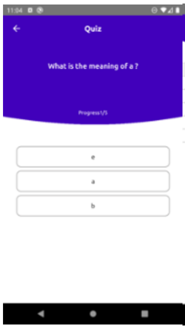


Pic. 5



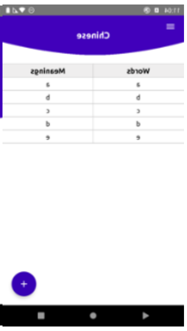
Do you want to learn another language? Existing words will be cleared.

Pic. 6



What is the meaning of a ?

Pic. 7



Words	Meanings
a	a
b	b
c	c
d	d
e	e

Pic. 8

Software design

Methodology

We used Agile Methodology for app development.

Agile software development refers to software development methodologies cantered round the idea of iterative development, where requirements and solutions evolve through collaboration between self-organizing cross-functional teams. ... Scrum and Kanban are two of the most widely used Agile methodologies.

4. Tools/Technology

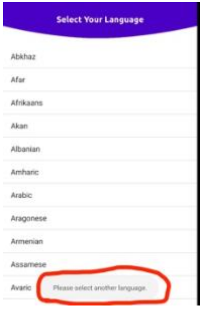
Hardware interfaces..

- Android OS, Smart Phone with minimum android version is 4.4

- Software Interface..
- SQLite for Offline Database
- Kotlin Programming language
- extensible mark up language (XML)
- Adobe XD for UI/UX design

Plan for testing the app

- **Making sure that User cannot set two the same languages in the app.**

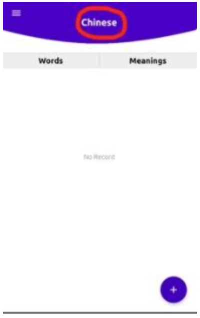


Select Your Language

Abkhaz
Afar
Afrikaans
Akan
Albanian
Amharic
Arabic
Aragonese
Armenian
Assamese
Avaric

Please select another language.

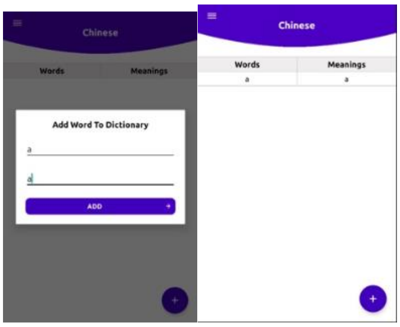
- **Check if there is correct “learning language” showing up on the top of “The Dictionary” activity.**



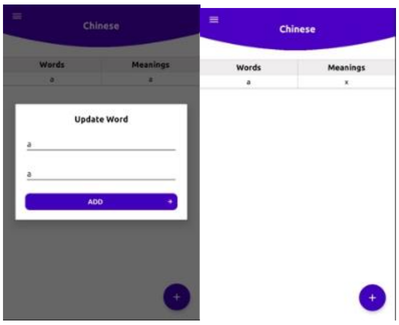
Chinese

No Record

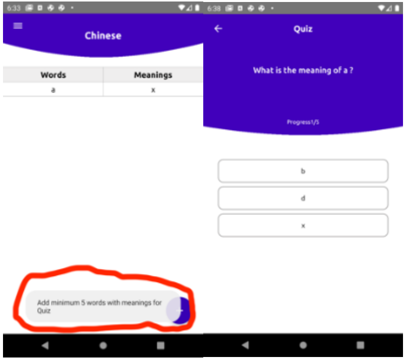
- **Check if User can add words correctly.**



- Check if User can edit added words.



- Check if User will be prompted with information if he has less than 5 words in a dictionary if wanting to test their knowledge if not it will let the user test.

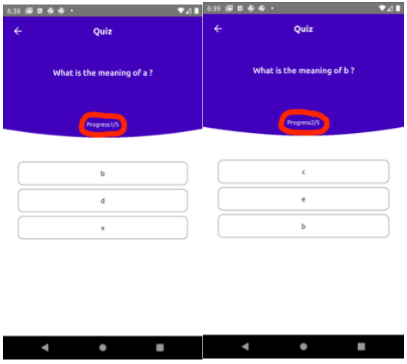


What is the meaning of a ?

Progress1/5

Add minimum 5 words with meanings for Quiz

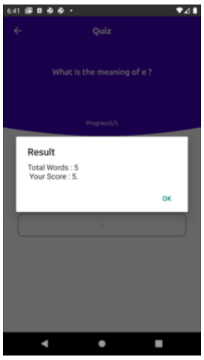
- Does testing progress work properly.



What is the meaning of a ?

What is the meaning of b ?

- Check if the user can check their score after finishing the test.



Quiz

What is the meaning of e ?

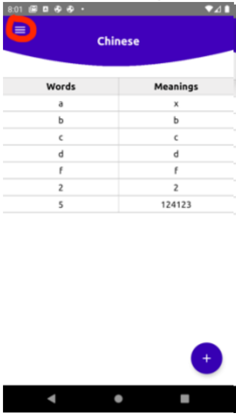
Progress5/5

Result

Total Words : 5
Your Score : 5.

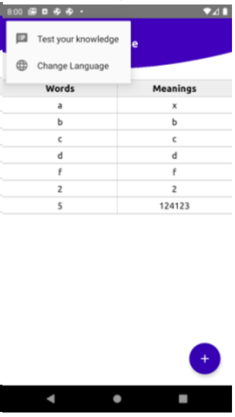
OK

- After pressing on the hamburger button there will be 2 settings to press.



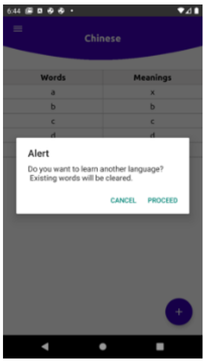
Chinese

Words	Meanings
a	x
b	b
c	c
d	d
f	f
2	2
5	124123



Words	Meanings
a	x
b	b
c	c
d	d
f	f
2	2
5	124123

- Will the user be able to change languages.

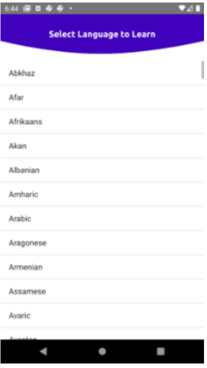


Chinese

Alert

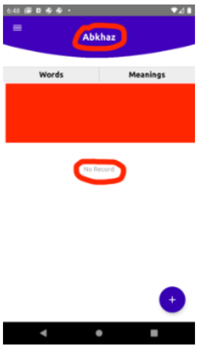
Do you want to learn another language?
Existing words will be cleared.

CANCEL PROCEED



Select Language to Learn

- Will data from the app be deleted after choosing different languages.

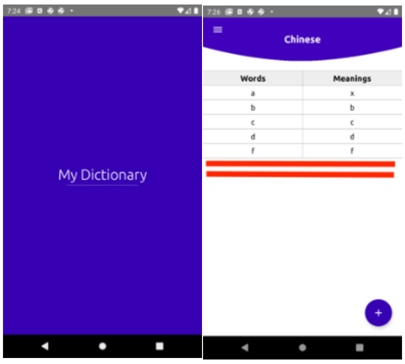


Abkhaz

Words	Meanings

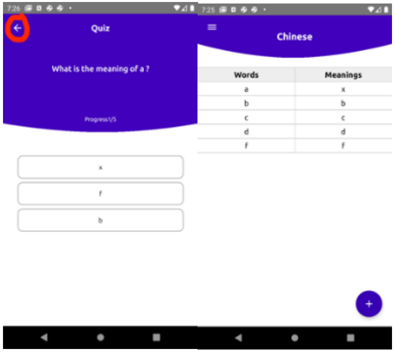
No Records

- After closing the app check if data will be still saved.



Words	Meanings
a	x
b	b
c	c
d	d
f	f

- **By pressing back arrow inside the Test will it go back to "The Dictionary" screen?**



What is the meaning of a ?

Progress1/5

x

f

b

Words	Meanings
a	x
b	b
c	c
d	d
f	f

By testing the program, I have tried to work my way through all of the functions available from the beginning to the end. In the progress of writing the tests, there was a smaller amount of them, but just by writing them all, I have added more. There were some issues by testing a specific place in the program because it was trying to test for specific "text" not if this part was in its place. All the requirements for the program were completed.

Test	Passed	Failed
Can the user choose a foreign language?		
Can the user choose a primary language?		
Does snackbar button work?		
Can the user add words with snackbar?		
Can the user edit words by pressing on them and changing?		
Does hamburger button work?		
Check if the user can run a test with less than 5 words?		
Check if the user can run a test with more than 5 words?		

Does progress move forward when answering in a quiz?		
Will the user see prompt with a warning about the deletion of app data after changing languages?		
Will data be deleted after choosing new languages?		
After closing app will app data be still available after opening it again?		

Reflection

I had a lot of problems with the design of the app, it took me a long time to prepare before starting to program the app. I spent a lot of time figuring out what this project should look like, after a while, I finally got all the “tools” I needed. The User Interface design was changed a few times through writing the application, so it was used mostly as a guideline for the final product.
What went well was finishing with fully working app and being able to fulfil all requirements. I would use more fragments instead of activities, make more possibilities of testing their vocabulary added in the app(for example test yourself on last 20 words added, removing random letters from words and User will need to fill them etc.), help setting to learn how to use the app, add animations to make the app look smoother, add haptic feedback, more sound feedback, add more images for a better look of the app, the user to see the last score from the test he/she took, record all test so the user can come back and revise them, add more languages to the list, better-looking app icon and would change default testing to randomised words. The further I will practice app development, the more details I will be able to add or change.
From the beginning to the end, I have learned a lot from this module. From hello world app to fully working final app, there was plenty of hours spent on learning to code with kotlin and using this knowledge in the android studio. This course was not only about coding, but it was about the whole app development journey.
To help me with the final year project, I have learned that preparation before starting is really important, like with all projects. Doing changes to the plan when doing actual work should be essential to make sure it will be accurate to the requirements. Always when working on the project will try to not do everything at once and save some time to make that task as perfect as possible. Trying different approaches and seeing which is the best will make the project way more effective.

By completing all tasks in the assignment, I would mark this app and documentation for 67/100.

References

- Google Developers, 2020, Android Developers, accessed 1st December 2020, https://developer.android.com/training/testing/ui-testing/espresso-testing#setup
- Google Developers, 2020, Android Developers, accessed 29th November 2020, https://developer.android.com/topic/libraries/view-binding
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