

NULI XUEXI: A MOBILE PHONE APPLICATION FOR STUDYING CHINESE



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1. Abstract

Mobile phone quiz apps are commonly being used as a studying tool by students, and their use as language learning tools is no exception to this trend. Hence, the mobile phone application proposed, *Nuli Xuexi* is a mobile phone app that permits a user to create, edit, and take quizzes that they create to improve their learned vocabulary. The ultimate goal is to aid users in committing the new vocabulary to long term memory in an attempt to obtain a better grasp on the Chinese language. Due to the importance of communication when learning or studying a language, *Nuli Xuexi* incorporated features that allow communication between users via email or text.

2. Tools

- Software and guide used in *Nuli Xuexi*'s construction is MIT's Android App Inventor 2.
- It is an accessible tool that utilises a graphic user interface builder to create the interface of the app, similar to the interface builder for Xcode.
- Behaviour of the app is programmed by manipulating blocks in the "blocks editor."
- Custom Tiny WebDB: a feature designed to work with the Tiny WebDB component in App Inventor, and it is the database *Nuli Xuexi* uses to store all the user input.
- Unlike Tiny WebDB, it is not a shared database, and does not have the limit of 1000 entries that Tiny WebDB does.



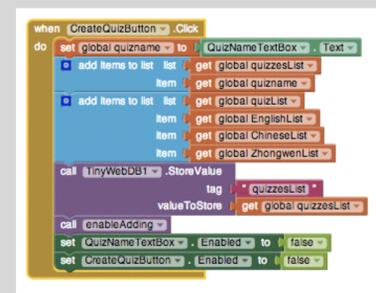
3. Design

- Designed as a mobile phone quiz app, with additional features that allow users to hold basic Chinese studying tools in the palm of their hands.
- Users can create, edit, and take quizzes on the go.
- There are three required inputs; english, pinyin (the phonetic representation of Chinese Characters), and Chinese characters.
- To take a quiz, a user must first select which type of quiz they wish to take; it has six built in quiz options, then select which quiz they wish to take.
- User can communicate with a select group of individuals by "chatting" with them.

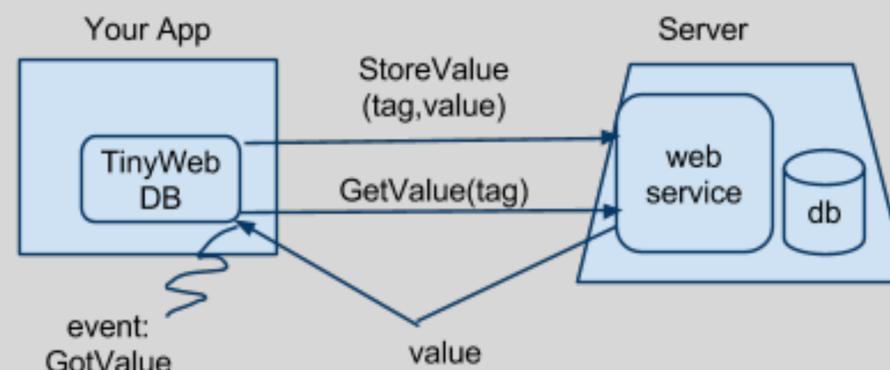


4. Implementation

- When a user creates a quiz, the quiz is saved on Custom Tiny WebDB in a list containing multiple quizzes by invoking "TinyWebDB.storeValue".
- Each quiz is stored as a list of lists, i.e., it contains three lists; the English representation, pinyin, and Chinese representation of all the words in the quiz.
- Data is retrieved from the database by calling "TinyWebDB.getValue" on the app.



Key	Value	Created (GMT)	
quizzesList	["basic", "intermediate", "advanced"]	Tue Apr 29 15:51:34 2014	Delete
intermediate	[["goodmorning", "good evening", "hello", "goodbye", "today"], ["zaoshang hao", "wanan", "nihao", "zaijian", "jintian"], ["æ-@ä, Šš ½", "æ™Šš@%oo", "ä½ ä½", "ä†èš", "ä>Šš@%"]]	Tue Apr 29 16:24:31 2014	Delete
basic	[["one", "two", "three", "four", "five", "six"], ["yi", "er", "san", "si", "wu", "liu"], [{"", "ä°C", "ä, %e", "ä>>", "™", "ä..."}]]	Tue Apr 29 15:48:08 2014	Delete
advanced	[["education", "government", "policy", "system"], ["jiaoyu", "zhengfu", "zhengce", "zhidu"], [{"æ™Šš, 2™", "æ"zä"oe", "æ"zç-", "ä†ä"i"}]]	Tue Apr 29 15:53:27 2014	Delete



- Users can create a group to communicate with their peers, and add phone numbers to the group using the "phone number picker" component in App Inventor.
- The list of numbers is stored in the database using the same "tag" retrieval method as the quiz feature, so they can be accessed later when the user wishes to send another message.

4. Evaluation

- Convenient language learning tool; creation of quizzes takes minutes, and users have access to their vocabulary on their mobile device wherever they go.
- Input method could be simplified further by incorporating a web based app that allowed users to input vocabulary on their computers as well as their phones.
- Chatting feature is a useful addition to the app as it allows users to communicate with other students in their Chinese class for example, however, if it functioned more like a forum where the whole class could interact, it could be more beneficial to the users, as everyone would have access to questions posted by their peers.
- It has not been launched on a public platform, and therefore its effectiveness as a studying tool is not yet evident.
- Additionally, because the main goal was to improve long term memory of users' learned vocabulary, it requires testing over a long period of time, which, given time constraints, could not be done.

5. Acknowledgements

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