

Senior Project Proposal

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The end goal of my proposed project is to develop an Android application written in both Java and Kotlin capable of aiding in the learning/memorization of the two phonetic Japanese character sets (Hiragana and Katakana). Two flashcard modes, one for each character set, should quiz the user on the pronunciation of each character. Audio pronunciation and optional speech recognition should be implemented using Google's Text to Speech/Speech to Text (TTS/STT) synthesizer, now native to Android. Cards themselves should be distributed dynamically using a researched method proven to aid in memorization. A Quick Start option should be customizable, allowing the user to decide which characters they would specifically like to focus on. These customized options must be persistent, as having the settings reset when the app is closed would defeat the purpose. The character sets should be stored in their own separate files and loaded in so as to allow the simple addition of new character sets for other languages. Due to the limitations of languages offered by the TTS/STT modules, the voice/audio features will be locked to the two default character sets. A tracing mode will go through the characters and have the user trace them with their finger on screen. An accuracy grading system will check the similarity of what was drawn and judge the similarity. Finally, a free-browsing mode should show an overview of every character available so the user can browse at their leisure.

Core Features

- **Flashcard mode for Hiragana.....20**

- Flashcard mode for Katakana.....20
- Tracing mode.....20
- Free-browsing mode.....10
- Customizable Quick Start.....20
- Push Notifications.....10

Flashcards

- Dynamically distributed.....10
- Audio pronunciations.....10
- Ability to load in new character sets.....10
- Voice recognition.....10

Tracing

- Accuracy grading system.....10
- Teach stroke order.....5
- Check for stroke order.....5

Total.....160

A – 140+ | B – 120 | C – 100 | D – 90 | F - <90