TECHNOLOGY REVIEW

Pronounce Live

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MEDIA SUMMARY

Pronounce Live is a mobile application that is designed to facilitate L2 pronunciation practice. The app supports 5 languages: English, French, Italian, German, and Spanish. To use this app, the user can input text as a practice item or access a pre-existing text practice item, which can be a single word or a phrase of up to 200 characters. The app generates an audio clip of text-to-speech (TTS) voice (the user can select a voice from a list of options) reading the practice item. The user then records themselves uttering the practice item. Finally, the app provides textual and graphic reports that include an automated speech recognition (ASR) transcript of their voice recording, a graphic that indicates the percentage accuracy of the user's utterance, and a report comparing their performance across multiple attempts. The interface is depicted in Figure 1.
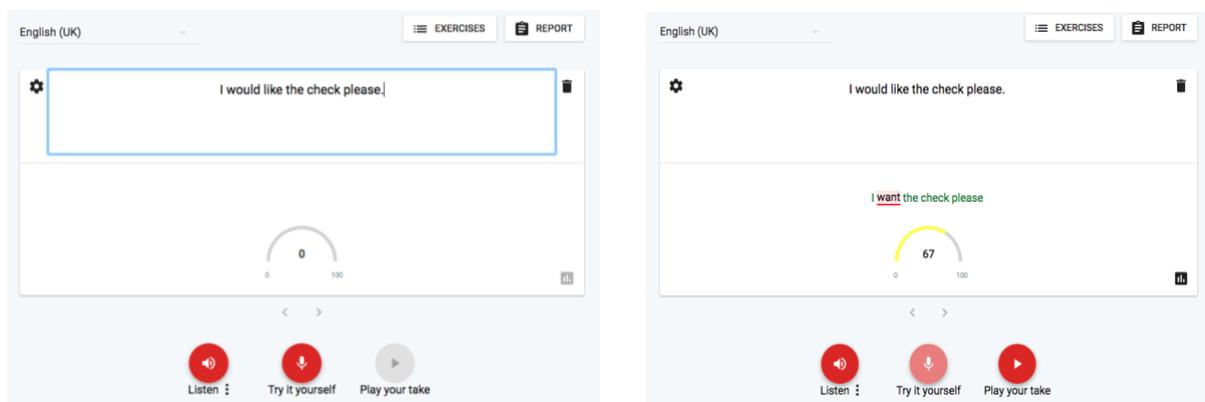

Figure 1. Pronounce Live basic practice item interface.

The target users for this application are L2 instructors and learners. Learners can use the app independently by inputting their own practice items, or by joining a group organized by an instructor. Instructors can use the app to distribute lists of practice items to their students and monitor their progress through the practice reports.

The publisher of this application is Sanako Corporation, who released the software in September, 2016. Their press release claims that with this application, "learners can practice pronunciation anywhere and anytime with the help of a tireless and always available native speech model" (Juhakoski, 2017). The software is based on their existing pronunciation product, Pronounce, which is designed to be used in a computer lab.

EVALUATION

The language learning mechanism in *Pronounce Live* is compatible with the Speech Learning model proposed by Flege (e.g. 2003), which posits that language learners' production is modeled on input. This app allows users to customize their aural input by typing the actual word or phrase that they want to learn into the interface. This feature sets *Pronounce Live* apart from other popular language practice applications on the market, which typically contain a set of pre-programmed words or phrases for users to practice, and do not permit users to add new practice items. This feature makes *Pronounce Live* a potentially useful tool for Language for Specific Purposes (LSP) teachers and learners, who could use it to encourage practicing low-frequency terminology and phraseology.

Pronounce Live also outshines other mobile language practice products in terms of the feedback it provides. Whereas popular language practice applications often provide either no feedback or undetailed feedback (for example, correct/incorrect), *Pronounce Live* provides multiple forms of feedback: an ASR-generated transcription with incorrect words emphasized, an accuracy percentage report, and the option to replay both the TTS reading of the practice item and the user's most recent recording. A feedback report that summarizes the results of each practice attempt can be downloaded as a PDF file (it is not clear whether instructors can access these reports directly through the group editor interface).

In practice, the application has some serious design flaws that impact both usefulness and usability. The app seems to function by accessing technology that is produced by other developers, such as Google. This technology includes both TTS and ASR, neither of which are designed specifically for L2 pronunciation applications. Thus, the linguistic input that the user receives is not authentic speech, but rather a computer-generated acoustic signal. Similarly, the feedback that the user receives includes a measure of accuracy in terms of percentage correct and an ASR-generated transcript. The percentage report is not very helpful, since there is no explanation provided to explain the significance of the percentage. The transcript may be useful for some, depending on their metalinguistic knowledge; however, ASR programs consider more than just pronunciation to generate transcripts (other factors include grammar and lexical frequency). Therefore, the contents of the transcript feedback may not accurately reflect real pronunciation issues. Users who attempt to trick the software or test the limits of its accuracy will find that it fails to provide feedback on some serious pronunciation problems (for example, the software often fails to differentiate between minimal pairs, especially with vowels).

Another major drawback to this application is its usability. The user interface relies heavily on graphical buttons, which is logical in an app that targets users from a range of L1 backgrounds; however, the significance of the graphical buttons is not always obvious. It is difficult to figure out how to access the text entry mode that allows users to enter their own practice items, which will certainly frustrate new users. Another usability problem relates to the list of TTS voices that users can choose from. Apparently this list is generated from metadata within the user's browser, and it includes many options with confusing labels that are listed in no particular order (see Figure 2 below).
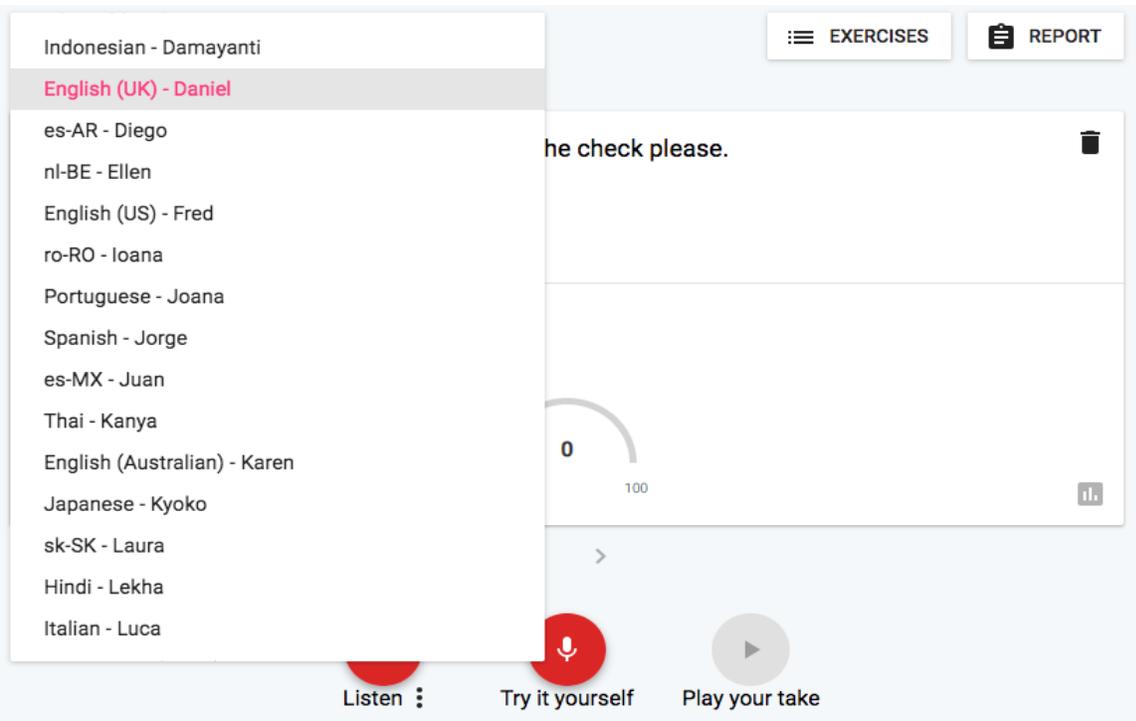
Figure 2. TTS voice selection menu.

The voices associated with the target language, in general, produce target-like examples of the practice item, but voices from other languages can be chosen to pronounce practice items. For instance, a Korean-speaking TTS voice can be selected to read an English phrase. When these options are selected, the application outputs gibberish. Because the app does not apply limits to the TTS voice option list, and no documentation explains how the list should be used, this aspect of the program is extremely confusing and negatively impacts usability. The languages supported by this application are limited and Euro-centric, which limits its usefulness as well.

RECOMMENDATIONS

Pronounce Live is an innovative concept in the field of mobile-assisted language learning (MALL). Its customizability, versatility (especially its ability to process words and phrases in 5 languages), and utility outside the traditional pronunciation laboratory make it a potentially powerful tool for language teachers and learners. Unfortunately, the problems introduced, mostly by constraints associated with TTS and ASR technology, are serious enough that many teachers will likely avoid using it. Teachers and learners who do adopt this technology should take into account the following caveats: students may have trouble using the app without ample training and in-class practice opportunities due to serious usability issues; feedback, while more detailed than most pronunciation applications, suffers from issues of accuracy and clarity; and the linguistic input provided by the application, though intelligible, is inauthentic since it is generated by a TTS program. Nevertheless, teachers might find this technology useful as a way of encouraging home practice among students and as a means of monitoring the effectiveness of home practice (using the percentage reports as a relative, not absolute, measure of students' pronunciation accuracy). One promising affordance of this application could be as a tool for practicing specialized vocabulary in an LSP context, an affordance that is not available through other MALL

applications. Ultimately, *Pronounce Live* is a conceptually interesting and potentially powerful pronunciation resource that is worth continuing to develop, especially in the event that the foundational technologies, TTS and ASR, become increasingly accurate and authentic.

REFERENCES

Flege, J. M. (2003). Assessing constraints on second-language segmental production and perception. In A. Meyer, & N. Schiller (Eds.), *Phonetics and phonology in language comprehension and production: Differences and similarities* (pp. 319-355). Berlin: De Gruyter Mouton.

Juhakoski, A. (10 April 2017). Sanako Corporation Press Release. Retrieved from http://www.sanako.com/perfect-your-pronunciation/