

## Problem & Motivation:



One of the greatest problems regarding language acquisition is getting more individuals to learn a new language fast and efficiently. When we were children, we were able to pick up a language naturally in a few months, so this wasn't a problem. However, this is not the case once we mature. According to the Foreign Service Institute, it takes anywhere between 24 to 88 weeks on average to acquire a new language, assuming that the learner has an *above average* aptitude for learning

languages, a classroom environment, time during the day, and is a native speaker of English [1]. All of these assumptions definitely don't apply to everyone, so it can take years of study and dedication in order to make the same strides as when we were infants. How then, can we keep users interested and motivated to learn? What could this mean for the world if such a task were to be accomplished? This is where the motivation comes from, for not only would there be a more globally connected population, but if successful, the system could also be expanded to other areas such as STEM or other general or specialized fields, and make intellectual endeavors a want instead of a must. This, in effect, would create a more passionate and educated population, and help in other areas to advance society as a whole. Additionally, the platform would be completely free, meaning that individuals, regardless of economic status, would be able to learn without a financial barrier and whenever is most convenient for them.

## Analysis:

It's hard for people to learn a new language due to lack of time, especially if they have other commitments. The greatest reason, however, is due to the lack of money, since not many can afford a private tutor or expensive language classes. Consequently, many decide to not even try to learn, and the ones that do soon find themselves out of funds, and eventually quit. Currently, one of the leading technologies that addresses these problems is Duolingo, which is completely free. With 300 million

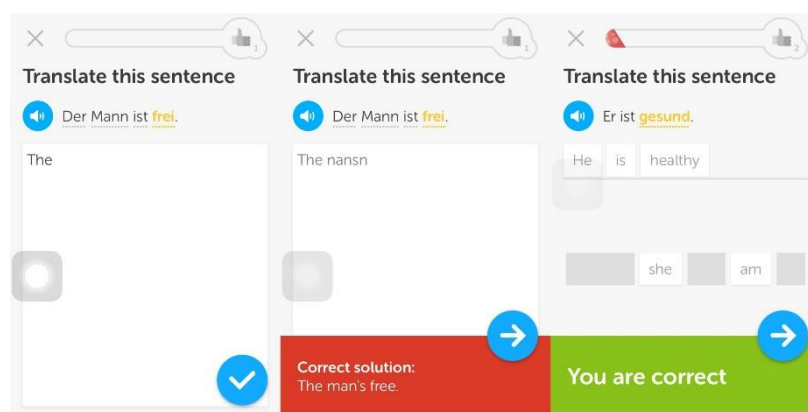


Figure 2: Example UI for Duolingo

registered users worldwide, it currently supports 32 different languages, and in every lesson, text that the user must translate to English is displayed. The user will also occasionally be prompted to translate an English sentence to its equivalent in the target language. The application then checks the answer with what native speakers say [2]. However, the downside is that a sentence will be considered correct only if it matches any of the correct answers stored in the database, which limits its effectiveness greatly.

Additionally, although it has a great user interface, it is very repetitious in the sense that the user has to constantly translates sentences, which can get boring after a while and demotivate the user. Nonetheless, it is still one of the best programs to use since the user is constantly balancing between two languages, which is what makes it so effective. Figure 2 above shows an example module interface.

Another technology that attempts to address the language-learning problem is Anki, which is also free. It employs a spaced-repetition algorithm that allows the user to revisit information just before they forget it, so that the information can be quickly moved into the user's long-term memory in a matter of two or three days [3]. Anki is incredibly fast and effective in this manner, and being a user myself I can attest to this. However, the interface isn't exactly pleasing to see, and can be off-putting for some. Providing a platform that combines the interface and interactivity of Duolingo with the spaced-repetition system of Anki, as well as adding a few extra features such as interactive reading modules or audio clips would definitely help create a powerful language-learning aid, as there currently isn't a program that has these features. Finally, a regional and worldwide leaderboard could be made in order to showcase users with the greatest number of languages learned, and possibly offer rewards as incentives.

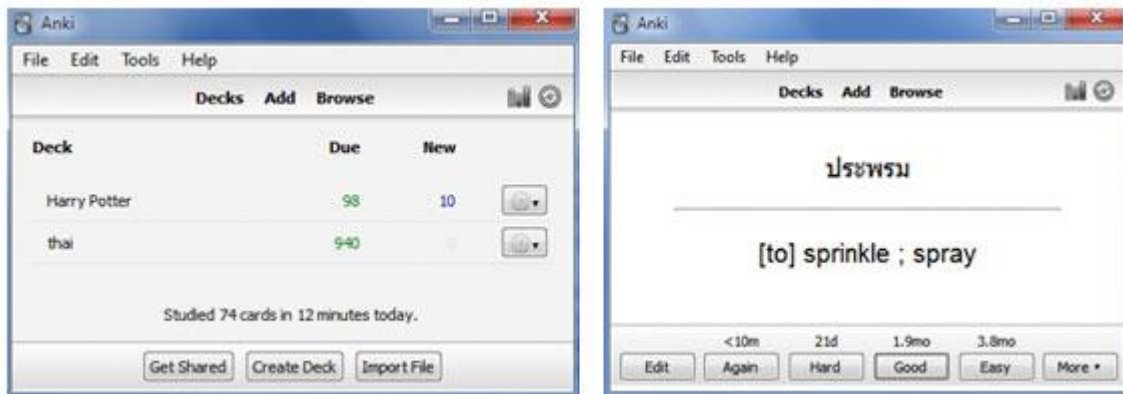


Figure 3 : The Anki interface

### Sources:

[1] : <https://www.state.gov/m/fsi/sls/c78549.htm>

[2] : <https://www.fluentin3months.com/duolingo/>

[3] : <https://apps.ankiweb.net/>

Figure 1: <https://www.fluentu.com/blog/wp-content/uploads/2015/02/14-best-polyglot-youtube-channels.jpg>

Figure 2: <http://i.imgur.com/F22RQL0.jpg>

Figure 3: <http://www.womenlearnthai.com/photos-post/anki-review.jpg>