



Computer Engineering and Computer Science

491A Senior Project Product Proposal

Academic Term: Fall 2023

Team Name: The Decision Tree

Team Members: Aiden Hock, Jacob Phillips, Nathan Wolski, Noah Daniels, Kihambo Muhumuza, Diego Garcia

Team Leader: Aiden Hock

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Product Name: NA

Product Outline:

Product's Value/Purpose: This app is meant to help people learn a different language through music. It's an interactive experience and ensures that the user will learn how to speak the language of their choosing through simple rhythms.

Vision: The user will first choose a language that they want to learn. Then, they will have a selection of only two genres (as the game goes on, they'll be able to unlock more. This will keep the user engaged). After they choose one of the two genres, the game will start. A slow beat will start to play as a drop down menu appears. Three words from the language of the user's choosing will show, as well as the translated word. A lady's voice will sound out each of these words individually when the user taps on them. These three words will be used in the upcoming song. Now the song will start...

The lady in the app will sing a line with the beat playing behind it. After the line is sung, the user will now be prompted to fill in the blanks to make the line make sense. For example, if the user chose to learn Spanish and the lady sings, "Me gusta bailando" which translated to "I like dancing"), and the word "bailando" is blanked out, then the user will have an option to choose between the three words they were shown at the start of the song to fill in for the blank. This will go on for the rest of the song in different lines and verses.

Features: When deciding on features, it is very important that each feature's value aligns with the product's value and vision.

Member Name: Kihambo

Two feature per team member for the product (Phase 1):

- Having a mode that prompts the user to choose which kind of words they want to focus on like nouns, verbs, adjectives, adverbs, etc. For this, all other types of words will be filtered out of the song. So if the user chooses "noun" mode, verbs, adjectives, and adverbs will not appear anywhere in the blanks. Just nouns.
- Changing the voice between different voices (male, female, etc.). To do this, we'll need a sample of different people's voices to make the character selection diverse enough for the user to fit their liking.

One feature per team member for next release (Phase 2):

- A rhythm game mode. In this mode, the user will have to complete the musical challenges by choosing the correct word that goes in the blank before it's sung in that part of the song. For this, there needs to be some timer that counts down in the song; the timer will initiate so by the time it reaches "0," that blank in the song is already being sung (or not if they don't choose the correct word in time).

User Types:

- o **Root admin (Super Admin):** The root admin will ensure that the application servers are up and running. If any of the servers time out, then it's this position's job to locate the issue and resolve it.
- o **Admin delegates (admin):** responsibilities include audio files in the app are always playing at appropriate times as it is integral to how the user learns how to learn a new language. Also, the admin delegates must maintain the system that prompts the user to allow audio permissions to be turned on in order to use the app.
- o **Normal Users:** turning microphone and speaker permissions on so that they can use the app to the fullest.

Target Audience: music lovers that want to pick up a language. If they don't like Duolingo because of all the reading and memorizing, learning a new language term will be easier to remember in song form.

Scope: The making of this app will include making original beats from DAW programs like FL Studio 21, Ableton, Logic Pro X, Pro Tools, etc. The music portion of this software, of course, has to be engaging and catchy so that it's more likely to stay with the user as they learn a new language.

Minimum Viable Product: on defining the smallest set of features that will make the biggest impact for your target audience, addressing market need, or resolving a pain point.

Glossary:

- **Business terms:**

- o FL Studio 21 is a DAW software program that allows the user to make music and load instruments and third party plugins from various companies. It's a paid service.
- o Ableton is a cheaper version of FL Studio, however has lesser features to work with. Still does the job if you're trying to make a simple beat pattern.

- **Technical terms:**

- o "Me gusta bailando" means "I like dancing."
- o Reference: <https://www.spanishdict.com/translate/me%20gusta%20bailando>