

## Sprint Retrospective 0

### Project Executive Summary:

**Project Executive Summary (300 - 400 words) – In your own words, describe the project and the potential value to your customers.**

This project's goal is to teach users a new language through games and activities that help the user associate actions and events with the correct phrasing in the new language. The user will be in one of 6 levels according to how proficient the user is in the language they're learning and can choose which grammar points they want to study and the topics they want to practice when using this program.

As for the lessons themselves, rather than learning by translation alone, the user will see a short clip of an event or action and the program will ask the user to describe the clip in the language being learned. Through this learning method, the correct phrasing of an event or action in a language will become hardwired into the learner's brain, which is a method that popular language learning programs such as Duolingo don't currently offer.

This project is valuable to customers since it offers a language learning program that makes use of realistic situations and scenarios to learn a language, much like how people learn new languages as they get used to instinctively recalling words and phrases without translating the entire sentence phrase by phrase. Voice recognition is one of the key features of this project and is aimed to be the main method in which the user and program interact while the user is completing a lesson. Through the use of voice recognition, this project creates a direct connection to the user through their fastest and most-used method of communication. This means that users can interact with this program faster than on other language learning programs.

Along with this, the levels and games will be designed to be fun, exciting, and interactive. By focusing on the game-related aspects of this project, this project will provide a program that users will feel fulfilled by when progressing through it. The finished product is aimed to be interactive, encouraging, and entertaining with the use of realistic language learning methods.

### Customer Archetypes:

**Customer Archetype(s)** – A description of at least 1 customer archetype. This archetype should include the duties and motivation of the customer, and the pain points that they experience, as connected to the project. Remember that customers include users, payers, and influencers.

- Language learner
  - These are the primary users of the app, and will largely be individual users seeking a way to learn a new language on their own. Their primary motivations will be grasping the fundamentals of a desired language if they're brand new to it, or advancing their existing knowledge if they have already got the basics down. If they are brand new to the language they may find it very daunting at first, so it will be necessary to ensure that there are adequate beginner-friendly features to facilitate an easy transition.
- Teacher
  - Teachers at any level (high school, college, homeschool, etc.) can use the app as a convenient platform to aid their students' learning of a particular language. It can be costly and time-intensive to research optimal teaching techniques and develop lesson plans and materials, so this app will abstract away that process and allow teachers to focus only on supplementary material and tracking their students' progress. Ideally they will want to be able to obtain objective measurements of students' performance in the app, as without it they may find it difficult to track said progress and ensure students are committing the necessary time. It would therefore be quite useful to offer a system through which individual group usage can be monitored.

**List of Customer Needs:**

**List of Customer Needs** – A detailed and complete list of *customer needs*. Remember that features and needs are different things. For each customer need, the value to the customer is described.

1. **Practice Language:** The customer needs to be able to practice learning their desired language in order for their skills to grow.

2. Appropriate Language Level: Customers need to be in a language level according to their current skill level so that they can do challenges and do lessons that teach the customer new material that isn't too challenging for them.
3. Register: The customer needs to be able to register for an account so that their progress can be saved and so they can return later.
4. Vocal Recognition: The customer needs their voice to be heard and understood by the program so that the program can give feedback on their pronunciation.
5. Navigate Pages: The customer must be able to navigate the app and go to previous pages so that they can get to the page they want to go to with the help of a menu.`

### List of Deliverables:

**List of Deliverables** – A list of potential deliverables, including expected delivery time and a brief (1-2 sentences) description of each.

-A polished version of the app in its current state. Not much adding, just making sure everything works correctly, visuals are nice, visuals are done or nearly done. 2 weeks

-Another language of the app in its current form. Changing only to a latin-based language (spanish likely). 4-6 weeks

-Adding another mini game. We are told that there are many, many game ideas. This would be starting from scratch and completing another one. 2 months

-Adding a different level to a completed minigame. Having the level working and all animations done. 3-4 weeks

-The ability to sign up with your own account. Unknown timing - unclear of the progress that has been made with this so far and unclear of priority level.

-Drawn out mock-ups of flowcharts to make sure the app is working in the way it should. 4 weeks

### Development Environment:

**Development Environment** - Include a link to your Taiga project, and a description of your choice of development technologies, including justification for choice, and discussion of alternatives.

<https://tree.taiga.io/project/kpsander-grasp-a-language>

Development for the app will be done primarily in the Unity 3D engine, which is a free game engine that supports both 2D and 3D game development. Code for the game will be written in C# via the Visual Studio 2019 IDE, which is included and heavily integrated with Unity. Assets for the game will be created mostly in Adobe products like Photoshop and Illustrator, as they are reliable and featureful tools widely used in industry.

Aside from Unity's good documentation and team members' existing experience with it, we are selecting it as our game engine of choice because there has already been existing work done on the project in this engine. This allows us to more easily build off of these assets and make more progress throughout our development. Possible alternatives should we run into issues are Unreal Engine and GameMaker.

Because Unity is closely integrated with Visual Studio by default, it is difficult to justify using another IDE. Alternatives like Visual Studio Code, MonoDevelop, and Eclipse exist, but they will not have the same level of integration even with some tweaking.

Art creation tools are the most likely to be changed, but the Adobe suite offers solid options that do not leave us with any missing features. It's possible that we may utilize some specific third party tools like aseprite for pixel art or ocenaudio for audio editing.

### Research:

**Research** - include a review of at least 4 solutions, products or technologies that can serve as inspiration, or reference for your own project design. Each of the reviews should include a brief description, and an evaluation of the solution's effectiveness (advantages and disadvantages). You are encouraged to look for solutions in a wide variety of domains that you might not at first think are applicable. "Think outside of the box" here

### LingoDeer -

The main advantage that I observed in this app is the fact that there was a sizable amount of free content available allowing a user to really try the app before subscribing. Several other applications were not so generous with free content and as a result I definitely feel less comfortable with the idea of paying money for their services. Nothing about the teaching methodology stood out. The graphics and animations were

simple, but effective. There was audio with every bit of language, though nothing that forced me to speak the words myself.

Babbel -

This one had two important takeaways. The first of them was their use of audio recording and feedback to help the user learn to speak the languages. If this is within our capabilities, then I think we should do this. The other takeaway was that in languages with a non-roman alphabet it is very helpful to begin with instruction on new characters and pronunciation. LingoDeer had alphabet instruction, but I found myself stumbling through trying to spell Japanese before I got to that part owing to the lack of suggested curriculum to direct me to the alphabet first.

RosettaStone -

RosettaStone is not mainly a phone app, although it has some ability to be on-the-go in the later versions we did not look into because we did not have free access. RS is mainly a desktop program and when it comes to teaching languages, it does so not by translating the word, but by associating the word with a picture of sorts. There are many photos, but no animations. It also seems to be really repetitive at lower levels, while once getting to the higher levels it has larger vocabulary that you are expected to remember with just as much practice, which doesn't work all that well.

Duolingo -

Duolingo is one of the top language learning mobile apps. It has a social aspect to it where you can compare your progress with friends. Rather than going in "order" you have more of a choice with the appropriate level of where you're at, namely you can choose to learn words about "travel" first or "food" in the first few lessons. The day streak is helpful to bring people back even for a bit everyday so that they can learn the new language over time. The main drawback in terms of this app is there is a direct association with the word of your native language, and the language you're learning, which is typically sought as not the best way to learn a language.