

Language Learning App

Software Requirements Specification



CSCE 247

Team Big Sneeze

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1. Introductions

Purpose:

Many students are required to take a foreign language class as a prerequisite to graduate highschool. People all over the world pick up a second language, whether to aid in their career or simply for their own enjoyment. Many foreign language teachers use several different apps to accomplish different goals. The apps that are currently available are insufficient to address all of these people's needs. The intention of this app is to fill the gap that these other apps (Duolingo, Rosetta Stone, etc) leave in the learning process, making it more difficult for learners of these apps to practice at home, in the classroom, or wherever else they may need it. .

2. Stakeholders

Misc Stakeholders:

- Big Sneeze
 - Project Manager
 - Developer
 - Designer
 - Writer
- Client
- Education System
 - Students learning foreign language
 - Foreign language teachers
 - Student administrators
- Independent Learner

Personas

BROCK MATTERHORN



AGE: 24
LOCATION:
INDIANAPOLIS, IN

MARKETING INTERN



Brock is a marketing intern at Amazon. He is a rising junior at Indiana University, studying for a bachelors in Business Management. He wants to pick up a passing understanding of Spanish before he goes on a week long vacation to Spain at the end of the summer. He only intends to be able to understand and respond to most basic questions, understand navigational ques, and navigate the city using traffic anf road signs.

GOALS

- Learn in a game like environment
- Have a passing understanding of spanish

NEEDS

The program shall:
-Flow like a game
-Use positive feedback
-Have a "level like" lesson design

VAL RICHARDSON



AGE: 34
LOCATION:
BOSTON, MA

NURSE PRACTITIONER



Val is a nurse practioner in a hospital in Boston. She attended New York University, where she attained a bachelors degree in nursing. After graduating, Val worked her way up the career ladder to the position of an nurse practioner, but now she is looking for a way to up her game. She wants to be able to progress through lessons very quickly, mastering skills as quickly as she can. She has nearly no experience with Spanish beyond intro highschool courses. Val needs an app that allows her to work at her own pace, moving faster than many other learners would chose to. Lessons need to be engaging, and very to the point.

GOALS

- Learn Spanish effectively
- Speak fluently enough to leverage in job market

NEEDS

The program shall:
-Allow users to move at their own pace
-Focus on fluency
-Include both professional and casual conversation

**SEÑOR CARLOS
MEDINA-REYES**


MIDDLE SCHOOL SPANISH TEACHER




Carlos is the son of mother from Honduras and a father from Argentina. His parents immigrated from their countries to the U.S., met, and raised Carlos in Northfield, Minnesota. Growing up Carlos got to experience the wonders of each of his parents' cultures. However, being in Northfield there aren't many Latinos to share in the festivities. Carlos went to the University of Minnesota-St. Paul to study Secondary Education and got his certification to teach Spanish. Currently Carlos has been teaching Spanish at his local middle school for 40 years. He enjoys sharing the cultures from the different Spanish speaking countries as the school year goes on. Early in his career Carlos taught by using the textbook and having students talk with one another. Over the years, his students have become more reliant on technology and more concerned with what people say online than what they say in class. There is also a growing struggle to connect with the modern student, unlike the students he taught prior. Carlos is looking for a language-learning technology platform that can energize his classroom.

GOALS

- Motivate students to learn Spanish.
- Keep students engaged.

NEEDS

The program shall,

- Provide differentiation of learning styles.
- Provide meaning exercises with feedback.
- Explore different Spanish speaking cultures.
- Provide teacher with up-to-date grades and monitor progress.

AGE: 63
LOCATION:
NORTHFIELD, MN

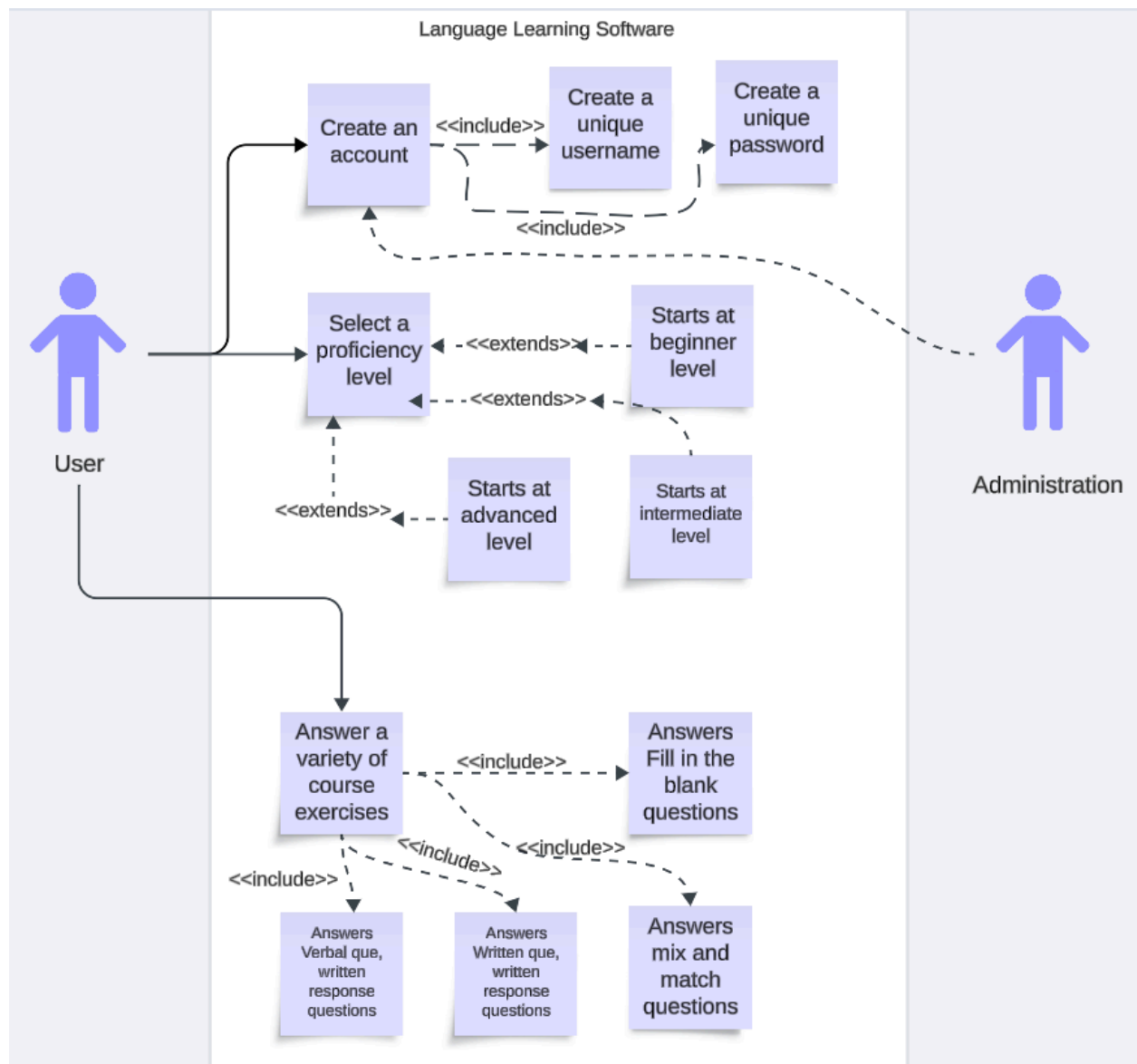
3. Constraints

- Time Constraints
 - Must be completed before project due date
- Monetary Constraints
 - Must use a budget of 0\$
- Technical Constraints
 - Must be done in Java
 - Accessible on mobile, laptop, pc

4. Description

This app must be available on the app store, to educators, students, and independent learners. Initially, the app will only offer Spanish but is intended to be easily updated to include other languages. The user will be able to log in, save their data, and track their progress in the language they are learning. Leaderboards will be included to encourage learners.

5. Business Use Cases



6. Functional Requirements

CSCE 247 - Requirements Tracker

7. Non-functional Requirements

Visual requirements:

The app must have:

- a. An agreeable colorscheme
- b. A simple menu design
- c. A simple login path
- d. Symbols to denote key buttons

Usability requirements:

The app must be:

- a. Intuitively flowing
- b. Clear and Concise in descriptions
- c. Plainly spoken

Performance requirements:

The app must be:

- a. Usable on mobile
- b. Usable on Desktop
- c. Quickly responsive

Maintainability and support requirements:

The app must be:

- a. Reusable for other languages
- b. Well documented

Security requirements:

App security must be a consideration, given that a small amount of personal information is required.

Cultural requirements:

The app must be careful to respect cultural customs when approaching language lessons. Lessons should be written to respect cultural norms and traditions of the language it is for.

Legal Requirements:

There are no legal requirements that affect the scope of this app

8. Definitions and Acronyms

App - a computer or mobile software

LLA - Language Learning App

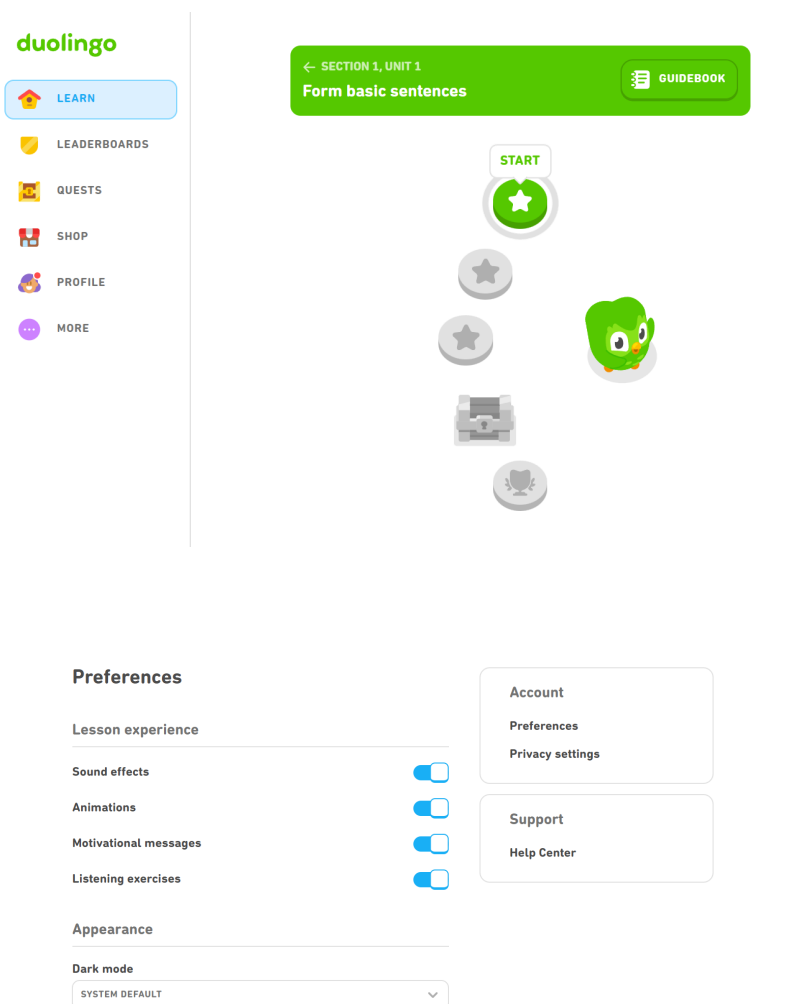
Leaderboards - a board that tracks the highest earners in a category

“This app” or “The app” - typically referring to the app this document is written for

9. Competitive Analysis

App:	Duolingo
Strengths:	<p>The app features a simple art style that is visually appealing and an easy to understand app flow (See img below). It also has multiple language choices, in which all languages follow the same lesson designs. Very well known social media memes.</p> <p>The interactive lessons have a diverse lesson style that allows students to see all facets of the language (Verbal, written). It also features different cultural phrases to allow users to have a more useful conversational toolkit. These lessons seem more like a game, with rewards for completion, than a true lesson.</p>
Weaknesses:	<p>Memes could make the app seem unappealing to educators given the aggressive nature they present (most of these were so vulgar I could not include them here). The app also has an issue with Inputs sometimes being misinterpreted, and should offer more freedom with signs, because of keyboard differences. Speech</p>

	recognition needs serious refining. Skill decay can feel like a chore.
Target Audience:	Students, Individual learners, casual learners



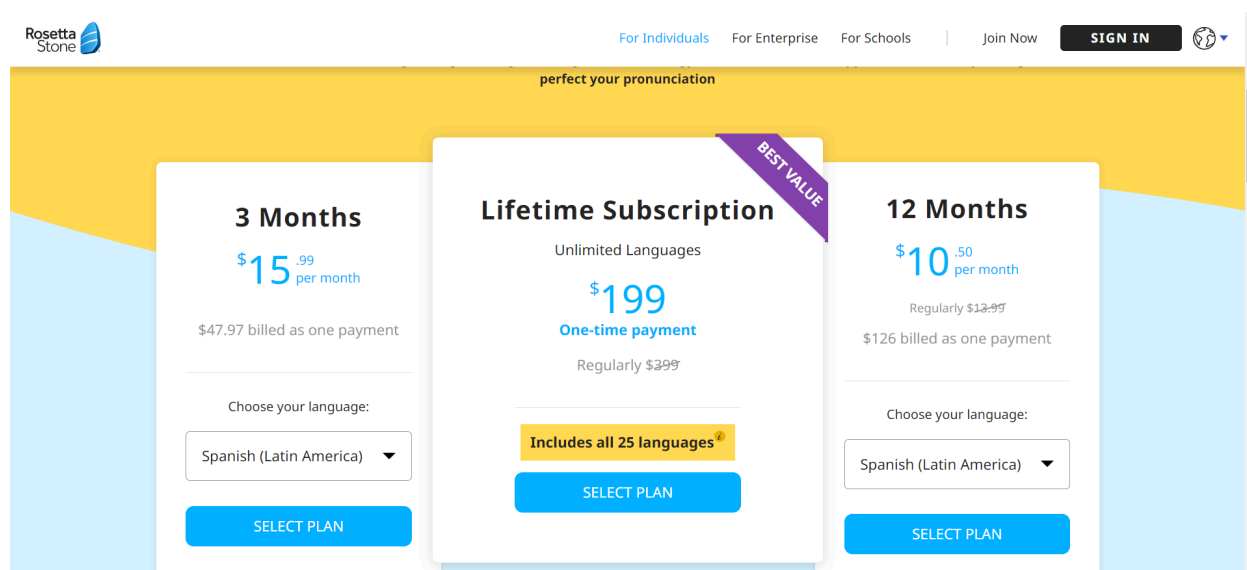
App:	Human Japanese
Strengths:	The application's biggest strength is its focus on the language it is teaching and the amount of detail it goes into for each concept, breaking down explanations of grammar to cultural reasoning for certain words; this makes it extremely effective for its target audience. Another big strength of the app is its ability to track the users progress, everything they learn is a part of a chapter in a larger unit and every chapter has a test at the end allowing users to easily see how much they've learned.

Weaknesses:	<p>The largest weakness of the application is that its textbook-like focus makes adding support for speakers of languages other than English who are trying to learn Japanese very difficult, as they would need translation and localization teams to add support for them, and this would make the application unusable to certain people.</p> <p>Another weakness of the app is its lack of features; it could seriously benefit from a way to talk with teachers or fluent speakers about units or unique language differences. It could also benefit from a more general way of vocabulary or grammar rules review to help information retention.</p>
Target Audience:	<p>The intended audience of the app is English speakers who are intent on learning the Japanese language and are willing to put more time actively studying to learn (See img below). Its main focus is to act as a digital interactive</p>



App:	Rosetta Stone
Strengths:	<p>One of Rosetta Stone's biggest advantages is its huge use in schools. This is likely related to its very long standing reputation as a trusted language learning software. In addition to this, it has an extensive administrators dashboard, allowing teachers to control</p>

	<p>their classes and monitor student progress.</p> <p>The blended learning aspects of Rosetta Stone are also another useful part of the app. Rosetta Stone features verbal and vocal learning methods, teaching students both aspects of languages. Furthermore, having a wide base of languages allows schools that teach multiple languages to do it all from a single app.</p>
Weaknesses:	<p>Many languages feature grammar issues, where the translations in the app are not reflective of the conversational meaning of some terms. The app also features no learning reminders, which many users utilize to encourage themselves to learn. Many users also complain that the learning becomes monotonous, almost school-like, after only a few lessons. Also one of the pricier options, compared to the free Duolingo, with no free version available (See img below).</p>
Target Audience:	<p>The intended audience of this app seems to primarily be primary learning institutions, such as middle and highschools, to be utilized as one aspect of a larger class structure.</p>



	Duolingo	Human Japanese	Rosetta Stone
Pros	Simple Art Social Media trends	Detailed lessons Cultural focus	Classroom adoption Blended learning

Cons	Also social media trends Input misinterpretation	Textbook-like Lacks communication with experts	Monotonous No notifications
Audience	Casual Learners	Serious Learners	Classrooms

Summary:

With the above information, we now have a much greater insight into what users want, and what they don't, and this will aid us greatly in the creation of our language learning app. First and foremost, our app must strive to avoid being monotonous, as was seen with both Human Japanese and Rosetta Stone. The gamification of learning, seen primarily with Duolingo, is one of the most important aspects in keeping users engaged and coming back to learn more. We also see, from both personal experience and online reviews, that notifications are an important part of the process, but we must remember to be careful to not "overdo" it and make the notifications more of an annoyance. In addition, we see that one of the major complaints of both Duolingo and Rosetta Stone was translation errors. We must strive to ensure our translations are as culturally accurate as possible, not just word for word translations. Learners want an app that is fun and easy to use, that allows them to feel a sense of accomplishment upon completing milestones. From this, we will go forward and create an app that will allow users to enjoy learning, reward them for completing their milestones, and equip them with the tools and confidence they need to enjoy the full benefits of learning a new language.