Language Learning Software

Software Requirements Specifications

CSCE 247: Software Engineering

The Will Thacher Company

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1. Introduction

Purpose

This project is focused on developing advanced language learning software that combines immersive and practical methods to enhance language acquisition. The software will emphasize conversational skills, grammar, and real-life situational content, making the learning process both effective and enjoyable. The goal is to simplify and enrich the language learning experience in response to the growing trend of language learning in the U.S. In 2024, 39% of Americans have set their sights on learning a new language, with 30% citing professional development as their key motivator. By offering a cost-effective and engaging solution, this project will address a significant market need and position the client as a leader in the language education field.

Source: https://preply.com/en/blog/skills-americans-learning-2024/#:~:text=English%20lessons%20online%20French%20lessons%20online%20Spanish%20lessons%20online,excel%20in%20for%20our%20students.

Scope

This document will cover:

- Personas of potential users and stakeholders involved in this project.
- Constraints and limitations imposed on the project.
- An overview of the website/app, including its business use cases.
- A detailed list of both functional and nonfunctional requirements for the app.
- A competitive analysis highlighting the project's objectives and market positioning.

2. Stakeholders

- **The user -** The user is arguably the most important stakeholder. Any application, especially one that is designed to teach, should have the user as a top priority. We want to make the application so that it is easy to use and navigate, while also providing the user with valuable information.
- **Marketing/Advertising Groups -** Individuals or groups who are interested in advertising or marketing on our platform should also be considered a top priority. It is likely that marketers would be interested in a product like this because it will reach many

individuals. All different types of people can learn new languages, making our platform valuable to a marketing or advertising agency

- **College Professors -** College professors who teach language could find this product very useful. They could use our app to help give their students an extra boost in their studies. A language learning app such as this could serve as a great supplement to higher level language education.
- **Travelers -** This product could be of interest to anyone who frequently travels. It is not uncommon for people to study the language of the land of which they are traveling to. This app could make it easy for travelers to quickly pick up part of a new language before their next vacation.
- **Students -** Students who are studying language may be interested in this app for educational purposes. They could add this program to their current curriculum in order to improve study habits and grades.
- **Content creators -** High or low level content creators could be interested in this product. Learning and understanding more about multiple languages can project content to a much larger audience.

Personas

Denzel Johnson

Age: 28
Hometown: Seattle, WA
Student: N/A
Occupation: Marketing Specialist

Bio

Alex has always had an interest in languages, sparked by occasional family trips to Mexico where they heard Spanish spoken regularly. While Alex studied Spanish in high school, the language never fully stuck, and the proficiency remained at a basic conversational level. Recently, Alex has felt a growing desire to reconnect with the language, partly due to work opportunities that involve collaborating with Spanish-speaking clients and partly because of personal interest in travel and culture.

Personality

Introvert	Extrovert
Sensing	Intuition
Judging	Perceiving

Goals

- Achieve conversational fluency in Spanish within a year.
- Improve pronunciation and listening skills.
- Develop the ability to hold business conversations in Spanish.
- Eventually travel to Spanish-speaking countries and engage with locals comfortably.

Frustrations

- Limited time due to a busy work schedule.
- Struggles with retaining vocabulary and grammar rules.
- Fear of making mistakes while speaking, leading to a lack of practice.
- Finding engaging and relevant learning materials.

Preferred Resources

- Language-learning apps (e.g., Duolingo, Babbel) for daily practice.
- Online courses with structured lessons (e.g., Coursera, Udemy).
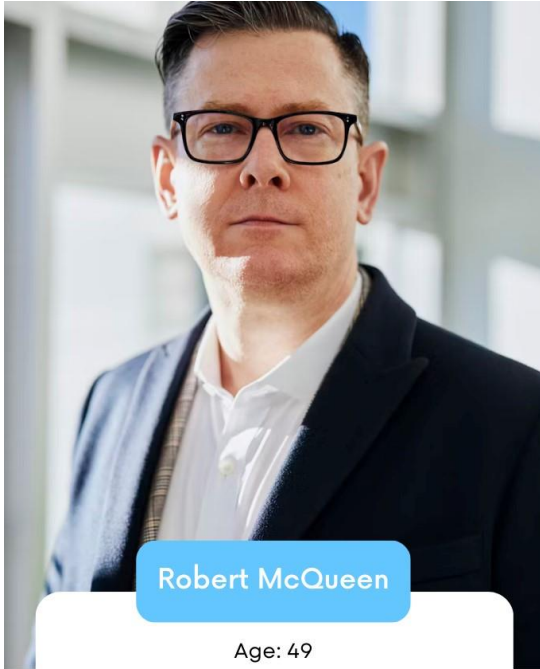
Robert McQueen

Age: 49
Hometown: New York, NY
Student: N/A
Occupation: College Professor

Bio

Robert has been a foreign language professor at New York University for 10 years. Teaching is Robert's passion and he is loved by his students and fellow staff members. He is extremely outgoing, and tries his best to interact with his students as much as possible. Recently, he has noticed that his students' grades have been slipping. His students are much less engaged during lecture, and Robert is starting to have a much harder time keeping their attention. Robert is looking for a solution to this problem that is negatively affecting his work.

Personality

Introvert. — Extrovert

Sensing — Intuition

Judging — Perceiving

Goals

- Finding a practical way to improve his students' study habits and test scores.
- Wants to implement technology in his students homework/studying.

Frustrations

- Lack of student engagement
- Pressure from administration about low test scores

Prefered Resources

Apps, websites, online books

Alex Costa

Age: 21
Hometown: Atlanta, GA
Major: Chemical Engineering
Occupation: Student

Bio

Alex is a 3rd-year college student at the University of Georgia. As part of his engineering program, he is required to take two classes of a foreign language, and chose Spanish. Alex was not required to take a foreign language in high school and has no experience with Spanish. Alex wants a simple way to practice Spanish on his own time. He wants to pass the class and has no intention of continuing Spanish.

Personality

Introvert — Extrovert

Sensing — Intuition

Judging — Perceiving

Goals

- Pass his Spanish class with at least a B
- Learn basic vocabulary and conjugations
- Quick learning without commitment

Frustrations

- Limited time due to class schedule
- Lack of interest
- Needs reinforcement with vocabulary

Preferred Resources

Language-learning apps and textbooks

3. Constraints

Budget Constraints

- The project must stay within a defined budget, which may restrict the scope of features and the level of customization that can be implemented.

Time Constraints

- Development must be completed within a specified timeframe, potentially impacting the depth of features and the extent of testing and refinement.

Accessibility Constraints

- The app must be designed to be accessible to users with varying levels of technological proficiency and disabilities, potentially limiting certain design features and functionalities.

4. Overall Description

This app must be accessible to users' mobile devices, it allows you to learn on the go and connect with a supportive community of learners and experts. Tailored to their proficiency level and learning style, this app offers interactive lessons and cultural insights to enhance your skills. Track your progress with detailed analytics and immerse yourself in real-world language use. With its dynamic approach, this app transforms language learning into an enjoyable and effective experience.

5. Competitive Analysis

	Duolingo

Strengths	Gamification enhances the learning experience with points, levels, and streaks, making it engaging and enjoyable. This method keeps learners motivated and interested over time.
	The platform offers a substantial amount of free content, making high-quality resources accessible to many. It also provides courses in a wide range of languages, including some that are less commonly taught.
	With a simple, intuitive interface, the platform is user-friendly and appeals to a broad audience. Its adaptive learning algorithms adjust difficulty based on user performance, ensuring a tailored learning experience.

Weaknesses	The platform may lack depth in covering advanced language skills and in-depth grammar compared to some competitors. This can limit the thoroughness of more complex language learning.
	The free version includes ads, which can be distracting and interrupt the learning experience for some users.
	Additionally, there is limited speaking practice available, especially when

	compared to platforms that offer real-life conversation opportunities.
Audience/Focus	The platform caters to a general audience, including casual learners, students, and professionals seeking a free or low-cost way to begin learning a new language.
	Rosetta Stone

Strengths	The immersive methodology offers full immersion in the target language, avoiding translations and enhancing language acquisition through real context.
	With decades of experience, the platform boasts a strong brand reputation, reflecting reliability and expertise in language education.
	It provides extensive content, covering a broad range of languages with deep and comprehensive material, catering to various learning needs.

Weaknesses	The platform has a higher price point compared to many competitors, which may be a consideration for potential users.
	It is less gamified and interactive than some alternatives like Duolingo, potentially affecting user engagement and motivation.
	Additionally, some users find the interface less modern and engaging, which could impact the overall user experience.

Audience/Focus	The platform is aimed at serious language learners, professionals, and individuals seeking in-depth, immersive learning experiences.
	Babbel
Strengths	The platform emphasizes practical conversational skills and grammar, focusing on real-life usage. Content is structured around real-life situations, making it highly practical and relevant for everyday conversations. Lessons are designed to be short and effective, allowing for quick learning and easy integration into a busy schedule.
Weaknesses	The platform requires a subscription, which might be a barrier for some users. There is limited free content available compared to platforms like Duolingo, which could restrict access for those not willing to pay.

Audience/Focus	
	The platform targets learners seeking practical, conversation-focused language instruction, including travelers and business professionals.

Summary

	Strengths	Weaknesses	Focus
Duolingo	+Gamification +Free Content +User-friendly	-Lacks advanced language skills - Lots of ads	General audience of casual to professional seeking learners
Rosetta Stone	+Language acquisition through real context +Strong brand +Extensive content	-Expensive -not gamified -outdated interface	Aimed at serious learners for business or casual use
Babbel	+Real-life usage training +Practical +Short lessons	-Requires subscription -limited free content	Audience of practical language learners such as business professionals

To effectively compete in the language learning market, your software should focus on several key areas. Leverage gamification or other interactive elements to keep users motivated and engaged throughout their learning journey. Ensure that your content strikes a balance between accessibility for beginners and depth for advanced learners, catering to a wide range of user needs. Consider implementing various pricing models or offering substantial free content to attract users while providing clear value. By addressing these aspects, our software can stand out by delivering a unique blend of engaging, practical, and comprehensive language learning experiences.

6.   Requirements

Requirements for the program are listed in the below spreadsheet.

https://docs.google.com/spreadsheets/d/1iRlO33zjfv4VgK9rbIgVIR_cDgbssZCrrXIsnN_zpvo/edit?usp=sharing