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LingoLizard

Functional Specification

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# Introduction

This specification provides all functionalities and requirements for this application. It offers detailed descriptions and illustrations to aid in directing the creation and validation of LingoLizard.

LingoLizard seeks to address the need for language education by employing real-time conversational learning to rectify spelling and grammar.

## Project Scope

### Project Objectives

The objective of this project is to carry out each of the requirements and functions mentioned in this document. To create a good user experience and encourage users to want to use this website and build a habit of practising their language of choice.

### Target Audience

This project's target audience is users trying to learn a language but do not know anyone who can speak that language they can practice.

Other language applications might focus more on learning languages by learning basic words without context, it can be hard to know where to use what you learn in certain situations.

This project will be useful for people not interested in being fluent and want to learn simple phrases for travelling.

# Problem and Proposition

## Problem Statement

Acquiring proficiency in a foreign language is exceedingly challenging, and regrettably, there is no silver bullet for this problem. Language learning can be accomplished in a variety of ways, including immersion and school-based approaches. For people wanting to learn through immersion, they need to be surrounded by the language therefore without travelling will need to listen to movies, songs or podcasts in their target language. This is helpful but they are unable to practice real-time conversation.

## Value Proposition

LingoLizard offers a solution by combining personalised lessons, real-time conversations and gamification elements to keep the user engaged.

# System Overview

This section provides a high-level view of the LingoLizard system. It includes a diagram showing how the system will work, along with assumptions and dependencies.

## System Context Diagram

## Assumptions

* Users are comfortable with text-based communication.
* Users have reliable internet access.

## Dependencies

* **Web browsers:** Chrome, Firefox, Safari, and Edge for browser-based access.
* **Database management:** Hosted on PostgreSQL to store user data and progress.
* **Rasa Framework:** Used for building the conversational AI engine, providing intent recognition and real-time feedback.

# Requirements

This section covers the website's features that are necessary for it to operate as expected and deliver a good user experience.

## Functionality

### Core features

* **Provide real-time conversation lessons:**  
  Offer lessons across multiple languages with options for different skill levels.
* **Real-time feedback and corrections:**  
  Use AI to detect grammar, pronunciation, and vocabulary errors and offer instant suggestions for improvement.

### additional features

* **Track user progress:**  
  Maintain a user profile that visualizes achievements, completed lessons, and areas for improvement.
* **Include gamification:**  
  Introduce streaks, leaderboards, and points.
* **Provide role-play scenarios:**  
  Provide everyday scenarios for practice.

## Usability

* **User-friendly interface**  
  Keep navigation simple for users to access lessons.
* **Multi-language support:**  
  Ensure the website can be used by a global audience.
* **Supports mobile and desktop use:**  
  Make the platform available across all devices.
* **Provide reminders and notifications:**  
  Use notifications and reminders to remind or alert users.

## Reliability

* **Ensure the bot is available 99% of the time:**  
  Minimize downtime to maintain a seamless user experience.
* **Back up data and log errors:**  
  Implement regular backups and logging of errors.

## Performance

* **Keep responses fast:**  
  Chatbot responds in seconds to ensure a smooth user experience.

## Security

* **Ensure user data is private and protected:**  
  Comply with GDPR to keep users' data safe.

# Use case Diagram

# Detailed use case

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Name: | Start Lesson | Uniquid: | UC001 |
| Description: | Creates an instance of the chatbot using the user’s progress as memory | | |
| Actor: | User | | |
| Pre-conditions : | * User must be registered and logged in * Chatbot must be operational * User must have an internet connection | | |
| Trigger: | The user clicks the start lesson button in the main menu | | |
| Main Path: |  | | |
| Post Conditions: |  | | |
| Alternative Flows: |  | | |

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Name: |  | Uniquid: | UC002 |
| Description: |  | | |
| Actor: |  | | |
| Pre-conditions : |  | | |
| Trigger: |  | | |
| Main Path: |  | | |
| Post Conditions: |  | | |
| Alternative Flows: |  | | |