PROTOTYPE+USER STUDY

VR LANGUAGE LEARNING & TRANSLATION APPLICATION

Priyanshi Singh (Project B)
Radha Kapse (Project A)

VR PROJECT

About This Project

Overview

Our language immersion VR application offers users a unique opportunity to practice different language skills in a safe and interactive environment, specifically designed to simulate a restaurant setting. Diverse feature aims to provide users with practical language practice through dialogue prompts and English translations, fostering confidence and proficiency in language communication.

Platform

iOS

Key Focus

Immersive language learning

Cultural Context

Reducing Language Anxiety

Virtual Reality Translation

Safe Space for Practice

3D Interaction

PROBLEM

- Foreign Language Anxiety
- Cultural Understanding & Multilingual
- Difficulty in Remembering Vocabulary
- Inability to Practice in Diverse Scenarios

&

SOLUTION

- Real-Time VR Translation Overlay
- VR Translation Language Learning
- 3D Interactive Translation
- Virtual Role-Playing Scenarios
- VR superpower: Switching Roles
- Visual Dictionary
- Contextual Learning Scenarios

📍 Preparation

DESIGN PROCESS

ITERATION 1 (Old Prototype)

Ideate

Brainstorming (Miro Board)
Literature Review
Objective & Goals
Initial Research & Analysis

Design

Wireframing
Hifi-Prototype
Implemented core features and functionalities

Testing

Self Usability testing

Refinement

Prototype UI and feature accessibility refinement.

ITERATION 2 (New Prototype + User Study)

Review and Analyze Feedback

Identify Areas for Improvement
Identify Weaknesses
Defined New Goals

Study

User Research
User Study
Pre-Survey (5 users)
Post-Survey (6 users)

Design

Revised the prototype
New interaction flows

Testing

Usability Testing (6 users)
Gathered feedback using post-survey on the revised design, usability improvements,

Finalization

Incorporated feedback from usability testing into further iterations of the design

DESIGN PROCESS

01 - Ideation

- Brainstorming
- Miro Board
- Research
- Survey

02 Research and wireframe

- Survey
- Pre-Study
- Post-Study
- User journey
- User Flow
- Low Fi testing

03 Hifi Design

- Figma Prototyping
- Design Main Cases
- Design Use Cases
- Design UI

04 Prototyping

- General Prototype
- Usability Testing
- Gather Feedback
- Design Revision

Testing

- Usability Testing
- Survey Q/A
- User Flow Test
- UI Flow Test
- General Testing

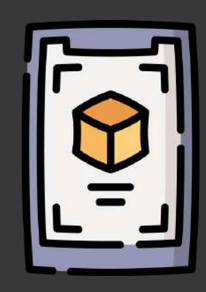
USE CASE (Solution)

VR LEARNING

Creating an easy yet unique online platform for people who are looking forward to learn new languages in a interactive & immersive way. The VR Learning app offers immersive, interactive learning experiences through virtual reality technology, .

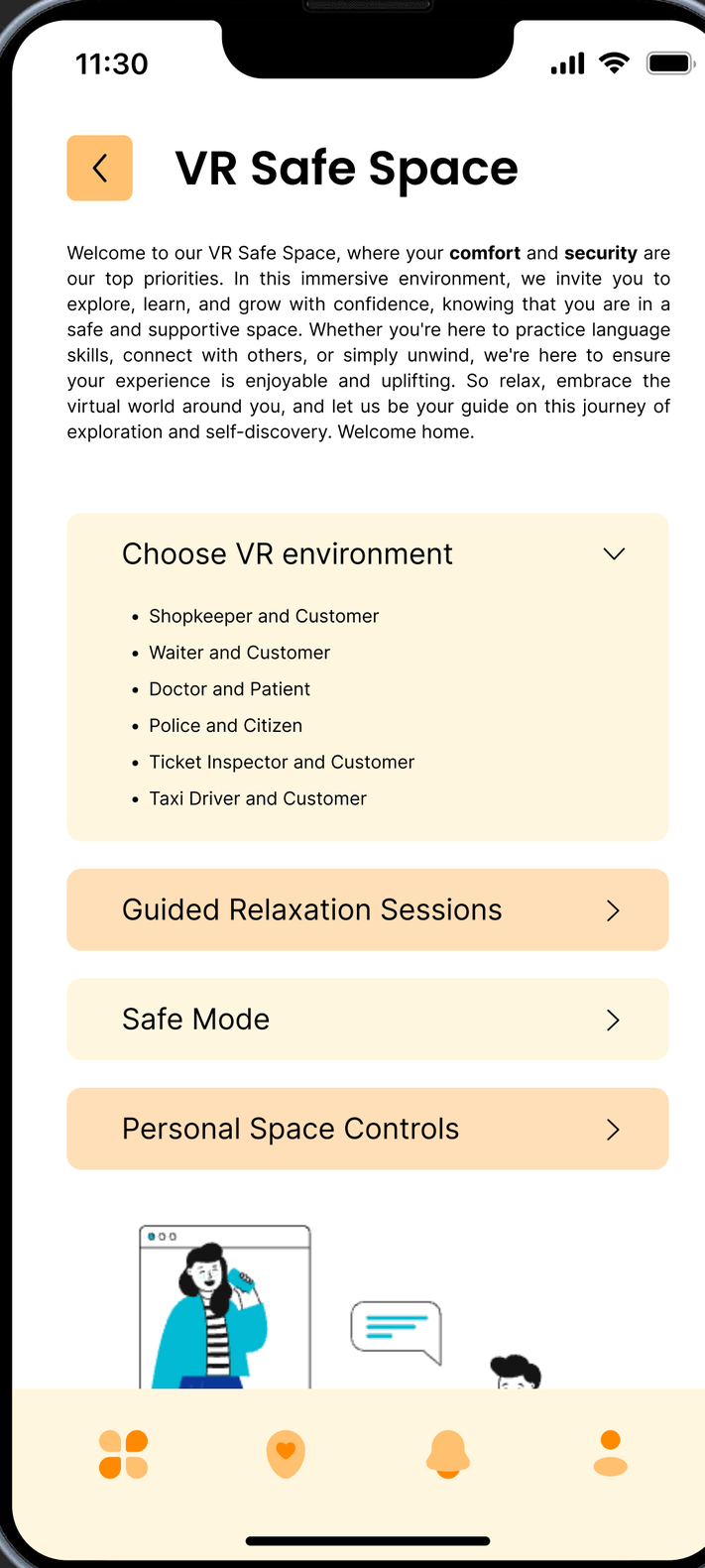
VR SUPERPOWER

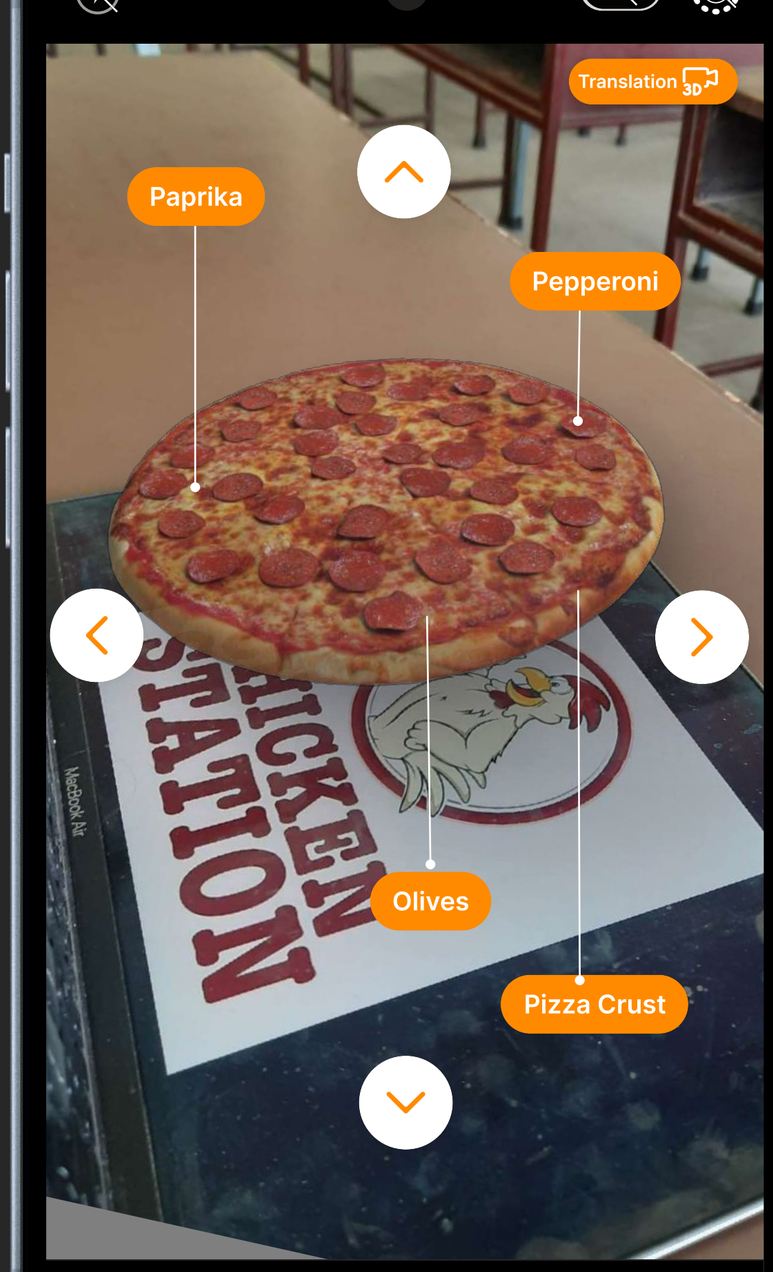
The VR Safe Space feature enables users to practice language learning by “switching roles” in a supportive virtual environment. Through role-play exercises, users can overcome language anxiety, build confidence, and prepare for real-life interactions in a gamified setting.



3D INTERACTION

VR 3D Interaction Learning provides immersive, hands-on experiences for deep understanding through virtual reality technology. Users engage with lifelike environments, objects, and scenarios, fostering dynamic and engaging learning opportunities.





User Study

Pre-Study (5 Users)

SURVEY

We did a pre-survey (without showing them the app) with **5 potential users** in combination to know their **views, experience** and to collect **quantitive and qualitative data**. The target audience were young adults.

> What features or resources would you find helpful in a language learning platform to simulate realistic environments for practice (e.g., virtual reality scenarios, role-playing exercises, 3d View)?

- Role-Playing Exercises
- Virtual Reality Scenarios
- 3D View

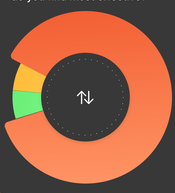
> On a scale of 1 to 5, how challenging do you find it to remember new words or objects you encounter during language learning sessions?

- 65 %
- 20 %
- 15 %

> Have you ever felt anxious or self-conscious when attempting to use the language you're learning in a real-life setting?

- Yes
- No
- Sometimes

> Do you find visual aids helpful in remembering words or objects? (e.g., images, videos, 3D models) do you find most effective?



- Yes
- No
- Maybe

Survey

Post-Study (6 Users)

We did a post-survey (when the user tested out the app) with 6 **potential users** in combination to know their **views, experience** and to collect **quantitive and qualitive data**. The target audience were young adults.

> What features or resources would you find helpful in a language learning platform to simulate realistic environments for practice (e.g., virtual reality scenarios, role-playing exercises, 3d View)?

- Role-Playing Exercises
- Virtual Reality Scenarios
- 3D View

> How well did the VR translation feature help you remember words or objects and their translations?

- Very Well 57.1 %
- Satisfactorily 42.9 %
- Not very well 14.3 %

> Did you find the option to switch roles (e.g., from customer to waiter) helpful in practicing language skills from different perspectives?

- Yes 57.1 %
- No 28.6 %
- Sometimes 14.3 %

> How useful did you find the safe space feature with dialogue prompts for practicing language learning?

- Very Confident (3/6 users)
- Moderately (2/6 users)
- Satisfactory (1/6 users)

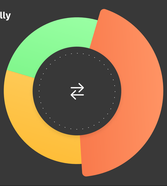
Survey Answers

User Study (6 Users)

From the survey that I have done, I did filtering, and got 6 people for direct survey for qualitative data.

Does any of these augmentations lead to learnings, or did they distract you from really learning, etc.?

- Yes, some of the augmentationsenhanced my learningexperience (3/6 users)
- It's difficult to determine, as some augmentations were helpful while others were distracting. (2/6 users)
- I'm unsure, as I didn't notice any significant impact from the augmentations. (1/6 users)



How confident do you feel in your ability to recall and use the translated words or objects in real-life situations?

- Very Confident 71 %
- Moderately 14 %
- Satisfactory 15 %

📍 Define

USER PERSONA 1

Full Name	:	Pushpank Mishra
Date of birth	:	July, 13 1997
Age	:	26 Years old
Job	:	Test Analyst
Location	:	India

Statement
I want to come to learn German before coming to Germany and I want to practice the language.

About

Pushpank, a young adult employed as a Test Analyst in India, has a keen interest in learning German. He has completed bachelor's degree in computer science and now he aspires to pursue further studies in Germany. Despite dedicating considerable time to various language learning applications, Pushpank finds them to be overly simplistic. He struggles with implementing the acquired vocabulary in real-world scenarios and preparing himself for the challenges of daily life in Germany.

Personality

- Hardworking
- Learning Enthusiast
- Interested
- Imaginative

Goals

- Learn German Language.
- Build confidence in speaking and understanding German.
- Overcome language anxiety.
- Get complete and clear order details.
- Enhance vocabulary retention.

Frustations

- Lack interactivity and fail to keep motivation high.
- Feeling self-conscious and anxious about making mistakes or not being able to communicate effectively in real-life situations.
- Lack of opportunities for practical application of language skills in authentic cultural contexts.

📍 Define

USER PERSONA 2

Full Name	:	Elissa
Date of birth	:	May, 10 2001
Age	:	22 Years old
Job	:	Graphic Designer
Location	:	Germany

Statement
Enhancing conversational German skills for potential job opportunities in Germany.

About

- Elissa is a skilled graphic designer currently living in the United States.
- She has always been fascinated by German culture, history, and language.
- Anna recently learned about potential job opportunities in Germany and wants to improve her German language skills to increase her chances of securing employment there.

Personality

- Hardworking
- Smart
- Interested
- Thinking
- Agile
- Adapt

Goals

- Elissa's primary goal is to achieve fluency in conversational German to comfortably communicate with colleagues and clients in a professional setting.
- She is motivated by the prospect of living and working in Germany, experiencing a new culture, and advancing her career in graphic design.

Frustations

1. Difficulty pronouncing German words.
2. Challenges with German grammar.
3. Time constraints for learning.
4. Lack of confidence in speaking.
5. Feeling stagnant in progress.

Empathy Map

What does user

Think & feel

Frustrated by the complexity of German grammar and vocabulary

Anxious about communicating effectively during his life in Germany

Motivated to learn German before coming to Germany for further studies.

Motivated to improve his language skills for personal and professional growth.

hears his own frustration and self-doubt when practicing German pronunciation and grammar.

Frustrated by his lack of progress in learning German.

sees the potential benefits of being bilingual in her career and personal life.

hears native German speakers speaking quickly and fluently, which can be intimidating

User sees natives effortlessly conversing in German, which inspires him to improve his language skills

What does he

Hear

hears his coworkers and friends speaking Spanish fluently, which motivates her to improve

What does he

See

hears encouraging feedback from language teachers and tutors

He sees language learning resources and apps but struggles to find one that meets his needs for practical, real-world practice.

hears his own self-criticism and doubt when practicing German.

User sees German signs, menus, and announcements during his travels, reminding him of the importance of learning the language.

Practices German vocabulary and phrases using language learning apps on his smartphone.

I often feel embarrassed or anxious when speaking German in front of others.

I struggle to find time for language classes with my busy work schedule

I wish I could practice German in realistic situations (like ordering food or asking for directions).

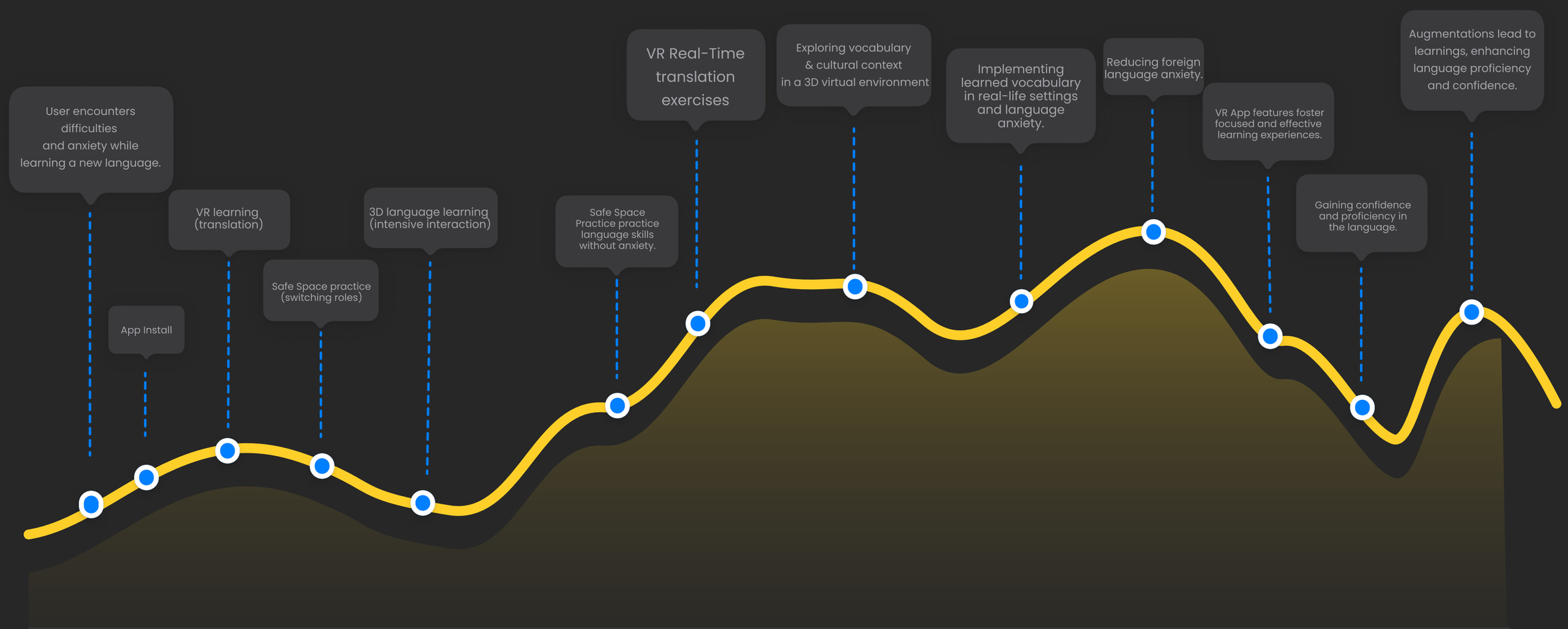
What does he

Say and Do

USER JOURNEY MAP

Discovery Phase	Exploration of Features	Engagement and Learning	Overcoming Challenges	Building Confidence

APP JOURNEY



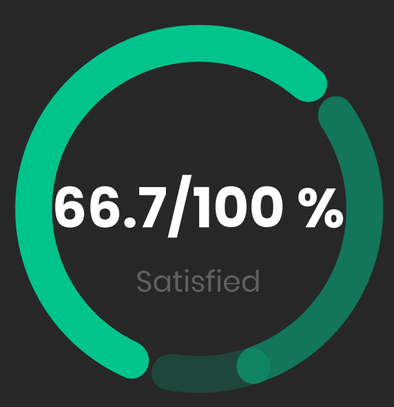
Problem Identification	Discovery and Installation	Exploration of Features	Engagement and Learning	Reflection
User encounters difficulty in learning a new language and experiences foreign language anxiety.	User discovers the VR language translation learning application and installs it to address language learning challenges.	User explores the three main features of the app: VR language Learning (translation), Safe space practice and learning, and 3D language learning (intensive interaction).	User finds the interactive and immersive nature of the VR app helps in overcoming language learning challenges.	User reflects on their learning experience and assesses the effectiveness of each feature. Augmentations provided by the app lead to enhanced learning and skill development without causing distractions.

USER JOURNEY

1. User faces difficulty learning a new language and experiences foreign language anxiety.
2. User installs VR language translation learning application.
3. User discovers three main features of the VR Application.
4. User engages with each feature to address language learning challenges.
5. User reflects on engagement and learning outcomes from using each feature.
6. User overcomes language learning challenges with immersive VR experiences.
7. User assesses effectiveness of augmentations in enhancing learning without distractions.

SUMMARY

Satisfaction Range

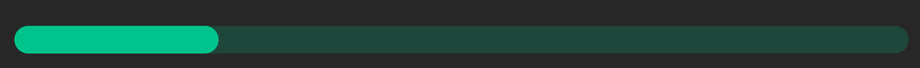


Satisfaction Percentage

- Main feature
  4/6 Users Satisfied
- Use Cases
  4/6 User Satisfied
- User Journey
  3/6 Users Satisfied

Total respondent

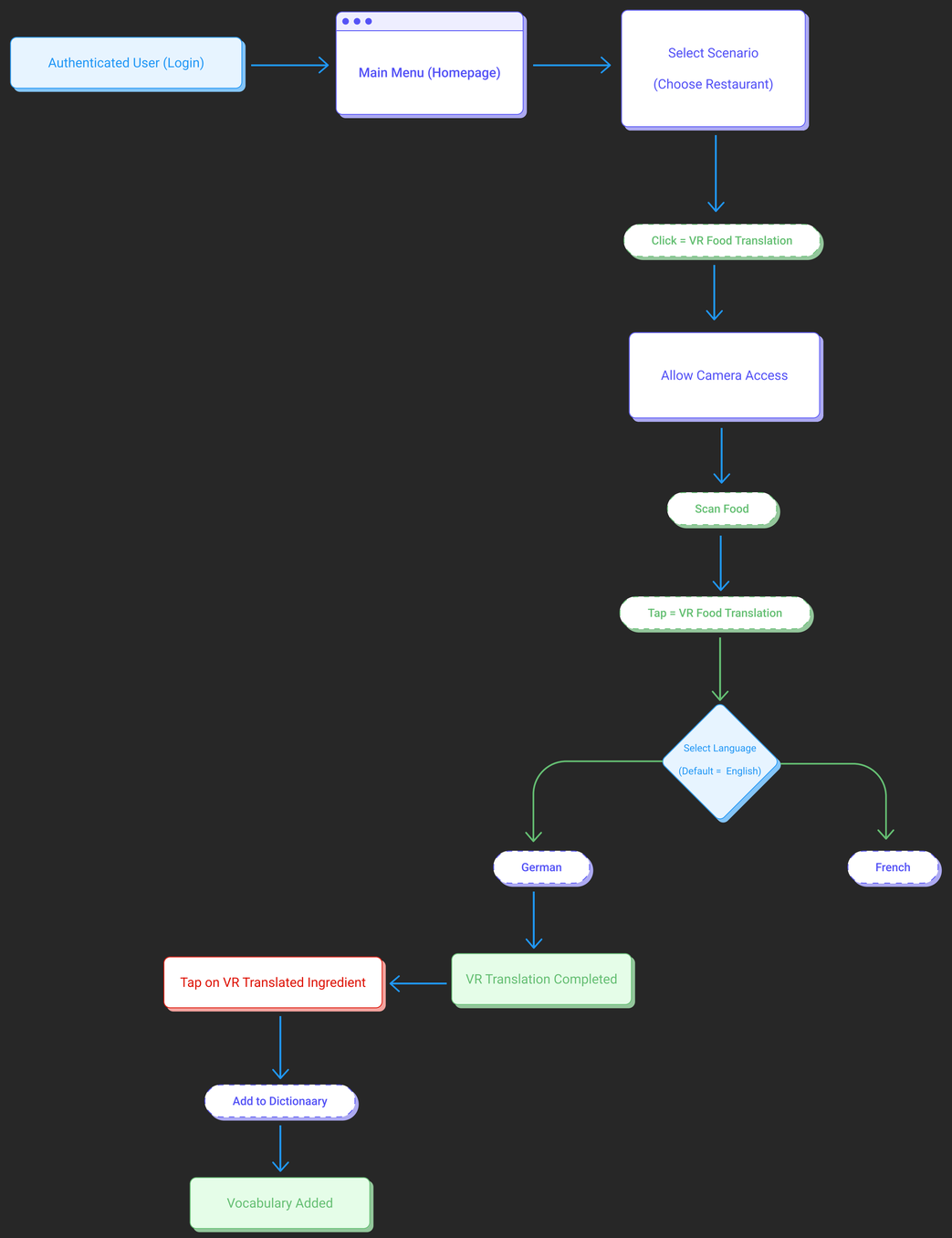
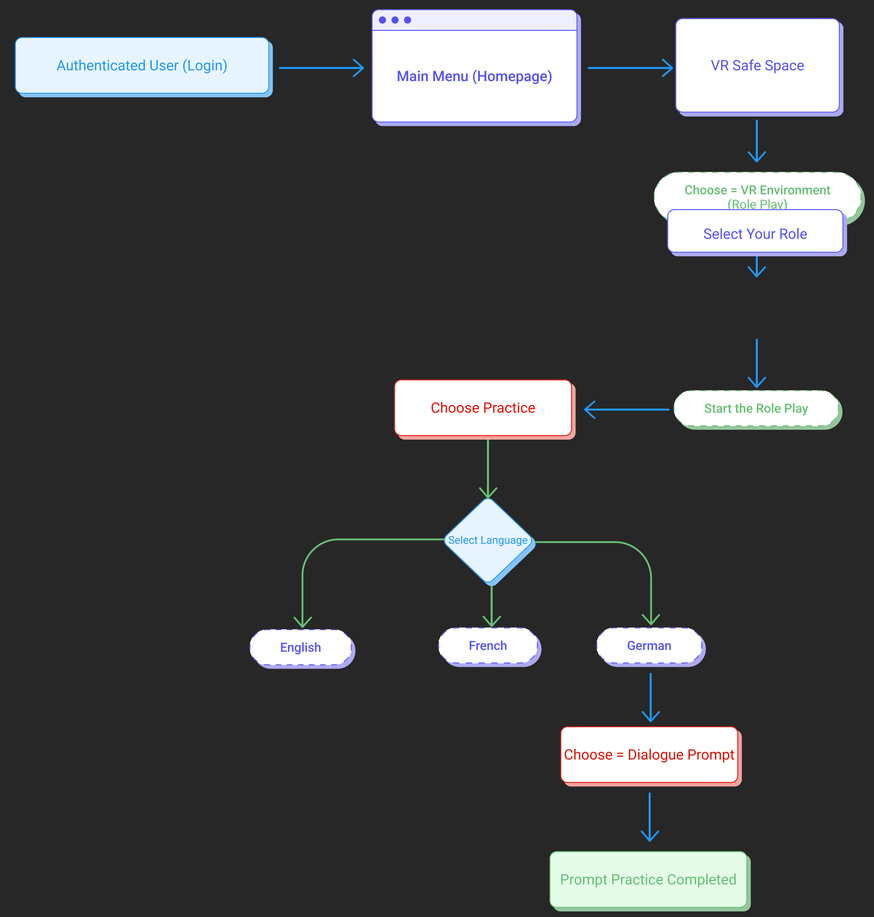
6 Total



- Satisfied
  4 users
- Non Satisfied
  2 users

USER FLOW (TOWARDS PROBLEM SOLVING)

Feature 1: VR TRANSLATION



Feature 2: Safe Space Practice