



Lab Language



Multi-lingual translation using AI

Team Translators : Faran , Tlmothe , Homan , Dhayria



Team Idea



Product Manager
Homan

Student @University of Padova 🇮🇹



Product Manager
Dhairya

Senior Software Engineer 🇮🇳



Front-End Developer
Faran

Full Stack Software Engineer 🇵🇰



Back-End Developer
Timothe

Student @ETH Zürich 🇨🇭

Timeline

AUTONOMOUS AGENTS HACKATHON

18 - 21 AUG | Virtual



</Beginner Level>

Build the future
def create_solution

Let the hacking begin!
import ideas

lab lab ai

StableCode Hackathon

24 hours

24.08

AudioCraft Hackathon

Coding victory awaits
win = True

Build the future
def create_solution

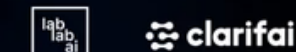
Let the hacking begin!
import ideas

30 08

</Intermediate Level>

Llama 2 Hackathon with Clarifai

3 DAYS AUG 25-28



Problems

Problem 1

Language learning often lacks interactive methods to practice translation and pronunciation skills.

Problem 2

Need for real-time feedback on translation accuracy.

Solutions

An app that provides a **dynamic** solution

Solution 1

Receive a random sentence in a chosen language.

Solution 2

Translate & pronounce it.

Solution 3

Get real-time feedback on the correct translation.





Olivia
Content Creator



James
Traveler



Sebastian
Gamer & Student



Juliana
Business Expert

USE CASE & Target Audience

- **Language Enthusiasts:** Improve translation & and pronunciation skills.
- **Travelers:** Get quick practice before trips.
- **Students:** Fun, interactive revision tool.
- **Business Professionals:** Enhance language skills for global interactions.

Key Metrics & Numbers

Market Size

What **we Offer**:

- Instant Audio Feedback
- Scalability
- Integration Ready

\$44.8B

by 2031

40%

Asia-Pacific region is the **largest** market accounting for 40% of the market share

17.3%

growing at a **CAGR** from 2022 to 2031

Future Potential

- Expand Languages
- Faster
- **Higher** Complexity
- Personalization

TAM - *Total Available Market*

- 3.6 billion global internet users who consume news online

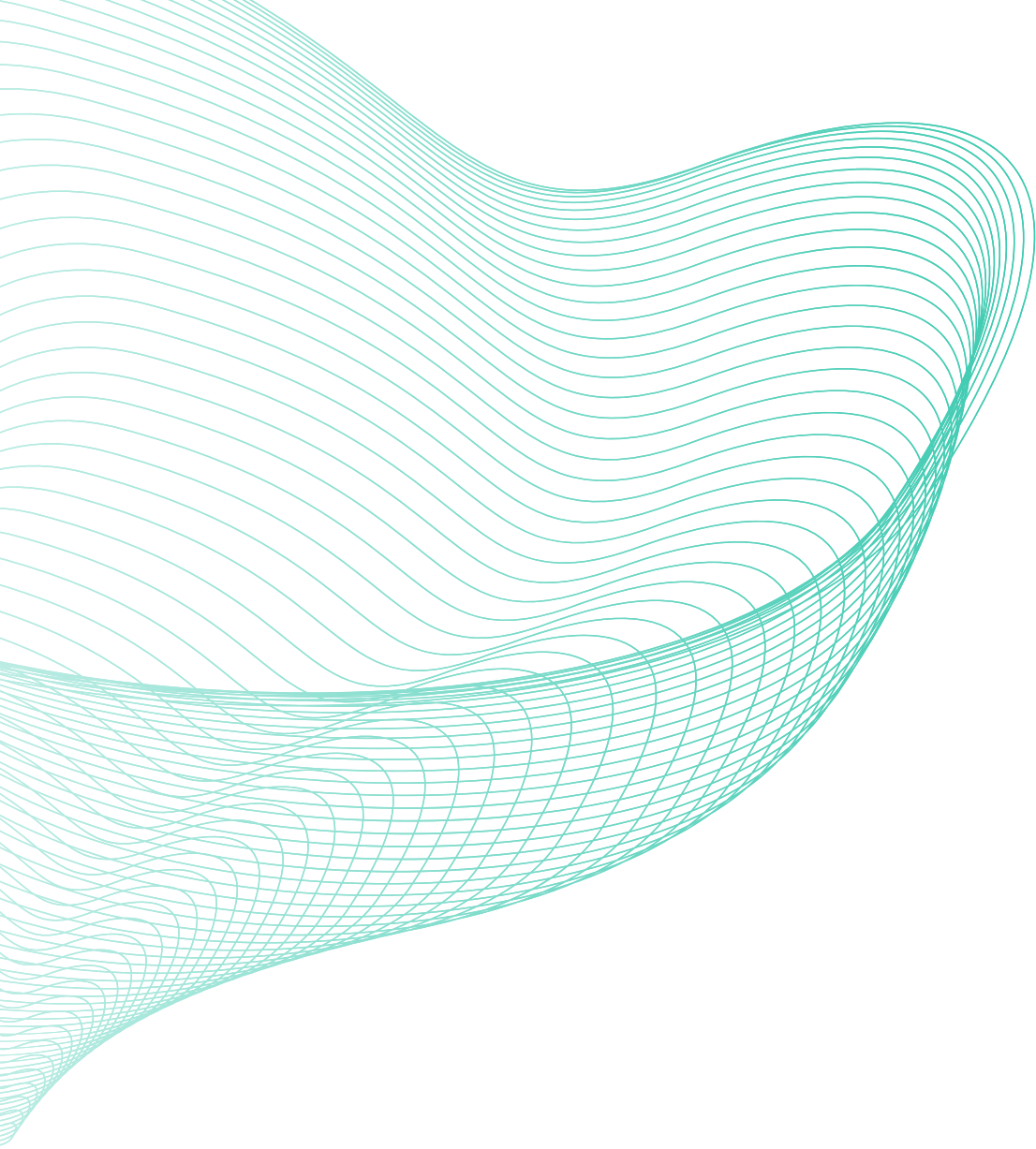
SAM - *Serviceable Available Market*

- 360 million users who actively seek verified news

SOM - *Serviceable Obtainable Market*

- 1% penetration in the first year





Technical Walkthrough

- Technological Pipeline

User Input via a Web App Interface

Python, Flask

Python Backend Server & External Services

The External Services :

- **OpenAI:** Powers the core translation feedback mechanism.
- **Clarifai:** Used for audio-to-text & text-to-audio conversion.
- **Seamless M4t**

Response Generation & User Feedback

Reponsive UI

Reponisve DEMO

Live Demo

Our Hackathon Prototype

The screenshot displays the 'Language Lab' app interface. At the top, there is a logo with a blue circle containing 'A' and an orange circle containing a character, followed by the text 'Language Lab'. Below the logo is a 'Source Language' dropdown menu set to 'French'. A 'Get random sentence' button is next to a text box containing 'Le chat dort.'. Underneath is a 'Record Your Voice' section with a red microphone icon. Below the microphone is a 'Status: Not Recording' indicator. A large blue text block reads 'What the AI understood:'. Below this is a 'Hear Correct Translation' button. At the bottom, a blue box titled 'How to use the app' contains the following instructions: 'Select a language', 'Click "Get random sentence" to get a random sentence in the selected language', 'Translate the sentence yourself then say it out loud in english using your microphone and the Toggle mic button', 'Click "Hear correct translation" to see and hear the correct translation', and 'Click "Get random sentence" to start again'.

Language Lab

Source Language: French

Get random sentence Le chat dort.

Record Your Voice

Status: Not Recording

What the AI understood:

Hear Correct Translation

Correct translation: The cat is sleeping.

How to use the app

- Select a language
- Click "Get random sentence" to get a random sentence in the selected language
- Translate the sentence yourself then say it out loud in english using your microphone and the Toggle mic button
- Click "Hear correct translation" to see and hear the correct translation
- Click "Get random sentence" to start again