AI/ML

Enabling Conversations with a Persona for Illiterates

Summary

Dive into the world of AI to create a voice chatbot that bridges the digital divide for illiterates. Your challenge is to craft an intelligent and empathetic digital companion that can converse naturally, offering a seamless and confidential communication experience.

Requirements

1. Support multiple local languages and dialects to enhance accessibility.

2. Include features for continuous context understanding in conversations.

3. If possible, utilise open-source models for reasoning, speech-to-text, and text-to-speech (e.g., Mistral, coqui-ai

TTS).

4. Incorporate user feedback mechanisms to improve conversational quality over time.

Access Free OpenAI API Keys!

Limited OpenAI API keys available at no cost for your hackathon project. Reach out here with your use case, and get keys for Speech-to-Text, Chat Completions, Embeddings, and more. Keys deleted post-hackathon.

Explore Models

You have the freedom to explore a wide range of models for your project. Not limited to the following options:

- OpenAI API - Introduction
- Mistral 7B - Introduction
- SeamlessM4T - Introduction

Additional Resources

Take your project further with these valuable resources:

- Youtube - Voice Cloning In Multiple Languages - Open Source
- Youtube - Master Deep Voice Cloning in Minutes
- GitHub - 📡 Text-Prompted Generative Audio Model
- Notion - 🐶 Suno's Speaker Library
- CoLab - SeamlessM4T Notebook
- ElevenLabs - Voice Cloning: Clone Your Voice in Minutes
- GitHub - 🐸 A deep learning toolkit for Text-to-Speech

Suggested Approach

Day 1 - 2: Conceptualization & Design

AI/ ML & Data Science Specialists:

- Research and select open-source AI models suitable for speech recognition, natural language processing, and text-to-speech.

- Begin working on language and dialect recognition capabilities.

Product Management & Product Design:

- Define the target user base and their specific needs.

- Sketch out the user journey and chatbot interaction flow.

- Plan for an inclusive design that supports multiple local languages and dialects.

Backend Development:

- Set up the server, database, and APIs needed for the chatbot.

- Start integrating the chosen AI models.

Day 3 - 4: Development & Testing

Frontend Development:

- Develop a simple, intuitive, and accessible user interface, considering the needs of illiterate users.

- Implement voice input and output functionalities.

AI/ ML & Data Science:

- Fine-tune the AI models for accurate speech-to-text and text-to-speech conversion.

- Work on context understanding and conversation continuity features.

Product Design & Management:

- Conduct initial user tests with prototypes to gather feedback.

- Refine the user interface based on feedback.

Day 5: Refinement, User Feedback Integration, & Presentation

All Team Members:

- Integrate feedback mechanisms into the chatbot for ongoing quality improvement.

- Conduct extensive testing to ensure reliability in various dialects and languages.

- Finalize the project, focusing on usability and privacy aspects.

- Prepare a presentation showcasing the chatbot's capabilities, user experience design, and its potential impact on bridging the digital divide.

Other Problem Statements

AI/ML

Talk to Santa Claus

Bring the magic of Christmas to life by developing an

Fintech

Simplifying Small Business Payments

Build an application that

AI/ML

Realtime Translation of Voice Calls

Embark on a journey to break

AI where children can converse with Santa Claus. This enchanting project is about creating joyous and safe interactions and making holiday wishes come true through innovative voice technology.

enables small businesses to manage their payments efficiently. This app should allow business owners to create profiles for each of their clients, track payment transactions, and receive real-time alerts for unpaid invoices.

language barriers. Create a real-time voice translation app that connects people across the globe, enabling them to converse in their native languages effortlessly and expanding the horizons of communication.

AI/ML

Real-Time Air Quality

Design a real-time air quality dashboard that shows the air quality of any region worldwide, empowering users to take action.

AI/ML

Precision Farming for Best Product Results with Data

Build a solution that predicts the best time to plant and harvest crops, taking into account local weather conditions and soil quality. This solution will help

Health

Medication Adherence Improved with Digital Solutions

Develop a digital solution to improve medication adherence for chronic patients. The solution should empower healthcare professionals and patients to manage

farmers improve
their yields.

medication
regimens
effectively.

EdTech

**Intelligent
Learning
Connections**

Build an AI-
powered
application that
uses a
collaborative
learning matching
system designed
to enhance
collaborative
learning
experiences by
intelligently
pairing learners
based on their
performance
metrics.

AI/ML

**Instant
Customer
Support for
Business
Websites**

Imagine
revolutionizing
customer service
with an AI-
powered chat
agent that
intuitively
understands and
responds to
various customer
needs, 24/7. This
is your chance to
shape the future
of customer
interaction,
enhancing
business efficiency
and client
satisfaction.

AI/ML

**Farmer
Supporter**

Make a significant
impact on the
agricultural sector
by developing a
website that
assists farmers in
making informed
decisions. This
project focuses on
leveraging AI to
provide expert
advice on crop
management,
market insights,
and real-time
problem-solving.

Fintech	**AI/ML**	**E-Commerce**
Effortless Cross-Border Financial Transfers	**Conversing with an E-commerce Store Database**	**Advance Marketing growth with Business data insights**
Build an application that enables users to initiate cross-border money transfers with ease. The app should offer real-time exchange rate information, low transaction fees, and quick delivery of funds.	Transform how businesses interact with data by building a system where non-tech savvy users can query an e-commerce database using simple, everyday language. This challenge is all about bridging the gap between complex data management and intuitive user experience.	Create an application that allows e-commerce sellers to analyze customer behaviour, track sales performance, and tailor their marketing efforts based on real-time insights. This application should provide clear, actionable data for marketing optimization.

Health

AI-Powered Symptom and Diagnosis Guidance

Build an application that allows patients to describe their symptoms and receive preliminary medical advice from an AI-powered chatbot. This app should offer quick responses and help users decide if they need to seek in-person medical care.