**ECHOSIGHT: Empowering Independence through Auditory Vision**

ECHOSIGHT aims to revolutionize the way visually impaired individuals perceive their surroundings. By leveraging advanced object detection algorithms and contextual image analysis, we enable users to explore the world by allowing them to upload images and receive detailed audio descriptions of objects detected, along with contextual information about the environment captured in the image.The users will also be able to translate the output to other languages. Currently it supports most of the Indian Languages such as Hindi, Bengali, Tamil, Telegu, Kannada, Marathi, Malayalam, Gujrati, Urdu.

This project is made under OOFY HACKS 1.0 hackathon.

How to use:

Go through the disclaimer ⚠️ to understand more regarding what type of images will give best results.

Upload any image of your choice (upto 200MB)

Wait for the image to be uploaded, the dimesions of the image will be updated

Click on the button to detect the objects present

Wait for few seconds and See the ✨Magic ✨ Happen.

The users will be able to translate the output as well as control the playback speed and download the audio output file.

Installation:

clone this repository

ECHOSIGHT requires [Python](https://www.python.org/) v3.9+ to run.

Install the dependencies.

pip install streamlit

pip install google-generativeai

pip install Pillow

pip install python-dotenv # for environment variable

pip install gtts

pip install ipython

pip install deep-translator

or simply

pip install -r requirements.txt

Make sure to create your own generative-ai api-key using Google Cloud Console or Google Makersuite and replace it.

genai.configure(api\_key=os.getenv("MY\_SECRET\_KEY")) # Replace with your own api-key by creating .env file

or

genai.configure(api\_key="YOUR APIKEY") # Replace YOUR APIKEY with the actual value of your apikey

To run the server

streamlit run "your\_file\_name"