

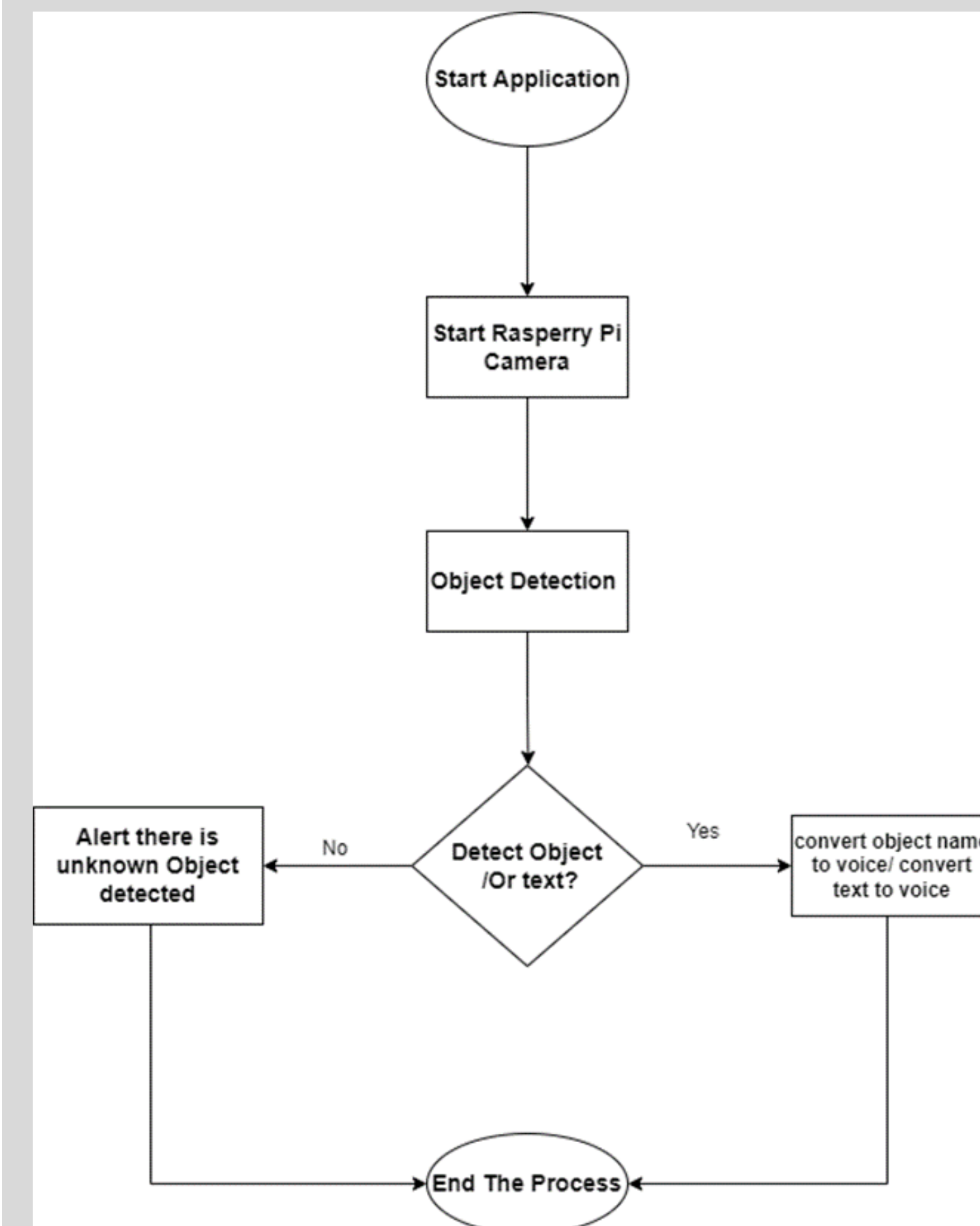
PURPOSE OF THIS PROJECT

- This project aims to design Smart Glasses for Blind people using Raspberry Pi & OpenCV.
- that will help blind people to recognize objects and convert text to voice that can be heard using headphones connected to the raspberry pi.

OBJECTIVES

- OpenCV help blind people to know what objects are around them by adding voice.
- Convert the text into speech, using Text to Speech technology (gTTS).

FLOW CHART DIAGRAMS

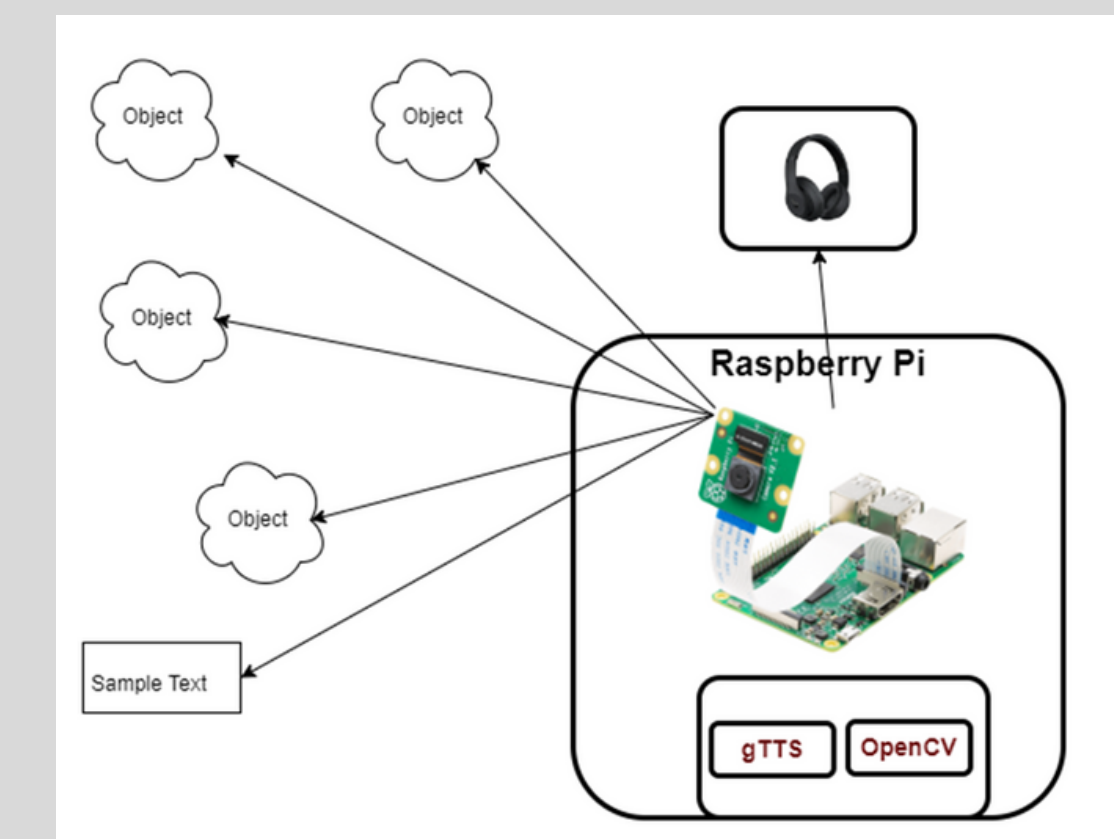


PROPOSED SOLUTION

- The proposed solution is to build Smart Glasses for Blind people.
- Using Raspberry Pi & OpenCV.
- Help them recognize objects.
- Can read text by converting text to speech using gTTS from google.

HARDWARE ENVIRONMENT

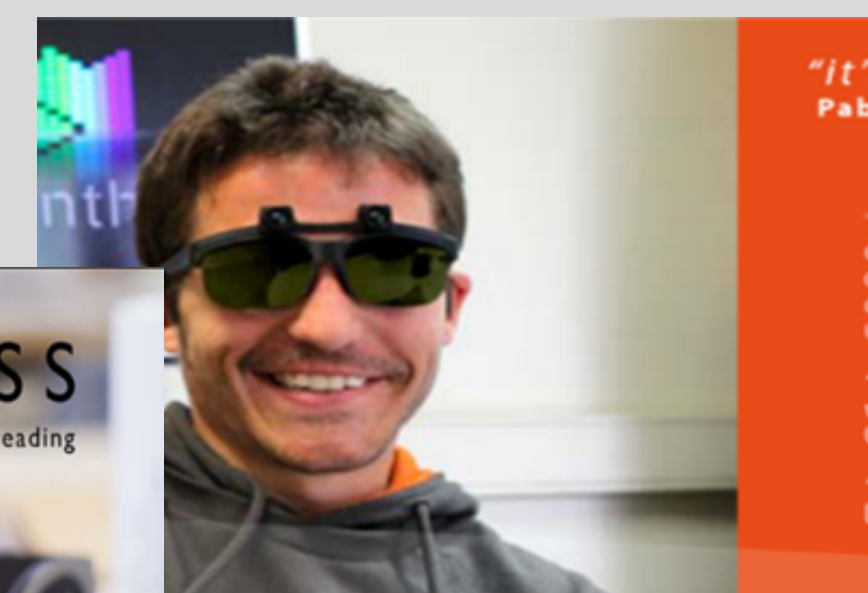
- Raspberry Pi
- Camera Module V2.1
- headphones



RELATED WORK



- Oton Glass
- Eyesynth-Smart glasses for the Blind
- AIRA



features	Proposed Solution	OTON GLASS	Eyesynth-Smart glasses	AIRA
Read Text /Detect Objects	Read Text & Detect Objects	reading text only	Detect Objects	Read Text & Detect Objects
Availability buying	Locally	Japan	Not available	US/UK
Cost	Low cost	Not available	Not available	\$89 per month

TECHNOLOGY USED IN THE SOLUTION

- using installed OpenCV on Raspberry Pi to take images and video by a camera connected to raspberry,
- then doing object detection,
- translate text to voice using Text to Speech technology (gTTS).

SOFTWARE

- Python
- OpenCV
- gTTS (Google Text-to-Speech)