CHARUSAT
CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY

Chandubhai S Patel Institute of Technology

Organized by :

Department of Artificial Intelligence and Machine Learning

THIRD EYE

COMPONENTS :

1. Raspberry Pi 4 Model B (Main Controller).
2. Raspberry Pi Camera Module V2.
3. Google Coral USB Accelerator (Edge TPU).
4. NEO-6M GPS Module.
5. ESP32 Bluetooth Module.
6. Bone Conduction Headphones or Miniature Speaker.
7. Vibration Motors (Haptic Feedback).
8. Li-ion Battery (5000mAh or larger).
9. TP4056 Li-ion Battery Charging Module.
10. Adjustable Headband Frame.

App Working & Features:

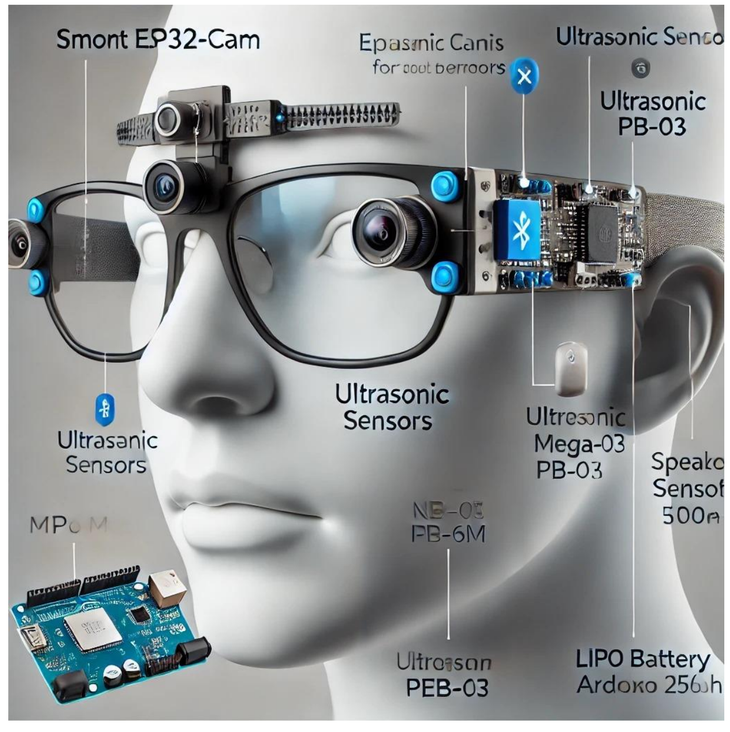
Feature	Technology Used	Tools/Models
Obstacle Detection	AI Object Recognition	YOLOv5, OpenCV, TensorFlow Lite
Sign & Text Reading	OCR (Optical Character Recognition)	Google Tesseract, Microsoft Azure OCR
GPS Navigation	AI Path Planning	Google Maps API, A* Algorithm, Dijkstra
Voice Assistant	NLP & Speech Recognition	Google Dialogflow, OpenAI Whisper, Vosk
Facial Expression Analysis	AI-Based Emotion Recognition	DeepFace, OpenFace, EmotionNet

OUR VISION :

Empowering visually impaired individuals with AI-driven assistive technology, enabling seamless navigation, real-time object detection, and enhanced independence in daily life.

Cost And Weight Breakdown For Components Required :

Component	Estimated Cost (INR)
Raspberry Pi 4 Model B (4GB)	5,500
Raspberry Pi Camera Module V2	2,000
Google Coral USB Accelerator (Edge TPU)	4,000
NEO-6M GPS Module	500
ESP32 Bluetooth Module	400
Bone Conduction Headphones	2,500
Vibration Motors (Haptic Feedback)	200
Li-ion Battery (5000mAh or larger)	600
TP4056 Li-ion Battery Charging Module	100
Adjustable Headband Frame	300
Miscellaneous (Cables, Connectors, etc.)	500
**Total Estimated Cost	17,600



Empowering the Blind people with Smart Technology.

Team Members :
1)23EC049-Nitya Khashakiya .
2)23IT008-Dev Bhalodiya.
3)23IT127-Khushee Sonagra.

Date: 7th March 2025

"AI for Social Good – Solving Real-World Issues"

Timing: 12:00 to 2:00 pm