



WhyteSyght

By Psifrous

Team:

E17CSE120

Ambuje Gupta

E17CSE179

Naman Bansal

(Bennett University)

E17CSE071

Harsh Kataria

Mission:
To make lives
better through code



The problem

The visually challenged face problems in their day to day tasks.

To create a technological solution to ease away some of their problem.



[illegible]



The solution

SOUND!

“Using computer vision to detect the surrounding environment and relay the same via sound”

How?

The different functionalities of our project

● Scene Detection

Environment scanning for 90 common objects and people

● Action Detection

Action recognition for the current frame

● Support

Emergency support with live guidance from a third party

Whyte
Syght



Hardware

Emergency / Live
Stream

Action Detection

Scene Detection



Design and Implementation

Input frames from head-mounted camera

Detection of actions/objects
using computer vision

Output in the form of
speech

Technologies used

- Raspberry Pi
- Web Cam
- TensorFlow
- OpenCv
- Python 3.5

Why now?

Due to such rapid evolvement in the domain of machine learning and AI, such technologies have been available to the masses at large.

Hence we were able to produce a solution which can be available to all easily

Challenges Faced

- Training action detection algorithm in a such a short time and getting its accuracy so that its usable
- Syncing hardware buttons with software so that a smooth process is enabled
- Keeping the product as simple as possible while not losing on any basics that is keeping the product simple so that it is easily used by a blind person and keeping features so that it helps him/her in his daily routine.



Contribution of each team member

- Ambuje Gupta: Using MQTT protocol to integrate physical buttons & setting up protocol for live stream using Nginx engine
- Harsh Kataria: Action Recognition using TensorFlow and OpenCV
- Naman Bansal: Scene Detection using TensorFlow and OpenCV