GenEye

Surroundings Detection System for Visually Impaired People

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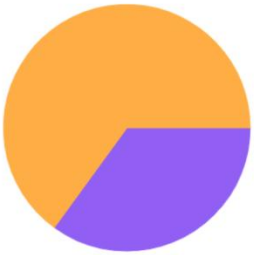
INTRODUCTION

In our daily lives visually impaired people are facing bunch of difficulties which is seriously affects their life. These people deserve to have an easy and secure life as people without visual difficulties. So in the end, we picked this challenge to be solved and help those people in distress. GenEye is a mobile project that visually impaired people would download into their phones. This app would inform them about their surroundings in order to make their lives safer and help them locate the stuff around them.



- Visually Impaired People Who shop alone — 35%
- Visually Impaired People Who does not shop alone — 65%

RESULTS

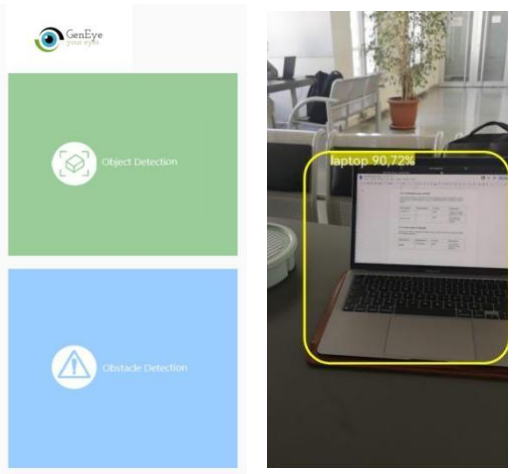
Our project has the following textures:

- Object Detection
- Obstacle Detection
- Guidance System
- GenEye Android App

GenEye aims to aid and enhance the daily lives of visually impaired people by guiding them to their required objects with voice commands and warns them via voice commands as well.

ABSTRACT

On this project, our group aimed to provide a safe and enhanced living conditions for visually impaired all around the world. Therefore, We had the wonderful idea of GenEye and developed it according to our ideals. One of the most important aspect was vision. So, Vision is important for us to comprehend the environment for our users. The reason behind GenEye is to create a better solution for visually impaired to use in their smartphones which can be easily accessible and simple to use. Furthermore, We especially focused on the idea of a simple UI in order to achieve simple usage. There are two main features in the system that we offer our users to utilize, these are object detection and obstacle detection. And with these mods life of visually impaired people will be enhanced.



Simple UI design to achieve ease of use

THE PROPOSED WORK

1_ Minimally, our program requires 4GB of RAM
2_ We developed an android application with the help of Java, TensorFlow, Google Voice API, YOLOv5 and Android Studio.
3_ Also, The System need Smartphone camera in order to have a vision.