

# Object Identification Application to Assist Vision-Related Disabilities

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## 1 MOTIVATION AND BACKGROUND

The purpose of this project venture is to assist those who are blind in navigating rooms that contain different obstacles. The value of this project could extend beyond this purpose but will be an attempt to create a foundation for a functioning application for those who are blind. Previous background knowledge or experience is absent from any of the group members and intend to establish this from the literature review to gain a better understanding of the needs and issues with navigating for those with vision-related disabilities.

## 2 TARGETED USER GROUPS

This project is focused on developing an application for those who have a vision-related disability primarily. While there are methods that solve this problem already, the development of this application would allow an alternative method of navigation or act as an assisted program alongside modern methods.

## 3 PLANNED DELIVERABLES

The project's objective is to help find a solution to identifying objects in a room and assist in navigation for those with vision-related disabilities. To deliver on this scope we plan on developing an application that is able to identify objects within a room using Microsoft Azure Vision API. Further deliverables are subject to change but the intent is to create an application that utilizes this API to achieve object recognition and guide vision-impaired individuals throughout a room, while possibly recognizing and

processing facial expressions to expand upon conversational limits with other individuals.

## 4 TEAM RESPONSIBILITIES

- Development: Abhidip Bhattacharyya
- User Testing: Ali Raza
- Documentation: Spencer Milbrandt, Ali Raza

## 5 PROJECT NEEDS

- Java Experience
- Microsoft Azure Vision API Access
- Android Studio Development Environment
- Access to Android for Prototyping

## 6 POTENTIAL OBSTACLES

- Acquisition of Vision API
- Limitations of Object Identification with regards to depth and distance from the individual
- Ability to convert the identified object information to text-to-speech in order to assist those with vision-impairment

## 7 API KEYS

Endpoint:

<https://westcentralus.api.cognitive.microsoft.com/vision/v1.0>

Key 1: 36671947c41e4a6eb4c5064de64e38f8

Key 2: 67c4452e89974675831d533e0264f719

## **A HEADINGS IN APPENDICES**

### **A.1 Motivation and Background**

### **A.2 Targeted User Groups**

### **A.3 Planned Deliverables**

### **A.4 Team Responsibilities**

### **A.5 Project Needs**

### **A.6 Potential Obstacles**

### **A.7 API Keys**