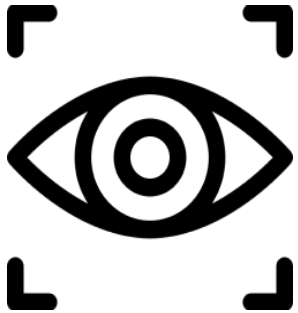
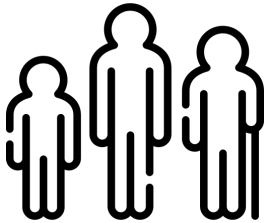


FIND3R

A solution by group **D**

severity



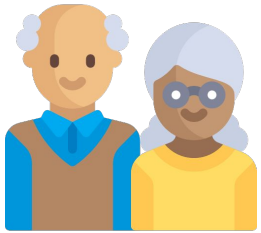
1 in 5 Singaporeans
are 65 and older. This greatly increases the prevalence of age-related eye diseases.

Source: Academy of Medicine, Singapore

Eye diseases increase fifteen-fold
for Singaporeans aged 50 to 80 and above.

Source: Singapore National Eye Care

persona

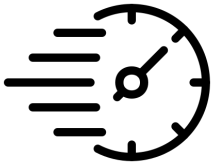


Thomas and **Rachel**

- Visually impaired elderly couple.
- **Difficulty** finding daily essentials at home.
- **Don’t want to bother** people they know.

current solution

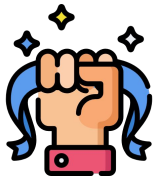
BeMyEyes is an app that allows those that are visually-impaired to video-call volunteers around the world for assistance



Pace

Timezone difference

Communication



Not independent

issues

This is where we come in.

features

Home page

To make it **easy to use,** users would be able to **touch and hold anywhere** on the bottom of screen to begin

To hear instructions on how to use the app, users can **double tap anywhere** on the screen.

features

Voice Detection

It would be able to **recognize** the user's voice commands to find their desired item.

features

Verification

AI **voices out** the user's commands for verification

Commands:
Yes/Repeat/No

features

Voicing Directions

Voice out commands to move.

< 15cm → slightly towards

< 50 cm → move an arm's length

features

Item Found!

Once user’s hand makes contact with the object, the app will voice out: “**Item Found!**”

The user will then be brought back to the home page.

demo

prototype technology

MediaPipe

Features	Technologies
Hand and Finger Tracking	Google’s Mediapipe
Object Detection	Pre-trained model: Scaled YOLOv4
Speech to Text	Google Speech Recognition API
Text to Speech	Python Audio modules
Wireframe	Figma

challenges

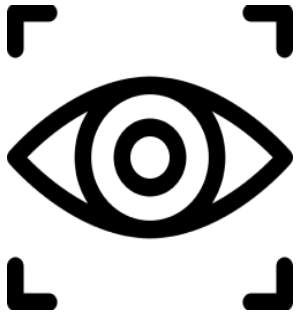
- Conveying specific moves to find the object is hard, as we have to find familiar size categories for various ranges of lengths. (e.g. an arm’s length)

- Integrating the different elements of the product together.

- Uncertainty in using a pre-built model or to train a model using imported data

what's next?

- Use of **Amazon S3** to store personalized images
- **Amazon Sagemaker** to train on these personalized images
- Improvements to the **AI**, such as adding depth estimation
- **React Native** for application development
- More commands such as reading text, checking expire date, differentiating colors.



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A solution by group **D**