

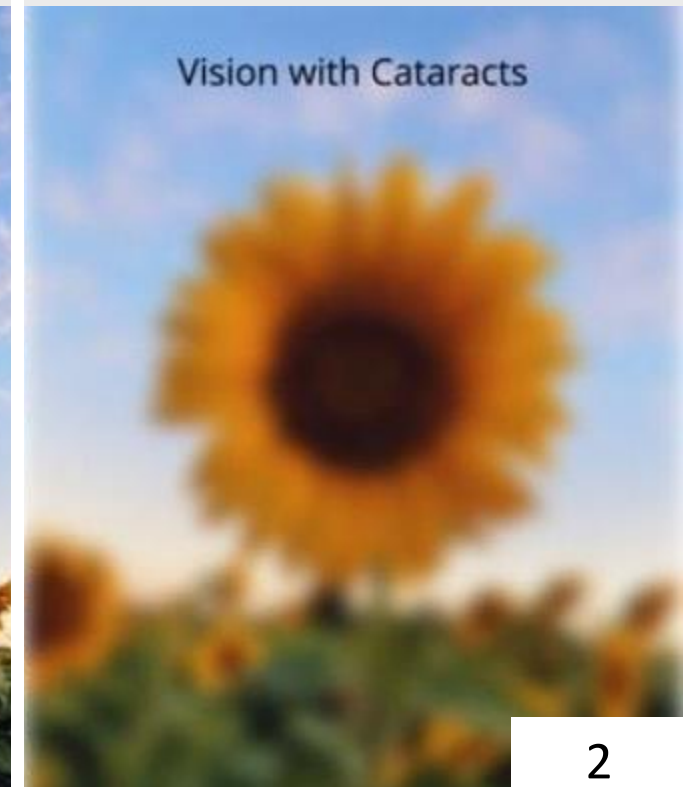
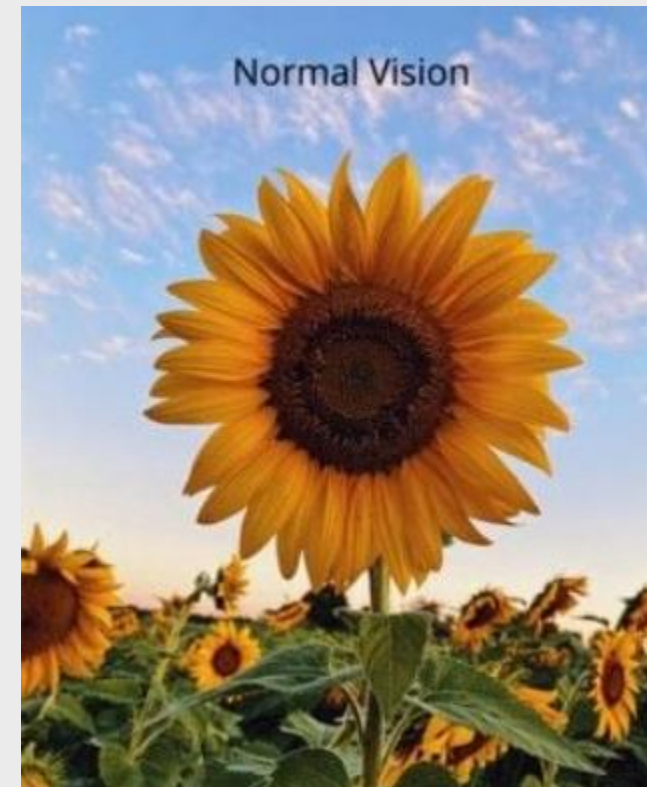
# AI-Powered Assistive Wearable Technologies for the Partially Blind



# Vyztal x ThirdEye

See what you don't.

# The Problem





These often lead to wider psychological and negative indirect impacts on **QoL** and **ability to function/work**.

# Existing Solutions



OrCam MyEye



NuEyes



EnVision



eSight 4

Braille



The White Cane



Guide Dog







**akrazyho** • 2y ago

Top 1% Commenter

The world of devices for the visually impaired and blind is a joke. They all are overpromising. They all are overpriced, and they all under performed severely in the real world. You already owned the best piece of assistive technology and that is your smart phone. A better question would be what apps are best suited for the blind, and visually impaired community. I will let others chime in here, but aside from reading, very basic signs like a men's room. For example, there isn't anything out there that I think most of us would recommend.

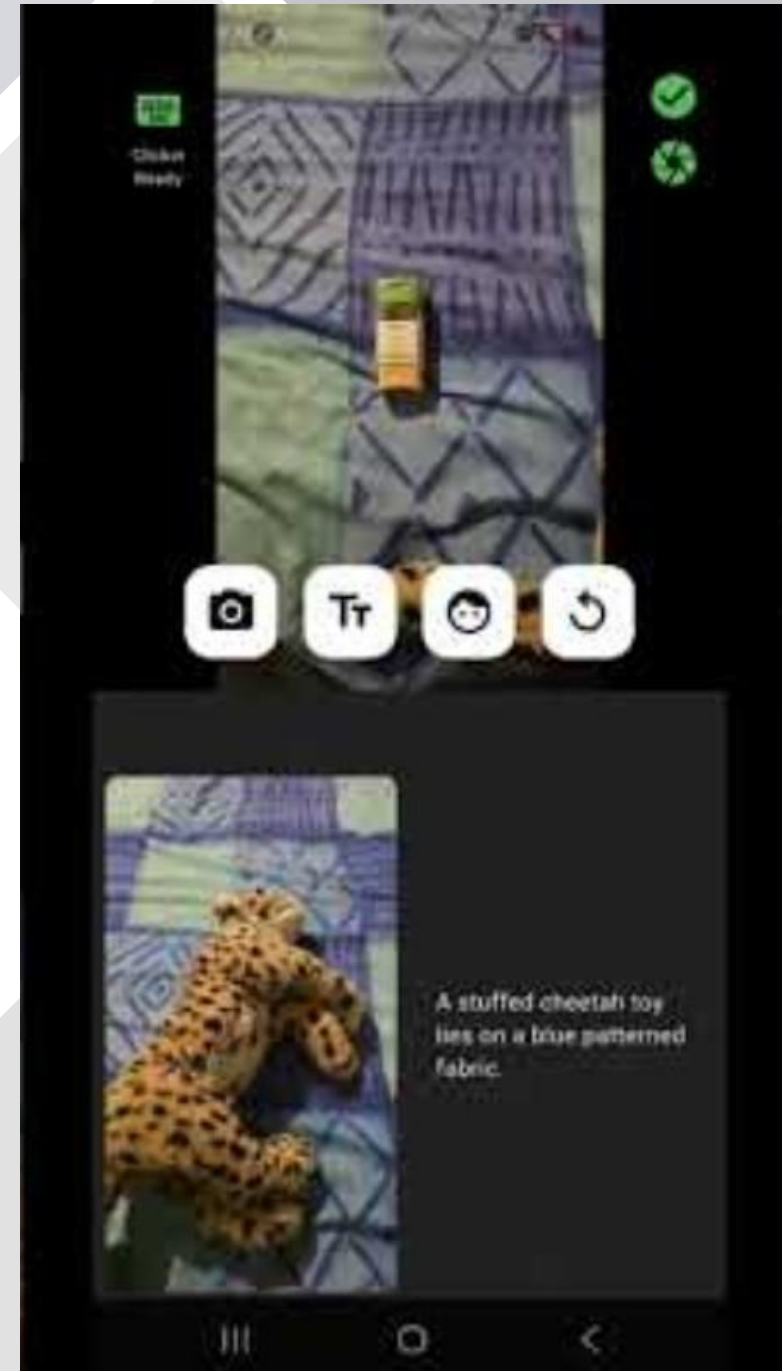
# Mobile App

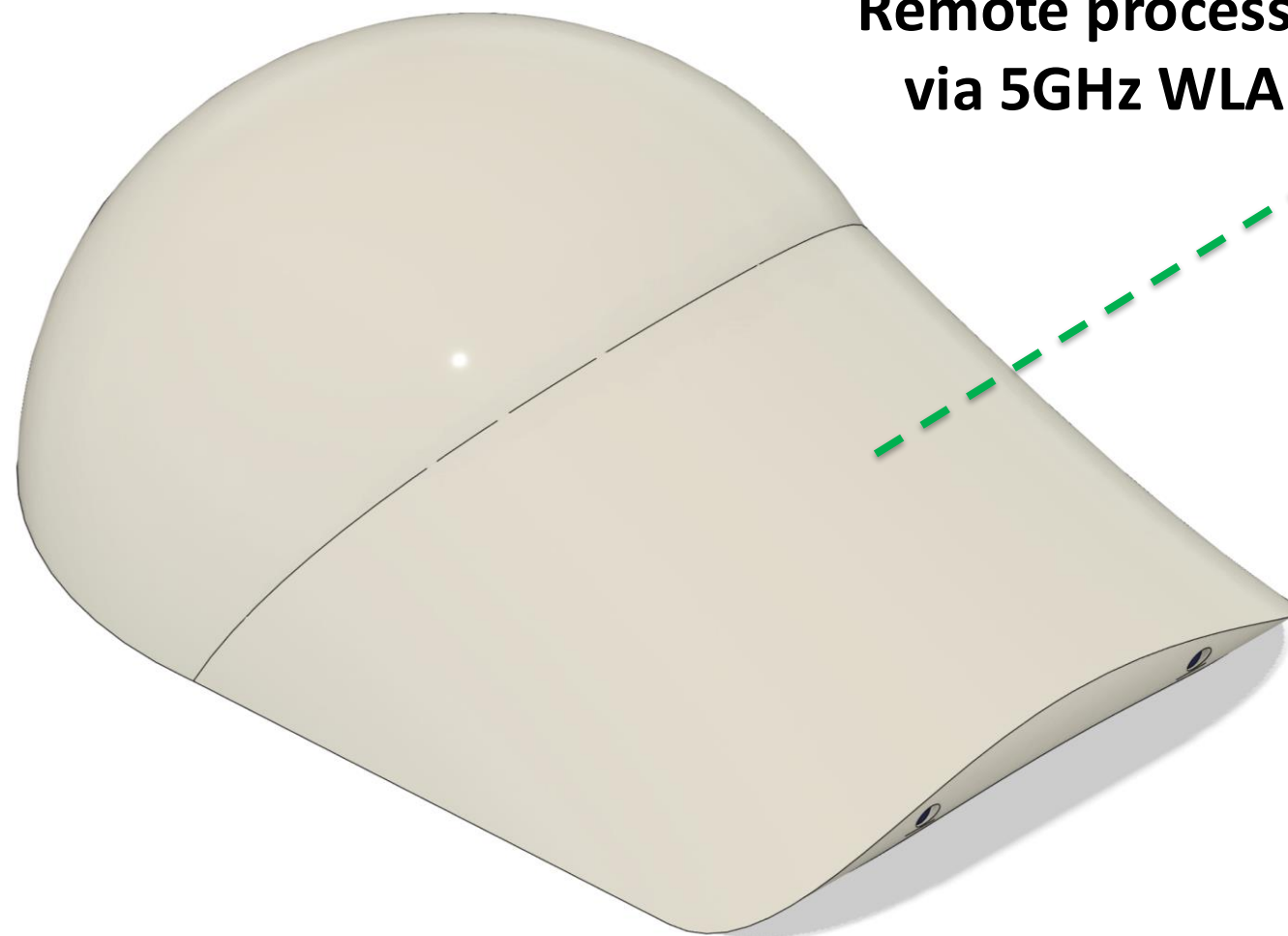
## Current Capabilities

- Scene description
- Text read-outs
- Face recognition (local model)

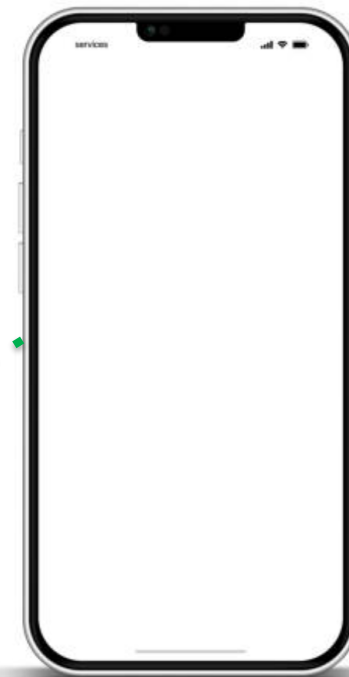
## Incoming Capabilities

- Proximity/obstacle detection
- Language translation
- GPS Navigation guidance
- Connected phone calls





**Remote processing  
via 5GHz WLAN**





### Power

PD trigger and buck converter (accepts 12V USB-C input, draws max 20W). E.g. works with standard laptop charger. Power lines also shown (powers CM4 and 5W audio)

### Audio

5W surface transducer for bone conduction audio, connects to CM4 by BT

### Streaming (light processing only)

- CM4 8GB RAM, 5GHz wireless (main onboard processor). Supports dual video encode.
- StereoPi V2 Slim (minimal CM4 HAT: stereoscopic dual cam support, USB data headers)

### Cooling

Low-profile CM4 heatsink, modified for custom shape

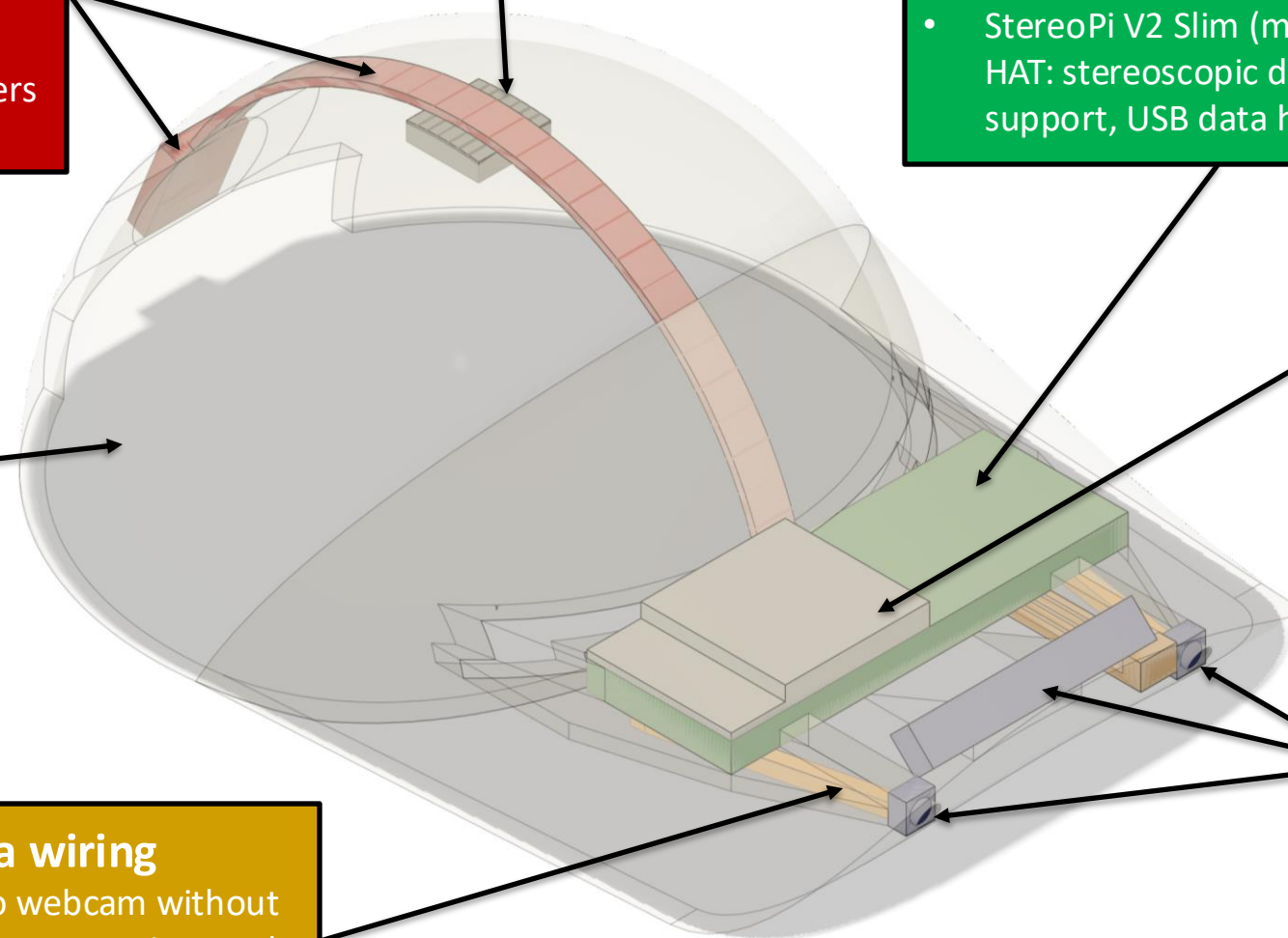
All components are housed in a 3D-printed shell

### Data wiring

USB wiring to webcam without standard port connection, and sensor extension ribbon to make Pi Cam V3s low profile

### Cameras and mic

- 2x Raspberry Pi Cam V3 Wide (12MP, 120° FOV, 1080p30, autofocus). For the scene.
- 1x Arducam USB mini webcam (8MP, 75° FOV, 1080P30, directional mic, on-device encoding). For eye tracking.



Find more renders (including different angles) on slide 14.



# Scaling and Go-To-Market Strategy

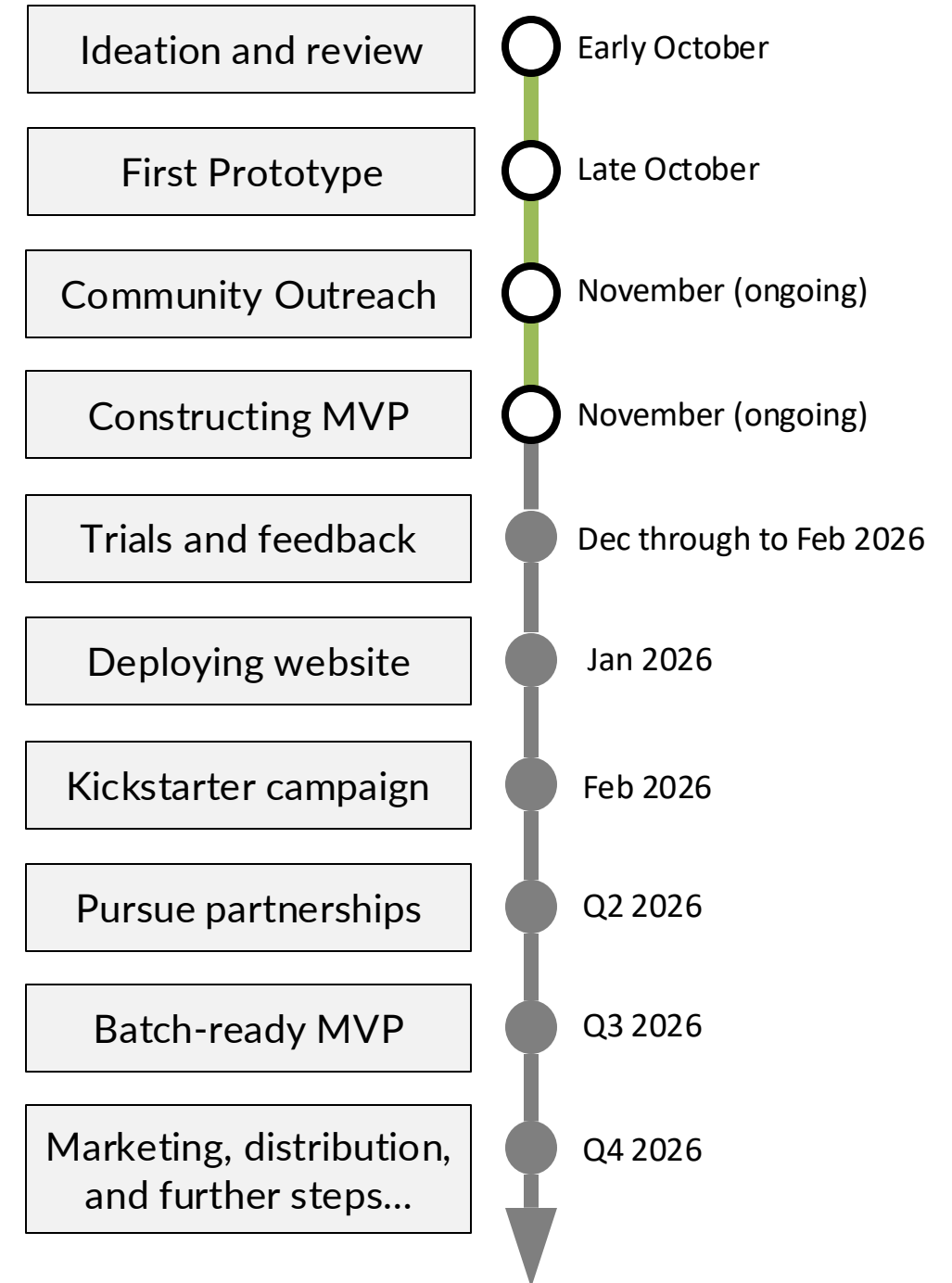
## Early Marketing & Awareness

- Post and communicate on forums
- Technology and Accessibility fairs

Target Early Adopters, focusing on individuals who already use assistive devices

Set up an official website to raise awareness and keep interested parties up to date

Build partnerships with charities, NPOs, and accessibility organisations



# Business Model

**Target Market:** predominantly individuals with partial vision impairment. UK in the short term.

## EXPECTATIONS

- Around 10% of the 2mn blind people in UK
- Approx £36mn pa from subscriptions once we have accessed this market
- Potentially use some of the cashflow to expand the team, procure better equipment and design, more R+D.
- Donate free hardware and products to people under financial stress.

## 1. Revenue and Pricing Strategy

Value-based price of ~£500  
Upfront cost for device  
£15~ subscription for LLM and device management

## 1. Scalability

Partnerships and Economics of Scale to reduce costs  
50% margin to reinvest via RD

## 3. Customer Retention

Customer support and community engagement  
Subscription plans  
RD to improve our products

# Outreach





## The Team!

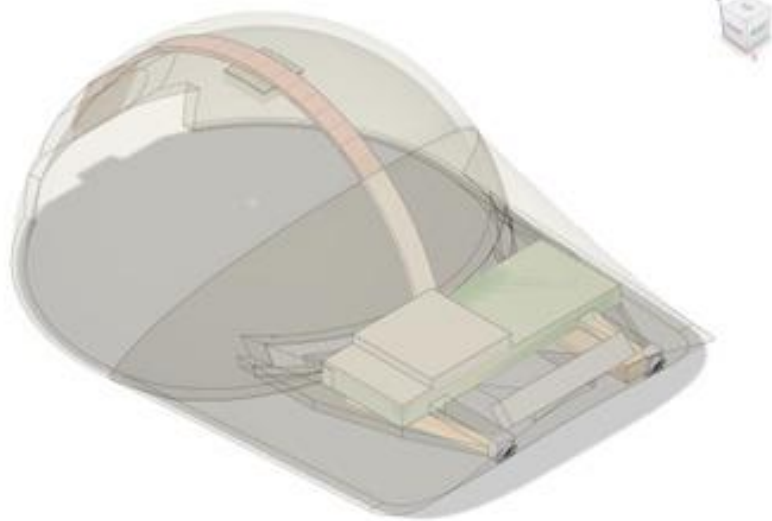
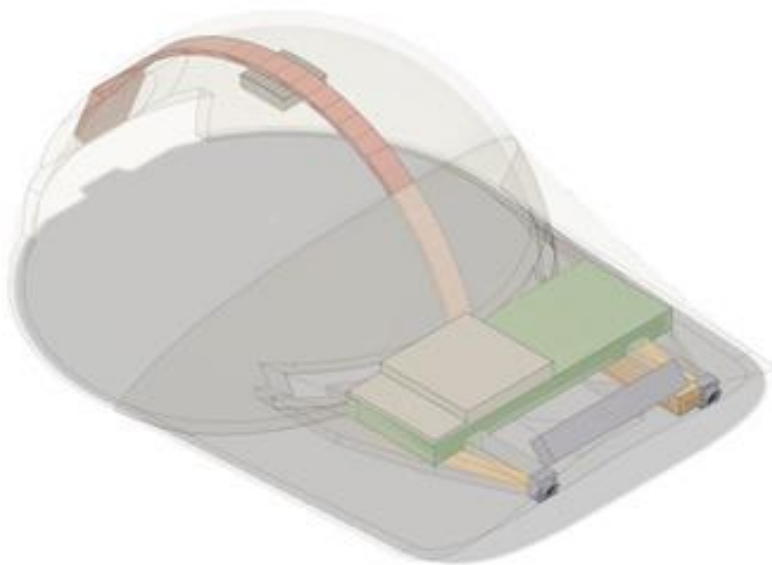


This is nid (72% match)









| Product or Solution | Accessibility and Usability                                      | Effectiveness and Functionality   | Safety   | Training and Onboarding                     | Affordability and Cost                                     |
|---------------------|--|---|--|---|--|
| Braille             | Limited to text; not usable for navigation or object recognition | Effective for reading but not for spatial awareness                         | NA   | Requires learning Braille (can take months) | Low cost but limited application                           |
| Walking Canes       | Easy to use; widely accessible                                   | Effective for detecting obstacles only within short range                   | Generally safe; risk of missing fast or upper-body obstacles | Minimal training required                   | Minimal training required                                  |
| Guide Dog           | Extremely intuitive and user-friendly                            | Highly effective for navigation and spatial guidance                        | Very safe; trained to avoid hazards                          | Long onboarding and bonding period          | Extremely high lifetime cost (£50k+), limited availability |
| OrCam MyEyes        | Hands-free and mounted; moderate usability                       | Strong text-reading and object recognition; no obstacle detection           | Safe, non-intrusive  | Minimal training; simple interface          | Very expensive (£3k–£5k+)                                  |
| NuEyes              | Wearable and intuitive; some models bulky                        | Good magnification, OCR, and visual enhancement; less strong for navigation | Safe but requires user adaptation                            | Moderate onboarding                         | High cost (£2.5k–£6k+)                                     |
| EnVision            | Smartphone + glasses; high usability for tech-comfortable users  | Strong OCR, object recognition; limited real-time navigation                | Safe, non-invasive   | Minimal training: simple interface          | High-cost (£2k+)   |
| eSight 4            | Good usability; more suited for low vision than no vision        | Excellent visual enhancement; not a navigation tool                         | Safe, but immersive headset may limit awareness              | Requires training to get optimal use        | Very high cost (£5k–£7k+)                                  |

