

# WeWALK x Google Cloud



## Multimodal Navigation

### TAILORED FOR VISUALLY IMPAIRED

- Step-by-step guidance using **Google Maps & Places APIs**.
- **Hands-free operation:** Smart cane interaction keeps phone in pocket.
- **Planned:** Enhanced safety with sidewalk, crosswalk, and obstacle detection.



## Smart Voice Assistant

### TRANSITIONING TO VERTEX AI AGENT ENGINE

- Currently utilizing **DialogFlow** for voice interactions.
- Moving to **Gemini 2.5 Flash & Pro** for next-gen conversational reasoning.
- Future: On-device models for offline voice experience on iOS/Android.



## Situational Awareness

### ADVANCED COMPUTER VISION

- Object finding, door detection, and room layout understanding.
- Powered by **Gemma** and other vision models.
- Solves the "last-mile" navigation problem.



## Voice Generation

## NATURAL SPEECH OUTPUT

- High-quality text-to-speech via **Google TTS**.
- Seamless online & offline operation.



## Mobility Analytics

### UNDER DEVELOPMENT

- Actively developing metrics for cane angle, swipes, and obstacle interactions.
- Exploring **Google Cloud services** for advanced data processing.



## Backend & Operations

Cloud Run

Cloud SQL

Firebase

Artifact Registry

Logging

Recently migrated from AWS to Google Cloud, leveraging GCP credits for scale and innovation.