

# **GuideSense: User Manual**

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## 1. Introduction

GuideSense is an application designed for visually impaired individuals who need assistance navigating independently in urban and outdoor environments, the real-time object detection web app is a computer vision and AI-powered solution that identifies objects, obstacles and crosswalks while providing real-time audio guidance and GPS-based navigation support.

Unlike traditional mobility aids or existing navigation apps that lack real-time object detection, our application offers a seamless, intelligent, and accessible way for visually impaired users to navigate confidently.

## 2. Key Features

- State-Of-The-Art (SOTA) Artificial Intelligence (AI) model for object detection
- Real-time AI relay of object information
- Descriptive object details
- Guardian oversight of permitted users

## 3. Using GuideSense

A registered user with a username or email and password is considered as a user.

### 4.1 Home Page

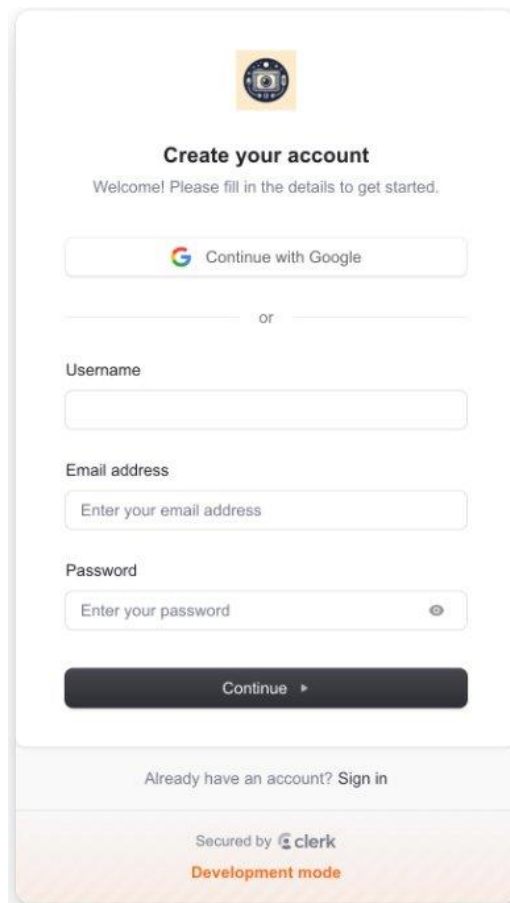
The application delivers you to the home page upon launch.

### 4.2 Account Creation

For first time users, you have two options to create your account with GuideSense.


Option 1: Click “Continue with Google”, it will require you to sign in your Google account to create your account with GuideSense.

Option 2: Click “Sign Up” to create your account. Enter a unique “Username”, “Email address”, and “Password” to create your account with GuideSense.



The image shows a mobile app interface for creating an account. At the top is a circular logo with a camera icon. Below it, the text "Create your account" is centered, followed by a smaller line: "Welcome! Please fill in the details to get started." There are two main authentication paths. The first is "Continue with Google", which includes a Google logo. Below this, separated by a horizontal line and the word "or", are three input fields: "Username", "Email address", and "Password". The "Email address" field has a placeholder text "Enter your email address". The "Password" field has a placeholder text "Enter your password" and a small eye icon for toggling visibility. A dark "Continue" button with a right-pointing arrow is at the bottom of the form. Below the form, there is a link: "Already have an account? Sign in". At the very bottom, it says "Secured by clerk" with the Clerk logo, and "Development mode" in orange text.

**Create your account**  
Welcome! Please fill in the details to get started.

 Continue with Google

or


Username

Email address

Password

Continue ▶


Already have an account? [Sign in](#)

Secured by   
Development mode

#### 4.3 Login


For return users, you have two options to login to your GuideSense based on the ways you sign up GuideSense account.

- If you sign up by “Continue with Google”, click “Continue with Google” and login your Google account to continue the sign in process of GuideSense.
- If you sign up by “Sign Up”, enter your email or username on the box and click “Continue”, enter your password and click “Login” to continue with GuideSense.



### Sign in to GuideSense

Welcome back! Please sign in to continue

 Continue with Google


or

Email address or username

Enter email or username

Continue ▶

Don't have an account? [Sign up](#)

Secured by  clerk

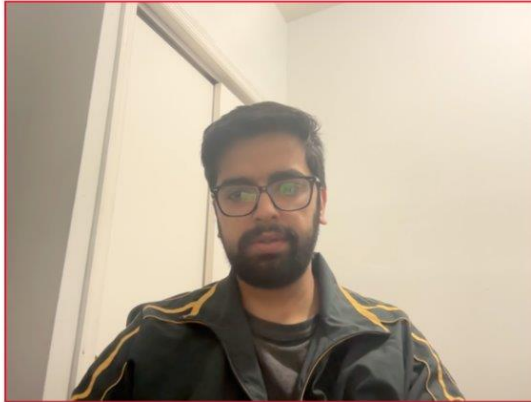
**Development mode**

### 3.4 Image Detection using You-Only-Look-Once (YOLO) Artificial Intelligence (AI)

The camera will begin implementing the YOLO algorithm using the camera to detect and analyze objects in view.

## YOLO Detection

Local Stream



Remote Stream (From Server)

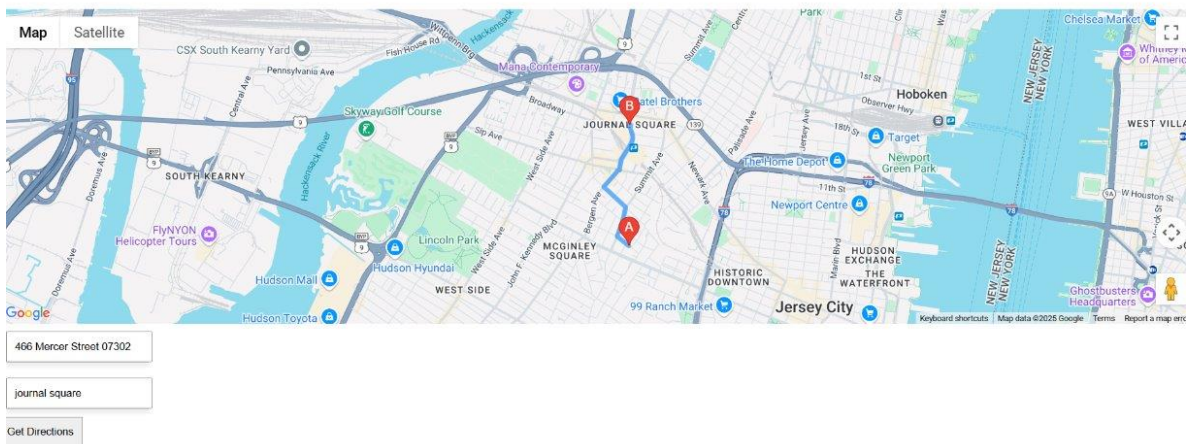


Output Generation completed

## 3.5 Route Determination

A route can be seen on a map for the destination and origin.

- Enter the start address on the first box, enter the destination address on the second box, then click “Get Direction” to start the navigation.



## 3.6 Logout

Users can logout after they are done using the application.

Sign Out

#### 4. Server Deployment

Refer to the Deployment Manual ([link](#)) for details.

#### 5. Troubleshooting

Refer to the Installation Manual ([link](#)) for details.

For Windows Users: When launching react from the frontend directory, if you encounter 'eslint' package errors, redirect to the current directory after ensuring all folders are typed Case Sensitively.

Error: Permission denied

Ensure your camera is turned on and enable permissions in your browser.

#### 6. FAQ

Q: How do I read the screen?

A: The frame rate shows the number of frames being analyzed within the enclosed border. The percentage shows the likelihood that the object detected is correctly identified to the Common Objects in Context (COCO) datasets.

Q: How can I see my route?

A: The route can be seen either in a map or satellite format.

Q: What if I do not have an account! Can I still use the application?

A: No. Unfortunately, the current version of the application requires an account to use.  
A guest optional feature may be available in future builds.

## 7. Support

For support, contact us by sending an email to [powerangers2250@gmail.com](mailto:powerangers2250@gmail.com).