

# Sendero Designed Especially for Visually Impaired



## Background

Sendero Group is the developer of the first accessible GPS and talking map software. They have developed many technologies aiming at the independence of visually impaired and blind people. GPS product "Powered by Sendero" software provides access to detailed street and business location information.

## Problem statement

The client required a turn by turn GPS navigation application that is compatible to visually impaired and color blind individuals. It had to work on features related to accessibility, announcements, roundabout detections, intersections and finding friends. The client also needed a simple UI with important navigation elements like route, POIs and locations to complete the application.

## Solution

TA developed a mobile application with ample navigation features that would assist the visually impaired and color blind users. The application supports accessibility and announcement features along with 3 themes. The directions are configured appropriately for pedestrians and vehicle routes which include heads-up announcements like 'approaching turns', 'turn now', 'upcoming turns' and 'continue straight'. Automatic redirection from an obstructive path and updated turn information is announced to the users who wander off the route. In order to avoid the difficulty in accessing, three important navigation elements are given on every screen (route, POIs and location). The well recognized POIs of an area are provided by Foursquare. The users have the provision to create their own POIs other than the ones already listed. User POIs can be shared over e-mail and Airdrop for iOS. Smart search is also enabled in iOS via Apple MapKit.

## Summary

- ◆ Application designed especially for visually impaired
- ◆ 3 important navigation elements on the lower portion of every screen
- ◆ Features unique to blind users are included
- ◆ Automatic recalculation of the erroneous path with redirecting announcement
- ◆ Developed for Android and iOS

## Features

- ◆ Simple user interface
- ◆ Fully accessible turn-by-turn GPS navigation app
- ◆ Voice announcement for easy navigation
- ◆ Automatic announcement of nearby POIs, intersections and heading changes
- ◆ Application runs in the background even with the screen locked

## Benefits

- ◆ The app helps blind and visually impaired users navigate wherever they want without getting lost
- ◆ The user can add his own POI and thus can easily navigate to places he often visits

## Technologies used



There are three choices for POI data  
(Foursquare, Apple MapKit for iOS and Facebook places for Android)

Company Link: <https://aira.io/>

<https://www.youtube.com/watch?v=nxjzpqXoGz8&authuser=1>