The RNIB Navigator™
iPhone User Guide

Updated June 14, 2017

Partnership between:
Royal National Institute of Blind People (RNIB)
and
Sendero Group LLC

Support Email: ict@rnib.org.uk
Sendero Web: www.SenderoGroup.com
Sendero Email: **iPhone@senderogroup.com**

The Royal National Institute of Blind People (RNIB) has supported Sendero Group, pioneers of accessible GPS, to create RNIB Navigator, a fully accessible turn-by-turn GPS iPhone app with all the normal navigation features of a GPS app plus unique features for blind or partially sighted users in the UK.
RNIB Web: http://www.rnib.org.uk

© Sendero Group LLC, 2017

IMPORTANT NOTICE FOR ALL USERS

The RNIB Navigator™ is designed to convey similar information as displayed on commercial GPS receivers and location databases to people with visual disabilities. However, The RNIB Navigator™ products have similar limitations as commercial GPS products. These limitations include:

- Lack of information about the physical road characteristics such as: elevation, overpasses/underpasses, bridges, footpaths, traffic controls, unsafe neighbourhoods, construction and other hazards.
- Map accuracy in newly developed areas.
- Traffic and weather conditions.
- Loss of GPS signals and map data due to poor cell coverage, tall buildings or other interference.
- Created Routes may not be safe or possible to follow.

The individual user is wholly responsible for all issues related to personal safety and mobility. Sendero Group and its distributors advise all users that GPS is not a substitute for orientation and mobility with a cane or dog guide and recommends that users have good mobility skills before using GPS orientation information to travel. Extreme caution should be used when operating GPS as a pedestrian and should never be actively used while navigating busy traffic situations. Sendero Group and its distributors assume no liability for accidents or injuries that occur to users while using any GPS product.

Table of Contents

Getting Started 4
- Setting Expectations 4
- General App Info 4
- Installation 5
- Subscription Registration for RNIB Navigator™ 5
- About Maps 6

RNIB Navigator™ Functions 6
- LookAround 8
  - Automatic LookAround mode 8
  - LookAround Wand 8
- Route 9
  - Route Creation Screen 9
  - Route loaded screen 11
  - Magic Tap Gesture 12
  - Route Shake Feature 12
  - Getting Warmer 13
  - Create Route via BlindSquare 13
- Location/Where Am I? 14
  - Location Shake Feature 14
- POIs 15
  - POI Search 15
  - POI Action Buttons 15
  - User POIs 16
  - Beacons 17
  - POI Shake Feature 18
- Map 19
- Settings 20
  - Background Operation, On/Off 20
  - General Settings 20
  - Routing Settings 21
  - LookAround Settings 22
  - About Settings 22
  - Subscription Settings 23

RNIB Navigator™ General Notes 24
- Battery consumption 24
- Interrupting the app 24
- Position Accuracy 24
- Audio Events 25
- Language Settings 25

Contact Sendero Group 26

Getting Started

Setting Expectations

Our goal with this app was to make it a convenient mobile option to compliment other Sendero GPS products. As with other Sendero products over the past 17 years, user feedback will drive development of future versions. The RNIB Navigator™ is a fully accessible turn-by-turn GPS iPhone app, available in the United Kingdom and can be used in other countries with supported maps like United States, Canada, France, Ireland, New Zealand, Australia, Austria, Belgium, Germany, Spain, Switzerland, Turkey, Puerto Rico, Virgin Islands, Lithuania. Not all countries have full intersection descriptions. At this writing, other supported languages are Spanish, French and Hebrew although the manual is currently only available in English.

RNIB Navigator™ has all the normal navigation features plus features unique to blind users, such as:

- Instead of multiple layers of menus, the three important navigation elements are on the lower portion of every screen: Route, POIs and Location.
- At intersections, the cross street and its orientation are announced.
- Intersections are described (e.g. four-way) with the clock face orientation of the streets.
- POI data is provided by Foursquare and Google, or add your own.
- Directions are configured appropriately for Pedestrian and Vehicle routes, including heads-up announcements for approaching turns, turn now, continue straight and upcoming turns.
- If one wanders off the route, it's automatically recalculated and updated turn information is announced.
- Point your phone in a given direction to hear what is nearby with the LookAround Wand.
- Nearby Points of interest and road junctions are automatically announced.

RNIB does not receive any revenue from the sale of this app. All user queries and support questions should be directed to the contact details below.

General App Info

In addition to the RNIB Navigator subscription products, Sendero has Seeing Eye GPS XT, which is functionally identical but it is not subscription based. For a higher price, it has a license that does not time out. It requires a one-time purchase through the app store and can be used on multiple devices on the same account according to the Apple guidelines.

The map and POI data may change over time for both the subscription and non-subscription apps. Because the apps are currently server-based, customers will have access to the data provided by the map and POI suppliers. Sendero has no control over the data from these suppliers other than deciding from whom the data is licensed.

Installation

Select the installation link after finding the app in the Apple store and tap to install RNIB Navigator™ on your device. You will be prompted to confirm that you would like to install RNIB Navigator™, swipe to the Install button and follow the prompts.
The download is listed as free in the Apple Store but the first time you launch the app, you will be prompted to choose between a one month free trial or a paid subscription type, 1 month or 1 year subscription. The subscriptions will not automatically renew, so you will have to renew manually when expired.

Subscription Registration for RNIB Navigator™

When you launch the app for the first time, there will be three buttons, New Subscription, Use an Existing Subscription, or One Month, Free Trial.

If you select **New Subscription**, the next screen will allow you to select Subscribe for one month, one year, or to go Back to the previous screen. If you choose to proceed with a subscription plan, you will be asked to confirm your purchase using your iTunes account.
Once your payment is approved, you will be asked if you wish to register your product. It is strongly recommended that you fill out and save this registration, which authorises use of this and other devices you own for the RNIB Navigator application. If you change devices because of an upgrade or if the device is stolen, this saved registration will enable you to authorise this app on the new device. If you skip this optional registration, you will not be able to put this app on other devices you own now or in the future without purchasing a new subscription. You can register at a later time by going to the Settings screen and selecting the Subscription Button and then Save Subscription should you skip the registration now.

When you choose to register by pressing the Save Subscription button, you will be prompted for your Email Address and a password. Swipe until you hear “Enter the email address, text field.” Select it to bring up the keyboard and input your email address. On the bottom right of the virtual iPhone keyboard, there is a Next button, select this to advance to the password text field. Enter your password and select the Go button at the bottom right of the keyboard.

If you select **Use an Existing Subscription**, you will be prompted for your account Email Address and a password. Swipe until you hear “Enter the email address, text field.” Select it to bring up the keyboard and input your email address. On the bottom right of the keyboard, there is a Next button, select this to advance to the password text field. Enter your password and select the Submit button to enter your account.
The next screen is the Welcome to RNIB Navigator™ page where you can read the license agreement and useful tips. Once you have read this information, you need to select the Accept button to proceed into the app. If you do not agree with the terms you can select the Exit button to exit the application.
You are prompted to confirm that you allow RNIB Navigator™ to use your current position. Your current position will be announced when you enter the app and you are in the Location screen. Now, select the Settings Menu so you can set your application preferences.

If you select **One Month, Free Trial**, the next screen is the Welcome to RNIB Navigator page where you can read the license agreement and useful tips. Once you have read this information, you need to select the Accept button to proceed into the app. If you do not agree with the terms you can select the Exit button to exit the application.
You are prompted to confirm that you allow RNIB Navigator to use your current position. Your current position will be announced when you enter the app and you are in the Location screen. Now, select the Settings Menu so you can set your application preferences.

About Maps

Maps are an integral part of the GPS software's capabilities. The map data is developed and maintained by the map supplier. Since the maps from RNIB Navigator are stored on the server there are a few items to keep in mind. The advantage of having maps stored on the server is that you get real-time map and point of interest data updates.
If you lose cell coverage, you temporarily lose access to the online map and POI data. If you have a route loaded, it will continue to work if you stay on that route but you will not be able to recalculate a route until the cell data connection has been reestablished. The RNIB Navigator app caches one square mile of road junctions, including railroad crossings, on your phone. However, automatic LookAround announcements such as road junctions and POIs will not be announced.
The next turn and destination as well as the route ETA will update even when there is no phone service. It will not recalculate if you go off-route but if you stay on the route, the information is nicely updated. If you go off route you will we warned that you have no network and that you are off route and to proceed with caution.

Depending on your POI Search settings, the system will query the server at most every 15 seconds. This differs from other Sendero GPS software, but the advantage of this approach is that it still delivers the necessary information without overloading your data usage.

RNIB Navigator™ Functions

Within the RNIB Navigator™ application there are six main functions. These functions are LookAround, Routes, Location, POIs, Map, and Settings. The LookAround Wand button is in the top right of the screen. The Routes, Location, POIs, Map, and Settings Menus are located in the bottom of every screen. Now that you have access to the Global Positioning System with the streets and landmarks using your iDevice, what can you do with it? Here is where the fun begins!
For example:
I am a blind person in a car or bus, with minimal knowledge about the environmental information whizzing by my vehicle. I load the RNIB Navigator™ app and the Point of Interest “look-around” feature automatically announces a sampling of Points of Interest I am passing. When I am stationary, I can turn on the LookAround wand and point in any direction to hear about POIs and road junctions.

I want to meet up with my friends at a restaurant called Lakeside Grill. I select the POI Menu on the bottom of the screen. I input “Lakeside” in the text field and select the Search button. After the POI list is created, I locate Lakeside Grill in the list of POIs then select it to hear details about Lakeside Grill, call them or create a route to get me there.

As you can see from reading these scenarios, there are two general ways to use RNIB Navigator™. The first and probably most popular use of the GPS information is simply to be aware of one’s environment with the “look-around” options. Traditionally, a blind person might get one per cent of location information through a “sighted-person filter.” With RNIB Navigator™, a blind user can independently “look around” and hear what businesses, addresses and road junctions are nearby.

The second general use of RNIB Navigator™ is to navigate to a specific destination along a route created by the application. These routes can of course be used in conjunction with the Look-Around information.

RNIB Navigator™ provides the opportunity for users to get information beyond the reach of their other senses. Visually impaired users will see how valuable it is to know the names on signs they can see but not read.

LookAround

There are two distinct LookAround modes of RNIB Navigator™, the Automatic LookAround mode and the LookAround Wand. They both tell you what is around you, but the LookAround Wand provides the option to search your surroundings by pointing your phone in a specific direction. Note, LookAround announcements will not work if you lose your data network connection.
Additionally, the intersection announcements may not be available in all countries where the app is authorized. If you wish a country intersection database to be added, please submit a request. The more requests we receive, the more likely that country will be added. All other POI and street data should work fine.

Automatic LookAround mode

TheAutomatic LookAround mode is on by default and works if you are moving or stationary. It searches in all directions every 15 seconds or in your choice of several intervals up to 60 seconds, and it reports the nearest POI or intersection to you. In a dense area, it doesn't have to look very far. You can of course search for all points of interest manually and can expand the search if nothing nearby is found and the system will search up to 200 miles for Foursquare POIs and 30 miles for Google POIs.

LookAround Wand

When standing still, the LookAround Wand allows you to find out a sampling of what is in the direction you point the phone. For example, if you want to know what is to the right of you, point your phone to the right and the road junction and a sampling of points of interest will be announced.

The LookAround Wand button is in the top right of the screen. You can toggle it off and on. When the LookAround Wand is turned on, you will hear a rising chime, the button will light up, and VoiceOver will confirm that the LookAround Wand is on. When the LookAround Wand is turned off, you will hear a descending chime, the button will turn gray and VoiceOver will confirm that the LookAround Wand is off. Remember that if you are moving and turn it on, no information will be given until you stop moving for 15 seconds or so. Also if you switch screens, the LookAround wand will automatically turn off.

Route

There are two route screens, the Route Creation Screen and the Route loaded screen.

Route Creation Screen

Once you select the Route Menu, you will be prompted, “Create a Route to Where?” You have six options:

1. **Home** – If you have set your home address in the Settings screen, that address will be used when you choose this button. If you haven’t yet set your Home Address, you will be prompted to do so. You can enter your home address by manually typing the Address, using your Current Position, or selecting your address from your phones contacts database. We recommend setting your home address based on your current position. So, stand outside your front door or at the top of the driveway, make sure you have a good position and then set the address from within the Settings General menu.
2. **Point of Interest** – Point of Interest – If you select this button, you will be entered into a text field. Leave this field blank if you do not have a specific POI in mind, or use the keyboard on the bottom portion of the screen to type in the text of the POI you want to find. Next, select the Search button to start searching for POIs. If you need to clear the search text field, there is a Clear-text button. If you want to search for a POI within a specific category, select a category from list presented in the lower half of the screen (i.e. Food, Lodging, Entertainment, etc.). Once you select a category, you will hear nearby POIs in that category. If you would like to search a specific POI enter it into the POI Search Text field. Once you have entered the POI Search text, select the Search button. If there are matching POIs containing the text you have entered, you will be presented with a list of POIs from which to choose. If you do not find your POI within that list, you can select the More button which enables you to continue searching a greater distance.

   You can also switch the POI Source between Foursquare, Google, User POI, or Beacons. For more information on these sources, see the POI section. Once you select the correct POI from the list, the Route creation screen will load. The POI address and phone will be listed if they are in the database. The POI distance will be listed along with up to six action buttons:

   i. The **Pedestrian button** will create a pedestrian route to the POI.
   ii. The **Vehicle button** will create a vehicular route to the POI.
   iii. The **Getting Warmer button** will create a route that announces distance and direction to the POI
   iv. The **Bicycle button** will create a bicycle route to the POI.
   v. The **Uber button**, will launch Uber if you have it installed on your phone. You can then schedule an Uber ride to the POI.
   vi. The **Call Button** will not create a route but will call the POI using the phone number in the database. You will be asked to confirm that you want to place the call, select Yes to place the call. Note, the call button is omitted when there is no phone number and if you are running the app on an iPad.

3. **Street Address** – Select this button to create a route to a specific address. Your current city and state will be entered automatically into the text boxes for State and City. If you are creating a route to an address in your current city, you can simply start with entering the Street Address. The number keyboard will be on the bottom portion of your screen, type the Street Address number. Once you press the Space key, the Letter keyboard will replace the number keyboard so you can type the Street name. If you are creating a route to a different city than your current city, you will need to swipe back to the State and City text fields. You may also enter a zip code. If you enter a zip, it is not necessary to change or delete the city and state fields. The correct city and state will be displayed in the address match. Once you are sure the fields are filled in correctly, select either the Go button or the Done button. They both bring up a list of route types. Select your preference: Pedestrian, Vehicle, Getting Warmer, Bicycle, and Uber if available. If the address matches exactly, you will hear a summary of the route beginning with which direction to start heading. If the address is not an exact match, the application will prompt you with the address it found. Make sure the address displayed is exactly what you want like Street verses Drive verses Lane. Once you select the address, you will progress to the route loaded screen where you will hear a summary of how to begin the route. If you are having trouble entering the correct address or the app does not find the address you are looking for, try the following to increase your chances of an address match:
    a. Use the zip or postal code
    b. Input Ave for Avenue, Dr for Drive or Ln for Lane, etc.
    c. Drop the address number and just input the street name.

   Caution! If you use dictation to enter POI or address text, be careful what text actually is inserted in the fields. For example, if you use the words, 22 11 Bush Street, thinking you would be inserting the four numbers 2211, you end up with number 20 on 11th street. It is the ambiguities that give dictation a problem. Be very precise and very literal if you are using dictation. Something like Starbucks is not ambiguous and shouldn't be a problem if you aren't in a loud location.

4. **Contact Address –** Select this button to create a route to an address in your Contacts database. Simply select the Contact that you want to be routed to and then choose your route type; Pedestrian, Vehicle, Getting Warmer, Bicycle, or Uber if available. Note that you can only create a route to the first address listed with this contact. If you have multiple addresses for a contact (i.e. home, work, etc.) only the first one will be used.

5. **Waypoint –** Waypoint routes can be created in areas with maps in a situation when you do not want to use the automatically created route. More often, waypoint routes are most useful when you are somewhere where maps are unavailable – perhaps on a university campus, hiking trail, park, large parking lot, or campground. To begin recording a new waypoint route, select the Record New Waypoint Route button. You will be prompted to enter the name of the first waypoint, the nearest address is automatically placed in the text field, but you can enter your own name. For example, if you are creating a route from your car to the end of a hiking trail,

you could name the first waypoint “car” and your last waypoint “trail end.” When the waypoint route is saved, it will automatically be named “car to trail end.” Once the first waypoint is saved, you can travel your route while waypoints are automatically placed at regular intervals as you walk along your route (every 160 feet at pedestrian speeds and every half mile at vehicle speeds). You can also add your own waypoints manually by either shaking the phone or selecting the Add Waypoint button at the bottom of the screen. If you add Waypoints by shaking the phone the nearest address or intersection, if available, will be added to the name of that Waypoint. If you add Waypoints using the Add Waypoint button, you have the option to either accept the auto-populated text or enter your own text and select the Save button. This waypoint will be added sequentially to the list of waypoints in your route. When you exit your route by selecting the Back button, it is automatically closed and saved using the name of the 1st and last waypoint. Note: Make sure you are done adding waypoints to your route when you select the Back button because it is not yet possible to add to a waypoint route once you exit. To hear about your location without leaving your route, select the Location Announce button in the upper right-hand corner of the screen.

To load an existing route again, select the Load Existing Waypoint Route button. A list of all your previously created waypoint routes will be presented, simply select the route you want to load. When your route loads, it will automatically place you at the nearest Waypoint and determine which way to load the route. So, if you are at the last Waypoint in your route, it will load the route in reverse order so Waypoint 1 is your destination. While in the route, you will hear automatic direction and distance announcements about your next Waypoint.

To delete a waypoint route, perform a one-finger double tap, hold, and release the route that you want to delete. You will be prompted to confirm that you want to delete.

To edit or delete a waypoint within a route, select it from the list of waypoints with a one-finger double tap. To edit the name of the waypoint, input the desired waypoint name into text field, then select the Save button. To delete the waypoint, select the Delete button.

6. **History** – Once you have created a route, the last 25 destinations you have created will be listed so you can quickly initiate another route to that location. If you wish to have a destination ready to go, create a route and then close the route. That destination will then be available in the History list when you want to initiate the route.

Route loaded screen

Once you have chosen your destination and selected a route type, the route loaded screen will load. Initially the route loaded screen will announce various bits of information. So, for example, if you created a route to the Hotel Chocolat in London using the address of 78 The Strand, when your route loads you will hear:

“X miles to destination, estimated time X hours/minutes, facing direction is north, proceed straight, start going west on current street, in X feet, turn on next street.”

As you begin your route, the route instructions will automatically trigger as you approach the turning points.

If you would like to navigate the Route loaded screen, you can swipe through the different items on the screen. You will find the route name, i.e. Route to 78 The Strand, London, UK, at the top. As you continue to swipe through the screen you will find:

1. First turn in your loaded route
2. Route Details button - select this button if you would like to hear a list of all the route turns.
3. Cancel button– select this button if you would like to cancel your route.
4. Recalculate Route button– select this button if you would like to recalculate your route.
5. Distance to your destination
6. Estimated Time of Arrival (ETA) or the number of minutes to your destination, and
7. Repeat button, which will repeat the route information summary.

If you have chosen the Getting Warmer route type, you will not hear any route directions, instead you will hear "Proceed Clock-face direction, Compass heading, X distance to your destination. This information will repeat every minute when you are over 1000 feet from your destination, every 30 seconds when you are 500-1000 feet from your destination and every 15 seconds when you are within 500 feet of your destination. The Getting Warmer auto announcement will be every five minutes over five miles from your destination no matter the speed at which you are moving.

Magic Tap Gesture

As you may already know, while using VoiceOver, you can perform a two-finger double tap gesture, which activates different functions depending on what app you are in, and where you are in that app. This gesture is called the Magic Tap gesture. In RNIB Navigator, while you are traveling on a route, you can use this gesture to repeat the route instruction which was last spoken. To perform this gesture, simply tap twice with two fingers, anywhere on the screen, and the app will repeat the last route instruction for you. You may use this gesture at any time while you are traveling on a route.

TIP: When performing the Magic Tap gesture, remember to keep your two fingers apart just a bit. This will help assure that the Magic Tap always works well for you.

Route Shake Feature

While you are on the Route Loaded Screen, if you shake your phone, you will hear the distance, street name and direction of the next turn, distance and direction of destination, and Estimated Time of Arrival, or ETA. The Shake activation is designed to operate when you are holding the phone roughly upright. The Shake should not trigger when the phone is upside down. The shake is intended to be conducted roughly in a vertical to horizontal orientation. Experiment to learn how to activate the shake function and how to keep it from triggering in your pocket, purse or on a belt.

Getting Warmer

On the Getting Warmer Screen, you will hear your distance to destination, the direction to your destination, Estimated Time of Arrival, and a Cancel Button. Select Cancel to exit the route and return to the Route Creation Screen.

If you have chosen one of the route modes with turns, the Getting Warmer function takes over once you are near your destination just in case it is a sizable distance off the street. Once you have arrived within the default arrival distance of 50 feet, the application will automatically turn on the Getting Warmer mode which will run up to two minutes. While in this mode, you will hear the distance and compass direction to your destination every 15 seconds.

In summary, Getting Warmer on its own provides distance and direction to a destination without any turns. It is also used when a route with turns ends short of the destination so you have some indication of where that destination is located in the final short distance.

Note that the ETA when Getting Warmer is selected, is based on either your speed at the time of the reading or an base speed if not moving. For example, 2.5 miles per hour assuming you are walking. The estimate does not include the extra time of stop lights at road junctions, time for getting lost or time stopping to chat.

Create Route via BlindSquare

To provide another route creation option, we have partnered with BlindSquare so that you can perform your POI search in BlindSquare and transition directly into route creation in the RNIB Navigator app.

To create a route via BlindSquare, search as you normally would using BlindSquare to determine your destination point of interest. Once you select a point of interest, you will go to the details page. Swipe until you reach Plan a Route, double tap to select this option. The Select Navigation app screen will offer the following choices Sendero GPS, Google Maps, or Maps. Select Sendero GPS and you will hear “POI Name is selected as a destination, starting navigation application Sendero GPS.” You will then be prompted to select a route type, Pedestrian, Vehicle, Getting Warmer, or Bicycle.

Location/Where Am I?

The Location screen gives you a list of your location details. The items listed are:
Near – announces the nearest address to your current location.
Heading – If you are moving, this announces your current heading in degrees and compass direction based on your movement.
Direction – If you are stationary, this announces the direction you are facing in degrees and compass direction based on which way your phone is facing.
Intersection Ahead – announces the street name and direction of the road junction ahead of your current location.
Nearest POI – announces the nearest POI

Sub Menu button allows you to access the following information:
Location Accuracy – announces the approximate position accuracy in the number of feet, yards or metres, as you wish. Accuracy can vary from a few feet in the open to hundreds of feet if you are inside a building or among tall buildings.
Altitude – announces your approximate Altitude in feet, metres, or yards. Under 100 feet, it will say "sea level."
When a route is loaded the Location Screen will also display and announce your next turn, direction to your destination and the Estimated Arrival. This is the result of the current time plus the number of minutes to your destination based on the speeds associated with each road in your route. For example, if you have created a route that will take 15 minutes and it is now 12:30PM. The estimated arrival will be 12:45PM. Note that on the Route screen, the Estimated Time of Arrival, ETA, will only be the amount of time of the route and not the time on the clock for your arrival.
GPS Speed – announces the tracked speed of your movement. While you are standing still, this announcement should not report anything, but if the GPS accuracy is poor, it might report a speed while you are standing still.

Location Shake Feature

A firm shake of your device will refresh the Location information and announce the items on the screen. You will hear a ding and vibration indicating this update is in process. The Shake activation is designed to operate when you are holding the phone roughly upright. The Shake should not trigger when the phone is upside down, say in your pocket. Note: vibration feedback is only available on iPhones.

POIs

POI Search

The Points of Interest (POIs) screen allows you to search for:

1. **A nearby POI** - If you do not know the exact name of the POI you want to find or just want to know what is around you, use this search. There are two ways to do a nearby POI search:
    a. Nearby POI List Shortcut Gesture - To do this, navigate to the POI menu button, once you hear "POIs Menu," you can perform a one-finger double tap, hold and release. You will go directly to the Nearby POI list screen.
    b. Leave the text input blank and select Search.
2. **A specific POI**, e.g. "UPS Store" – To do this search double tap on the text field, then use the keyboard on the bottom portion of the screen to type in the text of the POI you want to find and select Search. If you enter text, a Clear Text button will appear next to the text field. Use this to quickly erase the text if need be.
3. **A nearby POI in a specific category**, e.g. Food, Lodging, etc. - If you want to search for a POI within a specific category, scroll down the page to the list of Categories. Select one of the categories listed. Then a list of nearby POIs from the category you have selected will be displayed.
4. **A specific POI in a specific category**, e.g. "Mel's Diner" in Food - select one of the categories listed, then when that screen loads enter the POI into the text field.
5. **A User POI** that the user has added using the User POI button
6. **An indoor location** with Bluetooth beacons – under development

The search results may vary depending upon which of the POI sources you have picked. To change the default POI database Source, go to the Settings Menu, then select General, then scroll down until you hear POI Source. You can toggle between FourSquare and Google POIs. Foursquare has a great number of points in most locations. Foursquare is a web and mobile application that allows registered users to post their current location to share with friends. Because users are able to create points, you will run across some questionable points along with mostly good ones. You can even find points inside airports and malls, which you can somewhat navigate to with marginal indoor position accuracy. If you select Google, keep in mind that the maximum search distance is 50 km or 30 miles. If you do change the POI Source, it will remain active even when you exit the app and come back in.

POI Action Buttons

After searching for a POI, you will be presented with a list of matching POIs from which to choose. If there is no match, you will be presented with the choice of expanding the distance of your search, changing POI Source, or cancelling your search. Using Foursquare POIs you can search up to 200 miles usually in 20 mile increments depending on the density of points in the area. For Google, the maximum

search distance is roughly 30 miles. Once you select the correct POI from the list, the Route creation screen will load. The POI address, phone and distance will be listed along with up to 6 action buttons:

1. The **Pedestrian button** will create a pedestrian route to the POI.
2. The **Vehicle button** will create a vehicular route to the POI.
3. The **Getting Warmer** button will create a Getting Warmer route to the POI.
4. The **Bicycle** button will create a Bicycle route to the POI.
5. The **Uber button** will launch Uber if you have it installed on your phone. You can then schedule an Uber ride to the POI.
6. The **Call Button** will call the highlighted phone number if there is one. You will be asked to confirm that you want to place the call, select Yes to place the call. Note: This button will not appear if the phone number is not available or if you are running the app on an iPad.

User POIs

It is very helpful to create your own user Points of Interest. Your user point at the front door of a building is more accurate than the general address for that building. You can customize the information for these POIs by providing the name, category and tag to make this POI as detailed and relevant as you need it to be.

The User POIs are automatically sorted along with the commercial POIs when you use the POI Find commands. In order to differentiate between commercial POIs and User POIs when they automatically trigger, we have added a crackling sound preceding the User POI announcement of its category, tag and name.

Adding User POIs

To add a User POI, go to the relevant location, try to be in clear view of satellites for several seconds. Choose the User POI button and then the Add button. First input the Name of the POI. Then select an appropriate category, the default is User, but you can also choose from Hotel/Accommodation, Pedestrian, Restaurant, Shops and Services, Travel, Transportation & Entertainment or Undefined. Then you can select a Tag (e.g. Door Main, Driveway, House, Bench, Door Alternate, Automatic, Inset, Revolving, Elevator, etc). You can choose to create your own tag to add further information about the User POI. Note that the most popular categories are at the top of the list and the others are alphabetical afterwards. Since not all of these will fit on the screen, you will need to scroll down with a VoiceOver gesture to expose the lower part of the category list. Same with the Tag list, which defaults to Door Main. Press the Save button when finished. Note that the GPS location of your point will be established when you press Add before filling in the fields and not when you press Save at the end.

Shortcut Gesture to Add User POIs

You can go directly from the Location Screen to the Record User POI Screen. When you are on the Location Screen, you can perform a one-finger double tap and hold. Once you hear a three part tone, you can release your hold. You are now on the Record a User Point of Interest screen.

Editing or Deleting User POIs

You can subsequently edit a User POI by choosing it and changing the fields accordingly. There is no need to press save again. There is also a Delete button within the User POI details.

Sharing User POIs

There are two Sharing options, share all your User POIs or share a specific User POI. To share all User POIS select the sharing button from the User POIs list screen, this will export all of your user points. To share a specific User POI go to that User POI details, the sharing button will share only that point, not the whole list. When you select the Sharing button, you have two options to export your points. One is AirDrop and the other is Email. It is a good idea to export the points as a back-up, especially after you have created a lot of User POIs. You may also want to email your User points to another user.
To import User points, click on the attachment from your phone's email. It will have a .sen extension. You will be presented with several sharing buttons. Choose the button with the name of the app you wish to import the user points into, i.e. Seeing Eye GPS. When you choose it, the app will open and the points are imported and merged with any new points you might have created. If you delete the app, your User points will also be deleted. If there are points with exactly the same position and name the duplicate will be deleted.

Make sure before updating this app that you have emailed your User POIs to yourself in case they are erased during the update. Then you can click on the attachment within your phone's email client to copy them into the app.

Beacons

There are numerous Bluetooth beacon apps emerging throughout the world and some have accessibility features. Most beacons are app-specific. Some beacons are up in conference situations. There are still very few venues where they are available. We hope to see app providers cooperating in order to have cross-app compatibility so this app and others can work wherever beacons are installed.

The beacons button will take you to our partner app, LoudSteps. The main page displays venues that are available to indoor orientation. There are various locations nationally and internationally that have been mapped with Bluetooth beacons to enable indoor orientation. If you are in a location that has been mapped with beacons, select it from the list.
When you are using LoudSteps at an available venue, the application announces the Points of Interest (i.e. Cafeteria, ATM, Vending Machine, etc.) that are close to you. You can select a destination and LoudSteps will provide clock-face (getting warmer) directions and the distance between you and your destination.

To exit the LoudSteps app, select the back button from the LoudSteps main screen and you will return to the place where you were in the Seeing Eye GPS app.

POI Shake Feature

While you are on the POI Screen Search results screen, if you shake your phone, you will hear a list of nearby POIs. The Shake activation is designed to operate when you are holding the phone roughly upright. The Shake should not trigger when the phone is upside down like in your pocket. A ding and vibration will indicate a query for nearby POIs is in process. Note: vibration feedback is only available on iPhones.

Map

The map button will load a visual Google® map of your current location. Your current location is marked with a blue dot on the map. Since this is a visual image, VoiceOver will only announce the buttons and heading across the top of the screen, Back button, LookAround Wand, Map Heading, and the Repeat button. With VoiceOver turned off, you can use the standard scroll, zoom in and out touch screen gestures.

Settings

There are six settings buttons within the Settings Menu, they are Background Operation, General, Routing, LookAround, About, and Subscription.

Background Operation, On/Off

The default is On. When Background Operation is On, routes and other announcements will remain active when you exit the app or lock the phone. The status of this selection will remain the same until you change it. If you have Background operation on, remember to use the App Switcher to close the RNIB Navigator app when you are not using it in order to save battery. Another benefit is that you do not have to worry about accidentally triggering the app if it is locked and in the background. Automatic announcements work in the background when you leave the app or lock the screen with the following limitations.

You can lock the screen by pressing the power button momentarily. You can also press the home button to exit the app while leaving it running. Be aware that if it isn't talking or playing alerts, you may forget it is in the background and it will continue to drain the battery. If you don't want the app to run in the background, either go to the app's Settings and turn off the Background Operation or use the App Switcher to Close the app.

Most sounds and verbal prompts should work properly most of the time when in the background. Phone calls or other events may interfere. You can make a phone call with Siri or receive a phone call and still hear the app's prompts. However, it may lag behind or miss the occasional prompt. Do not rely on it if you are in a call. If you are walking, it isn't safe to multi-task like this in any event.

When in the background, you will hear voice prompts under iOS7 or later but those prompts are not Voiceover. It is the same Apple voice, but you have no control over its volume or speed. Be aware that the voice may be quite a bit louder than your VoiceOver settings, which means that the other event sounds, such as the recalculation ding or approaching turn sound, may be relatively quiet. The app's built-in Wav prompts like Continue Straight act the same as the approaching turn or turn now sounds. This Apple voice is set to be 80% of maximum volume and at a speed of 50 per cent.
If you have iOS 6, you will only hear the sounds and Wav files but not the voice prompts. You will also feel the vibration alerts. Again, do not rely completely on the background functions. The purpose of running in the background is so that you know when to return to the app when approaching a turn or when you hear a POI you want to find.

Remember to unload the app if you don't want it running in the background to save battery.

General Settings

Contains the following items:

Units: Choose from Feet, Metres or Yards. Feet is the default, so when you navigate through the choices, you will hear "Selected, Feet button." To change this, navigate to your preferred units and select.
Home Address: Enter your home address here to save time when you want to be routed home. Select the Set button and you can choose between Type address, Current Position or Select from Contacts.
POI Source: Choose between using FourSquare or Google POIs as your default POI Source.
Shake: The Shake Feature is available in the Location, Route Loaded and POI Results Screens. You can choose either On or Off. Under this selection, you will hear "Shake On", which is the default. To deactivate Shake throughout the application, select Shake Off.
Low Vision: The Low Vision options offer three choices for the background and text themes, Black/White, White/Black, and Yellow/Black. Black/White, or Black text on a white background is the default, so when you navigate through the choices, you will hear "Selected, Black/White, 1 of 3." To change this, navigate to your preferred Low Vision settings and select.

Routing Settings

Contains the following items:
Auto Repeat: The default for this toggle is on. An Auto Repeat function helps to ensure that you hear important information automatically. This applies to the next turn and destination information. As you get closer to your destination, the turning announcements automatically repeat more frequently based on the same parameters as the Getting Warmer function. This is every 15 seconds under 500 feet, every 30 seconds from 500 to 1,000 feet, every minute from 1,000 feet to five miles and every five minutes beyond five miles. The destination information is also repeated under 1,000 feet.

Vibration Alerts: This On/Off toggle defaults On. When the vibration alerts are turned on you will receive a vibration along with the audio alert for "Turn now" and "arrived at destination." Note: vibration feedback is only available on iPhones.
Send Route Logs Button: If you encounter a problem during a route, use this feature to send your recent logs to the development team. There is an optional text box where it would be helpful if you would provide a brief indication of what the problem was. Once you press the Done button, wait a few seconds to hear a prompt indicating the logs were uploaded successfully. If they don't go through, make sure you have a good network connection and try sending again.
Arrival Distance: Choose from 50 feet, 75 feet or 100 feet. 50 feet is the default. This distance controls how far away from turns, road junctions and your destination that these things will be announced. Be careful when expanding this trigger beyond the default 50 feet. When you navigate through the choices, you will hear "Selected, 50 feet button, 1 of 3." If you have chosen your Units to announce in metres, your choices will be 15 metres, 25 metres or 30 metres. If you have chosen your Units to announce in yards, your choices will be 15 yards, 25 yards or 35 yards.
Route Avoidances: Select the following items if you would like to avoid them in your routes: Highways (motorways) or Toll Road. As you navigate through the various items from this list you will hear the item and whether or not it is selected. If you hear there is an accident on the motorway for example, it can

be handy to force the route to avoid the motorway and to force the route to use local or frontage roads. Remember to change this back once you are finished.
Direction to POI: Choose from Clock Face & Right/Left, Clock Face, or Right/Left. The combination of Clock Face & Right/Left is the default. This setting allows you to choose how your directions are announced, e.g. POI is at 12 O'Clock, or POI is Ahead.

LookAround Settings

Contains the following items:
Intersection Level: Choose between Simple or Full level of detail. Full is the default, so when you navigate through the choices, you will hear "Selected, Full button." Simple describes a road junction by the street names without their orientation. Full will give you the clock face or left/right directions of the intersecting streets.
LookAround Update Interval: 15 Seconds is the default and the lowest interval you can select. If you would like to increase the number of seconds, select the "update interval slider, adjustable" button, and swipe upwards to increase or downwards to decrease. When increasing the interval from 15 seconds, each upwards swipe will increase the interval by 4-5 seconds, i.e. 19 seconds, 24 seconds, 28 seconds, 33 seconds, etc. You can increase the interval up to 60 seconds.
LookAround Configuration allows you to set the movement speed at which you want to have your LookAround announcements:

1. Points of Interest: By default, the POI announcements will trigger when you are travelling under 15 MPH.
2. Intersections: By default, the road junction announcements will trigger when you are travelling Under 40 MPH.

If you would like to change either of these settings, say you want to turn the announcements off or perhaps you want POIs or road junctions to announce when travelling at higher speeds you can change this setting. The options are Under 15 MPH, Under 40 MPH, Always Announce or Never. If you have chosen your Units to announce in metres, your choices will be Under 25 KM/H, Under 80 KM/H, Always Announce or Never. Note that if you are in a highly populated area with lots of POIs and close road junctions, increasing these announcements might result in constant announcements and overall sluggishness of the application.
LookAround Wand allows you to include road junctions in the LookAround wand information. The default is On.

About Settings

Contains four items, the Application version number, a link to RNIB Navigator™ online manual, a link to the RNIB website, and a link to the Privacy Information.

Subscription Settings

Allows you to manage your subscription. When you are on this page, if you have saved your subscription, you will hear “Your subscription has been saved using the email address: “
Swipe once to check the expiration date of your subscription.
You can also extend your subscription on this page using the Extend for 1 month or 1 year buttons.
If you have not saved your subscription you can do so by selecting the Save Subscription button. Enter your email address and password to register your subscription.

RNIB Navigator™ General Notes

Battery consumption

As with any GPS application, the phone's battery will drain significantly when the GPS app is active. If you are using Bluetooth headphones and have Wi-Fi also on, the battery drains even more, as much as 30 per cent per hour. This may be less with the app in the background and the screen locked. The best solution is to always have an auxiliary battery with you.

Using an external GPS receiver may reduce the phone's battery consumption slightly as well as improving position accuracy. The Bluetooth must of course be on in order to connect to an external receiver. Check to make sure an external receiver is Apple compatible; not all are.

Note also if you are using a Bluetooth headset, VoiceOver will sometimes break up. It is not the application that is cutting out, it is the Bluetooth headset not reacting quickly enough when audio is sent to it after a period of silence.

Interrupting the app

If you make a phone call while RNIB Navigator™ is running, you may need to tap on the app again after the call is over. If you receive a call, the RNIB Navigator app should resume when you disconnect. If you had a route running, it should pick up again where you are now located after 10 seconds or so depending on the position acquisition.

Position Accuracy

The RNIB Navigator™ app announces location accuracy on the Location screen, like 33 feet or 16 feet, etc. This is a rough estimate. The position on an iPhone is a combination of GPS, cell towers and Wi-Fi. Many apps just call it GPS position but in fact it is a combination of these factors. For example, you can get a position inside an airport where it is highly unlikely any GPS signals are getting through and yet Foursquare POIs can be picked up and even navigated to using the Getting Warmer method.

Address and POI accuracy can vary a lot as well. Foursquare points are quite prolific and often right at the door of a business but you do have to put up with some junk users have recorded incorrectly.

Address matching can be right on or sometimes hundreds of feet off. For example, an outdoor mall may have one common address for all the businesses when in fact individual stores may be deep in a parking lot and away from the actual street address. Foursquare points may help in this matter as opposed to routing to the street number. It is wise to always be sceptical when it comes to the last 50 feet or so of any route. See the Sendero GPS accuracy document at http://www.senderogroup.com/support/GPSAccuracy.zip for more about this topic.

Audio Events

There are a number of audio events that augment VoiceOver in the RNIB Navigator app. The RNIB Navigator™ uses the built in Apple Ringer and Alert volume. If you have your mute button switched on, no app sound effects, i.e. Continue Straight, Turn Indicator, Magic Wand, route recalculation, background timer, chime, etc., will be played. Also since these are "Alert Sounds" the volume of this is adjustable in your main system's Sounds settings page which is "Ringer and Alerts." So if you go into your sounds setting's page and increase the ringer and Alert's volume, our sound effects will also be played louder. This is by design since this is a standard way Apple handles sound effects.

List of audio cues:
Sendero audio logo when loading the app.
Two-tone beep near LookAround Intersections plus the speech announcement of the street names.
Trill tone within 250 feet or so when approaching a turn and announcement of the turn.
Sound of a car indicator and vibration when it is time to turn followed by the turning announcement.
Ding when recalculating a route.
Ding and vibration for Shake queries.
Continue Straight human voice after completing a turn and in line with a subsequent turn.
Arrived at destination human voice and vibration when within the arrival distance.
Drip sound when GPS signal is lost or poor, meaning it will occur when accuracy is worse than 15 meters / 30 feet and will regain better than 15 meters / 30 feet.
Trill tone for GPS position acquired.
Crackle sound to indicate that a User POI is being triggered.

Language Settings

In order for the RNIB Navigator app to provide UK English terminology and spellings it is recommended that you change your phone's International language settings to British English. To do this go to your iPhone's General Settings, then go into International, and finally change Language to "British English" if it already isn't set to this.
For example, this will change terms from Ramps to Slip Roads and Auto Dealerships to Car Dealerships, etc.

Contact Sendero Group

There are many ways to stay in touch, get help and be informed on news about the app:

1. Visit the web site at http://senderogroup.com to get the most up to date information as well as get answers to Frequently Asked Questions at http://senderogroup.com/products/RNIBGPS/rnibgpsfaq.html;
2. Subscribe to the GPS user email list by entering your email at http://senderogroup.com/social_media/email.html and ask questions or share your ideas with other users;
3. Send an email to the support at ict@rnib.org.uk;
4. Follow @SenderoGPS on twitter to get the most up to date news;
5. Watch the video podcasts on Sendero's youtube channel at http://www.youtube.com/mysendero;
6. Like us on Facebook https://www.facebook.com/SenderoGPS.