
USER MANUAL

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Introduction

FindAround is an application that, when used in conjunction with a/several [bluetooth enabled device\(s\)](#) called beacon(s) - [see terminology section of this guide for more information about beacons](#) - , allows individuals to find people of interest (carrying beacons) in cases where placing a call may not be appropriate (limited network connectivity, the other person does not have a mobile phone, the user does not know the other person's telephone number,...).

It is designed for personal use including finding friends and family, and for large events, such as conferences. This application aims to decrease the stress of finding individuals in large settings and reduce trial and error by providing hints and pointers regarding a person's position. It seeks to improve interactions between individuals by making the process of finding a person more efficient and streamlined.

The system contains two modes: locate a person, and organizer mode. The typical user will be mostly interested in the *locate* mode, although the organizer mode, which allows individuals to add, pair and rename beacons is available to all.

Terminology

Beacons: small devices that use bluetooth technology to send information to tablets or smartphones.

FindAround works in conjunction with wireless Bluetooth-enabled beacons. The beacons allow the position of the people of interest to be accessed.

Use cases

Crowded space with certain people of interest

A person is attending a conference, hackathon, or job fair. Through their visit, they will need to easily locate mentors, company representatives, or keynote speakers. Our system aims to simplify this process by giving wireless beacons to these people of interest. These beacons would be linked to their name through our application by an administrator. The attendee can then use the same application to locate the person of interest easily.

Festival or other major public event

Festival attendees often have problems locating their friends in a timely manner, especially when the venue is vast extremely crowded. Our system would allow every member of a group of friend to have a wireless beacon, and then be able to locate each other through the application.

Locating family

Parents, when they take their children out to public places, are often worried about them getting out of sight. By giving a beacon to each child and registering them through our application, they can then easily locate a child if he/she goes out of sight.

Installing the application on a simulator

- 1) Go to <https://github.com/dancrisan/Locate-Around-> and click on "Download Zip"
- 2) A Mac with a minimal version of XCode 7 is required
- 3) Open the application by accessing WhosHome.xcodepro within the zip file
- 4) On the top left corner of the screen, press on the triangle to launch the simulator.

Mobile Phone Prerequisites

- 1) Enable internet and Bluetooth on mobile phone

Locate a person of interest

Figure 1 shows the startup screen of the application. To start locating people who have beacons in their possession, click on *Locate people*.

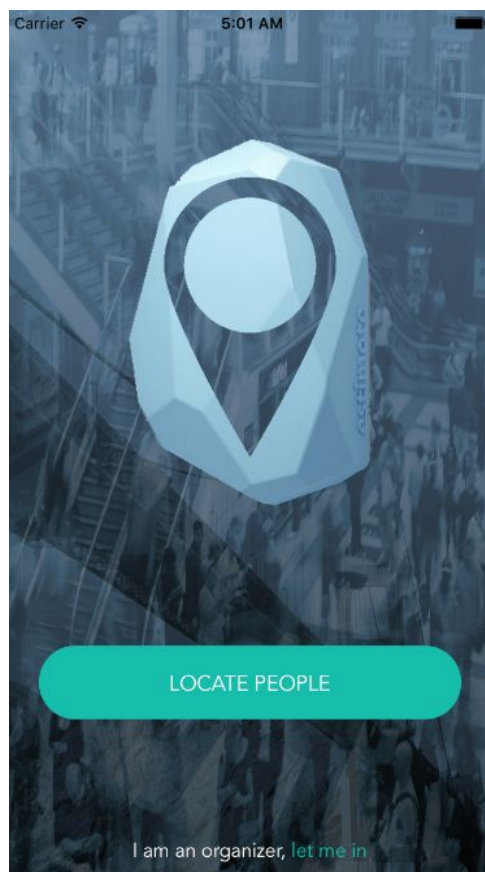


Figure 1: Start-up screen

Once the option *Locate people* has been selected, the screen in figure 2 (a) will appear if there are no beacons in range. If there are beacons in range, the screen in figure 2 (b) will appear. All people of interest in the vicinity (within the range of the beacons) will appear, along with their chosen title and name (set previously by the organizer) and their proximity.



Figure 2 (a) : No beacons in range



Figure 2 (b) : People of interest

Three levels of proximity exist:

- Less than 5 m
- Between 5m and 15 m
- Farther than 15 m

Searching for a specific person of interest

If you know the name of the person you are trying to locate, tap on the magnifying glass located in the top right corner. A search bar will appear; type in the name of the person you want to locate. An updated list showing results that contain the name specified will appear.



Figure 3: Search function

Connecting a beacon

Pairing a beacon allows you to become discoverable by users in your vicinity.

Note: Being a discoverable person does not require the use of the app. The beacon must be paired through the app but the app is not mandatory for beacon holders.

To connect a beacon, you must enter the admin mode. The admin mode is mainly aimed at the individual setting up the activity or event.

Click on the *I am an organizer, let me in* on the start-up screen. This action will bring you to the 'what's around' screen.

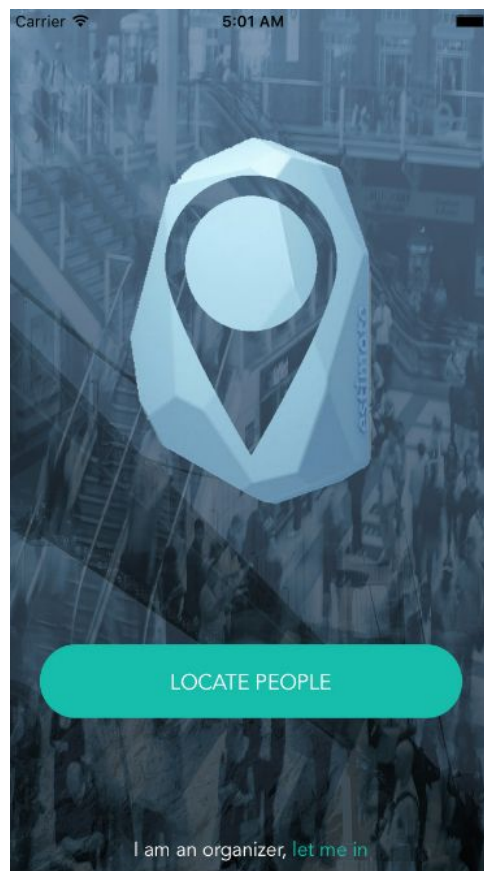


Figure 4: Admin mode

If no beacons are in range, an indication that no beacons are in range will be displayed on the 'what's around' screen.

Figure 5 shows the case where no beacons are in range.

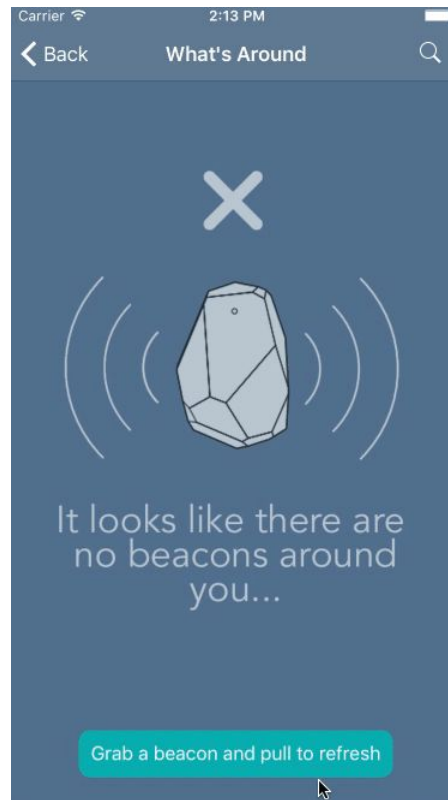


Figure 5: No beacons in range

A notification telling the user to 'grab a beacon and pull down to refresh' will also appear. In order to connect a beacon, take it and move it towards your mobile phone.

Pull down the screen to refresh. A notification indicating that a beacon has been detected will appear. The beacon ID should now appear on the *What's around* list. The number of in range beacons will also appear.



Figure 6: In-range beacon

Important: no other beacons must be present within a 1m radius

To connect the beacon, click on its ID. A pop-up screen with three options will appear (see figure 7).

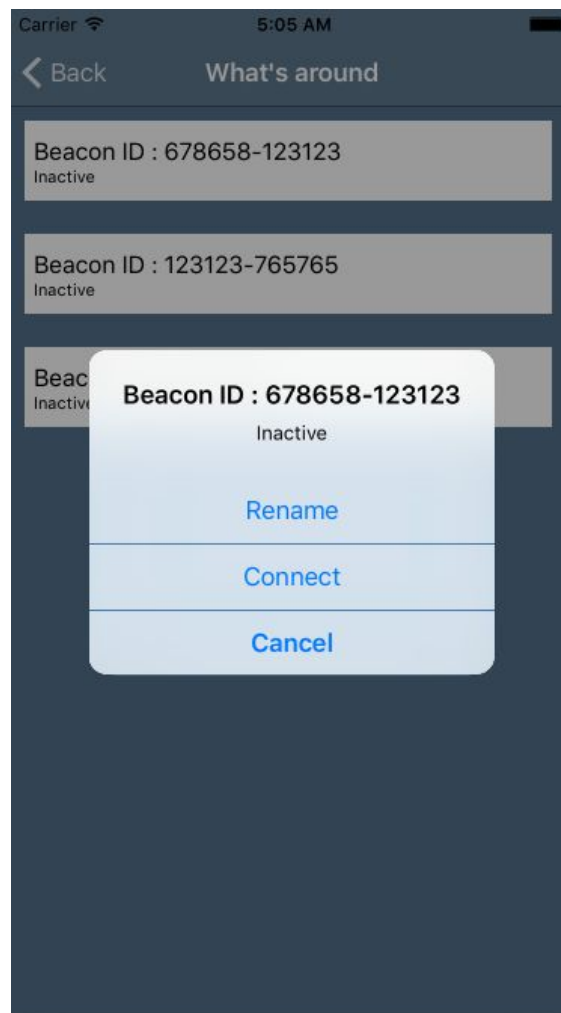


Figure 7: Pop-up screen

Edit name: As beacon IDs provide little information about the identity of the beacon holder, beacons should be renamed. The *edit name* function allows beacons to be renamed.

Clicking on *edit name* will make a second pop-up screen appear (figure 8). A text box allows the participant to rename the beacon.

* Tip: using a descriptive name will allow participants to find the person of interest more easily

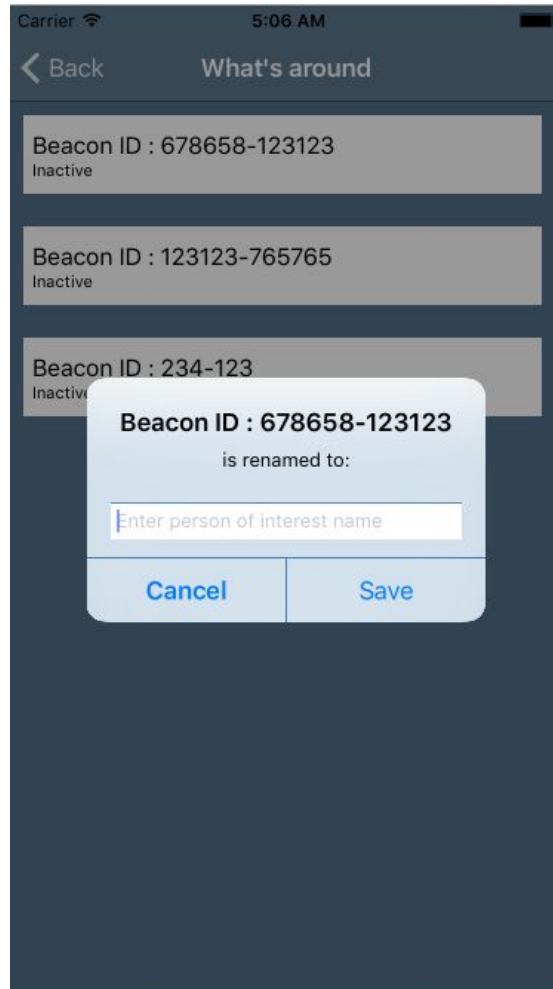


Figure 8: Edit name pop-up screen

Once you are satisfied with the name, click the save button. The *What's around* screen will reappear. To return to the list of beacons, click on cancel.

Connect: connect makes the beacon available to the participant. Participants in the *locate mode* will now be able to see this beacon. Click on connect to connect the beacon.

The *What's around* screen will reappear. The name of the beacon and its status ([active](#)) will appear (Figure 9)

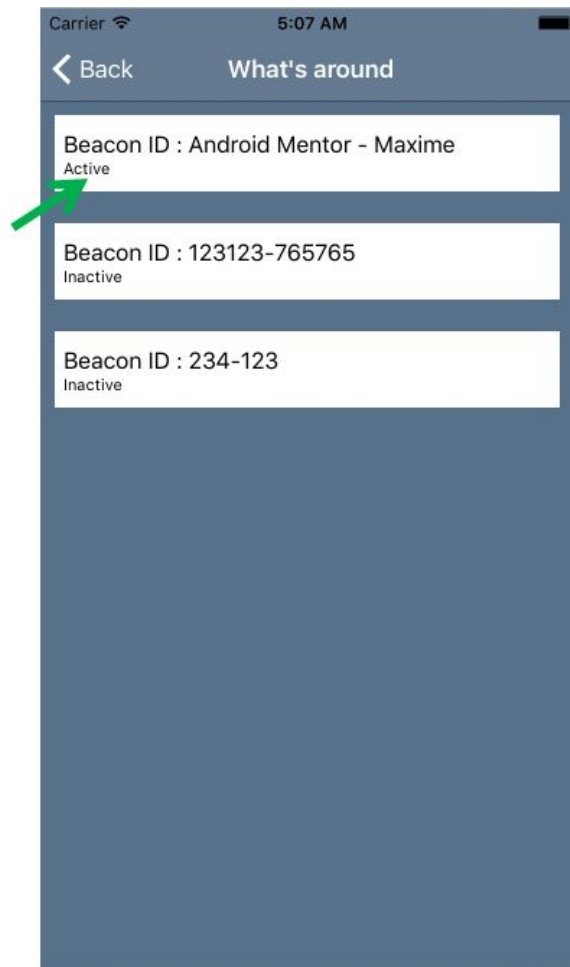


Figure 9: Beacon connected

Note: due to beacon technology, beacons must be paired sequentially.

Once the beacon is connected, it can be given to a person of interest. At the end of the event, beacons must be returned and disconnected.

Cancel: return to the list of beacons available.

Disconnecting a beacon

To disconnect a beacon, tap on the name of the beacon you wish to disconnect. The same pop-up screen (same as when you connect the beacon) will appear with only one change: the connect button will change to a disconnect option. Tap on disconnect to disconnect the beacon.



Figure 10: Disconnecting a beacon

Returning to the start-up screen

If you wish to return to a previous screen, press the back arrow situated on the top left corner of the screen.