User guide

Welcome to the Spot Market indoor position system. There are two main applications: the retailer and the client apps. Assuming that you are both the retailer and the client, you will first need to open the retailer app before being able to use the client app (well, to actually locate something you first need a map right?). Now, let's get started!

Retailer-side application

1. Log in to the application using the credential provided in the deployment guide
2. Draw a map (see the 'how to draw a map' section)
3. Upload the map
4. Specify the size of your room/store in metres
5. Click 'Submit' to submit the map
6. Customise the zone numbers if desired
7. Click 'Submit' to submit the map
8. Place the virtual beacons on the uploaded map approximately where the actual beacons would be positioned in the real-world settings
9. For each beacon, specify major and minor (see 'how to find major and minor' section)
10. Click 'Save' to save your updates
11. Open '.csv' files that were generated in the 'files' folder to check the points of the zones and the beacons

Client-side application

Currently, the store details need to be updated manually on the mobile application.

1. In your text editor, open 'LocateUser.cs'
2. Go to line 171 in the source code and modify 'mapBeacons[]' array to specify the number of beacons and their positions. The 'BeaconOnMap' class takes 4 parameters: the major, the minor and the positions on the x and y axis. This data can be found in the '.csv' files.
3. Got to line 195 to the 'getClosest3BeaconsOnMap' function. In the for loop, change the number 4 with the current number of beacons in the 'mapBeacons[]' array.
4. Add the map of the store to the project.
5. In your text editor, open 'Map.cs'.
6. Got to line 212 and change the 'content' string to the data in the CSV which specified the points of the zones. For each new line of data in the document, add a '\n'.
7. Go to line 22. For the items that are specified there, change the 'zoneToHighlight' variable if you need other zones highlighted.
8. Go to lines 62 and 69 and change the "Resource.Drawable.[name]" bit to the name of the map. For example, if map is named 'store', change it to "Resource.Drawable.store".

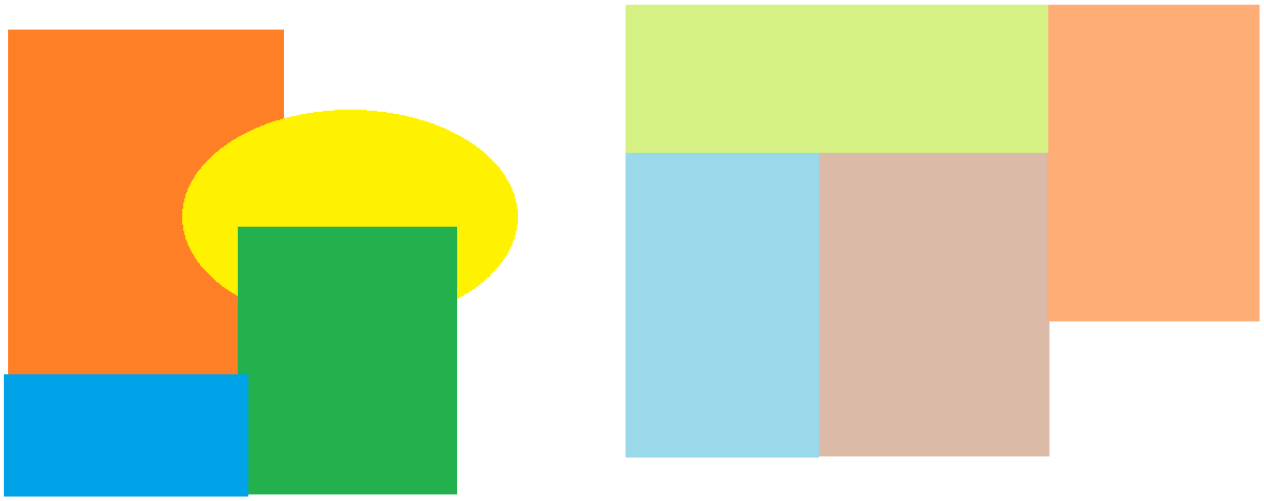
9. Everything should be configured to the new store information. Run the application.

How to draw a map

The map can be easily created in tools like Microsoft Paint by following a certain format:

1. Each zone should be drawn using standard shapes (circles, triangles, rectangles)
2. Each zone has to be of different colors, otherwise the system won't detect them as separate.
3. The photo has to be saved in ".png" format and the background should be made transparent (there are tutorials online for how to make photos transparent directly in Paint, but we used tools like Photoshop or Gimp for this).
4. It is recommended that the map takes as much space as possible in the photo so that it is as big as possible on the phone screen.

Examples:



How to find major and minor of a beacon

The major and minor are 2 parts of the ID of each beacon (every ID being unique). Those can be found in a few ways:

1. Using the Estimote App from the Google or Apple Stores (depending on OS) and then finding the beacons with it.
2. When buying Estimote beacons, they are assigned to an account, and users can therefore login to a web dashboard and directly check those 2 values.