





PSOIX SDK User Guide

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1. OVERVIEW POSIX SDK!



Sentrax's POSIX SDK offers developers a range of functionalities to integrate locationbased systems seamlessly into their Android applications. This SDK ensures precise user positioning and real-time floor detection through advanced algorithms. Additionally, it includes efficient beacon management methods, allowing developers to adjust configurations on the fly. Moreover, the SDK is compatible with Solix Suite

and supports integration with developers' custom backends. When it comes to calibrating parameters like RSSI, developers have the flexibility to utilize RSSI data generated by the SDK, presenting it graphically for each beacon.

1.1. How to Install:

Step 1:

Download POSIX application from Play Store using this link: <u>https://play.google.com/store/apps/details?id=com.sentrax.posix</u>

Step 2:

Ensure a minimum distance of 1 meter between each beacon. Positioning is confined to the designated beacon area. In the example above, the square area formed by the placement of four beacons determines the accuracy of positioning. A larger area results in lower accuracy.





Step 3

Access <u>Solix portal</u> and setup beacon devices with the following steps:

- 1. To add devices to any floor, go to the buildings drop-down on the bottom left of the navigation panel
- 2. And then select Devices, then Device List in the drop-down. (Highlighted in Green Box in Figure 1)

sentrax sour									Welcome t	Demo1 User			
🍘 Dashboard	Floor Devices	Floor Devices Add New Devices											
Q Location	Show 25	Show 25 entries Search								Copy CSV Excel PDF Print			
Beacons (Showing 1 to 9	of 9 entries											
	S.No.	1 Device Id	Device MAC	Device Serial	Device Type	Building Name	Floor Name	Floor X	Floor Y	Delete			
Gateways <	1	55	40:d6:3c:54:30:61	50080010010	Gateway	Summit Tower	Executive Office	101.994	191.494	Delete			
, Buildings Y	2	67	40:d6:3c:77:0a:f1	50080010007	Gateway	Summit Tower	Executive Office	77.8032	558.413	Delete			
Buildings	3	1	F59A16C1EA59	50050020007	Beacon	Creativity Pavilion	Design Studios	353.675	88.0786	Delete			
Floors	4	2	FABEA6AEB24A	50010010002	Beacon	Creativity Pavilion	Design Studios	510.366	244.052	Delete			
Regions	5	3	F1ED5E421753	50010010003	Beacon	Summit Tower	Executive Office	91.6404	423.664	Delete			
Anagement (6	4	F37D528F56D5	50050020003	Beacon	Summit Tower	Executive Office	76.4956	668.312	Delete			
	7	15	D92D1F649EFB	50020020002	Beacon	Summit Tower	Office 2nd	23.125	189.8	Delete			
Support (8	16	BACDEFABCDCD	50020020004	Beacon	Summit Tower	Office 2nd	23.75	180.05	Delete			
	9	17	ABCDEFFEDCBA	50020020003	Beacon	Summit Tower	Office 2nd	17.875	180.451	Delete			



- 3. It will show the list of devices already added to the floors. If no devices are added it will show empty list
- 4. Here to add a new device click on Add New Devices Button on the top right of the page (Redbox). It will redirect to a page where the user can view the floor they are adding and set name and description. (Figure 1)
- 5. Here, From the drop-down box (highlighted with Red Box in Figure 2) select a building then, select a floor where you want to add a device. It will redirect to a page where the floor map will be loaded.

sentrax soux	Welcome to SOLIX Platform
🔀 Dashboard	Add New Devices
Location	Summit Tower
Beacons <	
Gateways <	Please Select Hoor
📕 Buildings 🗸 🗸	
Buildings	
Floors	
Devices	
Regions	

Figure 2



6. The devices will be visible on the floor if there are devices already added on this floor (Red box in Figure 3)



Figure 3

7. The devices will be visible on the floor if there are devices already added on this floor (Red box in Figure 3)



- 8. Now, on the floor map click on the position where you have installed the device. After clicking (Highlighted in Green Box in Figure 4) on the floor map a pop-up will appear on the screen (Highlighted in Red Box in Figure 4) asking to select the device type from the drop-down (Select Beacon).
- 9. After selecting the Beacon, it will list the number of devices (Serial numbers).





Figure 5

- 10. If you select Beacons from the Device Type drop-down it will only show device drop-down of Beacons (Serial numbers).
- 11. Pressing OK takes the user to the Devices list as shown in Figure 6 with new device added shown

sentrax soux	=								Welcome to	SOLIX Platform Demo1 User
🙆 Dashboard	Floor Devices									Add New Devices
Q Location <	Show 25	entries					Search:		Copy C	SV Excel PDF Print
Beacons	-	10. 10								
Gateways <	S.No.	1. Device Id	Device MAC	Device Serial	Device Type	Building Name	Floor Name	Floor X	Floor Y	Delete
	1	55	40:d6:3c:54:30:61	50080010010	Gateway	Summit Tower	Executive Office	101.994	191.494	Delete
🚦 Buildings 🛛 👻	2	67	40:d6:3c:77:0a:f1	50080010007	Gateway	Summit Tower	Executive Office	77.8032	558.413	Delete
Buildings	3	1	F59A16C1EA59	50050020007	Beacon	Creativity Pavilion	Design Studios	353.675	88.0786	Delete
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Devices		2	FABEADAEB24A	50010010002	Beacon	Creativity Pavilion	Design Studios	510.306	244.002	Delete

Figure 6



2. POSIX BETA APP Walkthrough:

2.1. Solix Login

User can log in using their Solix account, providing access to retrieve information on buildings, floors, and beacon details

11:17

2.2. Building

Choose the building to initiate the scanning process.



2.3. Live MAP

Upon logging in with a Solix account, users gain access to comprehensive details regarding buildings, floors, and beacon information.





2.4. Configuration Map

Beacons are conveniently presented in the configuration tab view, facilitating straightforward configuration through a simple click.

sentrax

2.5. Configuration Screen

Users possess the capability to adjust beacon configurations seamlessly through the dedicated configuration screen.

2.6. Calibration Tools

Gain access to RSSI data for each beacon, empowering users to generate calibration graphs. An illustrative example is showcased in the provided sample app.

11:19 🖼 😫			🖘 III 64% 💼
< Configuratio	n		
MAC : D5:8A:19:7 Firmware : 2 iBeacon Settings	76:59:46		•
UUID			
56EF1F00-D8A8-4D50	C-8B37-1E203	75F2AE8	
Major	Minor		
2000	2006		
Calibrated RSSI	iBeacon Ir	nterval (sec)	
-45	0.3		
sBeacon Settings			•
sBeacon Interval (Sec)		5	
Eddystone TLM Set	ttings		
LED	Connected		SLEEP
CANCEL		APPLY	





2.7. Deploy Beacon on Solix

In the event of no beacon or floor being detected, the application presents users with two distinct options:

Open Solix: This option facilitates the deployment of beacons on the Solix floor map. Users can seamlessly integrate and position beacons within the Solix platform.

Change Building: Users also have the flexibility to switch to a different building that houses beacons.

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Posix Sample	€÷						
♥ Live Map	€ ¢ Live Map Config Map						
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to deploy beacon on Solix Portal							
	Open Solix						
	Change Buildir	g					



3. FAQ:

What is Sentrax's POSIX SDK?

Sentrax's POSIX SDK is a suite of functionalities crafted to bolster location-based systems in Android applications. It encompasses features for precise user positioning, real-time floor detection, and efficient beacon management.

How does the SDK provide accurate user positioning?

The SDK achieves accurate user positioning by employing sophisticated algorithms designed to determine the user's precise location within the application.

What is real-time floor detection, and how does the SDK achieve this?

Real-time floor detection is a feature enabling the SDK to identify the user's current floor dynamically. This capability is realized through the use of meticulous algorithms embedded in the SDK.

Can developers modify configurations in real time using the SDK's beacon management methods?

Certainly, developers can utilize the SDK's beacon management methods to dynamically adjust configurations in real time, enhancing the flexibility of the location-based system.

Is the SDK compatible with Solix and other backend systems?

Yes, the SDK is designed to be seamlessly compatible with Solix as well as developers' bespoke backend systems, providing adaptability to various environments.

How can developers calibrate parameters such as RSSI using the SDK?

Developers can calibrate parameters like RSSI by leveraging the SDK's functionality to access and display RSSI data graphically for each beacon.

Can the SDK be used for custom backend integrations?

Absolutely, developers have the freedom to integrate the SDK with their proprietary backend systems, offering a tailored and customizable solution.

What benefits does Sentrax's POSIX SDK offer for location-based applications?

Sentrax's POSIX SDK provides a comprehensive solution for location-based applications, offering benefits such as accurate user positioning, real-time floor detection, beacon management, and compatibility with Solix and custom backend systems.



Are there any specific requirements for integrating Sentrax's POSIX SDK into Android applications?

The integration process typically involves incorporating the SDK into your project and following the documentation provided. Ensure your project meets any hardware or software requirements outlined in the documentation.

How can developers get support or assistance with integrating and using the SDK?

Developers can refer to the official documentation for guidance and reach out to Sentrax's support team for specific questions or assistance with SDK integration.