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Beacons

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How do I modify UUID, major and minor values?

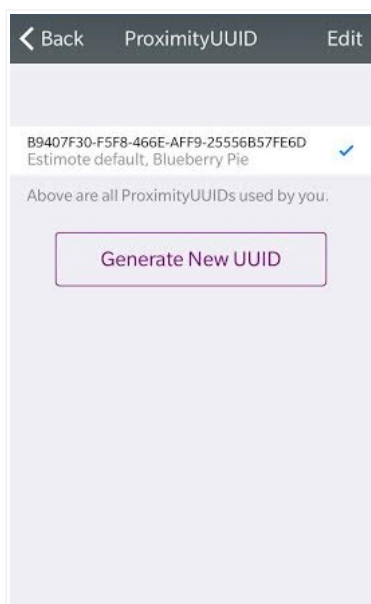
Every Estimote Beacon ships with a unique ID that you are free to modify using our SDK. It consists of three values: proximityUUID, Major, Minor. The first one is fixed, the other two are randomized.

Default proximityUUID: **B9407F30-F5F8-466E-AFF9-25556B57FE6D**

How to change beacon's ID using Estimote iOS app?

To change Major and Minor values, launch the Estimote app, open the *Beacons* screen, select a beacon and wait for the authentication to complete (you need to be logged in and connected to the internet). Now tap on *Major* or *Minor* and input the new value.

To change UUID, tap on *UUID* while connected to the beacon. You can either manually input a new value or generate it through Estimote Cloud. Remember that if someone else has already claimed a specific UUID for their beacons, our collision detection system will prevent anyone else from using the same one.



All changes will be automatically saved in Estimote Cloud.

How to change beacon's ID using Estimote SDK?

1. Start ranging for beacons using the `startRangingBeaconsInRegion:` method of the `ESTBeaconManager` class. Don't forget to `requestWhenInUseAuthorization` and add `NSLocationWhenInUseUsageDescription` to your Info.plist file. Why do you need that? Read more about [changes to Location Services in iOS 8](#) for more details.

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2. In your `didRangeBeacons` delegate method, find the beacon whose settings you want to modify (e.g. iterate through the list of beacons and check if UUID, major and minor match those of the beacon you're looking for) and `connect` to it.
3. In your `beaconConnectionDidSucceeded` delegate (consider implementing `beaconConnectionDidFail` as well, so that you know if something goes wrong), you can now use a variety of methods to modify the beacon's settings, including the ID:

To change the beacon's UUID: `writeProximityUUID`

To change the Major value: `writeMajor`

To change the Minor value: `writeMinor`

You'll find more in the [ESTBeacon class API reference](#).

Wondering if your UUID will stay unique? Read [Can I claim a UUID for myself](#)



Agnieszka Steczkiewicz
February 19, 2015 19:55

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2 out of 3 found this helpful

30 Comment(s)

None of the 6 Estimote beacons that I've received possesses that UUID. And my understanding from Apple WWDC 2013 documentation is that implementations are supposed to have the same UUID for beacons across, say, a chain of stores; then use the Major and Minor numbers to identify, say, the store/branch (Major) and the floor/department (Minor).

If Estimote is going to mandate the same UUID for all its beacons world-wide then that severely limits how we can design our apps, doesn't it?



Mike Schorah
1 year ago

I have similar worries. I don't particularly want my app being woken up in response to seeing any Estimote beacon, and I don't want to have to worry about having other beacons in the wild that share my major/minor IDs if we cannot change the UUID.



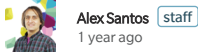
Mark Danks
1 year ago

I was thrilled to see the Tweet from Jakub at Estimote today confirming that they WILL allow update of UUID. I was concerned that we were going to be unable to use Estimote beacons after all if they didn't follow the Apple recommendations of using UUID to distinguish all beacons belonging to an organisation by sharing the common UUID. Seems we've got to wait for an update to the Estimote beacon OS and at this stage I'm not sure how we deploy that to the beacons, but no doubt all will become clear.
<https://github.com/Estimote/iOS-SDK/issues/9#issuecomment-29273312>



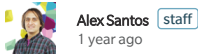
Mike Schorah
1 year ago

Hi all...I will check with Jakub on this change and update articles accordingly.



Alex Santos staff
1 year ago

Mike... the yet to be released Estimote app will allow the UUID to be changed but your beacons will require a firmware update.

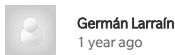


Alex Santos staff
1 year ago

So i get the importance of changing the UUID, major and minor values...it's the way to 'program' the beacons and be sure that would be in the context that should be (i.e. my green estimote beacon, i know it is uniq and located on my chilean store on the sports room).

Two questions:

- 1.- How it's gonna be an easy way to administrate all my beacons (imagine i have a hundred), how can i know some phisical of the hardware property itself to identify and set the correct values?
- 2.- Who is allowed (and i mean programatically) to use a 'change value' method of the beacons; because i need to protect them from any one that gets in my store and whants to change them only for bad.



Germán Larraín
1 year ago

Hi Estimote team,

I'm trying to change the major and minor values of my beacons, from what I've read I need to update my firmware, but when I try to read the firmware information of the beacons I get an error: "Error Domain= Code=404 "Firmware info not available" UserInfo=0x16e7c830 {NSLocalizedDescription=Firmware info not available}".

How do I update the firmware?

Thank you in advance



Ivan Rodríguez
1 year ago

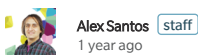
Hi Ivan

Our newest Estimote iOS app has a firmware update feature but the firmware is not yet ready.

Our SDK has also been updated. If you look up the ESTBeacon Class Reference you will find the following task available after connection, they include, firmwareVersion property and firmwareUpdateInfo property. There are also Firmware update handling methods: checkFirmwareUpdateWithCompletion and updateBeaconFirmwareWithProgress:andCompletion

German: in terms of security, which is your main concern, relative to spoofing the beacons with a rogue UUID or major, minor value. At this time, we haven't introduced a security layer but it's in the works. In the meantime don't deploy in a mission critical environment.

Ivan: are you using our SDK? Download our SDK from github and review the ESTBeacon Class Reference. It's all there. Remember, the Estimote SDK is a wrapper around Apple's CoreLocation framework.



Alex Santos staff
1 year ago

Hi I am wondering if I can disable or only allow modification of value like Major/ Minor etc. exclusively to some certain people.

Because when I put this device into real retailers, I cannot afford that customers can easily hack and modify the system simply by using Estimote Beacon App.



Felix Fan
1 year ago

Besides, I have found an article from Estimote mentioning this issue:

<http://blog.estimote.com/post/74816977799/estimote-app-v1-2>

"If you are building a mission critical app where security is important please make sure to implement security on your end. You can use our SDK to rotate the UUID or combine it with other signals, e.g. from GPS. "

May you talk more about how to implement

1. Rotating UUID
2. Combine it with other signals

For the 2. suggested solution, I believe it is still not solving the problem scenario, for example someone change the Major/ Minor Number, then combining GPS will still be invalid to detect individual beacons.

Thanks.



Felix Fan
1 year ago

I have the same question as Felix Fan. I would like to know more about rotating UUIDs and combining with other signals such as GPS. The latter probably means that you will use knowledge of GPS in addition to location estimation from the beacon to validate the location of the device. However I did not follow UUID rotation - does it mean that UUID changes ? is this done over the air or through code? How does the app know about the change? Does the app have to be signaled every time UUID changes so that it can update the regions it is scanning for?



Lakshmi Iyer
1 year ago

I just had a great Estimote Demo using the FREE iOS App - BEECON.

- Auto senses UDID, MAJOR & MINOR.
- You can create custom actions/ push notifications once it finds a beacon in range
- You can connect to each device and it will reveal its battery power and other status items
- I tried a few apps with less success, Placed - didn't work well, Beacon Harvester is decent, BLE Finder is ok but no custom messages, xBeacon is great if you speak/read chinese.

Good luck guys -

RJ



Ryan Johnson
1 year ago

@Lakshmi, Felix

Sorry it took us so long to answer your questions. Yes, the very concept of rotating UUID is based on the idea of changing Beacon's identifier with a given frequency. The purpose of this is security - rotating UUID makes hijacking a Beacon much harder.

It's currently not implemented in our SDK, but in a couple of weeks you can expect an update that will introduce the first layer of security to Estimote platform. Stay tuned!

Cheers.



Wojtek Borowicz staff
1 year ago

@Wojtek. Do you have any news on the update including security when it comes to changing the uuid, major and minor?



Jonas Nielsen
11 months ago

Hi there,

Yep, it's coming pretty soon. But for now we're mostly focusing on introducing authentication and making sure that we can prevent unauthorized access to Beacons.

Cheers.



Wojtek Borowicz staff
11 months ago

Well that was actually also what I meant so that is great. :) When do you expect this authentication will be implemented and how will it work?



Jonas Nielsen
11 months ago

Hi there,

It's almost ready, so you can expect the update pretty soon. It'll require confirmation by login that the Beacons are yours.

Cheers.



Wojtek Borowicz staff
11 months ago

Hi

Can any one please tell me how can I change default UUID in android so that beacons can not be located from the demo app? Please let me know the sample code for the same.

Thanks

Jitender



Jitender Saini
10 months ago

Hi Jitender,

Please check our Android SDK and the BeaconConnection class, it's explained there:

<http://estimote.github.io/Android-SDK/JavaDocs/>

Cheers.



Wojtek Borowicz staff
10 months ago

I encountered an issue while changing proximityUUID, major ID and minorID. I was successfully able to change the UUID from "B9407F30-F5F8-466E-AFF9-25556B57FE6D" to "AAAAAAAA-BBBB-CCCC-DDDD-EEEEEEEEEEEE", which is a test value. I was able to change the value to and fro many times and it was working. But yesterday when I tested it again, I am receiving an error from server saying "ProximityUUID value update failed due to server issue".

Also I was able to write major ID and minor ID successfully for the first time and then it starts showing "Beacon UID already taken". I have tried using many values but all I am getting is this error.

Can anybody please help me to get over the issue?



Maresh Mohan
9 months ago

Hi Maresh,

Please check if the problem is still occurring. Server issue shouldn't be a case anymore today.

Cheers.



Wojtek Borowicz staff
9 months ago

Hi Wojtek,

Unfortunately, I am still facing the same issue. May I know in which all cases will I receive this error?



Maresh Mohan
9 months ago

Maresh,

Are you using the app or our SDK to do this?



Ola Puchta staff
9 months ago

Hi Ola,

I am using the same code from your iOS SDK to discoverBeacons, connect to Beacon and then write to it. As I have stated before it was working. But currently it's not and it's showing the error I mentioned.



Maresh Mohan
9 months ago

Any update on this?



Maresh Mohan
9 months ago

Anybody have an update on this?




Maresh Mohan
9 months ago

Hi Maresh,

Sorry for the wait and thanks for your patience. We've reported it to our developers and they're currently investigating the issue. We will let you know as soon as we figure it out, stay tuned!

Cheers.



Wojtek Borowicz staff
9 months ago


Thanks Wojtek. Meanwhile when I tried now I am not even able to connect to the Beacon , it's returning error "Error Domain=com.estimote Code=401 "You are not authorized to access this beacon". Just wanted to update.



Maresh Mohan
9 months ago

Maresh,

Our developers replied to your questions on Github, let us know, if that helps.



Ola Puchta staff
9 months ago

Yeah Ola. That helps. I am proceeding as per their suggestion and hope it will work out.



Maresh Mohan
9 months ago

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