Estimote Unity - User Guide

v1.2.0

Oakley Mobile Ltd.

Table of Contents

Oakley Mobile Ltd.

Introduction

The Estimote Unity plugin allows you to use the Estimote SDK within Unity and deploy to iOS or Android. Whether you are using Estimote beacons or any other iBeacon manufacturer this plugin will work for you.

System Requirements

- Unity 5.5.0 or higher
- Android 4.1 (API Level 16) or higher
- iOS 8.0 or higher with compatible BLE enabled iOS device

Quick Start

There are a few steps to get started with the plugin. Follow the guide below to quickly get setup.

1. The first step is to create a new GameObject and rename it to EstimoteUnity.
2. Click "Add Component" on the EstimoteUnity GameObject Inspector and add the EstimoteUnity script.
3. Now select the EstimoteUnity Game Object.
4. Inside the inspector you will see a couple of errors. This is because we do not ship the Estimote iOS/Android SDK's within the package. (If you see no errors then you are already setup and good to go).
5. Click on the button below the warnings to open the Estimote Unity Setup window.
6. To perform the setup please follow the instructions in the window to download the SDK's. Once complete you will see their status labels turn from red to green.
7. Add in your beacon regions (UUID) within the General Properties section of the inspector. There is also a handy button to add the Estimote Unity UUID for you.
8. Complete! You are now able to use the SDK and build to iOS or Android.
9. When building to Android please ensure you are targeting Android 4.1 (API Level 16) or higher in the player settings, or if you are building to iOS please ensure you are targeting iOS 8.0 or higher.

Estimote Cloud SDK

You enable support for the Estimote Cloud SDK by enabling the feature in the inspector under the "Estimote Cloud" section. Within here you need to add in your App ID and App Token. There are links to take you to the app creation screen on the Estimote Cloud Portal.
Once you have enabled the support you can request extra information from a beacon using the GetBeaconCloudDetails() method within the EstimoteUnity class.

Oakley Mobile Ltd.

NOTE: This feature only works for Estimote Beacons and if you try to request details from a non Estimote Beacon then it will not work.

Examples

An example scene has been provided to showcase the features of the plugin. It is setup to let you build to your device and start scanning for Estimote beacons by default. It will show a list of beacons that have been found and if you click on one it will show you more information about tat beacon through the Estimote Cloud SDK.

API

EstimoteUnityBeacon Class

This is a unity representation of a beacon. It contains all of the core information regarding a beacon. This class is not specific to Estimote beacons and any beacon that is being ranged using this plugin will return an instance of this.

Variables

- UUID
  - This is the Proximity UUID for this beacon
- Major
  - This is the beacons major ID
- Minor
  - This is the beacons minor ID
- BeaconRange
  - This is a high level representation of the beacons distance from the device
- RSSI
  - This is the signal strength of the beacon, measured in decibels
- Accuracy
  - The accuracy of the proximity value, measured in meters from the beacon
- LastSeen
  - When the beacon was last seen by the device

EstimoteUnityBeaconCloudInfo

This class houses cloud details about a beacon. When fetching the cloud details for a beacon an instance of this is returned. Some of the details can be configured online using the estimote cloud portal. This class is specific to Estimote beacons only.

Variables

- UUID
  - This is the Proximity UUID for this beacon
- Major
  - This is the beacons major ID
- Minor
  - This is the beacons minor ID
- BeaconName
  - This is the name that has been assigned to the beacon through the estimote cloud portal.
- Color
  - This is a string representation for the color of the beacon.
- BatteryLifeDays
  - This is how long the beacons battery will last, measured in days.
- MacAddress
  - This is the beacons mac address.

EstimoteUnity Class

Variables

- BeaconRegions
  - These are the beacon regions (UUID's) you want to scan for.
- ForegroundScanConfig
  - The scan period and wait time for foreground scanning.
- BackgroundScanConfig
  - The scan period and wait time for background scanning.
- EstimoteCloudAppId
  - Your Estimote App ID.
- EstimoteCloudAppToken
  - Your Estimote App Token.

Events

- OnInitEstimoteComplete
  - An event called when the Estimote SDK has been setup.
- OnInitEstimoteCloudComplete
  - An event called when the Estimote Cloud SDK has been setup.
- OnStartedScanning
  - An event called when scanning has started.
- OnStoppedScanning

- - ○ An event called when scanning has been stopped.
  - OnDidRangeBeacons
    - ○ An event called when beacons have been found, returning a list of EstimoteUnityBeacons.
  - OnFetchedBeaconCloudDetailsSuccess
    - ○ An event called we have have fetched the cloud details for a beacon.
  - OnFetchedBeaconCloudDetailsError
    - ○ An event called when we failed to get the cloud details for a beacon.

Methods

- Initialize()
  - ○ This method must be called at the before you make any other calls. It will initiaise the core Estimote SDK and the Estimote Cloud SDK if you have it enabled.
- StartScanning()
  - ○ Calling this will start scanning for beacons. If any initialization needs to happen first it will automatically call this for you.
- StopScanning()
  - ○ Calling this will stop scanning for beacons. Once this has been called you will have to make a call to StartScanning() to receive more updates.
- GetBeaconCloudDetails()
  - ○ Calling this method will retrieve extra information about the beacon from Estimotes Cloud SDK. You can either pass in a UUID, Major and Minor values or an instance of an EstimoteUnityBeacon class.

Support

To contact us for support with this plugin please email us on support@o-mobile.co.uk
If you would like to stay up to date with the latest version of this plugin without waiting for asset store approvals please email us on the address above, along with your invoice ID for the purchase of this asset, and we shall send you the latest version.

Changelog

v1.2.0

- Added Estimote Cloud SDK support. You can now enable this in the EstimoteUnity inspector and request extra information about a Estimote Beacon using the GetBeaconCloudDetails() method.
- Added in more callbacks from the native plugin.
- All events are now UnityEvents and can be found under the "Events" section in the EstimoteUnity inspector.
- The demo scene has been overhauled. It now lists all beacons that have been found and selecting one will attempt to grab the cloud information for that beacon and display it.
- Updated the EstimoteUnity class so that it's now a partial class and EstimoteUnityAndroid and EstimoteUnityIOS are a part of that partial class.

v1.1.0

- Updated the Android Estimote SDK version to 1.0.3.
- Updated the iOS Estimote SDK to version 4.26.3.
- Overhaul of the EstimoteUnity inspector UI. Now much easier to use.
- Added in support for multiple beacon regions (UUID's). You can now use the new inspector UI to add beacon regions.
- Added in a button to add the default Estimote UUID to the list of beacon regions, if it has not been added already.
- Removed all logging within the native plugins and within the Unity C# scripts. Users can now add in logging themselves if they wish to.
- Updated the demo scene to support multiple beacon regions. Also added in a basic showcase for caching beacons and removing them from a list when they have not been seen for 'x' seconds.
- Fixed an issue when grabbing the accuracy value, sometimes it would throw an invalid cast exception.
- Made EstimoteUnityBeacon implement IEquatable so you can now do comparisons.

v1.0.7

- Updated URL for iOS SDK as latest EstimoteSDK has issues.
- Added in iOS 11 privacy permissions

v1.0.6

- Added in background scanning configuration values. You can now set the background and foreground scan period and wait time properties.

v1.0.5

- Removed the prefab due to serialization issues. Please break the prefab instance if you have one or delete and create a new instance as per the setup guide in this document.
- Added in scan period and wait time properties to allow you to configure how quick the scanning will perform.

v1.0.4

- Fixed an issue with the demo scene having a test UUID instead of the default Estimote UUID.

v1.0.3

- Fixed an issue when converting the beacons accuracy inside Unity.

v1.0.2

- Fixed an issue on Android where the Beacon UUID was hardcoded in the plugin to use Estimote's UUID.
- Implemented some further checks on Android to ensure a UUID is valid. If an invalid UUID is passed into the plugin then an error is logged (native).

v1.0.1

- Fixed an issue in the editor on Windows where you could not download from Github.
- Removed warnings from some scripts.
- Fixed an error where we was referencing Unity paths from within variables. Moved into a method.

v1.0.0

- Initial release
- iBeacon only support
- Support for single Proximity UUID
- Tested on iOS 10 and Android N

Oakley Mobile Ltd.