

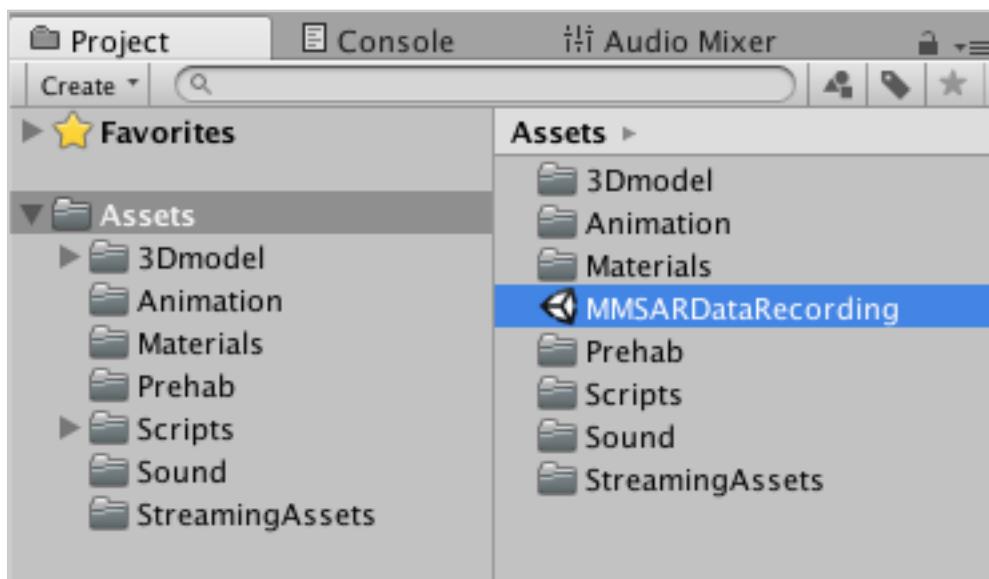
MMS AR interface for Unity

How to use

1. Import “MMSARInterface.unitypackage” to your project.

Make sure that all files are checked.

And open “MMSARDATARecording” scene.



After you open the scene, you can see a message “Display 1 No cameras rendering”.

Set up AR camera from the next step.

2. Sign up vuforia

Sign up to vuforia developer portal [<https://developer.vuforia.com/>]

Download and import vuforia-unity to your project.

The screenshot shows the Vuforia 6.2 SDK download page. At the top, there's a navigation bar with tabs: Home, Pricing, Downloads (selected), Library, Develop, and Support. Below the navigation bar, there's a secondary menu with tabs: SDK (selected), Samples, Tools, and Early Access. The main content area is titled "Vuforia 6.2". It says: "Use the Vuforia SDK to build Android, iOS, and UWP applications for mobile devices and digital eyewear. Apps can be built with Android Studio, XCode, Visual Studio, and Unity." Below this, there are four download sections: 1) "Download for Android" with a link to "vuforia-sdk-android-6-2-10.zip (5.80 MB)". 2) "Download for iOS" with a link to "vuforia-sdk-ios-6-2-9.zip (15.98 MB)". 3) "Download for UWP" with a link to "vuforia-sdk-uwp-6-2-9.zip (7.27 MB)". 4) "Download for Unity" with a link to "vuforia-unity-6-2-10.unitypackage (46.20 MB)". A red arrow points to the "vuforia-unity-6-2-10.unitypackage" link. At the bottom of the content area, there's a "Release Notes" link.

3. Upload AR marker.

Click “Develop / License Manager” and add license key for your project.

The screenshot shows the Vuforia Developer Portal. The top navigation bar has tabs: Home, Pricing, Downloads, Library, Develop (selected), and Support. Below the navigation bar, there's a secondary menu with tabs: License Manager (selected) and Target Manager. The main content area is titled "License Manager" and contains the text: "Create a license key for your application." Below this, there's a button labeled "Add License Key".

Create database of AR markers in “Develop / Target Manager”.

Click database you created and press “Add Target”. Select “Single Image” and upload image that you want to use as AR marker. Set width as 100 for the MMS AR interface.

Add Target

Type:


Single Image


Cuboid


Cylinder


3D Object

File:

.jpg or .png (max file 2mb)

Width:

Enter the width of your target in scene units. The size of the target should be on the same scale as your augmented virtual content. Vuforia uses meters as the default unit scale. The target's height will be calculated when you upload your image.

Name:

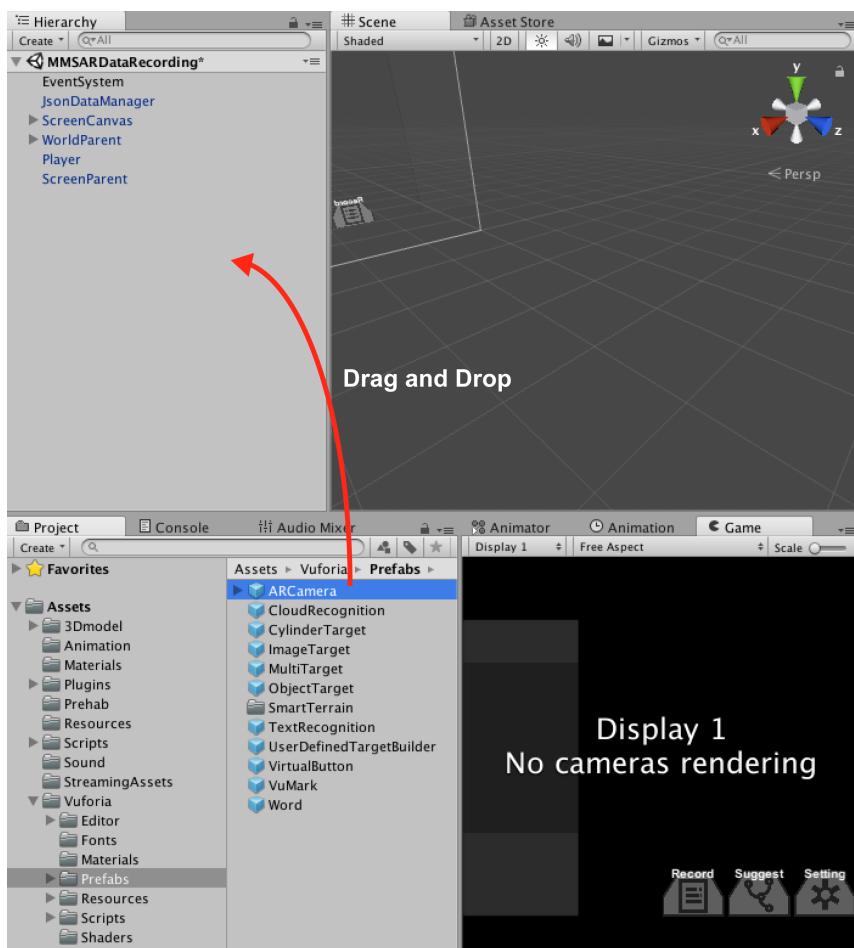
Name must be unique to a database. When a target is detected in your application, this will be reported in the API.

After upload AR marker, you can download your database at “Develop / Target Manager”. Click “Download Database (All)” and check “Unity Editor”. Download your database and import to your project.

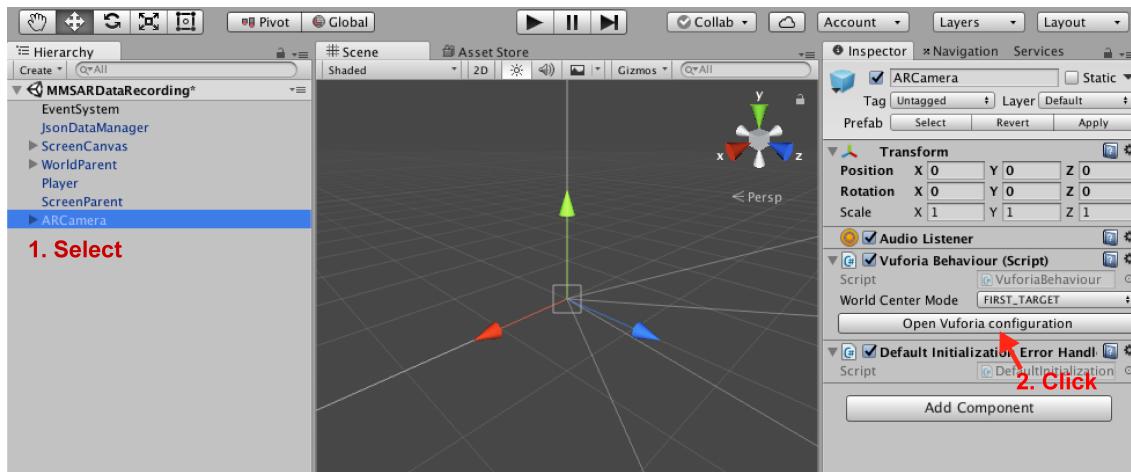
4. Set up AR Camera

Back to the your Unity project with “MMSARInterface” scene. Make sure that you have imported MMSARInterface.unitypackage, vuforia-unity-x-x-x.unitypackage and unitypackage of your AR marker database to your project.

Drag and drop the ARCamera prefab in “Vuforia / Prefabs“ folder to instantiate AR camera object.



Select ARCamera object in hierarchy view and click “Open Vuforia configuration” button in Inspector view. Then you can see App License Key box at inspector view.



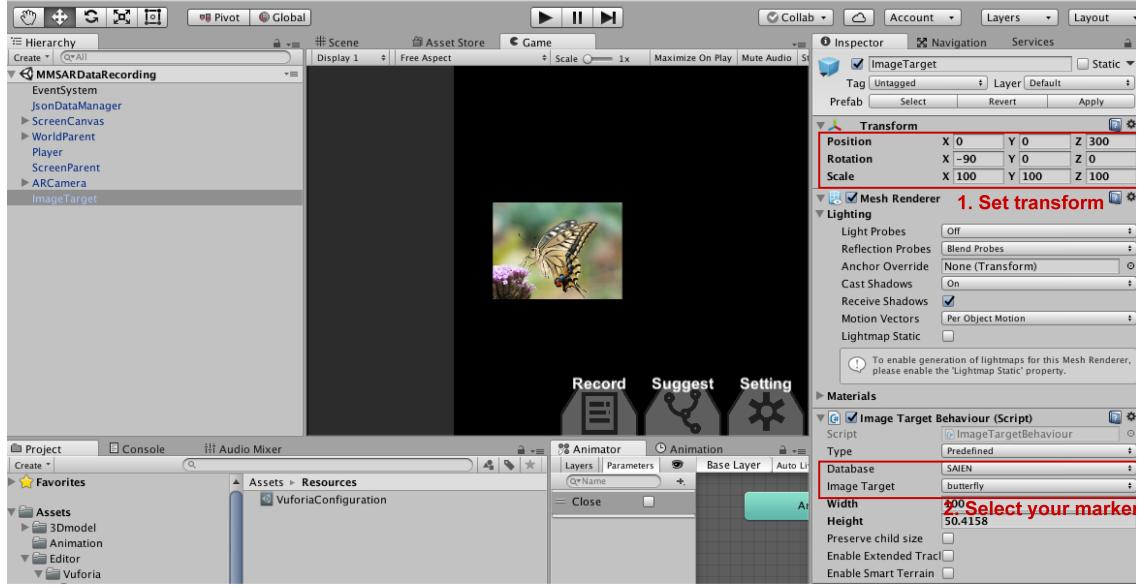
Open License Manager in Vuforia developer portal and copy the License key to the App License Key. And Check “Load [YOURDATABASE]” and “Activate” at Datasets.

5. Load Image Target

Drag and drop the “ImageTarget” prefab in Vuforia / Prefabs folder to hierarchy view.

Set transform as Position (0, 0, 300), Rotation (-90, 0, 0) and Scale (100, 100, 100).

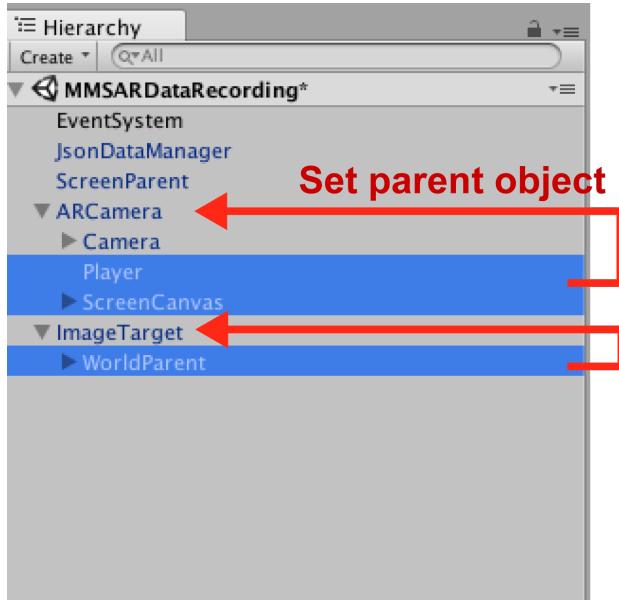
Select your database and AR marker at “ImageTargetBehaviour”.



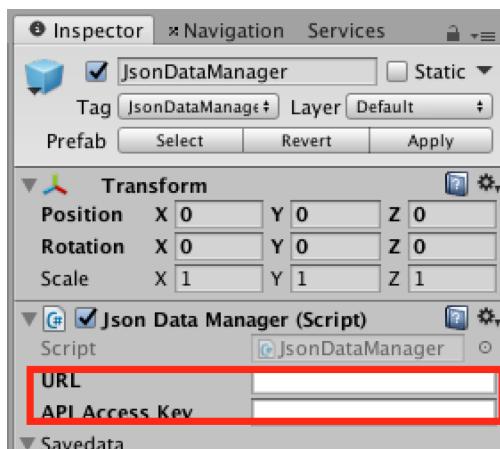
If your AR target did not displayed at scene view, open Editor / Vuforia / ImageTargetTextures / YOURDATABASE folder in project view. Select your AR marker and change texture type as “Sprite”.

6. Set Parent object

Drag and drop "Player" and "ScreenParent" object to "ARCamera" in hierarchy view to set "ARCamera" as a parent object of "Player" and "ScreenParent" objects. Also set "imageTarget" as a parent object of "WorldParent" object with drag and drop.



Select JsonDataManager in hierarchy view and set the URL of your MMS at "URL" and your API-Access key at "APIAccessKey".



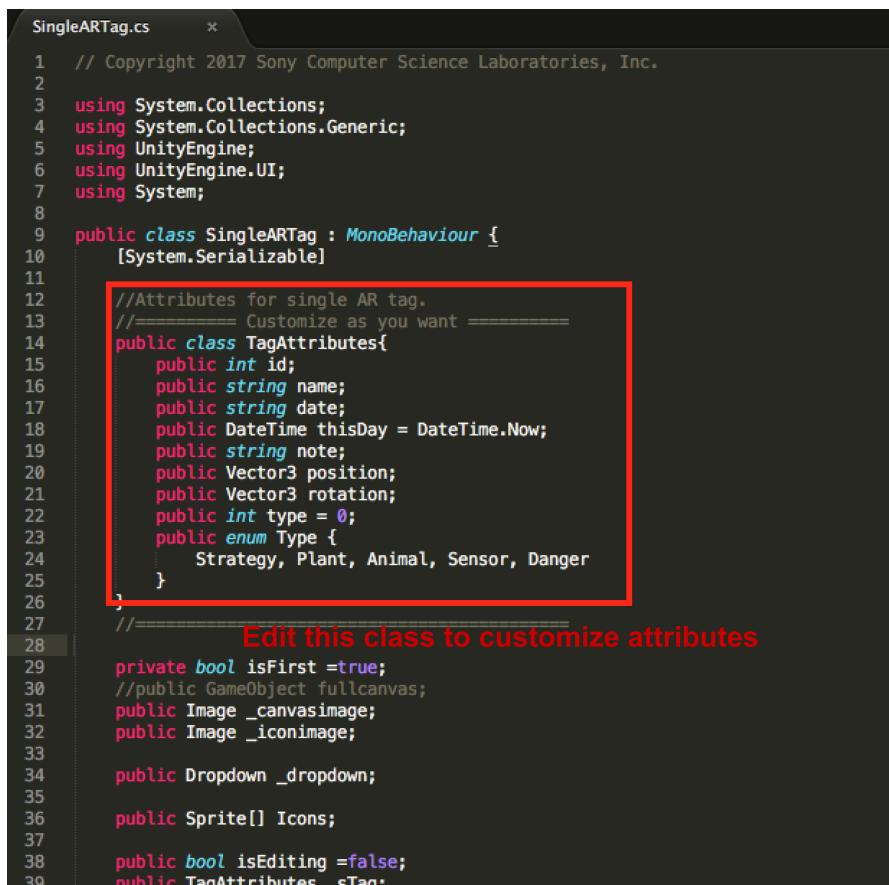
Set your URL and API-Access key

7. Build project and run with smart phone

Connect smart phone with USB cable and build your project. Display your AR marker and Press “Record” Button. AR tag object appears and input data are recorded as a json file. You can upload your recording data with “System / Upload to MMS” button.

8. Customize attributes of AR tag

You can change attributes of AR tag with editing “TagAttributes” class in “SingleARTag.cs”.



```
SingleARTag.cs      *
1  // Copyright 2017 Sony Computer Science Laboratories, Inc.
2
3  using System.Collections;
4  using System.Collections.Generic;
5  using UnityEngine;
6  using UnityEngine.UI;
7  using System;
8
9  public class SingleARTag : MonoBehaviour {
10    [System.Serializable]
11
12    //Attributes for single AR tag.
13    //===== Customize as you want ======
14    public class TagAttributes{
15        public int id;
16        public string name;
17        public string date;
18        public DateTime thisDay = DateTime.Now;
19        public string note;
20        public Vector3 position;
21        public Vector3 rotation;
22        public int type = 0;
23        public enum Type {
24            Strategy, Plant, Animal, Sensor, Danger
25        }
26    }
27
28    //===== Edit this class to customize attributes
29    private bool isFirst =true;
30    //public GameObject fullcanvas;
31    public Image _canvasimage;
32    public Image _iconimage;
33
34    public Dropdown _dropdown;
35
36    public Sprite[] Icons;
37
38    public bool isEditing =false;
39    public TagAttributes sTag;
```