



AR的工作原理以及在unity中的实现方法

——高通AR



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A R 的定义

AR的定义

Augmented Reality

增强现实技术，它是一种将真实世界信息和虚拟世界信息“无缝”集成的新技术，是把原本在现实世界的一定时间空间范围内很难体验到的实体信息(视觉信息，声音，味道，触觉等)，通过电脑等科学技术，模拟仿真后再叠加，将虚拟的信息应用到真实世界，被人类感官所感知，从而达到超越现实的感官体验。真实的环境和虚拟的物体实时地叠加到了同一个画面或空间同时存在。



- 3D模型
- 视 频
- 声 音
- 动 画
-



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A R 的定义

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高通 A R

- Vuforia™开发工具

针对
移动
设备
开发

识别
与跟踪
算法

丰富而
灵活

跨平台

- Vuforia™最新版本



Download Unity Extension

vuforia-unity-mobile-android-ios-4-0-105.unzippackage (32.34 MB)

新特性



Vuforia v4.0新特性之：物体识别

物体识别（Object Recognition）是v4.0更新中最大的亮点之一。让您开发的应用可以识别和追踪更宽泛的实物。许多从事AR玩具和消费类产品的应用开发者将从中受益。

Vuforia v4.0新特性之：Vuforia对象扫描器

Vuforia对象扫描器（Vuforia Object Scanner）它是一个Android应用，可以捕获被扫描物体的3D对象特征，并可以生成一个对象数据文件到Target Manager中。

Vuforia v4.0新特性之：iOS 64bit支持

2014年10月，苹果公司就宣布，从2015年2月1日起，所有提交到App Store的应用都要支持64bit，并且基于iOS8SDK构建。正式版的Vuforia SDK v4.0将全面支持64bit计算架构。



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注 测 & 下 载

注册&下载

- 注册

官网地址：<https://developer.vuforia.com>

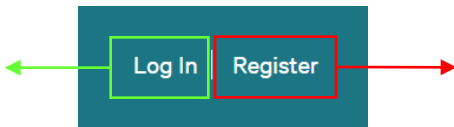
Login

Registered Email:

Not Registered? [Create account now](#)

Password:

[Forgot password?](#)



网址右上角

Register

* required field

First Name: *

Last Name: *

Email Address: *

This will be your login. It will not be displayed or shared.

Confirm Email: *

Password: *

The password must contain minimum 8 characters with at least 1 number and 1 upper/lower case letter.

Confirm password: *

Company: *

Country: *

Select Country of Residence

How did you learn about Vuforia? *

Select

Username: *

This will be your public username displayed on the site.

Which development platform are you interested in? (check all that apply):

☐ Android

☐ iOS

☐ I would like to receive updates on Vuforia news and events

Verification: *

4V3oJCYS11gux
E1c23Rvriik

Generate a new captcha

Please enter only the bold characters from the image above.

The letters are case sensitive. Do not type spaces between the numbers and letters.

In order to proceed, please review the agreement, scroll to the bottom, and accept the terms of service.

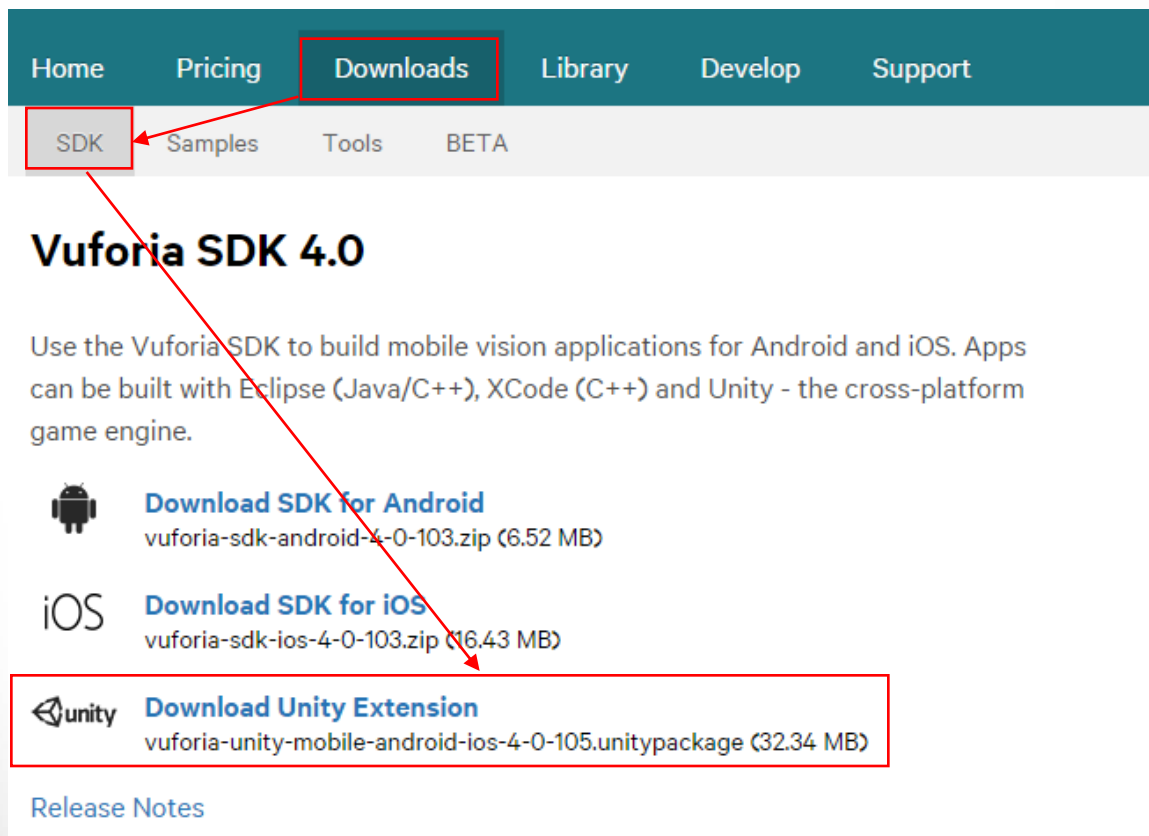
Effective: February 25, 2015

THIS VUFORIA DEVELOPER AGREEMENT (THIS "AGREEMENT" OR THIS "Agreement") IS A LEGALLY BINDING AGREEMENT BETWEEN QUALCOMM CONNECTED EXPERIENCES, INC. ("QCE") AND THE LEGAL ENTITY YOU REPRESENT ("YOU" OR "YOU"). IF YOU USE OR ARE SEEKING TO USE THE SOFTWARE OR SERVICES DISCUSSED HEREIN IN CONNECTION WITH ANY WORK OR UNDERTAKING YOU ARE DOING FOR A BUSINESS, COMPANY OR CORPORATE ENTITY ("COMPANY"), WHETHER AS AN EMPLOYEE OR CONTRACTOR, THE TERMS "YOU" AND "YOU" INCLUDE, AND THE TERMS AND CONDITIONS HEREOF ARE BINDING ON, BOTH YOU AS AN INDIVIDUAL AS WELL AS SUCH COMPANY. IN ADDITION, YOU REPRESENT AND WARRANT THAT YOU HAVE THE AUTHORITY TO BIND SUCH COMPANY, AND THAT SUCH COMPANY HAS AUTHORIZED YOU TO ACCEPT THE TERMS OF THIS AGREEMENT ON ITS BEHALF.

QCE IS WILLING TO PROVIDE YOU THE SERVICES (AS DEFINED BELOW) AND LICENSE TO YOU THE SOFTWARE AND DOCUMENTATION (AS DEFINED BELOW) ONLY ON THE CONDITION THAT YOU ACCEPT AND AGREE TO ALL OF THE TERMS AND CONDITIONS IN THIS AGREEMENT. BY CLICKING ON THE "I AGREE" BUTTON BELOW YOU ACKNOWLEDGE AND AGREE, THAT YOU HAVE READ THIS AGREEMENT, UNDERSTAND IT AND AGREE TO BE BOUND BY ITS TERMS AND CONDITIONS. IF YOU DO NOT AGREE TO

I Agree to the Vuforia Developer Agreement

- 下载SDK

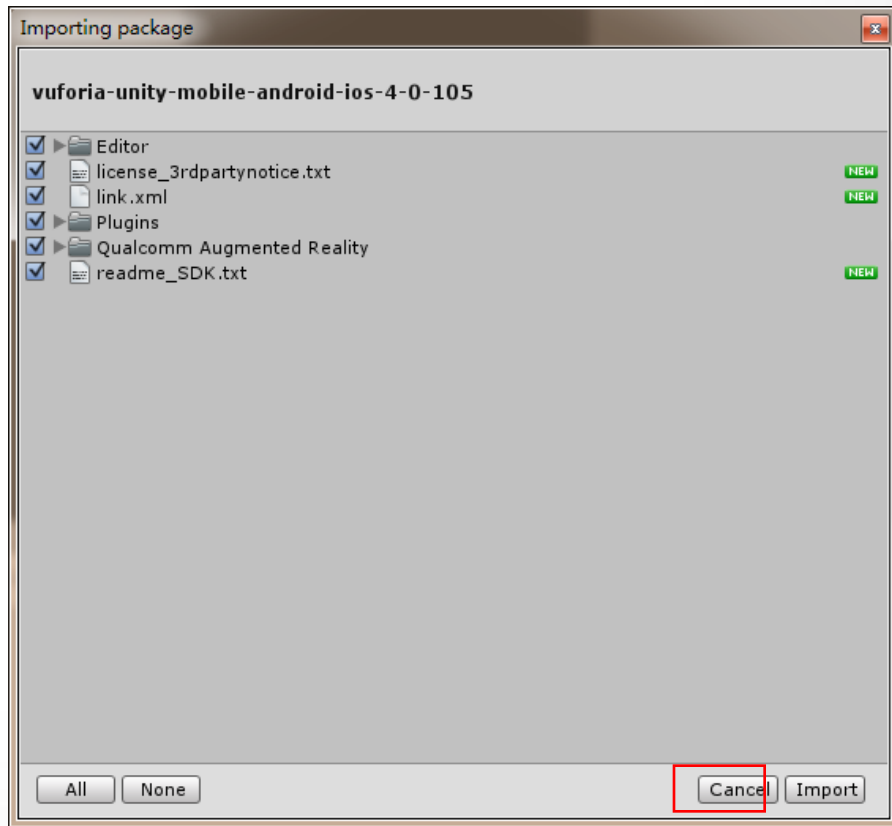


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- 下载

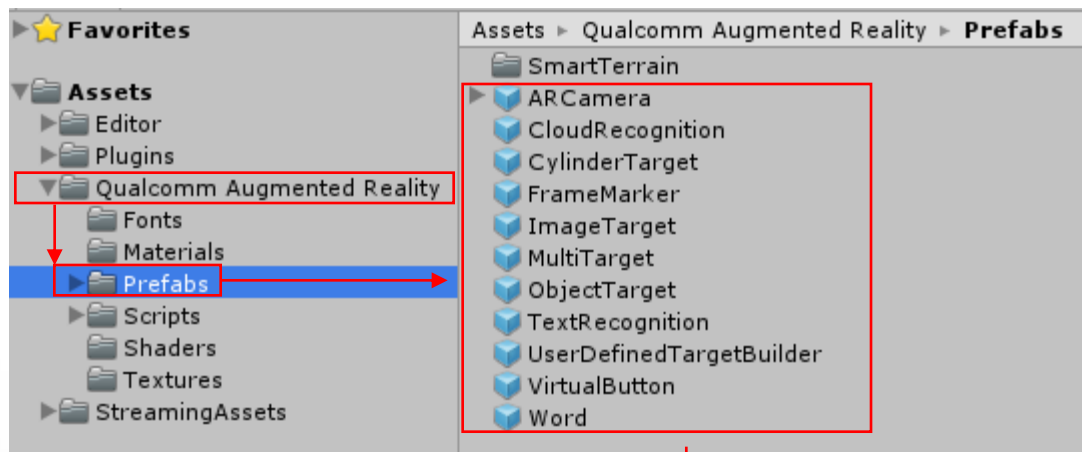


双击导入Unity3D



注册&下载

- 工程目录



预设文件



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使 用 方 法

使用方法

- 申请 license key (重点之一)

官网登录

Home Pricing Downloads Library **Develop** Support

License Manager Target Manager

License Manager

Whether you are developing or deploying, you need a license key to use the Vuforia 4.0 SDK.

Add License Key

Add License Key

Application Name

chengbang

You can change this later

SDK

Please select which SDK your app will use

☒ Mobile ☐ Digital Eyewear ☐ AR/VR

Deployment Plans (optional)

A deployment plan is required for the following:

- To remove the Vuforia watermark
- To use the cloud recognition service with more than 1,000 recos or more than 1,000 targets
- For internal use apps

Select Plan

App Deployment Plans [FAQ](#)

	Bronze	Silver	Gold	Platinum
Price	\$99/mo	\$399/mo	\$999/mo	Contact Us
Monthly Reco Usage	5,000	25,000	100,000	100,000+
Cloud Targets	100,000	100,000	100,000	100,000+
Apps for Internal Use		X		✓
Support		Community Forums		Direct

Next

Confirm License Key

Application Name

chengbang

SDK

Mobile

Deployment Plan

None

To add a deployment plan, you will need to create a new license key

☒ By clicking "Confirm" below, you acknowledge that this license key is subject to the terms and conditions of the Vuforia Developer Agreement.

Cancel Confirm

chengbang [Edit Name](#)

License Key Plan

Please select and copy the below license key into your app.

fc4bd318d8964832bd38480e369c02de

SDK: Mobile

Status: Active

Created: Apr 26, 2015 18:49

Home Pricing Downloads Library **Develop** Support

License Manager Target Manager

License Manager

Whether you are developing or deploying, you need a license key to use the Vuforia 4.0 SDK.

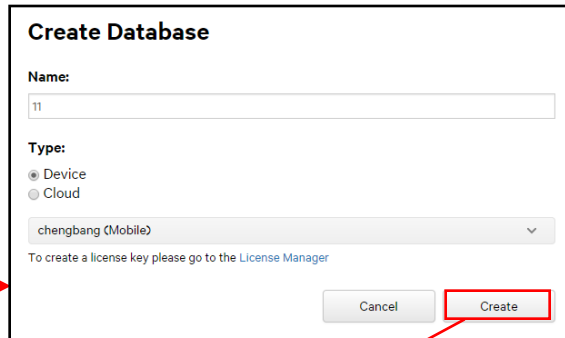
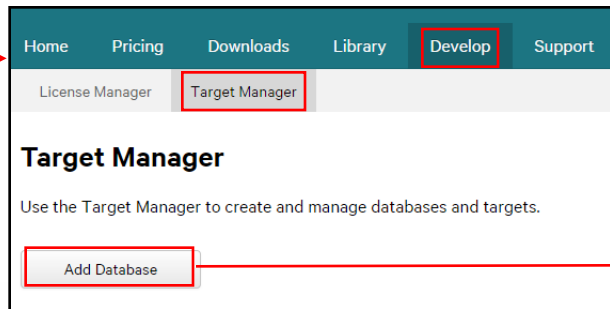
Add License Key

Name	Plan	SDK	Status	Date Modified
aaaa	None	Digital Eyewear	Active	Apr 23, 2015 11:33
chengbang	None	Mobile	Active	Apr 26, 2015 18:49
www	None	Mobile	Active	Apr 23, 2015 11:49

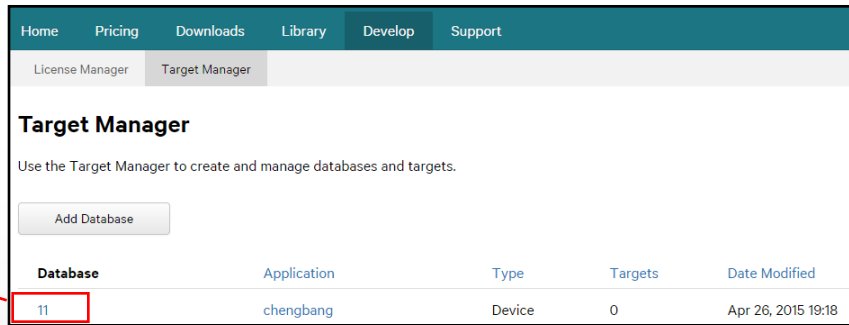
使用方法

- 识别图制作 (重点之二)

官网登录



下一页



使用方法

- 识别图制作 (重点之二)



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Download Database

All targets in database will be downloaded

Name:
11

Select a development platform:

☐ SDK (Eclipse, Ant, Xcode, etc.)

☒ Unity Editor

11 Edit Name

Type: Device

Application: chengbang [View Reco Usage](#)

Targets (0)

☐ Target Name

Add Target

Type:

☒ Single Image ☐ Cuboid ☐ Cylinder ☐ 3D Object

File:

.jpg or .png (max file size 2mb).

Width:

Enter the width of your target in the scene units. The size of the target shall be on the same scale as your augmented virtual content. The target's height will be calculated automatically 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.

☐ Target Name

Type	Rating	Status	Date Modified
Single Image	★★★★★	Active	Apr 26, 2015 19:36

选择要下载的Target, 点击下载



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识 别 案例

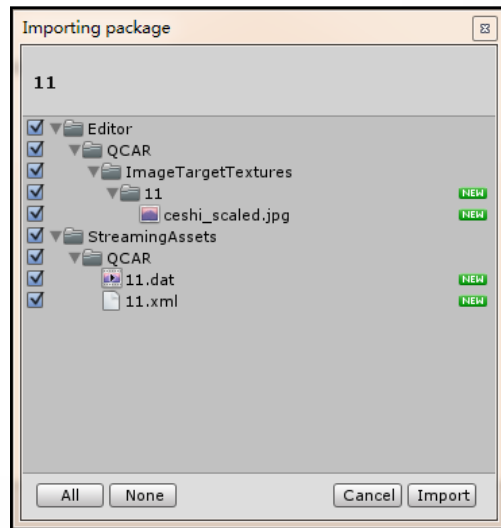
识别案例

- 图像识别案例

导入识别图



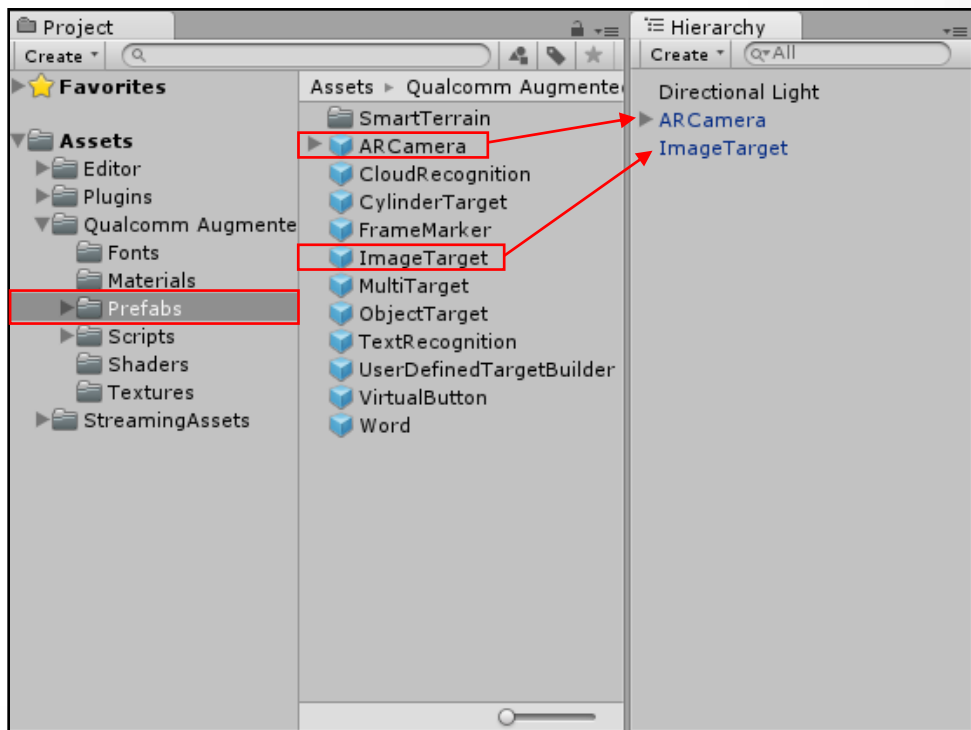
双击导入



识别案例

- 图像识别案例

设置场景

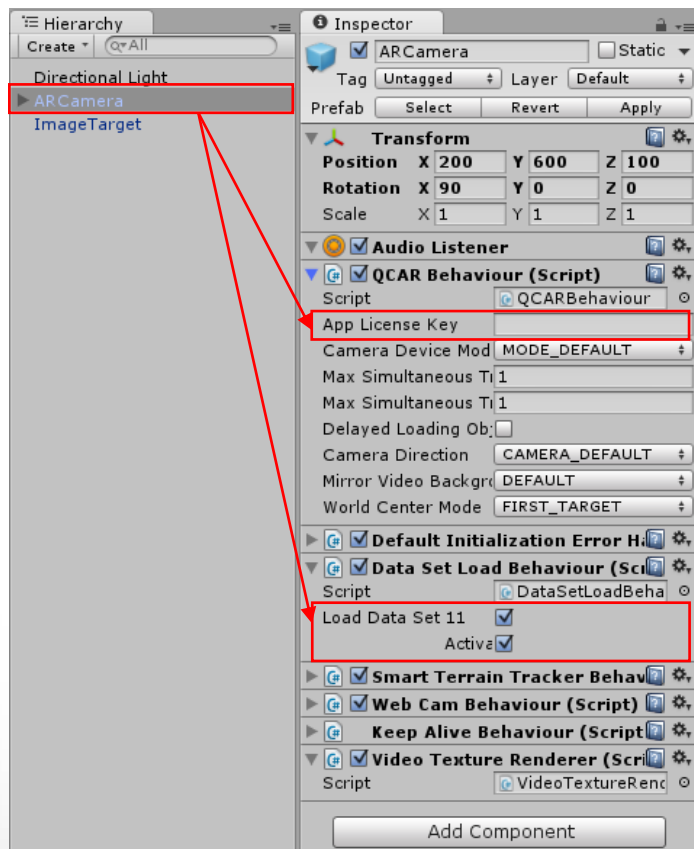


新建场景，删除默认摄像机，将两个预设体拖入Hierarchy中

识别案例

- 图像识别案例

ARCamera 设置



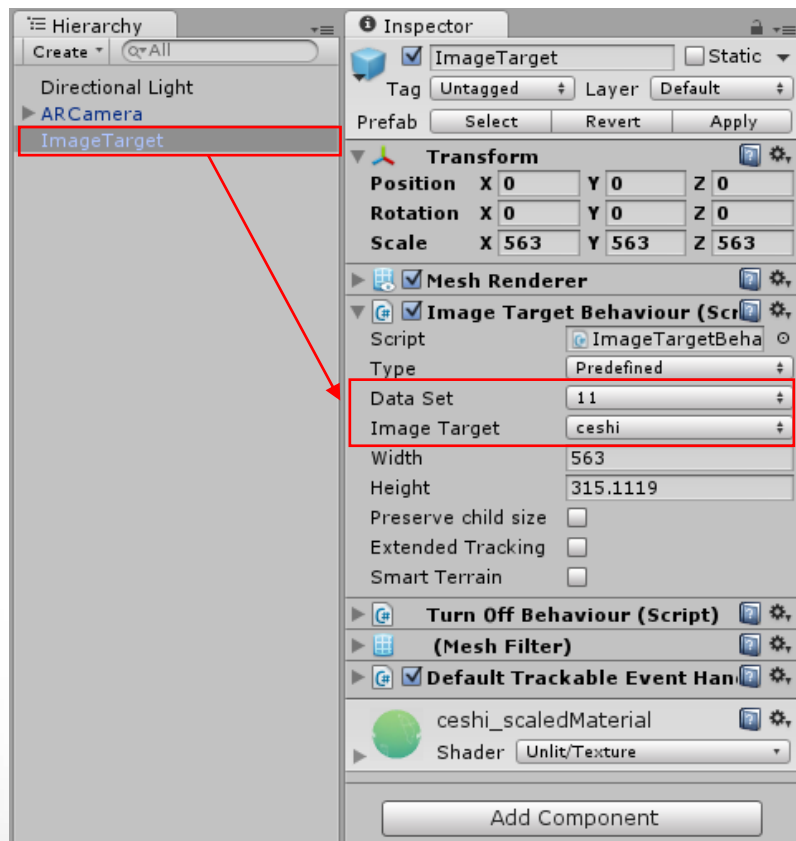
之前填写的License Key填入此处
须保证识与识别图所在的License一致

启用你所导入的识别图
摄像机才可正确识别

识别案例

- 图像识别案例

ImageTarget
设置

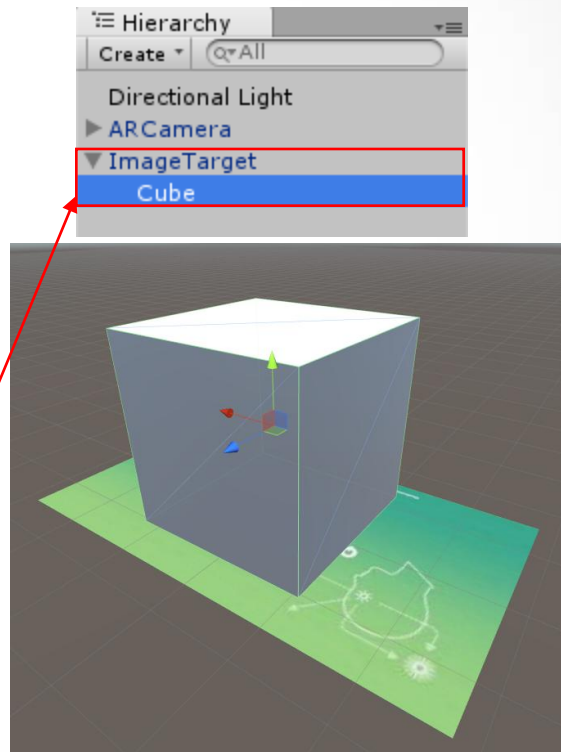
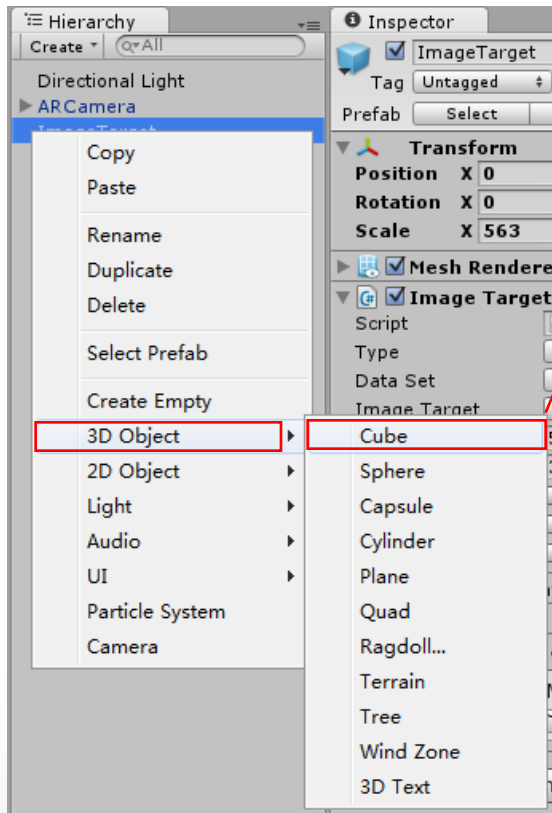


此处选择之前导入的识别图

识别案例

- 图像识别案例

添加需要显示的
模型

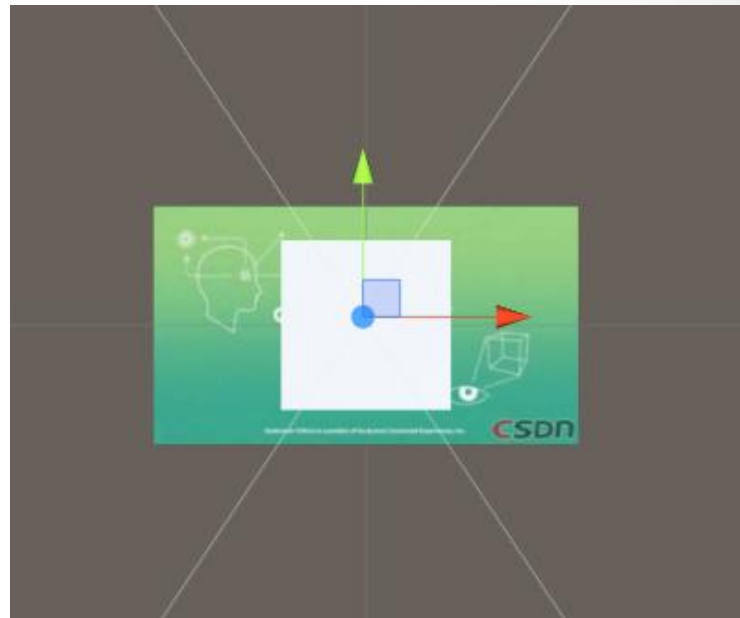
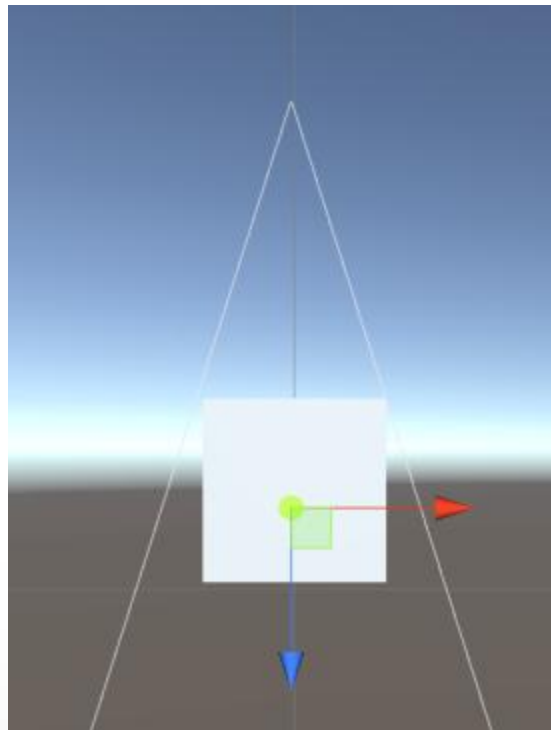


拖动你需要显示的物体到ImageTarget
这里以创建的Cube为例

识别案例

- 图像识别案例

调整
ARCamera



调整ARCamera到合适的位置

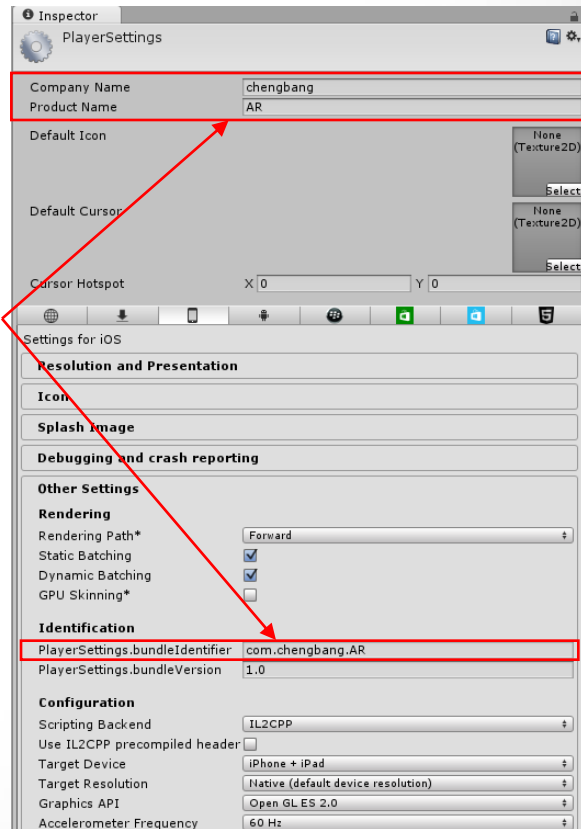
识别案例

- 图像识别案例

打包运行

iOS与Android打包注意点：
公司名称与产品名称要与包标示符保持一致
Android需要windows下配置安卓SDK
iOS需要在MAC机下打包发布

包标示符格式：com.公司名称.产品名称





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