Hi5-2 交互 SDK 用户手册

——Pico Neo3

目录

一、 Unity VR 基础环境配置

建议使用 Unity 2019.x/2020.x/2021.x LTS 版本新建工程，目前只支持 Pico Neo3 ，不支持 Pico Neo2，Unity 2022 版本正在适配中。

1. 插件下载

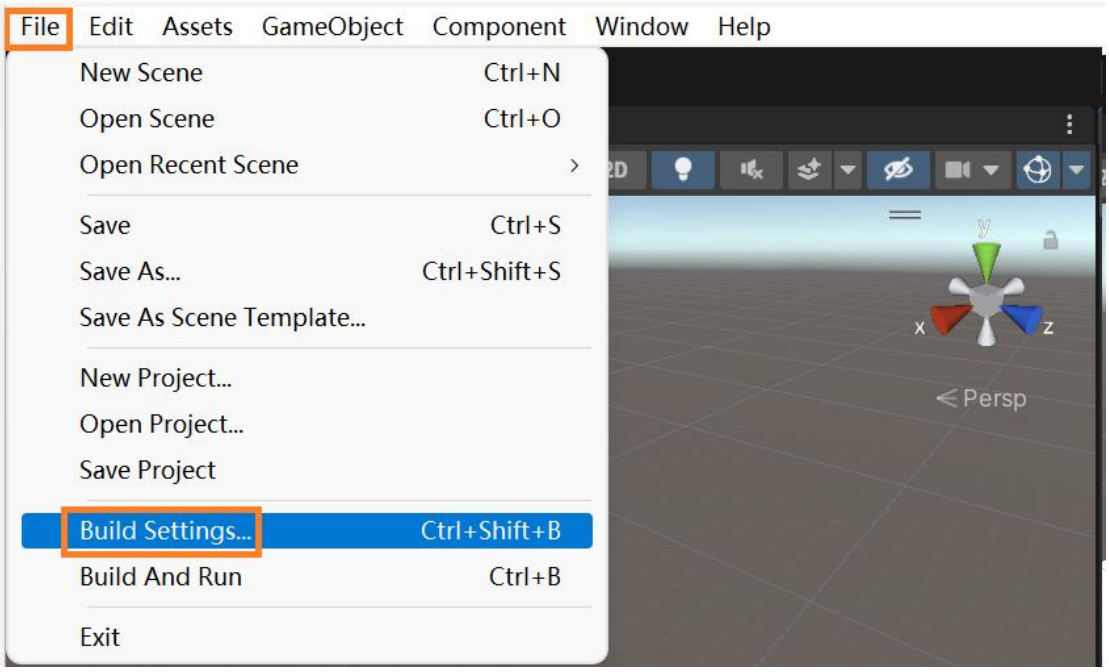
到 Pico 官网 https://developer.pico-interactive.com/sdk 下载最新版本 Unity XR SDK

pico vr unity 快速开发文档 https://developer.pico-interactive.com/document/doc

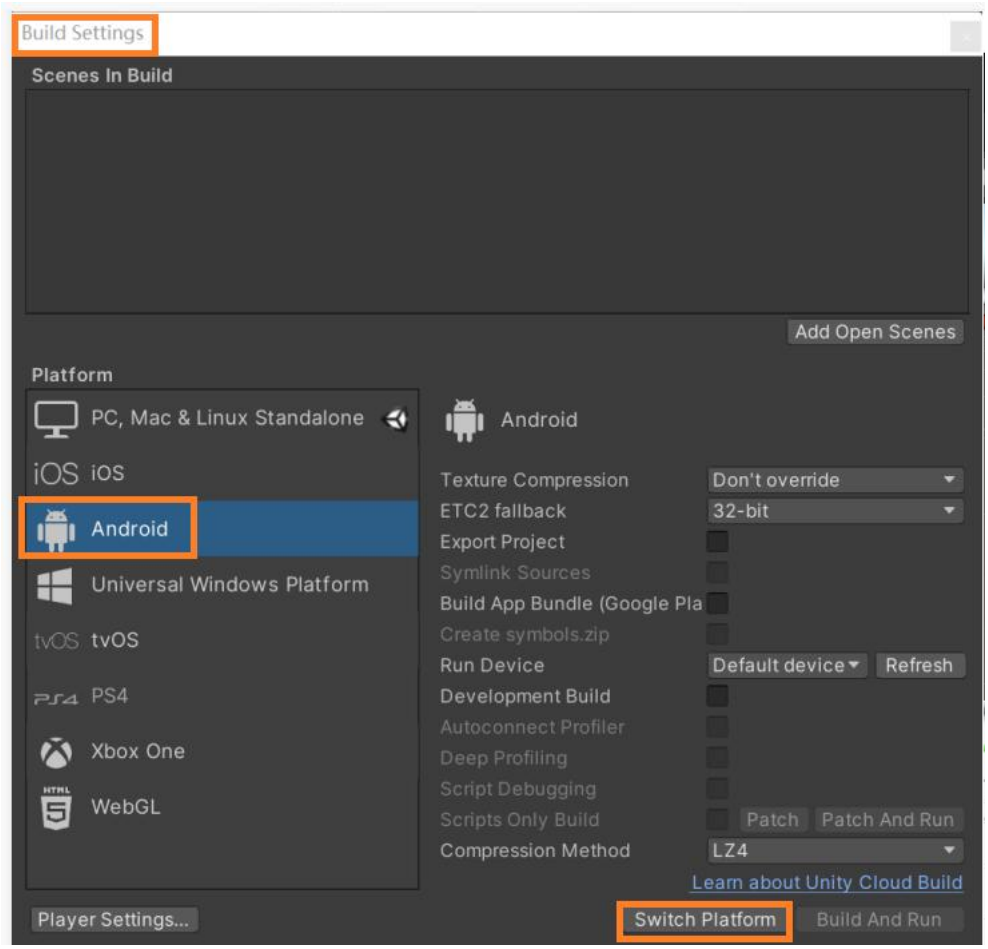
2. 插件安装

1) 解压 SDK 文件 Pico UnityXR SDK v2.0.5.zip

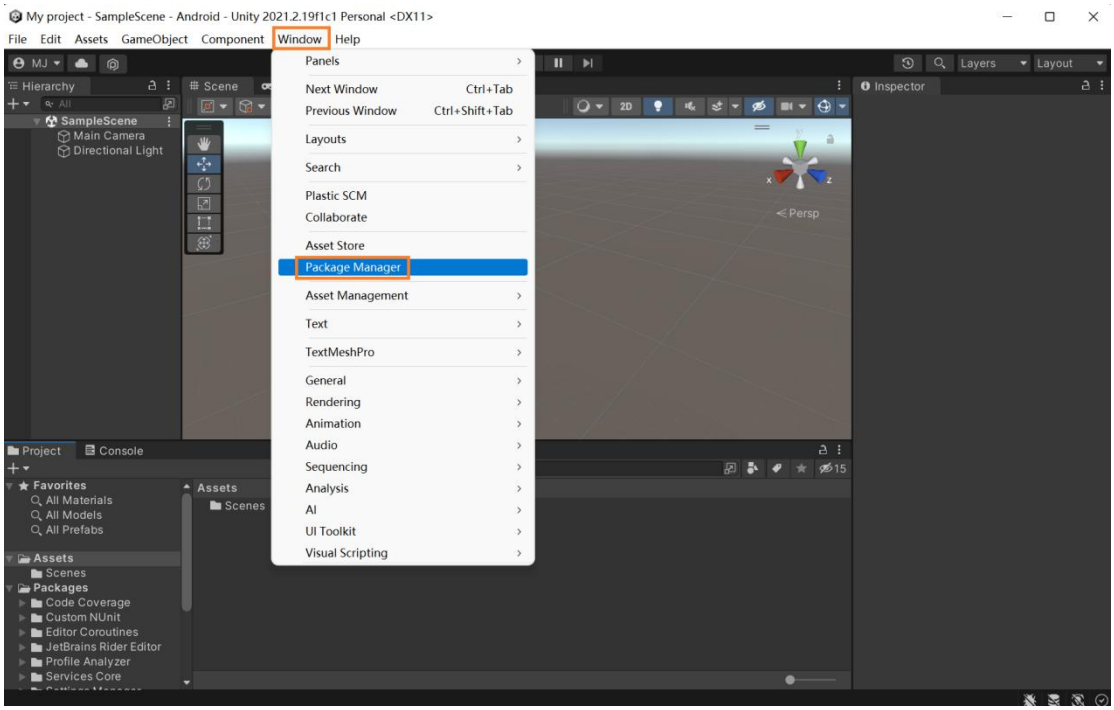
2) 新建或打开 Unity 工程，切换到 Android 平台，点击 File ->Build Settings



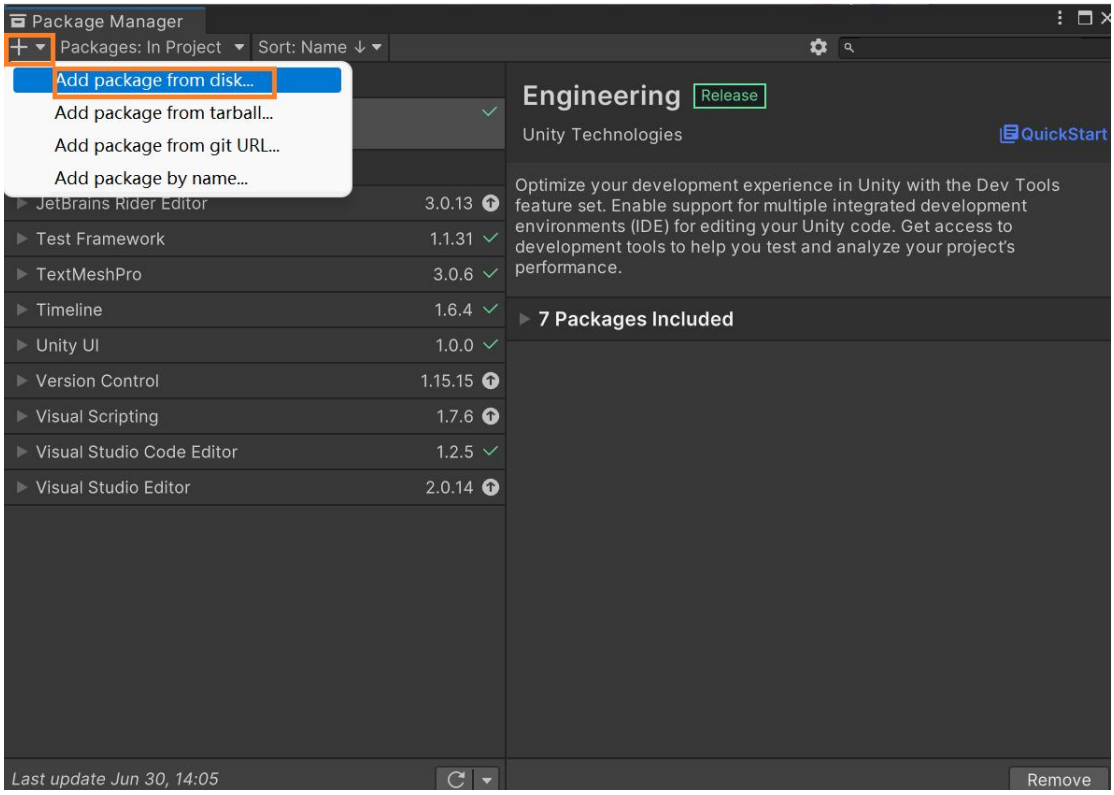
Build Settings 窗口中选择 Android 平台，然后点击 Switch Platform 按钮

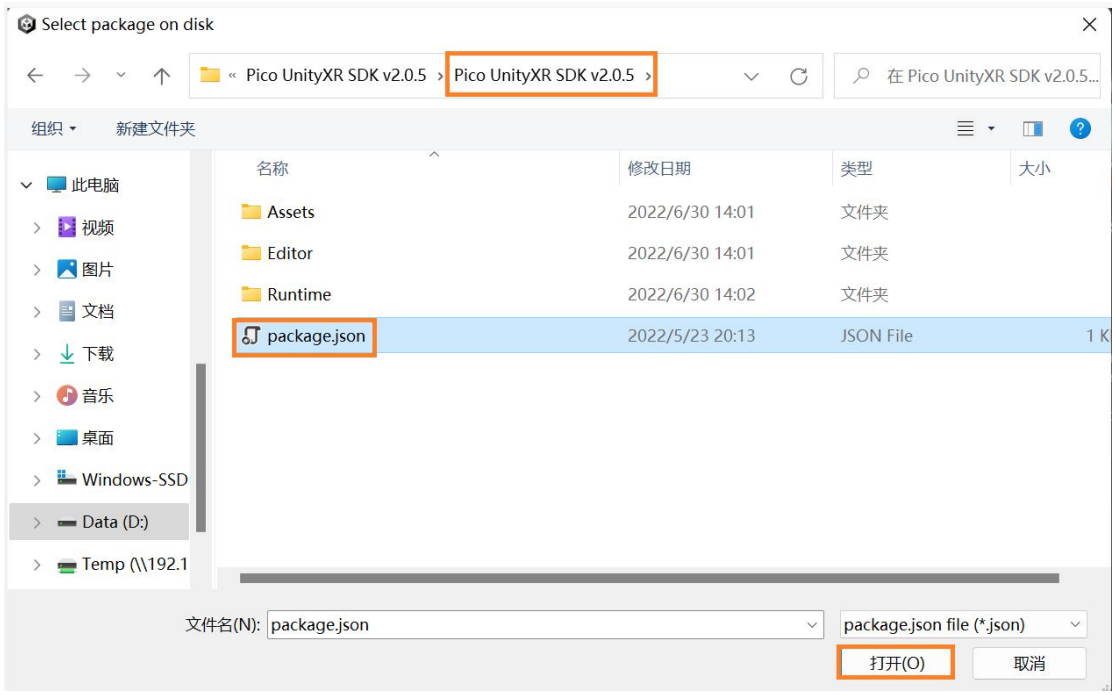


3) 点击 Windows ->Package Manager 打开 Package Manager 窗口，导入 Pico Unity XR SDK，如图所示：

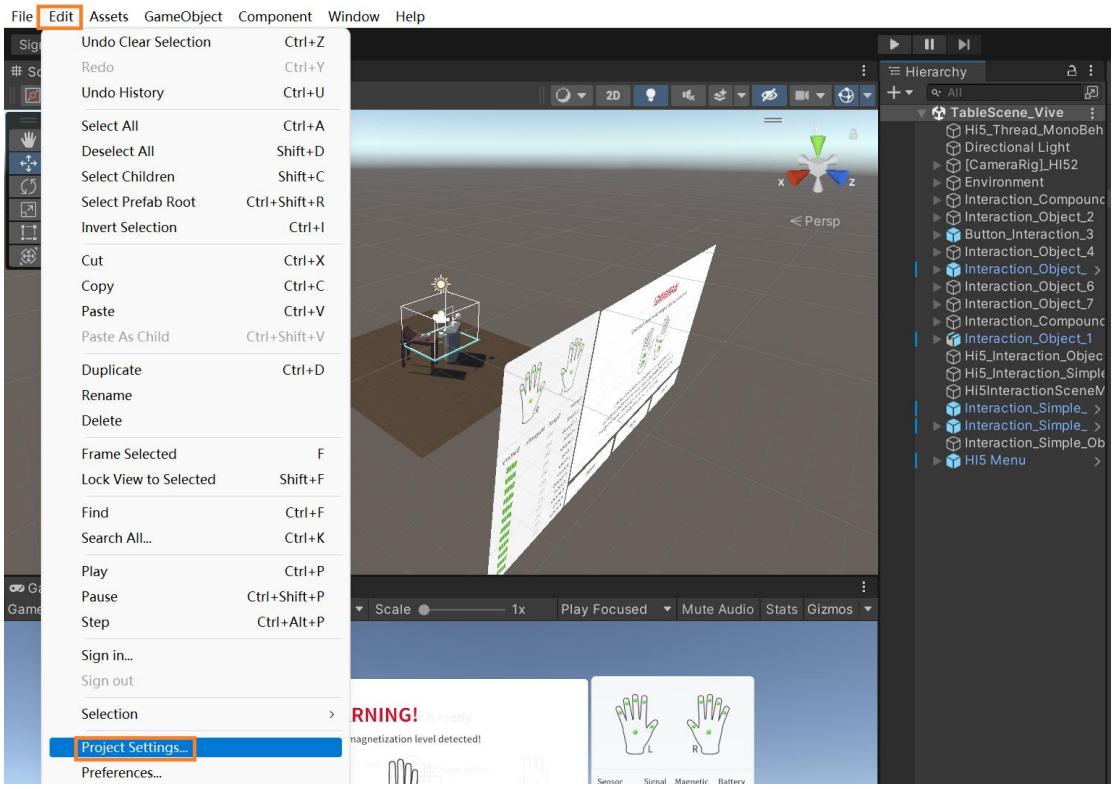


Package Manager ->Add package from disk… ,导入 package.json 文件,如图所示:





4) 导入成功后点击 Edit ->Project Settings，应用 PicoXR 插件，如图所示:


File
Edit
Assets
GameObject
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Window
Help
Undo Clear Selection Ctrl+Z
Redo Ctrl+Y
Undo History Ctrl+U
Select All Ctrl+A
Deselect All Shift+D
Select Children Shift+C
Select Prefab Root Ctrl+Shift+R
Invert Selection Ctrl+I
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V
Paste As Child Ctrl+Shift+V
Duplicate Ctrl+D
Rename
Delete
Frame Selected F
Lock View to Selected Shift+F
Find Ctrl+F
Search All... Ctrl+K
Play Ctrl+P
Pause Ctrl+Shift+P
Step Ctrl+Alt+P
Sign in...
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Selection
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Hierarchy
TableScene_Vive
Persp
Scale
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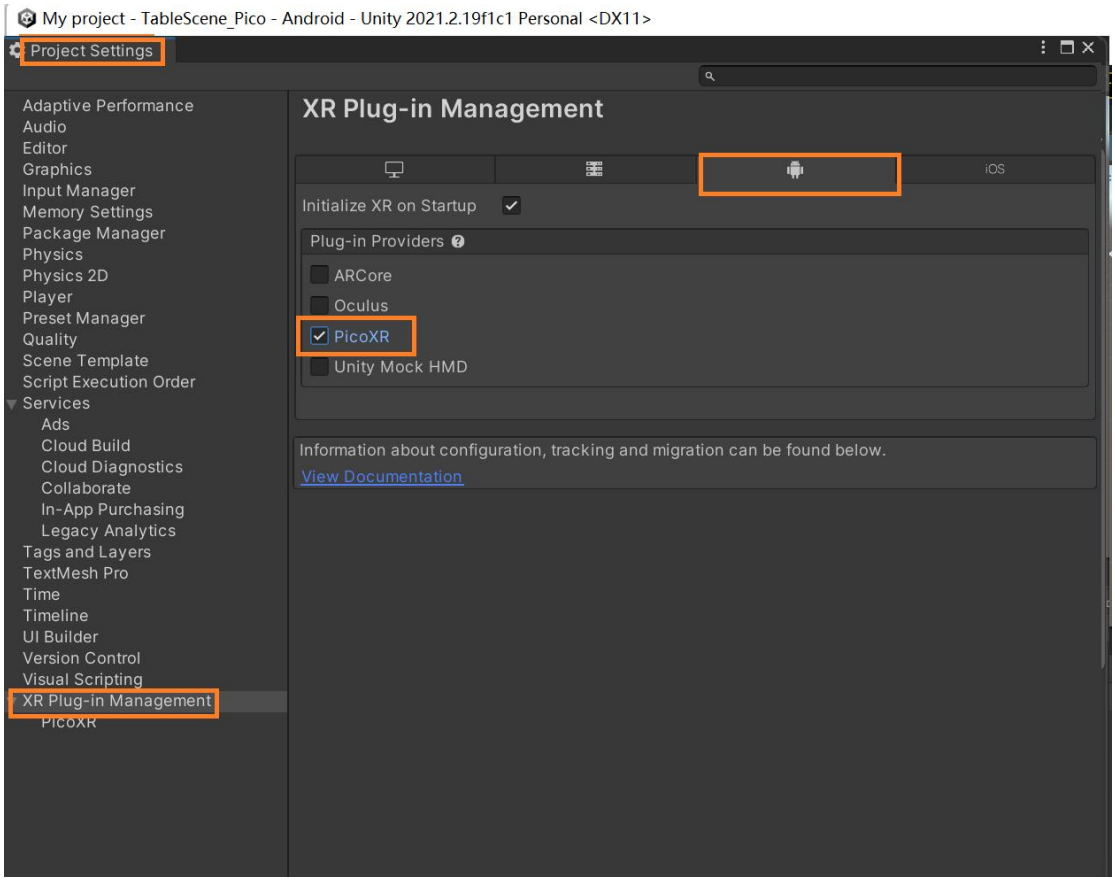
Play Focused
Mute Audio
Stats
Gizmos


My project - TableScene_Pico - Android - Unity 2021.2.19f1c1 Personal <DX11>
Project Settings
Adaptive Performance
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Input Manager
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Physics
Physics 2D
Player
Preset Manager
Quality
Scene Template
Script Execution Order
Services
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In-App Purchasing
Legacy Analytics
Tags and Layers
TextMesh Pro
Time
Timeline
UI Builder
Version Control
Visual Scripting
XR Plug-in Management
PicoXR
XR Plug-in Management
iOS
Initialize XR on Startup
Plug-in Providers
ARCore
Oculus
PicoXR
Unity Mock HMD
Information about configuration, tracking and migration can be found below.
View Documentation

二、 Hi5_2 交互 SDK 安装

Unity VR 环境配置完成后，先安装 Hi5-2 SDK，再安装交互 SDK。

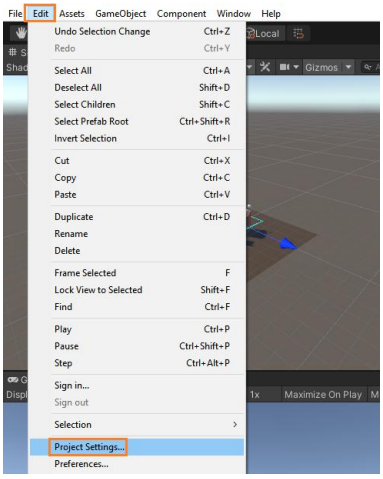
1) 先导入 Hi5-2 SDK ：**Hi5_2_Package_Pico.unitypackage**

2) 再导入交互 SDK：**Hi5_2_Interaction_Pico.unitypackage**

三、 Hi5_2 交互 SDK 应用

1. 工程设置

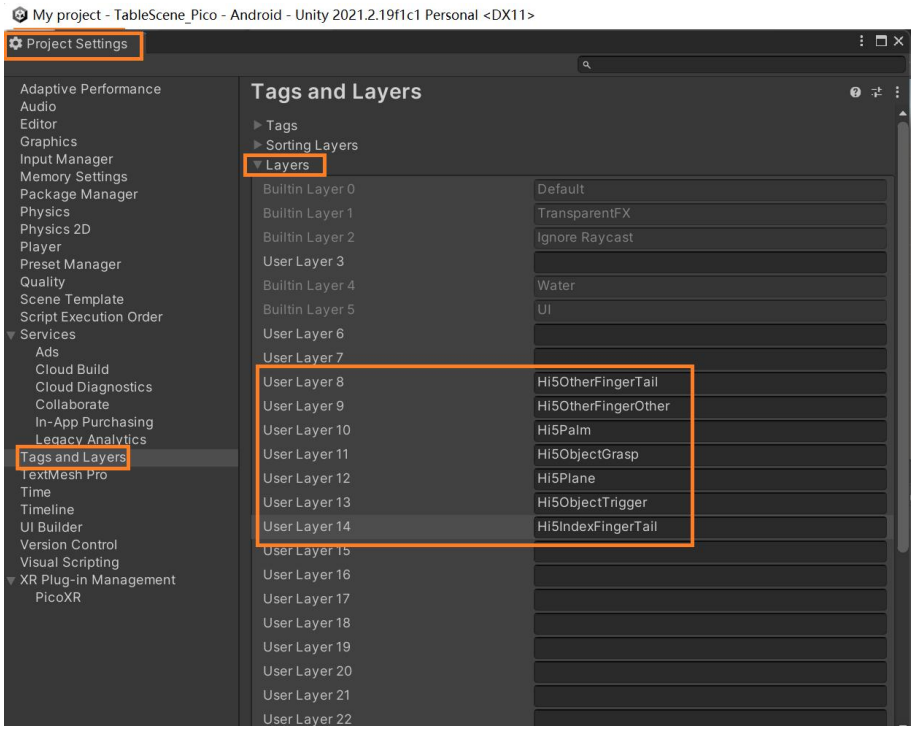
点击 Edit ->Project Settings 打开工程设置窗口，如图所示：



1.1 设置 Tags and Layers

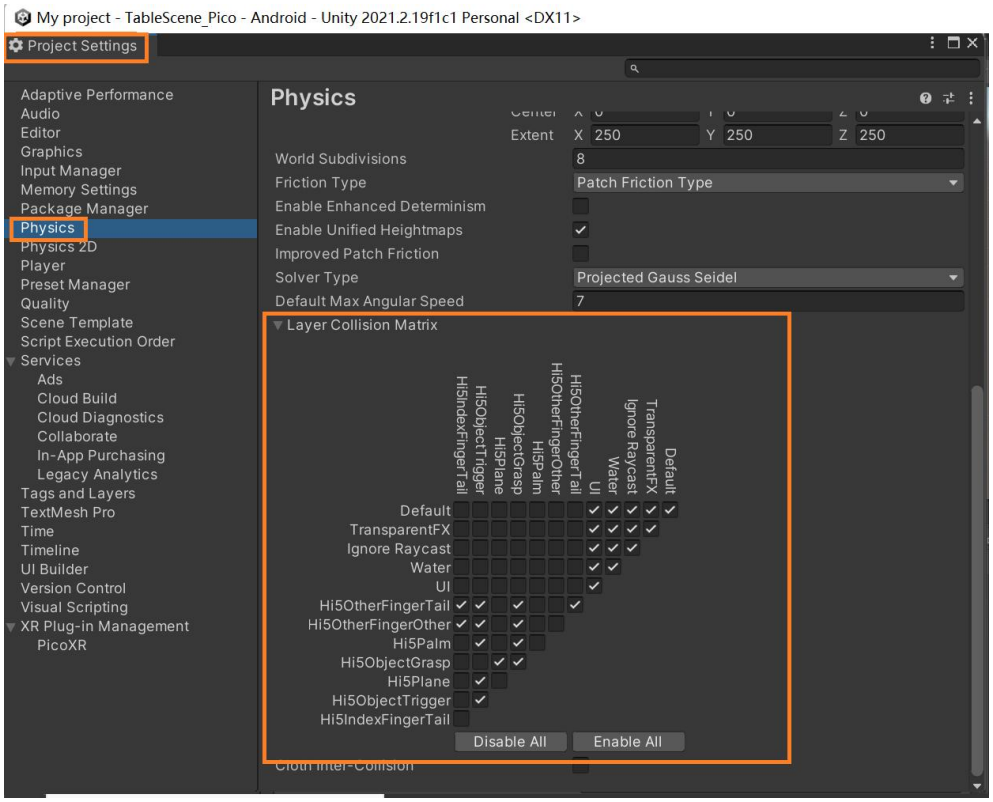
如图所示：

Layer 8	Hi5OtherFingerTail
Layer 9	Hi5OtherFingerOther
Layer 10	Hi5Palm
Layer 11	Hi5ObjectGrasp
Layer 12	Hi5Plane
Layer 13	Hi5ObjectTrigger
Layer 14	Hi5IndexFingerTail



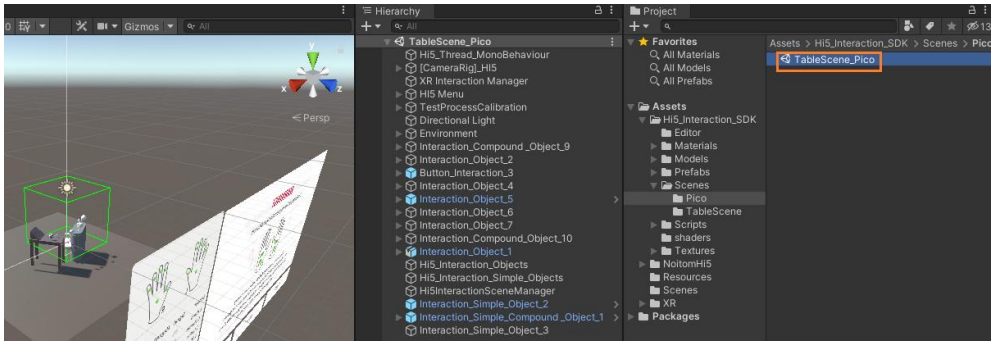
1.2 设置 Physics

如图所示：



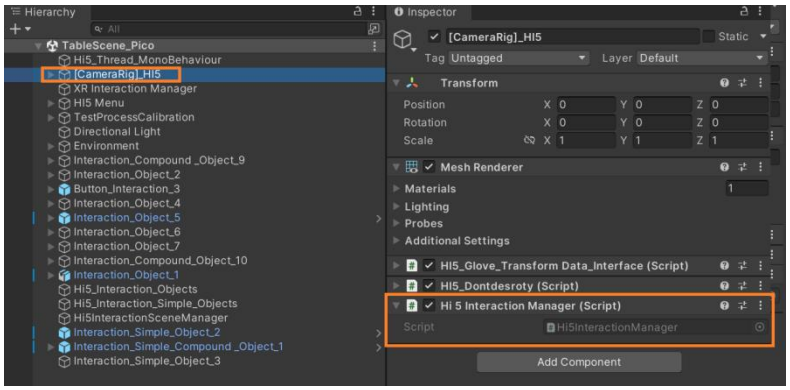
2. 场景设置

打开示例场景 TableScene_Pico，参考其设置，如图所示：

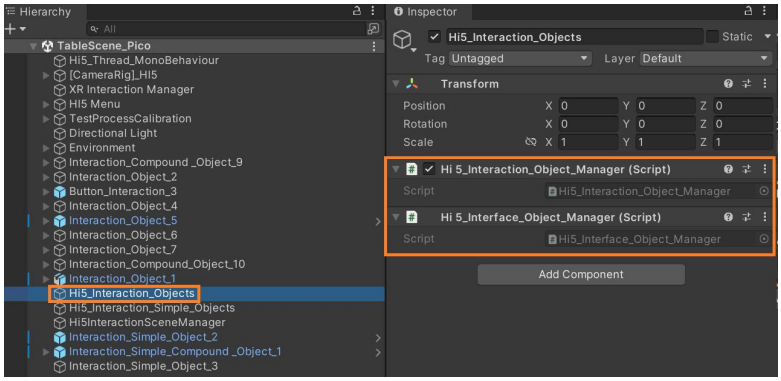


场景中必须包含以下内容：

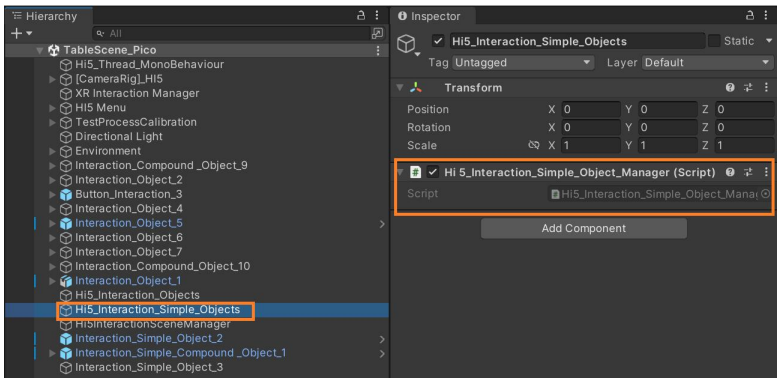
1) Hi5 Interaction Manager，如图所示：



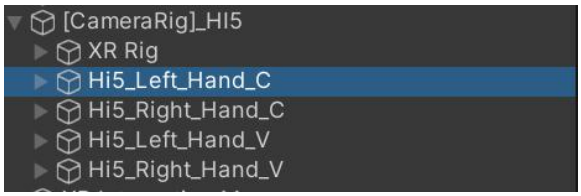
2) Hi5_Interaction_Objects，如图所示：



3) Hi5_Interaction_Simple_Objects，如图所示：



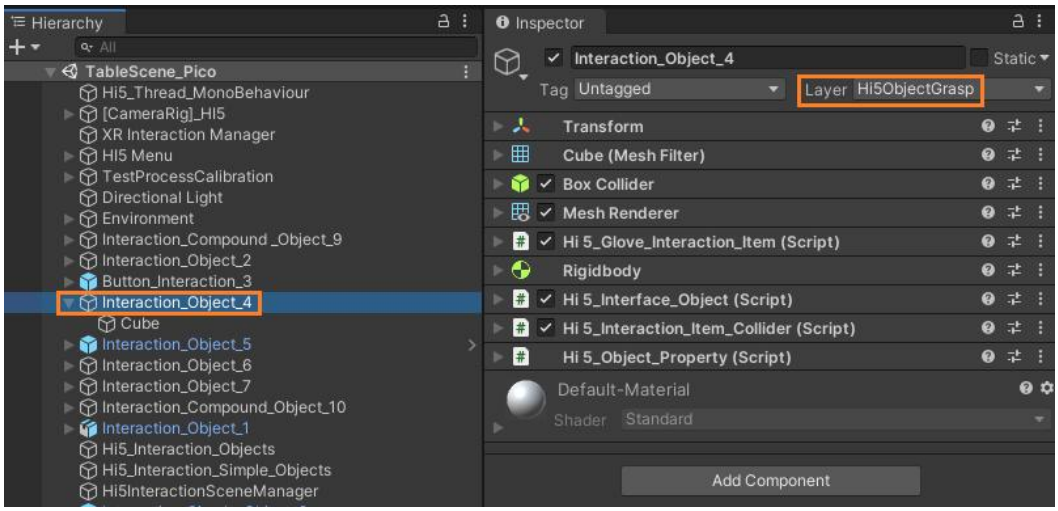
4) Hi5_Left_Hand_C ，Hi5_Right_Hand_C ，Hi5_Left_Hand_V ，Hi5_Right_Hand_V，如图所示：

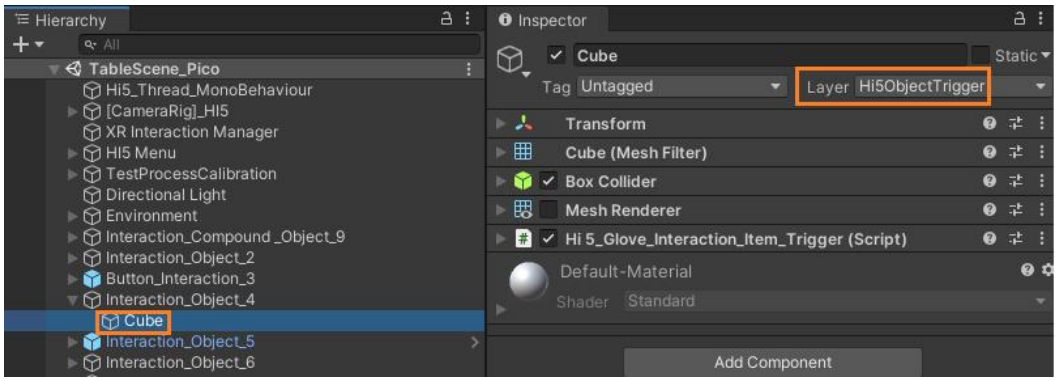


3. 物体设置

3.1 普通交互物体设置

物体设置分为父级物体和子级物体设置，父级物体 Layer 要设置为 Hi5ObjectGrasp，子级物体 Layer 要设置为 Hi5ObjectTrigger，例如 Interaction_Object_4 ->Cube，设置如图所示：

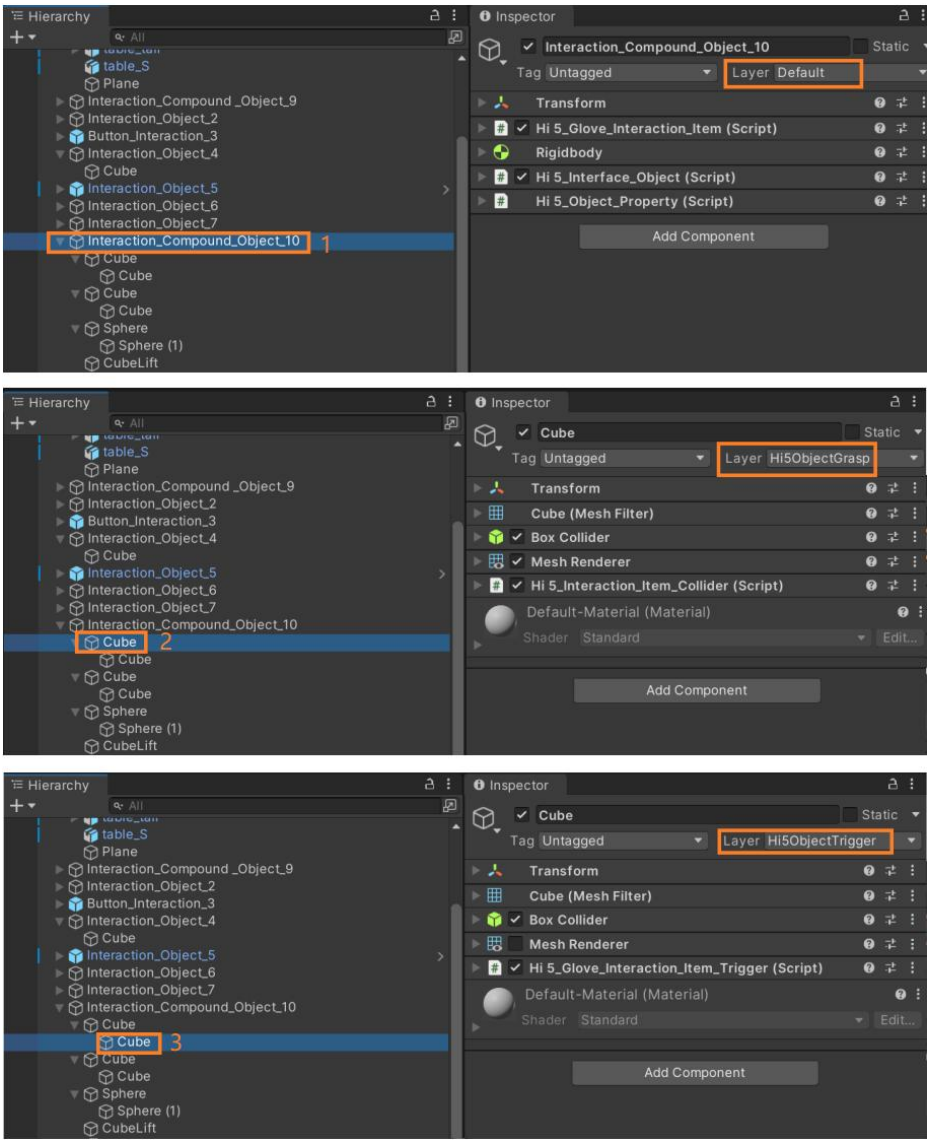




3.2 组合物体设置

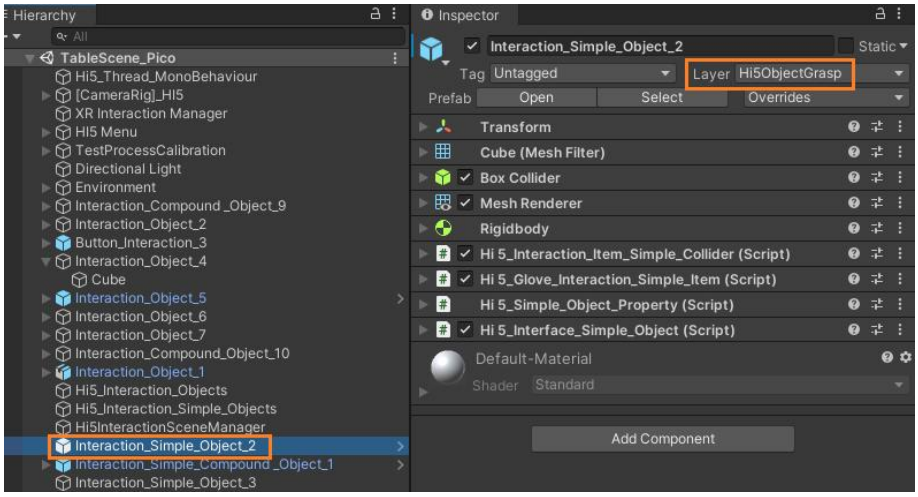
组合物体分为三层，组合物体的最外层物体 Layer 设置为 Default，组合物体中的外层物体的 Layer 设置为 Hi5ObjectGrasp，组合物体中的内层物体的 Layer 设置为 Hi5ObjectTrigger，

例如 Interaction_Compound_Object_10，设置如图所示：



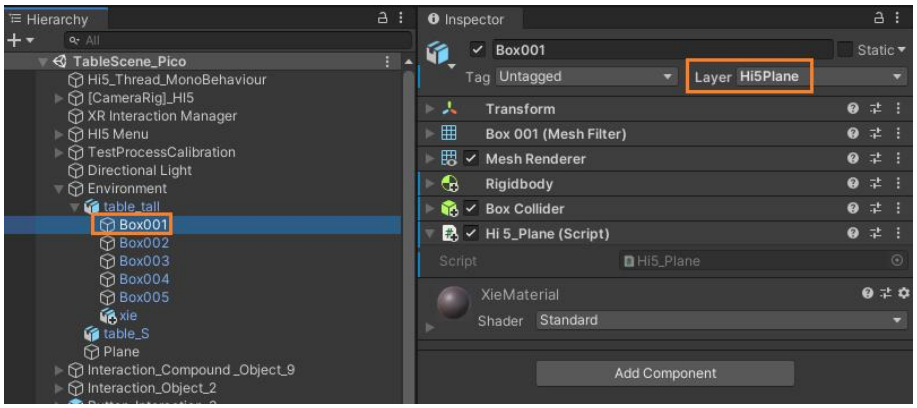
3.3 简单物体设置

简单物体只有抓握等功能，自身不会产生运动，当抓住释放后会停留在原位置，其 Layer 要设置为 Hi5ObjectGrasp，例如 Interaction_Simple_Object_2，设置如图所示：



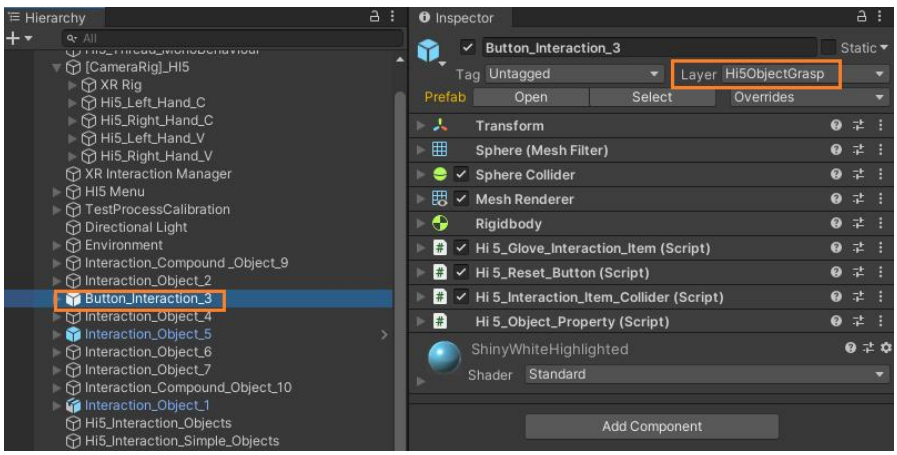
3.4 桌面物体

桌面放置物体的 Layer 要设置为 Hi5_Plane，例如 Box001，设置如图所示：



4. 按钮设置

例如 Button_Interaction_3，设置如图所示：



四、 相关接口

1. 手相关接口

Hi5_Interface_Hand 脚本

一、手状态

```
enum E_Interface_Hand_State
{
    ERelease = -1,
    EPinch = 2,
    ELift = 4,
}
```

```
E_Interface_Hand_State GetHandState(out int interactionObjectId)
```

E_Interface_Hand_State 返回手部状态，interactionObjectId 返回交互物体 Id 索引

二、手姿态识别状态

```
enum Hi5_Glove_Gesture_Recognition_State
    {
        ENone = 0,
        EOk,
        EFist,
        EIndexPoint,
        EHandPlane
    }
```

Hi5_Glove_Gesture_Recognition_State GetRecognitionState()

Hi5_Glove_Gesture_Recognition_State 返回手当前状态

2. 手事件接口

```
public void MessageFun(string messageKey, object param1, object param2)
        {
            if
(messageKey.CompareTo(Hi5_Glove_Interaction_Message.Hi5_MessageMessageKe
y.messageHandEvent) == 0)
            {
                Hi5_Glove_Interaction_Hand_Event_Data data = param1 as
Hi5_Glove_Interaction_Hand_Event_Data;

                switch (data.mEventType)
                {
                    case EEventHandType.EClap:
                        {
//拍击事件
}
                        break;
                    case EEventHandType.EPoke:
{
```

```
//戳事件
}
                    break;
                case EEventHandType.EPinch:
                    {
                        //抓取事件
}
                    break;
                case EEventHandType.EThrow:
{
//抛出事件
}
                    break;
                case EEventHandType.ELift:
{
//托举事件
}
                    break;
                case EEventHandType.ERelease:
{
//释放事件
}
```

```
                    break;
                }
            }
        }
```

3. 交互物体接口

Hi5_Interface_Object

交互物体状态

```
        enum E_Object_State
            {
                ENone = -1,
                EStatic = 1,
                EPinch = 3,
                EMove = 2,
                EClap = 4,
                EFlyLift = 5,
            EPoke = 6,
 }
```

E_Object_State GetObjectItemState();获取交互物体状态

int GetObjectId()；返回交互物体 Id

交互物体事件

```
        public void MessageFun(string messageKey, object param1, object
```

```
param2)
        {
            if
(messageKey.CompareTo(Hi5_Glove_Interaction_Message.Hi5_MessageMessageKe
y.messageObjectEvent) == 0)
            {
                Hi5_Glove_Interaction_Object_Event_Data data = param1 as
Hi5_Glove_Interaction_Object_Event_Data;
                if (data.mObjectId == ObjectItem.idObject)
                {
                    switch (data.mEventType)
                    {
                        case EEventObjectType.EClap:
                            {
                            }
                            break;
                        case EEventObjectType.EPoke:
                            break;
                        case EEventObjectType.EPinch:
                            break;
                        case EEventObjectType.EMove:
                            break;
```

```
                    case EEventObjectType.ELift:
                        break;
                    case EEventObjectType.EStatic:
                        if (mItem != null)
                        {

                            mItem.ResetCorlor();
                        }
                        break;
                }
            }
        }
    }
```

4. 按钮接口

Hi5_Interface_Button

```
virtual public void MessageFun(string messageKey, object param1, object param2)
    {
        if
(messageKey.CompareTo(Hi5_Glove_Interaction_Message.Hi5_MessageMessageKe
y.messageObjectEvent) == 0)
        {
```

```
                Hi5_Glove_Interaction_Object_Event_Data data = param1 as
Hi5_Glove_Interaction_Object_Event_Data;
                if (data.mObjectId == ObjectItem.idObject)
                {
                    if (data.mEventType == EEventObjectType.EClap)
                    {


                    }
                    else if (data.mEventType == EEventObjectType.EPoke)
                    {


                  }
                    else if (data.mEventType == EEventObjectType.EStatic)
                    {
                    }
              }
          }
      }
```