

# Tutorial – how to use Kinect v1 with Unity

## Requirements:

1. Make sure, that you have installed the Unity Kinect Wrapper. (download [here](#))
2. Use the Kinect for Windows Runtime v1.8. (download [here](#))
3. Use also the Kinect for Windows SDK v1.8
  - 3.1 download [here](#)
  - 3.2 Click “continue”
  - 3.3 You don’t need to register (figure 1)

Register and receive the download:

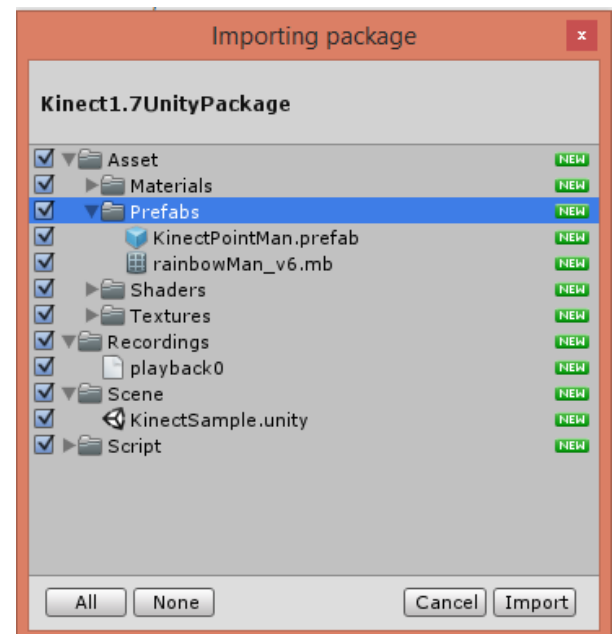
- ☐ Yes, I want to register and receive the download.
- ☒ No, I do not want to register. Take me to the download.

*figure 1 register for download*

## How to use Kinect v1 with Unity

### 1. Prepare project

1. Open unity
2. Click “new project”
3. Choose a name and click “create project”
4. Import the Unity Package of wrapper in Unity
  - 4.1 Assets > import package > custom package
  - 4.2 File → Kinect1.7UnityPackage.unitypackage
  - 4.3 For the beginning, check all checkboxes (figure 2)
  - 4.4 Click “import” (figure 2)



*figure 2 import package*

## 2. How to use a real Kinect v1:

1. Run a scene
  - 1.1 Select the scene (figure 3) –KinectSample is imported with the wrapper
  - 1.2 Open the scene by clicking ‘open’ (figure 4)

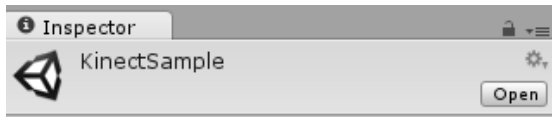


figure 4 open scene

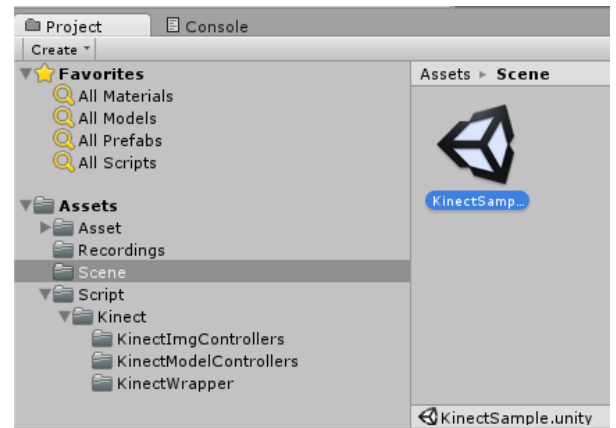


figure 3 select scene

2. Select KinectPrefab (figure 5)
3. Check if ‘Device or Emulator (Script)’ is checked (figure 6)
4. Check if ‘Use Emulator’ is unchecked in Kinect Preftab (circle at figure 6)
5. Check if Kinect Sensor Script is checked (figure 7)
6. Set the sensor-values (The Sensor Height in figure 7 is the height of the physical Kinect above the ground)

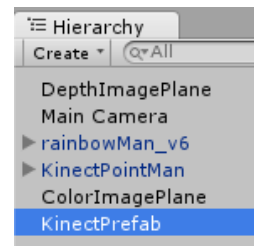


figure 5 select KinectPrefab

## 3. How to use the emulator without a real Kinect

1. Run a scene
  - 1.1 Select the scene (figure 3) –KinectSample is imported with the wrapper
  - 1.2 Open the scene by clicking ‘open’ (figure 4)
2. Select KinectPrefab (figure 5)
3. Check if ‘use the emulator’ is checked (figure 6)
4. Select a recording-File (if you don’t have a recording file, go to ‘4. How to create a recording’)
  - 4.1 Fill in the Input File (figure 8) –the default file is ‘Assets/Recordings/playback0’, it’s a sample of the imported wrapper file. The path won’t change – just change the file if there are more than one
  - 4.2 Input File ... Filepath to the recording

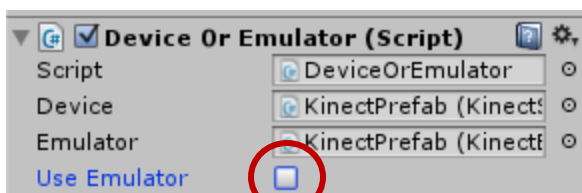


figure 6 device/emulator settings

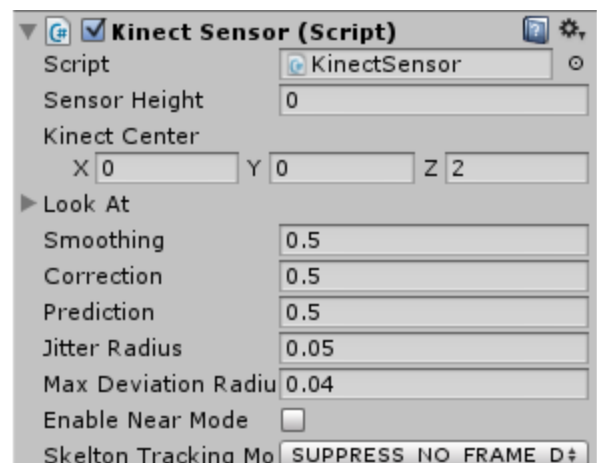


figure 7 sensor settings

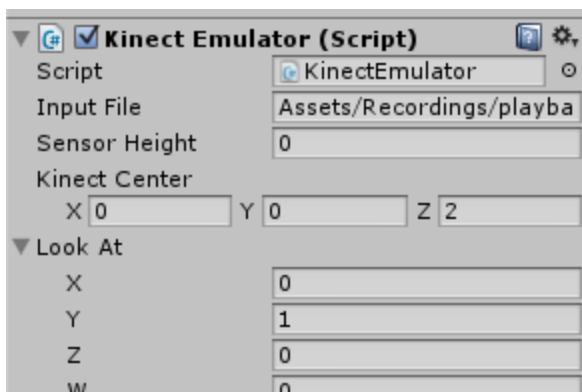


figure 8 emulator settings

#### 4. How to create a recording (with real Kinect v1 sensor)

1. Select KinectPrefab (figure 5)
2. Activate the recorder script by checking the checkbox 'Kinect Recorder' (figure 9)
3. Connect the Kinect with your Computer
4. Your scene should include KinectPrefab, Kinect Point Main, Main Camera, and a Light (figure 10)
  - 4.1 The sample scene includes more than the required, you can delete the other points
  - 4.2 The sample scene did not include a light
    - 4.2.1 Click create > Light > Directional Light (figure 11)
5. Now you should see a skeleton with joints
  - 5.1.1 Press F10 to start recording and F10 again to stop it
  - 5.2 In the status you now see that a recording file is stored, you can now use this in the emulator (Topic 3)

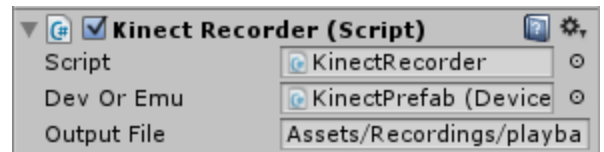


figure 9 recorder settings

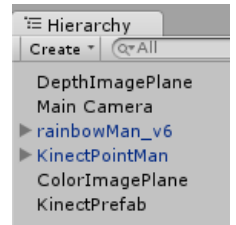


figure 10 hierarchy

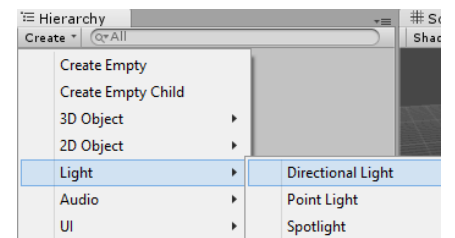


figure 11 create light

#### 5. Add a specific mask (optional)

If you need a special mask for just showing some defined points, add a mask (for example for both hands)

1. Go to Assets > Script > Kinect > KinectModelControllers
2. open KinectPointController.cs
3. add your mask in 'public enum BoneMask'
  - 3.1 e.g. for both hands: Both\_Hands = Left\_Hand | Right\_Hand | Wrist\_Left | Wrist\_Right

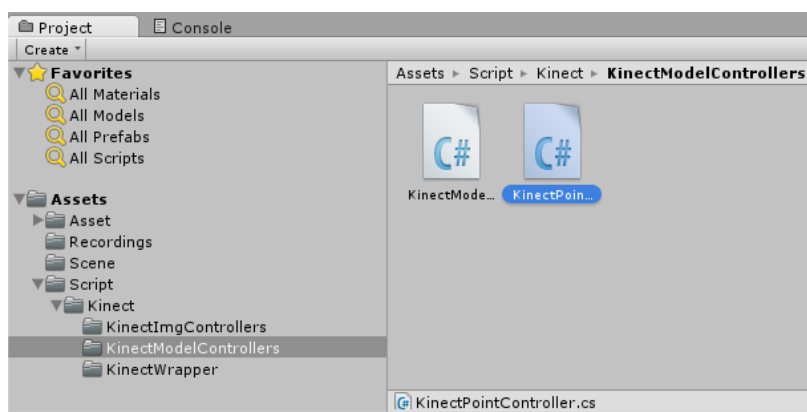


figure 12 open KinectPointController.cs

```
public enum BoneMask
{
    Both_Hands = Wrist_Right | Hand_Right | Wrist_Left | Hand_Left,
    None = 0x0,
    Hip_Center = 0x1,
    Spine = 0x2,
    Shoulder_Center = 0x4,
    Head = 0x8,
    Shoulder_Left = 0x10,
    Elbow_Left = 0x20,
    Wrist_Left = 0x40,
```

figure 13 add your mask

## 6. Start the recording

1. select a mask
  - 1.1 choose your mask (figure 14) – you can also choose 'all' or a default value, e.g. Right\_Hand
2. Press play (red circle in figure 15)
3. Now you should see just the selected Points, in this case both hands (the big white points in figure 15)



figure 14 add a mask

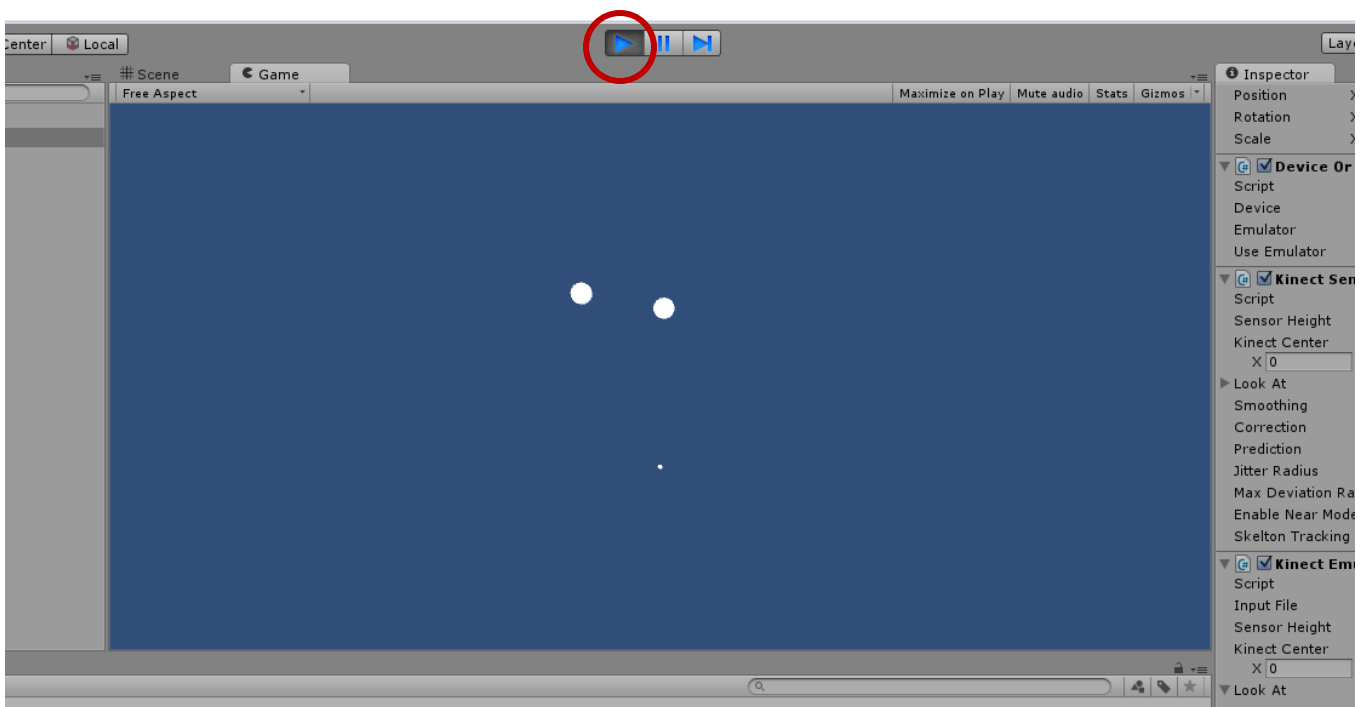


figure 15 result

## Caveats and Stuff

- Sometimes there are problems with the real Kinect. This will result in a the following failure:
  - NuInitFailed. UnityEngine.Debug:Log(Object)KinectSensor:Awake() (at Assets/Script/Kinect/KinectWrapper/KinectSensor.cs:147)
  - (Also show in the status bar: NuInitFailed, Left bottom corner of unity)
  - If this occurs just reopen unity. Most of the times we get this error when a other app is connecting with the Kinect.
- If the playback of the recording didn't work – check the input file path of the emulator script