導入VR/MR混和生成之動作與實境擷取

Kinect教學與應用
(配合影片2~4單元)

Kinect簡介

- Kinect 是由微軟開發應用於Xbox 360和Xbox One 的周邊設備。
- 為了讓玩家不需要手持控制器所研發。
- 可使用語音指令或手勢等動作控制。

Kinect v1

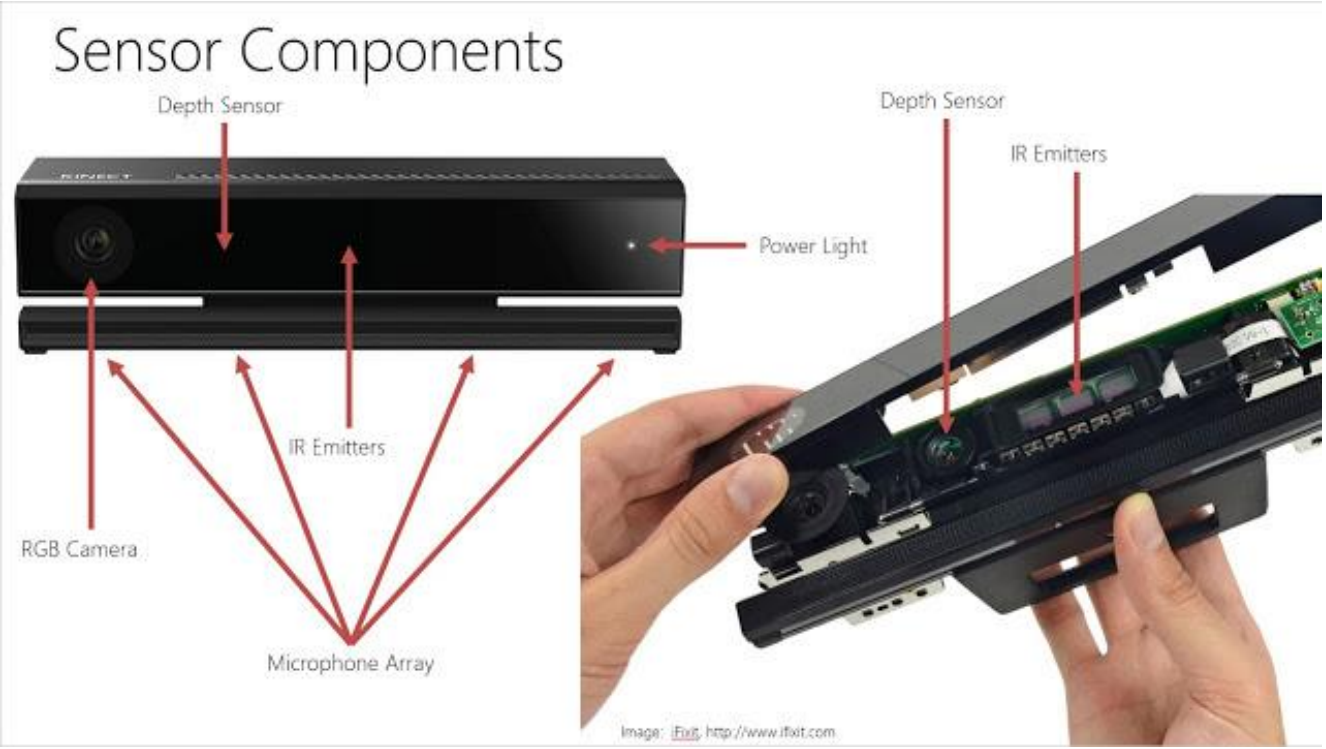
Kinect v2

Kinect V2介紹

- Kinect V2 系統需求
  - Windows 8 以上
  - USB 3.0
  - 64-bit(x64)
  - 4GB Memory(or more)

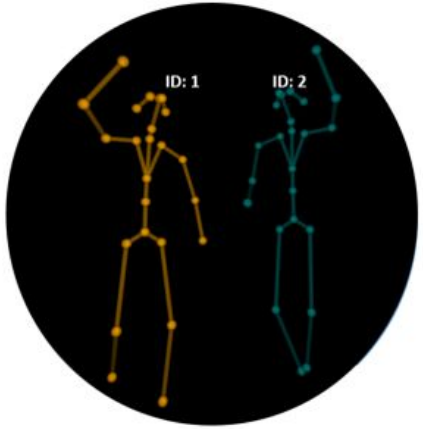
Kinect v1	Kinect v2
RGB camera	
640x480 30fps	1920x1080 30fps
一般	廣角
Depth sensor	
320x240 30fps	512x424 30fps
1.2~3.5 meters	0.5~4.0 meters
Skeletal tracking	
Max：2 Skeletons	Max：6 Skeletons
Joints：20	Joints：25

Kinect V2介紹


Sensor Components
Depth Sensor
Power Light
IR Emitters
RGB Camera
Microphone Array
Depth Sensor
IR Emitters
Image: iFixit, http://www.ifixit.com

Kinect V2 - 全彩、深度影像(RGBD)

Kinect V2 - 人體、骨架資訊



A collection of body structs

Each body struct contains:
- Body ID – the tracked ID of the body.
- Joint Positions – the 3D position of each joint.
- Joint Orientations – the orientation of each joint coordinate frame represented in quaternion.

2D body index map

The 2D instance segmentation map segments each body instance from the background.

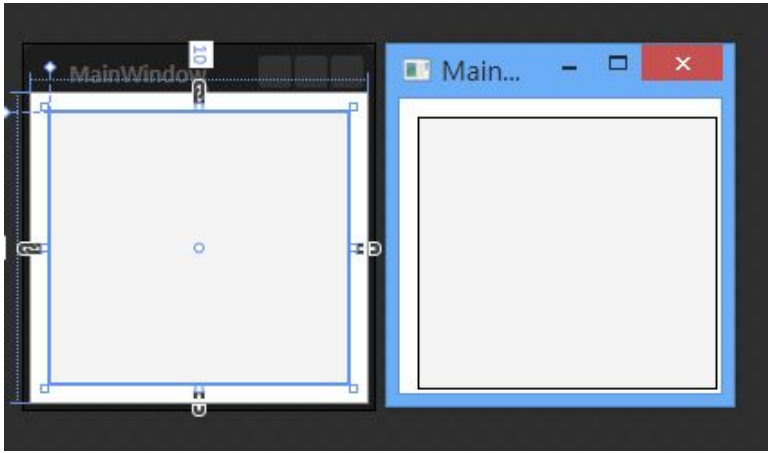
Input capture

The input capture that used to generate the body tracking results.

使用Windows WPF

USB3.0

Kinect SDK



Thank You