Holography Diamond Interaction with Kinect

동서대학교
Dongseo University
Yeouf Tan Yung Fu (진용복)
yungfu88@hotmail.com

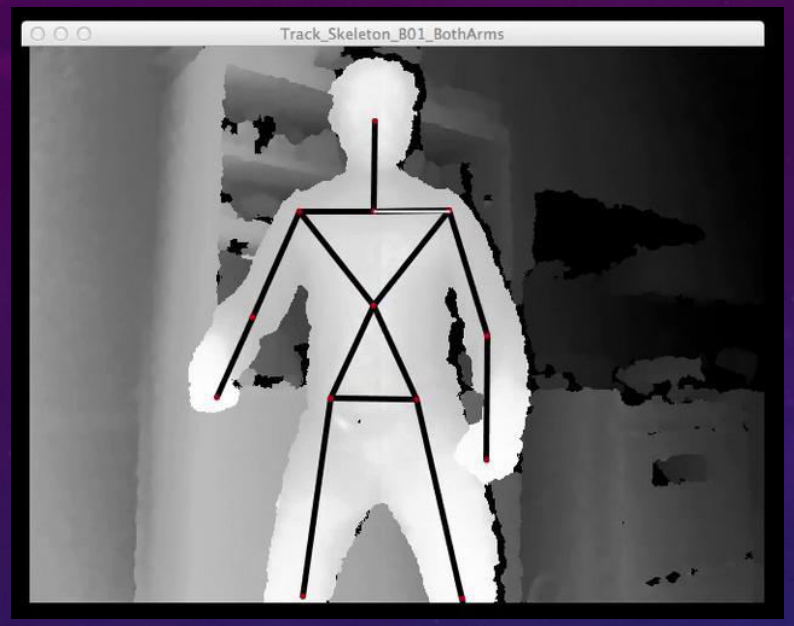
DSU Dongseo University 동서대학교

IAI 엠비언트 인텔리전스 연구소 Institute of Ambient Intelligence

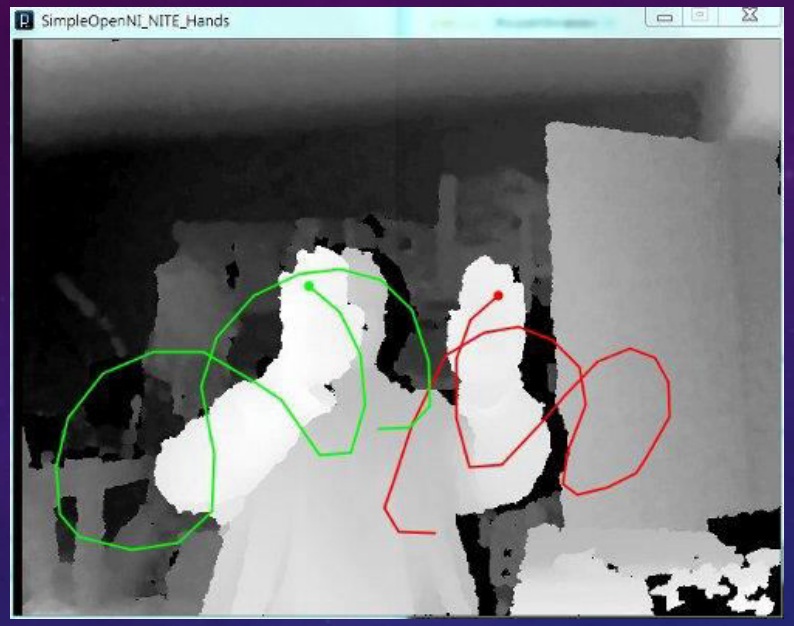
System Requirements

- Window 7 / Window 8 (32/64 bit)
- Processing 2.0.2
- Simple OpenNi 1.96
- Box 2D

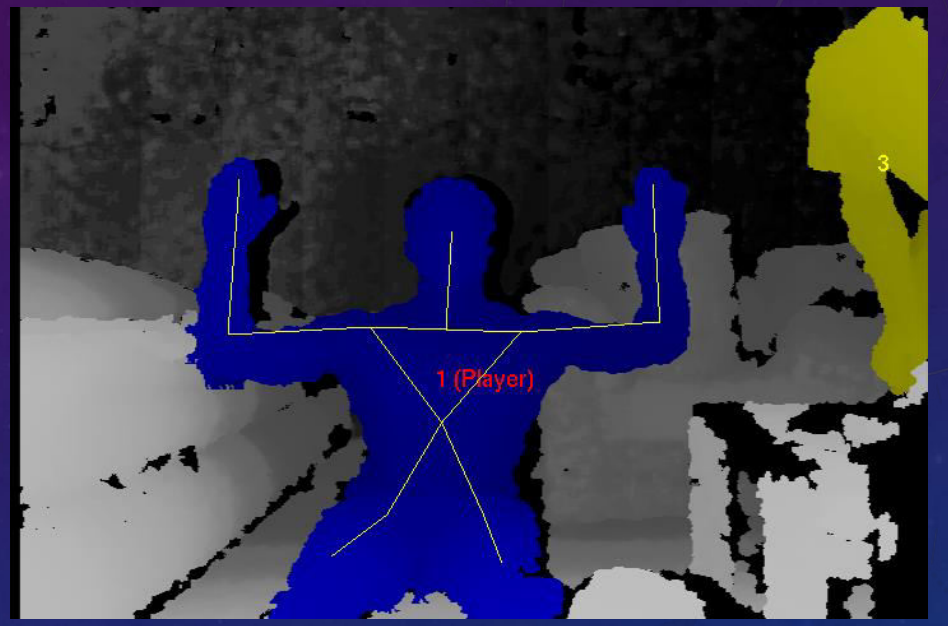
What Kinect can do ?



Human Skeleton & Location



Human Hand Location



Human Extraction

Kinect & Box2D Installation

KINECT for Windows

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DEVELOPER DOWNLOADS

The Kinect for Windows software development kit (SDK) enables developers to use C++, C#, or Visual Basic to create applications that support gesture and voice recognition by using the Kinect for Windows sensor and [illegible] embedded device.

Step 1: Set Up Kinect for Windows SDK

The SDK includes drivers for using the Kinect for Windows sensor on compu[illegible]d devices running Windows 8, Windows 7, or Windows Embedded Standard 7.
Updated March 18, 2013, 228 MB, English

Explore the features >

DOWNLOAD LATEST SDK

View release notes >

Step 2: Set Up Kinect for Windows Developer Toolkit

The toolkit includes Kinect Fusion, new controls for fluid and simple gesture interactions, along with resources such as samples and APIs to save you hours of development time. In addition, the toolkit contains new source code samples, including Kinect Bridge with MATLAB and OPENCV; and other resources to help you streamline touch-free application development with the Kinect for Windows SDK and toolkit.
Updated March 18, 2013, 378 MB, English

DOWNLOAD TOOLKIT

View release notes >

Link

simple-openni

OpenNI library for Processing

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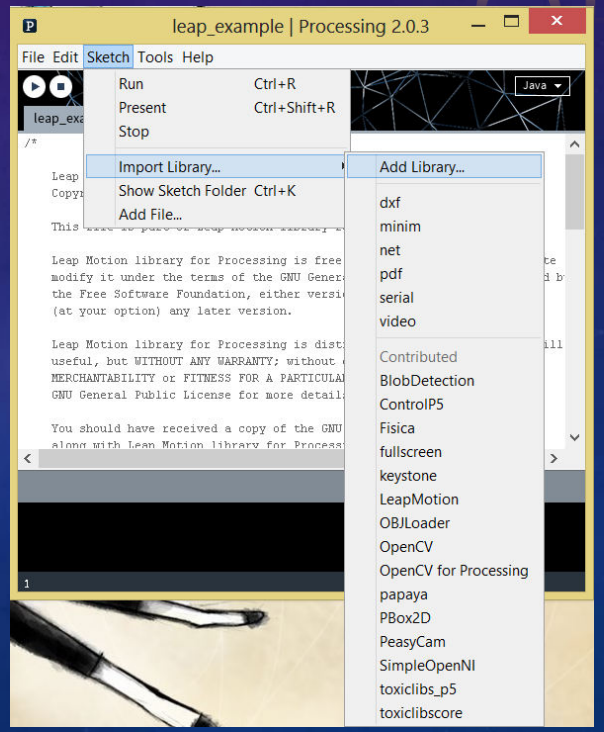
1 - 1 of 1

Filename	Summary + Labels	Uploaded	ReleaseDate	Size	DownloadCount
SimpleOpenNI-1.96.zip	SimpleOpenNI-1.96 (Win,OSX,Linux) Featured	Aug 30	Aug 30	111 MB	646

1 - 1 of 1

Link

OR



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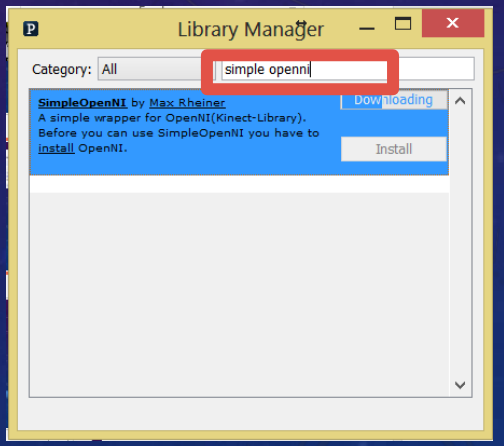

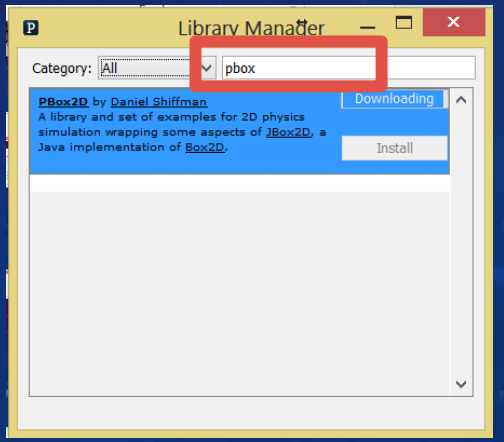

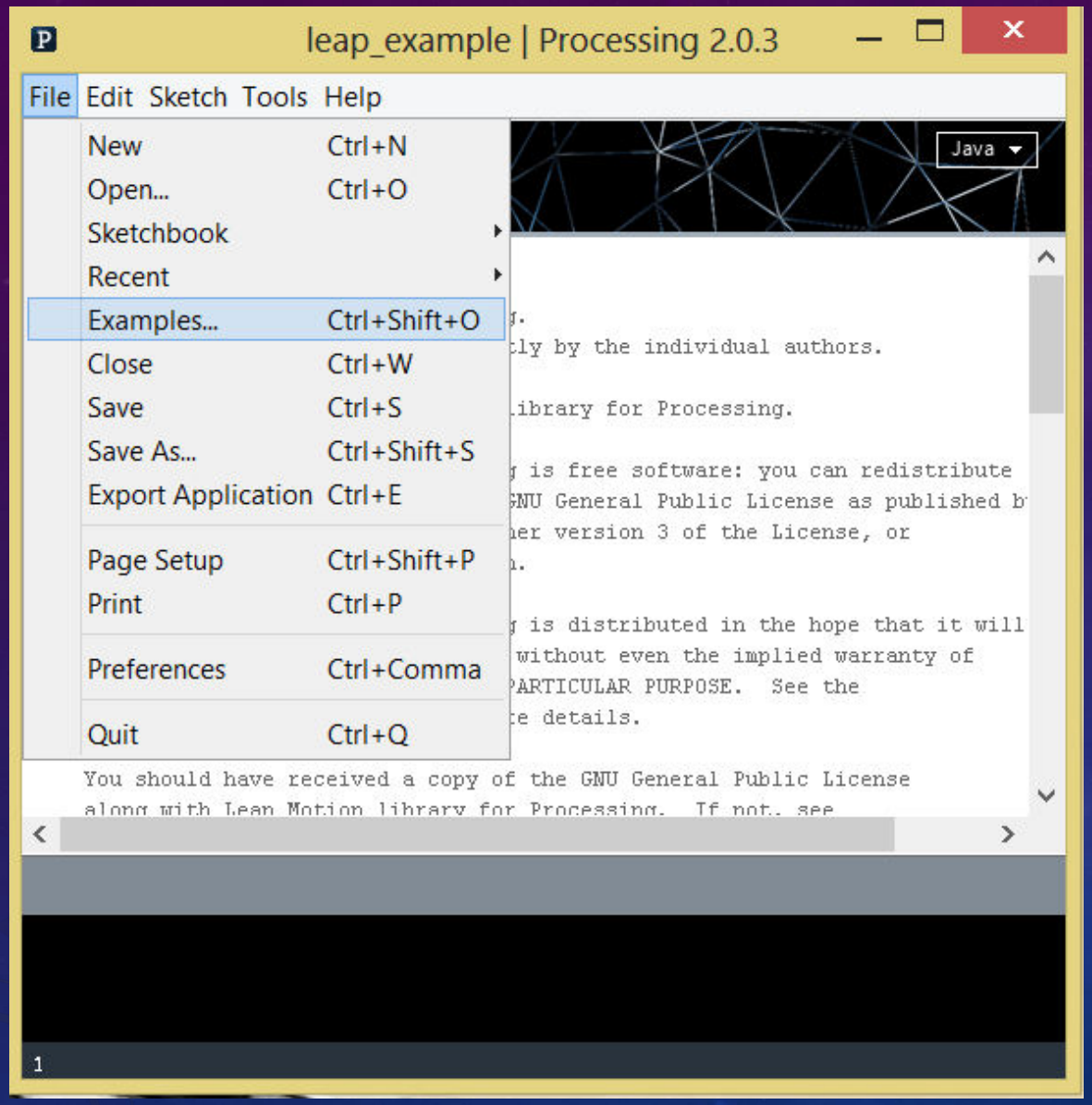
leap_example | Processing 2.0.3
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New Ctrl+N
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Sketchbook
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Examples... Ctrl+Shift+O
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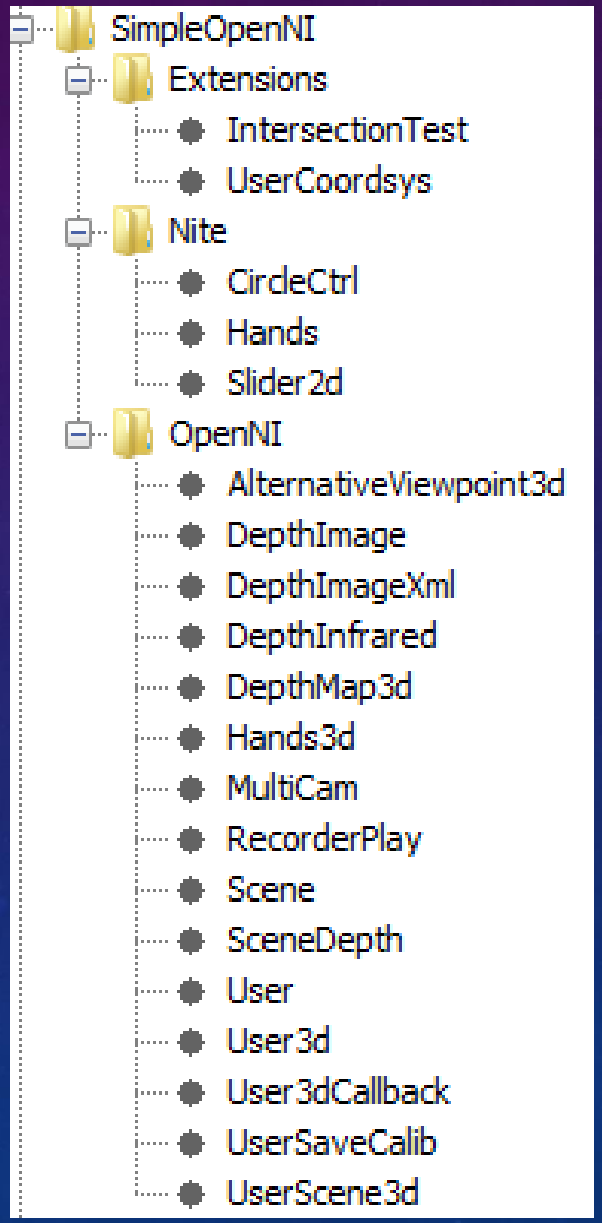
1


SimpleOpenNI
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IntersectionTest
UserCoordsys
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CircleCtrl
Hands
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OpenNI
AlternativeViewpoint3d
DepthImage
DepthImageXml
DepthInfrared
DepthMap3d
Hands3d
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RecorderPlay
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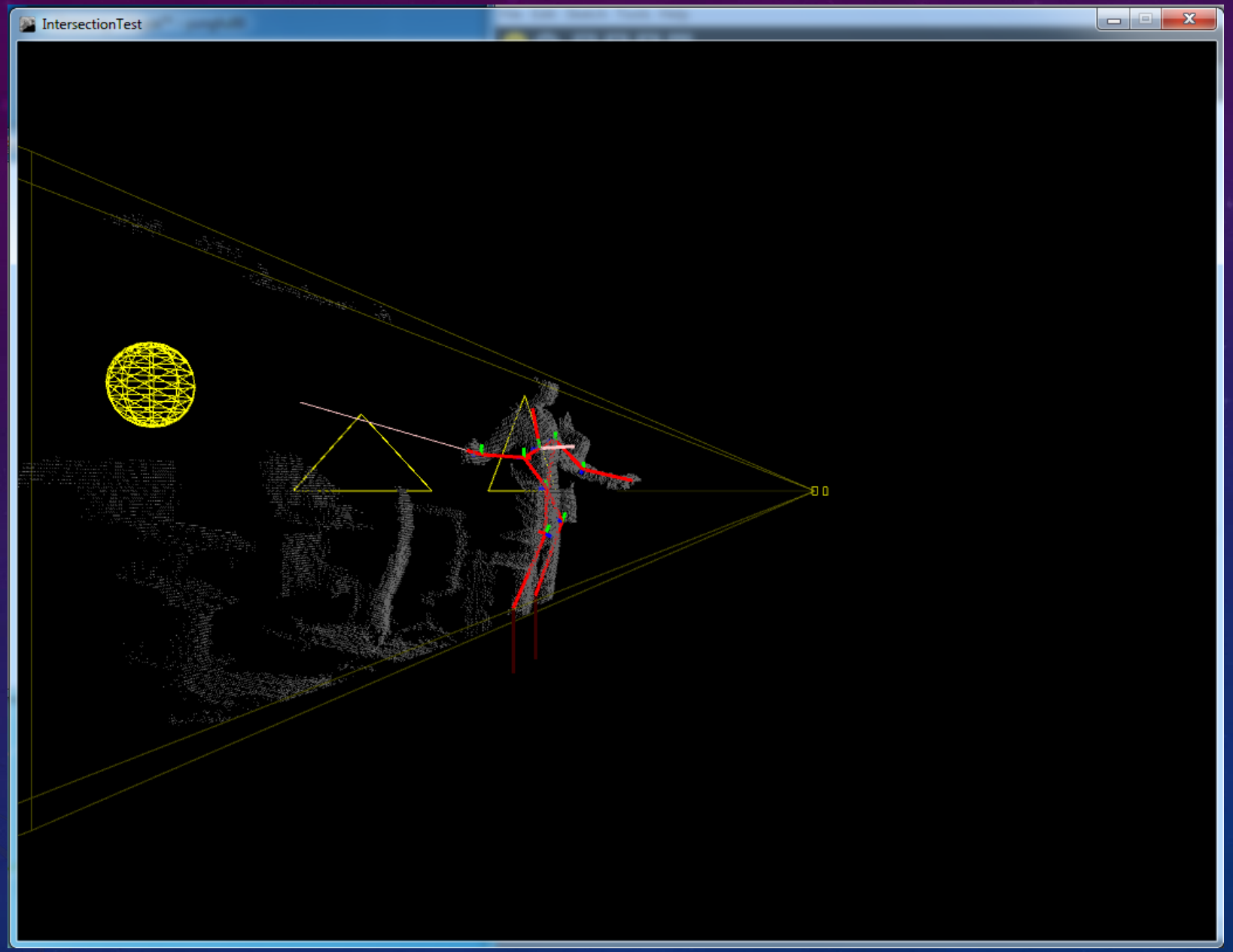
WHAT KINECT CAN DO?



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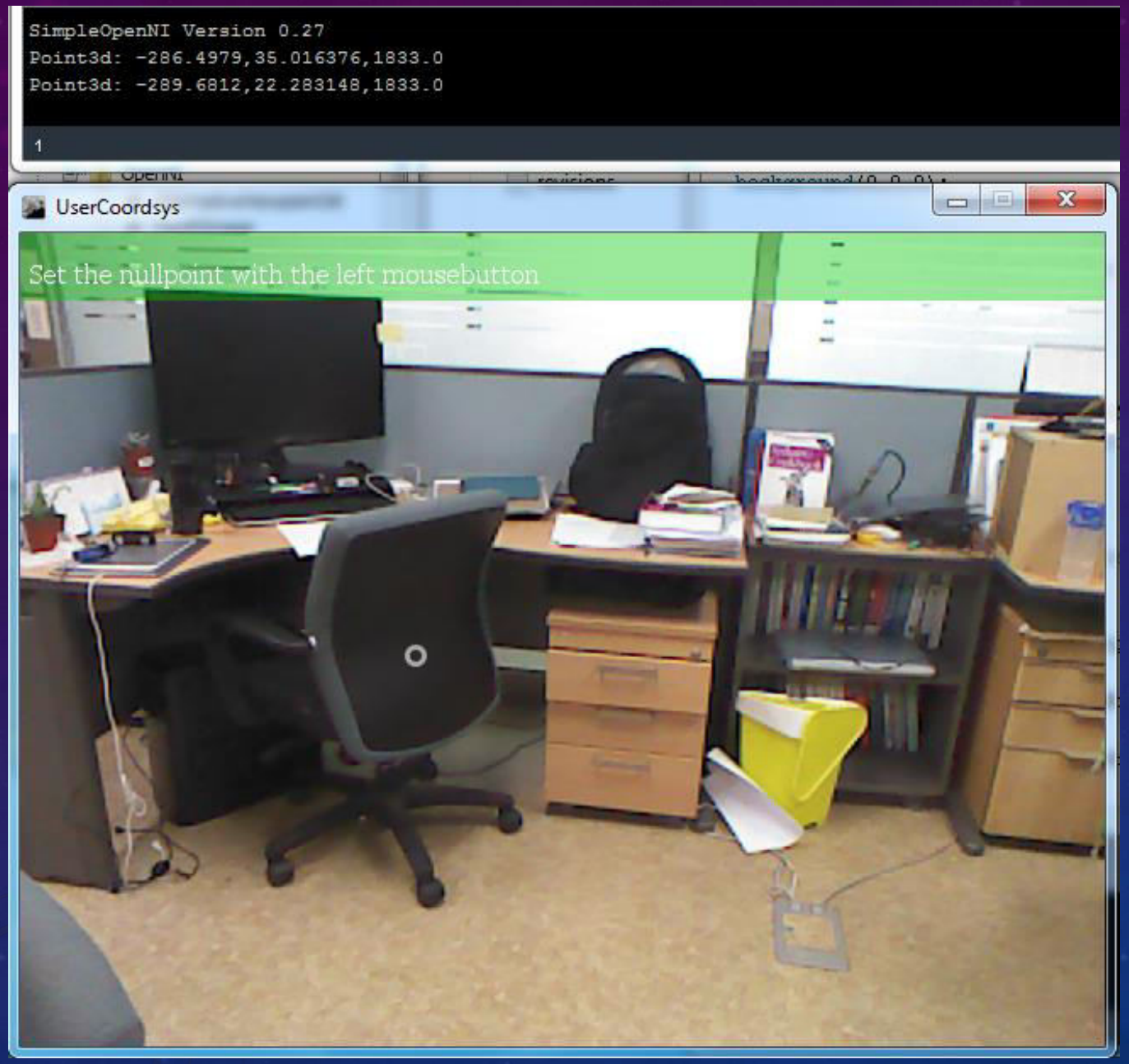

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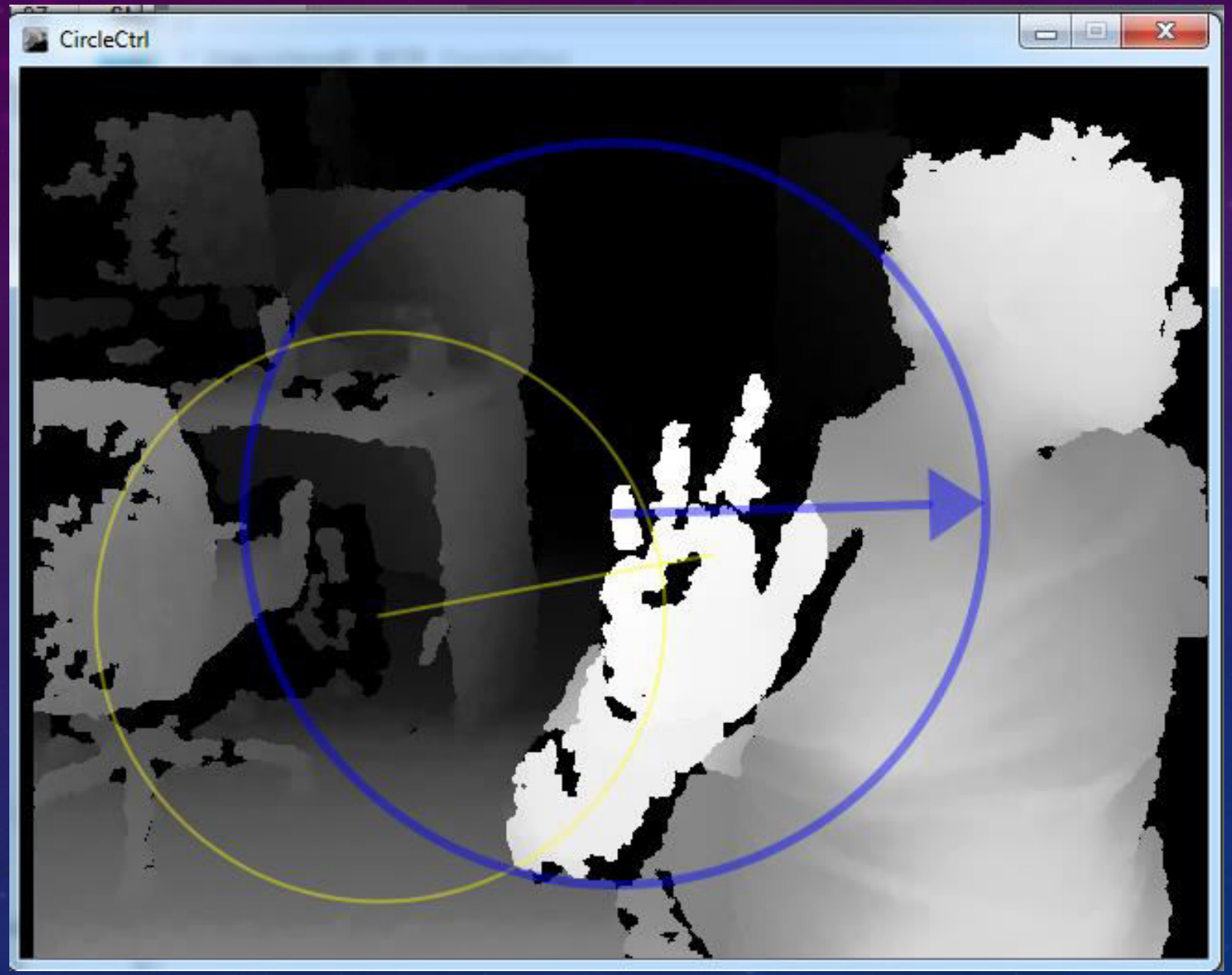

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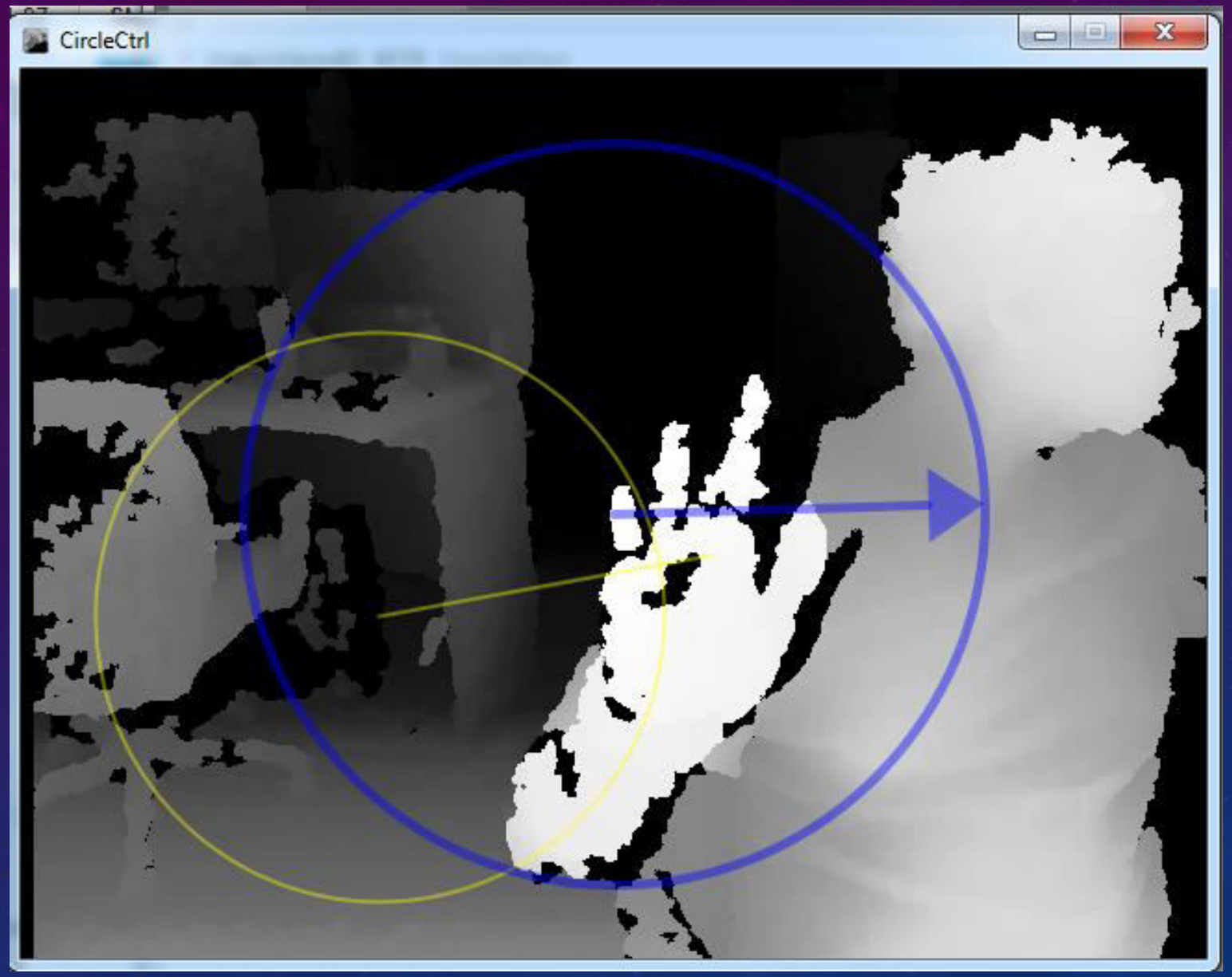

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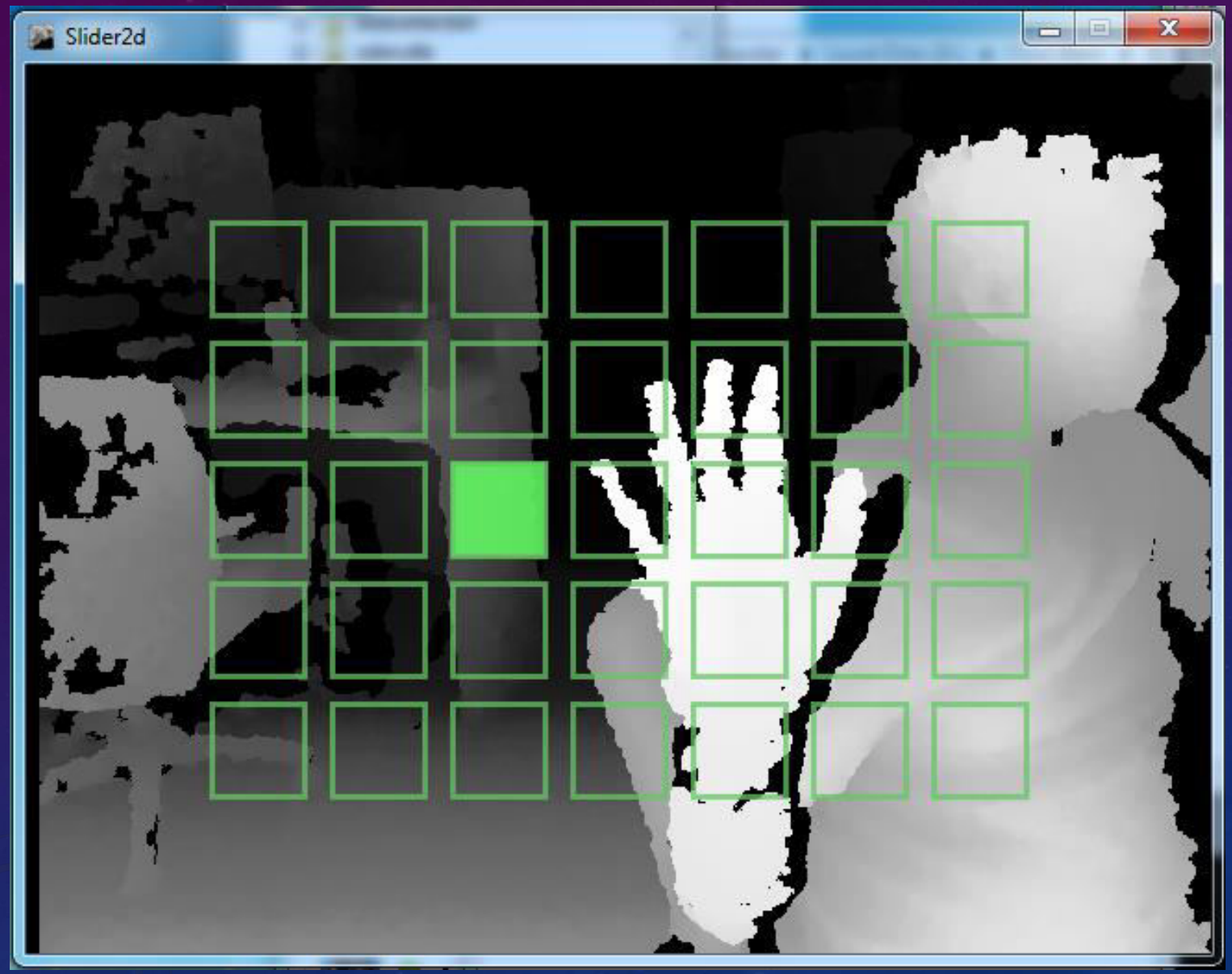

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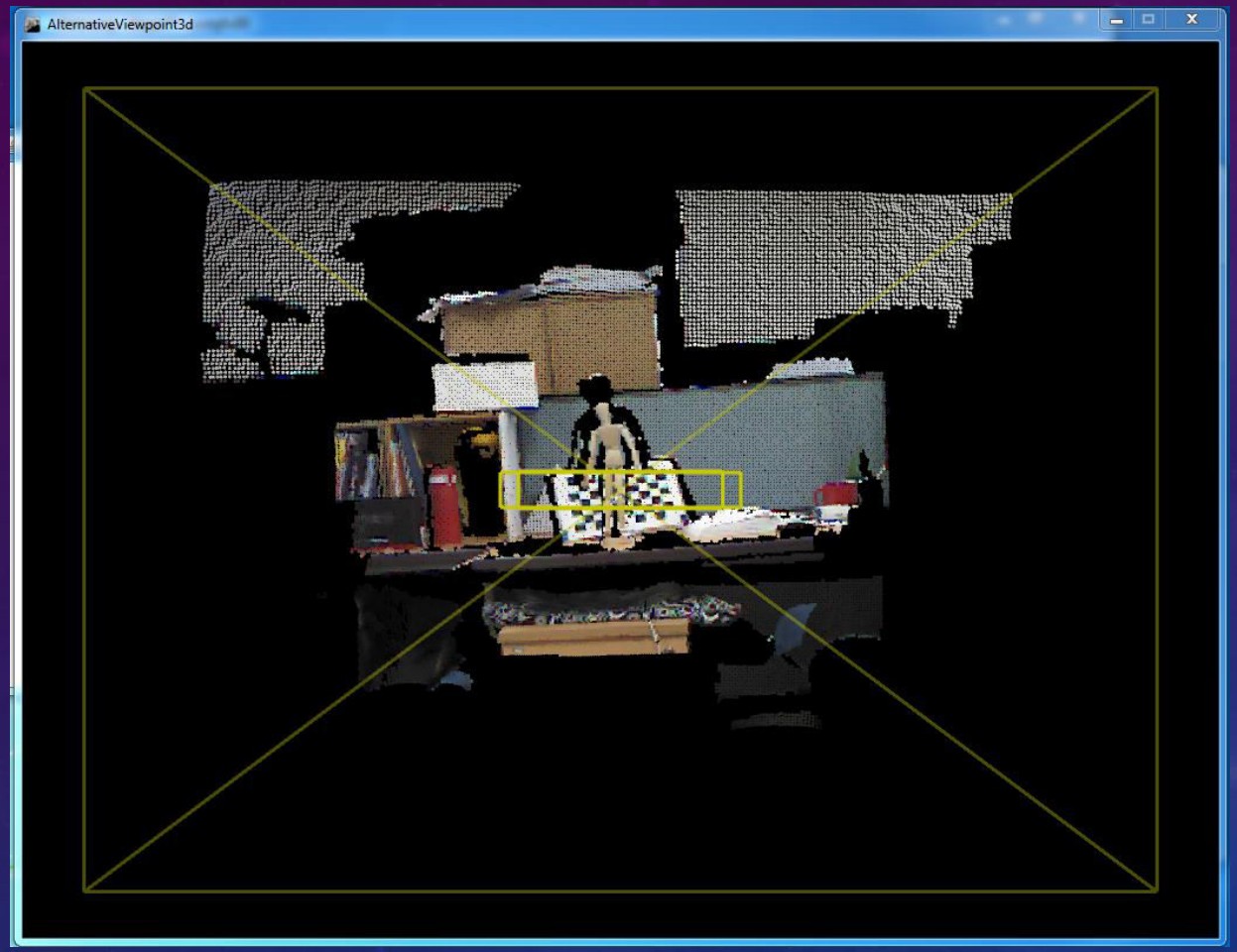

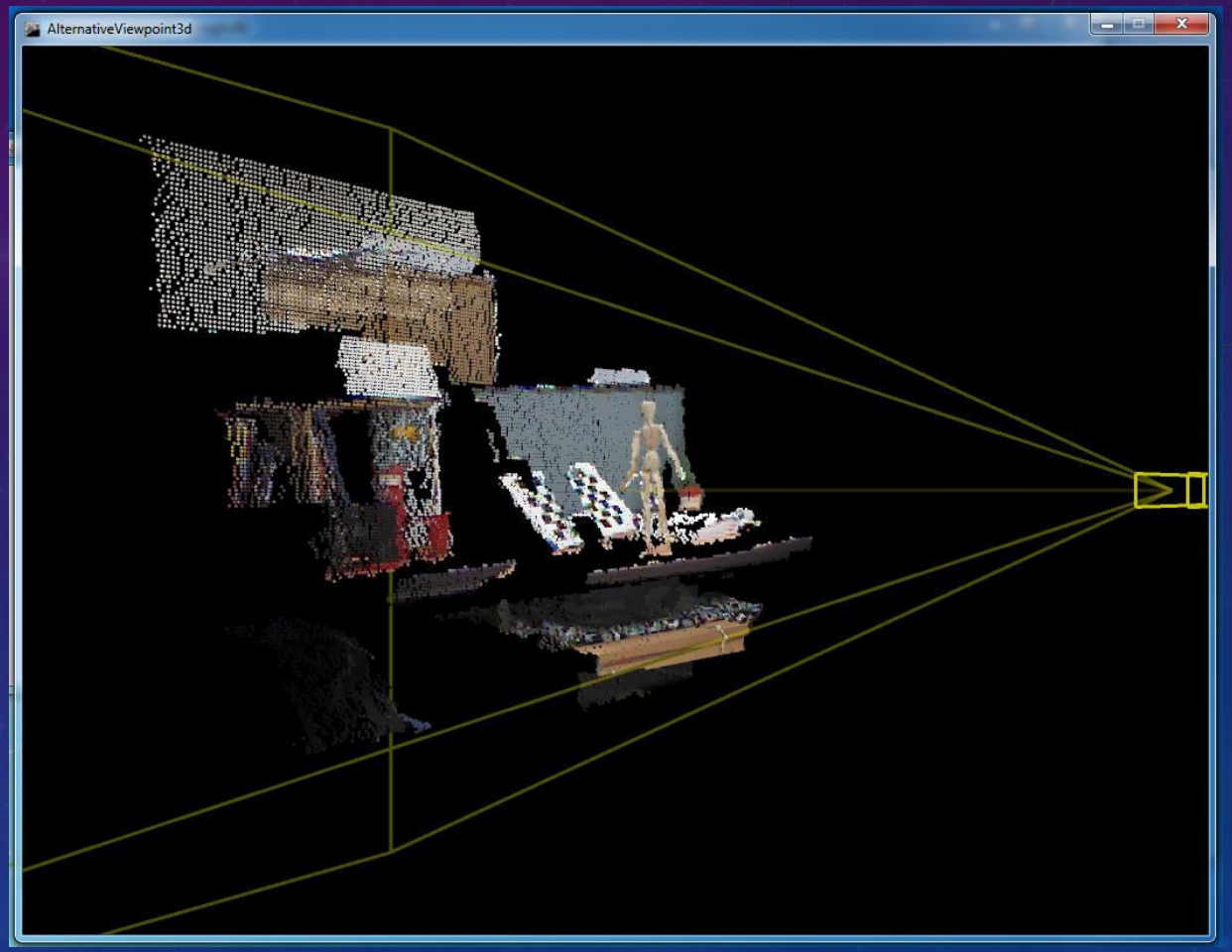

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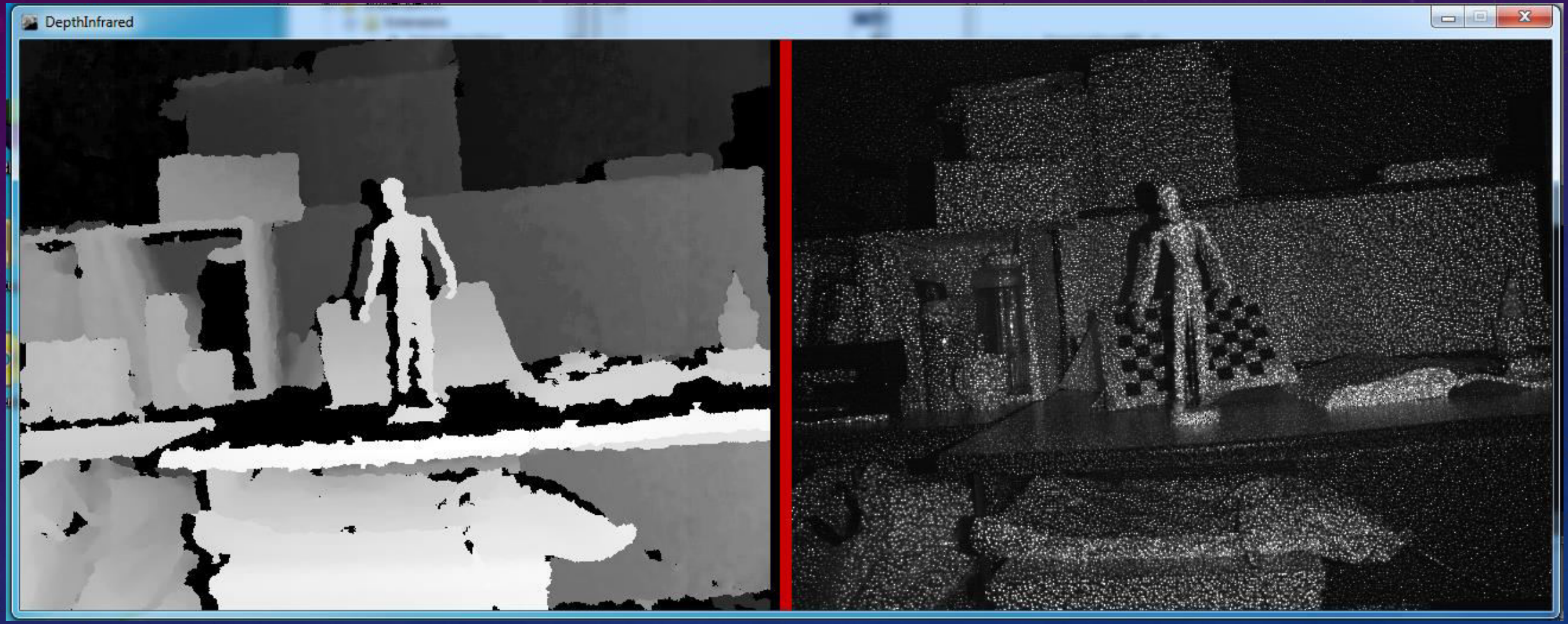

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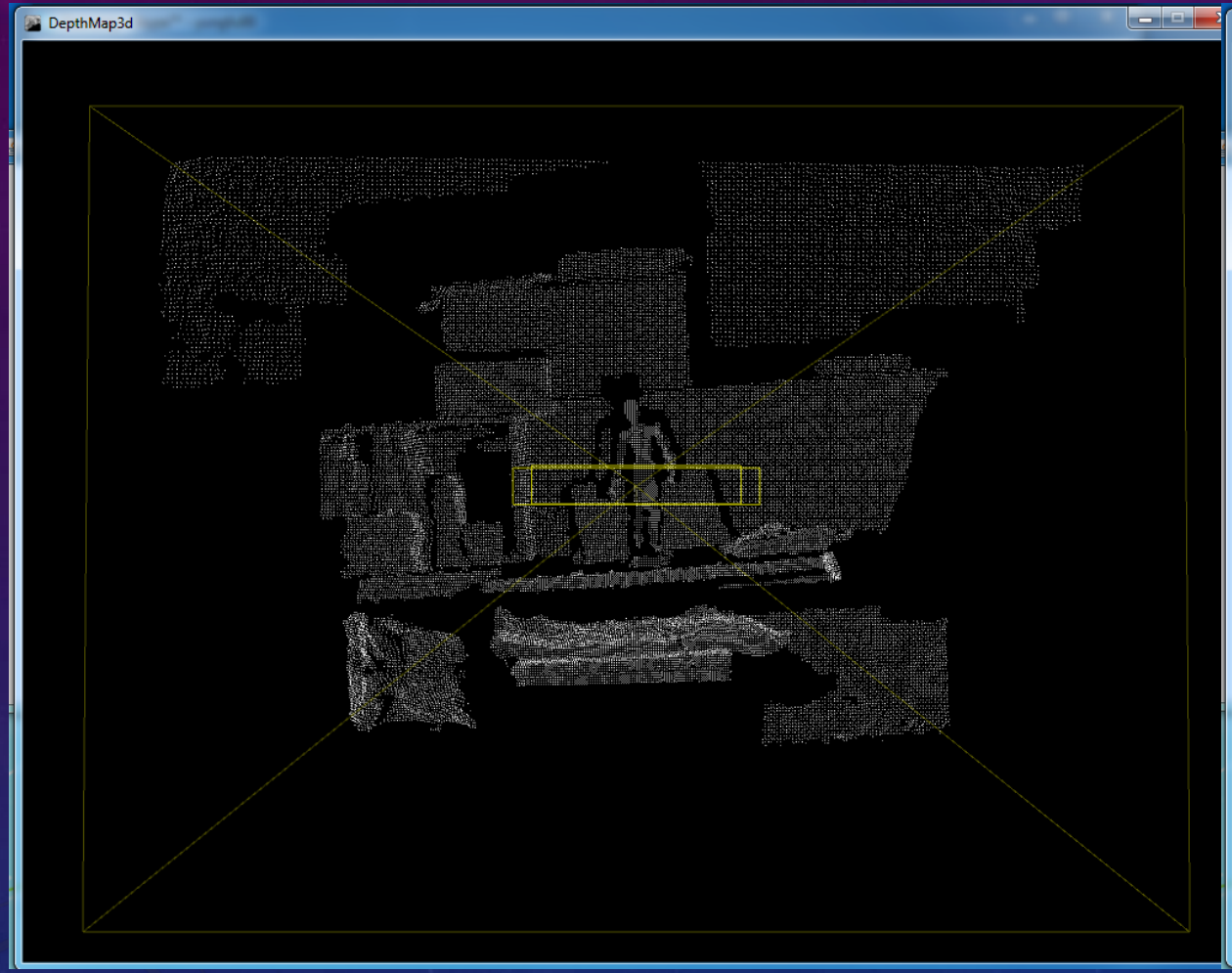

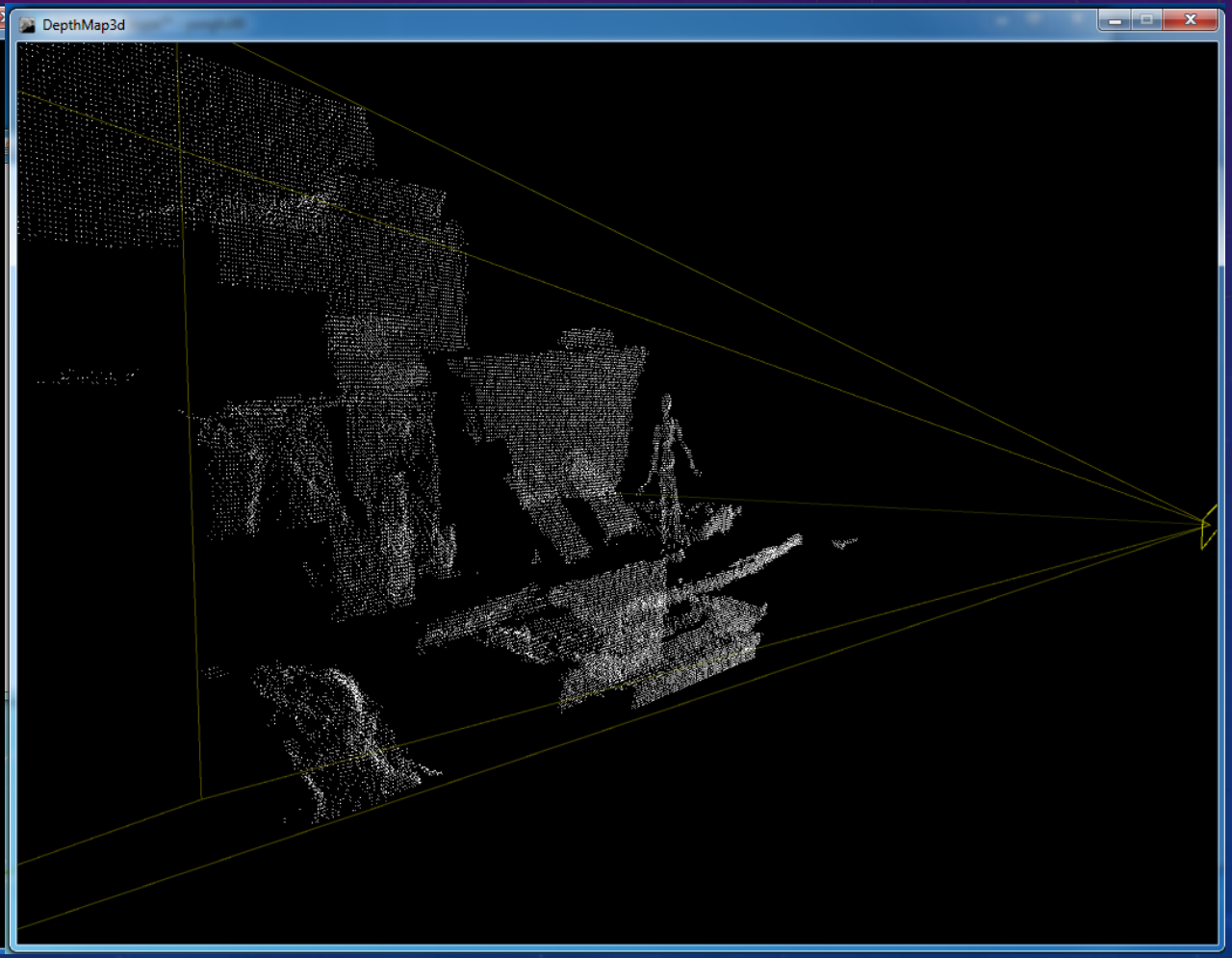

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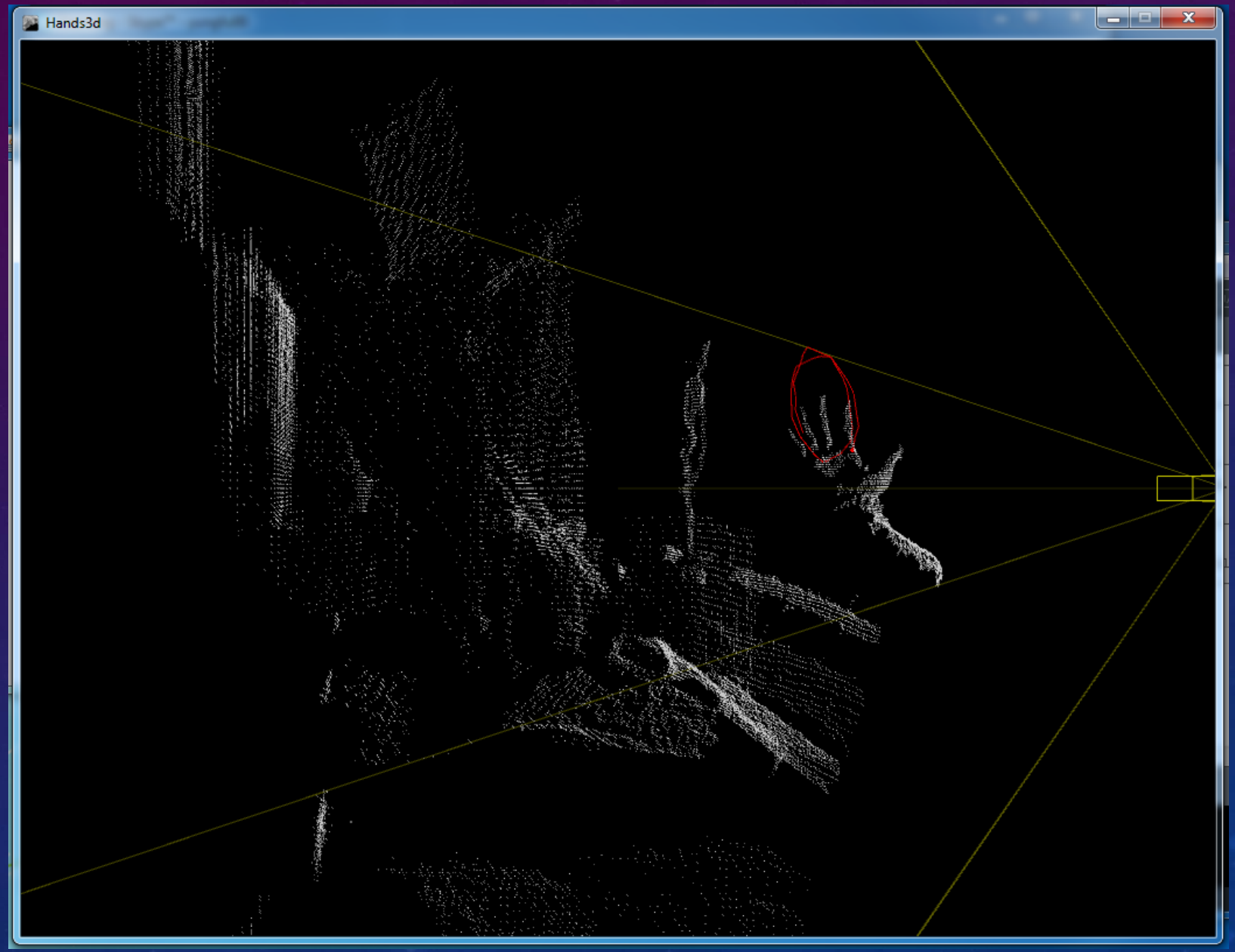

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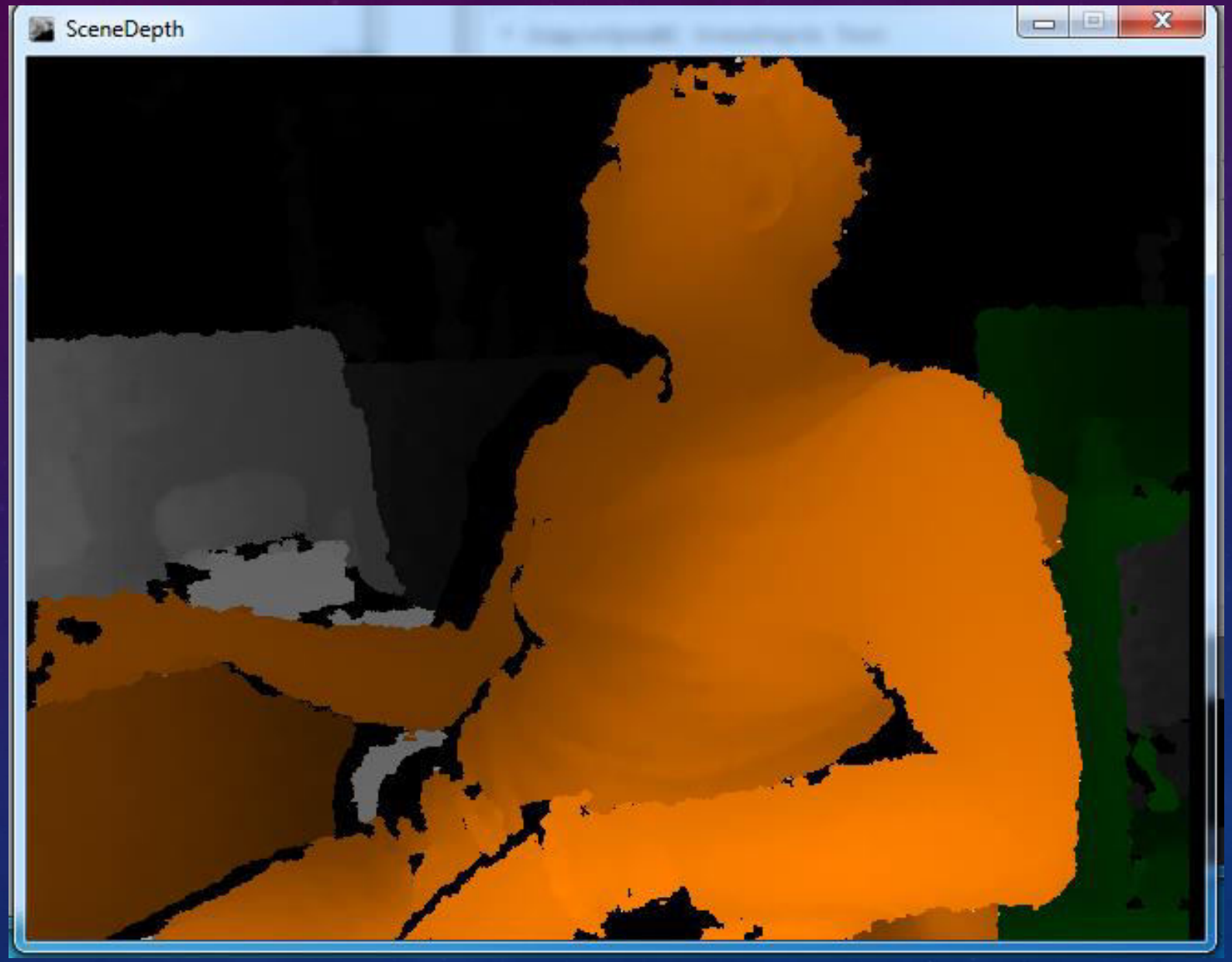

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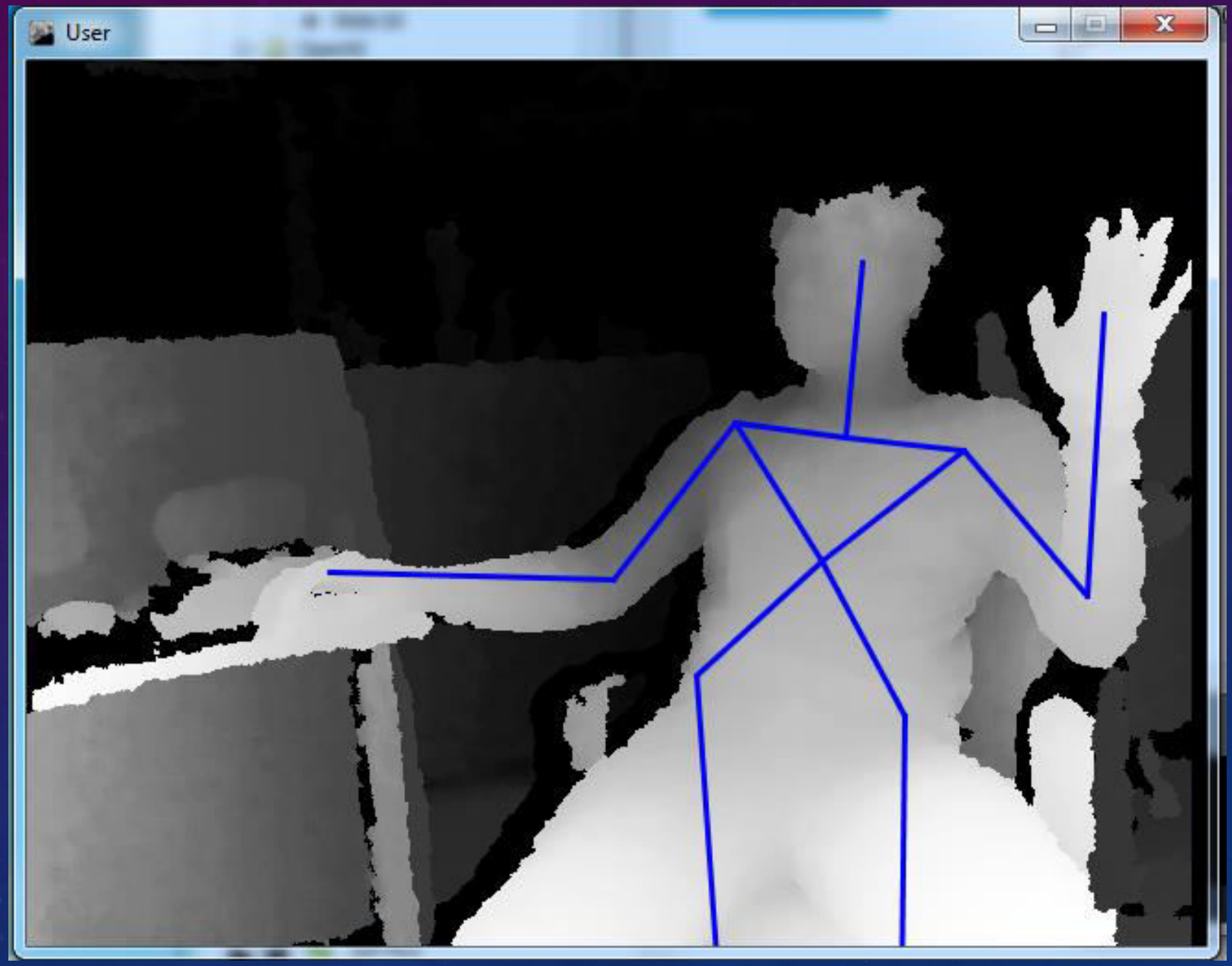

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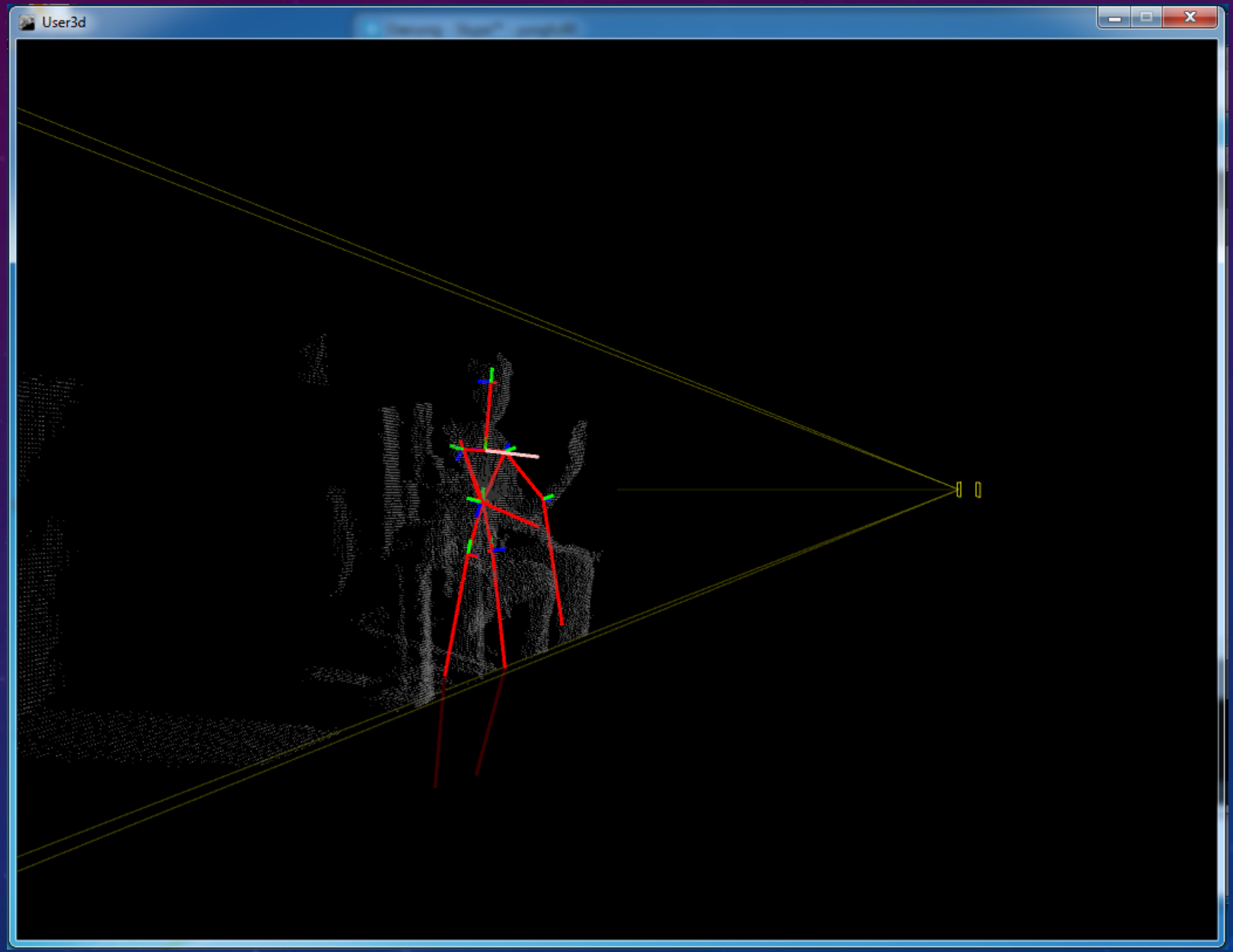

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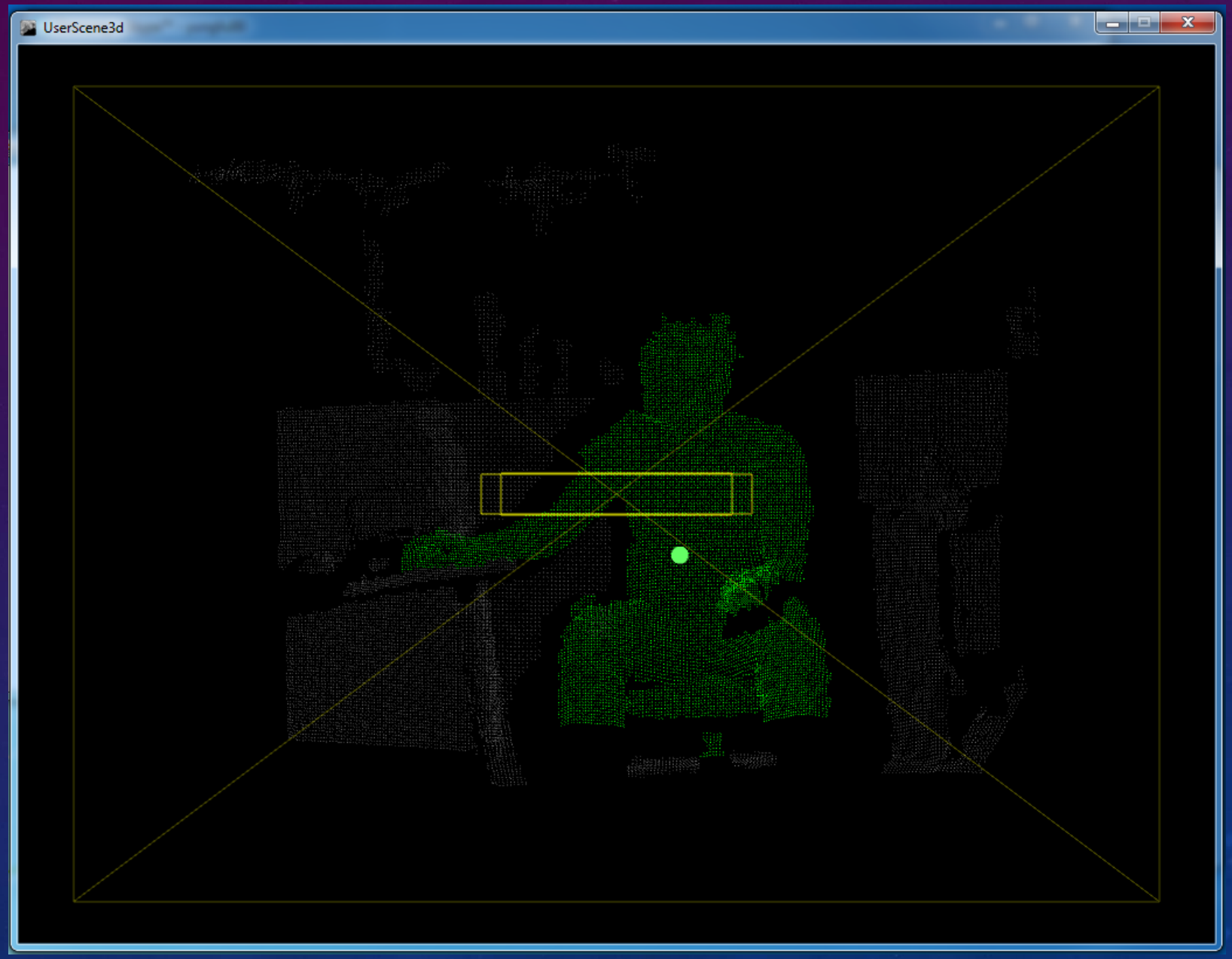
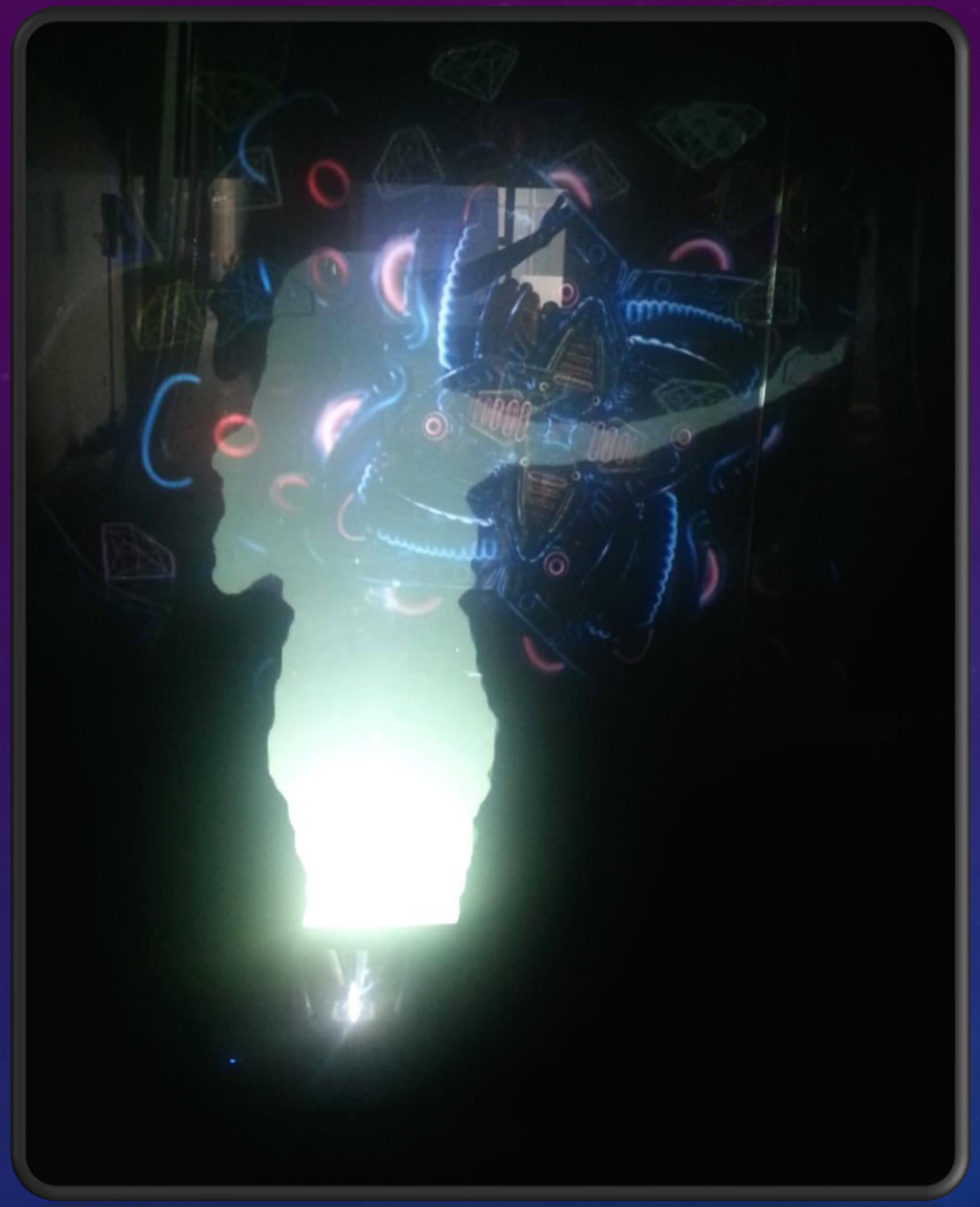


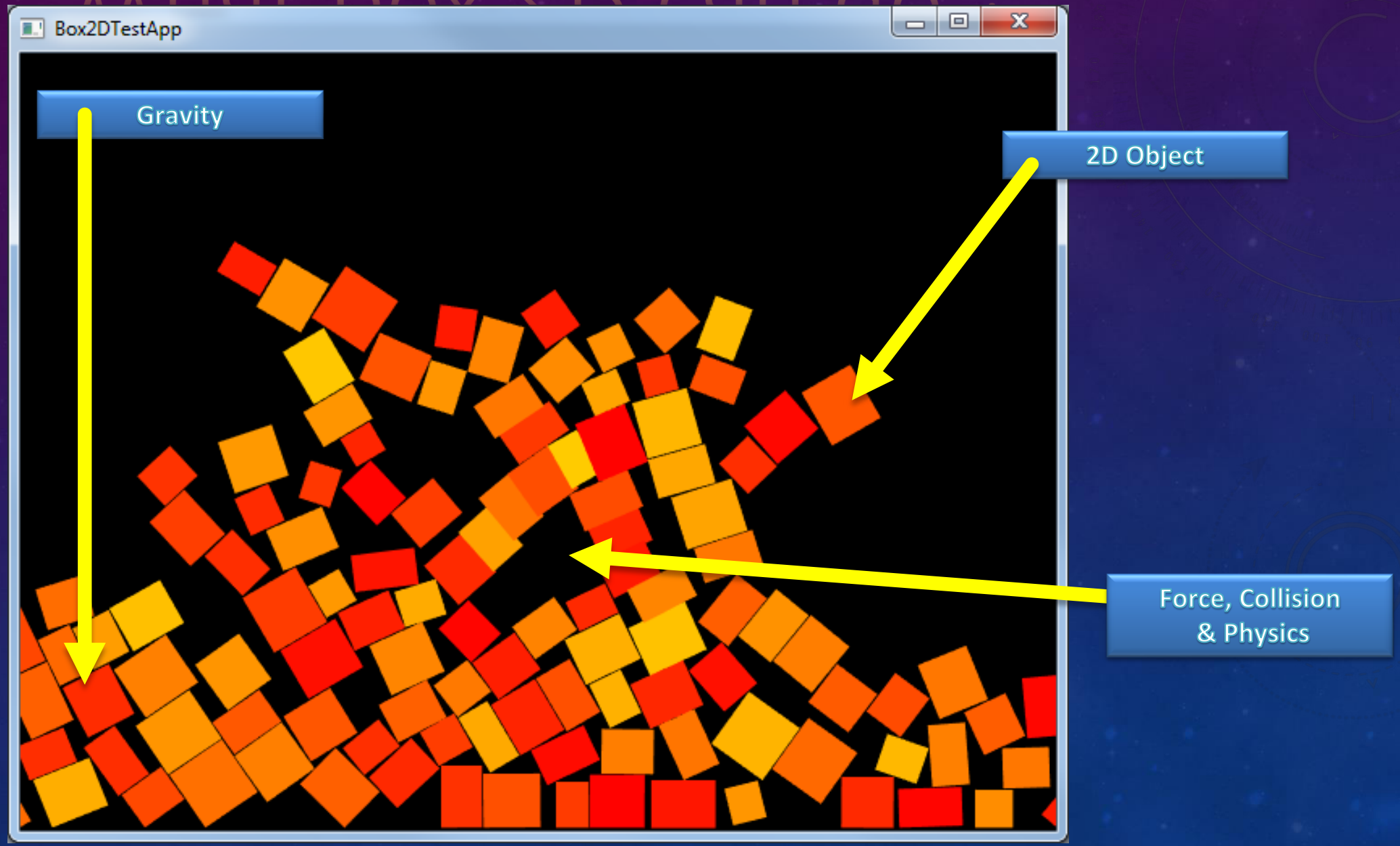


Description

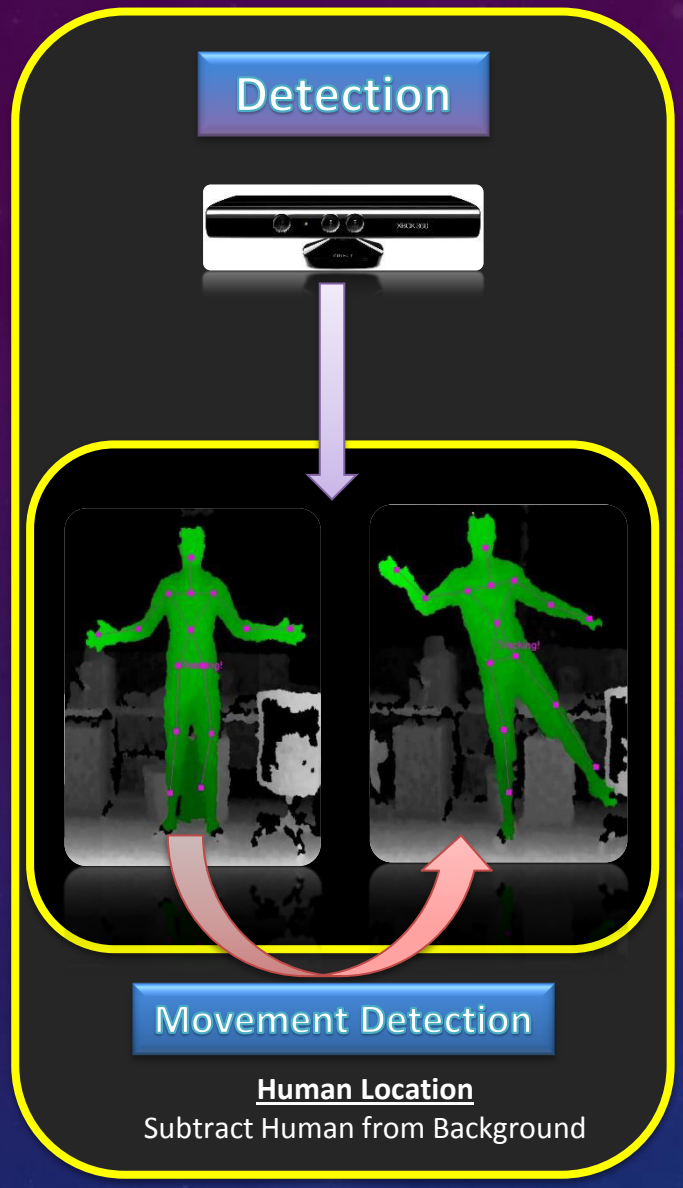
- Holography Diamond is a holography interaction which allow you to interact with 2D-Holo contents.

- With the Combination of Holography Diamond with 3D Sensor, user able interact with the object from holography type of view by using body movement such as hands, legs and head.

What Box 2D can do ?

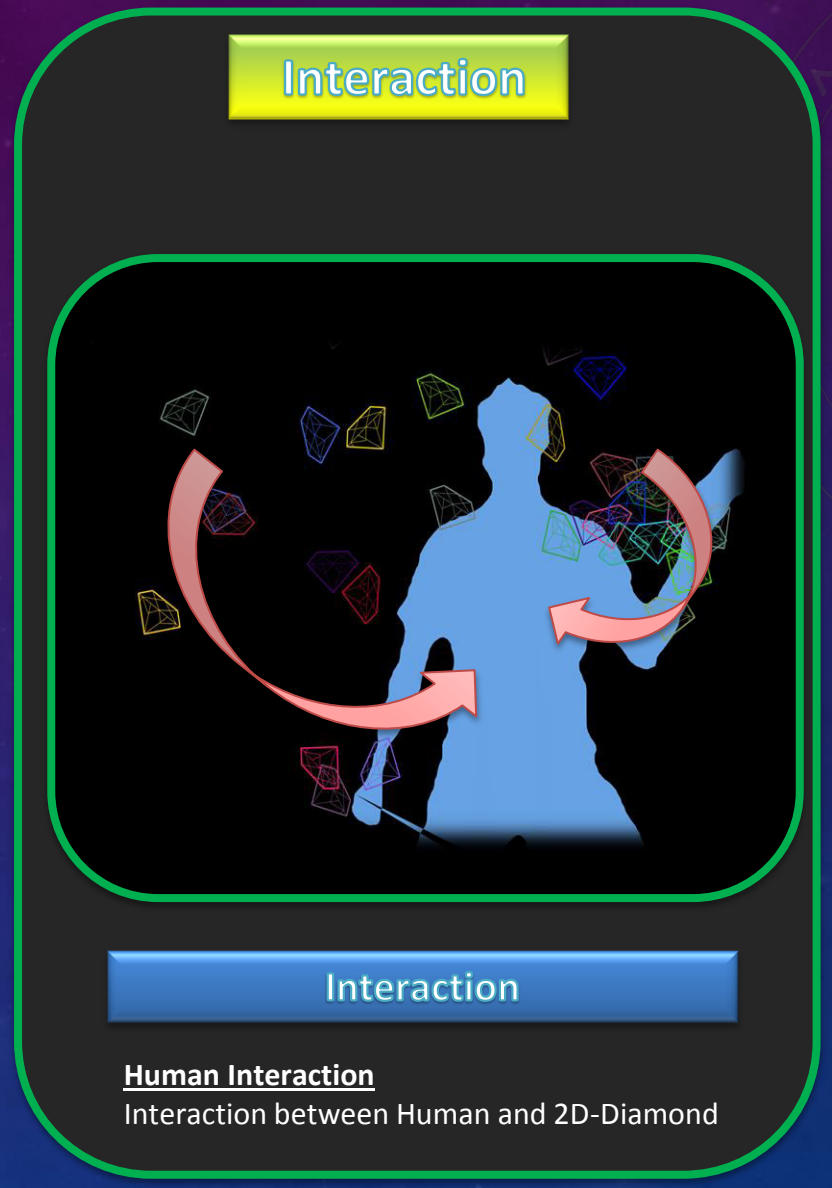


System Flow



Pixels Value Parsing

Parsing Human Location in Image Pixels



System Flow

- This system separate into 2 part Human Detection and Interaction.
- As long as Detection of human is valid, the system will gather location of human in each Pixels.
- Pixels of human location in images will parse to interaction part.
- System will continuously updating Human Pixels location to allow Box2D Diamond bouncing with Human in images.

Demonstration Time

1. Simple OpenNi Example
2. Box2D Example
3. Kinect Project Example
4. Student Project Example

Questions & Answers ?

Thank You !