Kinects in Unity
Product Demonstration
Team Hex Pistols
Team Lead: Jerry
Sea
The Hex Pistols
presenting
Kevin
coming to space centers near you
Alex
The Problem
Tech Talk
The capstone network graph
All branches in the network using seapong/capstone as the reference point. Read our blog post about how it works.
Necessary Components

1. Laptop x 3
2. Kinect x 1
3. Monitor x 2
4. HDMI Cable x 1
Microsoft Kinect

Data Streams:
- Infrared Emitter
- RGB Camera
- Infrared Depth Sensor

Skeleton Color
Depth
Data Flow Process

Stage 1:

Stage 2:

Stage 3:

HDMI or VGA
System Overview

- Large Format Display
- Large Format Display
- Unity 3D Rendering Engine (C#)
- Kinect Data Processor (C#)
- Kinect Sensor
- Kinect Sensor
A top view of the unified coordinate system (UCS) during display calibration and placement.
System Overview

Large Format Display

Unity 3D Rendering Engine (C#) via TCP/UDP

Kinect Data Processor (C#)

Kinect Sensor

Large Format Display

Large Format Display

Large Format Display
Inter-module Communication

Kinect Data Processor (C#)

Control
- Calibration Data
- Start/Stop Signals
- Acknowledgements

TCP

Data Stream
- Camera Position Data
- Data Stream

UDP

Unity 3D Rendering Engine (C#)
Initial Connection
Calibration
Data Steaming

Establish Connection Request
Request Acknowledgement
Send Initial Kinect Info
Request Acknowledgement

Start Data Stream
Camera Position Data
Camera Position Data
Camera Position Data

Stop Data Stream
Stop Data Stream Request
Request Acknowledgement
System Overview

Large Format Display  Large Format Display

Unity 3D Rendering Engine (C#)

via TCP/UDP

Kinect Data Processor (C#)

Kinect Sensor  Kinect Sensor

Large Format Display

Kinect Sensor

10110 01110 10101

10110 01110 10101
A projection field in vector representation
System Overview

Large Format Display

Unity 3D Rendering Engine (C#)

Kinect Data Processor (C#)

Kinect Sensor
Questions?
Kinects in Unity
Project Demonstration
Team Hex Pistols