CLUE
Points and Areas of Capture

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What is this addressing

- Enable describing devices in 3-dimensional space
- Enable receivers to render correctly in terms of spatial placement
- Enable implementers to give a sense of real-world dimensions
- Enable multiple viewpoint use cases
- Enable complex devices to be described accurately but don't burden simple devices

Proposal

- Coordinate system is Cartesian X, Y, Z
  - Origin (0, 0, 0) located at a spot of the implementer's choosing
- Coordinates can either be "virtual" or "real" units (mms).
- Each capture set has its own coordinate system, independent of those for other capture sets
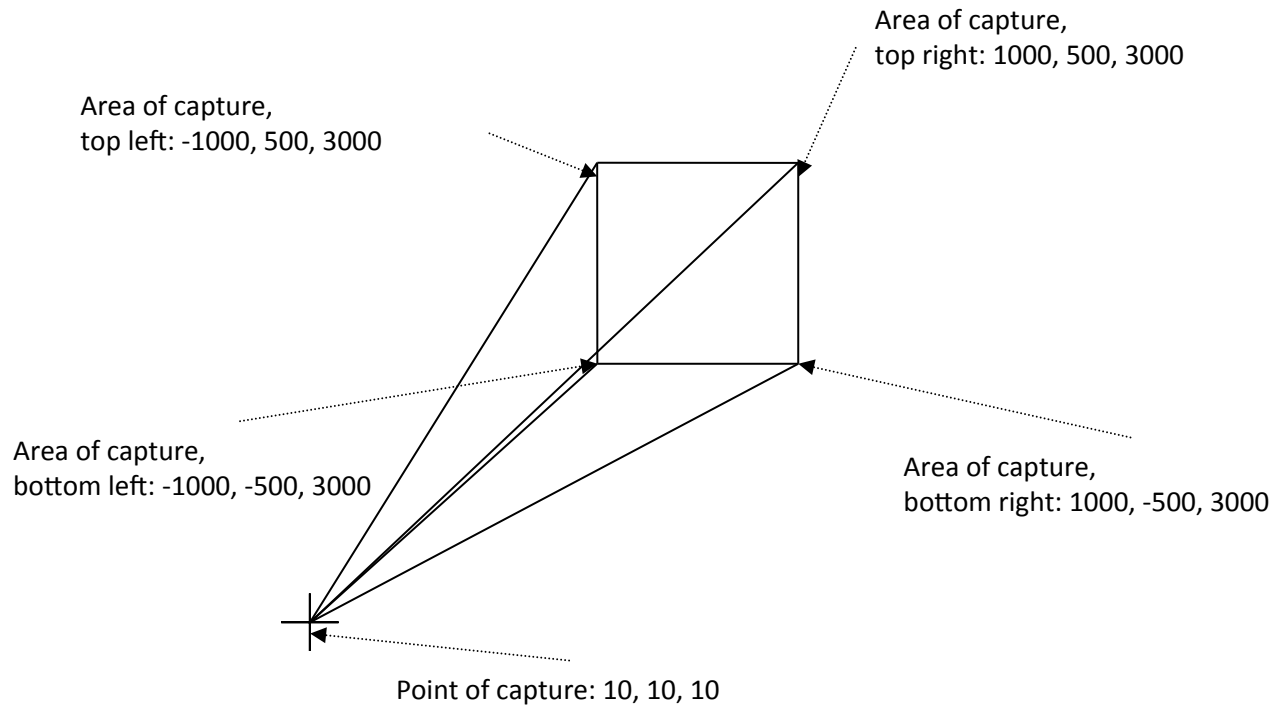
Directionality

As numbers increase for the X axis, movement is from audience right to audience left
As numbers increase for the Y axis, movement is from audience low to audience high
As numbers increase for the Z axis, movement is from audience front to audience back

Y
Low to High
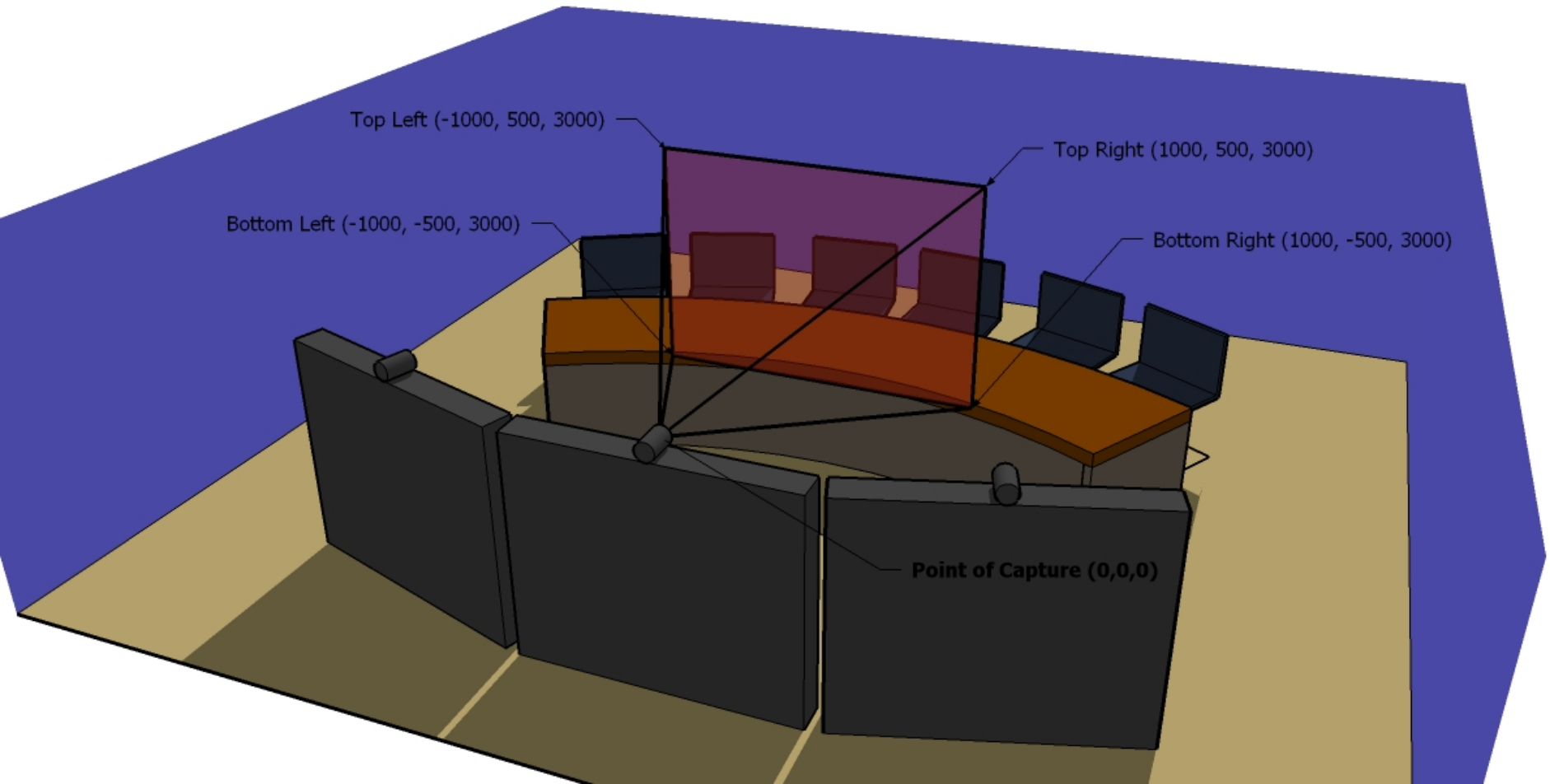X   Right to Left
Front to Back
Z
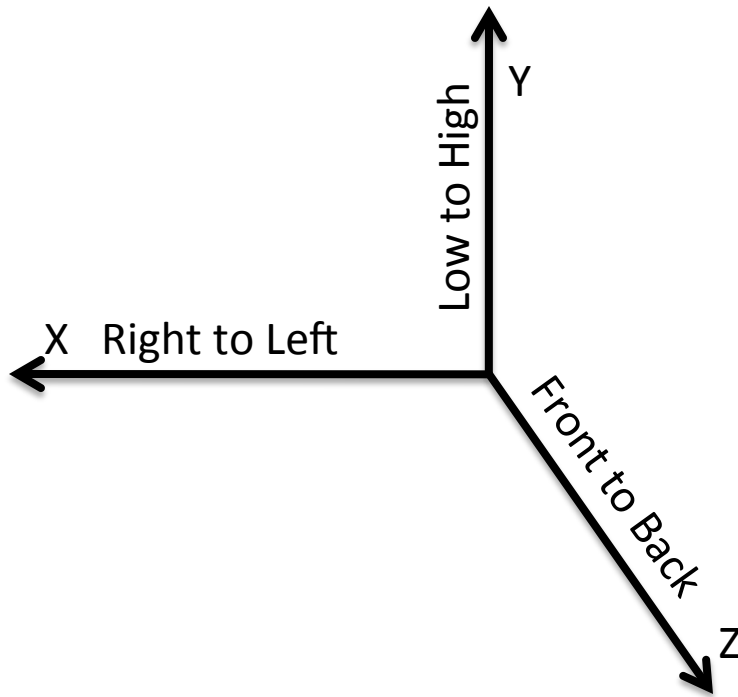
Relevant Terms

- For each media capture there is a 'point of capture' and 'area of capture' defined
  - Point of capture is the location from which the media is captured and is defined by a single point
  - Area of capture is the extent captured by the media capture and is defined by 4 points

Point of Capture/Area of Capture

Area of capture,
top right: 1000, 500, 3000

Area of capture,
top left: -1000, 500, 3000

Area of capture,
bottom left: -1000, -500, 3000

Area of capture,
bottom right: 1000, -500, 3000

Point of capture: 10, 10, 10
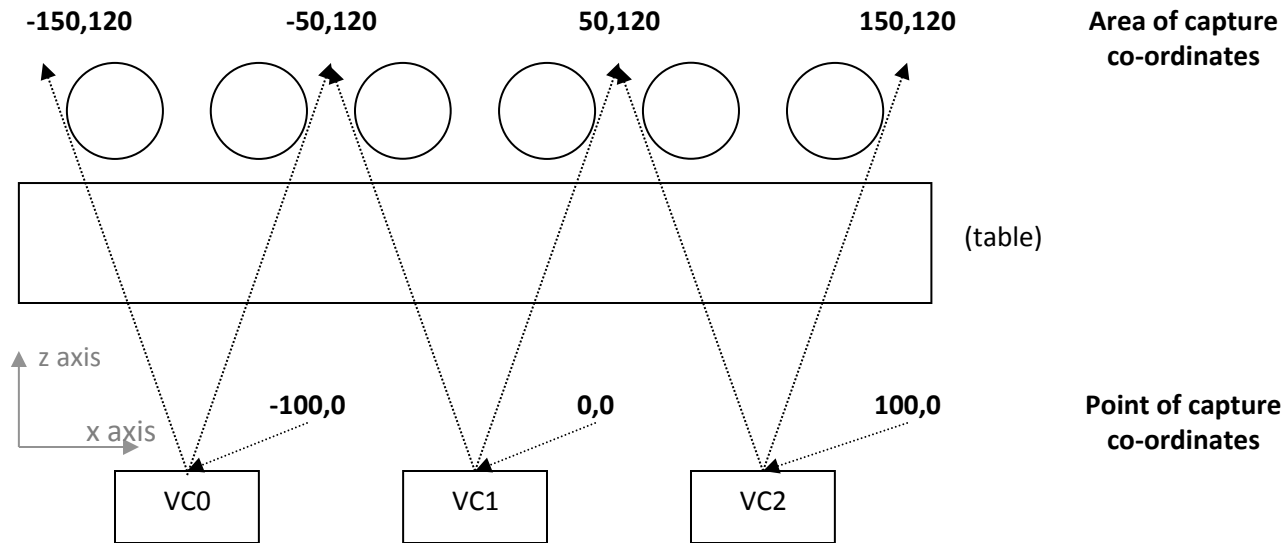
Top Left (-1000, 500, 3000)

Top Right (1000, 500, 3000)

Bottom Left (-1000, -500, 3000)

Bottom Right (1000, -500, 3000)

Point of Capture (0,0,0)

3 Camera Example

-150,120   **-50,120**   **50,120**   **150,120**   **Area of capture co-ordinates**

(table)

z axis

x axis

-100,0   **0,0**   **100,0**   **Point of capture co-ordinates**

VC0   VC1   VC2

Curved Table Example

-50,120   50,120   **Area of capture
                                            co-ordinates**

-150,100   150,100

(table)

z axis

x axis

-100,0   0,0   100,0   **Point of capture
                                             co-ordinates**

VC0   VC1   VC2
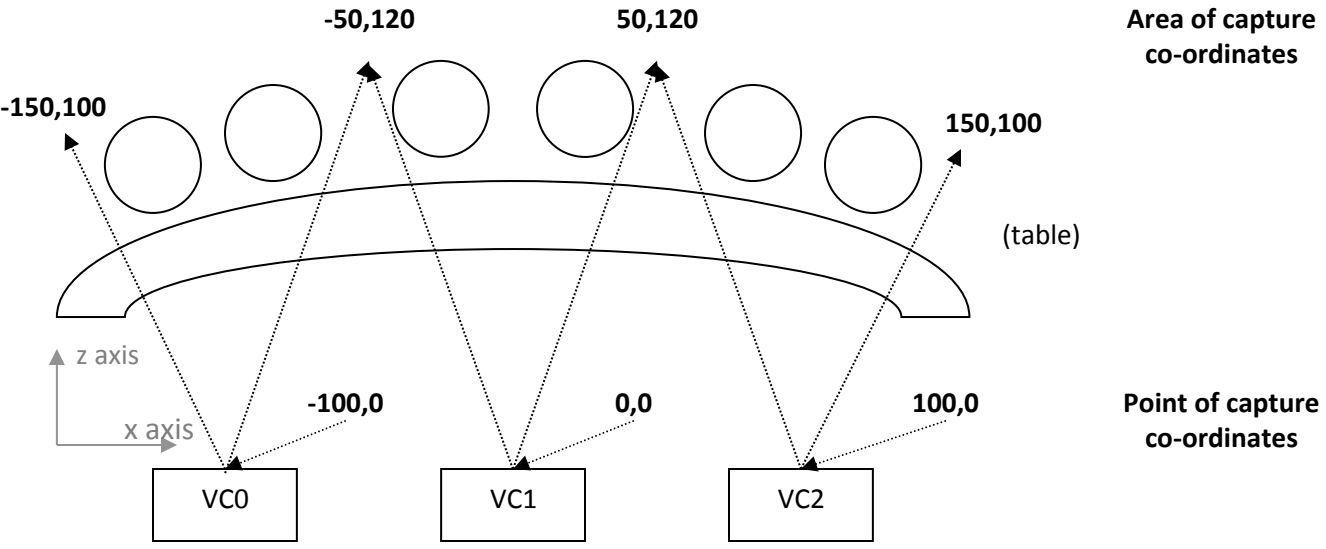
2 Camera 'Crossed' Example

-100,120　　　　　**0,120**　　　　　**100,120**

Area of capture co-ordinates

(table)

Point of capture co-ordinates

-25,0　　　　　**25,0**

VC0　　VC1
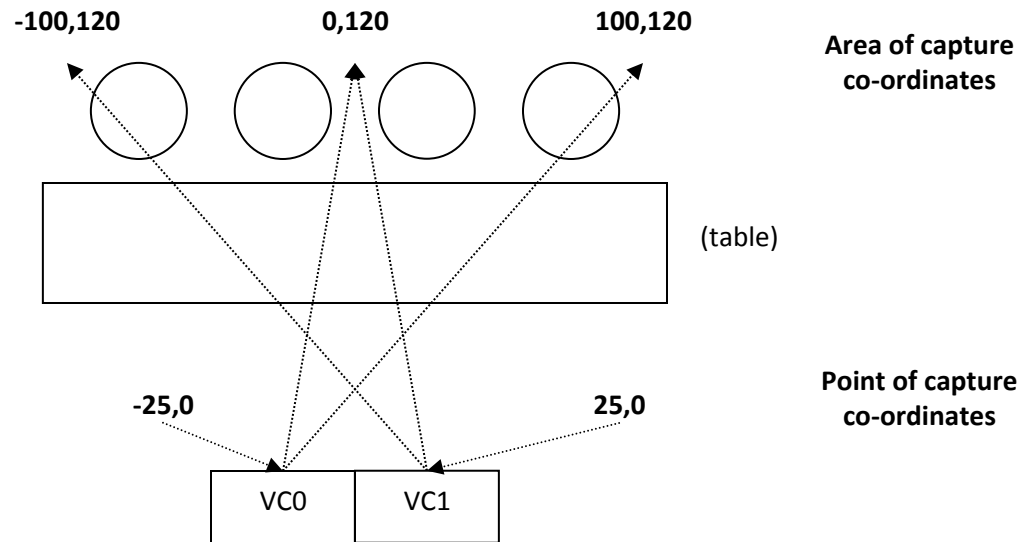
Multiple Viewpoint Example

-100,120   100,120   **Area of capture co-ordinates**

(table)

                                                 Point of capture co-ordinates

-100,0   **0,0**   **100,0**

VC0   VC1   VC2
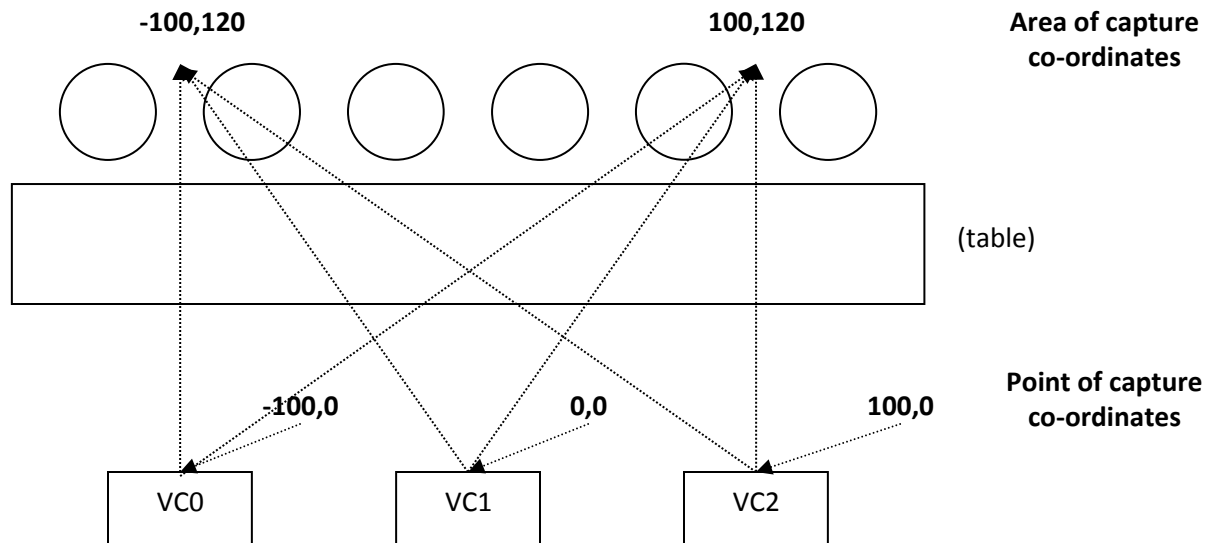
Final thoughts

- Allows for modeling things like gaps between captures
- Providing coordinates for a capture set is optional
  - Devices that know their physical dimensions should provide them
  - Simple devices need not be burdened