Making Interactive Spaces Accessible

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Kinect and Leap Motion

The Kinect and Leap are

cheap motion detectors

(~100 USD and ~80 USD

respectively). The Kinect

and voice commands,

whereas the Leap is for

tracking one's hands in

greater detail.

tracks full-body movements

Figure 3. The Microsoft Kinect

Intro to assistive tech

Many children with cognitive disabilities are "sensory seeking;" in other words, they are motivated by visual, auditory, olfactory, and tactile stimuli. For such a child, meaningful interaction with his or her environment has been shown to promote areas of cognition such as attention, memory, and emotional regulation. "Interactive spaces" are places in which children receive enhanced sensory feedback from playing with their environment. Currently, these spaces exist only as exhibits in museums, such as the Soundspace at the Durham Museum of Life and Sciences.

Motion Detection

Motion detection is used by Soundspace in order to create a totally immersive experience. However, the exhibit is not portable and it has only a limited range of applications. Furthermore, one must pay money each time to use it.



Figure 2. Catching sand with one's shadow at SoundSpace.

Primary Question

interactive spaces?

Challenges

- Receiving accurate data from
- Creating a interface that can be
- Making the framework flexible and

References

Division for Early Childhood. (2014). DEC recommended practices in early intervention/early childhood special education 2014.

Durham Museum of Life and Science http://lifeandscience.org/exhibits/

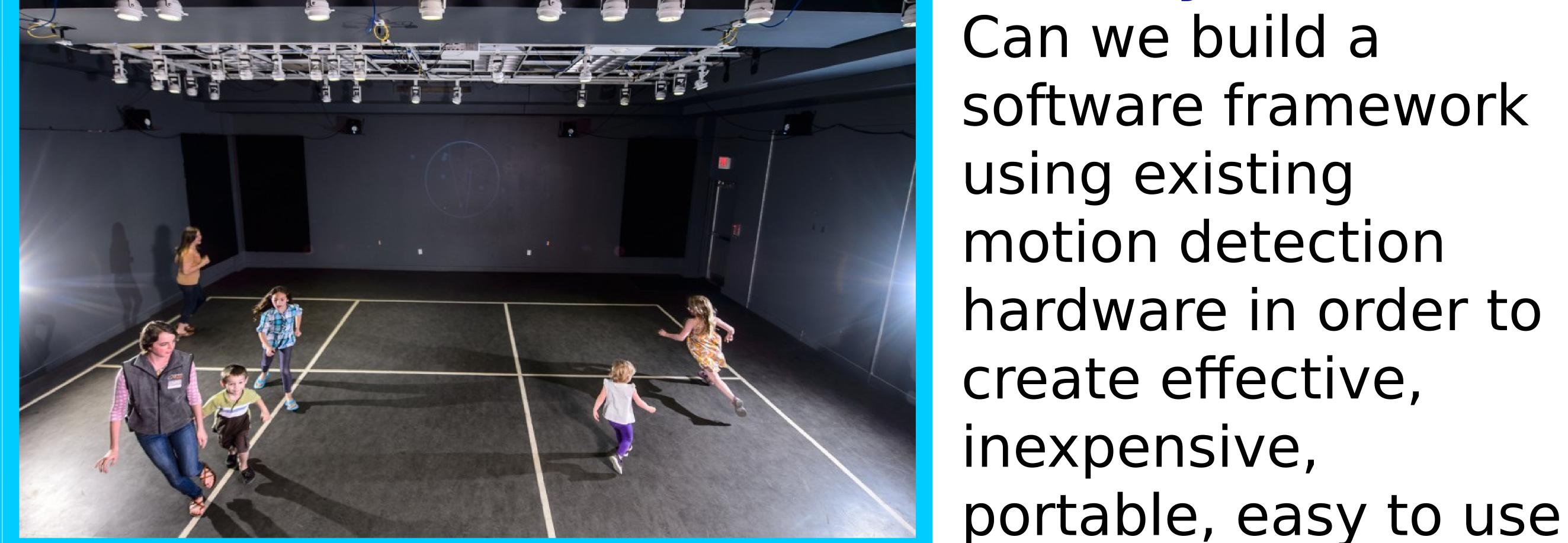


Figure 1. Sounds that react to kids' movement at Soundspace

- imperfect sensors
- used by anyone
- customizable
- Being effective for a variety of kids