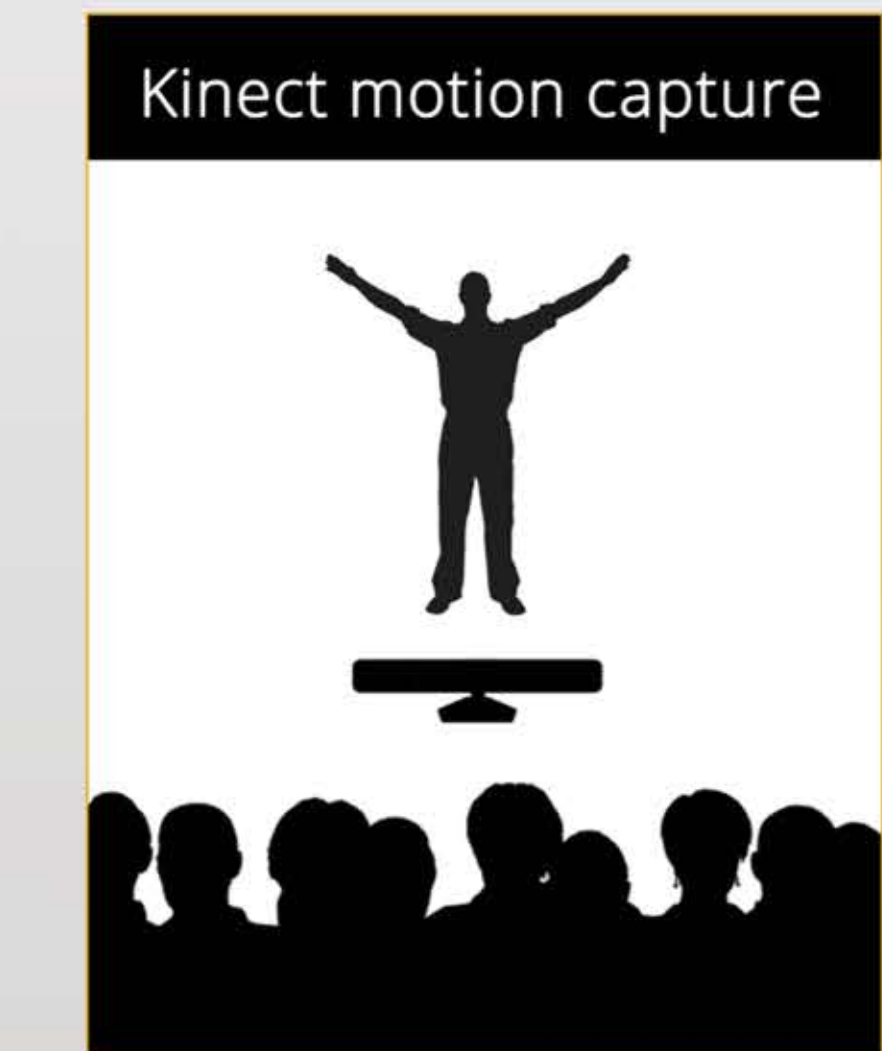
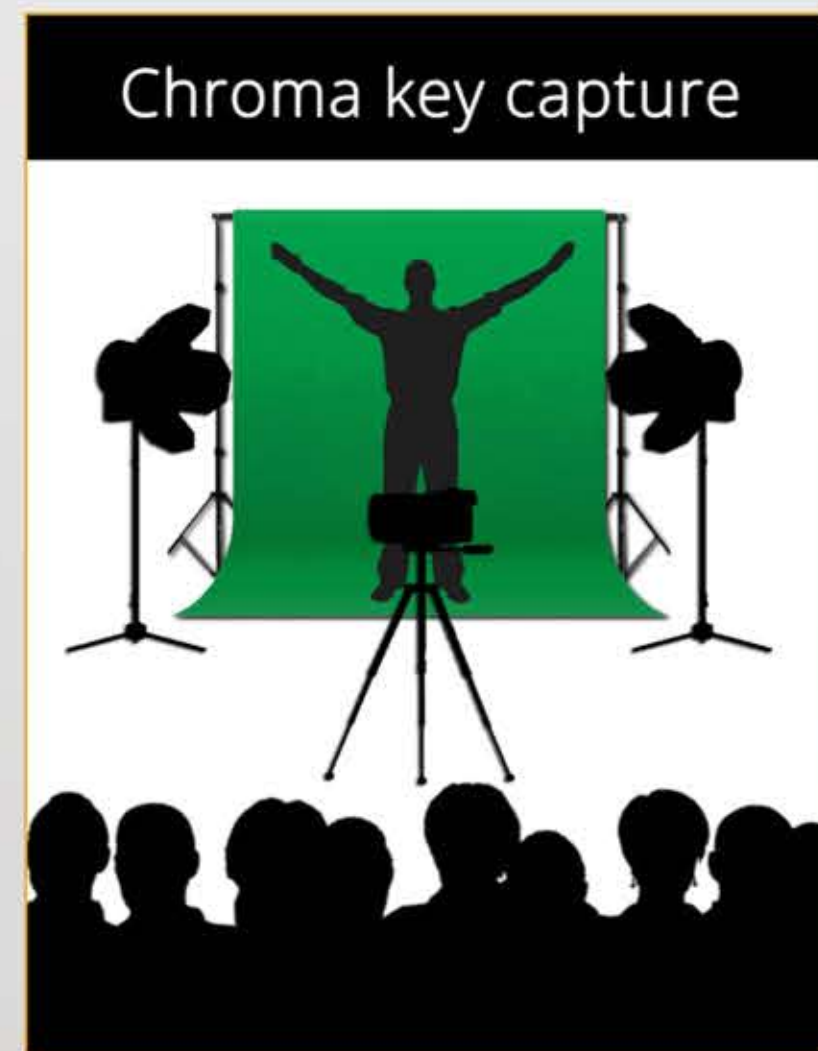


Performing Embodiment

Developing Interactive Mixed Reality Technology for Stroke Survivors

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“ **Peggy Shaw** had a stroke in January 2011 and she lost some of her memories. Rather than lament what disappeared into the dark holes left behind in her brain, she and her long time collaborator, **Lois Weaver**, decided to celebrate the fact that her brain was able to fill those blank spaces with new images and insights using the power of imagination and embodiment. ”

Workshop Technology

Green Screening is a series of technology-assisted workshops for stroke survivors created by *Split Britches* and *In Company Collective*. It aims to help the participants to push their imagination forward and look ahead in their lives by enacting fantasy worlds of their own making.

The original workshops used **Chroma-key techniques** developed by *Matt Delbridge* to replace the green screen background with a selected image in real time. Our purpose is to provide an interactive infrastructure based on **Motion Capture** through the Kinect sensor to support the therapeutic performative process.

What does your Stroke look like?



(Image Credit: BBC & Imgur)

The 'Icy Finger of Death' was the metaphorical image Peggy Shaw selected for her stroke experience.

1. Empowering silhouettes.

The system generates a silhouette of the user as well as falling random shapes. The user can interact with the shapes by stopping them with the arms. Based in Amnon Oved's algorithm.



2. Embodied movement.

The system generates a point cloud model of the user and linked vectors to give the effect of extending body motion in real time. Inspired on 'Revolving Dance Form', developed by Huang H.

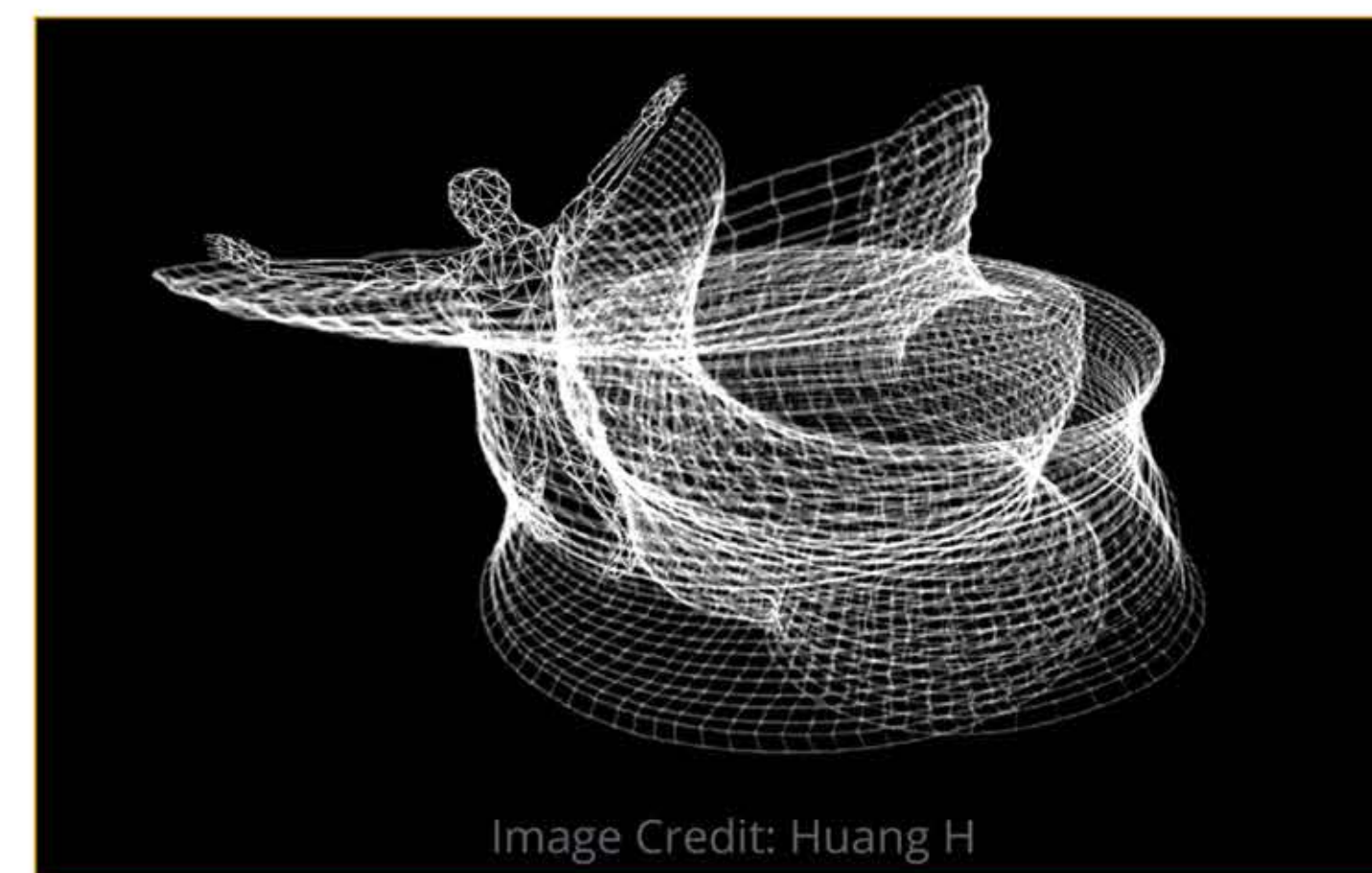


Image Credit: Huang H.

3. Fantasy world.

The system detects the user skeleton to generate an RGB silhouette and place it in a virtual environment where the user can embody his fantasy and interact with the virtual elements.



Approach

We explore the concept of **real-time configurable digital scenography for a live audience**, as a mean to help stroke survivors imagine new lives.

We aim to answer the questions:

- How do embodied performance techniques stimulate Stroke Survivors' imagination?
- What are the effects of placing Stroke Survivors in a mixed reality environment to push their imagination and creativity forward?
- How is Stroke Survivors' experience transformed through the implementation of motion capture techniques with the Kinect sensor to develop new images and insights?

Key Features

- Programmed in Processing, Unity and Isadora software. Assisted by OpenNI, OSC, and RAMDance Toolkit.
- Stage setting encompasses the possibility to track multiple people, creating a **shared experience**.
- Performative experiences against merely narrated ones under a therapeutic scope.
- Kinect's size and portability makes it the ideal substitute for the Chroma-key system.
- Study of the system: one workshop will be observed and video recorded, with the objective to study participant's interaction with the new Kinect motion capture system.

Affiliations

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