

Technology and Dance:  
How Can Technology Be Incorporated with Dance?

Submitted by

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## **Introduction**

Technology, especially the kind involving screens, is increasingly becoming a part of our daily lives. We use screens for an average of 10 hours and 39 minutes every day (Torres, 2017). These days, it is nearly impossible to get away from screens because it is required to do our jobs, study for school, pay bills, communicate with loved ones, and more. Yet in contemporary concert dance choreography, screens are rarely incorporated. To represent the involvement of screens in our daily tasks, I set out to research how to incorporate technology with screens into choreography and compile the results into a 10-minute film. I chose to preserve this work in film so that the audience could have a personal view of the dance and would be able to refer back to the dance in years to come. This film is intended to inspire other dance artists to dive into research regarding technology and dance. The purpose of this paper is to provide a critical discussion of the creative process of this project, implications of attachment of technology to the body, current and future technology usage in dance, lighting, and film as an invaluable way to preserve dance works.

## **The Attachment of Technology to the Body**

After executing choreography with both the screen in my hand and attached to my body, it is possible to say that, at times, it served as a prop as well as a costume. It was surprisingly difficult to do standard bodily movements once screens were attached to my body. After experimenting with various ways of attachment, the best method for attachment ended up being flexible, elastic bands. Another attempted method of attachment had been using a belt with the screen attached to it, which proved to be unstable and distracting for both myself as the dancer as well as for the visual effect. The screen slid across my body and did not feel secure. Because of this lack of security, the movement required less energy and greater caution. Because greater

movement freedom was required for a full movement study, this method of attachment was no longer continued.

Another method of technology attachment was holding the screen in my hand. This was an easier way to move the screen in multiple manners, such as tilting and rotating it around the body, instead of being affixed to my arm. This proved to allow greater freedom in the movement study when it was focused on the upper body. The greater movement capability is likely to be explained by the fact that when the screen was secured to the body with elastic bands, the screen itself could not be rotated more than the flexibility of the shoulder joint, where as when the screen was held, it could be rotated 360 degrees around myself.

### **Current and Future Technology Usage in Costuming**

In order to continue this research, I would like to explore how to attach technology to the hand in other ways, such as using a glove. This would require a collaboration between a costume designer, electric engineer, lighting designer, and choreographer. Current products that resemble this concept are sold by LED Clothing Studio. LED Clothing Studio has created fiber optic and LED light lined jackets, costumes, dresses, and shoes (LED Costumes). This product is a great addition to the dance costuming field because it is flexible and programmable (LED Costumes). This kind of costume has already changed the dance lighting industry, as lighting designers would now be responsible for lighting the dance space as well as the dancers' costumes. I would approach this company to see if we could expand to light sources that were the size of a dancer's chest or arm to continue my research and bring this kind of costuming into the contemporary and modern dance fields.

Another example of attaching technology to the body in a costume was done in the Asus Zenfone 5 commercial. In this commercial, 89 Zenfone 5 devices were attached to dancer Ian

Eastwood's body in the form of a suit, which is shown in Figure 1 (Gao, 2018). The phones were programmed to align with the surrounding backdrop of Zenfone 5s which created stunning optical illusions and appeared attractive to potential customers (OK Go, 2018). Eastwood executed hip hop choreography to a perky song by the band "OK Go" with precisely timed movements, which enticed the viewer to watch until the end of the commercial (OK Go, 2018).



Figure 1. Ian Eastwood wearing 89 Zenfone 5 devices.

### **Unintended Choreographical Connotations of Attaching Technology to the Body**

After viewing the footage, it became apparent that attaching the technology to the body seemed to choreographically imply addiction, obsession, or dependency themes towards screens. These themes were further intensified when my visual focus was trained onto the screen. When my focus was outward towards the audience or away from the screen in general, the link between the technology and the person wearing it was weakened. Additionally, the further away the screen was from my body, like when it was held in my hand or placed in the grass, the inseparability of the technology from myself was weakened. It is often the case that a dance may

be choreographed to portray a certain theme or message. However, as I created this dance, I did not have a certain implication for a message. I intended this movement to be movement for the sake of movement, as I was exploring how it felt, and what it could possibly mean, to dance with technology.

### **The Influence of Atmospheric Lighting**

Once completing the outdoor filming of the research, it became clear that the darkness did not provide much context to the choreography. The moments captured where the screen lit my body as I danced provided an ethereal feeling of magic and wonder. However, once the element of stronger lighting was added to the filming process, deeper complexities and connotations of the choreography were more apparent. It was here in my research that I discovered that the lighting design in the film and the choreographed movement with the screens relied on each other, which proved the multidisciplinary nature of the project.

Four different colors of lighting were used while the filming occurred at Eisenhower Dance Center during the months of October and November of 2019. The colors red, green, purple, and white were able to provide different moods to the work. I found that there was a tendency to move faster and with more passion while dancing in the red lighting scheme versus the green and purple lighting scheme. While dancing in the green scheme, the choreography that emerged was mostly floorwork, which is movement where the dancer spends most of their dancing time on the ground. After observing this, it is apparent that the coloring of the lighting could influence the nature of the choreography.

### **The Medium of Film**

Using film as a presentation method has allowed me to share my research that was conducted in two locations, which was a grassy clearing in Auburn Hills, MI and at Eisenhower

Dance Center in Rochester, MI. Additionally, in order to capture the light given off of the screen, late-night filming was required for the outdoor filming. If I had scheduled an outdoor performance when it was completely dark at 10:00pm, there would be few to no audience members in attendance because of the inconvenient time and the cooler, nighttime temperature. Most importantly, by documenting my dancing on film, I am preserving work that would have been inaccessible after a live performance (Shresthova, 2011). Dance historical researchers such as Millicent Hodson-Archer, Kenneth Archer, and Dr. Elizabeth Kattner-Ulrich have spent countless hours trying to revive lost dance works. By piecing bits of evidence together, such as journal entries and any available photographs of costumes or dancers, they have been able to save what has been left and rebuild the dance. Dances like *Trend*, by Hanya Holm, an integral developer of the modern dance art, was recorded in several forms at multiple performances in 1937 (Kattner, 2018). This allowed for critical discussion and future studies of her work. What has also contributed to the discussion of this dance long past its performances are photographs and verbal recollections (Kattner, 2018). By recording this dance both as a film and accompanied by this paper, future dance audiences and historians will always be able to see what I have created and understand the process behind the research.

## **Conclusion**

The purpose of this creative project was to explore how technology could be incorporated into dance choreography. Although this project has accomplished this goal, there is more research to be done in this developing area of choreography. However, this research should not just be accomplished by dancers and choreographers on their own. In order for the research to obtain maximum potential, individuals who specialize in electrical engineering, costume designing, lighting designing, and dance should collaborate to keep pushing forward in

researching how we can weave technology into the dance performance experience. Conducting research in this area will truly allow dance to become a multidisciplinary art form. Additionally, as this research is performed, dancers should continue to document their findings with film so that their groundbreaking work is able to be referred to by future researchers and historians.

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