Title  Physicality: embodied acts & mediating technologies

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Abstract
Our current lifestyle is reliant upon media technologies. Our lives are organised through and by technology, such that we can easily forget the importance of physical social interaction and creative, playful activity. Instead of being empowered by technology, humans are enslaved to its seductive powers. Can the creative arts be utilised together with media technologies to empower those on the margins of society?

This paper explores the possibilities for bringing students from different disciplines together to work on creative projects that can have long lasting and meaningful impact on people's lives by approaching the development of new media-based games and performance through an individually focused, participatory design process. Working with people who are excluded from everyday society, such as those with disability or severe illness, students learn to understand and think through the bodies of their collaborative partners.

The projects described illustrate interactive and participative media performance and game-like activities. The embodied act of participation, whether within a small group or on a stage in public, is an empowering cognitive experience for the active participant with long lasting consequences for their mental and physical health and well-being, as well as their self-image in society.
Introduction

We live in a world dominated by media technologies. We are enslaved to our fetish for the latest shiny gadgets. When our lives are organised through and by technology, are there possibilities for creative actions that use technology for helping, healing and empowering people, especially those on the margins of society? Can artists, designers, health workers and engineers work together WITH active-ated participants to create empowering, creative, playful technologies that foster both physical healing and also social interaction and group community?

Background

My personal interest in using art and technology skills to work with people outside of mainstream society began in 2008 during a residency at the Lanternhouse arts centre in Ulverston, Cumbria, UK. I was introduced by local musician Alan Fitzgerald to Beaumont School in Lancaster, a high school for students with cerebral palsy. One day when a small group of students came to visit and try out one of my interactive inflatable sculptures, a small smile appeared on the face of one of these students. An unremarkable thing, maybe, but one of the carers told me afterwards that “she never smiles.” Something in that experience had touched her, had managed to reach deep down inside and cause a positive reaction.

On their current website Marc Garrett and Ruth Catlow, artists and founders of the gallery and social arts organisation Furtherfield give their vision statement:

“We believe that through creative and critical engagement with practices in art and technology people are inspired and enabled to become active co-creators of their cultures and societies. We can make our own world – together!” (1.)

Yoshihara Jiro, founder of the Gutai (or “embodiment”) art movement in Japan stated:

“It is our deep-seated belief that creativity in a free space will truly contribute to the development of the human race” (2.)

Looking outside of traditional artistic methods and materials is nothing new in contemporary art. Writing in 1956, Allan Kaprow wrote in response to Jackson Pollack’s paintings:

“Pollack, as I see him, left us at the point where we must become preoccupied with and even dazzled by the space and objects of our everyday life, either our bodies, clothes, rooms, or, if need be, the vastness of Forty-second Street. Not satisfied with the suggestion through paint of our other senses, we shall utilize the specific substances of sight, sound, movements, people, odours, touch.
Objects of every sort are the materials of the new art: paint, chairs, food, electric and neon lights, smoke, water, old socks, a dog, movies, a thousand other things that will be discovered by the present generation of artists.” (Kaprow, 2003, p.7–8)

According to Nicholas Bourriaud, curator and author of Relational Aesthetics:

“The artist’s practice, and his behavior as producer, determines the relationship that will be struck up with his work. In other words, what he produces, first and foremost, is relations between people and the world, by way of aesthetic objects.” (Bourriaud 1998, p.42)

For Bourriaud the emergence of a kind of collective online consciousness had influenced artists in their relationships with audiences. Social media has exploded becoming a global phenomenon. After the Edward Snowden affair we are now somewhat more cynical and aware of the dangers entwined with our fully networked world, but we can say that people in general are used to the idea of sharing and collaboration brought about by Social Media, and so the concept of collaborative social art practice is not as alien as it once might have been.

Shannon Jackson views participatory art practices from the perspective of theatre and performance as well as community and social arts, rather than the narrow lens of the visual art world, which finds it very difficult to accept any work that possibly compromises the authenticity of the singular ‘author’ through a genuinely collaborative creation process. Jackson draws up what she calls a ‘critical barometer’ to contrast with critic Claire Bishop’s over dominating criteria for art that should be “critical, illegible, useless, and autonomous” (Jackson, 2011, p.48):

1. Social celebration versus social antagonism
2. Legibility versus illegibility
3. Radical functionality versus radical unfunctionality
4. Artistic heteronomy versus artistic autonomy

I would argue that, in contrast to traditional visual arts, interactive art and participation in media performance demand an embodied experience. The physical act of doing and being in a public space leads to an empowering cognitive experience with long lasting consequences for the active participant. Within a therapeutic context, involvement in the development of interactive tools and games has the potential to revitalise the healing process, as the patient is no longer just a passive object but an active partner in their own rehabilitation.
In a similar vein, Ivan Illich writes “Tools foster conviviality to the extent to which they can be easily used, by anybody ...for a purpose chosen by the user...” In his discussion of contemporary life he continues “the majority of people were certified as unfit for higher grades of enlightenment and had to be discarded as unprepared for the good life in a man-made world”. (Illich 1973, p.22)

For people with disabilities this is the situation they face every day – they are given little choice in where or how they live, what they do, or even if they can work. The disabled person, going about their everyday life, disrupts the rhythm of public space. They do not move at the same speed as the general population. They require lifts, ramps, wider doorways. They move at their own pace and take their space. Why don't we see disabled people out in public, in the shopping malls and on the high street? For many of them, just getting to the city centre is a struggle, as they live in homes that are out of the way, requiring a taxi ride to get anywhere. They may need assistance. Helpers are hard to come by. The disabled person is constricted to being in public at times that suit others, and in places that are deemed accessible. They are at the mercy of both the architecture of the environment and the whims of other people.

Susan Schweik has researched the so-called Ugly Laws which sought to forbid disabled people to appear in public in various cities in the USA – thereby in many cases restricting their ability to earn a living (3.). The categorisation of ability according to visual appearance is deep-rooted across society. Arthur Franklin Fuller, who was afflicted with chronic illness which confined him to a lying position, wrote in his autobiography: “The pianist could not play nearly as well as I, even in dance music. But these folks have well, normal bodies, and that makes all the difference in the world.” In the 21st century the cult of celebrity makes physical beauty even more of a social currency, yet for some, media technologies help to address the balance and empower otherwise marginalised individuals.

The Eye Writer project is a superb example of media technology being used to empower a specific individual, Tempt One, who has the disabilitating motor neurone disease.

As Tempt One states: “Art is a tool of empowerment and social change, and I consider myself blessed to be able to create and use my work to promote health reform, bring awareness ... and help others.” (4.)

It is clear that the act of empowerment for Tempt One comes through a combination of access to the technology, the ability to once again create graffiti art, and his possibility to have a presence in the public city environment through the large scale urban projections of his tags. As Rancière
illustrates, emancipation can arise through actions and activity which question the roles allocated to us by society. (Ranciere 2011, p.19 – 21)

Australian Danielle Wilde has researched embodied engagement using various techniques, including “dummy” prototypes of future fictional devices, to help us imagine what technology may become. By using the imagination and creative process, participants in her workshops are able to think freely without the constraints of today’s technologies. (5.) Wilde has also used LEDs and small lasers to project and magnify movements in a playful way, so engaging the participants in a deeper interaction than just by saying “raise your arm”. This is particularly of use for patients recovering after injury or surgery, who need to be encouraged to take regular exercise.

Participatory Design has at its core the principal that the end users should be involved in the design process from the outset. This is in contrast to genius design where the process is led and controlled by design professionals who “instinctively” know what is best for the users. Participatory design itself has come under criticism for the imbalance of power amongst the design stakeholders. One of the responses to this is Participatory Action Research where the motivation comes from within the community itself, with the academic researcher taking the role of facilitator and compiler of the research outcomes. Rob Kitchin has highlighted the problems of exploitation that many people with disabilities feel when confronted by academics working with disability research. Kitchin states that although many researchers have good intentions to “help” the subjects of their research, the “traditional theories of ethical practice failed to consider ....the imbalance of power ... and the privileged position of the researcher”. (Kitchin, 2011) Within a multi-disciplinary project such that I am proposing, including artists, therapists and engineers, the possibilities for imbalance of power within the academic team itself are indeed high. Thus the research team must be extremely aware of their responsibility and personal relations with other (less academically skilled) participants and students. It must be remembered that every participant IS an expert in their own life and circumstances!

**Research to date**

My personal research involves using wireless sensors attached to either the body or to objects that are then moved. These sensors can detect movement in various ways. Put simply, any type of movement can be measured depending on the type of sensor used and how the data is collected and measured. I have been working closely with two people who have cerebral palsy, Susanna Tuomminen and Santeri Aaltonen, making interfaces that allow them to create electronic sound and music performances. They have had few prior possibilities to make sound or music, although
Santeri is a great singer and tells fantastic jokes! The collaboration process started with getting to know each other via “off the shelf” solutions. A midi keyboard and controller were used with Max/MSP and Reason software, so samples and sound parameters could be easily modified. Even at this basic level, the experience of hearing one’s own voice played back and modified to create interesting or weird sounds was stimulating for the participants. They were excited to learn to make uploads to the internet and add them to websites such as SoundCloud and Facebook.

Gradually different types of electronic sensors and interfaces were introduced, allowing the participants to experiment and play with sound in totally new ways. It was necessary to develop the electronics so that they would not restrict the users’ limited physical movements. Wireless radio, together with Arduino compatible sensor modules has been utilised. The emphasis on hardware development had been on the novel use of existing electronic components. The exploitation of small wireless devices means that the usual restrictions caused by signal wires are removed, and any impediments to the physical body are minimized. The approach used is to concentrate on the movements that the participants are able to make, rather than design an interface that they would have to adapt to. An example is a control interface made as a cushion for Susanna – she can control media and play sounds by shifting her weight as she sits in her wheelchair. The interface is very sensitive, intuitive and fun to use. It can be thought of as a dance mat for wheelchair users, yet it is equally useable by the able-bodied.

**Future Development**

Together with Camilla Laaksonen of TUAS Faculty of Health Care, I am in the process of launching a new initiative to develop games and therapeutic exercises, using creative, artistic methods together with various new technologies. Small games or creative exercises shall be developed to act as aids for physiotherapy. Equally, actions that activate participants both mentally and physically can be desirable for groups such as seniors and marginalised youth. We believe that one practical group to focus on would be recently retired people who are still active and mentally aware, but who cannot for one reason or another do some of the activities they used to enjoy, such as knitting, crochet, woodwork and fishing.

We intend to embed small wireless sensors into familiar objects (knitting needles, cooking utensils, tools, pieces of wood, fishing rod, etc.) and then to use movement data sent from these objects to control a virtual interface that would provide creative satisfaction to the users. It can be thought of as game-like, but may also be a stimulating way of passing the time while activating thoughts and
developing motoric skills. Alternatively, or in addition, camera tracking techniques may be used, such as Microsoft Kinect or other camera vision technologies. In this case, it is purely body movement that is tracked, not any particular object, which results in a different type of end-user experience. Combinations of both approaches are also possible.

One of our ideas is to create a virtual fishing experience. There already exists a number of American sport fishing style applications based on an arcade-type of experience. We thought that the casting of the line and feedback from fish biting might be an interesting technical challenge to develop. Another proposed idea is using video projection to create fish swimming around the player, who then has to try to catch them. This could possibly be extended to include video projection onto a swimming pool, to encourage people having physiotherapy sessions. It might be possible to develop an interactive game that works in the water.

We also keen to develop the idea of using the metaphor of knitting or crochet to control and create images on a monitor, or to make sound. Rather than making stitches on the screen, it maybe 3D blocks or forms that are manipulated, or the knitting action plays music. Using the already deeply embodied knowledge of how to knit, the participant can enjoy new musical experiences instead. Similar functionality could be attached to any embodied skill such as using a knife and fork, or various hand tools like a hammer and drill. Obviously I am mentioning these now purely to illustrate the possibilities. Any final decisions will be made together with participants!

Conclusions

Active participation in media performance is an empowering experience. The possibility to be deeply involved in the development process creates a fundamentally stronger and long-lasting effect on the active participant. The therapeutic consequences can therefore be great – for example, speeding recovery time or decreasing the chances of repeat injury. I would be very interested to hear from anyone interested in similar research areas, and of course potential partners!
Endnotes


3. “Be it enacted, that on and after the passage of this act it shall be unlawful for any person, whose body is deformed, mutilated, imperfect or has been reduced by amputations, or who is idiotic or imbecile, to exhibit him or herself in any public hall, museum, theatre, or any public building, tent, booth or public place for a pecuniary consideration or reward, or to solicit or receive charitable relief, or to go from house to house or to stand or display themselves upon any public street or place to solicit or receive alms” A suggested draft of a city ordinance by Charles D. Kellogg c.1891 New York City ordinance, quoted in The Ugly Laws Disability in Public, Schweik, Susan M. (2009) New York: NYU Press


References