T/ACT: PARTICIPATORY MEDIA DESIGN FOR SOCIAL EMPOWERMENT

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Abstract

This paper presents research into the social effects of a collaborative participatory design process with selected individuals who have severe physical disabilities. This process encourages and enables creative expression by the participants beyond their everyday norms. Selected individualsare able to control media such as audio and video through custom made bespoke interfaces which they help to design and develop. The research raises the following questions: Can a disruption of institutionalised conditioning according to class, education, gender, and physical abilities be orchestrated by careful design and presentation of interactive artworks? Can the new media artwork become a culturally significant tool for social empowerment leading to long lasting changes for the individuals involved?

Introduction

Our current lifestyle is reliant upon media technologies. Our lives are organized through and by technology, such that we can easily forget the importance of physical social interaction rather than that mediated by online social networks. Instead of being empowered by technology, humans are enslaved to its seductive powers. Is it possible to move away from this focus on the technological and rather discuss the act of using the interface and the product of that action, the content? Does access to media technology in itself empower the participant, particularly if that person is herself on the margins of society?

In the research described in this paper the author attempts to answer the following question: Can the use of media technologies enhance the possibilities for people with disabilities to express themselves creatively on equal terms with able bodied people through a design process in which they are deeply involved?

Contemporary art can be a driving force for change: already in the 1950's, Yoshihara Jiro, founder of the Gutai (literally "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" [1]

It is the author's contention 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.

Participatory Design

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 (PAR) 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 highlights the problems of exploitation that many people with disabilities feel when confronted by academics working with disability research.(Kitchin nd) 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". The author, as an artist/researcher, has sought to deal with this problem by bringing the individuals involved into the decision making process right from the start, even though the research project is devised, directed and motivated by his research concerns.

The Active Participant

William Morris, writing in response to the rapid industrialisation of the 19th century stated that "the beauty produced by man's hand, which was once a solace to his labour, has now become an extra burden to him" (Morris 1884:21). His concern was the loss of the human touch in the manufacturing process. Similarly 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 1973:22). 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. 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.[2] The categorization 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." [see 2] 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) with a disabilitating disease (ALS). [3] As Tempt One himself 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 about ALS and help others."

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 (Rancière 2009: 19-21). For this research the social and political implications are as important as the technological and artistic outcomes.

Although focusing on people with physical disabilities, the research adds to the discussion of reactions to interaction stimuli and control in the average adult human. Just as the blind person's sense of hearing is amplified, so it may be that someone with severely limited movement can actually have an acute sense of control over a range far too limited for the normal person to perceive. Saranjit Birdi, working with special needs patients in the UK, has found evidence to support this proposition (Birdi 2010).The bespoke device or environment designed for the individual also acts as a window into their world, as we are able to experience the physical or virtual world through their interface, their experience. In particular Merleau-Ponty's discussion of the body schema illustrates how examination of a unique individual helps us to understand the wider landscape (Merleau-Ponty 1962: 112-177)

Can a disruption or disturbance of institutionalized conditioning according to class, education, gender, and physical abilities be affected by careful design and presentation of the interactive artwork? It is vital that the interactive experience invites and encourages SOCIAL interaction amongst the participants, as it is only through social activity that the self-image can be positively developed. The physical artwork (performance, installation) becomes a point of focus for social interaction AND empowerment, as the normal rules of engagement within public space are temporarily ignored in favour of those created by the participants themselves. The role of the artist or designer changes to become that of facilitator or producer. In fact, the artist creates the situation, possibilities for others to bring to life. Curator and theorist Nicolas Bourriaud regards that we have passed into a new "altermodern" era where artistic production is concerned with the weaving of "relationships" between people and thing (Bourriaud 2002 & 2009). The discourse, the social activity, becomes the work itself.

The Design Process

The aim has been to develop personal interfaces or bespoke electronic musical instruments. The author is currently working closely with two individuals, Susanna Tuomminen and Santeri Aaltonen. They were chosen due to their personal motivation and interest in the research aims. 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.

Susanna Tuomminen and Santeri Aaltonen – smiley people! Photo – Andy Best-Dunkley

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. The X-Bee radio together with an Arduino Fio has proven to be a good solution. The type of sensors used range from simple flex and pressure sensors, accelerometers, and compass modules, to the 9 DOF Razor IMU which provides angle of orientation data in all directions. [4] The emphasis on hardware development had been on the novel use of existing electronic components and not the actual development of new technology per se. 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. Made with Arduino and Open Frameworks, 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. The interfaces require SKILL to play. We are not developing toys but audio interfaces. In order for them to gain sufficient satisfaction from the interaction, there must be a challenge in learning to use the device.

Santeri Aaltonen enjoying playing prototype wireless devices attached to the gloves. Photo – Andy Best-Dunkley

Concluding Observations

The focus is on ABILITY rather than DIS-ability. The aim is to discover appropriate forms of interface and sound according to each person's physical abilities and musical interest. The core of the research is that through the development of new media interfaces for a small group of very particular people, to gain insight into empowerment through human interaction with audio visual systems in general. Even though the participants have sensory systems different to the regular population, the goal is to make this difference invisible through the medium of the art performance.

Our goal is to perform live as a group. Given Santeri's great way with words, rap with backing instruments maybe our ideal genre. To perform live in front of a regular audience will be an empowering moment for Susanna and Santeri. They become activators of their own destiny for that moment in time – they will no-longer be abject objects on the margins of society but proud individuals performing in their own right.

This research illustrates how the concept of Participatory Action Research can be utilized within practice based artistic research to facilitate emancipatory and empowering activity. The role of active participant taken up by the person with disability is truly empowering and emancipatory when the benefits of the research are felt not only by the disabled community but also by the wider public at large.

ENDNOTES

1. January 1, 1955 quoted in *What's Gutai?* Shoichi, Hirai, Hyogo: Bijutsu Shuppan-Sha 2004 Print

2. "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. New York: NYU Press 2009 Print

3. The EyeWriter Project website. Free Art and Technology (FAT), OpenFrameworks and the Graffiti Research Lab: Tempt1, Evan Roth, Chris Sugrue, Zach Lieberman, Theo Watson and James Powderly. http://www.eyewriter.org (accessed June 28, 2011)

4. An inertial measurement unit, or IMU, is an electronic device that measures and reports on a craft's velocity, orientation, and gravitational forces, using a combination of accelerometers and gyroscopes. http://en.wikipedia.org/wiki/Inertial_measurement_unit (accessed June 29, 2011)

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