

Typology of Tactile Interactive Installation Art

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Introduction

This brief overview takes a look at installation art which is tactilely interactive in the sense that one may touch, press, or move the artwork. The viewing of the installation is dependent on the interactor's participation in this way, in contrast to a more traditional gallery installation of paintings, drawings, models, or video that is not to be touched. With this definition of interaction on the surface level, the interactivity of the artwork may be further defined on a more intimate level. Depending on the type of touch, whether it be contact, pressure, or displacement, the artwork may respond in three different ways: with no response, thus defining it as non-interactive or static on the lower level; with a non-related response, thus defining it as dynamic-passive on the lower level; and with a related response, thus defining it as dynamic-interactive on the lower level. Each of these three response categories will be investigated in relation to each of the three types of touch mentioned above.

Static Response to Tactile Stimulation

Contact

This first category involves artwork that can be touched yet has no response. In order for this type of installation to be successful the art must invite touch and provide an unusual tactile experience not normally encountered in one's everyday life.

An example of this sort of installation would be a space where people are required to wear minimal clothing and be blindfolded. They would navigate their way through the installation, a sort of maze, by auditory clues (e.g. a particular sound or phrase might be playing to signal when a participant might be exiting). Along this journey one would encounter various tactile experiences that elicit meaningful reactions.

Pressure

Similar to the previous category, this type of installation involves artwork that has no response when it is pressed. The conditions under which this experience is to be successful depend on an obvious need for the artwork to be pressed.

One can imagine a sort of collage which has pieces protruding from the surface. When these pieces are depressed by the interactor or interactors, the nature of the artwork changes meaning.

Displacement

This type of artwork would be mobile, either entirely or partially. Participants could pick it up, or open it, or move it from one side of the room to the other, etc. Under the category of no response, the main goal of displacing the artwork would be to give a new perspective on it.

For instance, an installation of lighting effects would include objects or walls that could be displaced by viewers. When the mobile pieces are moved, the audience gains a new perspective, is forced to move through the installation in a new way, and sees the objects themselves under new conditions.

Dynamic-Passive Response to Tactile Stimulation

Contact

Under this category, touch will activate a response which is unrelated to or not a reaction to how the artwork has been touched. The response is predetermined by the artist and entirely predictable in its scope. The viewer passively observes once the artwork is activated, having no control over the dynamic response of the system, yet the viewer has the ability to change his or her experience or perspective through touch.

A possible example of this kind of system would be an installation which requires viewers to sit on, stand on, or lean against the artwork in order to feel vibrations representing the magnitude of earthquakes around the world. In this

case, the response of the artwork is controlled by the interpretation of earthquake data which can be passively experienced, yet the participant can have a different experience based on where they touch the artwork.

Pressure

Again, this category is similar to the previous category. But here, the act of pressing on or against the artwork will change the experience or perspective of the interactor.

One could imagine a similar example to the previous “pressure with no response” example. Here, a collage, painting, or drawing would have areas which are covered with opaque glass hovering above the surface. When these areas are depressed the glass becomes transparent revealing the dynamically changing artwork beneath. The response is entirely predictable, yet the viewer may change his or her perspective while passively observing.

Displacement

The conditions for this category are the same as for the “displacement with no response” category, but with the added level of a dynamically changing, passively viewed system.

Moving the previous example for displacement into the dynamic-passive category requires minor changes. Here, the lighting effects would be dynamically changing, or could include a video projection. Participants have no control over the changing effects or projection, yet can change their perspective by moving walls or objects in the room.

Dynamic-Interactive Response to Tactile Stimulation

Contact

When an object is touched the artwork responds based on how it was touched. When technology that made this category possible first came about, projects in this area started very simply with a one-to-one correspondence. For

instance, if an object is touched, the color of it changes, or the sound in the room changes. More complex versions of this category have come about as technology has developed.

A good example that belongs to this category is Monika Fleischmann's *Liquid Views*¹. In this installation viewers touch a horizontal projection screen filled with projected water which acts like a mirror. Once the screen is touched, the water begins to ripple, distorting the view. If left inactive, the screen becomes again a liquid mirror.

Pressure

Several examples of this category appear in different guises. More simplistic is Perry Hoberman's *Faraday's Garden*², in which everyday electrical appliances are activated by where the audience steps. Once a participant figures out where the sensor is placed, he or she can easily trigger it. Also in this vein is Teri Rueb's *Memory is a Pea: A Memorial*³, which is based on the Princess and the Pea story. Interactors lay down on a bed which, using pressure sensors, activates dreamlike sounds and scrolls a text of memories and dreams left by previous users.

A more complex example is Stahl Stenslie and Kirk Woolford's *cyberSM*⁴. In this installation, participants wear pressure sensors which are activated remotely by other participants. With virtual reality the interactors may select any virtual appearance, thus obfuscating the direct connection between action and reaction.

Displacement

Although all the previous categories can continue to be explored and developed, this category offers the most opportunity. Much research has been done in the area of haptics, a very complicated topic. Few if any applications

¹ See Stephen Wilson's book: *Information Arts: Intersections of Art, Science, and Technology* (Cambridge & London, MIT Press, 2001), pp. 749-50.

² Wilson, pp. 393-4.

³ Wilson, p. 755.

⁴ Wilson, p. 753.

have been contributed to the world of art. I foresee installations that will use haptic information to control objects that can be displaced. For example, a wall that is mobile, through haptics, could be made to feel as if it is being pushed over gravel or ice. This type of control could bring about many opportunities for artists to be able to prescribe complex reactions and relations between how an object is touched and how the object responds.

Conclusions

With this broadened view of the relationship between the type of tactile stimulation and the type of response, it will be possible to further explore each category as well as develop complex installations that span several categories. Many categories have been neglected, including all categories of the non-responsive section, because of the fascination with advances in sensing technology. These categories are not restricted to non-technological installations, but may require new perspectives and ideas about static artwork. By clearly defining the categories above, the conception of new artwork will occur in a more vast and complex space capable of engendering projects with novel nuance.