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The Interface is Obsolete

Abstract

This paper proposes a critical framework for understanding the digital interface. Its aim is to dispel the instrumental, cybernetic “action, reaction” myth that surrounds the functions of the interface and that constitutes one of the main limitations in their conceptualization today. I argue that a rethinking of the digital interface in terms of its aesthetic and cultural properties is essential if we are to take digital interfaces seriously, and if we are to engage with them on a deeper level.

Theorists who work in the interdisciplinary field of interface studies have historically been preoccupied with the technical and instrumental functions the interface performs – specifically with how it acts and reacts to pre-programmed information. To do this, they have predominantly drawn on computer science and engineering perspectives. Thus digital interfaces have commonly been understood as the symbolic software that enables humans to use computers. This paper approaches the digital interface from a different direction, concentrating on the aesthetic and cultural aspects of the digital interface, and drawing on scholarship from the fields of art history and media studies. In this paper, I propose a more expansive definition of the digital interface in interactive new media installations, positioning it as a dynamic, hybrid, aesthetic and cultural process. I thus reformulate the problem of the digital interface as a problem of making the often invisible aesthetic and cultural aspects of the device legible.

Ultimately, I argue that the interface mediates, and thus creates to an ex-

tent, relationships between viewer/participants, artists and artworks as well as influences the movements and perceptions of those interacting with it. In particular, I focus on its deployment in interactive new media installations by critically examining how these devices are defined and described within these environments and how they influence the way subjects, objects and the relationships and processes that exist between them are understood. This reading enables me to develop an understanding of how the digital interface can be seen as an important actor in positioning and (re)shaping specific ways of relating to the self, to technology, to artistic practice and to others in the current media culture.

Keywords: *Interface, Aesthetics, Interactive New Media Installations, Interactivity*

The Interface is Obsolete

For the past two years, I have been taking a group of digital media arts students on a trip to the Victoria and Albert Museum, in London, UK. The purpose of this visit is to get the students to engage with new media art in person. The trip begins with a guided tour of the museum's vast computer art collections¹. It ends with a viewing of interactive installation *Swarm Study/ III* (2011) by new media art collective Random International². Commissioned by the museum, *Swarm Study/ III* is installed in the ceiling directly above the stairway that connects the architecture gallery to the ceramics wing³. The piece is visible from both spaces as well as from the stairway⁴. My group approaches the installation from the architecture gallery. We walk half-way up the stairs, look up – and there it is (Figure 1).

Swarm Study/ III is aesthetically simplistic yet striking. It consists of a series of brass rods covered in LED lights, a computer and closed-circuit cameras. The rods are arranged in a grid-like formation. They are suspended from the ceiling and placed in four large cubes⁵. The students stand in the landing and stare at the work. The most daring of the group step forward and they slowly be-

¹ For information about the Victoria and Albert Museum's computer art collections, please visit: <http://www.vam.ac.uk/content/articles/t/v-and-a-computer-art-collections/>

² Victoria and Albert Museum. *Swarm Study III*. (2011). Found online at: http://www.vam.ac.uk/__data/assets/pdf_file/0011/179336/Random_international.pdf

³ Ibid.,

⁴ Ibid.,

⁵ Random International. *Swarm Study III*. (2011). Found online at: <http://random-international.com/work/swarm-study-iii/>



Figure 1:
Random International, *Swarm Study III* (2011).



Figure 2:
Random International, *Swarm Study III* (2011).

gin their ascent up the staircase. Their movement is immediately detected by the cameras and the piece is activated – its lights turn on (Figure 2). As the students walk up and down the staircase, the lights follow them, moving from rod to rod, from cube to cube, flickering off and on. Soon, all students are interacting with the artwork. Some even go so far as to attempt to “break” it.

“Breaking” the piece is relatively easy. *Swarm Study/ III* runs on a cybernetic action/reaction loop. It tracks and records the action occurring below it and then produces a pre-programmed response, or reaction to it in real-time⁶. The action being tracked and recorded in this particular case is the student’s walking up and down the stairs at a standard gallery visitor pace. The pre-programmed reaction the artwork produces to this action takes the form of blinking lights, which resemble swarming patterns found in nature⁷. Given this, all the students have to do to “break” the work is subvert the cybernetic action/reaction loop. They achieve this by running up and down the stairs, instead of walking at a standard gallery visitor pace. This action (running instead of walking) is a particularly effective form of subversion because if the students are moving too fast, the camera cannot track them and record data. If there is no recorded data, then there is no action: therefore, there can be no reaction. And

⁶ Random International. *Swarm Study III*. (2011). Found online at: <http://random-international.com/work/swarm-study-iii/>

⁷ Ibid.,

if there is no reaction, then there is no art, as the art is the pre-programmed reaction (swarming) to the action (viewer/participant's movement) in this particular piece.

After interacting with *Swarm Study/ III* for a short period of time, we begin to discuss the artwork. We briefly talk about surface-level aesthetics: we discuss representation (how well the piece represents the thing it is trying to depict, i.e. behavioral patterns in animals; swarming); expression (our emotional responses to the work, or how it “makes us feel”); and form (organization, unity, complexity, technical skill – including, but not limited to, where the piece is installed in the museum and how its location affects the way we engage with and think about it). These questions lead to a conversation around the conceptual idea behind the artwork: What is the aim of this work? What is its ultimate purpose? Why did the artists make it? What are they trying to achieve with it? How is this idea realized and/or communicated through the artwork? And how effective is it?

The exercise culminates in a discussion about interactivity and interfaces – specifically, what interaction and interfaces mean to this work, what they signify and are significant of. The questions continue: How and why is interaction is deployed? What kind of change (to the artwork, to the way you think and act) does interaction cause? And, most important, what *causes* it to work? That is to say, what is the thing that influences your movements and perceptions – the thing that allows interaction to occur, that reveals the artwork to you? What is the interface in *Swarm Study/ III*? The answer the students give to the final question, “What is the interface in *Swarm Study/ III*?” is always the same. “Our bodies,” they exclaim, “are the interfaces in this work because our bodies are the things that make the lights on the piece turn on and off!” The students are, of course, correct. Their bodies *are* the forms that mediate the relationship between them, the artists and the artwork. Their bodies *are* the things that allow them to interact with the piece, and reveal the artwork to them. Therefore, their bodies *are* the interfaces in *Swarm Study/ III*.

Swarm Study/ III and my students responses to it are important, as they not only serve as examples of what an interface is or could be, but they also show *why* the deployment of the interface in aesthetic contexts matters to art and to contemporary society. The interface matters because it is representative of the increasingly messy relationship between bodies, spaces and technologies in our culture. For instance, when embedded into environments and rendered imperceptible, like it is in *Swarm Study/ III*, the interface allows us to re-imagine what a body, be it human, technological or

something in between, actually is, or can possibly become. Hence, the student's response: "our bodies are the interface". Since the interface is representative of the re-imagining of different types of bodies in interactive new media installations, its use is significant because the interface, when utilized as a device that regulates and dictates movements and actions in space, as explained earlier, rapidly becomes an issue of power, control and regulation of these types of bodies. Given this, what is at stake is not what a technological device like an interface is or may be, but rather what bodies are and who controls the shape or form they assume. The interface is important because it raises issues of power, control and the regulation of bodies. Thus, the use of the interface in aesthetic contexts can serve as a potential site of intervention into the power and control that the interface exerts, as represented by the students' attempts to "break" the action/reaction loop that underlies *Swarm Study/ III*.

My aim in this paper, like the aim of the exercise described above, is to offer a critical understanding of the digital interface and its use in aesthetic contexts – specifically, interactive new media installations. I examine the interface from two angles: I look at how it is used in interactive new media art installations with its experimental, contemporary and "post-internet" extensions on the one hand, and also how this use is perceived and analyzed in the theories that surround it on the other⁸. I see the interface in interactive new media installations as a device that has its own internal technical developments and most importantly, aesthetics. In order to accomplish this, I propose a more expansive definition of the digital interface in interactive new media installations, positioning it as a dynamic, hybrid, aesthetic process. The interface then is a threshold, a

⁸ Coined by artist Marisa Olson in a 2008 interview with the online magazine "We make money not art", Post Internet art or "art after the internet" is a term used to describe art that is about the internet's effects on aesthetics, culture and society. It refers to, in Olson's words: "a mode of artistic activity drawing on raw materials and ideas found or developed online." (Olson, 2008.)

mediator and a boundary, but in a more complex sense than something that simply allows a viewer/participant access to a distinct space, a technology that controls an entities' behavior or a device that shows us glimpses of something (an image, a snippet of code, an artistic practice). With this, I draw on Lori Emerson's (2014) definition of the interface as a technology that mediates relationships between entities and the aesthetic objects they produce, as well as the technical machine-based processes that take place below the surface⁹. I take Emerson's definition further by suggesting that the interface mediates, and therefore creates to an extent, relationships between viewer/participants, artists and artworks as well as influences the movements and perceptions of those interacting with it. In this way, my paper does not just propose a more expansive definition of the digital interface in interactive new media installations: it also entails a critical questioning of the relationship between art, technology and viewer/participants. Specifically, I look at how this relationship establishes systems of interaction, forms of spectatorship, modes of thinking and conditions of contemporary new media artistic practice. I discuss this relationship via a critical analysis of what I call "the aesthetic interface" in full below, however before I do this, the term interface must be discussed and defined.

⁹ Lori Emerson. *Reading Writing Interfaces: From the Digital to the Bookbound*. (Minneapolis, MN: University of Minnesota Press). p x.

The Interface

The word "digital interface" has broadly been understood as referring to the point of interaction between two or more parts of a technical system¹⁰. A digital interface can thus be many different things: a doorknob, a socket, a joystick, a keyboard, a screen or an operating system. The term "interface", as Seung-hoon Jeong (2013) writes, became popular in the field of computer science

¹⁰ Seung-hoon Jeong. *Cinematic Interfaces: Film Theory After New Media*. (NY, NY: Routledge, 2013). p 4

in the 1960's, referring as it did to the "interface between machine components (hardware or software) and/or the point between these technical machines and human users."¹¹ What started out as a word that was used to describe a purely technical device studied by a closed circle of engineers and scientists, located in universities and laboratories, Jeong informs us, has now become a buzzword that has been applied to a variety of different entities, processes and relations¹². Interfaces, for example, can be anything from tangible objects (television screens, mobile phones), human body parts (the finger you use to tap an icon on a tablet), modes of interaction (you "interface" with colleagues), means of connection (computers can "interface" with other machines) and graphic designs (apps, icons). "Interface" can also denote methods of exchange (the "opening-up" of an application, allowing a piece of software to initiate routines and share information within that application).

Artists and scholars working in the humanities have creatively appropriated the term "digital interface", expanded its definition and applied it to a variety of media and technologies used in their fields. In doing so, they have proposed different, more post-humanist theories of the digital interface – ones that begin to take aesthetic and cultural aspects of technology into consideration¹³. For example, the digital interface for Pierre Lévy (2001) is "a way of analyzing global socio-technological systems... that emphasizes the material and artificial components of human phenomena, and not [an] entity, which exists independently, has distinct effects, and acts on its own."¹⁴ Here, Lévy is arguing that interfaces are products of a society and culture. Therefore, we cannot, he states, separate digital interfaces from the ideas and processes through which they are conceived, and from the humans who produce and use them.¹⁵

¹¹ Seung-hoon Jeong. *Cinematic Interfaces: Film Theory After New Media*. (NY, NY; Routledge, 2013). p 4.

¹² Ibid.,

¹³ I consider these theories to be post-humanist in that they place equal emphasis on and critically examine the technological and human factors involved in any given process. The aesthetic and cultural aspects of the digital interface that are taken into consideration include, but are not limited to, its underlying meanings, the challenges it presents to previously posited linear and instrumental technological timelines and narratives.

¹⁴ Pierre Lévy. *Cyberculture*. tr: Robert Bononno. (Minneapolis, MN: University of Minnesota Press, 2001). p 4.

¹⁵ Ibid.,

¹⁶ Lev Manovich. *The Language of New Media*. (Cambridge, MA: MIT Press, 2000). p 75.

¹⁷ Ibid.,

¹⁸ Lev Manovich. *The Language of New Media*. (Cambridge, MA: MIT Press, 2000). p 75.

Taking a similar stance to Lévy, digital interfaces for Lev Manovich (2000) are not neutral devices.¹⁶

They are, he tells us, created by humans, thus they provide us with a very narrow, and often very biased, model of the world.¹⁷ As he writes: “[t]he interface shapes how the computer user conceives the computer itself. It also determines how users think of any media object accessed via a computer. Stripping different media of their original distinctions, the interface imposes its own logic on them.”¹⁸ Digital interfaces for Manovich are therefore inherently world-forming processes that operate on a technical level. For example, when we interact with an interactive new media installation everything we view -- text, music, images, videos -- passes through the interface we use to access the work and, in turn, the interfaces of its operating system and screen. These interfaces, according to Manovich’s description above, “are created by humans” in that they have been programmed in specific ways, by specific people. Therefore interfaces provide their users with their own model of the world they create -- a model which is based on their internal pre-programmed logical system and ideology. Given this, the subsequent information passed through any given interface will reflect and therefore will be limited by the underlying system or ideology of the device.

But what about the human interacting with the interface? What about her interpretation of the information provided? What effect do her interactions have on the information that she is viewing? How does she shape the “conception of the computer?” And what of the aesthetic processes embedded in the device? How do these aspects shape the interface? The answers to these questions, are difficult find in Manovich’s description of the interface. This is because, emphasis in his description, as noted above, is placed on the

machine, as it is the machine, not the human that shapes and therefore limits, the information the user encounters when she interacts with the digital interface. As a result, the human using the interface, in Manovich's theorization, has little effect on the information that she encounters. So while, Manovich's theory of the digital interface captures some of the spirit of post-humanist analysis of technology (specifically via his acknowledgement of the biological and cultural processes of the interface) he removes their critical theorization of it by focusing too much on the technical aspects of the interface. In doing this, the "aesthetic avant-garde strategies" and any human involvement beyond basic programming that he claims are "embedded in the commands and interface metaphors of computer software" are ignored.¹⁹ Technician by nature, Manovich's theory of the interface eliminates the very elements crucial to the artwork he applies his theory to – the aesthetic and the biological. But what is aesthetics? And why is an understanding of aesthetics important to the interface?

¹⁹ Ibid., p 258.

The Aesthetic Interface and Interactive New Media Installations

Aesthetics in this paper is very broadly defined as a philosophical mode of engagement with, and experience of, art. I draw on Sean Cubitt's (1998, 2005, 2016) understandings of digital aesthetics to theorize this concept.²⁰ I draw on Cubitt's notion of digital aesthetics instead of other theorizations, simply because the interface is a digital form and interactive new media art installations are digital artworks. To summarize his theories: the term "aesthetic", according to Cubitt (2016), finds its roots in ancient Greek, originally referring to "sensation."²¹ Its meaning, he states, was broadened over time and has become attached

²⁰ Sean Cubitt. *Digital Aesthetics*. (London, UK: Sage, 1998); Sean Cubitt. *EcoMedia*. (Amsterdam, NL: Rodopi, 2005); Sean Cubitt. "Aesthetics of the Digital" in *A Companion to Digital Art*, First Edition. ed. Christiane Paul. (London, UK: John Wiley & Sons, 2016).

²¹ Sean Cubitt. "Aesthetics of the Digital" in *A Companion to Digital Art*, First Edition. ed. Christiane Paul. (London, UK: John Wiley & Sons, 2016). Proof Copy of article provided by author.

to “the physical or phenomenal sensations of the body as it senses in the world; the natural or artificial objects that give rise to such sensations (especially pleasurable ones); the specific qualities of beautiful objects, and the emotional and intellectual reactions we have to those objects and sensations.”²²

²² Ibid.,

Drawing on the work of philosopher Alain Badiou (2007), Cubitt historicizes aesthetics by suggesting that it can be roughly divided between two moments: the Classical, which revolves around past notions of transcendent, ideal beauty of singular objects; and the Romantic, which describes future realizations of this past beauty.²³

²³ Ibid.,

And yet, if we accept, he argues, that aesthetics is the “moment when objects and senses come into contact – generating forms, sensations, and psychic events then surely the aesthetic is par excellence the experience of the present?”²⁴ But what is an aesthetics of the present? What does it entail? What form does it take? Is it digital? Interactive? How do we know what an aesthetics of the present actually is? Is it because it has the qualities of being art or it was made in the present day? The circle, as Cubitt rightfully states, “is logically vicious.” So if we are to begin to describe an aesthetic of the present, we must do something more radical than simply list off the formal attributes of art that connect one movement to another. Cubitt does just this, suggesting that the thing that connects one digital art work to another – the “digital aesthetic” – is the mediated experience of time.²⁵ As he writes:

²⁴ Ibid.,

²⁵ Ibid.,

If the aesthetic is the event that brings together objects, sensations and subjectivity – the “aesthetic attitude” for example -- then it always involves mediation between the world and the

*mind. Aesthetics in the narrow sense of the appreciation of art, is dependent on mediation by the senses of vision and hearing; and with the benefit of a century of phenomenological studies, we must recognize that these senses are intrinsically temporal.*²⁶

Taking a similar stance to Cubitt, digital aesthetics for Christiane Paul (2016) is not about objectively describing the ideal beauty of a singular object, but about the mediation that occurs between that object, the audience and the world.²⁷ Aesthetics, Paul continues, is a complex philosophical territory, especially when applied to digital artworks, like interactive new media installations, because the “hybridity of the digital medium makes it particularly challenging to develop a more or less unified aesthetic theory.”²⁸ The development of a digital aesthetic, she continues, is commonly approached by examining the individual characteristics of a digital medium (temporality, duration, computation, interactivity and so on).²⁹ Yet, each of these characteristics do not necessarily appear in one work and can occur in varying combinations. Interactive new media installations are gallery-based artworks that incorporate digital technology and that require the subject to act, via an interface, and the piece to respond in various ways to this activity. In this way interactive new media installations can be described as computational, abstract, temporal, durational, interactive, participatory, generative, ephemeral and performative all at once, or not at all. The fact that interactive new media installations are time-based and ephemeral further complicates any aesthetic theory of the digital interface because a viewer/participant who spends one or two minutes with an installation might

²⁶ Sean Cubitt. “Aesthetics of the Digital” in *A Companion to Digital Art*, First Edition. ed. Christiane Paul. (London, UK: John Wiley & Sons, 2016). Proof Copy of article provided by author.

²⁷ Christiane Paul. “Introduction” in *A Companion to Digital Art*. First Edition. Ed. Christiane Paul. (London, UK: John Wiley & Sons, 2016). p 9.

²⁸ *Ibid.*,

²⁹ *Ibid.*,

catch a glimpse of only one version of an essentially non-linear, or generative, artwork.

This argument is best explained by way of Lynn Hershman Leeson's interactive new media installation LORNA (1983). LORNA is an interactive video disc. It consists of a television monitor and a remote control.³⁰ These elements are located in a gallery which mirrors the set-up of Lorna's onscreen living room (Figure 6).

³⁰ Lynn Hershman Leeson. *Lorna*. (1983). Found online at: <http://www.lynnhershman.com/lorna/>



Figure 6: L. Hershman Leeson, *Lorna*. (1985).



Figure 7: L. Hershman Leeson, *Lorna*. (1985).

LORNA's narrative is, on the surface, very simple: it tells a story about an agoraphobic woman named Lorna who sits in her apartment all day watching TV³¹ (Figure 7). We are invited into her home – a tiny apartment filled with various objects (a telephone, a TV, a couch). Every object in her apartment has a number.³² We can click on these objects, via the remote control. Doing this allows us access to audio-visual material (Figure 8).

³¹ Lynn Hershman Leeson. *Lorna*. (1983). Found online at: <http://www.lynnhershman.com/lorna/>

³² *Ibid.*,



Figure 8: L. Hershman Leeson, *Lorna*. (1985).



Figure 9: L. Hershman Leeson, *Lorna*. (1985).

The disc that *Lorna* is located on consists of seventeen minutes of audio-visual material which is broken up into thirty-six chapters.³³ These chapters can be sequenced differently and their meanings shift as they are re-contextualized. For example, some chapters can be viewed backwards as well as forwards, at increased or decreased speeds or from different perspectives.³⁴ Furthermore, the artwork has multiple endings: depending on the choices we make, *Lorna* may shoot her television set, commit suicide, or move to Los Angeles³⁵ (Figure 9). Given the amount of complexity inherent in this work, we may only end up viewing one aspect of a very sophisticated, non-linear narrative. Therefore, the actual meaning of the artwork may remain unclear to us. The same could be said for the interface.

For instance, *Lorna's* narrative is nonlinear, complex and its outcomes are dependent on the choices we make while interacting with it. Thus it is difficult to draw boundaries around what an interface actually is in this work because we are experiencing it in mediated time. Temporality in *Lorna* is produced via the interface, i.e. through our interactions with it, and with the work of art, as well as through the mediating functions it performs. Since we experience the interface in time, and since time is produced via the interface, the moment we point at an object (the remote control, a TV, the branching structures embedded in the disc, a human body) and we declare it to be an interface, that interface begins to undo itself and it becomes something else – it becomes less an aesthetic process and more a technical device. And yet we need to reassert the existence of the interface as aesthetic process for the work to be called an interactive new media installation, as these types of artworks require interfaces. So we interact with *Lorna* and by doing so an interface is produced – the remote control.

³³ Ibid.,

³⁴ Ibid.,

³⁵ Lynn Hershman Leeson. *Lorna*. (1983). Found online at: <http://www.lynnhershman.com/lorna/>

³⁶ Christiane Paul. "Introduction" in *A Companion to Digital Art*. First Edition. Ed. Christiane Paul. (London, UK: John Wiley & Sons, 2016). p 9.

³⁷ Lynn Hershman Leeson. "Private I." Found in: *The Art and Films of Lynn Hershman Leeson: Secret Agents, Private I*. By Meredith Tromble. (Berkeley, University of California Press, 2008). p 78.

³⁸ *Ibid.*,

³⁹ *Ibid.*,

However, every digital artwork, and consequently its interface, is embedded in a specific context and has a purpose, but viewer/participants, as Paul reminds us, "require layers of contextual information, both relating to the materiality of the work and the logic behind its processes."³⁶ Here Paul is arguing that each digital artwork and interface is unique and complex, therefore an understanding of the digital aesthetic of the artwork and the form that allows it to run requires an understanding of the medium itself (in our case, interactive new media installations and interfaces) and the conceptual idea behind it. So, what is the underlying idea behind *Lorna*? And how does this reflect the medium it is based in and the interfaces created for it? Well, *Lorna* combines performance, narrative, time, chance (indetermination) and audience participation. These compositional elements are compressed, as noted above, into a pre-programmed disc which offers us multiple perspectives and allows us to make certain decisions for the main character. The protagonist's story and her adventures, however, do not take place in real life or real time. Instead, they take place on a television set – in a heavily mediated, pre-programmed, time-based environment that is remotely controlled by its users. Yet, there is, as Hershman Leeson writes, "no hierarchy in the ordering of a user's decisions" in *Lorna*.³⁷ Here, Hershman Leeson is stating that, while the disc is pre-programmed to play in a certain way, she is not trying to predict her users' actions – nor can she in fact.³⁸ "The lack of hierarchy in the ordering of a user's decisions" simply means she is deliberately positioning the user as active and the main character, Lorna, as passive.³⁹ She does this in order to comment on our consumption of media and technology, – specifically television – the devices we deploy and

how it directs our behaviors. “Lorna’s passivity”, Hersman Leeson writes, “is a counterpoint to the direct action of the player. As the branching path [of the audio-visual media located on the disc] is deconstructed, the player becomes aware of the subtle yet powerful effects of fear caused by media and becomes empowered (active) through this perception.”⁴⁰

⁴⁰ Ibid.,

As an artwork, *Lorna* is inherently interwoven with features of computational structures – specifically the structures that underlie the mediums that it is created for (video disc, television, remote controls). These digital structures (HCI, branching paths, flow charts) are not simply unknowable technical strategies of automation but they have cultural meanings and manifestations as well. For example, for its duration, *Lorna* allows us to explore, on a deep level, the whole screen and its aforementioned underlying computational structures. However, our attention is focused on the most active parts (the numbered objects that we are allowed to click on). As we click on these objects, which represent various chapters in Lorna’s life, we are repositioned, relative to television, identifying with the main character and reflecting the voyeuristic, fragmented gaze of the medium (television). The digital tools – including the branching paths of the chapters and the remote control – act as means towards other ends. In an article on *Lorna*, Hersman Leeson states that “Many images on the screen are of the remote control device Lorna uses to change television channels. Because viewer/participants use a nearly identical unit to direct the disc action, a metaphoric link or point of identification is established between the viewer and referent.”⁴¹ So, while it was made in 1983 for television and laser disc, *Lorna* is unmistakably an interactive new media installation – and not simply because

⁴¹ Lynn Hersman Leeson. “The Fantasy Beyond Control.” in *Illuminating Video: An Essential Guide to Video Art*. New York: Aperture/BAVC, 1990. p 267.

of its visual appeal or its novel use of audience participation. Rather, *Lorna* is an interactive new media installation because of the combination of aesthetic interfaces developed for the manipulation and mediation of time (the branching narratives and pathways, and the use of the remote control – devices which anticipate, by almost a decade, the structure, narratives and use of modern day DVD's television sets and websites) and the relationships between viewer/participant, artist and artwork. In doing this, *Lorna*, not only opens up a space for the viewer/participant to begin to question her relationship to technology, but it also opens up a space for criticism of the underlying structures and theories that dictate and define the interface – a space that allows us an opportunity to begin to reflect on, re-evaluate, rediscover and possibly even redefine what a digital interface is and what it could become in interactive new media installations.

In Conclusion

The term “digital interface” does not merely refer to the point of interaction between two or more parts of a technical system, or the symbolic software that enables humans to use computers, but also to a technology that mediates, thus creates relationships between viewer/participants, artists and artworks as well as influences the movements and perceptions of those interacting with it. My overall goal in this paper has thus been to illuminate the aesthetic aspects of the digital interface, make them visible and legible, and demonstrate their importance in interactive new media installations. I focus on the deployment of the interface in interactive new media installations by critically examining how these devices are defined and described within these environments and how they influence the way subjects, objects and the relationship and processes that exist between them are understood. This focus has allowed me to conceptualize the digital interface as technical material, cultural form and artistic practice, something that has been constructed and designed in a specific way for a specific purpose, a procedure for mediating, translating and disseminating information, a way of relating, a form of embodiment and a mode of communication.

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Related Links

Lynn Hershman Leeson's *Lorna*: <http://www.lynnhershman.com/lorna/>

Random International's *Swarm Study III*:
<http://random-international.com/work/swarm-study-iii/>

Victoria and Albert Museum: <http://www.vam.ac.uk>

Victoria and Albert Museum's Press Release of *Swarm Study III*:
http://www.vam.ac.uk/__data/assets/pdf_file/0011/179336/Random_international.pdf

