



## TOWARDS A THEORY OF INTERACTIVE ART EXPERIENCE

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### Introduction:

The changing role of the artist and artists' responsibilities, including social and global awareness, are aspects of the artistic processes altered by the convergence and simultaneity of time, place, and gesture in both physical and digital realities. Production means, funding, creation, audience reception and the survival of the artist are inherently involved.

Interaction in new interactive spaces/territories requires new behaviours. The complex potential of human interaction and behavior defies constraints in undefined electronically constructed spaces/territories. It is not only the hand that can move in multi-dimensions: the human body can jump, walk, and accelerate motion within interactive space and produce effects. Dimensional relations within spaces, the way in which viewers accept or alter constraints on behaviors, and interactive environments are key elements in the dynamic use of public spaces and multi-locations. In addition, new behaviours in new environments may require time to develop, adding a temporal dimension.

Interactive media art depends on a variety of technologies that alter our experience of everyday life, as well as artistic expression, behaviour, and practice. Situated within a strong social and political context, these technologies have been undergoing a remarkable transformation.

Interactive artists have moved from looking at the surface of things to examining underlying processes, relationships and systems, and have directed technological strategies of art making toward creating more engagement and involvement of the v(user).

Cultural making is essential to human survival and definition and the arts are crucial to a global understanding of the modern world.

### Elements Of Interactive Art Experience

In an increasingly technological, mediated, urban and networked global culture we move from individual private experience to communal public experience and production of art. To some extent, the act of sharing in an artwork is already the act of making it public. In this context, I have introduced the term (v)user1 to refer to participants who are both viewers and users in the interaction with the art work and among themselves. (Rogala, 1997).

The first step towards understanding involves an investigation of interactions among multiple (v)users, an artwork and each other. As a preliminary phase of this investigation, let me sketch a typology of elements of experience and behaviour with interactive art. It will present the viewpoint that there is a significant difference between a single (v)user interacting in public space and multi-(v)users interacting both with the artwork and each other.

I want to identify the following elements of interactive art as experience: *Common Ground, Interface, Boundaries, Space, Time, Scale, Improvisation/Spontaneity/Freedom, Scripting/Artist Control, Learning Curve, Repetition, Rhythm, Flow, Behaviour, Gesture, Proximity, Vividness, Randomness, and Dynamic Mapping.*

ELEMENT	DEFINITION	REFERENCES/ EXAMPLES
1. <i>COMMON GROUND</i>	The space in which we meet face-to-face, where ordinary perceptions are involved (dimensions, scale, depth, and duration). Incorporates shared symbols and meanings independent of space. Negotiated in interactive art, it serves a space in between the artist, the artwork, and the participant.	Schlossberg, S. Johnson, Mehrabian Cronon, <i>Uncommon Ground</i>
2. <i>INTERFACE</i>	Interaction that is mediated by an interface is by necessity filtered through the assumptions present in the design of the interface. The very nature of the interface is not only dependent on the systems which share the interface, but also it influences the systems involved and the quality of the process of information transfer.	Laurel, Shneiderman, S. Wilson S. Johnson, <i>Interface Culture</i> J. Shaw, A. Hegedus, T. Waliczky
3. <i>BOUNDARIES</i>	Marking, fixing, limiting, and displaying the subject. Interactive gesture of hand, body, and mind has an implied reach and span. It can be identified as: a) local -- the local space of personal space, common space; or b) the virtual, penetrable, porous space of interface and virtual space.	Rogala, <i>Divided We Stand</i>
4. <i>SPACE</i>	A limitless area in which all things exist or move; a definite or empty place. It can be identified as: a) local - the space of common ground; or b) global - the interface, virtual space of intimate creations. It refers to the division between the inside and outside of the subject.	Deleuze, Pile and Thrift
5. <i>TIME</i>	A point or period when something occurs; a person's experience during a particular period. Interactive gesture of hand, body, and mind has an implied duration. Time can be identified as: a) the duration of meetings in local space; or b) the instantaneity, the marvelous, the monstrous quality of reducing distance (i. e., space and time) to zero.	Kubler Heidegger, <i>Being and Time</i>  Arakawa and Gins, <i>Reversible Destiny</i> . Clynes, <i>Time-Forms</i>
6. <i>SCALE</i>	A standard of estimation or judgment. It can be graduated or arranged in a graded series; a series of musical tones going up and down in pitch; or apportioned into customary spaces as an aid in drawing or measurement. As applied to interactive gesture and virtual and physical realities, it is concerned with mediation of input and output effect and causes. In digital, virtual, and physical realities, the scale is malleable, flexible, and varied. Analog gesture has its own scale, limited to the body dimension. This gesture can be amplified, through mediation, to any dimension.	Anders, Ortega y Gasset Ihde, <i>magnification-reduction</i> Christo, <i>Running Fence</i> Rogala, <i>Nature Is Leaving Us</i> O. Piene, <i>Light Ballet</i> L. Hershman, <i>Room of One's Own</i> L. Anderson, <i>Stories from the Nerve Bible</i> Wagner, <i>Gesamtkunstwerk</i>
7. <i>IMPROVISATION/ SPONTANEOUS/ FREEDOM</i>	Continuity of a relationship between interactive gesture and mediated and human feedback; free; impromptu; spontaneous. Constrained by reaction. Improvisation lets the creation and the consumption of a work of art coincide in time and in space.	Free Jazz improvisation  Pignon Sommerer/Mignonneau

Table: ELEMENTS OF INTERACTIVE ART EXPERIENCE

Source: Miroslaw Rogala. *Strategies For Interactive Public Art*. ©2000.



ELEMENT	DEFINITION	REFERENCES/ EXAMPLES
8. <b>SCRIPTING/ ARTIST CONTROL</b>	Refers to the role of the artist as author or conductor. Scripting consists of a cultural-based understanding of what can, can not or should not happen in a given frame. We work within these rules.	J. Joyce
9. <b>LEARNING CURVE</b>	Refers to the effort and/or time it takes to understand a process or comprehend how to interact with interactive artwork and perceive the interface. The more complex the system, the steeper the learning curve and the greater need for more numerous repetitions. Can lead to development of dynamic mapping as a method for construction of interactive artworks.	Enzensberger  Rogala, <i>Divided We Speak</i>
10. <b>REPETITION</b>	Negotiation of power and control, and establishing the understanding of interaction through feedback. Allows for basic grammar, basic structure of experience. Repetition is the basis of rhythm. Used in evolving expert systems and AI.  Interactive systems require repetition for learning. Learning curve of relationship can lead to development of dynamic mapping as a method for construction of interactive artworks.	V. Bush, Memex  Rogala, <i>Divided We Speak</i> , Audience as Virtual Orchestra, Rogala, <i>Lovers Leap</i> Pop Art, A. Warhohl, Froese, <i>TV/tv</i>
11. <b>RHYTHM</b>	A movement or activity involving structured sequence of learned behaviours and occurring regularly.  Rhythm overlaps with repetition. The development of repetition includes variations on a rhythmic theme, as in drumming, and allows the overlay of more than one repeated pattern over another (e.g., lunar over solar calendars) to produce complexity and emergence.	Canetti, Delcroze, Virilio  Reich, <i>Drumming</i>
12. <b>FLOW</b>	Smooth continuity. A sense of participation in determining the content of life. Can refer to form and shape.	Schnebly-Black & Moore Csikszentmihalyi, <i>ESM/Experience Sampling Method, Peak Performance</i>
13. <b>BEHAVIOUR</b> (a) analog behaviour  (b) digital behaviour	Continuous functioning.  Broken into discrete elements. The same gesture or action can be replicated with higher degrees of accuracy. This observation of conduct leads to the development of digital crowds.	Ascott, Pile and Thrift, Turner Csikszentmihalyi E. McLuhan, <i>Electric Crowd Raunag</i> (Hindu); pleasure of being in crowds  Woolley, Bion, Rheingold, Davis, Feldman, CAE, <i>Body Without Organs</i>

Table: **ELEMENTS OF INTERACTIVE ART EXPERIENCE** (cont'd)  
Source: *Mirosław Rogala. Strategies For Interactive Public Art.* ©2000.

ELEMENT	DEFINITION	REFERENCES/ EXAMPLES
<p><b>14. GESTURE</b></p> <p>a) of a hand</p> <p>b) of a body</p> <p>c) of a mind</p>	<p>The use of motions of the body or limbs as a means of expression; the silent language.</p> <p>Ranges from a point and click (clickable, linkable computer/web space) to a "free" improvisational gesture in 3D space as defined by human body's physical characteristics employed by single and/or multi-(v)users.</p> <p>Serves as a triggering device in 2D space or in 3D space, utilising the whole mass of the single and/or multi-(v)users body. The full body is essential - ranging from smaller gestures such as raising an eyebrow, moving a head, waving an arm, to moving the entire body through local physical space.</p> <p>As applied by single and/or multi-(v)users, brainwave can control events, experience, motion, and context of events.</p>	<p>Axrtell, Hall, McNeill</p> <p>CD-ROM, J. Pollock Hoberman, <i>BarCode Hotel</i> J. C. Herz, <i>Joystick Nation</i></p> <p>Rokeby, <i>Very Nervous System</i> Rogala, <i>Divided We Speak</i> Kubota, <i>Vagina Painting</i> Abramovic, <i>Freeing the Body Stelarc</i></p> <p>Minsky, K. Oki Ulrike Gabriel: interactive art Controlled by (v)user concentration</p>
<b>15. PROXIMITY</b>	<p>Relationships of physical bodies and mediated experience amplified through media: sound amplification, image/scale.</p> <p>Involves a "sensing" of space and objects within it, an awareness that is itself characterised by continuity and flow. Disruption can be perceived as not being able to negotiate a sense of proximity.</p>	<p>Goffman, Mehrabian</p> <p>Abramovic/Ulay, <i>Imponderabilia</i></p>
<b>16. VIVIDNESS</b>	<p>Two kinds of vividness - one which comes from repetition, the familiarity impressing the message into the brain, and another which comes from surprise, the unexpectedness of the image or sound making it striking.</p> <p>Dependent on context for its meaning.</p> <p>Includes heightened attention and emotional components. Directly tied to memory.</p> <p>Vividness implies a strong impression on the senses.</p>	<p>Brecht, Boal Kantor, <i>Dead Class</i></p> <p>Rogala, <i>Nature Is Leaving Us</i> Steiner</p>
<b>17. RANDOMNESS</b>	<p>A surprise injected into a controlled structure. Each visit, each interaction changes the direction of the way artwork can be experienced.</p> <p>Randomness is the opposite of rhythm. There is a bridge between rhythm (which is redundant) and randomness (which is entropic)--both of which are dependent on degrees of repetition.</p>	<p>Csikszentmihalyi</p> <p>Pollock</p>
<b>18. DYNAMIC MAPPING</b>	<p>Process in which certain actions modify the system, introducing new subsystems, with new rules or maps of input to output, requiring more interactions and/or more repetitions to learn the system. The way in which the artwork responds to its (v)users.</p>	<p>Rogala, <i>Divided We Speak</i>, <i>Divided We Sing</i>, <i>Divided We Stand</i> Xerox PARC Map Viewer</p>





These elements of interactive experience are identified by the author for the purpose of establishing a basic structure of spatial experience in interactive artworks. This is necessary to emphasise the triadic relationship of the (v)user, the interactive artwork, and the artist in the conceptual context of strategies for interactive public art.

I believe that the contemporary artist is currently engaged in re-defining his or her role. Aesthetics is shifting from passive to active. This is reflected in the collaborative aspect of my work which does not exist without participation by viewers and listeners. My work explores problems of freedom and limitation, shifting boundaries of public and personal space, community-building through virtual space technologies, and the unifying qualities of diversity. In a boundary-less artistic space of relationships, the issues of poetics, individual and group interaction, intervention technologies, open structures, large scale, immersiveness, and participation are of central concern.

Collaborative engagement in interactive public art requires new kinds of venues and technologies and also requires attention to issues of content, interface, location, and community involvement. Interaction in such new contexts generates new spatial and temporal relationships, presenting artistic choices between accepting and altering behavioural constraints.

My artistic practice emphasizes the differences between single and multi-(v)users interacting with the artwork in public space, and interaction among the (v)users. Physical interaction within and between physical spaces demands new attention to artistic authorship. For this practice to be socially engaging, the artwork has to contain a dynamic matrix of values, expressions, and artistic content achieved through interface and interaction design, shared experience and learning curves, symbiosis of physical and virtual space, and multi-dimensional relationships among cognitive and physical environments. My art questions the spatial and temporal limitations and social parameters of interactive experience, and it develops propositions

concerning the new role of the artist in the new society emerging into the 21st century.

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