

Participation:

Foundations
of an
Interactive Experience

Participation

Defining an Experience

attempts to codify good experience design

an experience stands out
from experience

—Art as Experience. John Dewey p35/36

John Dewey - Art as Experience

IE the experience of living
is different from an “experience”
memory / something must be novel / different

“an experience has a unity
that gives it his name”

—Art as Experience. John Dewey p37

John Dewey - Art as Experience

same as previous quote

“every experience is the result of interaction between a live creature and some aspect of the world in which he lives”

—Art as Experience. John Dewey p43/44

John Dewey - Art as Experience
it is broad

difference between doing and reflecting

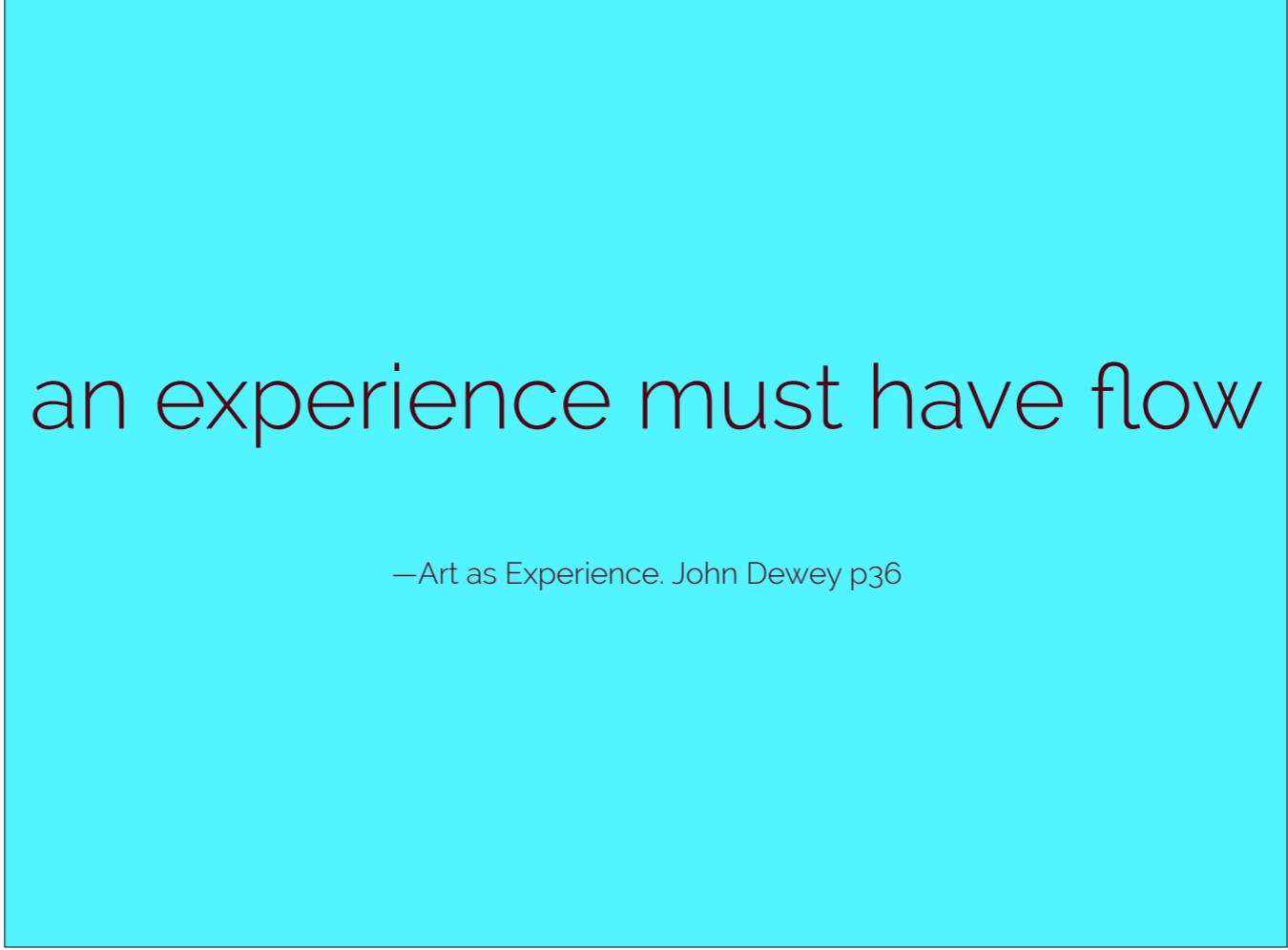
—Art as Experience. John Dewey p44—46

John Dewey - Art as Experience

IE there the moment of doing, acting within an experience
is different the moment of reflection between actions, or afterwards

all relate to the overall experience design.

safoura - a sum that is greater than its parts



an experience must have flow

—Art as Experience. John Dewey p36

John Dewey - Art as Experience

IE

you must be “in” it

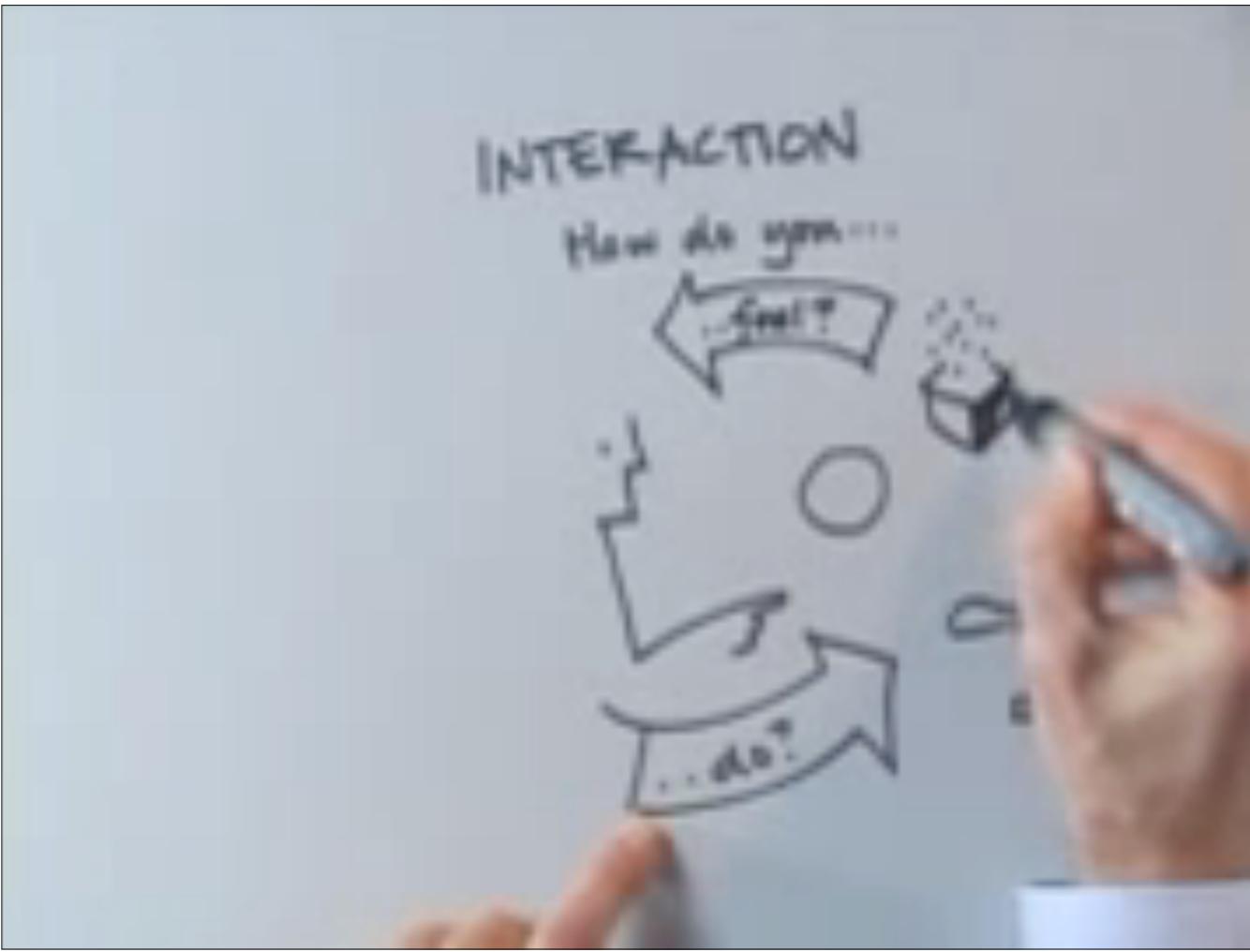
Jenny - or a streamlined experienced / can separate good from bad design

an experience must lead to
fulfillment

—Art as Experience. John Dewey p35

John Dewey - Art as Experience

Interaction Design



Bill Verplank on Interaction Design

<https://www.youtube.com/watch?v=Gk6XAmALOWI>

higher-res version

<http://www.designinginteractions.com/interviews/BillVerplank>

<http://www.billverplank.com/Lecture/>

Early Examples of Interactive Experience



In Fine Art



Donald Judd
1960s

Minimalism / internal interactive / viewing angle / perception / space

One early uses of the term “interactive” was within art criticism in the context of the works of the minimalist American sculptors. In Donald Judd’s work, for example, critics were so struck by the physical presence of the work that they used the term interactive to mean: as viewers walked around the piece, changing their physical position, they saw the piece differently. The critics used this term in contrast to the paintings or drawings, which, in their opinion could be looked at and felt in similar ways from any viewing angle. Later use of the term in sculpture referred to pieces that could be touched, or stood on, but often not moved. In these uses of the term interactive, the object itself does not change, only the viewer’s perception of the object would change, or even the viewer’s internal ideas about the piece would change. In interactive computer-based art, however, the most significant defining quality is that the piece itself, the actual physical material (or light), transforms, resulting in an externally observable change.

https://www.dortmund.de/media/p/museen_4/museum_ostwall_1/museum_ostwall/presse_2/MO_BfB_Donald_Judd.jpg



Carl Andre. 1967

Stand on. / space / sensory

View of a sculpture by Carl Andre that features 144 metal plates arranged in a square formation at an unspecified gallery, New York, November 25, 1967. Photo by Fred W. McDarrah/Getty Images

<http://kilgour.com/essays/carl-andre-by-nancy-durrant/>



Allan Kaprow. 1964. Photo by Sol Goldberg

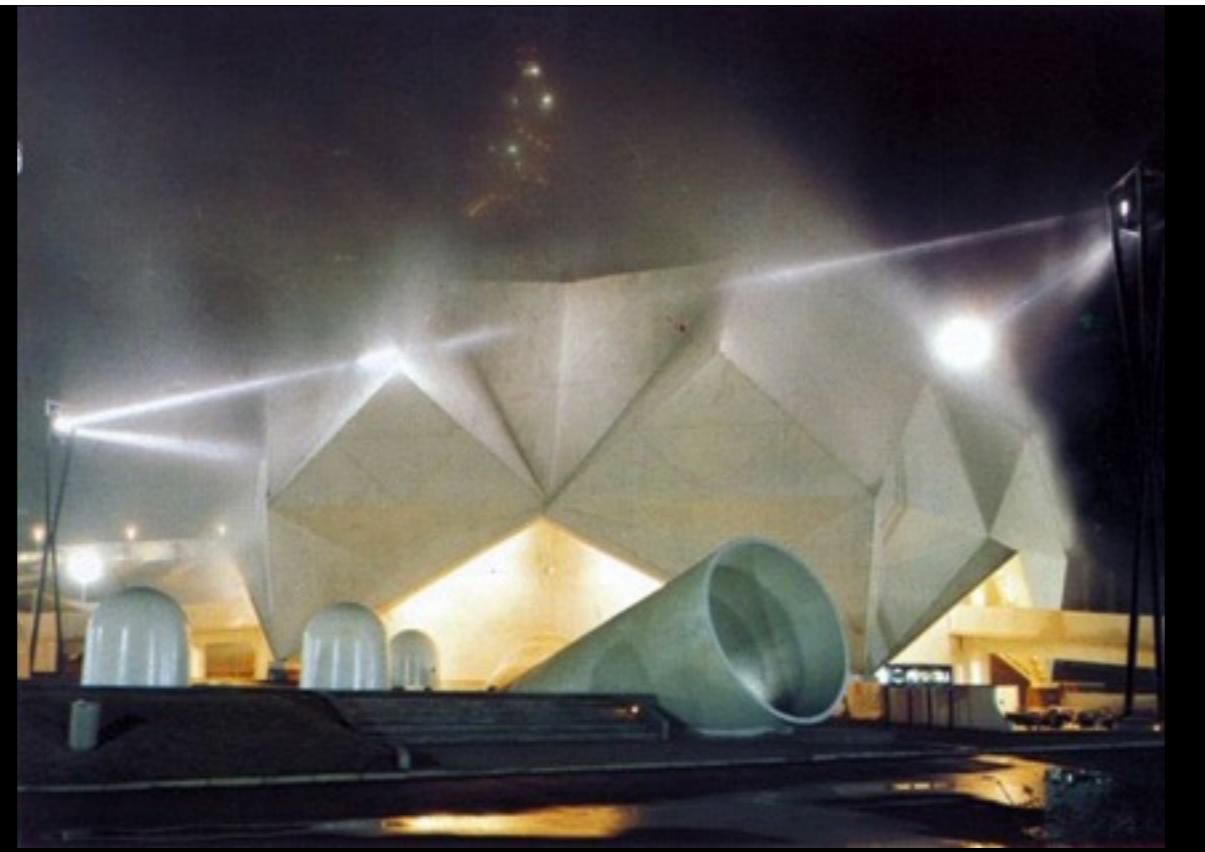
Allan Kaprow
Women licking jam off car

Semi-curated experiences / Participatory art / push sensory farther
incorporate social aspects

Participatory art, came about, in the 60s and was a movement closely tied to art as social practice. Involving everyone in the creation of art serves not only to make them invested in the art, and more closely value the art, but it also tries to re-define, or bring back traditional definitions of art, as universal, open and accessible to all.
Participatory art blurs the distinction between art and life.

<http://www.tate.org.uk/context-comment/blogs/performance-art-101-happening-allan-kaprow>
Courtesy Getty Research Institute © Estate of Sol Goldberg

Beginnings of "New Media" Art



Osaka, Japan World Expo Pepsi Pavilion 1970
by Experiments in Art and Technology (EAT)

EAT or Experiments in Art and Technology, founded in 1966 had 3000 artists and 3000 engineers by 1969. They created many large public interactive events throughout their history. Their most ambitious work would occur at the Pepsi Pavilion in 1970 during the world expo held in Osaka, Japan (Rieser). The project resulted from the efforts of American artists Robert Breer, EAT founder Robert Kluver, Japanese artist Fujiko Nakaya, and an ensemble from America and Japan totaling sixty-three artists.

The artists wished to create a “living responsive environment” or public theater space. The space contained a “mirror room” with interactive sound, an enormous work in fog (Fujiko Nakaya), and large robotic “floats” by Robert Breer. The mirror room contained a mirror 90 feet in diameter, constructed of metallic Myler. Because of the size and shape of the mirror visitors could see their reflection in a way similar to that of a hologram. In the mirror room a sound system contained 37 speakers with 32 possible inputs that could play pre-programmed spatial sound, or mixed live by artists at a console. Additionally the floor was split into 10 distinct areas, each made of a different materials. As visitors walked to each of the distinct areas they could hear through portable headsets sound specifically designed for that area.

On pavilion terrace Robert Breer installed 6-foot high sculptures that would move around the pavilion autonomously. When the sculptures ran into a wall, or another sculpture they would emit a sound. Additionally visitors could safely push or bump into the sculptures to cause them to emit a sound.

The entire pavilion exterior was constantly covered in a sculpture created in fog by Fujiko Nakaya. The fog created a distinct aesthetic for the piece, combined with various outdoor lighting effects. As seen in photos the fog would stretch to the ground creating a multi-sensory experience for visitors to interact with.







Definitions of “New Media” Art & Design

Four perspectives on the question, what are the properties of new media?

Compiled by David Tamés, <http://kino-eye.com>

Literature / Interactive Fiction

Janet Murray

Four characteristics that make [new media] a powerful vehicle for literary creation.

1. Procedural
2. Participatory
3. Spatial
4. Encyclopedic

Communication Design

Jan Kubasiewicz

Values and concepts we use to understand the phrase, "the language of dynamic media."

1. Information
 - Communication
 - Representation
2. Time + Motion
 - Sequentiality
 - Narrative
3. Interaction
 - Interface
 - Information Visualization
 - Narrative

Narratology

Marie-Laure Ryan

Five fundamental properties of digital media.

1. Reactive and interactive nature
2. Multiple sensory and semiotic channels
3. Networking capabilities
4. Volatile signs
5. Modularity

Media Studies

Lev Manovich

Five principles of new media: general tendencies of a culture undergoing computerization.

1. Numerical Representation
2. Modularity
3. Automation
4. Variability
5. Transcoding

Source: Janet Murray, *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*, Free Press, 1997.

Source: Jan Kubasiewicz, "The Atlas of Dynamic Media," *Massaging Media 2*, AIGA Design Conference, Boston, Massachusetts, Keynote Address, 2008.

Source: Marie-Laure Ryan, "Will New Media Produce New Narratives?" in Marie-Laure Ryan, Ed., *Narrative across Media: The Languages of Storytelling*, University of Nebraska Press, 2004.

Source: Lev Manovich, *The Language of New Media*, The MIT Press, 2001.

there are many
does not have to be interactive

Janet Murray = the New Media Reader: Janet wrote this chapter "Inventing the Medium", p3-11

p6

- * Procedural - execution
- * Participatory - manipulation by user
- * Spacial - embodying dimensionality, computer can present itself to us as a place, one which we enter and do not wish to leave
- * Encyclopedic - huge capacity
- " as William Faulkner once described the aspiration of the novelist, the whole world in one sentence."

Lev Manovich

wikipedia:

Principles of new media (from "The Language of New Media"):

Numerical representation: new media objects exist as data

Modularity: the different elements of new media exist independently

Automation: new media objects can be created and modified automatically

Variability: new media objects exist in multiple versions

“Who needs this object
and for what?”

—Janet Murray p39 Inventing the Medium

according to Murray

“The design process begins by asking: Who needs this object and for what?”

—p39 inventing the medium

Function Context Core

—Janet Murray p40

according to Murray

Function: how will specific end-users employ the product in particular tasks and activities

Context: what social and cultural customs, relationships, institutions, and value structures does this product reflect or subvert?

Core: what deeper, enduring general human activities and values does this object serve?

p40 inventing the medium

Models for Interaction Design

Janet H. Murray

from Inventing the Medium
Principles of Interaction Design
as a cultural practice

The Tool Model

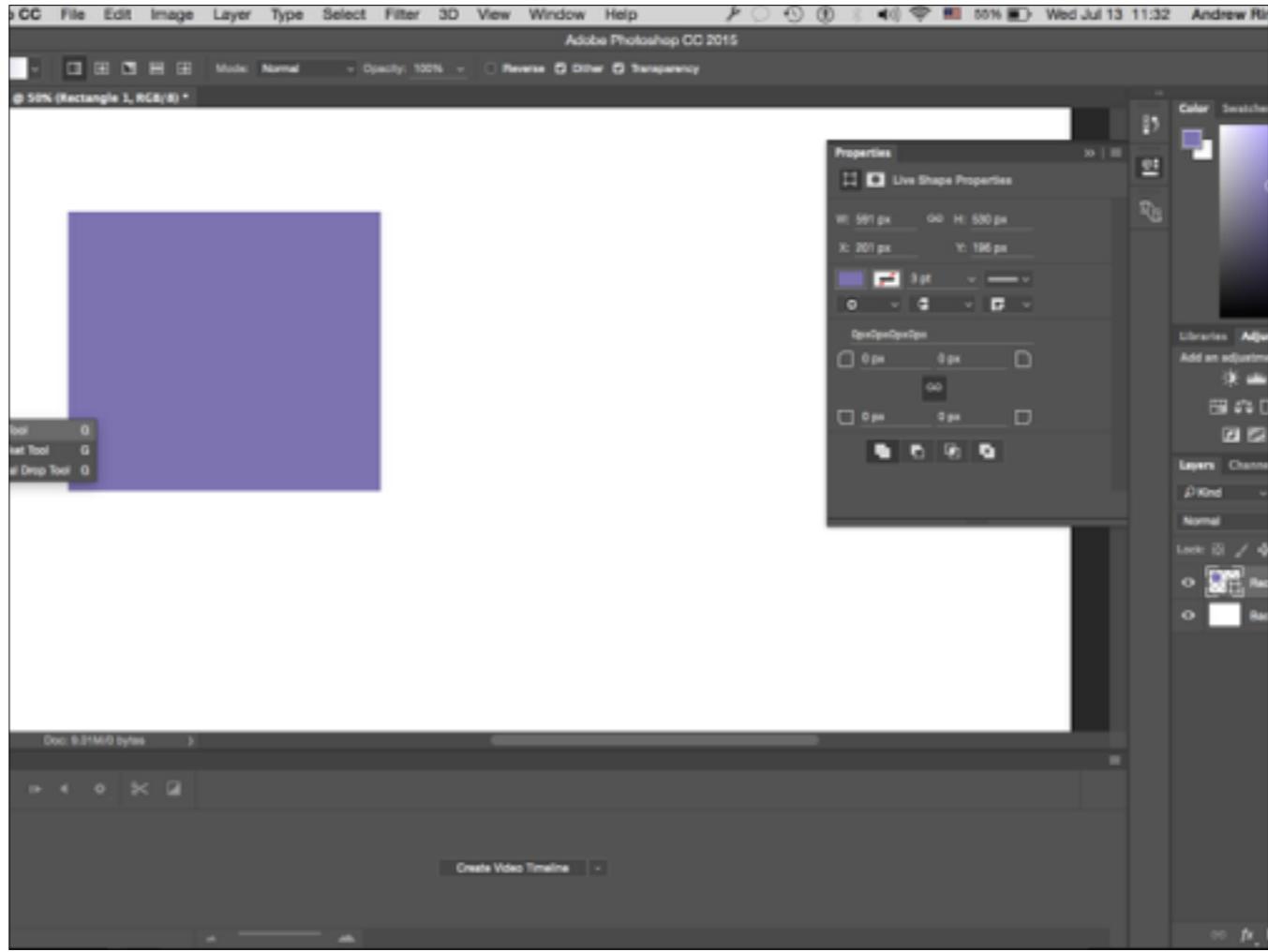
via Janet Murray

“The Tool Model: Augmenting the Expressive Power of the Hand”

Our simplest model for working with digital environments is the model of the tool —something that fits in the hand, whose value lies in its instrumentality,

Murray, Janet H.. *Inventing the Medium : Principles of Interaction Design as a Cultural Practice*. Cambridge, US: The MIT Press, 2011. ProQuest ebrary. Web. 13 July 2016.

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minority report
Tom Cruise

The Machine Model

via Janet Murray

“The Machine Model: Visibility and Control as Design Goals”



Figure 11.1

A machine receives input and produces output. Its processing is often hidden, making it a black box.

or automation
visibility
control

input MACHINE output Figure 11.1 A machine receives input and produces output. Its processing is often hidden, making it a black box .
Murray, Janet H.. Inventing the Medium : Principles of Interaction Design as a Cultural Practice. Cambridge, US: The MIT Press, 2011. ProQuest ebrary. Web. 13 July 2016.

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The Companion Model

via Janet Murray

“The Companion Model: Helpful Accompaniment as a Design Goal”



Figure 12.4

The recommendation system from Netflix.com is considered so important to the success of the company that in 2009 Netflix awarded a \$1 million prize in a competition aimed at improving the performance of its collaborative filtering algorithm by 10 percent. Although most of these "Movies You'll Love" recommendations seem clearly related to the films the system knows I "enjoyed" and are indeed in my taste range, it is hard to understand what *The Philadelphia Story*, *A Streetcar Named Desire*, and *The General* have in common with *Beauty and the Beast*. (Accessed September 5, 2010.)

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The Game Model

via Janet Murray

“The Game Model: Scripting Interaction as Structured Play”

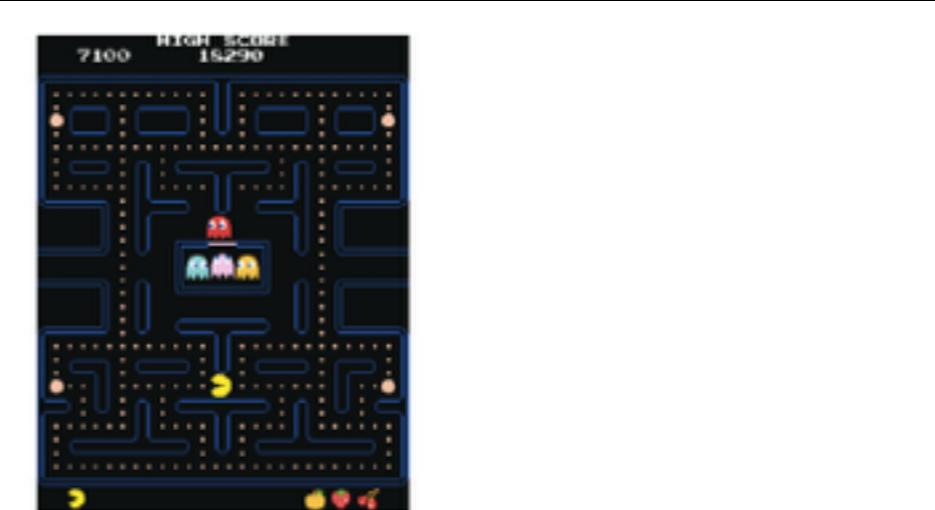


Figure 13.1

The game Pac-Man (1980) was developed by a team led by Toru Iwatani at Namco. It provides a useful model for interaction design, mixing familiar and unfamiliar elements in a challenging but learnable environment based on direct manipulation, trial-and-error learning, and the reinforcement of playful exploration with rich feedback.

Figure 13.1 The game Pac-Man (1980) was developed by a team led by Toru Iwatani at Namco. It provides a useful model for interaction design, mixing familiar and unfamiliar elements in a challenging but learnable environment based on direct manipulation, trial-and-error learning, and the reinforcement of playful exploration with rich feedback.

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Multiple Models



YouTube Guitar Hero - Rammstein - Du Hast - Best Band Performance!-t4Tvr7bgGBg
and YouTube Guitar Hero 5 - Du Hast Full Band-jjzdiToUrXg

both as a game
and as a companion /

Accompaniment requires synchronization, of the interactor to the computer and the computer to the interactor. A good example of design for accompaniment is the karaoke machine, which allows a user to sing popular songs accompanied by instrumental tracks and synchronized lyrics.

Murray, Janet H.. *Inventing the Medium : Principles of Interaction Design as a Cultural Practice*. Cambridge, US: The MIT Press, 2011. ProQuest ebrary. Web. 13 July 2016.

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“Interactivity refers to the maximizing of two affordances of the digital medium, the procedural and the participatory, in the satisfying experience of agency.”

—Janet Murray p291 Inventing the Medium

Interactivity refers to the maximizing of two affordances of the digital medium, the procedural and the participatory , in the satisfying experience of agency.

*** Or empowering users to feel in control

Murray, Janet H.. *Inventing the Medium : Principles of Interaction Design as a Cultural Practice*. Cambridge, US: The MIT Press, 2011. ProQuest ebrary. Web. 13 July 2016.

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Examples

Harbor Fog

Ross Miller
http://www.rossmiller.com/RM/harbor_fog.html



Harbor Fog by Ross Miller.

as you approach it spews mist and hums. I always called them robots. During summer early evening there are usually kids playing in them, they seem to stay entertained for a really long time. The lights are really inviting, they seem alive, they give this deep hum that is very soothing.

ref:

2008 Greenway Granite and LED lights, between India St. and High St.

"A fusion of art and engineering, this interactive installation evokes the changing light conditions and weather patterns experienced at the ocean's edge. It is one of two works by contemporary Boston artist Ross Miller included on the Art Walk. As you step into the boat-shaped environment, LED lights, fog machines, and sound respond to your movements. For the most dramatic viewing experience, visit in the evening during warmer months." <http://www.publicartboston.com/content/harbor-fog>

"By Boston artist, Ross Miller features three vertical stainless steel sculptural beacons, inspired by Boston Harbor navigational buoys, billows of fog, LEDs, and a sound system, are surrounded by recycled granite seawall stones placed in the shape of a boat. Harbor Fog is located in the Wharf District Parks and is motion sensitive to people who walk by, or children playing, all of which activate the unique sculpture, and make it a great place to both play and relax on warm days." <http://www.rosekennedygreenway.org/visit/public-art/>



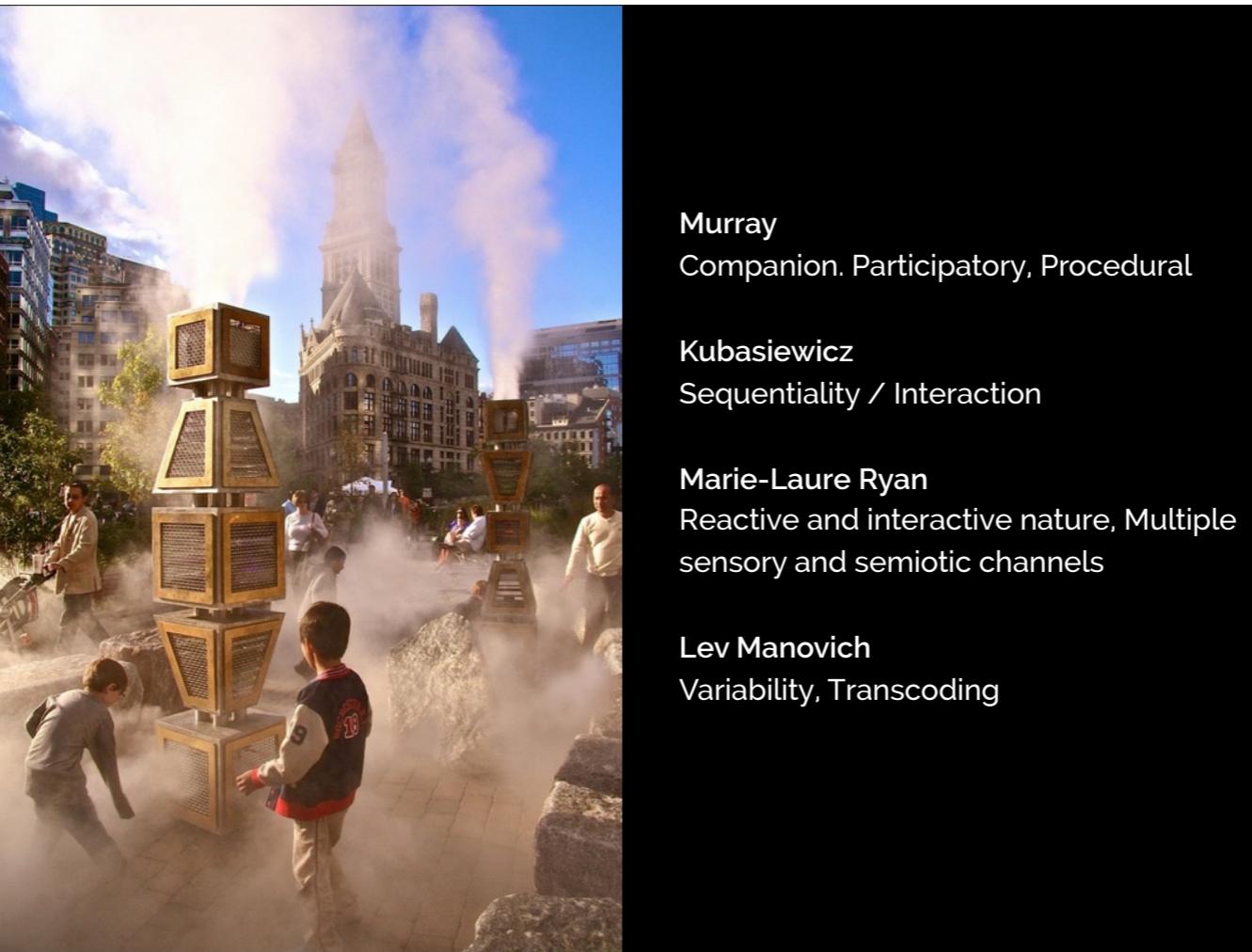
You can see in this photo the pillars are enclosed in a boat shaped seating area made of concrete blocks. The mist is meant to evoke the idea of ocean fog. The glowing pillars inspired by the “Boston Harbor navigational buoys”.











Murray

Companion. Participatory, Procedural

Kubasiewicz

Sequentiality / Interaction

Marie-Laure Ryan

Reactive and interactive nature, Multiple sensory and semiotic channels

Lev Manovich

Variability, Transcoding

Murray - Companion. Participatory, Procedural

Kubasiewicz - Sequentiality / Interaction

Marie-Laure Ryan - Reactive and interactive nature, Multiple sensory and semiotic channels

Lev Manovich - Variability

Aarhus by Light

<http://www.mediaarchitecture.org/aarhus-by-light/>



Aarhus by Light

Interactive light installation in the front courtyard of Aarhus Denmark. Visitors stand, walk past a brightly colored rug. Simplified brightly colored silhouettes of the participants are projected onto the entire glass facade of the building. Visitors are also able to interact with non-human light only “creatures.” As well creatures would interact with each other, like kissing.

denmark



Murray

Companion/Gamel
Participatory, Procedural, Spatial

Kubasiewicz

Sequentiality, Interaction, Narrative
Interface

Marie-Laure Ryan

Reactive and interactive nature, Multiple
sensory and semiotic channels

Lev Manovich

Variability, Transcoding

Murray - Companion / Game

Aarhus by Light

Interactive light installation in the front courtyard of Aarhus Denmark. Visitors stand, walk past a brightly colored rug. Simplified brightly colored silhouettes of the participants are projected onto the entire glass facade of the building. Visitors are also able to interact with non-human light only “creatures.” As well creatures would interact with each other, like kissing.

denmark

Immersion Room

<http://www.cooperhewitt.org/new-experience/>



Murray - Tool / Machine

The Immersion Room at Cooper Hewitt
new york

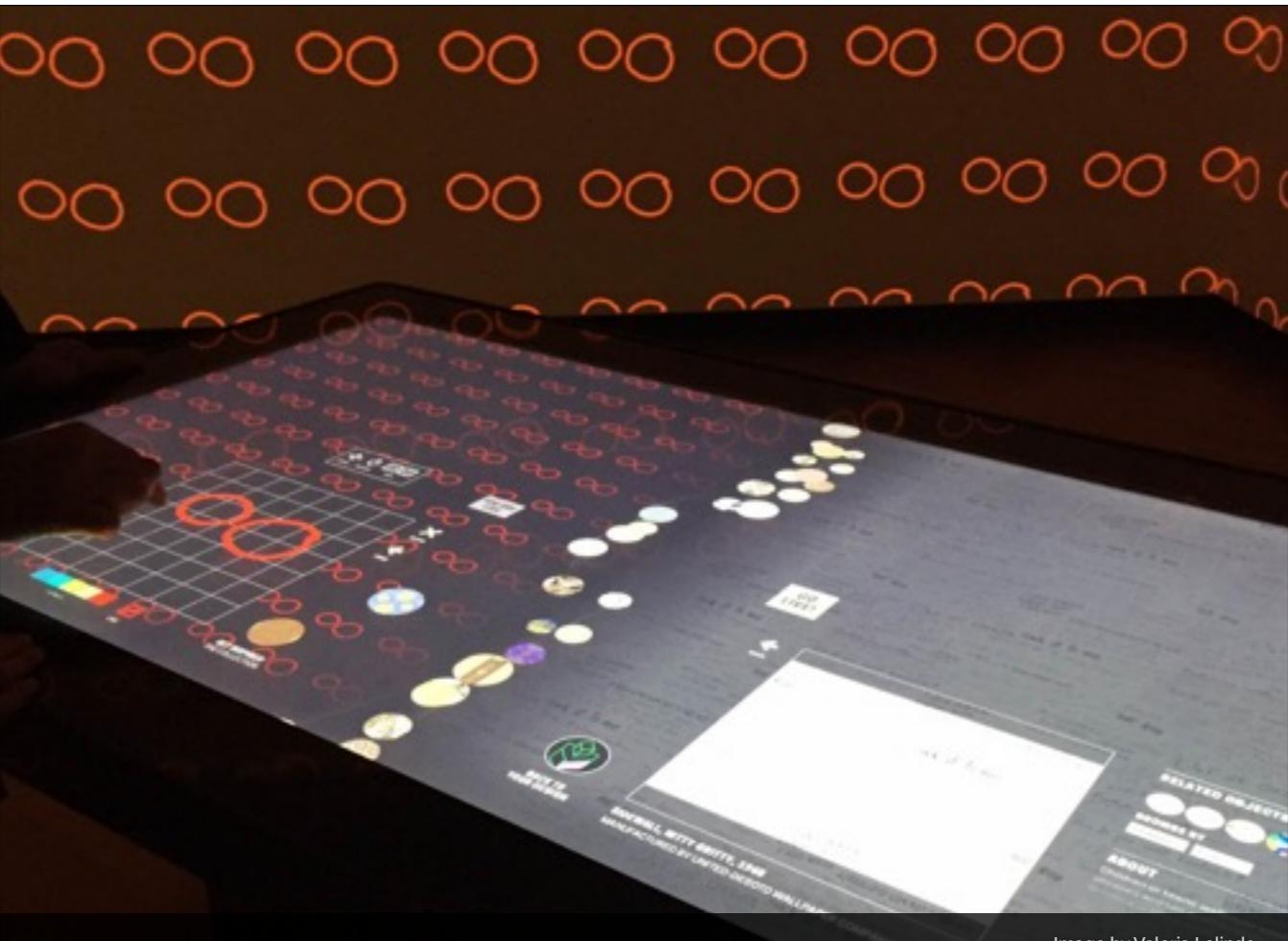
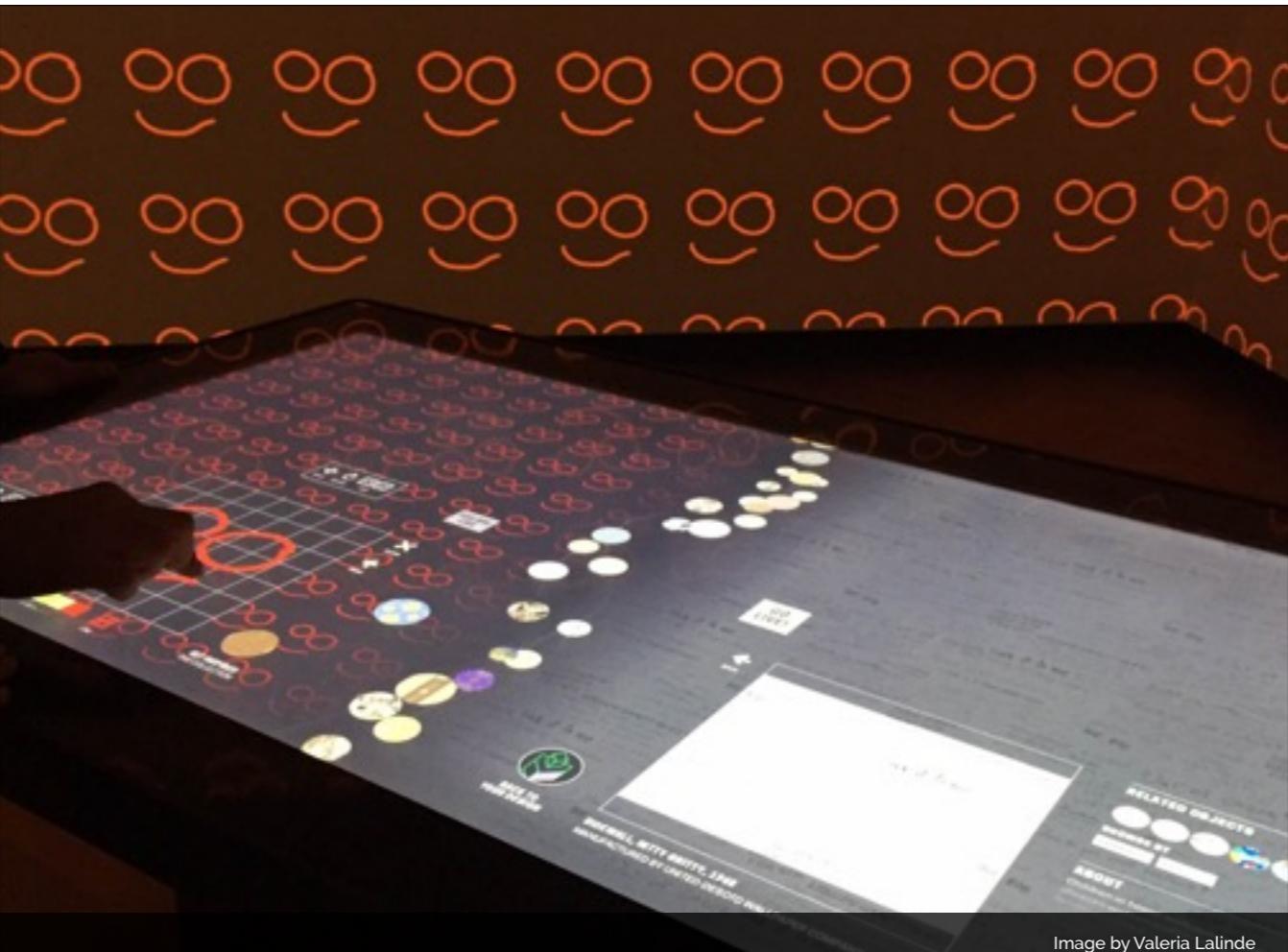


Image by Valeria Lalinde



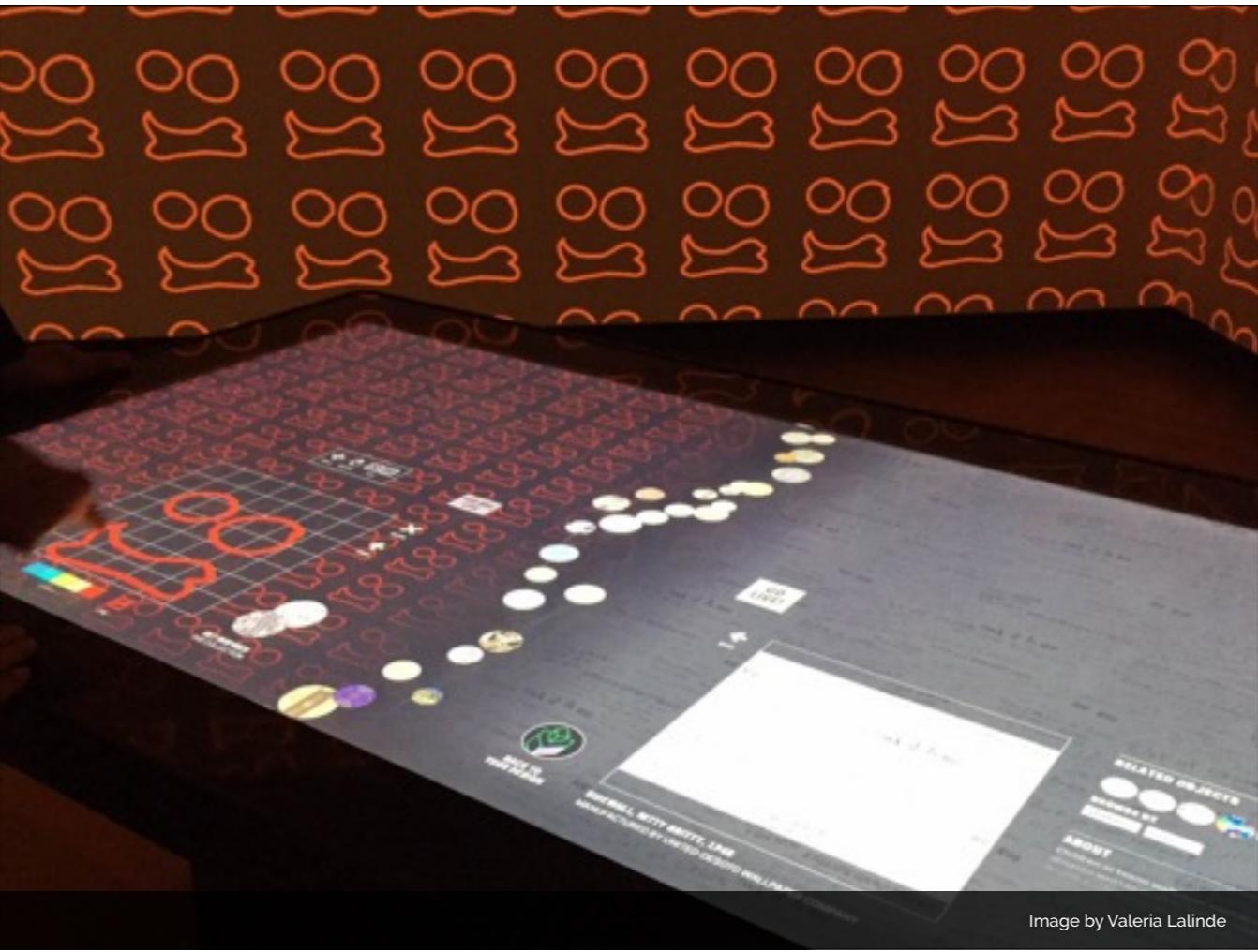


Image by Valeria Lalinde

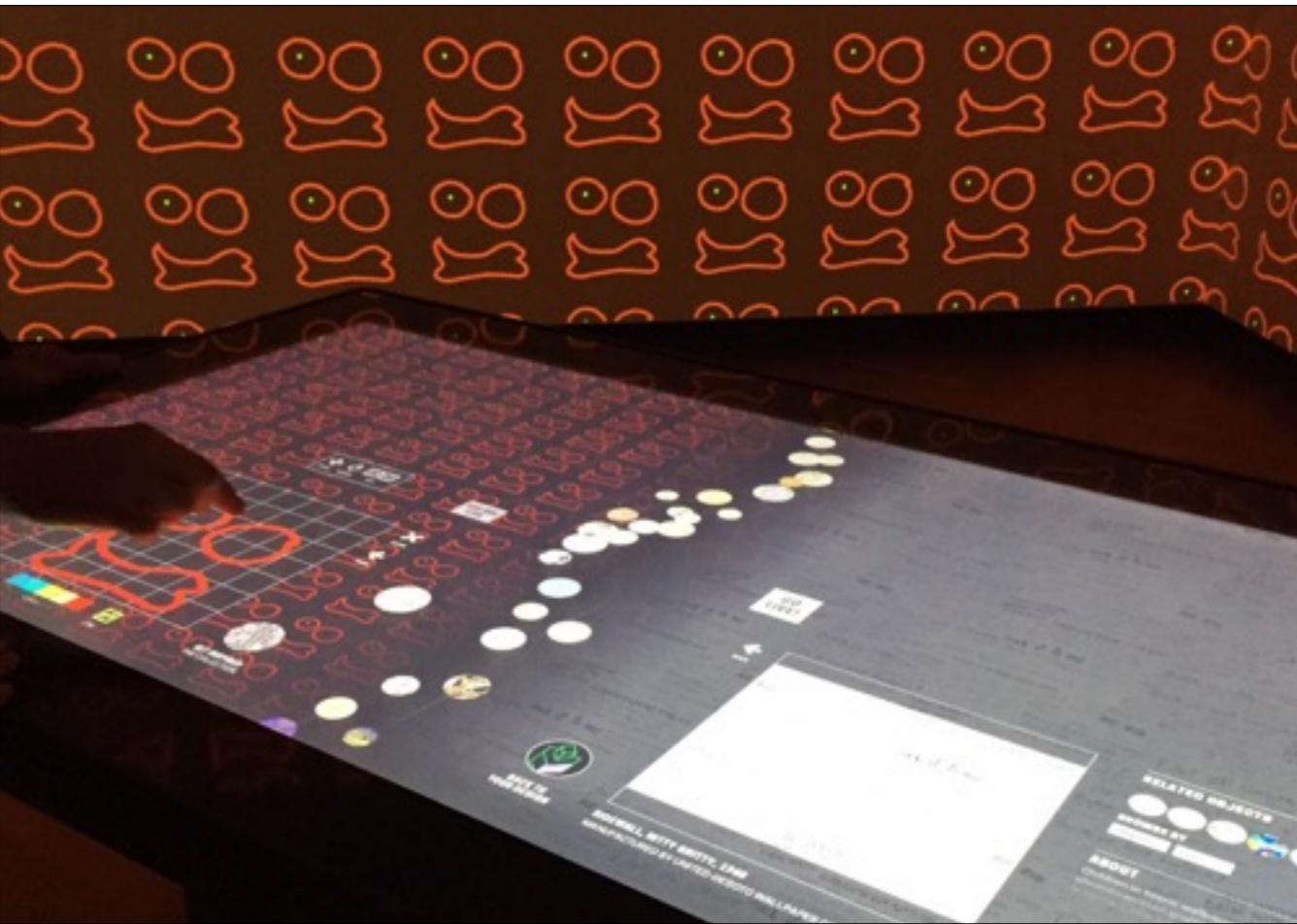


Image by Valeria Lalinde



Image by Valeria Lalinde

Murray
Tool / Machine
Participatory, Procedural, Spatial

Kubasiewicz
Sequentiality, Interaction
Interface, Information Representation,
Information Visualization

Marie-Laure Ryan
Reactive and interactive nature, Multiple
sensory and semiotic channels,
Modularity,

Lev Manovich
Variability, Transcoding

Murray - Tool / Machine

The Pool

Jen Lewin

<http://jenlewinstudio.com/community-sculpture/the-pool/>



Murray - Companion / Game

The Pool by Jen Lewin
colorado

Light Blades

<http://www.publicartboston.com/content/light-blades>
<http://www.newamericanpublicart.com/colorcommons/>



Murray - Machine

light blades
color commons
greenway boston

<http://www.publicartboston.com/content/light-blades>
<http://www.newamericanpublicart.com/colorcommons/>

LightOn

Alex Wang DMI
<http://alexandertwang.com/archives/390>



Murray - Companion? / maybe it doesn't fit her model / the focus here is on communication

"My wife travels all over the world for artist residencies. We live separately for several months of the year. We usually keep connected through email, Skype, and phone calls (if her residency is in the United States). It's not always convenient for us to talk over the phone or stay in front of computer and chat at the same time. Email becomes our first choice for communicating with each other. Email is an efficient way to communicate because it can cross time and space, but it lacks the quality of warmth for both of us. The network-connected lamps offered a different and richer experience."

Alex Wang
<http://alexandertwang.com/archives/390>



Murray - Game

Brainstorming the medium, I remembered an installation in Quebec.

[<play video>](#)

this was installed in bus stops for the purpose of raising awareness of CPR



Murray - Game?

Astor Place Cube



Michael Maloney —Play Me I'm Yours, Boston
#43 Post Office Sq "Let It Be"

Janet Murray / Tool

challenge / creation / control / learning /

Luke Jerram's public piano installations.

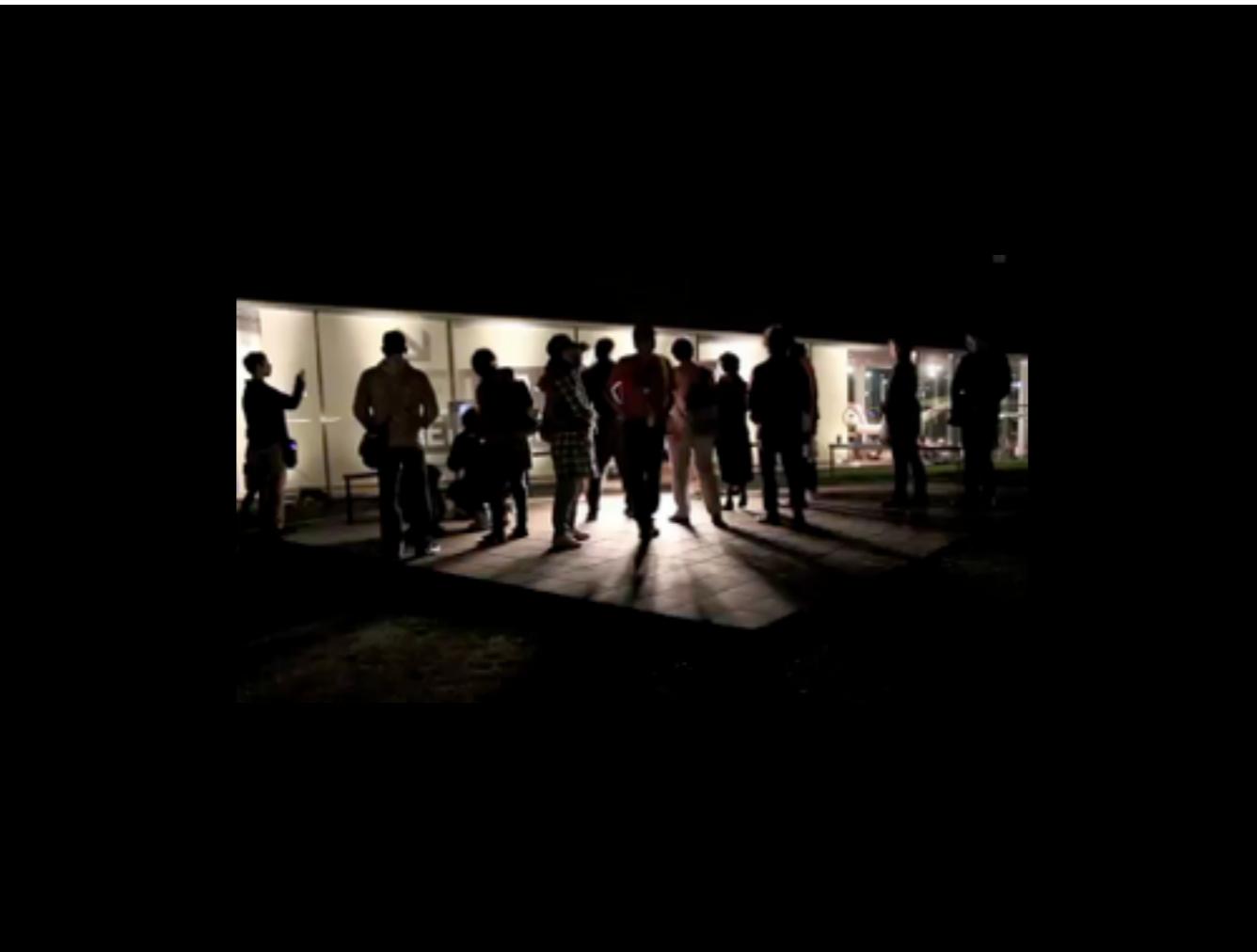
Pianos installed on public sidewalks and squares act as gathering places for people.

PlayMeImYoursBoston - #43 Post Office Sq "Let It Be"

Michael Maloney

<https://www.youtube.com/watch?v=Yp2lh96HQok>

Play Me Im Yours Boston, The Beatles' "Let It Be" at Post Office Square/Normal Leventhal Park, different song at each piano, <https://www.facebook.com/michaelmmusic> (10/7/13 - 10/14/13)



Murray - Tool / Game

challenge / creation / instrument/tool / minimal control

compose music

but minimal control compared to play me i'm yours

Light Music



Sensing Streams (センシング ストリームズ) by Ryuichi Sakamoto and
Daito Manabe (坂本龍一, 真鍋大度)

Murray - Machine

data visualization / passive / active

*** control

In Sensing Streams (センシング ストリームズ) by Ryuichi Sakamoto and Daito Manabe (坂本龍一, 真鍋大度) they manipulate both light and sound using a large high-resolution display and speakers to make visible to visitors the normally hidden electromagnetic waves present in our world. They use a radio scanner to log the electromagnetic radiation present in the room from 80MHz-5.2GHz. User's cellphones, fluorescent lights and other ambient radio waves are all detected and visualized on a large screen. Speakers augment the experience by mapping the inaudible radio frequencies to human audible frequencies (20–20,000 Hz). Users are able to turn a knob to adjust a subset of radio frequencies to be visualized and heard.

The piece is designed to bring awareness for visitors to the electromagnetic energy ever present around us. The artists state that "the flow of electromagnetism is often forgotten, yet composes an indispensable infrastructure in our modern life, and the piece attempts to expose that." Our cell-phones, satellite broadcasts, microwave ovens, FM/AM radios, WIFI and more generate unseen radio waves. Since the piece is live, even the presence of visitors and their cell-phones in their pockets affect changes in the visualized and heard sounds of the work.