

**Rockefeller Foundation New Media Fellowships
2003 Project Cover Form**

VANCE STEVENSON

Title As yet untitled. (possibly "flock communication")

Genre Interactive computer controlled installation

Applicant's Role in Production Planing, programming, and final construction of production

Production Format installation

Anticipated Length Ongoing and none repeating

Color/B&W Color

Sound/Silent With sound.

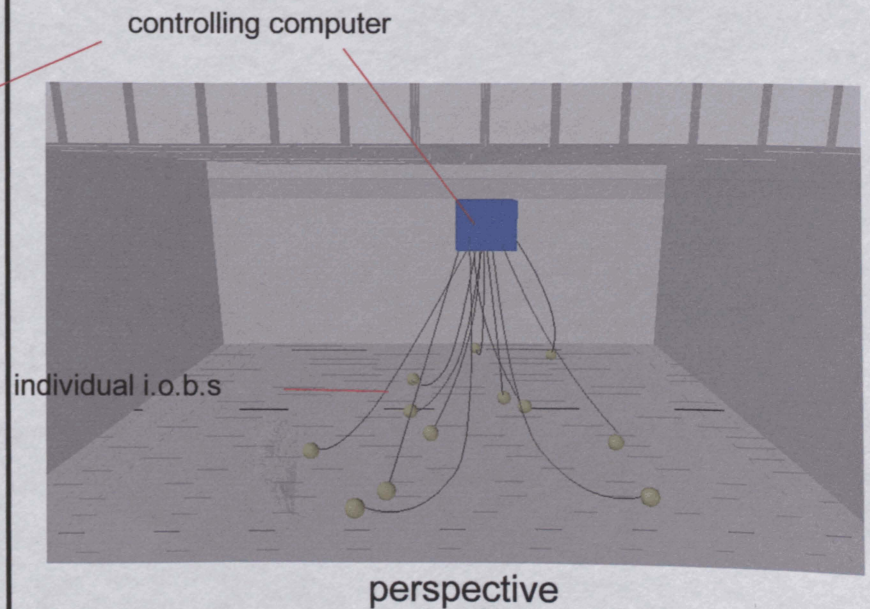
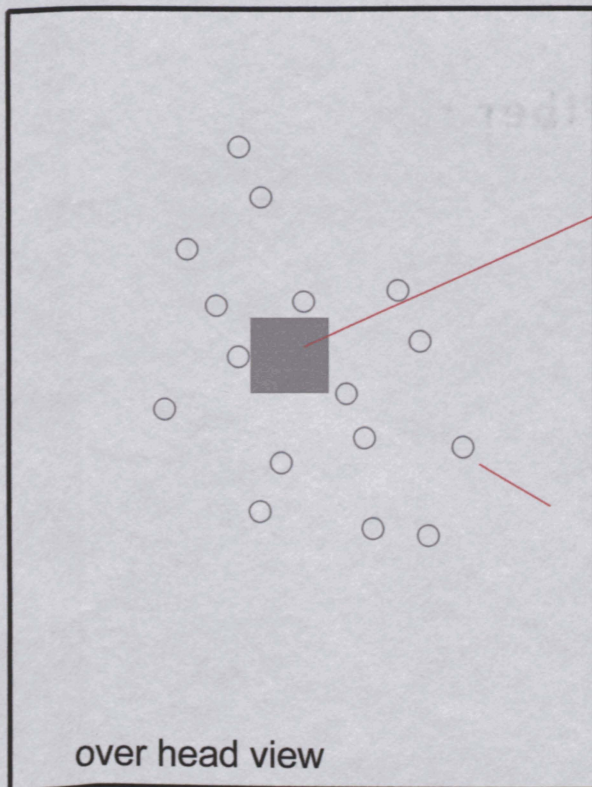
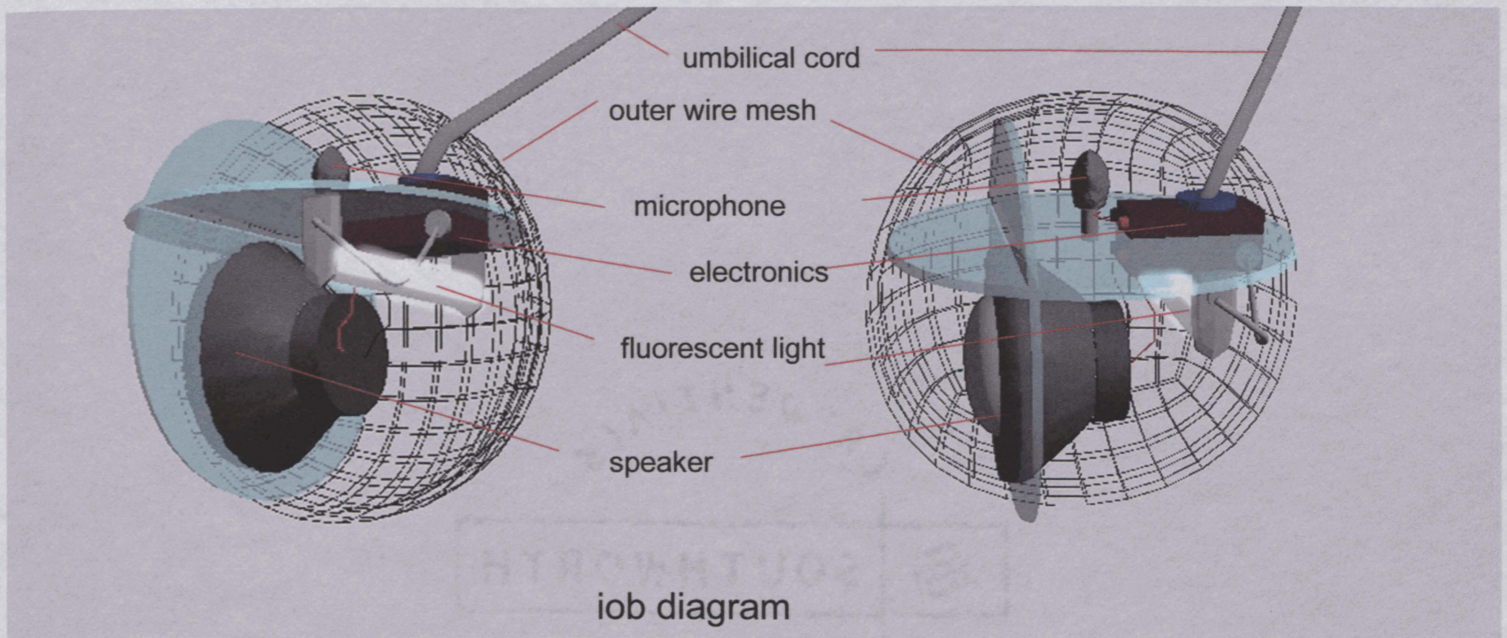
Brief Project Description (do not exceed space given below)

The proposed installation will consist of a set pseudo- living objects, each capable of interacting with both each other and the viewer. These objects will be identical and consist of both sensors and speakers enclosed in a ball-like form with a wire umbilical cord to a central controlling computer.

The objects will communicate with an ever evolving language that is diverted from the sounds the surrounding objects make and the sounds of the gallery itself. The objects will be able to be "taught" by people directly interacting with them. This will create a "language" that will build from day to day, with a continually changing set of phonemes and sounds diverted from the real world.

Each object will develop a personality that will determine how it deals with both input and interaction. Factors that will influence the development of the personality include time of day / routine, type and frequency of interactions, and the personality of the surrounding objects.

VANCE STEVENSON
ISTALATION DIAGRAMS



**Rockefeller Foundation New Media Fellowships
2003 Sample Work Form**

VANCE STEVENSON

If you are sending more than one sample, please copy this page. Sample(s) must be cued: indicate how long each sample should be viewed for a COMBINED viewing time of no more than 15 minutes. If slides are included in this application, please list the title and year of the work on this form.

Title Hum157

Year 2002

Technical Info

Original Format

☐ Software
☐ Web
☒ Installation
☐ Other _____

Format Submitted for Viewing

☐ Software
☐ Web
☐ Installation
☒ Other ☐ VHS _____

Preferred OS

☐ Windows
☐ Mac
☐ Unix

Web Info (answer only if sample work is in Web format)

☐ URL _____ (if more than one please list them below)

☐ Browser requirement _____

☐ Plug-in requirement _____

☐ This sample requires broadband connection (fast Internet Connection)

☐ A local copy of the sample work has been included with the application

Special Information For Viewing:

The first piece on the enclosed video cassette.

Description of Work (use an additional sheet if necessary)

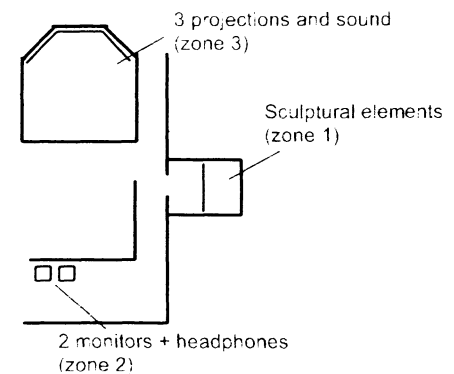
Hum157 came from a continuing interest in computer controlled systems that mimicked errors or malfunction. This particular work was also augmented by a my growing curiosity with language and how badly we (humans) communicate. My goal was a system where too much information was presented making the

entire piece overwhelming- to the point that the viewer was more *subjected* to the installation than experienced it.

Components: (at three different locations (see map))

(zone 1 on map) The center of the work was a sculpture that was housed in its own room with 3 channel video surveillance (2 simple video feeds to other rooms, the third was a live web-cam.) Built into the sculpture were motors and lights, both fluorescent and incandescent, that were controlled by

computer. The patterns for the triggering of the motors and lights was very complicated and changing, but can be understood as probabilities of events who's chances of happening change according to the time of day and how soon an event last happened. The process was designed, however, so that any 20min period would contain element of progress that would result in a climax, of either strobing lights or sound.



hum157 diagram. (not to scale)

The sounds of the motors and fluorescent lights were amplified with contact microphones, the resulting sound was processed inside the computer (the process were determined by the time of day as well) and played at the two other locations (see map).

(zone 2) Used as an introduction to the installation were two monitors with one set of headphones. They were all placed in such a way that there were the first elements encountered when entering the gallery. They acted as an introduction to the piece in a "toned down" form: through B&W monitors rather than projected or in person, and sound on head phones rather than out loud. After experiencing the work here the viewers would follow the over- obvious wires leading to the central sculptural elements.

(zone 3) In this room three different live images of the sculpture were projected onto the main wall. Two of the projections were the same as the monitors (in zone 2), but now in color, the third was a computer processed live image. In this

room there was also stereo speakers playing the processed sounds from the sculpture, this is the only place where one could hear the sounds out loud. The more functional aspect of this room was to allow more people to experience the piece simultaneously, as very few were allowed in the central (zone 1) room at a time. It also led to a voyeuristic effect because people could watch those in the central room without them being aware of it.

I made all of the wires very visible and obvious, as any work with technology should not hide its support system. These wires acted as a nervous system for the piece, making the viewer aware of the three elements interdependencies.

**Rockefeller Foundation New Media Fellowships
2003 Sample Work Form**

VANCE STEVENSON

If you are sending more than one sample, please copy this page. Sample(s) must be cued: indicate how long each sample should be viewed for a COMBINED viewing time of no more than 15 minutes. If slides are included in this application, please list the title and year of the work on this form.

Title untitled

Year 2000

Technical Info

Original Format

☐ Software
☐ Web
☒ Installation
☐ Other _____

Format Submitted for Viewing

☐ Software
☐ Web
☐ Installation
☒ Other ☐ VHS _____

Preferred OS

☐ Windows
☐ Mac
☐ Unix

Web Info (answer only if sample work is in Web format)

☐ URL _____ (if more than one please list them below)

☐ Browser requirement _____

☐ Plug-in requirement _____

☐ This sample requires broadband connection (fast Internet Connection)

☐ A local copy of the sample work has been included with the application

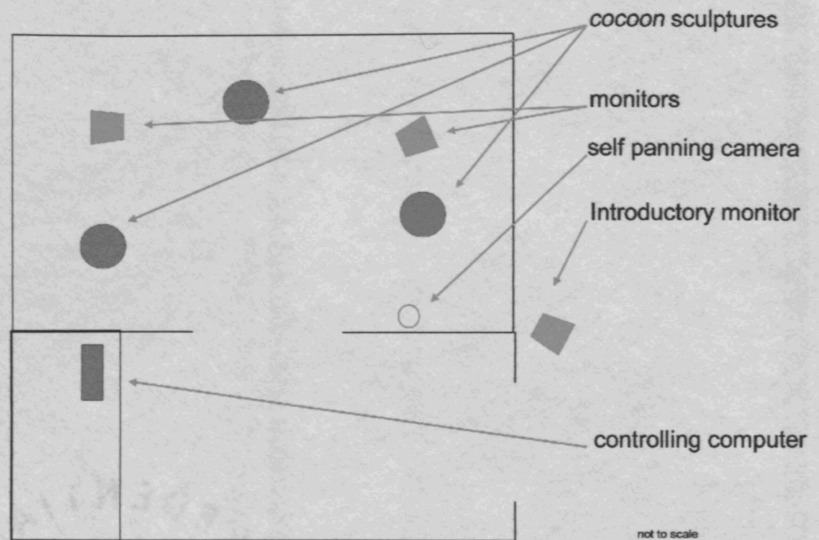
Special Information For Viewing:

The second piece on the enclosed video cassette. (titled with the date it was documented) The audio is very important to the work, so make proper accommodations for it.

Description of Work (use an additional sheet if necessary)

This installation was made with computer controlled lights, video and sound, one camera, three TVs, and three sculptures. Each sculpture housed a fluorescent light that was controlled algorithmically by the computer. A constantly panning camera inside the installation would record one frame when one of the lights inside the sculpture turned on. These images were recorded and played

back on two TV sets that were on the floor. The images were played as fast as possible (flickering) when none of the lights were on, the TVs would then turn off when the a light turned on. This created a very dark and disorienting environment for the viewers to walk through,



hence the images captured were often of people in slightly confused or awkward state. These images would then be added to an ever growing and cycling bank of images that would be played back. Controlled by the same algorithm as the lights and video was a real-time generative sound work that was synced to the lights and video. Independent of the controlling algorithm was a third TV set outside the installation that show what the panning camera saw live, this was intended as an introduction – to allow an easing into the installation. I intently made all of the wires and hardware visible to the viewers. I wanted them to feel that all the elements were visible and necessary- that these flickering sculptures *needed* such a huge outside support system.

With this work I was trying to make the viewer question the sophistication of the installation's reactions to them, and how sophisticated our reaction to the work is. By disorient the viewer, I was able to get them into a state where they became very aware of their own placement inside the installation. When someone would see their flickering image on the TVs they quickly became aware of how they were influencing the other viewers experience of the installation- and how their reactions to the installation quickly becomes part of the content of the installation.

The Rockefeller Foundation
2003 New Media Fellowships

ARTIST STATEMENT
VANCE STEVENSON

In my work I attempt to rebuild natural or organic processes through the use of algorithms and dynamic systems. I envision the piece (be it an installation or a pure sound work) as an environment onto itself, a terrarium inhabited with artificial life, who's relationships I devise. I go about making such systems through programming distinct, individual, elements and then letting them interact. The system grows in complexity as more elements are allowed to interact. The inspiration for the interactions often come from simple and accidental, almost dismissable, sources: how a flock of birds avoids an obstacle, yet remains a flock, the inner workings of flickering of florescent lights, and the way humans develop "jargon." For me, I often envision my work as possibly happening of its own accord; computers left alone at night, some wasted function; who's intricacies contain real beauty.

The way that the viewer can experience the interactions of these elements has become one of my main foci. I have been developing a stark and harsh aesthetic that attempts to bring about the idea of raw information in the viewer / listener. This is often accomplished with flickering lights or extremely digital sounds. I envision the sounds and flashing lights of my installation's to be a language onto itself. My work also allows the viewer a chance to effect the progress and direction a system. By adding a small bit that is thrown into the process- that could then tumble it in a new direction, or simply cause a belch of digital sound. I have to make the way that information is conveyed is very flexible. To do this I have resorted to doing my own programming, this allows the most flexibility and personal creative input. Not to say that my work seems "human," in fact I strive for the final product seeming very alien.

**The Rockefeller Foundation
2003 New Media Fellowships**

**PROJECT NARRATIVE
VANCE STEVENSON**

The center of the "Flock Communication" (not the final title) installation is individual input/output balls (iobs) which are capable of interacting with both each other and the viewers of the installation. These interactions will build a language from all the input received from each iobs' surroundings, and develop over time. Right now the work is planned with 16 iobs, but it can be scaled up or down as money and space permits. The communication, of these obviously non-living things will questions where are own communication comes from, and why we do it and what we are actually doing when we *communicate*.

Each iob will contain inside of it an output mechanism: a speaker and a light, and an input system: a tilt sensor and microphone. The iobs are connected, by a thick, and intentionally obvious, wire (an umbilical cord of sorts), to a controlling computer that will run software powering the artificial intelligence of the iobs. The iobs will be set on the floor with the computer mounted above them- the wires will spread out downward from the computer to the iobs. The outside of each iob will be a metal mesh allowing its insides to be visible. Their support structure will be made from clear molded plastic- allowing complete visibility of their inner workings, and for the light to be seen from any angle.

The space housing the iobs will have low light, just enough so someone will not walk into things. The iobs will also give off light intermittently as part of their communication. People will be encouraged to both pick up and talk to the iobs, this outside influence will greatly effect the behavior of the iobs, and how their personality and language develops.

This work will be an exploration of artificial languages and how they can develop humanistic qualities. Over time, "Flock Communication" will progress into more and more complex behavior as it builds up its overall language and the

personality of individual iobs. This will allow a more in-depth interaction and responses then possible with a static installation.

“Flock Communication” is a step towards more sophisticated, and tangible, interaction in my work. These objects will only communicate with each other in the outside world- inside the computer there will be no cross talk between the iobs. This makes the piece much more easily influenced by the outside world. In my past work the interaction has not been able to completely over turn the development of the installation, but in this work I plan to make that possible. It will explore not just the interaction of semi- intelligent individuals, but also those individual’s interactions with things beyond my control.

Each iob will run as an individual program on a Mac G4. I plan to develop the program with C+ and MAX/MSP (C+ is a general programming language, while MAX/MSP is a programming language focused on time-based multimedia) The iobs *will not* exchange information inside the computer, all communication will happen in the real world. They will each be given a unique sound, sort of like a name, this sound will be synthesized inside the computer and be entirely malleable, in quality it will be very much like insect sounds. (The light inside of the iobs will flicker in an approximation of all sound generated by and iob.) Initially this “name” will be the only sound that will be able to make, but they will quickly learn the names of other iobs that are within its hearing range. Relationships and interdependencies will develop between the iobs- they will call for another iob by name, and respond when called. The longer the iobs are active the less and less they will learn and the more that they will interact and respond to each other.

People who talk to the iobs may have their words become part of their language. The sound fragments taken from people could then be passed on; changing because of both re- recording and of the iobs own ordering of parts to attempt *understand* these sounds. The sounds that the iobs listen for will not be specific human speech- the sound of the gallery itself may enter its vocabulary

(the sound of doors closing or cars honking on the street.) Over time their language will become an amalgam of both real world sound and synthesized iob sound.

The analysis of the sounds will be a combination of fast furore transform (fft, a way of determining dominant audio frequencies) and detecting gaps in and the duration of these frequencies. The iob will then observe its present state, time of day, state of its tilt sensor, and recent sound events; and associate that sound with its current state. These associations will be strengthened as sounds or events repeat themselves under the same conditions, and weekend when they occur with out the supporting conditions. This is a neural net (a collection of interdependent associations) that will dynamically shape the way that the iob responds.

The actual responses will be shaped by each iob's personality. The personality will be determined by *emotions*, who's prominence depends on the stimulation that it has received. As each iob gets *board* It will become more and more likely that it will try to communicate, or at the very least make noise. Picking up an iob (which people will be encouraged to do) will increase the chance of a response and the manner that it is held (gently, or shaken) will shape its actual response.

I have not determined the length of time that the system will develop over. It will likely be in the scope of a week, after witch the learning process will restart, dismissing all gathered information.

"Flock Communication" is larger and more ambitious my other completed work. The main reason is the time and resources have not been available to me. I have developed similar systems of equal sophistication and complexity that have, unfortunately, never left the computer. What makes this project so exciting is finally being able to see so many individual objects communicating in *real space*, this is also what makes the art work so costly. For each iob in the piece

the costs and building times are multiplied, because of this the project can be scaled up or down to accommodate available resources.

The best medium for "Flock communication" is the real- world. Short of physical presence and interaction it would be impossible to experience the work as I envision it now, therefore, it would be best in a gallery setting. The people who visit the installation would be encouraged to both talk and pick up the jobs, it is a work intended to be played with. That is not to say that an approximation of the installation would not be possible in some other form, say an interactive CD-ROM

The fellowship money will almost entirely be used for the physical material needed for the installation. Each job requires a large amount of specialized electronics, and a sturdy, custom built, physical structure. In addition each audio channel (two for each job (in / out)) will require amplification and a way to input that audio onto the computer. The computer itself will need to be powerful enough to process and generate information for each of sixteen jobs. What small amount of money left over for the physical objects in the installation would go to studio rent and a possible Artificial Intelligence consultant.

**PROJECT BUDGET
VANCE STEVENSON**

Computer: \$11,700.00

\$3000.00 – *Mac G4* computer

\$500.00 – cycling74 *max/msp jitter* license

\$1600.00 – two *motu 828* multi- input audio devices

\$1600.00 – eight 2-chanel amplifiers (\$200 each)

\$3000.00 – mounting hardware and connectors

\$2000.00 – multi channel relay

“Flock input/output Ball:” \$12,020.00

\$4000.0 – prototyping initial “flock ball”

\$1600.00 – Plastic modeling for ball

\$900.00 – *icube* sensor input device

\$1280.00 – 16 tilt sensors

\$1440.00 - sixteen full range car speakers (\$90.00 each)

\$1600.00 – sixteen mono microphones

\$400.00 – sixteen micro- fluorescent lights

\$800.00 – wires and connectors

Other materials: \$5,000.00

\$4000.00 – sound dampening material

\$1000.00 – room elements

Miscellaneous: \$6,280.00

\$3280– studio rental

\$3000 – outside AI consulting

total : \$35000

VANCE STEVENSON

EDUCATION:

BA in integrated arts May 2002

Bard College, Annandale-on-Hudson, NY

Concentrations in Computers, Music, and Video

GPA = 3.8

WORK EXPERIENCE:

*re'objectz dsk, record label

August 1999 – Present

- Mastered recordings for production

- Designed packaging

- Maintained and designed web sight

Consultant for Leah Gilliam, New Musem, NYC

March 2001- July 2002

- Programmed video processing environment

- Constructed audio triggering system

- Aided in installing finished hardware

Creative Music Alliance, Bard College

Group head, September 2001- May 2002

- Organized shows and events

- Coordinated publicity through print and web

- Arranged transportation and payment for performers

SPECIAL SKILLS:

Computers:

- MAX/MSP multimedia programming environment

- ProTools multi- track audio

- Final Cut Pro

- LightWave 3D

- Web design (HTML, GoLive, Flash, Dreamweaver)

- Programming in C++

Technology:

- extensive knowledge of audio production equipment

- experience with video editing / recording equipment

SELECTED EVENTS AND RELEASES:

Music:

Winter 2002- solo and group performance at North 6th (Brooklyn, NY)

Composed Music for "Riding on a Train With No Stops" Dance Piece
preformed at the Avery Art Center (Annandale-on-Hudson, NY)

Summer 2001- tour with Janec Shafer

2000-2002 Nemours solo performances of live improvised electronics at
the C.C.S gallery, Bard College, (Both in Annandale-on-Hudson, NY) and
Vassar College (Poughpsie, NY).

Winter 2000 – played the "no compression" festival of digital music
(Syracuse, NY)

"Comment / No Comment" tape on Slapart
"possible / least probable" 3" CD on *re'objectz dsk
"heist" full length CD on *re'objectz dsk

Installations:

Summer 2002- "Hum157" at Fisher Art Center (Annandale-on-Hudson,
NY)

Fall 2001- Untitled at Studio XXX (Annandale-on-Hudson, NY)

Summer 2000- "..with lights" at Lacoste school of the arts (Lacoste,
France)