

“MIND WAVES”
By Beth Miklavcic
Created for *InterPlay: Dancing on the Banks of Packet Creek*
March 31-April 2, 2006

The process of developing a work created and performed for the collaborative real-time video conferencing telematic genre.



Figure 1: Mixed image of Beth Miklavcic performing *Mind Waves* for *InterPlay: Dancing on the Banks of Packet Creek*

Abstract

This paper explores the process of developing a performance work for the distributed real-time surrealistic cinematic style in the collaborative telematic video genre. The steps for the development of a performance work inside of a larger collaborative work involving multiple sites are explained. This paper explores the symbolism of movement choices in the choreographic scene structure, use of sets, props, cameras and other technical equipment, as well as, the additional layer of using the Access Grid™ system to send video streams of the performance work over Internet 2 for a world-wide audience. “Mind Waves” was created for “InterPlay: Dancing on the Banks of Packet Creek” held March 31 through April 2, 2006. The InterPlay series, developed by Another Language Performing Arts Company¹, focuses on combining different art forms in innovative ways. This paper demonstrates the complexity of creating and using the Access Grid video conferencing tools and the interesting challenges artists face when participating in this genre.

1. Creative Concept

I began developing the concept of my performance work for the 2006 *InterPlay: Dancing on the Banks of Packet Creek* in September of 2005. My approach, when the opportunity to create a new work is presented, is to use the experience as a form of self-education and growth. During the development process I work on creating a piece that contains personal explorations, but I concentrate on creating an expression that is abstracted enough for the performance piece to be a universal statement. In this way, my hope is for the viewer to find a commonality in elements of the work. For the 2006 *InterPlay* project I decided to work with the concept of visual spirit.

I started by breaking down the words of the title; *dancing* – my background, I have been dancing since the age of four and for me dancing is my spiritual life force; *banks* – the representation of an edge, the place where elements meet and transitions exist, places of magic; *packet* – packets are enclosed matter, or information that exists with a boundary around it; *creek* – water, flow, force, life, sensation, reflection, an element that must be dealt with respect.

2. Development and Research: Finding Correlations

Salt Lake City and all of the surrounding areas were at one time an immense inland sea. The Great Salt Lake and Utah Lake, which are now separated, were once connected into one great body of water. As evaporation and water management have occurred, the people living in Salt Lake City and the surrounding areas at the present time have made their homes on a dry seabed.



Figure 2: The Spiral Jetty at Rozel Point created by Robert Smithson in 1970

2.1 The Spiral Jetty Northwest Great Salt Lake, Utah

It was an opportune time for inspiration to investigate the Spiral Jetty, an earthwork created by Robert Smithson in 1970. The Spiral Jetty projects into the remote shallow of Rozel Point on the northeast shore of the Great Salt Lake in Utah. It was constructed in the shape of a 1,500-foot-long coil or fiddlehead. The drive from Salt Lake City took an hour and a half north to Promontory Point, the historical monument representing where the Union and Pacific Railroads met in 1869. The trip continued northwest another hour on a dirt road with a lot of ruts and boulders. The last half-mile was walked and finally the Spiral Jetty could be seen from the edge of the cliff.

The first overwhelming response when I viewed the Spiral Jetty was an immense awareness of the sheer monumental task of Robert Smithson's vision. The materials that make up the Spiral Jetty consist of 6,650 tons of black basalt rocks and earth. The idea of building anything out there in this desolate area is phenomenal. In 1970 the Lake was experiencing a similar drought to what we have been enduring for the past five years. A striking element was the black basalt boulders enveloped in glistening white salt crystals looking as if they were frosted in snowflakes just after a storm.

That day I spent inside the Spiral Jetty played havoc with my perceptions and forced me to take the time to really see and feel each moment of this impacted habitat. It was a surreal experience of illusional materials, as the heat, light and other earth elements converged into my psyche. I walked the Spiral in the quiet 90-degree heat of October surrounded by the beautiful glassy water, colored pink from the carcasses of dying brine shrimp. The landscape struck me with its pallet of pink, white, black and blue. The colors, smells and heat were a sensory experience that has stayed with me.

I documented the trek with a Pentax Optio 550 digital camera and was able to take some interesting images by changing my perspective, lying on my back looking up or crouching in the salt.



Figure 3: The Southwest Shore of the Great Salt Lake, Utah

2.2 Southwest Great Salt Lake, Utah

Another opportunity to experience the Great Salt Lake arose when we were to take a lake tour as an incentive offered by a local radio station. There was a storm the morning of the event which was over by the time we got out to the marina located on the southwest side of the lake, but the waves were too choppy to go out on the water.

We decided to walk out to the water's edge, because of the drought, the lakebed extended far into the shoreline creating enormous beaches. The air was crystal clear with incredibly dramatic clouds floating and moving in the sky. Everything was motional, the beach sand was sculpted into many interesting patterns and there were small creeks and streams cutting patterns into the sand. The designs in the sand and the light reflecting off the water were intriguing elements. There was a place where bubbles were sitting on the shore like alien beings and they looked very similar to the salt covered boulders at the Spiral Jetty. There were many visual correlations between the two distinct places of the lake. This greatly inspired me to begin building my piece for the upcoming *InterPlay: Dancing on the Banks of Packet Creek*

2.3 Zen Garden

While processing the photographs of the Spiral Jetty and The Great Salt Lake, I began to visualize images of Zen Gardens. Looking at the Spiral Jetty photographs I saw a very large Zen Garden covered in salt instead of sand. As dry representations of water Zen Gardens are designed as a metaphorical place to take off from and a place to land. The natural elements of rocks, gravel, sand, and the designs of nature coincide.

Two books served as inspiration for my Zen Garden research, *Zen Mind, Beginner's Mind* by Shunryu Suzuki² and *Zen Rock Gardening* by Abd al-Hayy Moore³. Mr. Moore's book was full of many visual and conceptual correlations, "*Through Zen philosophy we can experience the large in the small. And in a grain of sand, we may glimpse the meaning of the world.*"

A story by Shunryu Suzuki really tied things together for me. He traveled to Yosemite and for the first time witnessed Yosemite Falls. His observations was, "*That the river at the top of the falls moved together as one entity, but as the water went over the top of the falls it separated into tiny water droplets falling in slow motion, each droplet having its own journey, then when the droplets reached the bottom of the falls they reconnected and rejoined together into one river entity again.*"

He equated our human lives to this process. That, before we are born, we are all a part of the same energy and then, as we are born, we become separate beings. The living of our lives is like the slow decent of the water droplets. When we pass on, we rejoin the river, becoming a part of the energy stream again.

The interesting parallel to the waterfall story is that the sending of information over the Internet is a similar process. We start with a piece of information, such as an e-mail. When we send that e-mail out over the Internet it is broken up into pieces, little packets of information, and when those pieces of information reach their destination, they are

reassembled into one readable form again. The waterfall story is just one example of many places in my research, which confirmed that building a Zen Garden contained the correlating concepts I wanted to pursue for *InterPlay: Dancing on the Banks of Packet Creek*

2.4 Concept Correlations

It is the job of the participating creative artist in the *InterPlay* performance to discover parallel concepts between the individual work and the *InterPlay* collaboration as a whole. This helps tie together the artist's creation to the larger collaboration of the *InterPlay*, in this case *Dancing on the Banks of Packet Creek*. Finding this type of interrelated material is what gives the artist's work meaning as an *InterPlay* participant. These performances are not an art free-for-all but carefully thought out high concept pieces displayed in a surrealistic manner using the Access Grid™ video conferencing tool.

The 2006 InterPlay: Dancing on the Banks of Packet Creek focused conceptually on the tenuous devotion that we have towards the inundating wave of digital information and non-experiential knowledge. Packet Creek depicts the Internet with its flow of disassembled pieces of data that course throughout the world like schools of spawning salmon. Dancing on the Banks is our ritualistic gyrations that we express as we create, disseminate, search, acquire and believe in this electronic epistemological knowledge.

–Jimmy Miklavcic–

3. Creation: Designing for Limited Space

The initial problem I had to address was; how do I take the large inspirations stated above and create something for an indoor space? I thought the best approach was to work with perspective and scale. My performance space, room 294, in the Intermountain Networking and Scientific Computation Center, was a 600 square foot Visualization Lab located on the University of Utah campus.

3.1 Elements

Mind Waves is a work inspired by elements of design and texture incorporating natural objects such as sand, rocks, salt, seashells and herbs. Then moving into the man-made world using items such as beads, necklaces, a fisherman statue, a teapot, a porcelain bird, an origami crane, colored drink mix, and glitter. Each item I brought into the garden had a story behind it and meant something to me. For instance, my daughter, Hanelle, when she was eight years old made the origami crane. I remember the day she gave it to me. She is now attending college, beginning her own life journey. It was one of the last items I put into the Zen Garden, symbolizing flight and change.



Figure 4: Beth Miklavcic Adding Origami Crane to Zen Garden March 31, 2006



Figure 5: Kate Bradford (foreground) Stringing the Room on April 1, 2006 Performance

3.2 Structure with Second Performer

I decided to incorporate another performer in *Mind Waves*. It needed the presence of an eight year-old girl. She served as the physical representation of the Internet, and to depict that physical presence, she strung the room with white yarn for thirty minutes. Kate Bradford began sitting and knitting on a chair in a pile of yarn, on stage right. Then she moved behind a projection screen still knitting and became a silhouette. She walked very slowly back and forth as the shadow of an idea. She appeared from behind the screen and initiated her idea by moving into physical space. The yarn she used to string the room represented the optical fiber cable it took to construct the Internet. The piece opened simply but after a half hour of stringing the room, back and forth, we became entangled to the point where it was difficult to move. We had the choice to continue dealing with the complicated mess or to walk away and start something new. We chose to walk away becoming silhouettes of ourselves, shadows of the past, traveling toward another idea.

4. Digital Media Considerations

4.1 Designing Point-of-Views

Creating a work that is designed both for the camera and to be performed live requires that the artist design a work from a multi-leveled, multi-perspective point of view. Things to consider when developing a piece for an *InterPlay* are; how is the live performance going to be viewed, what is going to be seen through the camera lens, what gets sacrificed, what gets enhanced, where are the moment-to-moment places I want to take the audience, will the audience take the journey with me?

4.2 Cameras

The technical design of my piece consisted of creating three point-of-views giving the audience different vantage points as *Mind Waves* was performed. The first thing to establish was a wide shot. I set that up in the middle of the room, using a Cannon XL1 mini DV video camera. The second POV was an overhead shot of the garden. For this we hung a Logitech web camera above the garden. The web camera is not designed for this kind of use, the focusing ability of the camera was limited and the color and contrast of the signal was washed out. The Logitech web camera is commonly used during video

conferencing meetings as you sit relatively still in front of your monitor. For the purpose of creating a second POV, having this overhead shot enabled the audience to see the construction of the elements Zen Garden. Acquiring appropriate equipment for our purposes is an on going process, and at times we have to push the use of the current equipment to make the point that additional equipment is needed.

The Cannon XL1 wide shot framed the background screen and the Zen Garden in such a way that an illusion of a really large performance space was created. This illusion was wonderful, but caused a problem for the choice of a third POV. A camera operator moving around in the space would have destroyed the illusion of the wide shot. I had to try to find a unique solution for my third POV, which would show the details of the Zen Garden as it was being built.



Figure 6: View of Camera Placement; Wide Shot-Cannon XL1, Close Ups-Panasonic PVGS50D, and Overhead-Logitech Web Camera

The original plan involved using a mini-wireless spy camera charged by a 9-volt battery. This enabled me to move around the space and share my POV. Unfortunately, from the first day, the camera proved problematic. The RGB signal did not work well with the Access Grid system in the Visualization Lab, which was running on a Linux operating system. The Cannon XL1 and the Logitech s-video signals worked well within the Access Grid system, but as soon as we attached the spy camera to the system, we ran into a host of problems. The video signal was very weak, with bad reception, and would blank out completely from time to time. This interrupted signal caused the Linux system to crash. We consumed a lot of valuable time trying to work out the problems, and finally on dress rehearsal, the camera burnt out completely.

Where to attach the spy camera was an additional problem. I didn't want to wear a headband, but I did want the audience to see my point-of-view. I chose to attach it to the left side of my glasses as close to my eyes as possible. This made the process of working with the camera difficult. I couldn't use the video monitor as a reference. As soon as I changed my focus to check the shot in the monitor all I saw was the view from my new head position. Having the camera on the left caused me to move in very strange ways to try to get a shot of the garden. This was intriguing, since I was moving so strangely, but it became distracting to the piece. Often I wasn't even shooting what I thought, and at times I was just shooting the floor, or a blank wall. For the spy camera to work, I really needed it to be eye level attached to the center of my glasses. Attaching the camera to the center of my glasses would have looked too strange, and the weight of the camera would have made my glasses constantly slip off my creating an unintentional distraction.

On dress rehearsal night with all other options exhausted, we made the decision to use a Panasonic Mini-DV Camcorder PVGS50D for the third POV. We set it on a tripod outside of the wide shot frame. Wayne Bradford who was manning the Access Grid system in the Visualization Lab during the performance became a multi-tasker and also served as camera operator. He shot close-ups of the garden and Kate Bradford stringing the room.

4.3 Visualization Cluster

The Visualization Cluster is located in the Visualization Lab on the second floor of the INSCC Building room 294. It is made up of 18 Sanyo Xtra X Pro projectors to achieve a resolution of 3072 x 2304 pixels with 2500 lumens. One projector by itself has a resolution of 1024 x 768 pixels. Multiple projectors are needed to achieve the larger resolution. The projectors are aligned on an 8' x 10' Stewart neutral density rear projection screen. The passive 3D visualization cluster uses two groups of 9 projectors. Each group of 9 is slightly off set so that when a viewer wears special polarized glasses a 3D image is produced.

4.4 Image Preparation for the Visualization Cluster

The main Visualization control system in the Visualization Lab runs on a Linux operating system. Creating a slide show in Linux is more complicated than in Windows or Macintosh operating systems. I assembled the JPEG slide show on my Apple G-4 system and then Sam Liston-Visualization Specialist in the Visualization Group at the Center for High Performance Computing formatted the slide show using the program *npb*, which stands for National Center for Scientific Application (NCSA) Pixel Blaster. Most programs that run on Macintosh and Windows operating systems recognize number ordering with leading zeros, 001, 002, 003... but in this case, the Linux based program Pixel Blaster, did not recognize the leading zero.

I spent a lot of time organizing the sequence so that the first 120 images contained no processing. As the image sequence repeated, subtle filters were added. Then the images became more saturated, finally to where the original image was barely recognizable. To display the slide show sequence I designed, the image numbers had to be changed to 1001, 1002, 1003.... Luckily instead of having to manually renumber 240 images, Sam

wrote a script that renumbered the images in just a few minutes. The images displayed for 8 seconds each to last the 30-minute duration of the *InterPlay: Dancing on the Banks of Packet Creek* performance.



Figure 7: Visualization Cluster Projectors and System

4.5 Visualization Cluster Application for *Mind Waves*

The Visualization Cluster is designed for projecting 3D images this involves using eighteen projectors. The images I took of the Spiral Jetty and the Great Salt Lake were displayed using nine projectors creating a high quality 2D image on the rear projection screen. On camera, the projections created a great illusion that made the lab space seem very large. I looked small standing in front of the images, and at times it seemed as if Kate and I were actually standing on the beach, or near the rocks. I didn't anticipate this effect until I viewed some of the video images in the monitor. In addition, I decided to incorporate the screen by having Kate walk in the projection room in between the projectors and the screen at the beginning of our performance, and later Kate and I used the same effect at the end. The resulting silhouettes at the beginning and the end of the performance enhanced the conceptual structure of *Mind Waves*.

4.6 Designing A Performance Space for Camera and Live Audience

During the *InterPlay* performance we encouraged our attending audience to walk around the INSCC building to view the local performances as if they were in a living art gallery. Designing a space for camera and live audience poses some difficulties. There are things that must be considered for the live audience component. We made available an unobstructed view of the performers, by providing an area where the audience could sit or stand. We included speakers, and monitors in each performance space so that the

audience could view some additional Access Grid streams as they walked through the building. They had the opportunity to simultaneously see the camera point-of-view juxtaposed to the live performance. For *Packet Creek* the performance spaces consisted of the front lobby, a stairwell - that could be viewed from the first floor looking up or the second floor looking down, and the Visualization Lab on the second floor.

The performers energy comes up to a different level with a live audience present. This additional component creates increased work when setting up the performance spaces. For instance, the Visualization Lab is a room designed for scientific applications, not performances. As a result, Jimmy and I spent a day making the lab presentable. We set up chairs in an oval behind the Cannon XL1 camera, taped down cords, and set up speakers so the audience could hear the music and made it possible to see the Access Grid streams on a flat panel monitor. During the performance we had a volunteer at the door explaining to people not to cross in front of the camera and where to sit. The overall presentation of *Mind Waves* was stronger by having a clean professional performance space, and the live audience viewing the performance.

5. Set Design and Properties Multi-Site Coordination

The *InterPlays* are multi-site performances, for *Dancing on the Banks of Packet Creek* there were five participating sites throughout North America. The University of Alaska, Fairbanks and the Artic Region Supercomputing Center; Boston, University Massachusetts; The University of Maryland at College Park; Purdue University Envision Center for Data Perceptualization in West Lafayette, Indiana; and The University of Utah Center for High Performance Computing. Jimmy Miklavcic directed the *InterPlay* performance, coordinating all of the sites and designing the scene structures. I oversaw the Artistic Direction and local performers. As the creator of my own work, inside of the larger *InterPlay*, I looked for places where there could be some coordination between some of the sites. I considered *Mind Waves* to be a quartet between Boston and Utah. Boston cellist Junko Simons and performer Jacqueline Combs worked with me to create visual and musical connections between our sites.

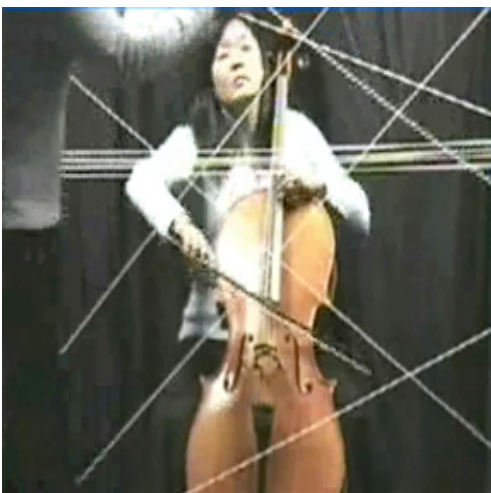


Figure 8: Junko Simons Performing in Boston



Figure 9: Beth Miklavcic Performing in Utah

5.1 Sets

The visual and conceptual set used for *Mind Waves* was the kinetic building of a string web, this symbolized the building of the World Wide Web and the entanglement of our complicated lives. The action of filling the room with string was very important to the conceptual structure of the *Mind Waves* statement. The Boston team was open to incorporating the web idea into their performance, which created a visual connection between Utah and Boston. This entailed designing a functional set without impacting the lab spaces in which we were both performing. A key factor in our set designs was determined by the restrictions that the scientific labs are not designed for performance and have multiple users throughout the scheduled rehearsal and performance time period.

Another problem that had to be addressed was how to have the strings, magically stay in place. Robert Putnam at Boston solved their problem by building a PVC pipe frame as a structure to anchor the string. A frame in the Utah lab would have had to be placed in front of the projection screen and that would have affected the illusion created in the wide shot. I came up with the idea of putting some hooks on a piece of wood and hanging those pieces on the wall. Jimmy modified the hook idea using nails instead. He designed the placement of the pieces on the walls in T shapes to give Kate a maximum amount of anchors for the strings. This gave her the ability, to create the illusion of the string filling the room. Jimmy painted the wood and nails white to match the wall, this blended in well for the project and was not too distracting for the other users of the Visualization Lab.

Jimmy and I tested stringing the room one Saturday before Kate came to rehearsal, and the strings stayed in place if they were wrapped a couple of times around the nail, otherwise the string would unravel and the web would fall down. As we rehearsed we discovered that the main issue was keeping the string taut. If the string was too loose the web just didn't look good. Additionally, we found if Kate started stringing too low at the beginning of the performance, she became too encumbered and couldn't easily move back and forth in the space for 30 minutes. We discovered that it worked better to start stringing at a higher level first and then work down to the lower levels toward the end of the piece.

5.2 Props

Whenever I make the choice to work with a lot of props in a piece I ask myself; "Why?" Over time, it becomes very cumbersome to rehearse. Setting up *Mind Waves* took an hour, with an additional hour to strike after each rehearsal. The use of props for this piece enabled me to be the creator of my own little world in a pile of sand. Each item I placed into the Zen Garden had a special meaning to me. The energy, experience or memory attached to each item, whether given as a gift, acquired during a trip, or formerly owned by a family member, gave motivation for the placement of each item in the garden.

I choreographed the order and designed the placement of each prop as a movement sequence. Some props were hidden while others were seen throughout the piece. Hidden underneath the table were the stones, the teapot and the fisherman statue. The sand and stones were the only traditional items placed into the garden. I incorporated an element of surprise by putting the fisherman; teapot and other non-traditional items in the same

hiding place as the stones and used the same kinetic motion to bring the items into the garden.

Other props and materials were placed on the sides of the table in colorful glasses, tins, and baskets. I felt like a sorceress with my potions and concoctions. The order for using the different items on the tabletop was designed so that my movements alternated in unpredictable patterns. This gave more variety in the choreographic structure of the work.



Figure 9: Beth Miklavcic adding water drops to drink mix powder simulating watercolor painting in the sand on March 31, 2006.

5.3 Lighting

There are four tracks of halogen lights in the Visualization Lab with four lights on each track. We examined the normal lighting set up on camera and determined it was not bright enough. Jimmy placed all of the halogen lights on the two tracks above the performance area. He focused these lights onto the garden and the side of the room where Kate sat knitting. With all of the lights focused toward the front of the room and the audience sitting in the darker area, the Visualization Lab was transformed into a performance space.

6. Performance Sequence: *InterPlay* Scene Structure*

There were a total of nine scenes conceived by Jimmy Miklavcic for *InterPlay: Dancing on the Banks of Packet Creek*. The scene structure was designed to emphasize different sites and create different moods as the piece progressed. Lasting for thirty minutes, the sequence was structured to emulate the dynamics of Maurice Ravels *Bolero*. For this paper, I will focus on the performance composition of my work *Mind Waves* inside of the larger *InterPlay* performance and I will examine the events inside of these nine scenes.

*See Figures 13-30 on pages 19-21.

6.1 Introduction

After Jimmy Miklavcic's audience welcome and introduction, the prologue began with a video of a Linux system booting up, graphics from the University of Alaska, Fairbanks, and a video of my poem. The poem was arranged in the same text format as a Linux boot sequence to invoke the sense of a beginning, the event waking up, so to speak. *Dancing on the Banks of Packet Creek* focused on the transference and exchange of data. No data is exchanged on the Internet unless the system is up and running. We wanted to create a visual introduction symbolic of the beginning of that data exchange. This is the standard format of my poem:

The Child Skips

The child skips the rock three times upon the surface of the lake saying, "look how far that went Dad!"

I wonder if this rock thinks as it is sinking, "I just spent a million years getting to the shore. Now I will have to start all over again."

Wedded to the liquid of the lake. Rolling with small waves and swells created by mountain storms. A million years later, the rock, a little smaller now, arrives on shore again.

A small child picks up the rock and...

The Linux system boot sequence text looked like this:

*The child skips the rock [OK]
Three times upon the surface [OK]
Of the lake saying, [OK]
"Look how far that went Dad!" [OK]
I wonder if this rock thinks [OK]
As it is sinking, [OK]
"I just spent a million years [OK]
getting to the shore." [OK]*

*Now I will have to start all over again." [OK]
Wedded to the liquid of the lake, [OK]
Rolling with small waves and [OK]
Swells created by mountain storms, [OK] A million years later, [OK]
The rock, [OK]
A little smaller now, [OK]
Arrives on shore again. [OK]
A small child picks up the rock and...*

Each line of the poem was representative of a command line in the Linux boot sequence and the [OK] indicated that whatever program just ran was executed successfully.

6.2 Scene One: *Future Primitive*

The first scene in the *InterPlay* performance opened with a rhythmic conversation between drummers in Purdue and Alaska. During this scene the slide show of 240 images began, Kate Bradford sat on a stool and began to spin her web by knitting in a pile of yarn. I stayed hidden behind the table.

6.3 Scene Two: *Mind Waves I*

As the drum conversation waned, the next scene was *Mind Waves I*. Junko Simons began to play her improvisational cello composition I raised my head and looked into the blank slate of sand inside the black Zen Garden frame. Then I lowered my head behind the table, and repeated this disappearing and reappearing several times. The movements expanded to reaching up, putting my hands into the bowl of sand and then spreading the sand into the garden, until the momentum took me to standing. I lifted the bowl over my head and slowly turned. Then gently poured the sand into the garden over my fingers, feeling the texture of the material of my palette.

Simultaneously, Kate took the duration of this scene to walk between the projectors and the projection screen, becoming a silhouette. She knitted as she walked, weaving her idea of the web, developing her idea, though not yet fully realized.

6.4 Scene Three: *Less is More or Less, Less*

Junko continued to play as the Alaskan Percussion Ensemble came in with a minimalistic composition. Additional sound textures were sent from the Envision Center for Data Perceptualization at Purdue. Jacqueline Combs, the string performer in Boston began to weave her Internet web.

After walking back and forth in the projection room, Kate appeared through the door, and sat back on the stool. She put down her knitting, took up a ball of yarn and began to weave herself into a web on the wall. This was the representation of being consumed by an idea. The web on the wall symbolized that even though she was still attached to her idea it was now emerging into reality.

As Kate entwined herself into her web, I worked with two rakes and Tai Chi movements drawing designs in the sand. I placed five different types of stones in the garden. The shapes of the stones have meaning in Zen Philosophy. Rocks are classified in numerous ways, usually in categories of five. One category classifies them according to place of origin: Mountain rocks, valley rocks, river rocks, marine rocks and water stones. Another category classifies them according to basic shapes: Master rocks, upright and dignified, representing stability; pillar rocks, tall and tree-like; branch rocks, jagged and lateral, corresponding to the snapping zigzags of fire; base stone, resembling a calm lake or flat bodies of water, and root stones corresponding to the earth, but also resembling a windswept shore or rush of rapids.⁴

6.5 Scene Four: *Jigabyte*

This scene focused on the fiddle playing of Susie Hallinan in Alaska. When Kate heard the fiddle she took her idea into physical space. She untangled herself from the wall and with her ball of yarn walked across the room. At that moment she became the physical representation of the creation of the infrastructure the Internet, the running of the optical cable.

I brought out items that were no longer in the traditional vein of Zen Gardening. The first non-traditional item I added to the garden was a Japanese fisherman statue from my parents. I added seashells from my Grandfathers collection and seashells from my hometown of Aptos on the California Coast. Each item I brought to the garden had meaning for me, they represented some moment or someone in my life. The garden wasn't just a garden, but an abstract depiction of my life. All movement used to introduce these diverse elements was exaggerated in some form. I called upon my dance training using the concepts of time, shape, space and energy to work with motional dynamics. Kate continued to string the room, and we had moments of interaction. At times I would look at her, as if asking her what she was up too. At other times I would follow her or she would follow me.

6.6 Scene Five: *Mind Waves II*

Scene five emphasized a second improvisational composition by Junko Simons. The performance spaces in Boston and Utah were more entangled in their webs. For *Mind Waves II* I pulled strings of beads out of a tin box and placed them between objects in my Zen Garden. In Japan they string ropes with knots in them to mark off sacred ground. The bead strings were my representation of that idea.

It became more difficult to interact with my garden; the strings in the room would get in my way, inhibiting my movement. At times, instead of fighting with the string to get to the garden, I just hung a string of beads on the string in the room. The objects placed in the garden represented people, ideas and moments in my life, I equated the strings of beads that didn't make it to the garden as lost ideas, or missing memories. Additionally they represented how sometimes things get lost in the electronic void, such as emails that never arrive to their destination. The question is; "Where does that lost information go?"

6.7 Scene Six: *An Act of Balance*

I tossed single beads into the sand as my movements became faster and more percussive. At times, a bead would hit one of the rocks and bounce into the room, a bounced back email perhaps? Junko was now entwined in string, creating a great visual between the strings of her cello and the strings of the room that intersected with her cello extending into space. She looked as if she was in the middle of a large spider web.

6.8 Scene Seven: *Mind Waves III*

I poured sea salt into the garden, to reflect the images displayed behind me, many of them being salt covered boulders from the Spiral Jetty. I had also placed in the garden a large

salt crystal created from an evaporation pond in the Great Salt Lake. Then I began to work with color. I wanted to work with colored sand, but found it was less expensive to use colored drink mix, which looked exactly like sand. As I poured the color, clouds of dust arose, and I felt as if I was a magician with spells arising from my magic garden.

6.9 Scene Eight: *My Buffer Runneth Over*

Jimmy and I structured *InterPlay: Dancing on the Banks of Packet Creek* to follow a similar dynamic structure as the music composition *Bolero* by Maurice Ravel, by emulating the use of tension building dynamics and layers. The *InterPlay* performances offered by the five sites, Boston, Maryland, Illinois, Alaska, and Utah continued to build upon each other, gaining velocity, strength and volume. By scene eight, all of the musicians were playing together, my garden was filled with stuff, and visual offerings from other sites were cluttered as well.

Approximately half way through this scene, I gave Kate a cue by putting a drop of water on her head. This was her signal to pick up a second ball of yarn; this made her job more difficult as she continued to string the room. The room became cumbersome to work in, it was hard to move, and both of us were tangled up in the string, tangled up in web.

As scene eight came to a close we could no longer move in the room, continuing to try to build more clutter onto clutter was futile. After peering through the string world she created, Kate took my hand and led me away from the mess. I kept reaching back, not really wanting to let go of the garden world I had created. I was attached to the moments of my life even though it was all cluttered and no longer bore any resemblance to my original clean slate. Kate and I walked away because it was time to wipe the slate clean and see what new idea could emerge from the old.

6.10 Scene Nine: Crash and Reboot

Kate and I walked through the door and became silhouettes, shadows of the past. As we walked away, the display in the main auditorium simulated a system crash, wiping out all the old information, and as the *InterPlay* concluded, a reboot was in process, with a clean slate, the emergence of a new possibility.

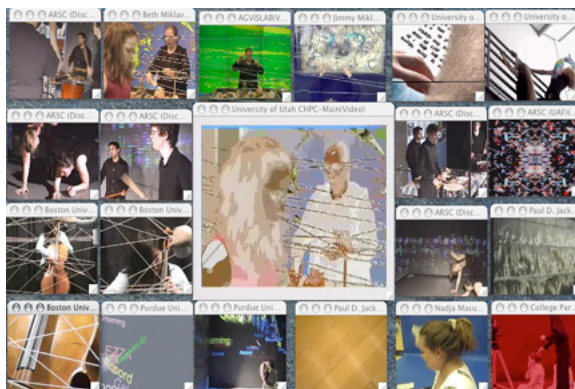


Figure 10: Multi-Site Display from *InterPlay: Dancing on the Banks of Packet Creek*
April 2, 2006

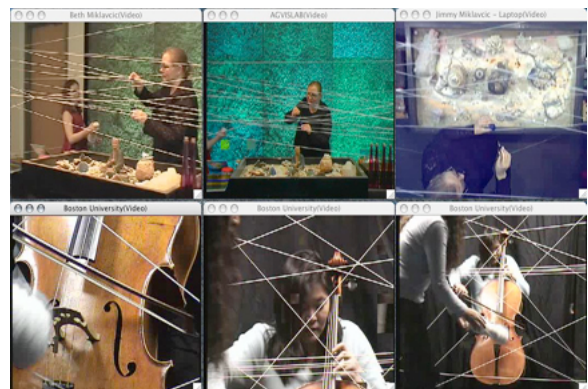


Figure 11: Multiple Camera Angles from Utah (First Row) Boston (Second Row) Pictured: Kate Bradford, Beth Miklavcic, Junko Simons, Jacqueline Combs

7. *InterPlay* Performance Site Interaction

The overall theme among all sites focused on the binding concept of the overwhelming and inundating amount of information we have available to us on a daily basis. All five sites that participated in the performance, at various times in the piece, intersected on the main display. The main mix video stream, created live by Jimmy Miklavcic, during the performance and placed in the center of the display, textured the whole piece. It tied the variety of offerings together by combining different moments from each of the sites.

In *Mind Waves* the focus of site interaction, was between Boston and Utah. We created the visual effect of both sites tied together by the symbolic strings. This visual effect connected both sites figuratively and literally. It was as if the strings extended from one place across the country into the next place. I found harmony between the musical texture of Junko's cello and the quiet approach of creating the Zen Garden. I consider *Mind Waves* a quartet between the four performers at the two sites.

The display on the scrim, designed by Sam Liston, was a very important element of the performance. The placement of the windows on the scrim defined the visual and kinetic presentation of the overall piece. Each scene was designed to evoke a different quality. As mentioned earlier, the structure of *InterPlay: Dancing on the Banks of Packet Creek* was designed to emulate the musical structure of *Bolero*. We started out slowly, using repetition, building and layering performance events. This created tension and dynamics until, at the peak of the repetition, at the climax; all of it ended abruptly, simulating a system crash.

That was the end of the piece, information lost, and almost immediately the system rebooted. Showing that ideas are never gone forever. The power of creativity will always be with us, as long as we are able to pursue ideas and to think for ourselves.



Figure 12: House Screen Display of *InterPlay: Dancing on the Banks of Packet Creek*
April 2, 2006

8. Acknowledgments

Thanks to all of the participants of *InterPlay: Dancing on the Banks of Packet Creek* across the country and Canada. Thanks to Kate, Wayne and the Bradford family for their support and interest in this project. Thanks to Junko Simons for her incredible skill and her open creative mind. Robert Putnam in Boston put many extra hours into this project than he originally anticipated, and participated with positive energy and professionalism. Thanks to the hard work and enthusiasm from all of the artists and creative engineers at the participating sites throughout North America - The University of Alaska, Fairbanks and the Artic Region Supercomputing Center; Boston University, Massachusetts; The University of Maryland at College Park; Purdue University Envision Center for Data Perceptualization in West Lafayette, Indiana; and The University of Utah. A special thank you to Hanelle Miklavcic who is always my inspiration. Jimmy Miklavcic is the reason why I am able to bring my ideas into reality. He is a true creative partner in this journey. Thanks to Julio Facelli, Director of the Center for High Performance Computing, and Joe Breen Assistant Director of Networking. Acknowledgments to the sponsors of Another Language Performing Arts Company – the Salt Lake County Zoo, Arts and Parks Program, the Salt Lake City Arts Council, the Utah Arts Council, the National Endowment for the Arts, KRCL 90.9 FM, and the contributing members of Another Language. For further information contact Beth Miklavcic at beth.miklavcic@utah.edu or go to www.anotherlanguage.org.

Scene Images:

Scene 1: Future Primitive



Figure 13: Kate Bradford spinning her web.



Figure 14: Wide shot of the Zen Garden and projection.

Scene 2: Mind Waves I



Figure 15: Kate Bradford walking into projection room.



Figure 16: Beth Miklavcic pouring sand and Kate Bradford's silhouette.

Scene 3: Less is More or Less, Less



Figure 17: Kate Bradford weaving herself to the wall.



Figure 18: Stones in the Zen Garden.

Scene 4: *Jigabyte*



Figure 19: Kate Bradford beginning to string the room.



Figure 20: Non-Traditional items placed in the garden.

Scene 5: *Mind Waves II*



Figure 21: Duet movement correlation.



Figure 22: String of beads symbolizing sacred ground.

Scene 6: *An Act of Balance*



Figure 23: Junko Simons in web.



Figure 24: Beads dropping into Zen Garden.

Scene 7: *Mind Waves III*



Figure 25: Drink mix mist .



Figure 26: Beth Miklavcic pouring drink mix from bottles.

Scene 8: *My Buffer Runneth Over*



Figure 27: Kate Bradford's water drop cue.



Figure 28: Beth Miklavcic tangled in web.

Scene 9: *Crash & Reboot*



Figure 29: Kate Bradford and Beth Miklavcic tangled in web.



Figure 30: Silhouettes leaving at end of the performance.

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