

## InterPlay: Stepping Out of the Box

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### Intro

I'd like to explore with you what it means to *step out of the box*, to think beyond the normal realms of thought and to look at objects, situations, and experiences in novel ways. Maybe we can investigate what being creative really means to us in our everyday lives. And in this area of healthcare education, how can you apply the same creative process that brings about art in its various forms to educating students to become imaginative, innovative and original medical practitioners and researchers.

Through examples of the projects that Beth Miklavcic, the Artistic Director of Another Language, and I have created, I hope that you will begin to see the creative processes unfold and discover for yourselves, how to employ these strategies into your own work and teachings.

### Creativity

To proceed, we must first understand what it is to be *creative*. There are two definitions of the word *create* that I think applies to our idea of creativity as artists. First, to create is *to bring into existence* and second, to create is *to produce through imaginative skill*. I had always thought the former definition was what artists did, bring into existence, but in my later years I now believe more in the latter definition, to produce through imaginative skill. First of all, nothing can be brought into existence unless it or all its components already exist. It goes against the primary laws of physics. You can't create something from nothing. It just doesn't happen. So as artists, we are left simply with the ability to produce with imaginative skill.

What this really means is that since everything already exists, then, as creative people, we have to look at objects, situations and experiences and imagine them to be something else, to use our imaginative skill to *repurpose* them. For example, let's look at the early processes of painting, for there are two of them, the physical process and the inspirational or visionary process.

In the physical process, the artist, seeing some cotton fabric, imagines this as a surface to imprint his or her idea. He or she looks at few sticks of wood and imagines them to be a rectangular frame and assembles them as such and with some skill stretches the cotton material around the frame until it is taut. The artist's brushes are repurposed animal hair attached to a few more wooden sticks and the paints are extracted from plants or the earth, infused with linseed oil, wax or egg whites. Now he or she has the fundamental tools to work through the visionary process. The artist looks at an object, scene, situation or experience and imagines that it should be recorded onto the canvas, a repurposing of

what the artist sees or experiences into an image that hopefully expresses that vision or experience.

We can say that the artist steps out of the box to undergo and express a different way of experiencing his or her common life. This is what we all must do in order to be able to look back at our enclosures from the outside and through our imaginative skill, produce a new way of seeing, learning, or expressing.

### **Application of Creativity**

Somewhere around 1995 or 1996, through my work as a systems administrator in the Department of Computer Science, I was responsible for supporting a videoconference system for a distributed group of researchers in the area of computer graphics. It was a voice-activated system where whomever spoke; the image of that person became visible. There were five sites involved and I always felt that if you were going to have a meeting with five people, you should see five people. So in 1998, when I saw this new videoconference technology called Access Grid, I was excited. The Access Grid is an IP based videoconference technology developed by researchers at Argonne National Labs to help distributed research groups that utilized the computational grid, to collaborate without necessarily leaving their respective institutions. It was not only possible to see and speak with all participating sites, but each site could send as many video streams as they wanted. I started imagining, with some skill, all kinds of new ways to use this and I wondered how one could use this technology in an artistic performance situation.

This brings us to what Beth Miklavcic and I have been working on for the past five years. Together we are exploring what we call *InterPlay*; a multi-site telematic performance that is also a live distributed cinematic event. Looking at videoconference technology in a completely different way, we are able to fuse this technology into an artistic process of interdisciplinary performance art.

### **InterPlay: Intransitive Senses**

The first, *InterPlay: Intransitive Sense* (2003), was a prototype project where, although all the performers were in the same building, they were in separate rooms. This gave us the opportunity to understand what kind of communications structure we would need in order to stage an actual network distributed project. Four independent events occurred simultaneously in four areas of the building with artists Beth Miklavcic and Hanelle Miklavcic performing *Tea Party* (a performance and installation work), Alex Caldiero performing his poems, Harold Carr on acoustic bass and Flavia Cervino-Wood on violin. A videographer worked with the artists in each of the performance areas. The artists had autonomous control of the content in their performance and as the director I considered each event as a *found object*.

I configured several Radio Shack four port video switchers and four inexpensive video mixers in such a way that I was able to feed any two cameras through any of the four video switchers for processing and mixing into four simultaneous live video streams.

These four independently processed and mixed streams were then transmitted to the display screen in our auditorium and onto Internet 2.

### **InterPlay: Hallucinations**

*InterPlay: Hallucinations* (2004) was our second project and the first to incorporate distributed sites, the University of Utah, the University of Alaska, Fairbanks and the University of Maryland, College Park. Unlike the first InterPlay where the artists maintained total autonomy, we asserted a suggested concept for each artist to interpret through their own artistic discipline. In *Hallucinations* we explored the collective social brainwashing that is imposed on us by others or the individual brainwashing that we impose on ourselves.

Beth Miklavcic took on the challenge of creating a theatrical work that exposed the stereotypes that are developed through our first impressions of others. In *The Surface of Things*, she experimented with the audience's point of view by giving the two main characters video cameras. As the characters interacted with each other, the audience was able to see the narrow point of view that each character had of the other.

In College Park, Maryland, Nadja Masura, through performance and video processing, examined the political and commercial manipulation that is forced upon us throughout our daily lives. Choreographer and dancer Brian Buck expressed, through movement, the conundrum of the Mobius Loop (an object with only one side). In Fairbanks, Alaska percussionist and composer Scott Deal and visual artist and digital animator Miho Aoki each abstractly interpreted the hallucination concept to fit their artistic discipline.

Alaska transmitted three video streams, Maryland sent two and Utah generated six. The video processing and mixing in this work was very similar to the previous InterPlay but with only three digitally mixed video streams transmitted from Utah to Alaska and Maryland through Internet 2.

### **InterPlay: Loose Minds in a Box**

*InterPlay: Loose Minds in a Box* (2005) took us to an entirely new level in the InterPlay form. This project incorporated six institutions, the University of Utah, University of Alaska, Fairbanks, University of Maryland, University of Montana, Missoula, University of Illinois, Chicago and Purdue University. In this InterPlay, we incorporate additional technologies such as motion capture, remote MIDI control and interactive virtual reality. At Purdue, Timothy J. (TJ) Rogers setup a motion capture space in which Carol Cunningham directed the movements of dancer Joe Hayes. TJ programmed the system in such a way that the X and Y data that Joe's wrist movements generated, was converted to MIDI control data. This data was transmitted over the network to the other sites, particularly to Charles Nichols at the University of Montana.

Charles received the MIDI data and utilized it to process separate readings of *The Blue Box*, a haiku written by Nadja Masura in Maryland by five performers of the group.

When Joe's wrists were close together he could select a small portion of the text to loop. As he separated his wrists, along the X-axis, he could select a larger portion of the text. As he moved his wrists in the Y direction, he could select any of the five recordings, any combination or all five.

< show the blue box >

Also from Purdue, Dioselin Gonzalez created an interactive virtual reality space design by Miho Aoki in Alaska where audience members at some of the sites across the country could manipulate avatars in a projected 3D virtual world in Purdue.

Beth Miklavcic explored the integration of spoken text from several sites in the opening moments of the piece. She also developed a myriad of characters that appeared throughout the performance. Through each scene a new character rose out of the costume that Beth wore, emphasizing the adage, clothes defines the person.

There were over fifty artists and technologists involved in this project and I have only mentioned a few. The work that was committed to *InterPlay: Loose Minds in a Box* brought the work national recognition as it was selected as a National Semi-finalist for the 2006 Peoria Prize for Creativity.

### **InterPlay: Dancing on the Banks of Packet Creek**

*InterPlay: Dancing on the Banks of Packet Creek* (2006) again moved us into another level of creativity. In this work, we investigated the tenuous devotion that we have towards the inundating wave of digital information and non-experiential knowledge, or more concisely, the idea of information overload. Collaborators in this project were essentially the same except Boston University came aboard while University of Illinois, Chicago and University of Montana were unable to participate.

Beth Miklavcic created a new work called *Mind Waves*; based on the concept of something in stillness that is moved to action, and then that action has a cause and effect. The piece's center focus was a Zen Garden filled with sand, Gardner (Beth Miklavcic) and a Little Girl (Kate Bradford). The Little Girl symbolized the birth of an idea; in this case, she knitted a Web, the World Wide Web. Beth defines *Mind Waves* as an artistic reflection of the commodity Internet that started with a few users, but is now full of many things, some good and some bad depending on your point-of-view. The issues of network neutrality, of freedom of usage, and of censorship all come into play as the Internet, the World Wide Web, becomes filled with too much stuff and people become entangled in the labyrinth of the Net". For *Mind Waves*, Beth used for the first time, a high-resolution visualization cluster to project processed images behind her.

In this project we pursued the idea of choreographing the kinetics of the main display. In the center display we incorporated a separate system with an interactive 3D desktop. Sam Liston, the display operator was able to map video onto a 3D cube while adding effects

like sticky corners on the windows, adding rain drops to the surface or spinning the cube as either an exterior cube or an interior cube.

Also in Utah we had dancers Joni Uri-Wilson and Alyssa Wilson in the stairwells of our building, and artist Adam Bateman, in the lobby, creating a visual text work with black pasta letters. Music was performed in Fairbanks, Boston and West Lafayette. Computer animated graphics were transmitted from Fairbanks and West Lafayette with additional performances from College Park, MD.

### **InterPlay: Nel Tempo di Sogno**

*InterPlay: Nel Tempo di Sogno* (2007) was an entirely different InterPlay project. *Nel Tempo di Sogno* [In the Dream Time] is a work of unprecedented scale. This work was constructed around ten individual characters of various time periods that were distributed among four of six sites. Actors from Utah, Illinois, Alaska and Maryland portrayed each character. Beth Miklavcic conceived the characters and let the actors create their own monologues, each revealing how time has affected their characters' lives

In order to keep the momentum of the kinetic display, Miho Aoki, Peng Chou and Siyuan Wang created graphics that were rendered as flash movies. We place the flash player window behind the Access Grid video windows.

Alaska's Scott Deal (percussion), David Krnaveck (Digital Audio Virtual Environment), Utah's Marko Johnson (Didgeridoo) and Boston's Junko Simons (Cello) performed music. David Krnaveck performed a kind of virtual theremin. With light wands in each hand, he manipulated projected geometric images that generated sounds.

I would like to play you a couple of sections from this performance.

<5 – 10 minutes of Nel tempo>

### **Apply to healthcare education.**

Now, I'm sure you are all thinking, how does this apply to healthcare education? I'm hoping that you can see how we have been looking at certain technologies in different ways than what they were originally created. For example, motion capture technology was created partly for the animation industry. In our case we expanded its use it to remotely control activities in cities more than a thousand miles away.

If you have taken the tour of the Clinical Skills lab, you saw a system that was basically a modified combination of security system and videoconference technology. Here the components have been repurposed in such a way that you can test healthcare students very efficiently.

One of the biggest movements in both the arts and education is the repurposing of the *game engine*. Performing artists, interactive media artists and artists in cinema,

architecture and many other disciplines are utilizing the game engine for their particular expression. Educators have now begun to use this technology to train students to work in teams, placing them in virtually simulated situations in order to solve problems. In fact, the very next speaker, Parvati Dev of Stanford University is going to give you a detailed look at how to use the game engine to develop tools for healthcare education.

## **Conclusion**

I hope that you have come to understand that creativity isn't a form of magic. It is a process that we all have the capacity of utilizing and with a small step outside of your normal way of thinking; you can grasp this fundamental concept. You are all able to produce with imaginative skill; you are all be able to create new tools and processes that will help make your students become more creative and more imaginative practitioners and researchers.

## **Thank You**

I'd like to thank Suzanne Stensas for giving me the opportunity to speak to this morning. I'd like to thank the staff for helping me get started here this morning. I also would like to thank Beth Miklavcic, without her hard work and support these projects would not have seen the light of day.