Journey of Discovery: The Night Journey Project as "Video/Game Art"

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Figure 1: "Whirlwind" created by using an additive filter effect in *The Night Journey*

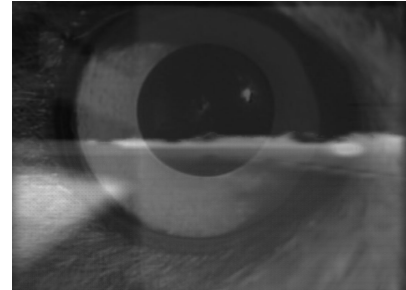Figure 2: Interlacing and additive filter applied to forest environment in *The Night Journey*.

Figure 3: Video integration into 3D environment in *The Night Journey*.

Abstract

This paper describes the development of a video/game art project being produced by media artist Bill Viola in collaboration with a team from the USC Game Innovation Lab, which uses a combination of both video and game technologies to explore the universal experience of an individual's journey towards enlightenment. Here, we discuss both the creative and technical approaches to achieving the project's goals of evoking in the player the sense of undertaking a spiritual journey.

Keywords: Game design, innovation, iterative process, prototyping, playtesting, emotion in games, post processing, 3D environments, game visuals.

1. Introduction

The Night Journey project is a game project conceived by Bill Viola, an internationally acclaimed artist and MacArthur fellow, which uses both video and video game technologies to explore the universal story of an individual's journey towards enlightenment. The game is being developed in collaboration with a team from the USC Game Innovation lab led by Tracy Fullerton and including Todd Furmanski, Kurosh ValaNejad, Kira Perov, Scott Fisher and Andreas Kratky.

The project team has spent the past year exploring narrative, visual and procedural themes related to the topic of enlightenment and the possibilities for the project allowed by the game medium. The overall objective has been to create a work

that stretches the boundaries of what games may be possible of communicating with its unique content and mechanics.

Visual inspiration for this project has been drawn from the prior works of Bill Viola, which afford reference for 3D objects, scenes and presences in the world; provide textures for the landscape and objects; and permeate the world itself, creating a bridge between the "real" and the "imagined," memory and experience.

Procedural inspiration is based in a set of deign goals that have arisen from a central question asked early in the design process: what is the "game mechanic" of enlightenment? How can we abstract and systemize such an intensely personal, yet archetypal experience?

The development of this game is still in progress; and the overall success of its design remains to be seen. Early playtesting results will be discussed below, which show the difficulty of designing a game that, like all of Bill Viola's prior work, requires that players bring to it a high degree of personal interpretation, as well as the willingness and skills necessary to play a modern video game.

However, as progress has been made, it has also become clear that the juncture of the game design process and the process of the individual artist provides an interesting area of research in and of itself, regardless of the final product. This paper will describe aspects of the Night Journey design process in order to point out possible intersections of games and art in terms of intent, execution, and experience.

2. Project Background and Design Goals

The Night Journey project was conceived by media artist Bill

Viola, whose work has been described as the "pursuit of enlightenment through attention to transcendent experience." [Judson 1995] Viola began working in video art in the early 1970s, when the medium was just emerging. While he was still attending art school at Syracuse University, he was showing his work in exhibitions with people like Nam June Paik, Bruce Naumann, Richard Serra, Peter Campus – all leading early video artists. Early on, Viola realized that the "other half" of the raw material of video was "the human perception system … the viewer, or the viewing experience – the other half of the system. It's the dynamic interaction between these two systems, not just the technology and language of video alone, that is the fundamental nature of the medium." [Bellour and Viola 1985]

This recognition of the viewer/participant is critical to Viola's work, which includes video, installations and, most recently, a visualization of the Wagner opera *Tristan und Isolde*. The Night Journey project sprung from the realization that computers and video games were part of a major historical shift in imagery. As early as 1985, Viola was already thinking ahead towards the level of today's computer graphics: "I see the technology moving us toward building objects from the inside out rather than from the outside in … soon images will be formed out of a system of logic, almost like a form of philosophy – a way of describing an object based on mathematical codes and principles rather than freezing its light waves in time." [Bellour and Viola 1985]

Viola began working to define the Night Journey with Kevin Teixeira of Intel in 1998. The specification written by Teixeira was a starting point for the USC Game Innovation Lab team, providing goals for interactivity, visual concepts and scenarios. One important idea described in this early specification was "explorable video," which became a touchstone for the team in creating the visual aesthetic for the game. [Teixeira and Viola 2002]

The current goals for the Night Journey project were developed in a series of creative meetings in which the team discussed both Bill Viola's inspiration for the piece in the illuminated manuscripts of historical mystics as well as the potentially innovative nature of the gameplay as it might relate to the Journey of Enlightenment. Several high-level goals emerged from these meetings which have guided the design process. These were:

1) The desire to evoke in the player's mind a sense of the archetypal journey of enlightenment through the "mechanics" of the experience – i.e. what the player is doing in the game.
2) The desire to create a world of "explorable video," integrating the work and sensibility of Viola's prior art into the game world.
3) The importance of creating an experience that would appeal to (and be accessible to) both art patrons who might play it in a gallery setting, and also game players, who might access it through another from of distribution.

The process of setting high-level player experience goals as part of an innovative game development process is an integral part of a playcentric design process, which co-author Fullerton has described elsewhere. [Fullerton et al. 2004] In general, the key difference in the playcentric approach and a traditional game design process is in the type of design goals which are set and the methodology for reaching those goals during the production. "Play-centric design is design and technology at the service of the player experience." [Fullerton et al. 2006] Throughout the design and development process, prototyping and playtesting are used to confirm the success, or make changes to, the system as designed, measuring actual player experience against the high-level goals. More will be said on this topic in the prototyping and playtesting sections below.

3. Game Structure

The Night Journey is a 3D first person game, and like most such games, is organized around a navigable landscape. Unlike most games, however, the Night Journey is not broken into a series of "levels," but is instead designed as a progressive "layering" of experiences over the course of play. While experienced as mysterious and obscure, as will be shown below, there actually is a simple underlying layout for The Night Journey landscape.

The player begins in the intersection of four key geographical spaces: forest, mountains, desert and sea, each with their own sense of "infinity" stretching out to the horizon. In addition to the four key geographic areas, there is also a vertical pole reaching to the heavens and falling through the landscape. These "6 degrees of freedom" (Figure 4) were sketched out by Bill Viola early in the design process.

The play begins at that singular point of day which is not day or night. The sun, sinking below the horizon, still lights the sky, as does the moon, already rising. As the player begins their journey, they fall down the vertical pole to the "landing spot." Throughout this initial fall, they have control of their gaze, but not their imminent downward motion. At the highest point of the fall, the player can see out across the immense vista of the game landscape in all directions: a huge, unknowable space that would take lifetimes to explore.
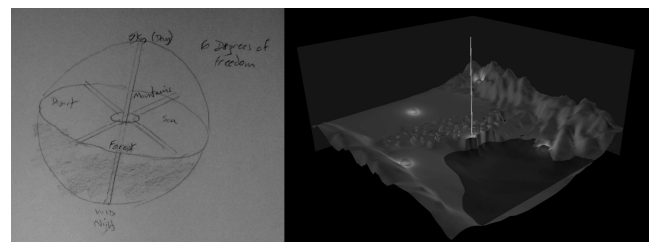

Figure 4: "6 degrees of freedom" in the world, design sketch by Bill Viola (left) and early landscape design (right).

Upon landing, the player is free to traverse the game landscape toward one of four distant goals, viewable as bright points of light during the fall. Along their way, they will encounter other points of interest and exploration. The basic controls consist of "looking," "moving" and "reflecting." These are accessed using a PlayStation 2 gamepad, with looking assigned to the right thumb-stick, moving to the left thumb-stick, and reflecting to the

"x" button. Reflecting is a way of interacting with the world that evokes a layering of imagery, and conceptual space, upon the 3D world. When players choose to reflect, the world "transforms" under their gaze. Reflecting also transforms the player, though they may not realize this immediately. The more time a player spends reflecting, the faster they will be able to move through the world and the higher their viewpoint, until finally they begin to glide over the landscape, barely touching the tips of the trees at their highest level.
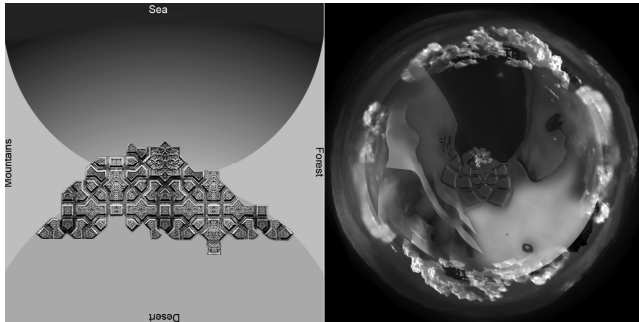

Figure 5: Overhead views of the game landscape at two stages of design, with the sea at the top, desert at the bottom, mountains to the left and forest to the right. At center is a series of canyons that form a mandala when seen from above.

Reflecting will also maintain the fading twilight, keeping darkness from approaching. By reflecting on specific points of beauty and interest in the landscape and allowing these points to "fill them" with light, players will be able to keep darkness at bay and traverse the landscape a much longer period of time.

Eventually, however, night will fall. At the end of "twilight," when the sky has darkened to black, the player will "fall asleep." While they sleep, they will be transported to a new area of the landscape and gently dropped back to resume their journey. Should they reach the points of light in any of the four areas, they will find a "St. John's hut" – a spiritual hermitage in the form of an old trailer, a cave, the ruins of a building, or an abandoned cabin. In each of these "huts" is a dream of their journey, a procedurally created video piece cued by the places and objects they have visited.

3.1 Expressive geography

Most first person 3D games strive to create a recognizable, geographically consistent terrain which the player's and designers have come to think of as "realistic." This, combined with interface features such as "mini-maps," provides contextualization and guidance for the player in game worlds, an important feature when the goals of the level are built around motivating movement from one point to another, and creating dramatic staging for moments of gameplay.

For The Night Journey, we imagined the geography as an expressive element, rather than a practical one, changing with the player's perceptions, actions, with time, movement, perspective and overall offering the potential for a different interpretive experience each time the player accesses the game. We wanted to build what Bill has referred to as a "poetic landscape." "Sense of place has always been of primary importance in my video work," he says. "Sometimes the landscape becomes the subject of a work, other times it shares the moment in balance with an action taking place in it, yet, always its energy is present and felt for what it is – the natural raw material of the human psyche." [Judson 1995]

Upon landing, as described above, the player is able to look around, and to move at the relative speed of a human being. While most 3D games "empower" the player by allowing them to move at relative speeds about 40-50 miles per hour across the virtual terrain, the player of the Night Journey must be satisfied with pedestrian speeds calculated to enforce our goals of moving slowly and looking deeply at each moment of the experience. (This restriction on the player' movement is slowly and subtly released as they learn to reflect.)
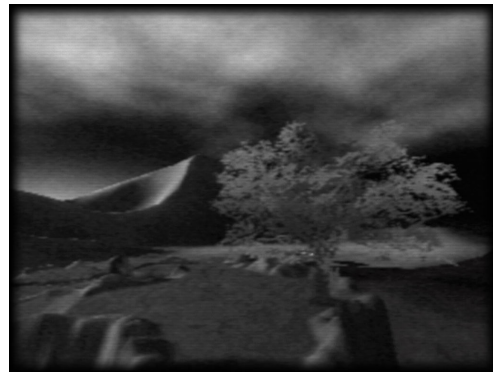

Figure 6: The "Great Tree" and the mountain peaks.

The underlying terrain itself has fixed landmarks, in order to allow the player navigate, such as the "Great Tree" in the center of the world, which is visible from many points in the landscape. This tree, along with the mountain peaks and the full moon, allow the player to situate themselves relative to map, no matter how far they travel. This is important because the player of the Night Journey will receive no "mini-map" to guide their progress.

As mentioned above, one way for the player to "push back" the coming darkness is to find and "reflect" on special points in this expressive landscape. These points are generally based on scenes from prior works by Bill Viola, as will be described below.

Figure 7: Owl in a tree.

Figure 7 shows an owl who will respond to the presence of the player if they wait long and patiently enough. Figure 8 shows a vulture circling lazily over the player. If the player reflects on these points, they will be rewarded with the layering of visual imagery as well as a subtle boost in movement.
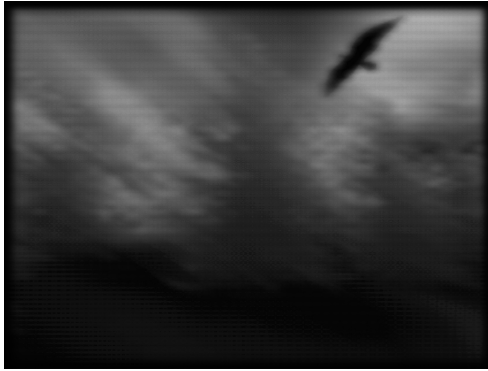

Figure 8: Circling vulture.

The concept of a game environment that requires interpretive projection on the part of the player and organizes itself geographically, visually and aurally around the sense of aporia and epiphany embodied in the archetypal spiritual journey is very exciting to us. We feel that this concept of creating an "expressive geography," both interactively and visually, is an important part of achieving our first design goal: to evoke in the player's mind a sense of the archetypal journey of enlightenment through the "mechanics" of the experience – i.e. what the player is doing in the game. The next section will explore these "mechanics of enlightenment" in more depth.

3.2 "Mechanic of Enlightenment"

One of the key goals for the game arising from the initial design meetings is the notion that the procedural mechanics and the message communicated to the player through their interaction with these mechanics should express, in some way, the sensibility of the spiritual journey within the player.

Many games use a risk/reward system for motivating player interaction. Typical examples of core game mechanics that involve weighing risk vs. reward include combat, resource management, puzzle-solving, construction, etc. The goals of the Night Journey preclude using these existing models as the basis for a core mechanic; rather, we began to look for mechanics that might offer an "action/reward" cycle, rather than a "risk/reward" cycle.

Examples of such mechanics include prior games by the USC Game Lab, including *Cloud* and *flOw*. In these games, risk is minimized or absent, but action is still rewarded. Inaction is not punished, and players are judged under no time constraint or scoring system. [Fullerton et al. 2006] Other games that we find work on this precept of "action/reward" vs. "risk/reward" include such disparate titles as *Myst* and its sequels, *Second Life*, *Nintendogs*, and *Animal Crossing*. In thinking about the appeal of these games, the team recognized that by diminishing the

notion of risk, they invited players to explore, both geographically and conceptually.

The original design document gave us a place to begin our design process, in that it described visual puzzles as a way of making sure the player "changed perspective" before moving forward in the game. In our early discussions, we decided against implementing these puzzles directly, instead hoping to create a more subtle, emergent game environment filled not with literal, solvable puzzles, but rather with complex moments of visual and procedural reflection, memory, transformation, and change that the player must find and experience in order to progress.

An example of such a moment includes the re-creation of a dilapidated shack in the forest area of the landscape. (Figure 9) This shack, which could be the retreat of Zen Buddhist poet Ryokan, is just as easily seen as an old hunting cabin, or a forgotten storage hut, is hidden within a grove of trees. The light from the shack shines through the trees as the player approaches, though there is no "readily explicable light source" as per Bill Viola's written description of the scene.

Approaching the shack thins out the trees and reveals more of it until you arrive at the clearing and the shack itself. This shack is a 3D model of one seen in a hand-held shot from an earlier piece by Viola. In the Night Journey, however, it becomes not only a location and a visual reference, but also a memory space and a portal through time.

As the player moves closer, their view slips freely between several moments of the shack in time: fully restored, partially destroyed, fully destroyed, and a wood structure reclaimed by the forest. If they reflect on the shack, these moments will be combined with the visual "reality" of the original video footage, calling into question the relationship between the "real time" 3D world we are navigating and the "reality" of the video footage on which it is based. Upon entering the shack, the player will transition to a procedurally created "dream" of their journey to this place.

As mentioned above, finding and accessing such moments will also "transform" the player, by increasing their movement and perspective. Each time a player "reflects" their speed is slightly (almost imperceptibly) increased until finally they will begin to glide, rather than walk. Gliding higher and higher until they are skimming the tops of the trees in forest they have walked through earlier in the game.

4. Visual Structure

Early explorations for the visual style included examples from different periods of artistic practice, each of which showed an interesting interplay between mental and real spaces that intrigued us in relation to the idea of the spiritual and physical journey of the player. Experimentations with light and shadow, abstraction and illusion led the team to believe a black and white environment like those pictured above might best suit the game.

While we have remained committed to the choice of black and

white, as the project has developed, we tended to move away from external references toward the reflexive use of imagery and captures from Bill Viola's prior works as both visual reference and actual material for texturing and building of the 3D world.

As can be seen by Figures 6, 7 and 8, the look and feel of the game does not in any way resemble a typical 3D game environment. This is related to the discussion above about creating an "expressive" landscape, one which had a sense of "presence" rather than "realism." Viola's video work often includes "low-tech" imagery, using 30-year-old cameras to create an "enhanced" grain like "salt and pepper." [Gayford 2006] Our methods for creating this look and feel included the creation of several custom technical solutions, visual processing techniques for our 3D environment that will be discussed below.

4.1 References to Prior Work

An archive of work from Bill Viola was created during the design research phase of this project. While not exhaustive, this archive did point to a number of stylistic motifs that could be replicated as effects in the 3D environment. For example, a number of the pieces were shot with a "tube" camera, a form of early video technology, which created distinctive artifacts in the images. These were caused by the use of a pick up tube rather than a charge-coupled device of current video cameras, and the blur and burn they caused were a desired effect in the images we were attempting to mimic.
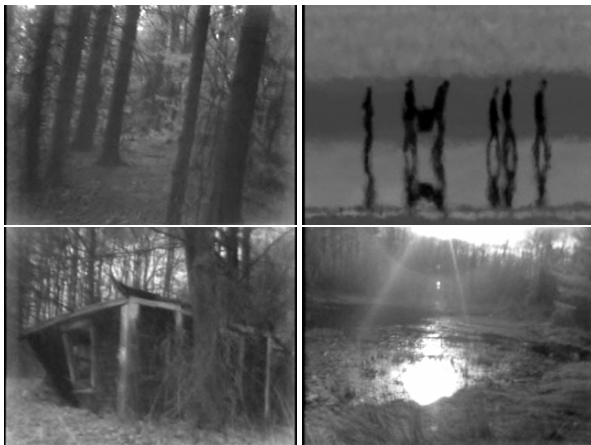

Figure 9: Reference images from Bill Viola's archive used to design video effects for the 3D environment.

The decision, made early in the research process, to implement our entire 3D scene in black and white made it possible to mix various video references from different times and environments with a greater sense of coherence and so served a primarily aesthetic purpose. On a technical level, it also allowed for the use of a set of custom post-processing methods which will be discussed in the next section. Early work in the process included the creation of 3D objects based on those found in the archive images. So, for example, the caravan of people or the hut in the wilderness seen in Figure 9 were modeled and animated to be included in the 3D environment.

Our research into this area revealed that most prior work in non-photorealistic rendering has focused on the mimicry of an artist's hand – using recognition of lines, and rendering these as brush strokes to recreate the look of a painterly or sketched rendering, for example. [Hertzmann and Perlin 2000] [Lake et al. 2000] [Lander 2000] [Landsdown and Schofield 1995] [Markosian et al. 1997] [Mohr and Gleicher 2001] In our case, however, the desired effect was not that of an artist's hand, but an artist's eye combined with a particular imaging technology. Therefore, our methodology would more appropriately be applied to the scene after its normal rendering approach, rather than during.

4.2 Integration of Video and 3D Imagery

A basic problem with this approach, both technical and aesthetic, was one of aesthetic integration: the visual quality of the video references from Bill Viola's work was at odds with the distinctive attributes of a real-time 3D environment. Traditional 3D game environments, even that using advanced rendering techniques such as pixel or vertex shaders, have a recognizable "look and feel" that is quite different from that of video imagery. Like earlier attempts to make video look more like film, using post-production effects to simulate grain or scratches, the aesthetic goals here demanded a new technique for rendering the 3D scene in such a way as to bring its visual qualities in line with those expected from video images.

The specifics of this problem, and our solution, were also tied to a specific artist's visual style; so, instead of striving to replicated realistic, highly detailed video imagery, the project has focused on producing 3D video effects that mimic artifacts such as blur, burn, glare, and interlacing as a part of the desired look and feel for the final image.

4.3 Custom Post-Processing Methods

Several different methods were used to integrate video effects into the 3D game environment of The Night Journey. The techniques described here use artifacts such as those describe above as a starting point for "degradation" (or, as we like to say "enhancement") of the original 3D scene as rendered in order to achieve a look and feel more visually coherent with the integrated video images.
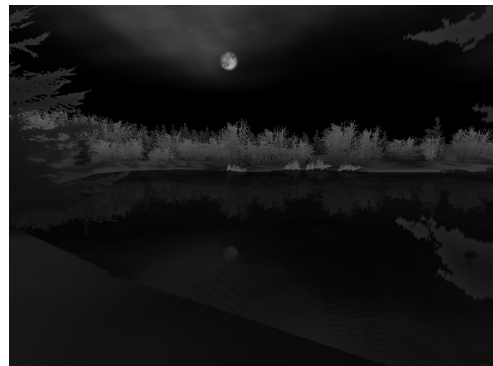

Figure 10: Pre-processed landscape image.

The first method employed was a video raster effect using

interlacing and additive blending. This post-processing effect does not use any pixel or vertex shaders for a number of reasons. While some of these desired effects can be emulated with a pixel shader (in some cases much faster), the whole effect currently relies on logic branching, texture and object agnosticism, and other elements outside of the limitations of typical hardware shaders. The freedom acquired does come at the expense of performance, but a careful balance of parameters can keep the scene to within real-time frame rates (10-40 fps).

The process is achieved in this way:

1. A low resolution version of the scene is rendered normally.
2. The screen is copied to a texture.
3. Pixels are examined, and then a sprite corresponding to variables such as size and value is drawn on the final screen. Parameters change how many pixels are sampled, how large the new "sprite pixels" are, etc.
4. The previous post-processed image has also been stored in memory. This image is dimmed slightly, and the new final screen is added. When interlaced this creates the video-like effect, as well as increasing performance.

Figures 10 through 13 show the 3D scene with various stages of the process. Figure 10 depicts a typical game scene rendered normally. Note the subtlety of the light and shadows on the objects and contours of the landscape. This is intentionally done in order to allow for heightened contrast in the image after the effect has been applied. Depth can be implied using this effect even on 2 dimensional objects, such as flat texture mapped trees such as the one on the left side of the image. The lower resolution of the original scene render, combined with the softening produced by the interlacing (Figure 11), lends verisimilitude to an appropriately prepped 3D scene.
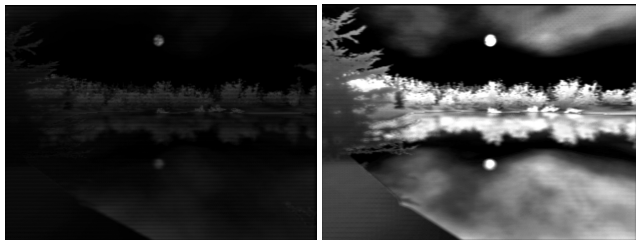
Figures 11 and 12: Same image with interlacing (left) and additive filter (right).

Additive blending (Figure 12) tends to round the edges of the geometry and reduce many of the side effects of the interlacing. Also, elements drawn in the previous frame were still visible, causing trailing on the image if there is rapid motion. Bright areas in particular "burn in" to the screen using this process much like the early video artifacts.

In addition, a "grain" effect was created to increase the visual relationship to Viola's "grainy cam" footage. The grain was achieved by randomly adjusting the value of a given "sprite/pixel" by a ranged amount, positive or negative, from the original pixel value. This "grain level" could be adjusted dynamically to find a suitable scale of "error". Low values would

be almost undetectable, while high values would be practically indistinguishable from white noise or television static. By carefully controlling the random offsets in color value, this digital "grain" emulates the similar artifacting of Viola's "grainy cam" tube camera. (It is also reminiscent of grainy film stocks or digital cameras in low-light settings.) Varying the value of a given sprite/pixel per frame allows a wider range of greys to be available, decreasing the "blow out" typical of additive blending, and avoiding the "posterizing" effect that would often leave distinct banding of specific shades of grey.
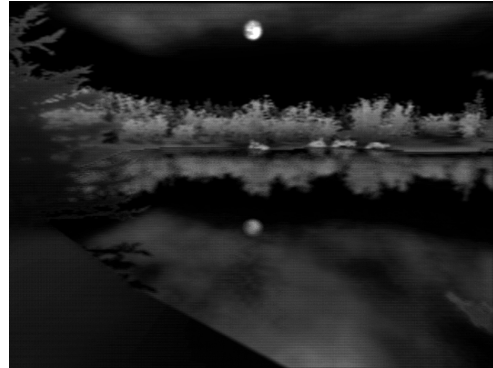

Figure 13: Final image, interlacing plus additive filter.

Overall, the visual methods employed in the projected have tended away from the "realistic" solutions employed by commercial games and toward a more expressive, poetic visual solution, and one which (we hope) does justice to the work which it references.

5. Textual Sources

One of our original design goals included integration of several inspirational of texts including: Rumi, the 13th century Islamic poet and mystic; Ryokan, the 18th century Zen Buddhist poet, Shankara; the 8th century Hindu mystic and commentator on the Upanishads; and St. Anthony, the 3rd century Christian desert father. As we have moved through the design process, we have gone through a number of potential ways of including those texts, from direct visual and aural reference, to a carefully constructed set of "narrative" moments that could be "found" in the landscape in any pattern, morphing meaning from play to play.

For example, an early text from Plotinus (204-270 AD) provided by Bill Viola game inspiration for a particular interactive moment as the player crosses a creek bed. The entire quote went as follows:

"Withdraw into yourself and look, and if you do not find yourself beautiful yet, act as does the creator of a statue that is to be made beautiful: he cuts away here, smooths there, he makes this line lighter, the other purer, until a lovely face has grown upon his work. So do you also: cut away all that is excessive, straighten all that is crooked, bring light to all that is overcast, labor to make all one glow of beauty and never cease chiseling your statue until there shall shine out on you from it the… splendor of virtue, until you shall see the perfect image

surely established in the stainless shrine.

When you know you have become this perfect work, when you are self-gathered in the purity of your being, nothing now remains that can shatter that inner unity, when you find yourself wholly true to your essential nature, … -- when you perceive that you have grown to this, you now become new vision: now call up your confidence, strike forward yet a step -- you need a guide no longer -- strain and see!"

In the early version, the player would hear snatches of this quote as they entered the water of the creek – short, almost unintelligible pieces, layering on one another like the water rushing by, until the text itself seemed interwoven into the water and the landscape.

Later iterations of the textual references included a set of custom texts, all of which were written to reference historical works, but took liberties with tone and perspective so as to create a random set of story pieces which could flow together in any order they were encountered, forming the journey of a single person out of the archetypal writings of many mystics.

At this point, we are finding that these direct references may, in fact, fade away giving preference to an experiential journey heavily inspired and influenced by their vestigial presence. Bill Viola has explained to the team, "there is text in all my work," though that text may not be directly visible to the viewer, since it has "fallen away" as the piece becomes more and more visual.

6. Game Design Process

As part of our playcentric process, once high-level design goals were set, the team's first step in the game design process was to create a paper model of our ideas and playtest it. This prototype was a playable system that helped to focus on several of the important issues surrounding the merger of our ideas, player motivation, basic game procedures and consequences of actions.

From our discussions with Bill Viola, this creation of a paper prototype was intriguing, but somewhat outside of his usual process, which tended towards reading, writing and drawing sketches of ideas. As part of the merger of the game design process and his particular artistic process required by this project, however, he was more than willing to participate and playtest these rough initial designs.

6.1 Paper Prototyping

The playtests for the paper prototype were done very casually and internally, as part of an ongoing discussion regarding the game structure. Several game design students, the game innovation lab design team and Bill Viola were the only test subjects. The learning and discussion that came from this prototype centered on the notion of how the player accesses and understands the underlying rules of the game world.

Paper prototyping, as mentioned above, is a central part of the play-centric method of game design. However, the design of this prototype assumed that the focus of the player would be on procedural mechanics, rather than on creative interpretation. It became clear during this process that we needed to test more than just system mechanics, but also the player's interpretive experience as well.

The paper prototype was created as a single-player game map with another participant acting as the AI for the game logic. After lengthy discussion, a set of test procedures were created for the prototype map to guide the player on their journey. These were imagined as "ways of being" in the world, such as being "still" versus striking out quickly. Based on the choices the player makes, rules were applied to the "landscape," making orientation and visual reference more or less difficult.

Figure 14: Bill Viola and Tracy Fullerton playtesting the Night Journey prototype.

Just as traditional film and video may assume an underlying narrative to "carry" the experience of the view along; so does traditional game design assume a reliance on repetitive, systematic actions within a goal-based risk/reward system to drive player interaction with the game. Our discussions with Bill Viola made us realize that while the overarching structure of the prototype worked well enough to describe the physical layout of the game, the model itself could not articulate the creative, interpretive experience required for our high-level goals.

In the end, it was decided to begin implementing the basic game map and "day/night" cycle structure in a rough digital environment, and to concurrently build a set of tools which would allow us to implement the visually and procedurally emergent game environment described earlier in this document.

6.2 Digital Prototyping & Playtesting

The digital prototype was next created using an internal game engine, Bushido. The engine was modified in several ways to realize the game, including input via PlayStation 2 contoller, integration of real-time video playback within the 3D space, dynamically controlled post-processing effects and changes to these effects based on location and proximity to certain landscape points. Content for three of the four world areas (forest, desert and ocean) has been implemented and temporary sound and video assets integrated as placeholders. Initial

playtests are currently in progress and scheduled to continue through the Summer of 2007.

At this writing, four sets of playtests have taken place, over 6 weeks, involving 19 playtesters, divided into two main groups: non-game players and game players. All of the playtesting subjects were drawn from volunteers who responded to email advertisements sent to USC faculty and students. Two separate emails were sent, one to find players who were non-gamers but might be likely to visit this game in a gallery exhibition, and another to solicit experienced game players interested in new genres of play. Volunteers from both groups were screened to make sure that none had been involved in the design of the game or had seen or played it prior to the testing session.

The following are the overall demographics of the test subjects:

Age	18-34: 46%	Over 35: 54%
Gender	Male: 62%	Female: 38%
Plays games?	Yes: 38%	No: 62%
Visited gallery or museum in last 6 months?	Yes: 62%	No: 38%
Familiar with Bill Viola's work?	Yes: 54%	No: 46%

Over the course of the six weeks of testing, game play and features were iterated from session to session, in order to respond to player difficulties and suggestions. Several high-priority findings, divided by gamers and non-gamers, include:

Figure 15: Playtesting the Night Journey digital prototype.

Non-game players:

- Hesitancy to begin interacting – prefer to wait until "told" to act.
- Difficulty navigating – do not have a good sense of 3D environments or use of game controllers.
- Interested in the "mysterious" look and feel; liked exploring the world.

- Did not feel a need for externally provdided objectives, one tester stated that he felt "it's my job to find the hidden visual opportunities."
- Wanted to experience visual drama akin to Bill Viola's work, as one tester stated, "I'm looking for flames."

Game players:

- No difficulty navigating 3D space.
- Do not like to be restrained in speed; do not like "automatic" features like having the game take over camera control. Want to be in control all the time.
- Interested in "novel" look and feel; one tester called it "moody," another "ghostly."
- Did not mind having to find their own objectives, one tester suspected there were "hidden" goals he had to find and was interested in doing so.
- Liked moving fast, when that feature was available.
- None of the game players were familiar with Bill Viola's work, but one wondered about the association between "dreams and reality" in the game based on his play experiences.

Overall, the tension between the expectations of the two main groups of testers has revolved around experience in navigating 3D worlds, as well as skill and confidence using the game controller. Both groups have responded very positively to the look and feel of the game, and have found it interesting and appealing to explore the game world, finding and setting their own play goals. Because of this, we feel confident that we will be able to achieve most, if not all, of our initial design goals over the course of the remaining playtesting and iteration process. These goals are, as stated above, to create a sense of the "journey of enlightenment" through the core game mechanics, to create a world of "explorable video" and to make a work that appeals (and is accessible) to both art patrons and game players. We feel that we are very close to the second and third goals, and are still iterating on the first, most difficult, one.

As we move forward -- playtesting and iterating -- design possibilities have become clearer to both the team and to Bill Viola and it often seems that our prototyping process has in many ways continued and extended the original discussion as to high-level design goals. Unlike a typical game design process, which would be focused on feature development and level design, or even a playcentric process, which would tend to have fairly stable high-level goals and a flexible, iterative methodology for reaching those goals, the Night Journey's design process has been an ongoing philosophical trek throughout. In many ways, this is the influence of Viola's process on the project. In speaking about his work he has said, "I sometimes think of my work as 'rational inspiration.' I don't like the way things are done in films: an inspiration gets written up and set out as a sort of blueprint. The act of shooting the film becomes a matter of following the blueprint and reconstructing the original inspiration. Even though some of my work is precisely predetermined down to the individual shots, the experience I'm

having while recording is still connected to the work. It's really the reason why I do it, ultimately. It is important for me not always to know what I am doing." [Bellour 1985]

This seeming tension between the game design process and Viola's description of his process, while at first disconcerting, no longer concerns us – in fact, the entire team has become clearer and clearer as to the benefits of this extremely iterative process as we proceed. It is not a journey of milestones and deliverables, but one of discoveries and insights, much like the one we are trying to create. In many ways, it is a productive merger of game design methodologies and one particular artist's process. Whenever we voice the concern that a new idea may not be "doable" we receive a happy confirmation from Viola that this is how we know it is "worth doing," because it is untried territory.

7. Conclusion

The Night Journey is an ongoing project, and, as mentioned in the introduction to this paper, it remains to be seen how successful its design elements will be in the end. However, the early playtesting has given good results, and the team itself has already found its own success in the sense that we have found a common territory for collaborative work between the different processes of the various artists involved.

Overall, we feel that we have found the beginnings of a fascinating interplay between the process of game design and the process of one particular visual artist. As opposed to the focus on "fun" that traditional game design uses as a benchmark, the learning-based goals set by "serious" games, or even the high-level experience goals set by our own playcentric method, we believe we are on a path to discovering how aesthetic goals and the "voice" of a particular artist may be integrated into a game design through a collaborative, iterative process.

8. Acknowledgements

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