Streams of Motion (Super Spectacular)
A Virtual Reality Art Work

Tim Portlock

MFA candidate

Electronic Visualization Laboratory

University of Illinois, Chicago

842 W. Taylor Street

Chicago, IL 60607

U.S.A.

portlock@evl.uic.edu

ABSTRACT

The Streams of Motion (Super Spectacular) project was originally created as part of a larger project consisting of several environments created by individual artists. The goal of this work is to begin a long-term exploration of certain issues particular to the process of creating art within the medium of virtual reality. Specifically, what types of creative processes could be developed that would allow the most direct way of going from concept to realization. This exploration in turn effected the how I approached subject matter, content and narrative structure of the project.

The work was designed to be experienced in the CAVE, a four screen, rear projected, immersive virtual reality system, but may be adapted to a smaller format virtual reality display device.

KEYWORDS

Virtual Reality, Art

1. INTRODUCTION

While the hardware necessary to make virtual reality is rapidly becoming more accessible, the knowledge required to take advantage of these tools are not yet as readily available. This is an especially significant issue in that most forms of virtual reality typically require any number of a wide range of skill sets; programming, computer modeling, image processing, audio engineering, etc. Because of the range of skills involved there are certain preexisting artistic production models that are most applicable to developing a virtual reality project.

1.1.1 The Film Production Model

By "film production model, I mean a group of people performing separate functions on a single project. An additional benefit deriving from this model is more work can be done in less time and the capacity to build larger and or more complex environments is increased.

1.1.2 The Solo Artist Model

In the "solo artist model, a single artist either works on a single complex virtual environment or on several relatively smaller and less complex virtual environments.

1.2 The Solo Artist Model in the Digital Environment

Because working from the Film Production model is less feasible outside of the institutional setting I have begun to experiment with ways of working within the Solo Artist production model that enables me to create complex virtual experiences. This was one of the issues I chose to explore through the "Streams in Motion" piece. One of the main things I wanted to accomplish in "Streams" was to begin a long-term exploration into ways of working that would allow a single artist to develop a rich and complex virtual environment.

2. WORKING PROCESS
2.1 Technical Aspect

A technique that has emerged from computer games is to suggest complexity without actually articulating the correlative details. The standard approach in the computer game industry is to use textures and models several times in one game. Reuse of elements saves processing resources, which improves the quality of the game's performance. An added benefit of reuse is that it economizes the amount of labor required to develop a project. The important thing is to reuse elements in such a way that their reoccurrence does not feel repetitious to the user.

Drawing on my background in painting, the second technical step I took to economize time was to hand-draw a large portion of the textures used in "Streams." While I am primarily interested in using hand-drawn textures in this virtual/digital environment for their narrative meaning, this approach also streamlines the overall development process. On previous projects a significant portion of the overall labor was spent processing textures with applications like Adobe Photoshop. Drawing the textures enabled me to imply volume and detail with an economy of effort. Because the images are black and white I required less time to process them.

2.2 Narrative Aspects

Because of the relative newness of virtual reality as an art form there is not yet a typical approach to creating and presenting narrative. Artists that choose to create non-linear narratives have to develop ways to create tension within a story that can evolve in any number of directions and still remain engaging to the user. Ideally the development of a non-linear narrative involves some level of testing to determine how user interactions effects the evolution of the story line. This can be as informal as the responses of friends.

The narrative in my project was created modularly. Each module contains an architectural structure and sets of interactive events. These modules can be experienced as stand alone narratives or they can be placed near each other in a single virtual environment and, if routed, be experienced as a single narrative.

Two of the major advantages of working modularly are that the order in which the story branches can be reconfigured with relative ease and that the artist can develop the narrative in manageable portions.

2.2.1 Narrative Modules
2.2.1.1 The Starting Point
This is literally where the user first enters the Virtual Environment (VE). Although the starting point could have been set anywhere in the landscape, I chose to start the user out in a parking lot, an area associated with embarking and disembarking. (see figure 1.)

Figure 1.

2.2.1.2 The Amphitheater
The user enters the amphitheater lobby. In the center and on both sides of the lobby are concession stands each selling a different set of products; toys, snacks and glue guns each produced by the same company sponsoring the event. The glue guns resemble real guns. Some of the items at the concession stands are "grabable" by the user.

By making this object available I am attempting to set up expectations in users about how to behave in the environment based on past experience with first person shooter games. It is these types of expectations and the surprise generated by thwarting them that I use to develop some of the narrative branches.

Figure 2.

Beyond the concession stands are the entrances to the different tiers of seating for the amphitheater; ringside, first level and upper level. Each level of seating reflects the differences in ticket pricing (see figure 2). In the center of the lower most level of the amphitheater is the ring, which contains two robotic combatants each visually resembling the standard hero and villain of the 1970's Blaxploitation film genre. (See figure 3.)

Figure 3.

2.2.1.3 The Factory

The Factory consists of two main components: the section that contains the industrial machinery and the section that contains the horse coral. Users enter the factory through the front office where they are offered an automated tour of the interior of the building. The fully automated factory also contains museum type displays of historical interest. While on the tour users are given the opportunity to operate the main controls of the factory, which can alternately produce glue guns, snack foods or toy horses. (See figure 4.)

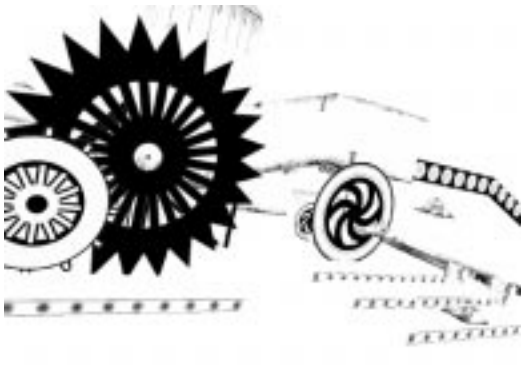

Figure 4.

2.2.1.4 The Nuclear Power Plant

Balloons and signs on the exterior indicate to the user that the power plant is holding an open house. Users enter through the front door where an employee aquatints them with the equipment used to operate the nuclear reactor. The visitors and user are given the opportunity to experiment with the controls of the power plant.

2.2.1.5 The exterior landscape.

The entire project is black and white. Sky and ground are both white making it impossible to discern a horizon line. The only visual elements assuring users that they are indeed walking on a flat plain as opposed to a white void are the various architectural structures, parked cars, weeds and the footprints trails left behind by each of previous users. If users get lost in the exterior landscape, they can retrace the trail that they have generated. The footprint trails are also artifacts of

how previous users have interacted with the virtual environment. They may suggest to a user a particular route through the environment, which might encourage him or her to follow suite and thus to experience the landscape in a particular order

3. CONCLUSION

For several hundred years Western image making has been concerned with the modeling of space. In virtual reality, computers create the space the artist must work within.

The medium presents a particular space, a one point linear perspective, a model that has a set of associations and meaning that I am interested in re-examining in light of it's default presence in virtual reality.

4. ACKNOWLEDGMENTS

My thanks to Jim Sosnoski for editing.