

DEVELOPING PARTICIPANT INVESTMENT WITHIN DIGITAL INTERACTIVE STORIES

By

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ABSTRACT

Interactive storytelling has been attempted, but not mastered, using digital media. Although this failure has been attributed by some to an innate discrepancy between the goals of storytelling and the qualities of interactive investment, interactive story in live theatre and role-play has demonstrated the ability to engage and maintain engagement with a participating audience.

A possible solution lies in designing the goals of interaction based upon the rewards and structures of storytelling rather than the competitive goals of game play. By studying the way in which live interaction functions, and specifically addressing the imaginative contribution of the participant, digital storytellers can begin to think about creating procedural systems for storytelling that make engaging a story both rewarding and transformative. The study leads to a preliminary list of guidelines for authors who are trying to design programs or methodology for interactive stories.

DEDICATION

To my father, for a lifetime of support.

To Chris, for teaching me that there is creativity
and a joy of artistry in digital media.

And to all of the talented, imaginative,
wonderful storytellers that I have ever role-played with.

Who knew you could get a degree in this stuff?

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Introduction

Since the first video games were invented using simple 8-bit graphics, digital programmers and artists have optimistically dreamt of a future where authors could invite their audience into the physically active role of contributing to the execution of story. The audience could then be invited to enter the story, either bodily or virtually, as characters, directors, or co-authors. This leap from passive storytelling media to reactive, and even inter-active story media, was supposed to be possible because digital information is organized in discrete units that can be accessed in any order, unlike analog information which must be processed in a linear, pre-determined fashion. As computers have become faster and more impressive computationally, video games and interactive training have both made significant strides forward, but the art of digital interactive storytelling has remained relatively static. At the same time, perhaps partially impacted by the interactive content of digital media and multimedia; interactive storytelling in live venues has matured and blossomed into a field of study that is worth attention and respect.

The Holodeck, first conceived of in *Star Trek the Next Generation*, is one of the most extreme and yet positive embodiments of the fully immersive, fully interactive stories that the digital domain could one day offer – a virtual world so advanced, that some of its fictional characters eventually develop sentient thought, and leave the reality of the story in order to pursue personal goals. Although the technology of the Holodeck is too advanced to construct using modern techniques, the net effects of the Holodeck map to achievable goals in terms of substance if not in structure. Interactive storytelling

can be the Frankenstein's monster of storytelling. It has the capacity by its very definition, to exceed the original boundaries laid out by the author and to take on a life of its own. Understandably, some traditional authors are threatened by this idea – what are the consequences of letting a story live and breathe on its own? Does it cease to be a story when interaction, usually associated with game play rather than storytelling, enters the stage? It is true that the role of the author undergoes a real and substantial change within this context. Authors of live interactive experiences have been able to achieve collaborative interaction while still supporting narrative story, by developing new techniques for invested contribution that I will discuss in later chapters.

Digital authors have been less successful, partially because computers rely on procedural language, which lacks the many nuances of human-to-human interaction, and the innate understanding that human beings have for story is not a quality shared by computers. Although computers have the basic qualifications for interacting with a person, and although they handle all manner of computational interaction on a daily basis, improvised storytelling does not map easily onto the kind of interactivity at which a computer is adept. When the computer mediates storytelling between a human author and human participants, the storytelling ability of the author must be communicated through the computer program, and the program must also accept contribution from the participant and translate that into something it can compute. The nuances of storytelling do not easily map to computational values. Owing to the difficulties of making a procedural medium truly interactive and not merely reactive to limited user input, many authors of digital experience - notably, certain video game designers who, perhaps rightly believe that enjoyable game-play is more profitable than story in their product - have

decided that interactive storytelling is a theoretical nicety, but impractical and not useful in real situations.

I postulate that meaningful interactive story facilitated by and experienced through the computer is possible using today's technology. The building blocks that can create the structure for interactive story have already been developed at laboratories and game studios around the globe. So far, many of these inventions have been in the hands of scientists instead of storytellers, or they have been used in small examples that have emotional context but very little story context. Computer programming has so far been an artificial barrier between the scientist and the artist – making it difficult for people with the right storytelling skills, to work with the tools they must work with, to create an interactive digital story. We have seen through history however, that the practical inventions of scientists are often transformed into a remarkable new medium for storytelling by artists who are willing to understand the technology. Thomas Edison may have invented the movie camera, but he did not invent the first film. The Lumiere brothers created emotionally impacting novelties out of film, and were able to draw a genuine emotional reaction out of people watching moving light on a wall. They did not invent the art of cinema, but they did begin to explore the nuances of story and emotion within the medium. The tools that exist today for creating interactive story are still new and largely unexplored, as film once was. Artists and storytellers today have a great opportunity to define this new generation of storytelling and to make it something that was inconceivable using any other media before.

In order to successfully forge this new genre of storytelling, authors must begin to think about the process of storytelling in an entirely different way.

Statement of purpose

To add to the body of work already established on the subject of interactive storytelling, my research specifically looks at participant investment as the guiding force behind story design. Participant investment is a critical objective for any type of storytelling from cinema to literature. Interactive story is no exception. Despite its importance, participant investment has not been comprehensively addressed by any publication on digital interactive storytelling. This is not a small oversight. I believe that designing a successful interactive story is significantly less dependent upon programming the artificial intelligence, and significantly more dependant upon leveraging the strengths of the technology to give the participant the right tools for contribution. All of the applied techniques - such as programming conventions - should support the participant's needs and his contributions, rather than unintentionally sabotaging them. My research seeks to discover and codify the fundamental guidelines for creating interactive stories that will help an author to knowledgeably design the way in which his story functions. The research begins, through these guidelines, to create a basic philosophy for designing successful and meaningful interactive stories that are motivated by the classic principles of storytelling rather than the competitive goals of game-play.

As a foundation, the research explores participant investment within live interactive stories that have successfully engaged an active audience. The live interactive stories that I examine come from two related but distinct philosophies: the collaborative authorship of Roleplaying Games, and the Participant-As-Protagonist stories that Interactive Performance uniquely generates (Wirth, Ingraham and Moshell 2). I examine

the core principles of interaction that make these stories successful, and look at ways in which these principles can map to digital interaction.

The research goes on to study forms of digital storytelling that effectively demonstrate specific principles of interaction. Combining these successes with the fundamental principles of storytelling that are described by Robert McKee, Joseph Campbell and others, I begin to look at a model for making digital interaction merge effectively with story. Rather than relying on technology that is decades and centuries from completion, I look at how we can use the current technology in new ways to achieve the objective. The research additionally includes a description of some preliminary experimentation that supports my assertions and suggests an area where additional research is needed.

Extrapolating from the live, the digital, the story, and the interactive; I describe methods for developing investment within digital interactive stories and propose a framework for continuing the research and application of such methods.

The guidelines that I arrive at following my research are as follows:

- 1 - Authorial intent must be expressed by creating the story-system that supports interactive story generation in the moment. Story generation must be a collaborative exchange between participant and author, with the medium expressing the will of the author.
- 2 - Create a system for contribution that encourages the desired interaction

- 3 - Craft the invitation in such a way that the participant knows what is expected of him, what to expect of the scenario and that playing freely within the scenario is safe.
- 4 - Create an identity that the participant is able to inhabit and impact.
- 5 - Make that identity matter to the substance of the story, rather than merely impacting the events of the story as an external force.
- 6 - Communicate and maintain a consistent point of view that always gives the participant the same, and an appropriate amount of freedom for the role that they are playing.
- 7 - Keep promises made to the participant. Breaking promises impedes or destroys investment.
- 8 - Design the narrative based upon the structural components of that narrative.
- 9 - Change story creation from a plot-model to an emotional crisis/ change model based on event or emotional waypoints.
- 10 - Design the characters based on archetypal roles and behavioral models
- 11 - Drive the narrative forward based on logical changes within the characters, while maintaining internal credibility.
- 12 - Design methods for building character relationships interactively
- 13 - Choose a system that makes events and emotions with negative connotations for the role played by the participant, transform into situations and challenges that are positive for the participant himself.

These guidelines will emerge from the research amassed in the following chapters, and will be revisited again at the end of this work in much greater detail.

The Relationship between Story and Interactivity

Defining Interactive Story

The whole of human experience is, to one degree or another, interactive, and the whole of human experience can be expressed using story. We are inherently beings that interact with our environment and with other people, and we are inherently story-creating. Despite our talent for interaction and for story, mainstream storytelling media does not include interactive contribution as a meaningful component. Movies are an extremely engaging, potent form of storytelling. Literature allows the audience to imagine what the characters look like, what the environment feels like, and what the soundtrack might be if it were a film. Ernest Hemmingway compared books to an iceberg, where the tip showing above the water is vastly smaller than the massive hulk of an iceberg that lies beneath the water. What he meant was that the physical part of the story, the book, is only a small part of what the audience experiences when they read – their imagination adds much more. Ordinary people are completely capable of contributing their imagination to a story. However, the medium that authors use to create books and movies does not have the capacity to change based upon that contribution, and the interaction only takes place within the audience's mind. Although I firmly believe that we need to understand how cinema and literature work in order to properly consider interactive stories, I am also going to distinguish interactive media from mainstream forms of media that are very engaging, but not fundamentally interactive. This is not done to dismiss the techniques of past storytelling media when they can lend an insight into interactive works. In many ways, the problem of interactive story is one of

translation – how do we translate the intense emotional resonance of cinema, into a form that also touches an interacting audience? Although the net amount of emotional engagement that we want out of interactive stories is equal to the emotional engagement that a director wants his movie to have – the way in which investment happens is fundamentally different, and the way in which an author needs to approach storytelling is also without comparison in mainstream formats.

When I refer to interactive storytelling in this document, I am very specifically referring to stories that are intentionally designed to involve the audience not only as emotionally engaged observers who invest with the story mentally and emotionally, but who are actively involved in co-authoring the story as it happens. I am interested in stories that have not been planned wholly before the audience sees it – that are in fact, created uniquely for the individual audience, by letting the audience collaborate and play within the media as a co-author. In this kind of scenario, which has never been fully accomplished digitally, the author can be surprised by the ending to his own story, and the narrative can be experienced multiple times without producing the same fundamental story.

I will distinguish interactive media from other kinds of media, by the media's capacity to adapt and change based upon choices that are made by an outside participant, as opposed to decisions during the production of a work that are determined by members of the official production crew.

A media can be highly interactive in one aspect, but not interactive in another. Video games are interactive in terms of environmental exploration, combative engagement, and physical manipulation of objects and the movement of a 3D-Avatar.

They are not very interactive in terms of story, because most games do not allow the player to manipulate the story in the same way that they manipulate the environment or the objects within that environment. Most video games are packaged with one central storyline, which may or may not have minor variations that depend upon player choice.

For the purposes of this paper, I am defining story as an internally logical narrative scenario including characters, environment, and a connected series of events over time that is specifically designed to create transformation. There has been a movement in certain artistic circles, to divorce the word ‘story’ from plot and authorial voice, in order to create interactive stories. I heard the argument come up many times at the International Digital Media Arts Conference in 2005, that story is what a person makes of it, not necessarily what an author intends. Some people, particularly video game designers, believe that ‘plot’ is impossible to support within an interactive scenario, and so the word story should be defined as an experience, with no inherent emphasis on plot, that takes place over time. The Project Director and Lead Designer of *Deux Ex 2*, Harvey Smith, defends this position. He says that *Deux Ex* gives players the ability to generate their own personal stories within a free-choice environment, by living within the game and creating drama through action. An author-defined story is therefore seen as essentially unnecessary and even limiting within video games, which act as a virtual playground, for players to create the story that they want without being guided or cajoled into following the author’s storyline (Smith 191). While these free-choice scenarios include some elements of storytelling, they are not fundamentally about creating a *compelling* story, and the stories that may or may not emerge from them as a consequence of game play, will never be as resonant with the human condition as the

stories in cinema or literature. If we want to create interactive stories that affect people at this level, then it is important to understand the methods of classic storytelling and to use those tools in order to make interactivity better.

Robert McKee, one of Hollywood's most respected authors on the subject of writing screenplays, defines storytelling as "...the creative demonstration of truth. A story is the living proof of an idea, the conversion of idea to action. A story's event structure is the means by which you first express, then prove your idea... without explanation (113)."

By McKee's definition, the intent of the author is of paramount importance when creating a story; not an unnecessary element that can be thrown away if it restricts audience involvement. The author's intent is also critical in interactive story, although it will need to be demonstrated in a different way, since all of the details cannot be crafted beforehand. In later chapters, I will discuss how intent can be communicated through the choices an author makes in designing the interactive world. Interactive story is not interaction without purpose, interaction for the sake of the interaction itself, or interaction for the purpose of directly simulating life without the craft of storytelling. Interactive story involves the meaningful adaptation of story dependant upon the actions and decisions of a participant who is not the author, or an actor who knows the author's intent. During the course of interaction, story transformation takes place, and the interaction results in real, dramatic or comedic change. The story is created by the media listening/ absorbing and the audience contributing, at the same time in which the audience listens/absorbs, and the media contributes. The participant is an integral and necessary part of the interactive story, not an added component that must be dealt with

through any mechanism created as an afterthought. Interaction that includes the audience within the process of authorship, is more than reaction to choices made by the participant, because simple reaction is not a building process – it is a one time response that is neither dependant upon past responses, nor informative to future responses. Interaction is a series of reactions that are held together in continuity, by exchanging information and purpose between the participant and the mediation.

Works that fall outside of this definition can still be participatory, immersive, reactive, and interactive in other ways besides story. However, interaction that impacts story is a specific quality that requires conscious, deliberate choices in order to create. I do not argue that interactive story is superior to existing forms, nor that it necessarily engages the participant more fully or more effectively. Each type of media has different strengths and weaknesses. By addressing story in a new way, we can expand our pallet as artists and storytellers to do new things that were impossible or awkward in the past. This does not invalidate the power of existing media. Some stories that work as movies may not be as effective with interaction, and it is not necessary to have an interactive version of every story that rivals the power, potency, and impact of the original. The different kinds of media do not need to be equal in detail, in order for both to be powerful and important in their own way, and all storytelling will share certain fundamental elements that transcend the borders of the media.

Differences Between Games and Stories

Based on the definitions discussed above, it would seem that video games are a perfect solution for combining story and interactivity in a way that constitutes interactive

storytelling. Game and story share many qualities with each other. However, their fundamental differences in focus and in approach make them awkward to combine.

Stories focus on “Thee,” and succeed by getting an audience to emotionally invest within the journey of another person – the protagonist (Stapleton, Hughes and Moshell, “Interactive Imagination” 5). The fear we feel when the protagonist is in peril is not fear for ourselves, it is fear for him. The elation we feel when he succeeds is, again, projected elation onto a success that is not our own.

Games focus on “Me,” and depend upon personal success and failure (Stapleton, Hughes and Moshell, “Interactive Imagination” 5). When we win at chess, it is our triumph over the strategy of our opponent. When we suffer defeat, it is equally personal to bear. Most video games connect with the player at this personal, direct level rather than involving the player in an empathetic relationship with characters. People also connect with games played by favored teams – live and on television. These successes still rely on a personal connection, saying things like “My team won”, “We won” and feeling that personal level of connection. Additionally, people often appreciate a sport on a more visceral level, if they have experience playing it. Enjoyment derives not only from seeing a favored team succeed – but also understanding the nuances of that success.

When we combine elements of game and story, there is a natural competition between the personal connection felt in game, and the equally powerful; but quite different, empathic experience of story.

Games are about doing things right and being rewarded for correct action. Stories may also include punishment and reward, but the connection between right action and just reward are messy and uncertain. Whether someone who deserves reward gets it or

not depends upon the morality of the world and the purpose of the story. Sometimes the best intentions and best actions in story come with no reward at all. Sometimes the guilty go unpunished. Living the story should tell the participant what is a valid action and what is an invalid action. Bad choices can also lead to good story - heroes make mistakes and the fall of the hero is a critical part of many powerful stories. A story has to be a space where human failings are rewarded with good story, even while the character is being 'punished' for their failings inside the context of the story. The participant must enjoy the failings and the triumphs of their character; because once it is no longer fun they will stop playing. Harm that comes to the character must never come to the participant. Ways in which to accomplish this will be discussed later within my chapter on role-playing games, where the character inside the story is seen as separate from the player, and the player can enjoy the fall of their character as long as it happens within the context of story instead of being impacted by real life quarrels or player mistakes. The thin division between story and life has to exist in order for failure interactively to be fun. People will usually make decisions that support a story rather than decisions that break a story. They are interested in experiencing a narrative - not peering behind the curtain.

The goals of storytelling are more ephemeral and nuanced than the goals of gaming, approaching cinematic goals in terms of theme, quality, and complexity. It is at this level of subtlety and emotional, interpersonal interaction that interactive story can become a rich, expressive media for storytelling.

Stories come with certain expectations and qualifications. They are not merely a random sequence of events thrown together into a narrative, in the way that exploration in video games often allows. Many of the event sequences based on exploration, combat

and puzzle solving that work perfectly well for games are either bad stories, or not stories at all (Crawford 14). The reason is that stories are fundamentally about people and relationships between people. They are not about exploring an environment, collecting items, achieving easily defined goals, or winning in the end. Although stories may include any of the above; the driving factor behind story is always centered on the characters, their relationships, and the way in which relationships play into or affect the world. Games, conversely, tend to focus on things that are gained, used, achieved, or destroyed. Games use people as tools for achieving a larger goal that is often centered on an item or gaining items in some way, instead of using items as tools for bringing people together into story. For example, in *Indiana Jones and the Last Crusade*, the Holy Grail is the impetus used to drive a story that is actually about repairing the relationship between Indiana and his estranged father. The item is not the point of the plot, but it is the tool chosen to make plot happen. In story, the audience can be made to care about an item or a goal, because the characters care about that goal, and to have concern about a situation through empathy projected onto characters - not concern about an item due to the inherent properties of that item. In games, the item is often an end to itself. For example, the weapons and armor collected in *Diablo 2* are interesting because they give a character certain advantages. They have no intrinsic story value; they only have value as independent items.

Video games can contain great stories and they can have compelling interactivity. However, it is rare for the interactivity to overlap the story in any significant way. In video games, the story sections are normally separated from the interactive game sections by pre-rendered cut scenes that temporarily stop interaction, in order to deliver story. Cut

scenes are, tellingly, often used to reward the player after overcoming a series of difficult challenges (Glassner 285). Although the game-play unfolds dynamically based upon the player's skill and decision making, the actual story content always happens in the same way, no matter what the player chooses. Sometimes there are a few different story paths, such as in *Star Wars: Knights of the Old Republic*, which allows the player to choose either the light or the dark side and experience the story from that perspective.

Attempts to directly combine the video game interface with more passive forms of media such as cinema or literature have been mostly unsuccessful and unremarkable. The arcade game *Dragon's Lair* tried to combine *Choose Your Own Adventure* stories with a joystick interface. Released in 1983, it was the first animated laserdisc game - using cell style animation to depict the game's hero, Dirk The Daring, as he adventures through a medieval castle to rescue Princess Daphne. The game was created by former Disney Animator, Don Bluth, and it is stylistically very similar to Disney films of that time period ("Coin-Op Museum," par. 18). *Dragon's Lair* is different from ordinary arcade games, in that the joystick and buttons are used to give the character directions - not to directly control his actions. For more than half the game, the player didn't need to touch the joystick to make anything happen. When input was needed, if the player responded too slowly or in the wrong way, the hero died automatically and the animated sequence restarted from the beginning. There were no other results possible, besides victory or death. There were no partial defeats, moments of tension, miraculous recoveries from the brink of death, or opportunities for the player to explore the world under their own volition. In addition, after the first several screens, the game did not give the player the opportunity to rationally determine how to react. The only way to succeed

was to memorize the correct sequence of responses and to press them in order to advance in the story. Although *Dragon's Lair* was popular as a novelty and spawned a string of copycat laserdisc games, the trend did not last. It was a bad example of merging animated cinema with game-play, and it did neither especially well. The game suffered because it took too much interactive control away from the player – in video games, the player expects to have control almost all of the time. Making occasional decisions within a linear narrative structure does not take full advantage of the video game's flexibility and freedom, so it is not fun. The game lacked the success rate necessary for a lasting sub-genre of gaming to be created, and has faded into arcade history as a novelty.

Existing media do not easily incorporate interactive principles because each already has a predefined structure that is fundamentally opposed to accepting interactivity. Film cannot radically change itself to accommodate choices. There is no mechanism to make choices, no impetus for the audience to want that freedom, and no way for the film reel to change its content mid-play. Since films already tell stories very effectively, it is difficult to see how interactive engagement would improve upon them. On the other side of the divide, games do not easily accommodate storytelling, because they come with an expectation of high action, high agency, long game-play, and high opportunities for exploration.

Although it would seem logical to add game elements to a powerful story format like cinema, in order to create a story that is interactive, and although this is the technique used by many contemporary video games – it is not the most successful approach that authors can take (Glassner 224). Games are not the only form of interactive media that humans engage in. Life itself is an interactive exchange of information, story, action, and

idle chatter. People improvise all the time. It is only when we turn a camera on them, or ask them to do something that feels unnatural, that people hesitate or freeze in the spotlight. Humans are built to interact communally, and humans also connect naturally with the emotional journey of storytelling. The challenge is getting people to invest within an interactive scenario enough, so that the empathic connections experienced in story and the personal connection felt in game play, can coexist in the same universe.

The Critical Relationship between Investment and Storytelling

Investment is a measure of how much the audience cares about a story, a character, or an eventual outcome. Investment can be created in a number of ways. Sometimes it is created through financial investment: if a person has paid a lot of money to see a Broadway play, he very much wants to enjoy that play, because he has invested money and time towards seeing it. Sometimes it is created through an investment of time: people who watch soap operas may realize that the stories are somewhat campy, but over time they grow to care about the stories and the people because they have invested so many hours just to get the overall perspective on the program. Additionally, soap operas never replay episodes, so if one is missed then it is missed forever.

With interactive stories, the amount of personal investment experienced by the participant is the very thing that makes them successful as narrative experiences. The story itself, because it is not painstakingly scripted before the fact, may not be as perfect as a linear story. However, the richness and the proximity of the experience is so much more personal to the participant, that the complexity of the story becomes less critical. Indeed, when a real person is living inside of a story, it may be completely necessary to

do things that are not very dramatic or interesting to an outside audience in order to help them understand the situation and to persuade them into joining the action. Movies often skip over things that are normal and necessary in human communication, because the audience only needs to see a certain amount in order to comprehend the story. Being inside a story is a very different kind of experience, much closer to real life. Video games, bemoaned by non-gamers for their weak stories, can be successful storytelling devices because of the added investment that participants can have with their content. However, like gamist roleplaying, video games usually do not focus on storytelling as the principle goal of interaction. They may generate great story, but the purpose is still competitive game play, object gathering, or environmental exploration – so they remain games. The basic technology that is used for video games can also be applied to designing engaging, rich story experiences that give the audience agency within a story world instead of a game world.

The Importance of Interactive Story

Interactive story is important because it gives the participant the unique opportunity to invest with story in a personal, direct manner. Instead of seeing a character live through a dramatic arc, an interactive story lets a participant or participants experience an arc crafted personally to him and to his decisions. By living story and making decisions within a safe, narrative environment, the participant gains personal experience rather than the second-hand experience taken from watching a story unfold on page or on screen. In addition, interactive story allows the audience to live temporarily in the shoes of another person within a space that is completely safe, where actions only

impact narrative and the character without reflecting negatively upon the participant himself.

Interactive media has the ability to listen and dynamically change in order to create stories tailored to a person or persons. Either for entertainment or practical applications, this type of intelligent, fluid storytelling can affect an audience much more intimately and directly than a story that stays the same no matter who is watching. They can offer the opportunity to live and experience things that would be impossible or undesirable in real life. Within this kind of story, an audience has the ability to experience a foreign perspective or to try decisions and scenarios that real life does not permit. For training purposes, interactive story can enrich simulation environments by upgrading a task-based exercise into an emotionally and psychologically rich story that more closely simulates the psychological reality and stress of the experience. The applications of interactive storytelling are vast and some specific examples will be discussed in later chapters.

The Media of Interactive Storytelling

Marshall McLuhan compared the television culture to the central nervous system of society (40). He believed that worldwide broadcasts would unite people and culture in a way that emulated the oral traditions of yesteryear - forming the nexus of a global, intimately interconnected community. Writing in the 1960s, he could not have foreseen the advent of the Internet. However, his postulates regarding an era of global-connectedness and the impact of the medium on the message delivered still ring true. McLuhan realized that the media we use to express ourselves, changes the way in which

we think about ourselves and our world. In an age where information is easily distributed and where the 'everyman' is encouraged to be an author online, or an actor on reality television, the boundaries between who is the creator and who is the consumer are shifting radically. As digital storytelling pioneer Janet Murray observes; people are now accustomed to interacting with service-based media, such as the majority of websites we find online. Audiences who absorb passive media frequently invent ways to become involved with the program - either looking up additional information online or through the DVD release, or by contributing via chat rooms, forums, fan-fiction, and even through interactive storytelling forms such as role-playing games. Official role-playing games have been created for television programs and novels, including Star Trek, Robert Zelazny's *Amber Chronicles*, and H.P. Lovecraft's *Call of Cthulu*, among many others. The volume of unofficial games that exist solely due to the passionate investment that fans demonstrate for the environments, characters, and stories from their favorite movies or television programs, dwarfs the number of official games that can be purchased off the shelf. Investment with passive media is now inspiring people to enter that media interactively, in whatever manner available to them.

Changing the way that people engage story is significant, because stories provide a rich and expressive language through which human beings communicate meaning, and pass down wisdom through multiple generations. Many of these storytelling conventions are so ancient now that we take them for granted. Before Miguel Cervantes, printed text existed - but the novel did not. Now it is second nature to flip the pages of a novel, and to see through the printed text into a rich, living fictional world. We have the capacity to look through the text rather than at it and plug-in directly to the content. In films, we can

directly read the subtext underneath the picture – we forget that it is a picture brought to life by actors, and we connect instantly with the inner lives of the characters more immediately and viscerally than if they were real people. Cinema is no longer opaque, it is transparent like literature (McKee 253). Increasingly modern innovations such as the video games and the internet have not yet gained that level of transparency. Users are still conscious of the media instead of being fully aware of what the media contains, and so the technology remains the focus all too often, rather than the content of the technology. The shift from opaque to transparent has not fully occurred, and because of that, we are still caught up in deciding what the conventions should be for these new formats for storytelling, instead of using tested conventions to craft masterful stories.

What has changed over time is the audience's familiarity with interactive media systems. Now, we have a population of users who are fully acclimatized to user customization and self-driven navigation, as well as self-motivated learning and information retrieval. Now, we are not dealing with an audience who expects to watch media. We have an audience who expects media to react and change. These are the types of media that will yield digital interactive stories; that will someday be as transparent as literature and cinema, by allowing an audience to enter the story world without self-conscious awareness of the interface and the technological novelty. Humans have mastered the art of impacting an audience through carefully crafted stories that are essentially passive and non-interactive in nature. Now, the same remains to be seen with interactive works.

Traditional media has the author authoring, the actors having agency within the story, and the audience absorbing the story. Most forms of storytelling never vary this

configuration, and while this format is extremely effective for passive media, it is designed to keep the audience as a silent 3rd party to media; watching instead of creating the story that they experience. Interactive media creates a condition where one or more of these relationships changes. For instance, what happens when the audience authors or the actors absorb?

The graph below, developed by Dr. Michael Moshell, the founder of UCF Digital Media, Christopher Stapleton, the director of the Media Convergence Laboratory (MCL) at UCF, and Dr. Charles Hughes, lists categories of existing media that emerge from altering any of the traditional story relationships (“Interactive Story”).

	Authoring	Agency	Absorbing
Author	traditional media	video games	artificial intelligence
Actor	improvisation	traditional media	interactive theatre
Audience	role-playing games	participatory theatre	traditional media

By reconfiguring the traditional roles of actor, audience and author, it becomes possible to look at media creation in a new way. When the audience moves into a creative role instead of an absorbing role, there is a possibility and an opportunity for interactive investment to occur. This does not necessarily mean that interactive *storytelling* occurs within any non-traditional category. Video games are not usually interactive stories, but they do purposefully move the audience into a position of having agency. When we design interaction, it is useful to ask ourselves how we want the audience to participate, what role we want for ourselves as authors, and what role the actors

(either live or digital) will have in mediating the communication between author and audience. Although the chart separates media into starkly separate categories, it is also important to realize that these roles are not mutually exclusive. For example, interactive performance is categorized as having the actors absorb. This is the quality that makes it completely unique, since there is no other form of interactive work where the actors are trained to create story based around the audience by absorbing; but the audience also has agency within the story to affect change, and the audience contributes to authorship. The author is in this case, an amalgamation of actor and audience. At the same time, the actors continue to have agency within the story, and the audience also maintains his traditional role absorbing and listening, before he responds to the actors. Changing one role dramatically often must affect a change on the other roles, and sometimes when the purpose is to change one specific role – for example, the audience’s role within the story – it is first necessary to rethink the actions of the author and actors, in order to make that change possible.

In interactive media, it may also be essential to look at the game master or referee - the arbiter of rules and structure within the world. The game master can include the author, but is not necessarily so. When the audience becomes the primary author, the game master is the person who understands story and character interaction on a larger scale – a person who guides the contributing authors into creating successful drama, without overtly forcing them to make any particular choices. The success of the game master partially depends upon the devotion of the audience-authors, who will be more successful if they want to help create a meaningful story. In movies, the director is in some ways like a game master – setting guidelines for the actors, while translating the

script through specific shots and guiding the editing process that puts the entire story together into a cohesive format.

Andrew Glassner argues that participants will not want to be the actors within a story, and that when it comes to authoring, the audience wants to leave this to the experts. Most people are not skilled storytellers, so if interactive story is going to be successful, then the story itself cannot be left in the hands of the participant (223). If this is true, then how can interaction be used at all? The answer lies in not handing the story over entirely to the participant to run alone without guidance, and not abandoning the participant to play alone in a responsive but story-void world. Instead of being open for complete freedom and play, interactive stories can sculpt themselves to support the participant in a particular role within the story – whether that role is director, author, game master, or actor. By understanding where the participant fits into the story, we can design systems that facilitate this kind of play, while unobtrusively crafting the participant’s experience into a fulfilling story. For example, if we want the participant to enter the world as a character, then we need to support contributions made by that participant as the character instead of forcing him to make only the decisions that are most effective for the drama. It is unfair to deny participation at the level promised after extending the invitation, and if the participant is going to completely buy into the idea of being a particular character, then the interaction needs to back up their character decisions and not contradict them with planned cut scenes or pre-recorded dialogue that takes control away from the player. Further, if the interaction is digital rather than live, we can sculpt the choices given to the participant based upon the constraints of that

character and guide him without railroading, into a comfortable space of living with character.

Historical Framework for Digital Storytelling: Successes and Limitations

Currently, there is a perceived disconnect between interactivity and narrative. It is difficult for people who are accustomed to traditional narratives to see how stories, which rely on a trained authorial voice for their power, can be interactive and meaningful at the same time. However, there is no inherent disconnect between the two, as long as the interactivity is handled in such a way that narrative is supported and preserved. Stories are only seen as linear because we have been obsessed as a species with linear storytelling media for over a century. Cinema has become the pinnacle of storytelling in Western Civilization – a media that is extremely powerful in its capacity to engage an audience emotionally, but which has no capacity to change and adapt based upon audience participation. The history of human expression and experience does not end with linear narrative. From the oral storytelling traditions of native peoples, to the bedtime stories that parents improvise for their children – people are completely capable of forming nonlinear narratives that accept and encourage interactive contributions.

Popular forms of Interaction in Contemporary Media

Digital media is fundamentally different from the analog media that film is based on. Even though most movies are now captured in a digital format, the conventions of cinema and the realities of cinema are still very much rooted in the format and philosophy of analog. Modern tools designed for filmmaking may use the benefits of digital media to change how editing is thought of; but the rendered film still plays from

front to back, without incorporating the dynamic possibilities of interaction. Cinema works extremely well without the audience and media interacting, so there is no compelling reason to add an interactive component even though it is possible.

In contrast, Information stored digitally can be accessed in any order desired, and programs can be written that react to input in many different ways. Computer avatars modeled in three dimensions are also far more expressive and humanlike than anything we have seen from computers in the past, and immersive technologies such as Virtual Reality and Augmented (or Mixed) Reality can place a person inside a fully fictionalized world, or transplant the fiction of that world directly into the participant's reality. Now the tools of digital media have advanced far enough, so that authors can design stories for the audience to explore rather than absorb. However, authors are still trying to determine how to successfully write stories that are as interactive and immersive as digital media will allow, while still keeping the dramatic structure that makes storytelling impacting.

Most digital stories settle on branching or hypertext structures in order to give readers a semblance of choice within story. These methods, while popular in certain genres such as video games and children's novels, have structural problems that become apparent when trying to create compelling emotional content and immersive story structure (Glassner 239). Using these limited techniques, interactive narrative has yet to become as compelling and engaging as cinema or literature. Branching narrative often fails because of the way in which it presents story choices. Usually the story comes to a halt at critical moments in order to let the participant choose between a series of options - all of which seem to make sense for the story, but not all of which actually result in a compelling conclusion. The popular children's series *Choose Your Own Adventure* relies

on a branching structure. However, the correct story paths that lead to a somewhat satisfying conclusion are usually far outnumbered by the wrong paths that lead to unsatisfying dead ends and the ominous instruction “please try again”. Dead ends result in two things:

1 - They make the participant feel that he has made the wrong choice and ‘lost’ the story. If the goal of a scenario is to create compelling story, then the protagonist cannot lose the story, as one might lose a game. From the perspective of the participant, the story should be fulfilling and complete.

2 - They unconsciously invite the participant to play the book like a game, trying to gauge which choice will result in the desired conclusion, before making it. In effect, the participant tries to discern and puzzle out the intent of the author instead of going somewhere naturally and effortlessly by investing in the author’s intent.

Stories are not meant to be won or lost like a game. Often, stories rely on the hero losing occasionally or even outright. *Hamlet* would lack depth and impact if the young prince of Denmark managed to cleverly outwit his stepfather without sacrificing all of his friends, family, sanity, and entire kingdom in the process.

In addition to cheating the audience out of an emotionally satisfying story, branching narratives force an author to think through every possible path that his audience may take. He must write a multitude of compelling stories for the audience to experience, instead of concentrating on one great story that is designed with the author’s chosen pace, using the author’s trained sense of timing and characterization. The author

is trying to guess what his reader wants, while the reader is trying to guess what the author wants - a balance that is precarious to maintain, especially through a medium such as a book that provides no line of direct communication between the two parties who, by necessity, need to hear one another in order to respond appropriately. Additionally, the format that supports the branching structure is usually awkward and divisive to storytelling. The story narrative comes to a halt in order for the participant to make an uninformed decision. Whereas the author understands how any given choice will impact the story as a whole, the participant reader cannot possibly have this knowledge, unless he has skipped ahead to read about the consequences of his actions. If the participant is leading a main character, then he must decide how that character should behave within the moment. There is no author forcing the participant to make decisions in character, or to make the most compelling decisions. In short, the participant is artificially given a form of control that the author normally has, without having the foreknowledge of the story arc that the author possesses. It is rare to see branching narrative utilized in a way that serves both interactivity and story in a compelling fashion. Additionally, branching narratives take the participant outside of the story at critically emotional moments, and ask them to make decisions – sacrificing immersion within the story world for the sake of interaction, rather than serving the story with appropriate contributions (Glassner 249).

The problem with hypertext novels is different but related. Hypertext describes the basic organization of the World Wide Web, and while hypertext accessed and categorized through search tools such as *GoogleTM*, can be a great way to organize raw information - it is a horrible way to organize an interactive story.

Hypertext is based on free-flow exploration and searching through interconnected pieces of information at will. It is a system built for exploration, not for storytelling. The principle reason is that stories without the ability to listen to the audience and change dynamically based upon the voice of the author, are not improved by random access. Stories depend on an emotional arc. There is purpose behind story that includes the development of theme, character, pathos, and plot. Hypertext novels do not pay particular attention to these elements of storytelling. Instead, they allow the participant to search through text, images and other media without guidance in a random, stream of consciousness fashion. The deliberate choices made by the author in cinema and in literature are nonexistent, and therefore the emotional arc that leads to character transformation in compelling stories is very often absent in hypertext. It is routine in hypertext stories for one scene to follow another, and have nothing whatsoever to do with the preceding content. It is also regular for hypertext stories to lack dramatic content – consisting instead of a connected mesh of events that are extremely difficult to tie together into a cohesive story. It is almost equivalent to opening a book to a random page, reading that page, and then skipping at random to another page elsewhere in the book. Although the story might eventually make sense if one were to read the entire book in this fashion, it would take uncalled for patience and dedication to work through such a confusing, roundabout exercise, when the story would be more satisfying read front to back. Hypertext suffers from the flaw of including interactive content for the sake of interactive content, rather than using interactivity to enhance story and to make a more satisfying, rich, inclusive experience. Stories are more than random information accessed in an order chosen by the participant, and the choices made in hypertext fiction

are usually uninformed choices based on guesswork rather than full knowledge of the story's paths— exacerbating the problem. Andrew Glassner compares the problem to looking at a restaurant menu and seeing only the broad categories: "...“meat,”” “vegetables,” and “drinks.” You order one and hope that whatever that whatever the waiter brings you actually does belong in that category, and that you like it (253).”

Most people do not watch DVDs by selecting the chapters that they want to see, in the order they want to see them. Chapter selection is mostly used when looking for a particular scene again, after the DVD has been stopped or a scratch has caused the DVD to lose its place. The story is most enjoyable when seen in the way that the author intended it. Hypertext novels are generally organized arbitrarily. They allow a participant to riffle through information and story knowledge, with little to no attention paid to the order in which these elements come. This results in a disjointed experience rather than an emotionally satisfying story. The more talented hypertext authors will organize information so that it either proceeds chronologically or at least does not contradict itself logically - but the experience is still similar to uncovering a mystery story rather than engaging story in a more satisfying and widely applicable way.

Mark Bernstein began developing hypertext stories in 1982. He created Eastgate Systems to continue the study, and today he is still continuing the same research. In this time, hypertext has not had a significant impact upon consumer media (Crawford 337). In a 1992 essay “The End of Books,” Robert Coover proclaimed that the novel was on its deathbed – that a new form of fiction, liberating the reader from linear narrative form, would take their place (qtd. in Miller par. 1). The trouble is that hypertext narratives do not focus on making the free exploration of story an interesting, enlightening exploration.

Each choice the user makes is as good as any other choice, so there is no dramatic weight to the decisions. Laura Miller, writing for the New York Times, discusses one of the more well-known hypertext fictions: "...*"Grammatron"* is a listless task, a matter of incessantly having to choose among alternatives, each of which, I'm assured, is no more important than any other. ...The experience feels profoundly meaningless and dull. If any decision is as good as any other, why bother? (Miller par. 8)" Rather than seeing the disconnected series of characters, actions, and events as a fractured story that is united by imagination and curiosity, I believe that people wind up seeing hypertext as connected pieces of information – not connected pieces of story knowledge. Unless there is a strong reason to continue searching for information, or unless the information develops into knowledge, it becomes nothing more than uninteresting data.

Hypertext can be used effectively to access information, when the user already knows what he wants to find and why – but even as an information gathering tool, hypertext needs to be organized by a program or an author. *Google™* and other search engines try to return only relevant results to users. Searching through the entire contents of the internet without any kind of search filter, would be just as frustrating and horrendous as reading hypertext novels. When people commit to searching for information, it implies some prior interest in the subject matter on the part of the user. Stories must generate interest and hold interest – they cannot rely on the reader to automatically care about the information on the page, simply because the author wants to play with narrative structure. Ultimately, hypertext is only a minimally interactive form of media, because the information within the text stays the same fundamentally, and the

only reason people experience different stories is that each participant sees a different section of the information contained inside the larger narrative (Madison 119).

Neither branching narrative nor hypertext formatting lends itself easily to emotional investment within the story world. It is difficult for participant-readers to invest within hypertext novels because the story structure continuously breaks focus and rarely develops any one theme to a satisfying emotional conclusion. Within branching narratives it is difficult to develop investment, because the structure lends itself to 'gaming' the experience. Perhaps it is no coincidence that branching structures are regularly used within video games to simulate conversation and character interaction. Hypertext could be likened to the freeform environments that are popular within game worlds - an exploratory space, where objects, events, battles, and rewards are all arbitrarily selected and explored by the gamer-participant. These formats may be successful for game play, but it is difficult to apply them directly to storytelling. Additionally, neither format has the capacity to fulfill the goals of interactive storytelling. They cannot change based upon what the participant contributes. Hypertext and branching narrative stories are completely mapped out by the author. Certain parts of the story may never be seen: but every possible path is still scripted, known, and catalogued.

None of this is to say that branching or hyper textual narratives cannot be used at all, in order supplement specific parts of a great interactive story. However, they are not suited for creating the overall framework and intelligence of stories, so when we use these techniques we should use them where they will be most effective. We cannot continue to rely on editing content that works best within a passive storytelling structure, and putting that content into an interactive construct. When we break apart a compelling

passive story and try to make it compelling within an interactive media, the process results in a poorly constructed interactive story. This is because a passive story relies on the intricate details of character interaction, plot, and other nuances that interactive story cannot have, unless they are forced upon the participant. Therefore, we must begin thinking differently about story before we can hope to create a form of interactive storytelling that can compare against passive media emotionally, intellectually, and immersively.

A Model for Compelling Interactive Story

A model for truly interactive, digital story begins by structuring the interactivity within the principles of compelling storytelling. A story is not successfully interactive merely because the participant has some choices to make. Interactive story relies upon the quality of the choices given to the participant, and the real or perceived control that the participant exerts upon the story based on those choices. Choices that do not impact the story may create agency inside the interactive environment, but they are not related to interactive storytelling. The essential quality of interactive story is a focus upon the narrative – and on improving the narrative through interactive incorporation.

This does not mean that the participant has *carte blanche* to do whatever he wants without consequence, nor does it mean that the participant directly controls the plot of the story. As Chris Crawford points out, it is not unfair to kill a character if he jumps off a cliff. This is treating the participant as an adult who can accept adult consequences for the decisions that he makes. It is also not unfair for actions to have subtler repercussions. For instance, when Romeo decides to pursue Juliet, there should be an expected and appropriate negative response from Juliet's family. Allowing the participant to choose without any consequences is analogous to creating a story world with no opinions and no moral center. The moral code of the world can also be expressed as the controlling idea, which colors how people act, how events play out, and what the central, driving message of the story is. Story is a creative demonstration of what life is like (McKee 122). An audience, whether he is passively or actively engaged in the story, wants to experience a good story. A good story does not forsake conventions of good storytelling, even when it is interactive.

Interactive stories are not scenarios that let the participant decide the ending without respect to storytelling. The ending is the most critical part of the story, and without an author's influence, interaction can become a mere narrative game rather than a fulfilling story experience (Stapleton, Hughes, and Moshell, "Interactive Imagination" 5).

They are also not simulated environments that continue infinitely without a tangible beginning, middle, or end. Instead, they are stories that use classic storytelling conventions to impact the participant emotionally, while engaging the participant collaboratively with an interactive system, in order to create a fulfilling and fundamentally unique narrative experience. Inviting a participant into your story does not mean that they need to control every aspect of what happens. This is a matter of Point of View. POV in a normal story determines the perspective through which we see a story unfold: usually first or third person. In an interactive story, we can also decide the perspective from which the participant sees and impacts the world. Are they impacting the story as a character? As an actor? As an author? As the Director? Or as themselves? Each option has different effects and a different set of choices that they should be able to make. As a character, the participant only needs choices that are within that character's capacity to make. For example, if an author created a *Star Wars* scenario and cast the participant as Darth Vader, it is not necessary to give him the option to "Stop and Pick Daisies". Chris Crawford specifically addresses the players as characters or actors within the story rather than authors, and his perspective is that the author only need to offer choices that are functionally significant to the story. Interactivity is not a matter of how many choices; it is a matter of how many choices are offered versus the number of choices that the participant can think of in a given scenario (Crawford 41). Using his

definition, allowing Darth to stop and pick daisies is still functionally insignificant – the choice does not need to be there unless you are crafting a farcical story.

In digital interactive storytelling, it is necessary to create a way for the story to listen and respond based upon user input. Using this concept, we can begin to think about stories as a conversation between participant and media, rather than the audience absorbing the author's story. The idea of a story that can grow beyond its author's intent is not new. The concept is commonly referred to as Emergent Story, and its history is at least as old as early video games. Since the 1980s, programmers and artists have been struggling with how to create emergent story. Some believe that old techniques will somehow combine to magically create a story that thinks and evolves on its own, or that video games will someday evolve into interactive stories as they become more advanced. However, while video games have become more technically advanced over time, the choices available to the players have remained fundamentally static. The quality of choices has not improved, and therefore the quality of story interaction is generally no better today in video games, than it has ever been (Crawford 344).

If we are looking for a new media that is as effective as cinema, as interactive as a video game, and as immersive as a theme park - then why can't we just take the elements that work from all these media, and combine them into some amalgamation that becomes interactive storytelling? Unfortunately the process is not that easy. Each of these media communicate to an audience in very different ways, and it is impossible to isolate an element that works well inside one media and move it into another media that communicates and functions differently. The elements of cinema work together in harmony; one element does not work alone. This is in a nutshell, why adapting literature

for the big screen often fails. Regardless of how brilliant the original literary work may be, it is almost always necessary to change the language and structure of literature in order to create compelling film. This is especially true for literature that relies heavily on the poetry of the language, or if the story takes place inside the mind of the protagonist. Ray Bradbury novels are difficult to adapt because the story's richness comes from the poetry of his language, and James Joyce's *Ulysses* will probably never have an on-screen adaptation. When an author reinvents a story well, people will hold both the book and the movie in high regard as two different ways to express the same story (McKee 368). Literature relies on the language of words, while cinema relies on the language of pictures – a pre-literate form of communication. It is impossible to express the same thing in the same way, using different media (McKee 367). When we then look at interactive storytelling, it is logical to assume that we must change things about existing stories in order to adapt them to the interactive form.

Interactive Theatre and Live Collaborative Authorship

To date, the most productive examples of interactive storytelling have emerged from live performance and live collaborative authorship – two similar but distinct forms that may use technology to enhance the story, but that are fundamentally based upon live human-to-human interaction. If we dismiss the computer as a core medium temporarily, it is possible to find existing stories that fully incorporate interactivity, without sacrificing the emotional journey of story. Storytelling is part of the universal human experience and since stories rely on emotions, the procedural brain of a computer cannot comprehend what is extremely simple for humans to appreciate. Humans have the ability to improvise actions, and they have the natural ability to become compelling storytellers - computers currently do not. There have been some computer programs that simulate story comprehension and it may be possible to create programs that have the ability to comprehend story within a very limited environment, with limited inputs. It is questionable whether or not these models can be sufficiently complex, as to create compelling narrative.

In live interaction, interactive storytelling has been accomplished by combining improvisational techniques, gaming conventions, human-to-human interaction, and oral storytelling traditions, with an understanding of what makes story resonate. Arguably, participatory theatre, role-playing games, and the discipline of Interactive Performance have all succeeded in creating meaningful, rich experiences that involve participants within a developing narrative in different ways. Studying the essential elements and techniques of improvisational human-to-human storytelling, will help to determine what

draws people into a story; how to keep the story going; and how to give the participant freedom within the story world without abandoning narrative.

Role-Playing: Collaborative Story Creation

Role-playing games use conventions from both storytelling and game-play, in order to invite participants into a collaborative story space. The game structure provides an agreed upon reality, that multiple people can live in with artificially equalized opportunities. Role-playing is very similar to the make-believe games played by children, except that the rule system prevents players from dissolving into endless arguments over whether or not an imaginary bullet hit its equally imaginary target (Dansky 18). When arguments do arise, there is an authority figure - the Game Master, who has the ability to arbitrate rules and make decisions.

Most players and even Game Masters see role-playing as a fun hobby, without looking at why it works (or why it does not work, depending on the circumstances) None the less, there are different models that philosophically describe participation within role-playing games. Currently, the most popular school of thought is derived from a Three-Fold Model that looks at the different ways in which gamers engage story. The GNS Theory stands for Gamist, Narrativist, and Simulationist. Each of these categories describes fundamentally different ways in which story interaction occurs. The type of interaction inside a roleplaying game, also impacts the type of investment that players will feel while they contribute to a game. The type of investment can range from caring about gold and prizes, to caring about their character as a person, to caring about the dramatic impact of the story as a whole unit (Edwards, GNS 3). When players genuinely care about creating a compelling story instead of winning a complex game, they often find conflict, pain, loss, and all of the negative emotions experienced within dramatic

narratives, to be desirable situations. Negative outcomes are in this way, re-contextualized into positive rewards for good roleplaying.

Gamist: Investment through Competition

Gamist systems focus on the experience as a competitive game (Edwards, GNS 3). There are enemies to be slaughtered, treasure to be found, and intelligent game-play from all of the players results in a more satisfying strategic adventure. Gamist players may compete against fellow players or against the storyteller, in order to achieve goals both for themselves personally, for their character externally, and for their adventuring troupe. Investment derives from a sense of concrete accomplishment and victory within the world. Focus remains on 'me' instead of being transferred into empathy for an external character. The Gamist perspective is a valid and common mode of role-playing. However, it does perceive the experience as a collaborative game instead of a collaborative story. Personal investment within a role-playing game, from the perspective of a gamist player, is directly related to the competition and the weight of victory versus defeat - whether the competition is combat related, social, or intellectual. The earliest forms of roleplaying were almost exclusively gamist, as they derived directly from war gaming. Early *Dungeons and Dragons* is the most common form of gamist role-play and it is still the most popular gaming system on the market today.

There is a reason why gamist systems are popular, even though they do not provide the most compelling stories or opportunities for dramatic narrative. It is relatively easy to invest at the level of a gamist player, because the focus remains on the player and the player's goals within the game world. The player only needs to care about winning; not

about experiencing the game world as a character who may be very different than the player, or following the goals of that character. This investment is equivalent to playing within a sports event or a checkers game. The personal involvement and sense of personal accomplishment is high, so the investment into the outcome is equally high. Investment experienced through the character persona is comparatively low. If one character dies in battle, another can be created and played just as effectively. Although people enjoy playing sports, we cannot say that a football game is a story, or that a player inside a football game has the same type of experience as a character inside a narrative drama. Playing within a gamist format does constitute interactive storytelling, and great stories can happen as a consequence of gamist play. However, gamist scenarios do not expressly aim for successful story, and it is rare that they approach the complexity and emotional depth of the stories that we watch in the cinema. In order for roleplaying games to near this level of complexity, they must accomplish two important things:

- 1 - The game must shift focus from the player to the character. This distinction may seem arbitrary. However, player focused games are equivalent to watching a movie where the actor does exactly what he wants to do inside the story, instead of letting the character inform and direct his actions. Players often make decisions that seem 'intelligent' or 'best' for them, rather than making decisions that are best for developing the dramatic story arc.

- 2 - The game must convince players to experience negative situations, without feeling as though they have 'lost' within the context of a competitive game. Stories are not about winning or losing in a literal sense. A character should be able to feel that a situation has turned against them, without the player feeling that they have personally

made wrong decisions to ‘deserve’ punishment or docked points inside a game setting. The experience must be enjoyable for the player even if it is difficult for the character, and negative things that happen to the character must not feel painful or undesirable to the player portraying him.

These solutions do not exist within gamist scenarios. Instead, we must look at two other forms of role-playing that developed after early *Dungeons and Dragons*. These forms; simulationist and narrativist gaming, were created by gamers who wanted to explore character and storytelling on a more dramatic and/ or realistic level than existing systems would allow. Investment on the level of the character has been supported within these newer models of game play.

Simulationist: Investment through Simulated Life

Simulationist systems focus on the experience as a simulation of life, and stay close to the pure exploration that is the foundation of all roleplaying (Edwards, GNS 3). They attempt to portray a situation accurately and realistically. This attention to realism can be applied to different game elements for different kinds of simulationist players. Some focus on the realistic portrayal of an individual inside the world, while others are concerned with realistically representing the world itself. If the setting is fantastical or futuristic, then the game will operate realistically within the defined context of that environment. Simulationist players focused on the internal validity of a character, will create characters who behave in a believable manner within the context of their world and history, regardless of whether their actions benefit the story or hurt them physically

within the game. A claustrophobic Troll character forced to walk through a dimly lit, narrow cavern into a dragon's lair during the climax of a story, would more likely run in the other direction or pass out from a fit of panic, in the hands of a simulationist player. Even if the realistic actions of a character force that character into certain death, a hardcore simulationist player will make the realistic choice, without using out of character bias or knowledge. It does not matter if the character decision 'breaks' the story, as long as the decision is authentic. A simulationist Game Master will also make decisions realistically within the world. He will kill player characters and cause a story to end on an unsatisfying note, if that is what would realistically happen given the actions of the player characters and the non-player characters who are under the storyteller's control.

Investment for a simulationist player derives from a deep, personal connection with their character and the experiences undergone by that character. The inner psychological world of a character may become extremely important to a simulationist player, while only the external reality and actions of that character are seen by other players and the Game Master. Therefore, the story is a combination of the shared reality of the game world, and the private psychological worlds of each character. Some simulationists describe feeling possessed by a character (Edwards, GNS 4). While the character is of course fictional, the player may feel that the character has a life of its own and is speaking through them while the game progresses. Similar to method actors who become completely subsumed within a role - Simulationists may feel their own personality slip behind a mask of character, for the duration of a game. With this level of immersion, it is easy to see how character investment is of primary importance for a

simulationist player. When the Game-Master is sensitive to this perspective and all of the players are engaged in this style of play, it is easy to create deep, personal character dramas. Sometimes however, it can be difficult to break away from the character focus and have a strong story experience on top of the personal interaction. Play within simulationist games can devolve into unstructured free-play interaction instead of coming together in order to make a story. Simulationists may also become overly focused on their own character and fail to invest within the fictional lives of other characters.

Simulationist play is the only category of roleplaying that minimizes or eliminates goals that come from outside the story. In gamist play, players compete with each other as players – using their characters as tools for competition rather than seeing the character itself as a fleshed out individual with unique goals and responses. Narrativist players work from a perspective outside the story to generate a collaborative narrative. Their characters may act in ways that make a better story, rather than acting in ways that are internally consistent with the character. Simulationists divorce play from out of character desires and goals. Their characters act according to internal logic and the events inside a simulationist game are not altered in order to support either story or competition that come from out of character motivations.

Narrativist: Investment through Authorship

Narrativist systems focus specifically upon the storytelling aspect of RPGs (Edwards, GNS 3). They encourage players to contribute to the creation of a compelling, collaborative narrative. Narrativist storytellers will make decisions that benefit the story, whether or not they are entirely realistic or satisfying within the context of a game. They

may be willing to bend the reality of the world in order to keep players alive, make their choices dramatically satisfying, or to create a climatic scene where it feels 'right' - instead of where it was planned from day one. Narrativist players may alter their characters in small ways throughout the game, if it is better for the overall story. In the aforementioned example of the claustrophobic Troll - a Narrativist player might allow their Troll to overcome his paralyzing fear; transforming within that moment, into the hero that he always had the hidden potential to be. Investment for Narrativist players comes mostly from meaningful involvement with the story, rather than with personal achievement or character depth.

Investment is aided by giving the players an ability to impact the story world in meaningful ways. For instance, in the *HeroQuest* system - heavily focused on Narrativist gaming, the players are able to define story elements outside of their own character, by spending hero points. For example: Robert, who is playing the crafty street urchin 'Bean', wants to infiltrate a gambling house in order to take some of the free food offered at the buffet. Bean is too young to enter the gambling house and he only recently came into the city, so he does not know the ins and outs of the building well enough to sneak in. Robert declares that he is spending a hero point, and establishes that Carmen, one of the card table's most devout addicts, used to room with Bean when he lived in another town. She was like a big sister to him until they were separated by the police, falling into a steady downward spiral after her release from jail. Carmen sneaks Bean a sandwich and their old friendship is at least temporarily rekindled, opening up all kinds of narrative possibilities for the two later on.

Most game systems do not offer this kind of control. It falls on the Game-Master to decide every detail that is not recorded on the character sheets and personal histories, of each character. It is up to the Game Master whether or not the players have additional freedoms. When there is miscommunication between the players and the Game-Master about the amount of freedom and control that they will have within the story world - rifts can open within the group and games often fall apart. This is one of the primary failings of roleplaying games. Even though each game comes with a system and a set of rules, players often enter a game without knowing exactly what their options are. Some players want a simulationist experience while others expect to compete in a gamist manner. Most game troupes do not take the time to put everyone on the same page, so there is confusion and disappointment from some of the players once the game begins. Players cannot always choose their level of interaction - control can be taken away by the Game Master, or unwanted control can be conferred to the player without permission.

Roleplaying games are usually most effective if all of the participants have the same understanding of the expected interaction. It is easy to see how different perspectives can create vastly different experiences - and how a player expecting one kind of game, could be sorely disappointed when the experience did not deliver according to their own personal goals (Edwards, GNS 3). When an entire group has the same goal and similar perspectives, a story or game can move forward effectively. Unfortunately, these categories are known amongst roleplaying theorists, but not necessarily amongst real players within ongoing games. This lack of knowledge and appreciation for theory creates disconnect between what these stories are capable of theoretically, and what most games actually are. Many roleplaying games fall apart precisely for this reason. There is

little consensus among gamers, about what the quality of experience ought to be and it is rare for gamers to take their craft seriously enough, to really make wonderful, rich, and meaningful stories.

Roleplaying Structures: Mapping Form to Intent

Game systems are part of the structure that define a role-playing experience. There are many variations on system, but all systems map to either gamist, simulationist, or narrativist styles of play. There is also an author's intent imbedded into roleplaying texts. Sometimes the imbedded intent matches the game system and sometimes it does not. When it does not, there is often an effort among players and storytellers to dumb down the system or to use it as little as possible - so that the intent can come through without being hampered by the nuances and unfortunate glitches of a badly mapped system. The text of White Wolf's original *World of Darkness* series, for example, encourages complex storytelling and nuanced character interaction. Unfortunately the subtext provided by its game system is skewed towards a gamist mentality. Numbers are important inside the system and creating a character depends on understanding how those numbers relate to one another. Combat is also slowed by a cumbersome chart of numbers that impact how weapons functionally work within a scenario. It can be difficult to find a storyteller and a group of players, who all agree on how a game should be run. The system does not communicate to the same players to which the text communicates. Sometimes however, the system is carefully crafted and matched to the intent of the game. In these instances, the game-play reinforces and encourages the type of storytelling and intended tone set out by the original author. In *Amber Diceless*

roleplaying, the bidding system that prefaces character creation, encourages backhanded competition amongst the players. It reinforces the tone of manipulative backstabbing and political intrigue that runs throughout Roger Zelazny's *Amber Chronicles* - on which the game was based. After the bidding competition is over, the game does not have many additional rules to follow, so while the characters are competing inside the story amongst one another - the players are freed to explore the storytelling aspects of the world, instead of being caught up in a competitive game system.

Encouraging Different Types of Play

1 - Gamist systems usually have all players begin at the same power level, but players are rewarded differently depending on how well they play. Success is measured by the player's ability to solve a situation rather than the quality of the story or the truth of the interaction (Edwards, System par. 6).

2 - Simulationist systems usually have all players begin at the same power level and stay at approximately equal levels throughout the course of the game. There are no rewards for strategic planning and game-play, so gamism is not encouraged by reward or punishment. It is play for the sake of play more so than either of the other two genres. Simulationists are served when the universe obeys consistent laws (Edwards, System par. 8).

3 - Narrativist systems expressly give a player the power to impact the story world in ways that his character cannot. For example, the player may be able to affect the thematic elements of the story, even though their character is within that story. The player can act as a character embedded into the story and a co-director/ actor who

lives outside the story at the same time – using the character as a tool for designing his vision as a director/ author (Edwards, System par. 8). The numerical attributes of a character are also given narrative power instead of directly and descriptively relating to the reality of that character. For example, in a simulationist system, having a low strength score means that the character is physically weak. This numerical statistic has a direct relationship to the physical appearance of the character and only addresses the physical capacity of the character to lift/ move objects, or to cause physical damage. In a narrativist system, a low strength score can be a narrative tool instead of a literal description. The character can be muscular and physically strong, but the player decides to give that character a low strength score because he does not want strength to be an important determining factor within his character's story. The statistic has narrative weight rather than a literal meaning.

The score might mean that the character does not use his strength to solve problems, or that the character for whatever reason, is not very adept at using that strength even though he physically has it. The player could also create a David and Goliath scenario by designing a scrawny, weak looking character with an unusually high strength score. On the other hand, in some narrativist systems, 'strength' could describe strength of character or strength of conviction that the character is able to use like a physical strength to add resolve and purpose to his actions.

We have seen how interactive systems impact how participants invest. In roleplaying games, none of these approaches are superior and none are inferior. The type of system that a game should use depends entirely upon what the players and GM want to get out of the experience. For adaptation to interactive stories, authors should look at the

techniques used in simulationist and narrativist play primarily. Simulationist techniques are useful for living in the character and experiencing relationships between people. Narrativist techniques are useful for getting the participant actively involved with creating the story.

The key rule that comes from this examination is that system does matter. For any type of digital interaction, the author must consider how the audience interacts; how much control the audience has; and what the audience has control over. These decisions should agree with the author's overall intent for the story, but I do not believe that there is one universal system that will function for every type and flavor of interactive story.

Additionally, through examining the differences in role-playing systems, we have seen that events within a storytelling world that might be taken as negative in a game-centric world, can be given a positive and even rewarding connotation. One players are contributing as characters or as storytellers, the dramatic rewards can be just as substantial and meaningful as the literal rewards of treasure, level advancement, or in-game status.

Roleplaying: Character Creation and Investment

The process of character creation in roleplaying games is part of the introduction, before the game begins, that bonds a player to the story. The introduction may also include reading the source material for the game, learning the rules, or possibly talking to the GM about his specific story, setting, and characters. Character creation is generally the part of the introduction that involves the players most directly, and that is most pliable to what the players want to see inside the game. It is a direct way to exert influence upon

the shape that the game will eventually have. Usually a character takes between 20 minutes and several days to create. Every player is different. Some can get down a character very quickly and play immediately, without much preparation or forethought. The character personality often develops inside the game instead of being set into stone beforehand. In narrativist systems, characters may be actively created by the player, the GM, or even other players as the story progresses. In other cases, a player may need to stew on a character for many days or weeks, searching for the exact flavor they want to play within any particular game - then laboriously filling out the details of that character's life, so that they understand how to play the character perfectly before game play starts. For players who labor over character generation, each character tends to be very special and personal to them immediately. When the events of game play contradict what they thought would happen, a player who plans their characters may feel that their investment has been undermined and wasted. For players who do not plan much of the character beforehand, the events of game-play tend to be much more flexible and their characters can adapt to what happens. However, these players more often fall into tired clichés and wind up playing themselves instead of a character. Their investment comes through playing situations that bring out character or story, so they may not begin with such a high level of investment as players who plan.

The Game Master: Diverse Approaches to Running Games

In a roleplaying-game, each of the main characters belongs to a player. The rest of the world, including the environment, additional characters, and usually the overall story arc, belongs to the Game Master. It is difficult to describe exactly what the Game

Master's job is, because not everyone agrees. The role of the GM can be partially defined by the gamist, simulationist and narrativist systems, but there are more specific distinctions that warrant some discussion. In some game systems, the GM is a virtual god. Every single thing inside the game that is not directly controlled by the players, is controlled by the GM. The story is basically set in stone and characters can only act inside the story instead of defining it for themselves. Players do not have the right to create other characters, locations, items, or information inside the game that is not given to them by the GM. This type of game structure is very common, although most god GMs will allow their players to deviate from the story insofar as it does not break the story. Actions that would 'break' the story are usually met with dead ends or a *deus ex machina* that brings the player back into line. Games run in this manner are closer to passive storytelling than any other form of roleplaying. While the details of the story change based upon character action, the structure and events are scripted by the GM. The detail that normally changes is whether or not the characters succeed in their endeavors. A god GM will generally still allow characters to fail or even die if they are unable to physically or mentally outwit their enemies. The tendency to kill characters whether or not it benefits the story is a product of another gaming style, which is sometimes but not always associated with god-style storytelling. It should be said that a GM usually acts this way when they are insecure in their abilities to improvise. Usually the style of a particular GM follows him between game systems, and so the storyteller does as much or more to define the tone of a game than the system itself. That being said, most GMs will select game systems that make sense to them. A god GM would probably not be

attracted to *Hero Quest* for example, because the system expressly permits a great deal of player freedom and contribution.

Others see the GM as a facilitator more than a god. The GM defines the playground and the players decide what happens inside it. This type of GM might not have a defined story at the beginning, but rather allows the story to be defined by the actions of the players. It is possible to create an extremely flexible story that is built directly around the player characters and their actions - linking plot directly to character instead of to defined events within the world. This level of crafting requires a GM gifted in improvisation and who is able to generate compelling story very quickly on the fly. On the other hand, roleplaying games often take place over a series of weeks, separated by a few days or a full week in between sessions. This time can be used by such a GM to build and develop story while the players are elsewhere. Many GMs hover somewhere in between the 'god' mode and 'facilitator' mode - planning some events and being flexible with others.

Just as role-playing games work best when the game system supports the intended story content - so too, should interactive story structures support the type of story being told. More and more often, directors of motion pictures change story structure in order to tell a specific story more effectively. The movie *Memento* utilized an unconventional timeline in order to place the audience within the mind of a mentally damaged character, who had lost the ability to form new memories. The director told the story backwards, beginning with the last scene in a timeline and progressively showing every scene leading up to that moment, interplayed with memories before the character's accident - which were told in sequential order. This clever technique left the audience in lurch, trying to

work with the details of the present, just like the character had to do. Of course, the audience was given an unfair advantage of knowing the future - something which the character did not have access to.

Since drawing the participant into the mind of a character is absolutely critical for interactive story, I believe that the story structure utilized will become even more important than in cinema. Each story will need an artist to sculpt the experience, in terms of story and in terms of the interaction that enhances the overall experience.

Roleplaying: Lessons for Digital Storytelling

1 - The rules of interaction are not superficial. Rules play an active role in sculpting an interactive experience. Intensive rule systems do not necessarily support gamist thinking, nor do rules-light systems necessarily support narrativist thinking. Gamist play is supported by systems that encourage competitive, function-based play. Simulationist play is supported by systems that encourage realistic, immersive play, centered on the realism of the character. Narrativist play is supported by systems that encourage players to contribute to the story itself.

Although Roleplaying relies on systems that map most closely to game conventions, “system” defined in a broad sense only refers to the way in which the participant is allowed to interact, and what provisions are in place to accept that contribution.

2 - Adding story on top of game with a focus on game play, produces a gamist-centric experience that does not easily support interactive story. Adding game to

story can create a comprehensible way for interactive story to happen amongst mostly untrained or novice storytellers. System gives players an understood and agreed upon way to access the world of story, without being trained as improvisational actors or professional storytellers.

3 – Scenarios that would normally be considered negative in a game, can be characterized and experienced as positive if the interaction supports a story-centric or simulation-centric level of investment.

4 – There may be different levels of ‘author’ within an interactive story. In RPGs, there is the author who writes the system and establishes the overall flavor and premise of the game. There is also the Game Master, who to one degree or another creates the specific story, couched inside the larger parameters established by the system author. The players, to varying degrees of control, also contribute to creating the story in a dynamic way. No matter how many layers of authorship and co-authorship exist, the original author of the system and premise is by no means lost beneath the subsequent layers. His influence strongly colors everything that comes later.

Roleplaying: Limitations of the genre

Despite its potential for creating deep, meaningful stories, roleplaying has never caught on as a mainstream activity. The closest examples of mainstream success come in the form of video games such as the *Final Fantasy* series, which is a very crude version of what live roleplaying offers in terms of interaction and story. Massively Multiplayer Online Roleplaying Games have also become very popular in mainstream consumption,

but they are almost exclusively more about community building and treasure hunting, than they are about character or story development. Why has roleplaying never matured into a genre enjoyed by a wide range of people? Firstly, the stories tend to be exclusive. They require a foreknowledge of the rules, the environment, and one's own character history, in order to participate. The player must already invest a great deal of effort before entering into the story world. Therefore, the ratio of fun to work in role-playing is skewed unfavorably towards work at its onset. The amount of enjoyment that comes from experiencing this kind of story cannot be accessed without first contributing a lot of effort. More effort can, but does not necessarily, result in more fun. All too often, a game falls apart or players simply do not work well together. Miscommunication, incompatible schedules, or incompatible gaming styles can all contribute to a lackluster experience that follows hours of heartfelt character generation. Although role-playing can be extremely rewarding and fun, the work level makes it unappealing to most people. This is one of the key detriments to roleplaying games and a chief reason why it has been relegated to the purview of Tolkein and sci-fi geeks.

Andrew Glassner argues that most people do not want to become actors. Therefore, forms of interactive story that ask the participant to 'act' and show character emotion are doomed to fail on a wide scale (223). I disagree with his assessment of what participants want out of an experience. It is true that performing or even reading plays at home and role-playing games, are pastimes of a few - not of the masses. Most people do not pretend to be characters after they 'grow up' and leave behind childhood games. However, I believe this is due to the fact that most live interactive story forms for adults, either require too much work from the participants, or they confront the participant with

needing to be an actor. Many of these experiences are also not enjoyable, unless some of the participants *are* good actors. It does take effort to create a compelling story. Most people do not have the training or skill to be the next George Lucas of interactive storytelling. So, when most people gather in order to play with story, the results are less than satisfying. When people have an unsatisfying experience or a series of them, they are often disenchanted with the entire concept of interactive storytelling. However, this disenchantment comes from a lack of understanding because the medium is so new. The majority of people who try interactive story as novices in a roleplaying game for instance, have no idea what makes a game work and where the pitfalls may be. When a pitfall occurs, they may not realize why or how to repair it. Like learning how to play chess, people can learn with practice how to craft better stories. The trick is getting newcomers to invest early, because the learning curve is a critical barrier to overcome if interactive story is going to reach out and affect mass audiences. Reducing the learning curve is another approach which has been very successful within live theatre.

There are modern techniques used within interactive theatre and roleplaying games that make it easier for ordinary people to become successful and satisfied story contributors. The challenges that Glassner cites are far from insurmountable within a live setting and proof of concept productions such as *The Game*; which will be discussed within the section on Interactive Performance, show that non-actor participants can be transformed into emotionally invested characters by the end of a well-crafted experience

Interactive Performance: Empowering the Non-Actor

Interactive Performance is a unique form of live interactive storytelling that has proven it is possible for a non-actor participant (spect-actor) to play effectively inside an improvised story. Unlike the comparatively less interactive form of Participatory Theatre, which is alive today in mystery dinner shows around the country, and the *Indiana Jones* production at Disney MGM – the spect-actor in Interactive Performance takes on the much larger and more involved role of the protagonist. This is accomplished without giving the spect-actor a long backstory to read; without prompting the spect-actor with cue cards; and without stopping the performance to help the spect-actor understand what is happening and what they should be doing. The techniques of interactive performance are specifically designed to support the spect-actor's ability to be the protagonist and to make him look good within that role – no matter what he chooses to do.

In this way, Interactive Performance is related to but distinct from improvisational performance. Improvisation involves trained actors, who riff off one another in order to generate story or comedy in the moment, like trained jazz musicians who improvise music on stage. Sometimes improvisation is comedic, such as the work done on *Whose Line is it Anyway?* Other times, improvised work can be dramatic. Interactive Performance uses some techniques of improvisation, but it extends beyond improvisation by the incorporation of non-actors into the story performance (Wirth, Personal Interview). The actors – known as Inter-actors – are trained as in acting, storytelling, human-to-human interaction, and interactive storytelling techniques developed by Jeff Wirth. Using the grid of author (authoring), actor (agency), and audience (absorbing),

Interactive Performance uniquely trains actors to absorb. This also differentiates Interactive Performance it from live-action role-playing games, where all of the players are to one degree or another, familiar with their characters, the rules, and the techniques of interaction that allow them to play. However, a fault of roleplay is that most players are not trained at interaction, acting, or storytelling – so there is no one to ensure that the story succeeds. Interactive Performance depends on intensive training for all of the interactors.

One of the essential principles of Interactive Performance, and interactive storytelling in general, is that the spect-actor must always know that he is playing. The purpose behind storytelling should not be to embarrass or humiliate the participant, but to empower him through the experience of living a personal story. Jeff Wirth believes that disclosure is important, because if the player doesn't know that he is part of a story, then he is not really playing – he is just reacting at the mercy of the actors and the author (Wirth, Personal Interview). By telling the participant up front that he is playing in a fiction, instead of lying to the participant by passing fantasy off as reality - he is empowered to freely act as a character. Removing fear is one of the most critical steps towards getting a non-actor to play (Wirth, Personal Interview). This is one of the principles that separates Interactive Performance from its distant cousins in the entertainment industry, including hidden camera programs such as *Scare Tactics* and *Punk'd*, that deliberately trick an unwitting participant into believing something horrible or frightening is happening in real life. These scenarios to one degree or another, use interactive techniques to do something that is comparatively easy. That is, fool someone who has no logical reason to distrust what he is seeing and experiencing. Interactive

Performance takes on the added challenge of developing participant investment within a scenario that is clearly fictional. Although the people who create programs like *Scare Tactics* seem to disagree; stories do not require trickery to be powerful. Everyone knows that television stories, movies, and literature contain partially or entirely fictional information. That does not stop an audience from engaging emotionally with the content – interactive story is no different, as long as the audience understands the scenario well enough to suspend disbelief. The Holodeck never tricked the Enterprise crew into believing in a fantasy, and yet it was obvious how intelligent people could get caught up in the fictional drama.

Storybox is the research lab for interactive performance at the University of Central Florida. It has repeatedly demonstrated that interactive story is viable, not only for entertainment purposes but also education and training. Interactive Performance has been successfully applied to work with the Alzheimer’s Foundation and the UCF Police department (Wirth, Ingraham, and Moshell 3).

Storybox is essentially an entirely live, human-driven version of the *Star Trek* Holodeck (iPlay). It is a blank canvas stage designed for interactive theatre, where trained interactive-actors can make anything happen – often manipulating both location and time inside the highly mutable story world in order to do so. Under the direction of Jeff Wirth, Storybox interactors have designed many different conventions for making dramatic interactive stories function using non-actors as central characters. Physically, the Storybox is a large black drapery cube, with another smaller cube inside of it. The smaller cube has walls that are transparent from outside, but rendered solid black from the inside by a trick of lighting. Actors are in this way able to stand inside the alleys

between the two boxes and watch the story as it unfolds within the inner box. They can step into the scene at any time, from a number of slits in the black fabric. The box is outfitted with cameras, lights, and a sound system that can be controlled from a technical booth behind the scenes. These technical additions not only serve to accent the story; they can be used by a skilled technician to guide the story in new directions. The lighting can be used like another actor for instance, to block out space within the box. The soundscapes can set a mood, establish an event, or be used for more subtle, cinematic effects. Generally the influence of the technology remains invisible and it is only on a subconscious level that the spect-actor even realizes it exists.

One of the greatest strengths of Storybox, is that human actors can be trained to determine who the spect-actor is as a person, and what he needs within any given story. Most computer games only know what actions the player makes, not the motivation behind those actions. It is difficult therefore, to translate the dynamic storytelling of Interactive Performance into a format that functions using computer controlled characters. *Façade*, an attempt at digital interactive storytelling which I will discuss later, does not ever try to build a profile on the user and determine what would make the story better for him. Storybox depends on figuring out the participant, listening to what he is doing and saying, and also listening to ones fellow interactors in order to spontaneously generate within the moment, scenarios that are not only interesting as simulations, but that are engaging and transforming in story-specific ways.

Lessons Taken from Interactive Performance in Controlled Settings

1 – Validation - Defined as feeling that one's choices or suggestions made inside the story have power. Offers made by the participant are validated or affirmed by the actors. Validation does not mean that the participant is always right.

However, they are never wrong to have made a suggestion. Branching scenarios often block certain paths, so that they reach a dead end. Blocking tells the participant not to play, or encourages them to struggle against the actors. Jeff Wirth calls the process of taking a suggestion that initially appears to be inappropriate, and incorporating it in a way that supports the story, “bending”.

Once a spect's efforts are validated enough times, many will begin to contribute more. Interaction is in some ways, about giving permission to play (Wirth, *Interactive Acting* 134).

2 - Inviting someone to play is the first step, but it is not always enough just to invite. People are in general, reluctant to take risks inside a story. They worry about looking foolish or being wrong. Most media interaction that people are familiar with, are game-related interactions, where there is clearly a right or wrong course of action. Making a mistake is often ridiculed by more experienced players, and always punished by the game by the game system itself, with lost points, lost items, or worse – the loss of a virtual life. The fun of a story is living it, but the fun of a game comes from mastering a system and ultimately, winning. Due to this element of mastery, it is difficult for hardcore gamers not to give instruction: "No, jump to that box -- THAT box -- no, the blue one stupid, not the

grey one, and open it with the crowbar... You pry the top open by pushing L1+X+Triangle... Oh just let me do it."

3 - Power: The choices made by a participant must have power within the world. Inconsequential choices that do not impact the story are not sufficient for meaningful interaction. A participant should not be limited to selecting the weapon he uses to destroy the grand pooh-bah – he should get to decide whether or not he wants to kill the pooh-bah, or whether he wants to team up with his nemesis in order to achieve some greater goals that neither could achieve by themselves. If this decision is made, it is of course entirely appropriate for the participant to learn the error and consequences of trusting his enemies later in the story.

4 – Listening: The participant can be transformed into the central character of the story if and only if the program has a way to listen to and understand the participant. This is also fundamental to conversations. We cannot communicate with people who do not understand us. Once we communicate, all kinds of things are possible – including story.

5 - For authors of interactive story, it is important to remember that we want participants to feel safe and welcome in playing. If we ever seek to trick or to harm the most important part of our stories – the participant - then people will not feel comfortable volunteering to step in. People are already naturally disinclined to volunteer for such experiences, because they fear being humiliated or made to look foolish. It is our responsibility to change those expectations, and to design media that people want to engage in an interactive dialogue.

Storytelling is never about tricking the audience. When we choose to see a movie, it is a conscious decision that we make to enter into a story world. Visiting a theme park is also a choice, or sitting down to watch television. Participants in roleplaying games play from a point of control and knowledge. It is not necessary to fool anyone into engaging story.

Interactive Performance in the Environment: Investment Outside Fictional Space

Most stories in some fashion, ask the audience to enter a designated story-space that is physically separate from the real world. Movie theaters and theatrical stages are both built specifically as story environments that transport a visitor into a comfortable, soothing space, where story can unfold safely on screen or on stage. Theme parks include both story spaces and real spaces, but the act of going to a theme park is in itself, a voluntary journey into a space of unreality. The entrance into Disney World, including to a smaller degree the parking lots and roads leading towards the park, marks a clear boundary between fictional space and real space that sets park visitors up for temporarily joining the Disney version of reality. The television set is story space placed inside the home of the audience, but television stories never physically leave the screen and do not impact the viewer's living room. There is, in traditional media, always a barrier – the fourth wall -- between real and unreal that ensures story never physically impacts the world, and vice versa. The same is true within interactive scenarios such as video games and roleplaying sessions, where real life is always clearly differentiated from the story and the participant is not asked to personally place him or herself within the drama. In a video game, the player is given an avatar that lives inside a virtual environment. In roleplaying games, the player has an adopted persona to be inside the game, and out of character discussion is separated from play. Most roleplaying games do not venture outside of a host's living room or a designated story-zone in the case of Live Action Role-Play (LARP).

Although this physical separation of story and life is most common, it is also possible to create story that transforms the real environment of a participant into a story environment. The impact of this kind of work has implications for future story development and alters the type of investment that takes place. *The Game* - an iPlay production that occurred during the summer of 2005, was an extension of the interactive theatre form that was created by Jeff Wirth and crystallized within Storybox. However, where Storybox is a specially designated story environment that a participant enters when the story begins, then leaves when the story is over -- *The Game* took place within and around the real life of the spect-actor. I served as the Art Director for *The Game*, and I will use my own observations in conjuncture with insights from Jeff Wirth in order to describe what this experience was, and how investment was impacted by moving into the real world.

Conceptually inspired by the 1997 David Fincher movie of the same name, starring Michael Douglas; *The Game* was an intrigue-adventure story specifically designed to incorporate a non-actor participant as the central character within a partially planned and partially improvised storyline. Unlike the movie, this version of *The Game* was not malicious or deceptive. The participant, Kurt Baurle, agreed to play the lead role, knowing at all times that he would be inside a story and that the story would be safe. He was given enough information up front, so that he could invest trust in the actors and the integrity of the production. With trusting that he would not be hurt or humiliated, Mr. Baurle was much more prepared than Michael Douglas' character could have been, to take on the rewarding challenges of playing within a fictional world.

The Game unfolded over four days in real time, and its events took place throughout the city of Orlando, Florida. Although it happened as a part of the participant's life, the story never interfered with his friends, family, or business, and he was asked to leave certain hours during each day free, during which time the scenes would unfold. Nonetheless, the public locations were not rented or sectioned off for the night, as they would have to be in a movie shooting. Thus, real events merged with fictional events, in ways that the actors did not fully control.

Assigning and Developing Participant Identity

In order to separate his story life from real life, Mr. Baurle was given a character name that people inside the story would use to address him, and that people from his real life would not need to know. For the duration of the story, Kurt Baurle became Taylor Parker. Aside from the name, Mr. Baurle did not have any details about his character beforehand. That is because the character of Taylor Parker did not exist until Mr. Baurle decided who and what he should be. He had the freedom to become whoever he wanted to be and act however he wanted to act, within the constraints of reality. The only rule of conduct and behavior that Mr. Wirth asked him to follow was that his decisions regarding Taylor's identity had to remain consistent throughout the story. The fiction had to be logical in order for story to develop. So, if one day Taylor said that he was an Astronaut, he could not suddenly become a construction worker the next day. Taylor Parker began as a blank slate. By the end of the story, that blank slate had transformed into a fully fleshed out protagonist with a rich back-story, an entire cast of old high school friends, and an adventure to remember for the rest of his life.

Making the participant a crucial part of the story is an involved process. The actors who made *The Game* come fully alive within each individual scenes were all trained in Interactive Performance techniques. Part of the work is accomplished with endowment. Endowment is the process by which interactors give the spectator the information he needs to succeed in story. His name, who he is within the story, what his goals are – all of these are valid questions that the spectator needs to have answered, before he can fully contribute (Wirth, Interactive Acting 109). The actors endowed Taylor Parker with certain characteristics and back-story throughout the course of the story. Most of this came from conversation, and the vast majority came from the first scene of *The Game* – a small reunion of highschool friends. Other times, he was endowed with history through the way that characters behaved around him. When Taylor went out to lunch with Max, an old female friend, it did not have to be said that they once shared a closer connection sometime in the past. Eventually the actress pinpointed that connection and the awkward familiarity was given a voice - prom night. Although nothing had happened between them years ago; it could have. The seeds were planted emotionally before they were said verbally for there to be a continuing and deepening connection between the characters during the story to come. Mr. Baurle was not limited to accepting endowments made by the actors. On various occasions, he actively generated history for himself and for other characters that he encountered. Once he understood that the story was truly his to run, he stepped out on a limb in order to craft and shape the characters and the story as it progressed. One of the earliest and most emotionally significant endowments occurred during the lunch date described previously. After the actress mentioned their former, near-romantic connection, Mr. Baurle endowed

Max with being a heartbreaker. He decided completely on his own, that many boys had crushes on Max in high school, and that she had hurt them by not caring about their feelings.

Transformation of the Participant within The Game

At the beginning of the story, Kurt Baurle was curious about the process and willing to play, but he was not confident enough to step outside of his own shoes and live fully as a character. Understandably, the experience was unlike anything he had ever done before. By the end of the story, Mr. Baurle showed enough confidence in his fictional life, to take complete control of scenes and push the narrative in unexpected directions.

In the final scene which took place at a large Gala event, Taylor Parker boldly confronted Martin Chase, the villain of the story. In front of nearly 50 strangers, Taylor interrupted Martin as he began his acceptance speech for a charity award. Once attention turned to Taylor, he tossed a fragile, painted ostrich egg up into the air like a football and caught it again. The crowd gasped. Martin had kidnapped Max earlier in the story, and had been keeping her hostage – Taylor wanted her in exchange for the egg. Martin capitulated. The egg has been stolen from him earlier in the story, but he seemed unusually eager to reacquire his possession. Released by Martin's henchmen, a bedraggled Max stumbled down a flight of stairs into Taylor's arms. After a tense moment and some wrestling for the egg, Taylor smashed the priceless artifact and discovered that Max had hidden a critical piece of evidence inside – which is why Martin cared so much about a simple object. Pieces of the supposedly 50 thousand dollar egg

flew into the rapt crowd, who were all temporarily cast as gala attendees within the story. The evidence, a piece of video footage, was enough to prove that Martin had murdered a man in order to start his shadow company. A police officer handcuffed Martin in front of his own gala attendees and hauled him away unceremoniously out the door. After becoming fully invested with the characters and events of the story, by learning to live inside the moment and step resolutely into the action, Kurt Baurle as Taylor Parker was able to become the hero of a personalized story, and win the affection of the girl he had been fighting to save. After the story ended, Mr. Baurle said that the story was a journey for him personally, and that his bold actions at the end would have been impossible for him to accomplish at the beginning.

Sometimes interactive story can take people where they would not normally want to go. However, once they are there, the journey and the moment is very rewarding. Like going on a roller coaster for the first time; convincing yourself to step out there and trust is the difficult part, and the ride itself is exhilarating. Getting a person to the point where they are willing to play is largely a matter of building trust over time. The beginning scenes of *The Game* did not require as much investment as the end. Like any good story, the level of investment with interactive works will build over time as the participant begins to care about the characters, and also to trust the author with his investment.

Sculpting Story within the Moment

Jeff Wirth describes creating an interactive script, where the participant is going to be the protagonist as “... the art of scenario. That there is a very twilight world that is between nighttime and daytime, that is the scenario. And that is where there is sufficient detail to be able to grasp a progression of events, and yet sufficient ambiguity to allow the ways in which those events can manifest to be broadly divergent (Wirth, Personal Interview).” *The Game* began with a written description of the essential story arc and the goals to achieve within each major scene. Although there was a desire, based on the limitless freedom of Storybox, to make *The Game* much more free-form and improvisational structurally, it was decided for practical reasons that the story needed to be anchored in established scenes. The actors could be trained to generate completely improvised story, but the constraint of being in real life with real locations, props, and special effects, imposed limitations on the flexibility of the project. For the first story of its kind, it would be nearly impossible to find real locations and real props without any preparation time and to improvise these physical assets within the moment. Additionally, when Jeff Wirth consciously decided that the story would be a mystery, certain limitations were placed on the flexibility of the storyline because all of the clues needed to eventually fall into place. The story would break if the mystery never came together, and it would also break if the mystery were solved far too early. A mystery provided certain other advantages as a first experiment, that were intentionally selected for and that worked well in the long run. The core advantage coming from the mystery/ quest format was that the spect-actor had a clear goal to achieve during the course of the story (Wirth, Ingraham, and Moshell 4). Relationships could become critically important, but the story

did not have to rest upon the spect-actor developing deep connections that would drive the narrative.

Despite these planned story elements, *The Game* was based heavily on improvisation and interaction. None of the dialogue was scripted (Wirth, Ingraham, and Moshell 4). The actors knew the essential things that had to happen in a scene and they worked towards making it unfold in a realistic way, while collaborating with and working off of the participant. Mr. Baurle also did not know what was planned and what was improvised, so his choices were always truly in the moment and real. Afterwards, he said that he never felt pressured to make certain decisions, and that he felt free to play within the world. Working with this freedom, several times he decided to go in unexpected directions and the actors had to decide how the mystery would still play functionally even though the details had changed. Entire scenes were created, altered, or abandoned entirely because Taylor Parker had done something that we did not expect him to do. These deviations were in no way undesirable - we had hoped that the participant would find his own sense of direction within the story, and surprise us with innovation. Mr. Baurle certainly did that.

At the proverbial curtain call, the story had come together in a satisfying conclusion. It met its goal of empowering the participant by getting him to play within a real environment instead of a controlled environment, and by supporting his decisions within the playing.

Investment in Environmentals – A Heightened Reality

Moving story into the environment changes the dynamics of interaction. Real places become the framework for story; real objects and props are needed to make the interaction seem believable; and the actors do not have the same freedom as they do in Storybox, to create whatever reality that best serves the story. In a purely fictional, imagined world such as the kind that exist in role-playing games, there is no need to make the physical world believable because there is no physical world. Players rely on pure imagination to transform a 15 year old girl into the 9ft male ogre she has chosen to portray; they invest belief in the descriptions of buildings, objects and people offered by the storyteller; and they imagine the lush physicality of the world as the action is described and the dialogue is (often badly) acted. What happens inside role-playing games exceeds the reality of the moment, because so much of the magic happens in belief.

When we move outside of fictional space into real environments, it is no longer acceptable to invest in imaginary things. A 15 year old girl cannot play anything other than a 15 year old girl, although the subtext and inner reality of that character can still be as rich and as varied as the imagination will allow. The reality necessary within interactive environmental work exceeds the reality needed within a motion picture. This is because the director controls what the audience sees inside of a film, but no one can control exactly what the participant will choose to see or do within an interactive environment. If the participant finds something that is obviously a fiction, his belief in that fiction is, however temporarily, broken. Of course he has the capacity to shrug that off and continue living in the world, but from that moment on he will be conscious that

the world has limitations and that the reality is only skin deep. Finding a flaw in interactive work is like seeing the boom microphone in a television program. Suddenly you are aware that the dialogue is scripted, that the sets are cardboard, and that the actor is not really the person you have invested time with. Therefore, every prop must stand up against inspection, every location must be screened for things that would break the reality of the moment, and if a scene does have a 'backstage', then the spect must be kept from seeing the inner workings of his story.

The Game was captured using video cameras and hidden microphones. Many scenes had a control room where all of the recording equipment was located, along with some crew members - this was the backstage that Mr. Baurle could not stumble across. Once, he almost did - luckily, one of the actors saved the crew from being exposed. In order to preserve the integrity of the experience, all of these devices within the scene had to be carefully hidden. When Mr. Baurle did see one of our capture crew taking pictures and mentioned it inside the story, that cameraman suddenly had to become part of the story. Later, the actors established that the cameraman was a spy working for Martin Chase, taking photographs of Max and Taylor on their lunch date.

The participant, being within a familiar environment that operates based on physical laws and social laws, also has much greater freedom and comfort within the story to do what he feels like doing, rather than predominantly investing belief into the actions and scenarios created by the actors. In many ways, the considerations for physical environments are similar to the considerations that are important for computer gaming environments. The real world has certain limitations that an imaginary world does not contain - virtual worlds also have limitations, based upon what the program can

or cannot dynamically create. The objects and spaces, whether real or virtual, map onto a real sense of space and function that the participant will bring into the story. By looking at live interaction within a physical environment rather than the imagined environment of Storybox and most tabletop Roleplaying games, we can more closely examine some things that the participant in a virtual environment may experience. It is also important to realize that digitally controlled stories do not necessarily need to happen entirely within the computer. Real environments can be used as a setting, and real props can be used as creative input devices. Digital interactive storytelling can, if it benefits the story, have one foot in the virtual world and one foot in physical reality.

Some considerations from interactive performance in the environment are:

1 - Personal proximity - Story happens immediately around the participant. It is in the personal physical and emotional space of the person, not on a screen or in one's imagination. Everything from the actors, to the objects, to the physicality of motion and conversation is very real, even though the participant is aware of the underlying fiction.

2 - Personal choices - Have a direct and immediate impact upon other people within the story, and on the unfolding events of the story. The participant cannot skip ahead to see what happens later, or hear a review before stepping in, or read a strategy guide to help craft his decisions. Additionally, every choice made within the moment is the right choice. There are no mistakes on the part of the participant, as his role is to live within the story. Not to play the story like a game.

3 - Time - When a story happens over a number of hours or days, the participant has time to think and consider their next course of action. They have time to take personal ownership of their character and actions, and to consciously direct the story in desired directions. People have an innate understanding for story, and will take the opportunity to co-author when they are given enough freedom. Within a very short story experience, such as Storybox, people are often so caught up in merely understanding the world and figuring out the story, that they will not consciously set out to craft it. They do craft it unconsciously, but most of the story progression still comes from the actors and from actors interpreting what the participant is giving - then translating those offers into narrative.

4 - Real world familiarity - Environmental work puts the participant on equal footing with the actors/ interactive agents. In a video game, the player must learn the interface. In Storybox, the spect-actor must learn what the world around them is like, imagining most of it. In environmental work, what you see is what you get. The tangible, real world is the stage. There is no curtain, no barriers designating where a person can step; no constraints limiting what you can say, what you can pick up, or strange quirks about how things work. The participant knows the “parameters of function” within the world, and because of this they can sometimes engage more fully with the contents of the story (Wirth, Personal Interview).

Live Performance – limitations of the genre

Despite its successes, live performance has limitations. Firstly, it is confined to one place at one time, because performers cannot exist bodily in multiple locations. It is also confrontational even when it tries not to be- asking people to physically step into a story, which can be an uncomfortable position. Even when live interaction tries to remove that level of discomfort, there are only certain people who will feel confident enough to enter into the story in the first place. Doing so requires a great deal of trust that not everyone will be able or willing to give immediately. Although nothing will replace the richness and immediacy of live interaction; digital storytelling has unique characteristics that are also worth exploring. Digital is not confined spatially or temporally. It can be less confrontational, and can envelop the senses within any world the author imagines rather than relying on real environments or physical limitations

However, there are challenges for digital interactivity that live interaction does not share. The two are different sides of the same coin, and should have an understanding for each other, while understanding that differences are going to exist and that what works for one will not necessarily work for the other. Live interaction benefits from the responsibility that human beings feel towards one another to remain honest within a story, and the trust that people can choose to place in each other, to create a meaningful story. As Janet Murray points out, the success of Live-Action RolePlaying Games (LARPs) depends largely upon the continuing relationships that players maintain outside the game (Murray 151). A LARP is a type of RolePlaying game that happens in a real location, possibly with props and costumes, where the players physically and verbally simulate living as characters. The Game Master plays more of a referee role

instead of being the core storyteller. Without trust – especially in a scenario where there is not a central storyteller figure - players have no reason to accept character actions as motivated by story rather than by selfish out of story conflicts with the other players, or game-centered motivations. In Interactive Performance, success also depends upon the trust that the actors have for each other.

The Role of the Author within Interactive Narrative

With collaborative storytelling, the traditional role of the author will necessarily change. Some perceive collaboration as detrimental to the very idea of authorship, since the history of mankind supports single-author prodigies and creative passions, rather than a collaboration of authors all working towards one goal. However, in this generation of high-budget storytelling, including movies as well as digital media, the most impressive productions result from a combination of creative minds. *The Lord of the Rings* trilogy would hardly have been a success without the collaboration of hundreds of people and organizations, all with a passion for the original Tolkein stories. Nonetheless, Peter Jackson was still the central figure within that massive project, and it was his responsibility to ensure that everyone's contributions came together in the proper way.

Janet Murray speculates that the author of an interactive story will be the person who defines the rule set by which interaction occurs (152). Unlike the authors of traditional media who create by making careful decisions about plot, character, symbolism and so forth, the interactive-author will instead retain thematic and creative control by deciding how freedom is given for the participants to contribute. For example, will contribution be handled by exploration of a dynamic environment? Such is the case in many single player console games today, where the object is not interaction with real people (since none exist in the world), and the story takes a backseat to the desires of the player. In *Grand Theft Auto*, contribution is handled by giving the user great freedom to explore a created world, but very little freedom is given to explore a character or a real story in any depth. The pleasure of the game lies in the experience of guiltless and harmless brutality, not in living a story or playing a fleshed-out character. Exploratory

contribution also occurs within games like *Myst* and real-life experiences within museums and parks. Exploration changes the configuration of an experience, but it does not generally change the contents of that experience. Whether or not a player sees every nook and cranny of *Myst* Island – those crannies exist regardless. While a player can visit any island in any order, they must all be visited eventually or the game cannot be won.

Storybox handles contribution dynamically, by incorporating verbal and nonverbal suggestions into a story that develops interactively over a 15-20 minute period. Within Storybox, no contribution is ever considered to be wrong. There are no do-overs or pauses. Everything that happens in the box becomes part of the story and it is the inter-actor's responsibility to craft anything given by the spect-actor into a story context. If the spect-actor never offers more than monosyllabic responses, or if the spect never moves from a comfortable position, or if the spect points out all of the video cameras in the corners of the box, the story still goes on. The inter-actors are specifically trained to contextualize contributions and to build a working story through improvisation, by listening carefully to the spect-actor and to one another. The inter-actors are also trained in classic storytelling and undergo rigorous exercises that prepare them to become anything and anyone, at the drop of a hat. While Storybox and roleplay share many commonalities, roleplaying gamers are usually not trained at all before a game. They rely on conventions that are easier for the layman to understand, in order to all contribute as players to one ongoing story.

Role-playing games have many written and understood rules for how contributions will be handled. Dice, cards, and character sheets, are common devices

used to regulate contribution. Individual games support different types of contribution, from tactical decisions based on the luck of the dice, to dramatic decisions based upon creativity or expending game credit, often called ‘experience points’. Some games encourage a collaborative approach where all of the players make dramatic decisions without stopping to see if the game system says it is okay, while others prefer that every contribution is relegated by the game system itself. These choices are far from arbitrary and dramatically impact how the participant will want to interact within a story. The system in many ways, trains the participant to play in a certain way. While investment can be high within any of these experiences, the type of investment that occurs will differ depending upon how the participant is invited into the story. The author of an interactive experience therefore has tremendous power to determine how the story will be felt and lived, simply by defining the rules of the land.

An author of this type, translating live storytelling into digital, would have to decide the types of interactions that could occur within their story world and what kind of importance to place on each. For a romantic retelling of *Romeo and Juliet*, the amount of vocabulary and interaction related to romance and domestic discourse would need to be emphasized. For a tale of film noir espionage, interactions for intrigue and clandestine conversations would be much more important. Crawford discusses this system mathematically, proposing a system of variable comparison and logic statements that would create digital characters capable of reacting dynamically enough to make story work (81). It is not necessary to create true artificial intelligence for characters who have defined roles within a story, and a story that has defined parameters. Inside a fiction, the corners of reality can be smudged and manipulated in order to be dramatically and

emotionally effective. Fiction is necessarily a compacted version of life, with its highs and lows distilled into a series of events and encounters that have meaning.

To What Extent Does Authorship Impact Investment?

Having a sense of writing the story and creating the story dynamically on the part of the active-audience, gives the audience vested interest in the end product. Creation itself is an enjoyable and rewarding experience, and we naturally develop deep attachments to the things that we personally create and craft. However, this freedom can also remove some of the pleasure of being taken for a ride by a story. The solution to this dichotomous relationship lies in play - the root of both game and story.

Fostering Investment within Digital Stories: Challenges and Goals

The success or failure of interactive storytelling relies on the participant's willingness and ability, to invest emotionally, physically, and interactively within the unfolding story. Willingness derives from the audience's engagement with the story itself, while ability comes from the amount of freedom and control that the author has provided. Without investment, the story may exist peripherally and it may fulfill the research endeavors of the author, but it will not become meaningful to the participant-audience. This is one of the central challenges that has plagued past attempts at interactive storytelling, since hyper textual novels first arrived on the internet. Most of these early experiments become intellectual exercises, and noticeably lack this quality of investment that makes their linear counterparts so powerful and well received. It is therefore imperative that storytellers learn how to engage an audience, to equally invite and maintain investment. How to accomplish this is a subject of much debate and consideration. Traditional storytelling forms such as literature and cinema have already learned how to draw the audience into a passive linear story. Cinema is especially profound, in its use of filming techniques and physical environment, to connect the audience with the on screen characters and narrative. Unfortunately these techniques do not directly translate into the interactive, digital stage. When a story strives for interactivity, each moment cannot be carefully scripted beforehand in order to elicit a particular, unchanging reaction. The story must remain flexible enough to encourage unencumbered investment and natural responses.

Artificial Intelligence has not yet been able to simulate the mind of an author, or the wit of a game master. At this time and for the near future, we cannot rely on digital intelligence or even pseudo intelligence, to create stories that react and evolve spontaneously alongside an interactive participant. Knowing this limitation, authors of interactive, or at least reactive media, have relied on structures such as hypertext and branching narratives to create workable structures. Instead, we can rely on a far more reliable and innovative resource - the imagination of our audience. By shifting the focus from the digital to the human-centric, we can begin to design stories that transcend the perceived boundaries of technology. The challenge becomes one of psychology rather than computer programming. Psychologically, the human brain has a penchant for filling in gaps and connecting dots. Human beings also have a natural talent for storytelling. Although most of us are not trained as expert storytellers, we all have the basic talents needed to compose the events of life into a storied format to tell our friends and family. With the right kind of support, prompting, and care given to interactive techniques, we can design programs that work with the participant in order to design story rather than building a story entirely within the circuitry of the computer. It is unnecessary to make a computer that thinks as quickly or as imaginatively as a human being. We can create stories effectively, simply by using the limitations of the technology as story guides rather than trying to hide them. We can also rely on the human imagination to create more depth and nuance within our stories than we could have ever possibly imagined.

Using the Imagination: How Contextualization Impacts Story Perception

Human-to-computer interaction with chatterboxes such as ELIZA and her descendants, have repeatedly demonstrated that people can project psychological and emotional content onto artificial personalities. Although ELIZA does not pass the Turing test, this does not stop her from being convincing for a short while, if the human talking to her thinks that she is actually a psychotherapist. This tendency is also seen in children who name their stuffed animals, and adults who scream at disobedient computers. It is natural to get lost in the moment and to temporarily forget that computers cannot feel. Humans will also seek meaning within the abstract. In the 1960s, musician John Cage composed experimental scores that consciously invited the audience to participate and invest intellectually in his work (Arn). In other research, computer generated characters are sometimes only seen as believable, when the programmer has allowed an unexpected quirk to exist. Noticing the quirk, people will project onto it a psychological meaning or story meaning that is false, but much more compelling than the dull reality of a computer glitch (Murray 232).

Since an engaged audience can assign human emotions to virtual characters; and since they can project meaning onto random juxtapositions, it is reasonable to think that story can be created from the same type of prompted interaction. By carefully designing a story, so that it builds upon the audience's investment and deepens the extent of that investment over time - I believe that it is possible to draw the audience into a responsive, interactive story that does not rely on branching forms or fully developed artificial intelligence that can carry on any type of human conversation. It is not necessary to

create a totally believable and intelligent world to have believable story - as long as the expectations for that world remain consistent with itself, and do not undermine the investment of the participant.

Although *The SIMs* is an interactive toy and not a story world, players frequently project story onto the actions of their autonomous characters. Some *SIM* fanatics even post these invented stories online, complete with screen captures and dialogue. The characters do not need to have actual intent or emotion, in order for human beings to project those qualities onto them. Additionally, while *The SIMs* incorporates the player as a director-puppeteer within the world instead of asking him to play directly as a character within the simulated village, the first thing that many new players will do, is to create themselves as a SIM. This program gives players the opportunity to run different simulations on a fictionalized life – to see what would have happened or what might happen in the future, if they made different choices in school, professionally, or in their personal life (Thompson par. 15).

The SIMs is not designed to be an interactive story world, because it focuses on the realistic simulation of life rather than the dramatic actualization of story. Characters engage in menial, ordinary tasks without experiencing any call to adventure or dramatic transformation. Although dramatic tension can occur and characters can change over time, the mechanisms for this are based upon simulation principles. The actions taken by SIMs are much more similar to watching real humans within a cage – they even have rudimentary emotional states that are impacted by the way in which the human puppeteer treats them, and by how other SIMs accept them within the virtual world. Because people can identify so closely with a virtual avatar, the SIMs has also been used as a tool

by psychologists, to explore past trauma. Instead of using dolls to describe what happened to them, a patient simulates the experience by building the components within the program (Thompson par. 16). One only has to look at reality TV in order to see how real life can be manipulated into story content, by a set of extreme circumstances and clever editing. Producers create the story by making villains, heroes, love interests, and emphasizing dramatic tension- the story is not just reality unfolding without bias or intervention. Additionally, most reality TV includes a game component. The story element does not hold up without a competition to drive things forward, and to create suspense or tension.

Experimental Research

Marshall McLuhan, who described the relationship between content and media in the now famous phrase “The medium is the message,” understood implicitly that *what* is said, is indistinguishable in some ways from *how* it is said (8). In *The Medium is the Massage*, a collaboration with graphic artist Quentin Fiore, he explored how images can have a different meaning depending upon context and used the familiar format of a book in unfamiliar ways, to engage his readers actively. Modern artists during the pop art movement and Dadaism explored a similar ideal. Andy Warhol re-contextualized a soup can as art, while Marcel Duchamp did the same with an out of context urinal.

MemoryScape: The Autopathography of an Afterlife, was a research initiative of the Media Convergence Laboratory with Christopher Stapleton, Kirsten Kischuck, and myself, that began in Spring, 2005. We used the conventions of a ghost story to design immersive, interactive agency within a live, physical story world, by exploring the idea

that objects and places hold the memories of the people that once possessed them while they were alive. We planned to design a full set that audience participants could enter and leave at will, impacting the story through physical agency. They would engage the story by manipulating objects, walking through the rooms, sitting in chairs, and verbally communicating with the digital characters – never lifting a mouse or tapping at a keyboard. Given the difficulty of genuinely reading a human being’s actions and emotions through a computer interface, we decided to make much of the story abstract and interpretive. We wanted to engage the imagination of the audience in order to paint a fuller story than what actually existed – encouraging them to imagine within the experience and to essentially co-author the story as it occurred, and after it ended. We planned multiple storylines inside of the *MemoryScape* environment; each story developing a different perspective on death and the afterlife, from a different place along the path. We looked at the concept of ghosts from the perspective of the living, the dead, and the soon-to-be-born. Although *MemoryScape* has not progressed beyond the planning stages, we were able to generate some research and much preliminary planning that may inform future attempts at live-environment, digitally controlled storytelling. Our research was focused on discovering how people project story onto objects and images to invest them with meaning that did not previously exist. We were not interested in designing a specific story during the research phase – rather, we wanted to see what stories the research participants would come up with individually. As a member of the core research team, I created a small experiment based on our discussions and play, to help us understand how participants would imbue photographs with story.

The experiment consisted of a brief slideshow, containing some provocative questions that we had used in live experiments with the Storybox actors, and a series of old photographs that initially inspired the *MemoryScape* project. Each question was printed on one slide, and each question slide was followed by a picture slide containing one of the photograph. The participants were asked to read each question slide out loud, then to view the photograph and discuss the content of the photograph as it related to the question. The questions used included the following: “Why didn’t you ever say goodbye? Did you ever forgive her? and Was it something I said?” The photographs were collected from found photo albums between 1900 and the 1950s. None had any known significance to the MemoryScape team or to the participants. We wanted to see whether or not participants would generate story spontaneously based upon an artificially established relationship between a question and a photograph, and to see how the question informed the story. We also wanted to see whether there were any commonalities between what the various participants said.

Results

Most of the participants only formed a temporary story relationship involving one question and the following image. Each binary set containing one question and one photograph became an entire story, and the next set was perceived as a new story. These participants did not develop a coherent plot by looking at the image sequence, but they did see emotional connections informed by the question and photograph relationship that could form the beginning of a story.

Three of the participants took the concept one step farther, by forming story links that extended across multiple sets of images and questions. They invented a story arc where no intended arc existed, and used the questions in order to fuel plot twists within a small, social drama. In this way, images and questions at the beginning of the sequence formed the beginning of a story. Images that came later provided plot twists, conclusions, and sometimes changed the way in which the viewer perceived an image earlier in the sequence. No one came away with a complete narrative that included a full transformation or understanding of the events inside the pictures. However, some of the participants did leave with a sense of story that they had personally created by their emotional and intellectual responses. That some people can and do create story spontaneously with a little bit of prompting, we can see how probing questions can create a sense of personal investment within a story world. The act of answering personalizes the experience and creates a direct relationship between the participant and the story.

Existing Digital Works: A Canvas for Future Development

There have been some attempts to design new systems for creating interactive stories. Excluding the tools for writing hypertext novels, which have produced some extremely artistic if not functionally interactive works – pioneers in the field of interactivity are using programming language to design collaborative experiences that have the immediate agency of video games, but with a focus on dramatic storytelling.

The most critical factor for creating interactive story on the computer is to understand and to effectively utilize the limitations of the media in order to enhance, rather than detract, from the storytelling experience. *Façade*, the first story that I discuss, does this by borrowing conventions from movies and theatre, and using them to change the way in which people perceive computer interaction. *Planescape: Torment*, the second story that I discuss, seems to be consciously aware of the video game conventions that detract from being immersed inside the story. The authors of *Planescape* consciously altered the game-play elements in order to relieve the pressure to play competitively, with goals in mind. Additionally, they changed the context of certain game realities that are difficult to avoid, in order to make some of the gaming conventions functional in a storytelling manner.

Façade

Procedural Arts, an independent production studio for interactive games that focuses on storytelling, finally released their long-anticipated interactive drama, *Façade*,

in June 2005. *Façade* is one attempt to create digital interactive storytelling using the tools of game design, and it has the distinction of being credited as the “future of video games” by the *New York Times* Art section (Schiesel par. 1). On the surface, *Façade* looks very much like a normal video game, although the graphics are not as sophisticated as experienced gamers would now expect from new releases. This is the first hint that *Façade* is not designed primarily for the traditional gamer. Instead, its creators wanted to tap into an audience that would normally prefer to visit the cinema or read a novel. The core difference between *Façade* and traditional video games, behind its aesthetics, comes from the focus on human relationships and drama rather than on gaming interests. The story is thematically based on the novels of Virginia Wolfe. In it, the participant plays a close friend of a feuding married couple. Their marriage is on tenuous grounds and while visiting for dinner, the participant overhears the end of a bitter argument. The purpose of the interactive drama is not to collect items or to gain points -- it is not necessarily even to preserve the dissolving marriage. There is no way to win or to lose. Instead, there are many different paths that all try to be satisfying as a dramatic narrative. The participant is free to explore whatever path he is most interested in, and is encouraged to play in the drama many times to see different outcomes and different nuances of the complex social drama. During the course of the narrative, a drama manager keeps track of what is happening and the rules of the story regularly update, in order to give the participant a “...well-formed overall experience with unity, efficiency and pacing (Mateas and Stern 6).”

Façade is much shorter than most video games. It is organized as a one-act play rather than a large, exploratory environment. The designers opted for brevity in order to

create an experience where drama was heightened and condensed, like a movie or theatrical story, rather than spreading out over days and weeks like a video game experience (Mateas and Stern 3). *Façade* can be played in one sitting – about 20 minutes.

Façade divorces itself from prior game limitations that are perpetuated by using scripted dialogue. Instead of giving the player a series of pre-selected options to choose from, the program responds to conversational English typed by the player. The player's options are only limited by the story and the environment, rather than being artificially limited by decisions decided upon beforehand by the author. The story revolves directly around a dissolving marriage and it is natural for the player to gravitate towards certain types of dialogue rather than others. For example, it would be unusual for the player to suddenly begin talking about UFOs invading the planet, since *Façade* is a domestic drama. Stepping outside of the implied constraints of the world is possible, but the program does not have the ability to hold a conversation on another topic, such as the aforementioned UFOs. The characters cannot wax poetic or lapse into a philosophical discussion. The limitation of the world is that they can only discuss things that directly involve their relationship. Unfortunately, *Façade* barely allows the participant to hold a real conversation of substance about that relationship – a capability that needs to be supported completely, in order to sustain the trust of the participant. The program can only understand a very limited range of dialogue, so in many cases it feels like the participant is following the characters around like a pinball from one subject to another, instead of really impacting the drama. Additionally, *Façade* cannot incorporate new suggestions or endowments made by the participant. It lacks the flexibility of Storybox,

and that absence makes the participant into little more than an acting force inside the drama, who pushes and pulls at the two main characters without much real control.

If the natural language processor is robust enough, then typing directly on screen may have the capacity to overcome the problems of branching narrative. The author does not need to think of every possible path and break those paths down into choices that are presented to the participant, in order to design a structurally effective story. Instead, his goal is to create characters who can react with nuance and subtlety to anything that the player says in the moment, and who can hide any mistakes that the program makes when translating the dialogue. This marks a break in typical story programming styles, since the participant is not grafted onto a path and the author does not necessarily know what paths will be created during the story. This dialogue-driven response system is much closer to the interactive therapy sessions of ELIZA, with the added story control of a drama manager that constantly listens to the dialogue and proactively adjusts the types of responses that the characters may give (Mateas and Stern 6).

Jeff Orkin, an artificial intelligence programmer at Monolith Productions, says that traditional scripting is not effective for creating games that offer players enough options in the vast, complex environments that games include today. Now it is possible to write scripts that give the programmed characters certain goals and behaviors that they act upon freely. Instead of telling a character to break down a door, a character could be told to enter the building using whatever means necessary. If the door is blocked, the character could make a different choice. Extrapolating from this scenario, if there is no physical way to enter a building, then a character could rely on negotiation or trickery to bribe his way inside (qtd in Schiesel par. 16). *Façade* operates based on this general

philosophy. There are many different paths to achieve the same goal, and the participant must decide what to do based upon their own experience and knowledge.

Façade self-consciously calls itself an interactive story experiment, and is intentionally not a video game. Although it is interesting as a research experiment, *Façade* probably would not hold up as a commercial product. There are also earlier examples of video games that retain commercial viability and game-play considerations, while crafting those conventions in unexpected ways, to support story involvement.

Planescape: Torment

While most video games are not an effective model for interactive storytelling and only integrate story as a side note - some do realize that story is an essential component. I believe that we can look at some video games as early, experimental attempts at creating interactive story and learn from their successes and mistakes in order to move forward with further development. Many of the games that succeed with story are, perhaps not surprisingly, derived from live role-playing forms. Although computer roleplaying games are different in flavor and structure than traditional, pen and paper RPGs, they often give the player a greater amount of agency over their avatar within the game, than do other popular game formats. In *Planescape: Torment*, which is based on a traditional *Dungeons and Dragons* RPG campaign setting, the emphasis is placed upon story elements instead of hand-to-hand combat or finding important objects. The player controls a scarred, rough-looking character called The Nameless One who wakes up on a blood-encrusted mortuary slab with no memory of who he is or where he came from. Zombies shuffle ominously around the dank chamber, attending to grim tasks set out by

their masters. Unlike a horror game or a combat game, the zombies are not expressly designed to be killed or to be evil. They are a setting element of the world, not very different from the Nameless One himself, who was mistaken for a corpse when he was brought into the mortuary unconscious. The game is about discovering the truth of the Nameless One's past, which he has forgotten at the beginning of the game due to reoccurring amnesia. Morte, a wisecracking skull who becomes the player's first companion, gives the Nameless the first clues about his quest and his mysterious past, by reading a set of painful looking tattoos inscribed across his scar-riddled back. Later, you discover that Morte wasn't telling the entire truth, and that he, like all of the companions you can acquire, has his own dark past to hide from. Progressing through the game, the player unravels a complex quest for identity that takes some unexpected and extremely innovative turns that dive into complex questions about philosophy, morality, life, and death.

Mechanically speaking, the story and characters in *Planescape* are emphasized above traditional game-play elements. The characters are more than tools used to achieve a game task and the story is the driving force behind the game, rather than the other way around. Each important character has a rich history and multi-layered personality. All of the main characters have a face that they present to the world, and a face that they keep to themselves. They have subtext. With effort, some of the characters will open up and express themselves honestly, but getting them to do so requires empathy from the player or terrible brutality, as some of the characters can be forced into talking, if you are sufficiently callous. Discovering the truth about a character is not always a pleasant experience, and the player may find that some of his friends are not what they originally

appeared to be. He may also discover by learning about the characters, that he also learns about his own avatar. For example, your most steadfastly loyal companion Dak'kon, an honorable, philosophical warrior, eventually may reveal to you that he is not just an adventurer excited by your adventure: he is effectively your slave. In a past life, he swore his life to the Nameless for as long as the Nameless one lived. Dak'kon did not realize at the time that his master was immortal. He also did not fully realize that the promise was made based on a terrible lie that this former, callous version of the Nameless told him, regarding his own sacred beliefs. There are many things in the Nameless One's past that an empathetic player will come to regret and abhor – the game's central question, which echoes strongly through the experience, is “What can change the nature of a man?” Is The Nameless one still accountable for the sins of his past, or is accepting responsibility the most noble and right thing to do?

The important items in Planescape are not important because they do amazing things or benefit the player combatively: they are important as story devices, that add layers of intrigue, mystery, and finally revelation to the experience of unraveling the Nameless One's past. Even items that are not tied directly into the story, are designed to heighten the sense of reality and richness within the *Planescape* environment. In traditional D&D, the only way to earn experience points and thereby improve your character is through combative action. In *Planescape*, negotiation, compromise, and outright manipulation are often awarded more handsomely than prowess with a sword or spell book.

Secondly, the game responds to choices that the player makes about the character's personality and ethics. Depending on how the game is played, NPCs will

react differently to the player character and members of your party will express opinions that coincide or that conflict with the personality you choose to play. The game pulls few punches - offering the player opportunities to be a sterling hero, or a depraved, villainous scoundrel. Though there is some preferential treatment for playing a saintly character, there are also benefits to being wicked. An evil character can make a deal with the devil so to speak, by selling his companions into slavery at the behest of a powerful being. If he allies himself with this being, there are benefits to reap. Doing so causes the character to lose morality and to lose his friends, however. For a saintly character, there are ways to increase the Nameless One's potency, and there are items that no other type of character can use effectively. Playing middle of the road is not highly rewarded and the game perhaps intentionally asks the player to make steadfast decisions, choosing good or evil, lawful or chaotic. In this way, the player is encouraged to stay true to the character he has chosen to play, rather than waffling between nasty and nice on each new decision.

Over time, the game modifies its behavior based upon the character's stats and his past actions. In dialogue with other characters, the game excludes choices that are impossible or unnecessary, given who the character is and who he has become over time. For example, overtly charismatic dialogue options are unavailable to a character with low charisma. He will have to find another way out of the dilemma. If the character is also not intelligent enough to reason his way out of the problem, he will have to rely on his wisdom or resort to using physical traits. Depending on the situation, it may be completely impossible for a character to figure something out even if the player knows what the solution is, and sections of the game will remain hidden forever. For a very good, law abiding character, the game understands that it is usually unnecessary to give

crude and nasty dialogue options – these are simply whittled away over time, until playing the character nicely becomes second nature. While game-play is certainly dependant upon the player’s skill, the direction that the story takes depends upon who the Nameless One is/becomes as he is crafted by the player’s actions. As Diane Carr puts it in her article *Play Dead: Genre and Effect in Silent Hill and Planescape Torment*; “Your avatar acts for you, and evolves in a manner that reflects your decisions. The isometric perspective and the assembled nature of the avatar both act to defuse aspects of player-avatar symbiosis (Carr par. 27).” Through this active collaboration between player and game, the player is encouraged to adhere to the choices he has made and to act as a character instead of playing merely for the game. The game likewise sculpts itself around the choices that the player has made within the storyline, and the result is that it becomes very difficult after a while to play out of character, because all of the options given to you are all viable within the context of the character and the situation. On the surface, this narrowing of choices seems to lead the player towards certain decisions with unfair or game-centric tactics. It is actually different from the game manipulating or railroading the player, because the options provided are all sculpted around the player’s decisions to preserve the integrity and honesty of the character, instead of forcibly sculpting the player’s decisions around artificially limited options, to make the character be a certain ‘type’. Luckily, there are no necessary parts of the game that will be blocked from a character without certain statistics. The game has many optional paths and secrets that can be explored given a passionate and dedicated interest – but these paths are icing, not things that the player must do by building the character a certain way.

The overall purpose of the game is not to become powerful; to gain interesting items; or to acquire great wealth. These things can happen as a result of playing through the story, as the Nameless One journeys through hardship and strange places in search of his identity. While there are interesting and unique items in the game, these items are not indiscriminately placed, nor are they seemingly endless – such as the many hundreds and thousands of items that can be collected and catalogued in *Diablo 2* and *Everquest*. The unique items are special for a reason, and *Planescape* only includes items that might be found realistically within the setting. There are no treasure chests or hidden stashes in the middle of the street. If there is a box to pry open, it is more often a storage container in the local warehouse, or a dresser drawer in a private citizen's home. A player who doesn't watch his back will get in trouble for stealing from private citizens – either by getting caught, or by leading the character towards immoral behavior. The game listens to the decisions made by the player and there is a moral center to the world – unlike most video games, where it is perfectly acceptable to kill anything that attacks first, and where any item is fair game to take. However, that moral center does not prevent a character from doing what the player wants – it is merely there to provide consequences and contexts. In truth, no matter what the player decides to do, there are always beings in the Planescape universe who are monumentally worse. Including past versions of the Nameless, who are wicked beyond any reconciliation. Also, all of the most unique and interesting items in *Planescape* are story items. Some of the most mundane items are also story items, and only become unique and interesting after their context is established within the game. For example, the key to a hidden society inside the city is the most inconspicuous and least important-seeming item in the entire game – a pile of junk. Junk

can be found all over the first sections of the game, but most players probably see it as flotsam – a useless item that is generated by the game simply to fill space. After using the Junk to advance the story in a significant way, it gains context as a special item. The game is not about the items, but the items enhance the story – like the Maltese Falcon in *Casablanca*, or the vial of poison in *Romeo and Juliet*. Stories can have important items; they just cannot be about collecting items. *Planescape* is not about collecting items.

Usually games are fundamentally about winning and losing. If the player cannot play the game very well, they lose. There are no hard feelings between game player and game author – many game players appreciate the challenge. In *Planescape*, there are very few places where the player can ‘lose’ permanently. Excepting extreme conditions such as being bodily devoured, death in game is a temporary condition – it is even a good idea sometimes, to let the character die in order to advance the story. There is a character reason for this to be true, and it is deeply rooted into the story of the game rather than being a happy convenience to aid game-players. The character is immortal, having been separated from his mortality which is a separate being entirely. Dying only knocks The Nameless One unconscious for a short while, and there are no penalties other than a little bit of lost time. Other NPCs who are with the main character can also be revived. In this way, there is never a need to restart, and added lives are not game features that feel artificially attained– they are story features. In fact, it is the Nameless One’s ultimate goal to rid himself of this convenient ability. He wants to regain his mortality – the immortal, endless life that he has been leading has become a burden rather than a blessing.

Although the player cannot die easily and 'lose', the player is not always winning in *Planescape* either. In fact, the end of the game is rather grim. The main character discovers the full extent of his past lives and past transgressions, and regains his mortality, but is doomed to a hell dimension for the untold crimes of his past lives. It does not matter what the player does within the story. The ending is always the same, because the back-story of the character is so vast and so extensive, that no amount of good deeds within his current life, will ever absolve him of his former sins. The character is seen in the final moments of the game, picking up a weapon and walking slowly towards the endless battle raging in that dimension. He is neither proud of his achievements nor crushed by the cruelty of fate; he has come to a place of acceptance and transformation. The ultimate question "What can change the nature of a man?" is answered, and yet ambiguous. The player is free to understand the conclusion in whatever way he sees appropriate, which is probably consistent with his playing style. Did the Nameless One's nature change, since he is now able to accept his fate? Was it unchanged, since he still has to bear the punishment meant for past lives? If he did change, was it because of love, because of friendship, or experience? If he did not change, then was the cruel and inhumane Nameless the truth, or is there a core of goodness at the center of who he is, that eventually made him strong enough to accept his fate? Although the game takes control away from the player at this point, the game designers seem consciously aware of the decision and they justify it well. The character as he is at that moment belongs to the player – but the character as he was before the player enters the game, belongs to the larger story. It is therefore justifiable to occasionally take control away from the player, when these elements of the character are

coming to light. This philosophy that breaks the game into player controlled and story-controlled elements can be seen at other times as well. Cut-scenes which can feel manipulative and detracting to interactive investment, are only used in *Planescape* to illustrate events before the player took control, or while the player has control, but without the Nameless One in the scene. Thus, the cutscenes never take control promised to the player away. The designers are in charge of the environment, the NPCs, and the Nameless' past. The player is in control of his present. This delineation is very similar to the division between player control and game master control that exists in many role-playing games, and it is never violated.

The designers of *Planescape* intentionally created a system that would map to story exploration. Although it has limitations and cannot exceed its boundaries as a program, the game tries to be an interactive story more than it tries to be a game.

Planescape won critical acclaim, including the first Platinum Award given to a Software title, from Gaming Weekly Internet Magazine (“*Planescape Torment – Awards*”).

Players are sharply divided between loving the game or hating it. Perhaps this is because the creators of *Planescape* were looking at play from the perspective of story rather than the usual perspective of video games, and yet it was released as a video game title. Since *Planescape* still came with the expectations of that genre, the hardcore gamers were disappointed.

Video Games that Move Outside Game-play

Sanitarium, a title released in the late 90s for the computer, attempts to represent a psychological journey through the broken psyche of a mental patient. Unraveling the

fabric of the twisted reality is the ultimate purpose of the game - not item hunting or puzzle solving, although these are often the mechanisms behind completing the journey. *Final Fantasy VII* includes a character death that had many players in tears. In *Eternal Darkness: Sanity's Requiem*, the horror element of the game transcends game-play to affect the real world of the player. It does so by pretending to shut down the player's game console; pretending to manipulate the controls/ television service, and by using sound effects that are meant to immerse the player in a place of paranoid terror. Fan fiction has been written about video game experiences such as these - where emotional involvement with the characters and plot is as strong as audience investment within a movie or television program. While the interactive stories embedded in some video games may not be as compelling as great cinema or literature, the personal investment within the stories is many times greater. Interactive stories are not necessarily as clean and perfect as traditional stories. They do not always translate instantly into a form that can be watched and absorbed by an audience, because they are designed to be experienced and lived.

Designing the script for Interactive Story

Creating interactive story requires the author to think about his work in a completely new way. The work cannot be completed without someone who steps into it, and participates in some capacity. It is not merely creating a traditional story and then asking a participant to come live within that world, with the provision that he not to break it by deviating from the central plot. It is not watching the participant like a hawk and punishing or restricting him when he wanders off path. The path, if there is one, must be built for walking – the world must be constructed for the purpose of play and collaboration.

The term ‘script’ carries connotations that first seem inappropriate to interactive media. Script implies that a series of events are going to unfold in a predefined or scripted order. However, if we use script in the loosest sense of the word, to define what is possible within an interactive environment and a plan for creating story as it unfolds, then we have an acceptable word to use for building the framework of an interactive story. The purpose of an interactive script is first and foremost, to get the participant invested within the story so that the interaction can be an effective mode of collaborative story building.

How Authors of Live Interaction Design Stories

Writing interactive stories is often less a matter of defining the relevant plot points, than it is about finding the options for transformation that exist within a defined environment and a given cast of characters. Every story comes with specific characters

and places. They are not limitless environments to explore with infinite numbers and types of people, nor would the participant logically have a connection with a large cast even if the number of ‘extras’ were tremendous. These constraints build fortunate limitations into digital interactive story, because it means that the author can still constrain the work that he must do, rather than building a computer that can think and react with all of the skills that improvisers possess. A participant within a world that is prepared to generate story can accept the pre defined elements, as long as they begin to have impact once they join the world and as long as they matter from the very beginning, to that world.

For roleplaying games, script often includes the environment, the characters, and some starting scenarios to get the story rolling. Sometimes the central Non-Player-Characters (NPCs) come directly from background stories of the Player Characters (PCs). The GM is usually free to lift any explicit or implied character from the background, and then to transform that character into an impetus for plot. Since the PC has a known connection to that character, and since the player sees immediately that the GM is taking an active interest in the details of their character – this is a brilliant way to build investment within a fictional, creative environment.

Instead of expressly directing plot, the GM can initially start a game by letting the characters explore and become accustomed to the ordinary world of the scenario. If the characters have sufficient motivation and there are enough places within the environment to fulfill story, then the GM has a canvas that is broad enough and yet sculpted enough, to form fully interactive and rewarding stories. The notches of story can be formed as the player begins to entrench himself within one scenario or another. In roleplaying games,

the storyteller must rely largely upon the players in order to generate a compelling story world, because the players portray the central characters in that story, usually in as an ensemble cast. The Storyteller often looks at who the PCs are, and where their lives either intersect with each other, or with the lives of the NPCs. He may look at driving ambitions that the characters possess, fears they secretly harbor, or skeletons left in their closets in order to shape a story that directly and intimately involves the player-designed components. When the characters are used dramatically as the point from which story emerges, instead of merely tools that are there to accomplish a storyteller-defined task, then the roleplaying world becomes a richly expressive place in which compelling story can develop.

For *The Game*, a detailed story arc existed. However, this arc was merely an outline including the main events that had to happen in order for the story to hold together. All of the details that make story rich and memorable, would be established interactively within the moment. Actors and crew alike were prepared to roll with changes mid-story and to play using improvisation along with the participant. Since *The Game* was a mystery story, there were certain things that had to happen in order for the clues to fall into place. This meant that actors had to improvise carefully; always paying attention to the overall story arc, and what could change without damaging the integrity of the story. In a different genre, remaining loyal to the details would not have been so critical and the narrative could have gone in many unexpected directions, guided by the actors' interactive training.

Different story genres impose different constraints and freedoms upon the author/actors / audience. In addition to being a mystery, *The Game* was a Quest story. This

form was chosen for the first live interactive theatre in the environment, because the quest gives the participant a clear goal to achieve. In fact, there were at least three distinct goals that the participant could fixate on: rescuing the girl, solving the mystery, or beating the bad guy. All of these tasks were related, but the task he focused on became the impetus to explore the other two challenges.

In roleplaying games, the Quest is also a common format, because it is an easy way to keep a group of people together in play. Although roleplaying does not necessarily rely on the group, most games do support an ensemble structure because it limits the amount of time that any player is out of the game. If players enjoy watching each other's stories, or if the players can become minor characters while another player takes the spotlight, then this constraint lessens. In *Wraith: The Oblivion*, every player controls the Shadow personality of another PC. Therefore, when the story needs to focus on only one character or a smaller group, some of the other players still have a reason to become wrapped up into the action (Dansky 177).

While the quest is a perfectly valid story format, always using this format within roleplaying games is a cause of stagnation and predictability. How does one create impetus to live a story, without a clear goal for the characters to strive after? By properly introducing a participant into the desired type of story and play, crafting rewards, structuring the methods of interaction, and providing a sense of agency and validation within the story that is reinforced, the author can invite and encourage investment in almost any kind of story. In digital stories, by creating the environment that supports story, characters that fulfill story, and emotional waypoints that are driven

by storytelling, the author can have his hand inside the narrative even while the participant navigates it and changes it collaboratively.

The Procedural, the Environmental, the Participatory and the Encyclopedic

Janet Murray defines the possibilities and the limitations of digital media as the procedural, the environmental, the encyclopedic, and the participatory (71).

Interactive storytelling spaces, supported by the computer, must be created using procedural language, because the computer only understands specific instructions that are given to it in a specified order. A program runs exactly as it is told to run. Any semblance of chance or choice is a lie built in by the programmer and/or author in order to add nuance and character to the operation of the program.

The computer supports environments. Whether they are text based, two dimensional, or three dimensional, the environment is the place in which story can be formed. Unlike environments in cinema, the participant can navigate environments on the computer in real time. Therefore, the virtual environment can be substituted for the real environment, and many of the principles seen in live environmental interaction may hold true for digital.

Computers are encyclopedic because they can potentially have access to all information anywhere, anytime through the internet. Stories online can also grow over time, as users contribute additional information.

Computers are inherently participatory – this gives them the most basic qualifier for mediating interactive storytelling. Without the capacity for participation and a way

for the media to accept input, the media by itself cannot support complex interaction within a story. Computers are designed to accept a variety of inputs, and to process them in a wide variety of ways depending upon the program. For interactive storytelling to function, we need only design what input should be listened to, and the mechanisms for interpreting that input.

Crafting the Environment to Invite Story Contribution

Environments communicate are a tool used to communicate story, drive story, or structure the limitations of story. Great scenes in classic movies utilize the environment fully to emphasize the drama of the moment and to tell the story at a glance, before anyone speaks or acts within a scene. Video games use environments to invite exploration in much the same way that theme parks use the environment to draw the user from one location to another (Clarke-Wilson par. 24). Game designers make strong navigational suggestions through placement of walls, paths, buildings, objects, and obstacles to let the player know where they are at the moment and where they need to be. Dr. Stephen Clarke-Willson suggests in his article *Applying Game Design to Virtual Environments*, that it is desirable to reward players for staying on the correct path, and to punish the player with negative feedback if they stray into undeveloped or otherwise inappropriate regions of the game (par. 32). This technique is supposed to guide the player without overtly manipulating them, and structure an experience where the playable environment is rewarding and fun. This principle can apply to interactive storytelling environments, but it appears to violate the principle of empowering the participant. If obstacles are going to impede the journey of the participant, then those obstacles must

have a purpose within the story that is not directly about controlling and punishing the player.

It can be appropriate in places where the character would meet in-story obstacles, or where a temporary obstacle is designed to create opposition for the character to later overcome. For example, in *The Truman Show*, the main character, Truman Burbank, portrayed by Jim Carrey, has lived his entire life within an artificial city, that is actually the set for an extremely elaborate reality TV production. When he begins to suspect that something strange is happening to him, he tries to leave the city. Since the show (and the movie) will end prematurely if he is allowed to leave, Krystoff, the program's creator, schedules obstacles and punishments to dissuade Truman from leaving. Some of these obstacles play on Truman's phobias. Others directly threaten his life. Ultimately, the point is for Truman to overcome these obstacles and his story is fulfilled when he rejects the safe fiction of Krystoff's world to enter the messy reality of life. In an interactive fiction, environmental obstacles could be used in the same way, to establish the parameters of the world that will later be overcome. However, story obstacles set up promises that must be fulfilled later in the experience. An obstacle that becomes central to the story must be either defeated, or it must play into the story in another way. In a pessimistic world, the obstacle might be insurmountable – the protagonist might be unable to overcome it, no matter how much of themselves they pour into the effort. In either case, if an author is going to punish the participant for straying off course, then those 'off course' activities should be contextualized within the course of the larger narrative and used to the advantage of the story. It is not acceptable to have time-consuming, random acts of exploration within a story, the way that it is acceptable within

a game. If exploration is a major part of the story, then something must happen as a result of that journey that transforms the characters. *The Lord of the Rings* trilogy is a perfect example of a journey story that is really all about transformation.

The environment of an interactive story should help to define the parameters of the story for the participant, and it should help in the process of drawing the participant into an interactive dialogue. *Subservient Chicken* (www.subservientchicken.com) is a Burger King promotion currently available online that uses interactive video to interface with the audience. Taking advantage of its cyber-location on the internet, Subservient Chicken pretends to be a real apartment space that is viewed by site visitors through a web camera. Standing in front of the camera in a sparsely decorated living room, is a man dressed in a large chicken suit. There is a text box underneath the video-cam footage, where site visitors are encouraged to give the chicken orders, which he promises to obey. Hence the idea of a subservient chicken – he will do whatever you ask him to do. This setup suggests a certain degree of voyeurism, which is only heightened by the fact that the chicken wears comical garter belt. Although the program will not actually support requests for inappropriate chicken behavior, the chicken will scold the player for naughty language and commands.

For a naïve visitor, the site can appear to be very real. Since web cameras often do not include audio recording and since the site visitor cannot be seen by the chicken, it is realistic to communicate through a textbox instead of by speaking or typing back and forth collaboratively with the chicken – how would he type in the suit anyway? This gives the programmers a legitimate, scenario-driven excuse to limit dialogue to the text box, which lets the program scan for keywords and play a video connected to the

keyword. The Burger King advertisements on the site are inconspicuous, but present, so that the idea of interfacing with an ad is not constantly in mind. It is almost believable for a short while, that there really is a man dressed in a chicken suit somewhere, waiting for people to order him around through a website. It is a little bit sad, but almost plausible when the internet contains things that are significantly more bizarre. I am not sure if it was the designers' intention to trick visitors, but the net effect is that the site uses the conventions of the internet extremely well to get visitors to buy into the fictional scenario.

The environment of the *Subservient Chicken* is sparse, but realistic. The chicken stands in a small living room with a couch, two chairs, couch pillows, a television set with the screen turned away from the camera, a lit floor lamp, some kind of rope or cord, and a hallway exit off to one side. These items do not give the appearance of a designed set. The space looks like a fairly cheap apartment, where one would expect to find this kind of strange and somewhat eerie video camera surveillance. However, the set is very well designed to give the player certain options and to restrict others. The chicken cannot move the camera, so he is restricted to that room. It is possible to ask for things outside of the room, but impossible to know whether or not he actually obeyed. Once the chicken leaves down the hall exit, he could be doing anything – and he will leave, if the player asks him to do so. The chicken is the other obvious target, and he is programmed to do many common, and uncommon, requests. He can impersonate an elephant, die, eat a chicken sandwich, do the *Macarena*, sing an opera... the list of ephemera is long and amusing to experiment with.

Although *The Subservient Chicken* is not a story and is not designed to support any kind of storytelling, it is a good example of technology that uses well-known conventions and limitations to get people to buy into a scenario. It also uses an environment intelligently, to sculpt interaction without ever giving complex instructions, or seeming to restrict possibilities.

The Procedural: Programming Conventions needed for Digital Stories

Chris Crawford argues that computer programming is the only viable way to approach interactive storytelling successfully, and that authors must overcome their trepidation regarding the technical side of storytelling to use the computer as an effective tool (67). His argument is compelling, insofar as structure is concerned. Mathematic formulae provide a way to avoid branching and hypertext narrative. It also gives the author a way to break down character emotions and motivations into numerical values that the computer can understand. This means that the computer does not need to understand human motivation, emotion, or ambiguity, in order to mediate the story – all of the understanding goes into the programming beforehand, by the author. At the same time, all of the computer's logic structure can be hidden from the human participant; allowing him to be just as illogical and ambiguous as he wants to be within the context of the story. Crawford has distilled the language of cinema into an algorithmic language that is logical and descriptive. He describes methods for breaking down character motivation and action into an algorithmic language, which tells a programmer how to break the function down into any computer language.

Among his theorems, Crawford limits the complexity of his story world by saying that the vocabulary only needs to support actions that are appropriate to that world (162). A romantic comedy requires a different language set and capabilities than an intense zombie horror thriller. The character desire to 'consume brains' would be appropriate for the latter, but not the former. He makes it possible for computers to conceptualize human behavior, by limiting the behavior to things that still communicate author's intent. Rather than giving the audience complete control to do whatever they want and create whatever story they desire - he creates a world that has its own rules, but whose rules include and depend upon interaction with an outside user. Interaction does not mean limitless freedom. It means empowerment for the user, within the story-world that exists with certain limitations that breed possibility.

In order to create programs that support interactive storytelling, certain functionalities are necessary:

- 1 - The story needs to understand not only which choice the participant has made, but also how that choice influences the world and how that choice builds upon previous choices in order to generate part of the story arc.
- 2 - The story manager needs to understand which act it is in, and what things must happen within that act. These things are not necessarily defined actions that must happen before the story progresses. Instead, the waypoints within an act can be emotional or thematic. For example, an author might decide that the second act ends only once the protagonist has suffered a crushing defeat - the hero's death.

How that death occurs is immaterial, as long as the next act continues to support and develop that event in order to achieve the next waypoints.

3 - The story manager must be able to generate different or interchangeable methods for getting to the conclusion of one act, and to transition into the next act.

4 - The story manager must generate and maintain emotional investment with the characters, relationships, and events of the story.

Modifying Techniques in Live Interaction for Digital Interactivity

When we look at modifying live techniques to create digital stories, we are not trying to replicate the inter-actor or the role-playing gamer. The computer does not know how to improvise, so we cannot think of digital stories in the same way that we think about live stories. Instead of being a co-author of the story, computers can serve as the mediation between the real human author and the human participant. This allows the author to keep intent, to keep control of the authorial environment, and to control the methods in which the participant engages the story. The computer becomes the tool used by the storyteller to design and implement their personal vision; chosen because it is a tool that can accept input and output – the most basic components needed for interaction to begin.

Fortunately, we do not need to wait for Artificial Intelligence in order to begin designing stories. Stories are not simulated real life. Characters are not simulated real people. The life expressed in stories is crafted and molded to have impact and to cause

transformation, while the characters inside story exist to serve the purpose of the story (McKee 375). Of course, within this established context, the world and the characters must be credible and the audience must be able to understand the characters' motivations, but they do not need to have the same kind of flexibility that real human beings demonstrate. Because of this, it is not necessary to create a completely full and realistic world inside of an interactive story. There do not need to be limitless choices, limitless locations, or an infinite cast of infinitely complex characters. The challenges that digital interactive authors face are vast, but they are not without bounds - they can be quantified, and stories can be designed specifically to limit the number of different possibilities that must be accounted for and written. Take any of Samuel Becket's plays, for example. *Waiting for Godot* utilizes exactly one location with two main characters and a handful of supplementary characters who all interact in relatively confined ways. It would not be impossible to create a computer robot that acts like a Samuel Beckett character, and it is not unusual for plays to use only a handful of locations to tell a fulfilling story. In film, more locations are often used because it is feasible to do on film, whereas it is not feasible to design dozens of separate theatrical sets – however, the actual number of important locations is still limited and distinct.

Essential Principles, Derived from Live and Digital Forms

Computer programming is a necessary tool that storytellers must learn to use, in order to make interactive storytelling a reality. However, it would be foolish in this endeavor, to pretend that digital storytelling is fundamentally different than live storytelling, and that the two forms have nothing to learn from each other. It would be

equally foolish to dismiss the centuries of story knowledge that we have at our disposal, or the knowledge of interactive techniques that come both from the live and the digital realms.

In defining what the programming language for digital interactive storytelling should accomplish, we must focus on the experience of the participant and program based on what the story needs to do – not what is easy for technology to do.

1 - Change the Focus of Storytelling

Interactive story can only succeed when the author is able to willingly give up sufficient control, such that the audience has the ability to contribute meaningfully.

Authors should try to stop thinking about story as a connected series of known events and concentrate on the goals of the story. While the details of the story make it come alive, it is the underlying moral values and the driving goals embedded within the story that truly make it powerful. If the author is concentrated on making specific, planned details happen, he will become frustrated with the participant and lose sight of the interactive goals. If he remains loose and adaptive, he will maintain the ability to move with the rhythm that the story takes on. Like a finely tuned dancer, he will have the capacity to compliment, lead, anticipate, and accept movements made by his partner – the participant.

In Roleplaying games, it is sometimes useful to design a story based around a specific theme, to help the game master and players achieve a satisfying story experience in a world that has a moral center, purpose, and focus. These themes are often couched within the larger themes of the role-playing world, as described by the author of the

original game material. For *Wrath: the Oblivion*, a game where the players all portray the recently dead, struggling with the realities of the afterlife – the game suggests certain themes, obviously including horror; uncertainties about life and death; loss, rejection; coping with death, and finding peace with one's place in the world (Dansky 200).

2 - Create the Right Interactive System

From looking at Roleplaying Games, we learned that creating the system of interaction is integral to making a story that works properly, with author's intent and the participant's intent coinciding. The system is the means by which the participant engages the story. It communicates something about purpose and if it communicates the wrong thing, then the participant may approach the story with goals that are incorrect. For instance, if we wanted to create an interactive piece based on the work of Jane Austin, we would not want a participant to enter the scenario with a rule set that lends itself to James Bond. Most video games are geared towards the James Bond type of interaction – so standard video game models are not appropriate. Nor would we wish to support a detective novel or an adventure story of any kind – another common video game model. Jane Austin is a distinct type of story and the type of interaction should reflect that subtlety. Any less is equivalent to or worse than a badly formed ad campaign for a movie. Attracting the wrong crowd can lead to box office failure. So too, can crafting the wrong expectation ruin an interactive story -- especially when the genre is in its infancy and requires a lot of explaining for most people to fully comprehend.

Movies and video games use system design to impact how the audience will receive and understand stories. Movies use editing/ directorial techniques such as pacing,

flashbacks, perspective, or special camera movements to convey a particular tone, genre, or to reinforce a message. Games use different kinds of participatory systems to get the player to participate in a certain way. Diane Carr discusses how *Silent Hill* uses techniques that push the player onwards through a dramatically intense, pressure-intense experience in which there is no place to relax or feel safe. Its characters are fairly static, so that there is nothing new to explore in an area that is 'complete'. There are only certain places to save, so the player must continue going forward in order to save. Additionally, the levels are defined by the plot instead of by the character's personal advancement, so there is no impetus to play longer in order to rack up additional points (par. 5). In contrast, *Planescape: Torment* is designed to be savored and groused over. It has more textual content than most games, rich with unnecessary detail from a purely gamist perspective. The areas of the game change over time, so there is a reason to revisit previously visited locations. The player can save at any time, so there is no push forward to find save points; and advancement in the game is measured partially by how personally powerful the character becomes, so the player can stay in one area longer to fight more creatures or solve more side-quests in order to gain experience points (par. 26).

All of these choices; environment, dialogue, pacing, musical effects; and other details that also impact movies and theatre, are equally important within interactive media. Each impacts the way in which the participant is likely to interact with the world, and be carefully choosing the right combination, the author can exert thematic control over a story that develops and grows interactively.

3 - Design the Invitation

The invitation has two roles for interactive stories. Firstly, it must establish the proper expectations for the story – this role is not unfamiliar to mainstream media. Secondly, it must correctly introduce the participant to the rules of engagement. Giving the right first impression is critical, so as not to communicate that the story should be played like a game, and to exchange the gaming paradigm for another. Until interactive story becomes mainstream, people are likely to mistake it for a dramatic form of video game play. To minimize that, careful attention must be paid to the introduction. In *The Game*, the introduction was kept as a separate event from the actual storyline and it was staged as a slightly whimsical application interview. It was an opportunity to invite the participant into a playful world, set up the rules of engagement, and to suggest the overall scale that the story would ultimately take. The participant was not told about the content of the story, but he was told when it would happen, how to check whether or not a stranger addressing him were part of the game, and he was given a character name to distinguish himself from his character within the story. The participant enough information to assuage any fears he may have had, and he was given an opportunity to ask any questions that he needed answered before entering into an experience unlike anything he had ever seen before.

In Roleplaying Games, the introduction is often a character creation session or two. In this time, players become familiar with each other and with the basic details of the other characters that will be a major force within the story. Each player develops a

sense of their own character and a sense of the rules system, which will impact their character and their expectations for the game.

More widely understood forms of media use advertisements, stage settings, music, previews, and other devices to craft an invitation. Theme parks build their parking lots to setup the right expectation even before visitors pay the admission price. Movies distill plot, character, and theme down to a single image – a poster. When the expectations do not match the reality, Jeff Wirth describes the introduction as creating a speed bump that makes the job of the storyteller much more difficult later on. When the introduction sets up the right expectations, it is a smooth transition into the actual experience (Wirth, Personal Interview). Theme park designers are experts at creating the right kind of expectation and they know how to imbed story, instruction, and even guest movement by shaping the environment itself. Expectations established by the introduction are very closely related to the expectations established by the environmental design. However, the introduction may need to exist slightly outside the reality of the story, and may not want to convey exactly the same thing as the environment of the story, especially if there is an issue of trust to deal with between the participant and the storyteller/ actors, before he enters into the story itself.

Goals of the invitation:

- 1 - Encourage the participant to play.
- 2 - Let him know the rules of engagement, so that he has the ability to play.
- 3 – Assure the participant that they are safe.

4 – Let them ramp up to the experience by understanding a little bit of what that experience will be. This does not need to be full disclosure, but the introduction sets the tone and invites the person inside. An introduction can be textual, environmental, visual, auditory, or a combination of all these. Movies are prefaced by previews and posters. Theme parks are prefaced by awe-inspiring physical environments, mood-setting music, and getting oriented within the space using a map, tickets, signs, et cetera.

Current media are understood by the public, and people know how to use it. Movies are effective partially because people know they are supposed to sit quietly and let the story move them. Think about someone who has never seen a Japanese Manga before. Manga are essentially graphic novels, but because they are from Japan, traditional Manga are read from right to left instead of left to right. For a novice, the storyline would not make sense at first, until they got the hang of reading in a way that is non-intuitive for Westerners. In this case, a type of storytelling we are all familiar with can become rapidly unfamiliar with just a small change in format. For types of storytelling that are inherently unfamiliar, a level of instruction is necessary to invite people inside.

Our goal is not to confuse our participants – it is to give them the tools necessary to fully engage our stories, without frustration, and to live a worthwhile experience that they will find valuable or entertaining. For stories that take place within physical spaces and environments such as *Memoryscape*, the invitation is doubly important. Most people are disinclined to interact with pieces that look like art, because they are culturally conditioned to not touch art or impact art in any way. It is unlikely that people will feel

comfortable touching a set or affecting a story, unless they have express permission to do so. While giving permission may seem cumbersome to the artist/ storyteller, it releases the participant to act freely and without self-consciousness inside the world we have created for them – which is, hopefully, why we created the story in the first place. Passive media also give the audience the permission to believe in fantastical, or at least fictional, worlds. Interactive media must go one step farther and invite not only belief, but also interactive investment.

Eventually, including explicit instructions within the introduction may become an archaic and unnecessary addition to interactive storytelling – like prefacing a movie with instructions to sit quietly and watch the big screen at the front of the room. When people are familiar enough with different genres of interactive story, they may only need to know what kind it is in order to be fully prepared to step in and participate. For now, an introduction of some sort that sets out the rules of engagement seems to be the clearest way to give the participant all of the tools they need to have a fulfilling experience.

4 - Give the Participant an Identity That He Can Inhabit and Impact

In order to interact with a story, the participant needs to know his place within that story. Is he the director, the actor, the character, an outside player who controls a character or various characters, God, the environment? Knowing how his role factors into the narrative at large gives the participant the power to make decisions that sculpt the narrative in new and exciting directions.

In Roleplaying Games, identity comes from designing a character who lives within the fictional world. In most games, this identity is limited to one character and

everything that he owns. It would also include the character's history, although people from that history might be brought to life by the Game Master. Sometimes identity extends to multiple characters, such as a servant attached to the player's primary character as seen in *Ars Magica*, a character operating with the enemy, or even to a seemingly unrelated character who will later become intertwined with the plot as the story develops.

Identity is impacted not only by the character the participant plays; but also by how the participant is allowed to impact the story. In most gamist and simulationist systems, the participant can only impact the story by using the skills possessed by their character. Identity in simulationist systems is tied directly to the character. Identity in gamist systems is divided between the character's abilities and the player's desire to succeed. In some narrativist systems, the participant is also allowed to affect the story from the perspective of an author. The participant is given power outside of their character, to impact events within the world. In narrativist systems, identity is divided between the character who is part of the story, and the player who has a vested interest in creating a compelling story.

As an alternative to giving complete control to the players, some games come with pre-generated characters who are given to players in paper format and fleshed out in game by the players in the same way that actors give life to a character created by writers. Others allow the players to make the character's personality and history, but the statistics that define the characters in terms of game-play are determined by rolling dice. In either of these cases, a part or all of the character identity is communicated to the player instead of being wholly designed by the player himself. How this information is communicated

can change how the player perceives identity and the freedom that he has to define that identity further. For example, if the player is only given a set of statistics that serve as a base for character, they still have great freedom to design the back-story and personality. If the personality is given, the player may have the freedom to design the statistics or the history. Deciding how much and what kind of information to give the player is important, and we should be careful about giving them so much that it hinders creative investment. However, giving a solid place to begin maybe help participants to step boldly into a story, knowing where they are coming from as a unique identity.

The role taken on by the player can also begin as a blank slate. In Storybox, interactors endow the spect-actor with a name and some details about their identity, usually within the opening scene of a story. This gives the spect a place to start from and alleviates some of the initial pressure spect may feel to improvise and act competently. After establishing the basic identity, which may be a job, a relationship, or just a commonly understood situation (e.g. – a reunion, a homecoming, a job interview), the identity of the spect develops through in-the-moment collaboration between spect and interactors. The interactors are trained to listen and watch for any offers given by the spect, no matter how subtle. Offers are things the spect or a fellow interactive gives, that can be used to generate story or scene. Sometimes an offer is very overt and carries an obvious impact upon what the story will end up being: “Oh yeah, I just got back from Switzerland on a big business trip... but don’t tell my wife about it – okay man?” Other times, offers are extremely subtle and may be completely unconscious. For example, if the spect has folded her arms around her body in a defensive self-hug, an interactor might transform that physicality into a different situation and emotion: possibly offering the

spect a blanket, and inviting her over to sit by the campfire for some closer conversation. Whatever the interactor does, his choices are designed to incorporate everything that the spect is doing and giving within the scene, so that it truly becomes their personal story.

Whatever role is given to the participant, the author should know how that role will affect participation. A character has different responsibilities than the director, and an actor is different from the character he portrays. Knowing how the participant will be inclined to think about his role in the story gives an author the advantage of sculpting the narrative around that role – rather than planning for every contingency imaginable. For example, roleplaying games build in ways that the players can impact the world and the story. In most games, even if the players have some control over the story, it is not acceptable to spontaneously invent the principle villain, or to drop a blue hat out of the sky that smothers the entire team. Having this kind of control would create bedlam, unless the players were all very skilled in the arts of interaction and storytelling, like the interactors from Storybox. The GM, knowing what options are available to the players, can design everything that the player has no control over without worrying about change. This might include the primary non-player characters, their motivations and relationships, and the important characters in the city. Even if these details are generated by looking at the player characters and deciding what would be most appropriate for this group, the storyteller can still set those things in stone at some point in time. Story elements that the characters can impact might be thought about in terms of possibilities, goals, scenarios, or even just as environmental sets and non-player characters who have motivations -- but the GM should be ready to improvise and sculpt those elements as the players begin to show their hand.

Playing with interactive story alters the familiar ‘suspension of disbelief’ that we are familiar with in traditional narratives. With interactive story, it is not only the audience that must trust the author. Now, the author must also trust the participant to play within the world. This does not mean the participant will always do what the author expects – but the author should trust the participant to play the story, not intentionally break it. If the participant is unwilling to fulfill this part of the contract, the narrative probably will not function very well. However, we should create stories for the people who do want to play and participate fully – not those who, like rebellious teenagers in a movie theatre, chuck popcorn at the screen.

Procedurally, giving the participant a functional identity inside the story can be accomplished by having an invisible avatar that represents the player. Like all of the characters in the world, this avatar can have certain characteristics that are defined numerically so that the program can respond to him. The participant’s avatar is unique in that its statistics are generated dynamically as the participant engages with the story. The world also needs a way to interpret what the participant is saying and doing, in order to inform the avatar and impact the other characters. Like all of the characters, the participant’s invisible avatar would gradually acquire a history of events based on what is said and done within the story. Information should be stored as ‘past history’ and ‘events of the story’, so that the computer program can retain internal consistency.

Some video games essentially do as I have described, except that the participant’s avatar is mapped only as part of the game simulation. Adaptive systems can alter the level of difficulty experienced in any given challenge, until the difficulty exactly matches the player’s capabilities. In this way, the player will eventually succeed if they continue

to try, and will not become indefinitely stuck on a challenge that is too difficult to surmount (Glassner 359). We can use this technique, which is currently limited to game challenges, and apply it to storytelling instead.

5 – Make the Identity of the Participant Important to the Story

Interacting is only fun when both parties matter to one another. Think about the last time you were in a one-sided conversation, where your conversational companion had an agenda to press, and you could not get a word in edgewise. It gets frustrating quickly. Being part of an interactive story where the participant is only present to arbitrate another character's problems becomes frustrating to the participant for exactly the same reasons. Instead of being treated like a human being, the story behaves as though the participant is only an outside agent acting upon the characters, who actually matter to the story. In a digital interactive story, the participant may very well be the only human being directly experiencing the story. If the story is not designed to be entertaining and rewarding for him – then who can it be designed for? The virtual characters do not care whether or not they matter to the story. The human participant certainly does. *Façade* suffers from this fatal flaw. Grace and Trip are the central characters within the story, and the drama revolves around their dissolving marital life. The character portrayed by the participant is only there to witness their personal struggle, and to push them towards either reconciliation or to ruin. Grace and Trip do not care about the participant as an individual, nor does the participant acquire a history or personal identity during the course of the story, even though the short back-story establishes him as an old friend.

Mattering to the people in the story, and to the story itself, certainly does not mean that the characters have to care about your problems or your well being. The protagonist of the story matters very much to the villain of the story, because he is the person who can ruin all of the villain's plans. The villain may decide to use everything that the protagonist says against him in some way, but you can be assured that what the protagonist says and does will matter to the villain.

Creating a sense that the participant matters is very simple. Making the participant matter in a significant way, throughout the entire course of the story, is much more complicated. In either case, mattering depends upon building a computer program that can listen to the participant and to some degree, interpret what the participant is doing, saying, or even feeling within a scene. If we begin by making the participant matter on a small scale – say, mattering to the other characters within the story, then we can begin to build stories that are more inclusive and responsive overall. To show that a character cares about the participant, authors can have characters endow the participant with certain attributes and experiences – in much the same way as Storybox. A character, let's call her Tracy, might say to the participant: “Remember that idiot Tom that we met at the party last week?”

To which the participant might say: “Yeah. He liked you. ”

Very quickly, we arrive at another place where the author can make the participant matter. Tracy has endowed the participant with some history, which makes the participant matter in the world of the story – it gives the participant placement and orientation. In turn, the participant has endowed the computer character Tom with liking Tracy. While there are programming complexities in making this happen, the computer

program can now choose to assign this attribute to Tom. The participant has successfully altered the story, with a very simple and natural comment.

If it is impossible to make Tom like Tracy because the story needs to go in a different direction, then the program can validate in another way without blocking the participant. Tracy might have a response that diffuses the situation and sends the story in a different direction – one that can be supported by the existing story structure. “Me?! No, you’re wrong about that. Tom likes *you*. I thought I should give you fair warning ... he asked me for your number. I gave it to him. Sorry.”

Mattering to the characters within the story and mattering to the story as a whole entity are different but related things. The characters serve the story, so what matters to them already impacts the story. However, the story itself should be structured to listen to the participant and to alter itself in ways that show the participant matters. If the story was designed to have a love interest, then Tom can now become that character. If not, then maybe Tom had a different reason for wanting the participant’s phone number. Maybe he is a former classmate, a former date from middle school, a lost cousin, a family secret, or a secret informant who needs to give the participant some critical information.

6 – Communicate and Maintain POV

Let the participant know if they are an actor, a director, a character, or merely an audience member with power. All of these perspectives are valid forms of contributing to a story, but they all have different connotations and different requirements for interaction.

In roleplaying games, the role of the storyteller is very different from the role of the player. If the participant is going to be the storyteller, he needs access to much more information and resources. He must know about each of the players and have the power to craft the narrative, the scenery, the characters, and the entire fictional world based upon his needs. Players can have very different roles, depending on whether it is a Simulationist, Narrativist, or Gamist experience. In a Simulationist story, the players only need to have power over their own character. They can be encouraged to remain in character, sacrificing victory and narrative success in order to portray the character to the best of his ability. This changes the role of the storyteller as well, since the storyteller must be able to take characters who are going in different directions, and merge their stories together into one story. For a narrativist, the player needs to have the power to impact the story in certain ways.

Whatever system is decided upon, the rules must remain consistent. This is the only way to assure the participant, that he knows what he is doing and that the author appreciates his contribution. While I was playing *Sanitarium*, I found a crowbar and I found a sealed, wooden door. I decided to use the crowbar to break in the door, but the game did not understand what I wanted to do and berated me for my attempt without explaining why it was wrong. Later I discovered a key that unlocked the door. Although the crowbar was a logical solution, the game required a specific puzzle-based solution. Rather than justifying its limitation by allowing me to try and fail with the crowbar, the game did not even acknowledge the crowbar as a valid idea. This kind of discrepancy in games can be distracting and annoying, but it is an understood part of puzzle solving. In

a story, these inconsistencies can add up to an illogical world that discourages participation.

7 – Keep Promises Made to the Participant

Promises in storytelling are things that the author agrees to do, as part of the unspoken contract that exists between author and audience. Part of the contract in games, is that the character is under the player's control. Cut scenes break this promise when they depict the player-controlled character doing something that the player does not want that character to do. Smaller promises are made and broken in games, when a player is able to pick up and use certain objects – but not others. Consistency is part of keeping promises. Follow-through is the other essential component.

In role playing games, the Game Master promises not to take control of player characters unless they have a story-driven way to accomplish it. For instance, if a Game Master controlled character (NPC) possesses mind control techniques, then it is acceptable within the story for this character to use his ability to control players. Even in that case, it would be considered unfair for the Game Master to arbitrarily or frequently use this ability as a tool for controlling the outcome of the story.

Whatever rules established at the beginning of the story, must remain consistent throughout the story. Many of these rules are defined by the system, which the Game Master can choose to use or ignore. Any changes to the established rules should be noted at the beginning of the game. Additionally, whatever details are established as a result of story, must remain true and consistent. It is unfair to build characters whose personality wavers from scene to scene and moment to moment. Once a character has been

established, it is important that he remain true to his personality type and principles. Other information that is later revealed about that character must also remain consistent with the known personality, even if it is wildly divergent from the details that the audience thought they understood before. This is a basic principle of good storytelling, that is no less true for interactive stories. Bruce Willis' character in *The Sixth Sense* believes that he is alive throughout the movie, and since there is nothing to directly contradict that belief, the audience follows him and believes as he believes. When he and the audience discover the truth, there are no details previously supporting an old conclusion that contradict the new conclusion – and the movie turns on its head. Looking back on the events of the movie, it almost becomes self-apparent that Willis was dead the entire time, but the events and the conclusions drawn at any particular time in the movie are consistent and logical.

8 - Design the Narrative Based on Structure

Stories rely on the transformation of a character or characters. Who the protagonist is when the story begins, is almost always fundamentally different than who he will be once the story ends- this transformation is what makes the journey potent, real, and impacting to an audience. A changeless story without transformation is a simulation. We have seen simulations succeed digitally. *Sim City*, flight trainers, *Animal Crossing*, and many of the successfully marketed military games today, are all simulations of actual or imagined circumstances. To make stories succeed digitally to the same degree that simulations have succeeded, it is important to concentrate on what story is, and to make those elements critical within the interaction.

Christopher Vogler simplified the steps of the hero's journey, originally described by Joseph Campbell. The essence of these elements can be used, not necessarily in order, for almost any type of story. They work because they setup a scenario where transformation is inevitable, and speak to the human desire for change through chrysalis. The stages are: Ordinary world; call to adventure; refusal of the call; meeting with the mentor; crossing the first threshold; tests, allies, and enemies; approach to the innermost cave; ordeal; reward; the road back; resurrection; and return with the elixir (Vogler 12).

In interactive story, it is important to leave space for the participant to contribute and to play. When all of the events are set in stone, this freedom is diminished and participants can often feel when they are being manipulated into making decisions to make the story work, instead of decisions that make their experience work. Because of this, authors cannot design out all of the events and specific circumstances in an interactive story. The author cannot rely on the participant to make the most dramatic decisions fitting with the hero's journey, nor is it the participant's responsibility to know which decisions make the best story. It is the author's responsibility to turn whatever the participant decides into a transforming narrative and to provide opportunities for the participant to succeed. Success is not necessarily defined by victory over the antagonist – it is only defined by a successfully dramatic, transforming story. Although the author cannot always design specific events that he wants to see play out, it is wholly possible for a participant to live through the established emotional transitions set out beforehand by a master storyteller, while still taking ownership of his personal actions and decisions inside the narrative. The details of the narrative can be extremely flexible, while the

basic structure and timing of major emotional changes in the protagonist and in the world, remains in place.

Instead of designing a specific series of linear scenes, emotions, or events that we want the character to experience, we can take the essence of those moments to loosely script an entire story into emotional waypoints that need to happen before the story can end. The focus of the interaction can be geared towards making these waypoints occur, and to modifying the waypoints if they ever become inappropriate to the scenario that is developing. To add some structure to this process, authors can divide their stories into an Act-based structure. In the three act structure, Act 1 includes the exposition leading up to the inciting action. Act 2 consists of conflicts that lead up to the climax of the story. Act 3 involves dealing with the principle conflict, leading to the resolution of the story (Littlejohn 2). Having Acts gives the author a way to design specific waypoints that occur at the right part of the story to be the most emotionally impacting.

Littlejohn asserts, “A way that we can achieve both a non-linear, free-choice environment and keep our five-part dramatic structure is by assigning the non-linearity to the micro-level, while maintaining a scripted structure at the macro-level (2).”

I think more is possible, by changing how we use the act structure. If we design the act structure based on emotional waypoints rather than plot points, we can create stories that are interactive at the macro-level. Additionally, the goal is not non-linearity. Non-linear refers a story designed by authors that unfolds in an order determined by the navigation of the user. Interactivity refers to a story in which the details are actually determined during the course of the story, based upon listening to the participant and responding in kind. With this basic model, we can craft drama into our scenarios without

creating the entire plot beforehand. For a digital world, further constraints are necessary because the computer cannot currently access a limitless database to generate story on the fly. Some day, computers may be able to encyclopedically scan the internet for the right information, and seamlessly integrate that found information into the story. For the time being, the dataset accessed and understood by the computer must be limited so that the computer can understand everything it has accessed to, but it must also be full enough as a fictional world that the participant will invest. A fictional environment, luckily, does not need to be as full as real life in order to be believable and impacting.

Donald Davis further simplifies the structure of story as an aid to oral storytellers. He divides the sections discussed by Vogler and Campbell down into five easy to remember sections: Main Character, Trouble Coming; Crisis; Insight; and Affirmation. Main character establishes the ordinary world and foreshadows what the critical issues of the story will be, by showing the audience some of the protagonist's critical flaws, which bleed into Trouble Coming. The Crisis is what the entire story hinges around, and it is essentially a life or death situation – not literally, but in terms of who the character is when the story begins, versus who he will be at the end of the story. In the process of undergoing the crisis, the character gains some Insight that allows him to survive, and that changes him irrevocably. Affirmation is somewhat optional and involves the protagonist testing the insight he has gained, in a situation that usually Trouble Coming (Davis 37).

In an interactive story, the author can set up goals for each scene and each act that fulfill the different parts of the narrative structure. Characters, events, and even the environment can work like a larger, unified character towards reaching these goals.

9 - Design Emotional Waypoints

Stories succeed by carefully crafting emotional highs and lows within a dramatic plot. In an interactive story, we may not know what events will happen – but we can still craft the emotional waypoints that need to happen before the story comes to a satisfying conclusion. The structure of those waypoints can be built around the act structure seen in more traditional forms of storytelling, so that we have a basis to drive the action (Stapleton, Hughes, and Moshell, “Interactive Imagination” 4). We can design our interaction to accommodate shifts in tone throughout the story, and to move towards these waypoints. We can also design stories that recognize when an emotional waypoint has been hit, and then adjust the rest of the waypoints to create a fulfilling narrative. By changing the context of a scene, the same basic events can serve multiple purposes.

For example, assume that Richard is in the middle of the first Act of an Interactive Story. So far, he has managed to have a positive, but fairly one-dimensional experience. He is playing the story cautiously, making decisions that stop drama from occurring. Essentially, Richard is stuck in Refusing the Call. If Richard had made different decisions and come to a crisis point, the story engine would have moved the scene into the second act and generated a celebratory party; creating a brief respite before the storm. As it is, Richard still needs to make that leap. At the party, Richard gives a toast met with high approval and announces a new company project, and is called aside by his brother. They have not gotten along, because his brother does not play safely and has seen some trouble that Richard avoided. Richard’s brother informs him that their father has died, and that the company fortune is not going to Richard. There is some insinuation of foul play, but the brother shrugs Richard off and tells him he had better get his

priorities straight if he wants to keep any of the family's money and status, before he stomps off through the crowd. Laughter erupts from the party – Richard's friends invite him over for another toast and some drinking games, but the party has taken on a different tone for Richard and he has trouble mustering the same enthusiasm he had before. The story is primed for a confrontation between two brothers and an intrigue-heavy family drama. Richard must decide whether playing it safe is acceptable, when peoples' lives are on the line.

10 - Design Characters Based on Archetypes

Characters inside the story world need to be able to generate and maintain emotional investment from the participant. If the participant does not care about the people he is interacting with, then by definition, story cannot exist. Stories are fundamentally about people and relationships between people, so special attention must be paid to the digitally represented people that authors create. It is all right to create main characters and supplementary characters beforehand; trusting the participant to care about the people that they are supposed to care about. People invest emotionally with characters in books and movies all the time. If the main characters are established with sufficient strength, and if they main characters are the ones that care about the participant, then they will naturally lead the story while the supplementary characters can simply concentrate on supporting the main characters and the setting.

Supplementary characters do not require the same level of detail as main characters and can decrease in detail the farther they move off the protagonist's path. Like minor characters in a film, the smallest interactive roles are there to perform a function. Making

them too unique draws too much attention from the participant, and sets up a promise for additional development and story-importance that cannot be fulfilled (McKee 381).

Even the main characters are limited in complexity by the function that they need to perform within the story. Function for a main character is many times more complex than function for a small supplementary character, but ultimately a main character also exists to serve the plot and to make the story successful. His function is to perform a critical archetypal role within the story, and therefore impact the story in very specific, easy to define ways (Vogler 29). In an interactive story, the archetype guides the character's behavior, to make sure that the story successfully hits all of its emotional waypoints that they are responsible for.

In any story, there is at least a protagonist and an antagonist. The antagonist is not necessarily a human being, but it has a personality that is understood by the audience as somehow malevolent, or at least contrary to the protagonist's goals. Stormy weather that keeps the protagonist from reaching the hospital can be an antagonistic force, if the stakes are high enough. All of the archetypal characters within the story are facets of the hero or the protagonist (Vogler 31). In an interactive story, this is important to take into consideration because the protagonist may very well be the participant. It is critical to record and process the participant's actions in terms of the storytelling world, so that each of the computer controlled characters and the story itself can work to serve the participant's needs.

The archetypal roles usually seen in the classic hero's journey are: The hero, the mentor, the shadow, the herald, the threshold guardian; the trickster; and the shapeshifter (Vogler 29). Vogler elaborates on how each of the characters function within the story.

The participant-controlled character has special considerations within a digital interactive story, and since the participant sees the story from the POV of his character – it is actually easiest if the participant is the protagonist. The other characters can then be designed to support the participant’s story – in a multi-participant story, this idea obviously changes. However, it is likely that all participants will see themselves as the protagonist of their own story – even if one is technically playing the shadow character or the mentor. It is also possible to structure the narrative around an ensemble cast, which is common to most Roleplaying games.

Some Roleplaying games use archetypal roles in order to structure cooperative play. *Dungeons and Dragons* characters are each based around the fundamental role that they will play within the story. Although *D&D* games tend to be more gamist than narrativist or simulationist, they nonetheless succeed in using character models to communicate authorial intent. In most published scenarios, each of the character types is necessary in order to create a functional story.

Assuming that the participant plays the protagonist or at least the central character around which the rest of the story hinges, information on his intents, motivations, and inner problem can be gathered as the story progresses, and can then be fed back into the story to shape the plot arc. The protagonist is built up from a blank or mostly blank avatar, into a character with history, motivations, and personality that impact the other avatars. Depending on what type of story it is, the author could set a value that makes the protagonist have a victorious ending – no matter what he does, the other characters will support him enough, to make sure that he comes out on top. The author could also decide that the participant will always have a tragic ending. No matter what he does, somehow,

all of the other characters will eventually abandon him, die, or make the protagonist face impossible choices that can only end in a bittersweet victory at best. What constitutes victory, tragedy, defeat, or bittersweet can be completely flexible within the moment. The important thing is that the author has the ability to define the tone of the story by setting traits like ‘tragic ending’ before the story even begins. Tom Stoppard’s *Rosencrantz and Guildenstern are Dead* is a good example of a story that can only end with tragedy, even before it begins. In a James Bond flavor story, the protagonist needs to ultimately succeed after escaping impossible odds and dealing with a series of life-threatening situations on an ever increasing scale of danger. No one goes to watch James Bond, to see him die in the end. Interactive stories can be designed with the same kind of tone in mind.

The author can define how the archetypal roles operate within his story world. In a modern comedy, the shadow character would behave differently than a shadow character in a Shakespearean tragedy, even though they perform many of the same basic functions. He can also color the roles with personality imperatives that serve the story. As Christopher Crawford points out, anything that can be expressed in terms of degree can be expressed using numerical values for the sake of a dramatic storytelling world, which is a simplified version of life geared towards making something happen (108). This gives us a way to represent personality characteristics and driving goals inside of a computer program – and more importantly, to give those characteristics and goals the ability to concretely affect the narrative.

Role playing games describe character traits with numerical values, which are then pitted against the numerical values of other characters or the environment to resolve

conflicts. For example, after robbing the bank, if Tony wants to convince Mary that running away to Mexico is the best course of action, he could pit his trait “Manipulation” against Mary’s Willpower trait. If he is manipulative enough to overcome Mary’s will to resist, then Mary will come with him to Mexico against her better judgment. In an interactive story, using numbers to represent the strength of any given trait, is probably the most efficient method for deciding how a computer character ‘feels’ about a scenario. If a computer character cannot actually feel his resolution waver based upon the power of the participant’s argument, he can still react based upon a numerical value as though he understands the emotion.

The role of some main characters may need to be assigned after the narrative begins depending on who the participant gravitates towards. For example, the program might be able to determine which seemingly minor character or background character the participant is most interested in. At the right moment, that character could take on the characteristics of the mentor and provide critical guidance to the protagonist when he is facing the call to adventure, for instance. Once this character becomes the mentor, he might be given access to an important item in the game, which he can give the protagonist – or he might be programmed to care about the outcome of the protagonist’s trials, especially if they share a common goal. Of course, in a computer program the location of different characters is also mutable. If the mentor needs to appear at a certain time, then he can easily appear in the next location that the participant decides to visit. It may be justified as a chance meeting, or the mentor may have been waiting for the participant to arrive.

The program may also need the ability to shift roles between different characters during the course of the story, as necessary. For example, the Mentor character might eventually betray the protagonist. To do this, he would need to metamorphose into the shadow or the shapeshifter character. The shadow character/ mentor might also have the fatal flaw – “lacks the Insight that the protagonist will gain later in the story.” This setup would give the protagonist the ability to overcome the shadow/ former mentor, by gaining a critical insight that he never could have learned from the mentor in the first place. Either a different character becomes the mentor, or a set of events teaches the protagonist the final Insight that he needs to have.

Above and beyond fulfilling their assigned, archetypal role in the story, the characters can and should also have dominating personality traits, personal experiences, and a personal belief system that colors the choices that they make. Characters are, after all, more than merely a role that drives the plot forward. Plot centers around characters as much as character centers around plot – more sometimes, depending upon the type of story. When a story is partially authored by an outside participant, the characters need to have enough flexibility to operate outside of expected parameters and effectively ‘improvise’ to make story happen. Within simulationist roleplaying, sometimes players have trouble justifying why their character would make decisions that benefit the story, even though the players may want a good story in addition to great character development. This can be worked around without abandoning the authenticity of character, and the same principles can be used for digital storytelling. If a character needs to do something that he would not normally do in order to support the story (or his role in the story), then justifications can be included inside the code to explain the action

based upon real character motivations - the same way a good improvisational actor would find the logical reason inside of their character to do the unthinkable. Character is revealed through action at a time of conflict. The choices made by characters are more important than the internal dialogue that happens, unless that dialogue somehow enters into the reality of the story that the participant is aware of (McKee 106).

11 - Drive the Narrative Based on Reasonable Character Motivations

Newton's first law of inertia states that a body at rest will remain at rest unless acted upon by an outside force. The same basic principle is also true for people and characters. If a person is in one emotional state, he will not leave that emotional state until something happens to change it. Only two things can change an emotional state: a change in information available to the character, or a new event (Richardson 75). This seems very basic, but it is important for designing traditional stories and it is also extremely important for interactive stories. By sculpting a story based on events that have impact on characters – who then have an impact on events – and so forth, we can logically design characters who drive action and who respond logically to action. This is also crucial for making believable characters. For instance, most people, unless they are true sociopaths, do not instantly and spontaneously decide to commit murder. The decision to kill comes only after a long series of difficult events and changing emotional states that lead to one terrible, inescapable conclusion. When the events add up, the action is believable. When they do not add up, the audience may be confused by the sudden unpredictability of a character.

The story itself can also be codified into one large, complex character who must have logical motivations for moving forward to new emotional states. For the story, these states would be defined based upon the narrative structure. Carrying this idea one step farther, the emotional state of the story could impact the environment, the characters, and cause a shift within the luck of the world. For example, in a particularly dour part of the story, the environment might be colored with grey hues, cold wind, or rain. The luck of the participant might take a downward swing, so that little things reinforce that he is temporarily down on his luck. In an interactive story, luck could actually be stored as a value in the system that impacts how effectively the participant is able to do things. Are pennies in the world face up or face down? Does the participant lose or win chance bets? Does he drop toothpaste on his white shirt in the morning before an early meeting?

12 - Design Methods for Relationship-Building

In stories, there is the matter of building a relationship with the audience and building relationships amongst the other characters in the story. To create a relationship with the participant, at least some of the characters should know who the participant is from the beginning of the story. For a participant in story who does not know his identity yet, it is more reassuring to meet someone who *does* know him or of him. If the first character is a stranger, that character should be able to endow the participant with some profession, position, or purpose that will help the participant know what to do (Wirth, *Interactive Acting* 110). Meeting a total stranger not have the same kind of potential as meeting a friend, an enemy, an ex lover, or a family member, to tell the participant who they are and to develop into a meaningful scene. It is not necessary to spoon feed the

participant information about his life. Movies rarely have long exposition anymore. Natural conversation, revealing decisions and actions, or even the scenery itself, communicates the details of the characters' lives.

Building relationships dynamically inside the program is also critical for an interactive story. At the beginning of a story, some of the relationships may be unknown. Relationships in this context, refers to social relationships between people, and to the relationship that different people have to the central plot. As events, emotions, and situations are established as part of the world, there should be some information distribution mechanism that tells each character and story goal where they stand.

For example, if the participant arranges a date with a female character, he is establishing one obvious relationship. However, that relationship 'trial date' may have trickle down effects to other characters. How does the girl's father feel? Does she have other admirers who are now jealous? What about her close female friends – has the participant already tried to date any of them, and if so, what is his reputation amongst that clique in the game? Imagine a Romeo and Juliet situation, where the participant and his date are from rival houses. The participant has already killed the girl's cousin – now what is her relationship to that detail of the plot, and how will her family move against the participant now that he has physically hurt their family? In addition, the plot should know approximately where it is at any given moment. Has the story left ordinary world; reached a crisis point; what has been resolved and what still needs to be resolved before the story ends?

13 - Make 'Bad' Things 'Good'

Stories rely on a balance of good and bad things that happen to the protagonist. The main character must fail sometimes or else the drama will not be successful and the character will have no impetus to change and undergo transformation. Too much success is actually a bad thing in stories. In games, too much success is only good for the person winning – for anyone watching and for the opponent, it quickly becomes a tiresome and dull experience. The challenge in interactive stories, is getting the participant to accept and even relish the 'bad' things that may happen to his character inside the story. This may not be as difficult to accomplish as it would apparently seem. Will Wright, the creator of *The SIMs* video game, speculates that people enjoy the tragic moments in story and within interactive experiences such as *The SIMs*, as much or even more than they enjoy success. Tragedy can be cathartic when there is no risk to oneself (Thompson par. 18). This coincides with Jeff Wirth's philosophy regarding the interactive theatre techniques, that are used in Storybox and in environmental theatre such as *The Game*. Says Wirth, "[People] go very emotionally charged places in watching a movie. Emotions that they wouldn't necessarily choose to have, but they love the experience of it in a movie. I think when you remove the fear that is present for people, having those emotionally uncomfortable experiences [in interactive stories] becomes just as engaging as emotionally uncomfortable experiences in a movie. (Wirth, Personal Interview)." In the SIMs, players regularly enjoy causing havoc in the lives of their simulated households. Players relish killing their characters, taking important things away from them, and designing complex interactions that make the SIMs virtually miserable. This does not indicate cruelty on the part of the player – it merely taps into a human need to

release tension and fear through safe interaction, and to learn. It is the same way in which children simulate death and violence – not to actually harm, but to explore what that is and their relationship to it. In a simulated environment, these scenarios can be interesting on a psychological and emotional level. When we move from simulation into story, these processes can also function to support and enhance narrative.

In roleplaying games, defeat may give the player an opportunity to play a nuance of their character that would not have come out otherwise. It can be extremely rewarding for simulationist players, since it gives them something concrete, rich, and juicy to simulate, whereas continued success will result in a lifeless character.

In other stories, defeat can be a setup for success later on. It is the low points that make the high points truly great, and which will give the participant something to strive for. The goal is not to avoid ‘bad’ things for the sake of protecting the participant. Rather, it is essential to have bad things happen for the right reasons, so that the participant's experience is improved rather than damaged.

The wrong reasons to introduce ‘bad’ things:

- 1 - To keep the participant doing what you want them to do.
- 2 - To punish the participant for doing something you didn't want them to do.
- 3 - To make the participant feel bad or incompetent.
- 4 - Any motivation that makes the participant feel as though they do not actually have freedom within the story to act and to play.

Choosing to punish the participant for acting differently within a story than expected communicates that an author does not actually want interaction. Whether true

or not, it communicates that the author wants the story to happen a certain way and that the participant is merely a pawn, to varying degrees, within that structure. It is also unfair to punish the participant for doing unexpected things, because the participant does not know what is expected of him. As long as he is playing and engaged, it is not productive to make bad things happen in order to bring the participant back 'in line'. Valid and powerful reasons for having bad things happen within a story are all connected to the story itself, and to character decisions made by the participant.

The right reasons to introduce 'bad' things:

- 1 - To create dramatic tension at a critical moment in the story.
- 2 - To set the participant up for success later on.
- 3 - To let the participant experience something that is rewarding.
- 4 - To give the character what he deserves within the story. In this case, it is important to distinguish between the character and the participant. If the participant is too close to the character, then even a story-motivated 'bad' thing can be incorrectly interpreted as punishment, rather than drama. It can be a dangerous line to walk. However, in some roleplay, the players may actually want their characters to be punished for the bad things they have done, the mistakes they have made, or merely because the character needs to learn an important lesson. Like the ups and downs that occur in scripted drama, exploring the tense moments in an interactive story can be incredibly rewarding. 'Bad' things can accomplish dramatic tension that is rewarding to the player, but devastating for the character.

5 - To set up transformation.

6 - Any motivation that is made with the best interests of the story, the characters, and the participant's well being in mind.

When bad things happen for the right reasons, they will not be seen as punishments. However, each participant may have different limits when it comes to accepting negative consequences, and each participant may separate self from character to different degrees. It is the responsibility of the author to determine how far to go, and to read the participant – or design the program with the capacity to read the participant - for signs of real discomfort.

Conclusions: Looking towards the Future

The work accomplished as of today, barely scratches the surface of what interactive storytelling can and should be within the digital domain. However, the building blocks are in place, for an artist-storyteller to take the scientific accomplishments that have been used for cinematic storytelling, gaming and simulation, and to apply those techniques in a new way to making interactive story a compelling reality.

We have the ability to create fully immersive, physically interactive, visually and psychologically compelling environments that can be used to set the stage for compelling, interactive stories. Scientists have been able to create functional artificial intelligence for characters that are only designed to fill a very specific kind of role. Luckily, in stories, we only need a character to fill a specific role – so the current limitations of AI do not negate the potential for storytelling applications. We can use digital cameras to see physical movement; we can use voice recognition to listen to a participant, rather than relying on the keyboard or joystick. We have the capacity to access information in any order we desire; to store as much information as we need; to give the story access to information it does not have yet, over the internet or other encyclopedic sources. The understanding of storytelling that we need to make this endeavor successful has been well catalogued and documented. Of course, creating story is an art form, not an exact science – but with the mechanisms for sculpting and shaping our thought in the right direction, we can begin to seriously address the issue and make significant strides forward, not only for the scientific community, but also for the community of storytellers who have so far, seen interactive as an immature child to

cinema and literature. In this endeavor, we should also be careful not to dismiss any disciplines or techniques from our toolbox. Whether live or digital, passive or interactive, media that have been successful in engaging an audience have something to teach us, and we can modify those techniques to function specifically within digital stories.

When designing interactive digital stories, we must first and foremost keep in mind the things that make an effective interactive scenario. We must design with both good interaction and compelling storytelling in mind – working our programming conventions around the necessities of the form, instead of defining the form based upon the perceived limitations of the technology. Future research should seek to design the procedural methods that compliment existing philosophies on interaction design. My theories represent one approach and one perspective that could be developed gradually into a working engine. We will need to continue research, test specific hypothesis within the lab environment, and see how well live techniques truly map onto digital interaction.

Within future research endeavors, I believe it is critically important to continue a collaborative discussion and working environment between the disciplines that authors will need access to, in order to make interactive digital storytelling a reality. People who understand how story functions, will be needed. People who understand the nuances of human-to-human interaction, will be needed. Of course, programmers and designers will be needed for the actual development– but the programmers should not be creating the content and functionality for interactive stories, unless they have a firm understanding of the things that will make it compelling. If authors take this perspective to heart, and seek

to immerse themselves within different varieties of interactive story – I believe that digital interactive storytelling has a promising future that we can begin to create today.

Appendix A

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