

NARRATIVE STRUCTURES IN COMPUTER GAMEPLAY
A STUDY IN NON-LINEAR STORY CONSTRUCTION

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Abstract: The process of transposing a classic narrative structure into an interactive, computer experience is only in its infancy. Current technology for electronic entertainment, specifically computer based games, are introducing new and largely unexplored methods of scripting narrative content. Unlike the film and theater industry, there is not a set script format for non-linear storytelling. Using a proposed theatrical modality for narrative creation, instead of the more popular motion picture paradigm, this study details a process of deconstructing a feature screenplay scene from linear to a non-linear format. By applying the foundations of Aristotle's dramatic structure to a non-linear form of storytelling, the goal is to present a deliverable written form that for-goes considerations of technology, platform, and usability, but can be utilized by computer game developers as their framework for content creation.

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INTRODUCTION

Narratives are an essential part of human history, and history itself is a narrative that unfolds in a linear fashion with a beginning, middle, and end. The limits of human perception puts that end point in the present, and continues to expand it into the future in a linear, point to point fashion that the human brain recognizes as time (Strazynski, 1996). We remember and experience events in linear time, but then access that information in the non-linear process of memory (Lang, 1995).

Thoughts, experience, emotions, and other structured events are stored in the brain in linear fragments. When reciting them to others, whether verbally, in actions, or through the written word, the human brain's memory recall model is simply a matter of constructing the linear fragments together to form a longer narrative structure that recreates the intended message from the author to the audience. Properly executed, this recreation will convey the author's vision through varying use of style, structure, prose, and ideas.

Stories throughout our history have always been preformed for us in linear time, but the stories themselves do not always unfold in the same manner. Make note of the difference: a stage play such as Thornton Wilder's *Our Town* journeys throughout the history of the town of Grover's Corners from the life and death of a main character, but the play, more specifically the script, is presented to the audience in the real linear time of performance. Invoking the imagination and the willing suspension of disbelief by an audience, narratives can span lifetimes of implied experience in the course of an evening.

In the last one hundred years, the creation of the medium of motion pictures and

television, has given storytelling a venue to be widely distributed to a mass audience. History of invention has shown time and again that when the new technology is introduced to the populace, it is perceived to threaten the old status quo, and voices of opposition and dissent will inevitably arise. But motion pictures did not kill theater, make books obsolete, nor stop individuals from telling stories, just as today's new media paradigms will not replace movies and television. The newest inventions in technology have only added other mediums for storytellers to weave their tales, but the one consistent thread connecting all the past mediums has been a written form that performances can be created from: the script.

From the early visual storytelling of cave drawings to Egyptian tombs painted with stories and bas-relief sculptures on columns or sewn into tapestries the ability to communicate stories preceded the written language using the technique known as sequential art (McCloud, 2000). This linear format for storytelling existed for thousands of years but until the plays of the Greeks were written down and then later analyzed by Aristotle in his work *Poetics* there was not a definitive outline of the parts of narrative progression. Throughout human history the written word and theatrical presentations have become the medium for the preserving and telling of our stories. These forms have one thing in common: a paradigm of a narrative progression with a written or spoken format as the starting point.

The script formats for theater, motion pictures, and television have been standardized for most of the twentieth century. The forms share similarities and differences in style but all present their material in a linear format with a beginning, a middle, and an ending crafted by the author to be given over for others to bring to life.

Today, the written word is readily available most everywhere and due to the advent of the internet, makes anyone's written works publishable. But the performing arts are still stricter in content presentation: plays are written and presented in open readings for consideration, television and motion picture ideas are pitched to movie studios, but they follow an established format of presentation that allows the author to hand the script to a potential the creator and then walk away confident that the reader will get their vision from the script.. These established script formats also have foundations in place to support their creation and distribution through the Writer's Guild of America, a union for writers that supports and protects an individual's creative process.

But within the new media of what is known as interactive entertainment, specifically computer-based games, there is no set script format or institution to present story ideas. In the short time computer games have existed, most narrative content has been created by the game studio's in-house development team, sometimes even as an after thought to the actual game play of an interactive experience. While computer games have been popular without large narrative experiences embedded within them, the projected goal of the industry is to expand beyond their established audience demographics. Recent successful games have had the power of a good story behind the game play and a good, solid narrative base is now seen to be crucial in the implementation of a successful gaming experience. In her book *Hamlet on the Holodeck*, Janet Murray observes that 'The computer is providing us with a new stage for the creation of participatory theater. Little by little we are discovering the conventions of participation that will deepen and preserve the enchantment of immersion' (Murray, p. 125).

Due to the nature of interactive entertainment, the expected linear progression of story is not a given, and a new non-linear form of writing is needed that holds true to the foundations of the building blocks of solid, established dramatic structures. Within this study a scene from a motion picture script will be deconstructed and taken from a linear narrative to non-linear narrative. The story will then be presented in an experimental scripted format that can be presented to a game developer so that they will be able to grasp the scope of the story's narrative potential regardless of the technology involved.

NARRATIVE STRUCTURES

Ever since ancient tribes gathered around the fire in the night while the old storyteller weaved her verbal tales, the story has remained a unique form of creation for humans. Indeed, the narrative is basic to our ability to communicate (Ferrell, 1985). Over the years that communication has evolved from the oral, to the written, to the mixture of audio and visual, and finally to today, where new variations of all the forms are being synchronized together and delivered through computer technologies, creating a new paradigm for the telling of tales. Each type of narrative always requires some individual, or group, to be the audience. For purposes of this discussion the label 'audience' will be used for all participants, either singular or plural, of a narrative experience.

Beyond the oral presentation of stories, the written word has preserved past ideas, themes, and history from previous generations. It is the most common basis for communication throughout the world, no matter the language. Whether a monastic documentation, educational textbooks, or the popular novel, the written word is compiled with a structure in mind that is broad and commonplace so that the majority of a societies people can in fact read the work in a linear pattern of content structure. This storytelling standard is a two dimensional form that relies solely upon the imagination of the reader, or audience, to turn words into narrative images that bring the tale to life.

Time and Narrative

An awareness of a narrative's time line is an important element to focus on when creating the environment for an audience's imagination. In a novel, the audience's time experience and the narrative's time experience are separate considerations. Time for the experience is not a factor, as the audience will choose the pace for reading the story.

When addressing the performing arts, linear events are presented within a fixed area with actors bringing the story into being before the audience in a set amount of linear time.

The action and presentation is fixed by the performance, leaving the audience no control of the experience other than to observe and react as individual experience and cognitive understanding allow. Television and motion pictures are similar in this respect as all the content is written and the medium fixed.

Theater exercises the most control in time management and awareness of narrative flow. In his book *The Complete Book of Scriptwriting*, screenwriter J. Michael Strazynski describes the four separate 'time zones' a playwright can deal with when writing. These are *period time*, the setting in which the story takes place, past, present, or future; *real time*, also known as the running time, the actual time taken to perform the work; *story time*, the amount of time within the play that passes as the narrative is told, covering days, weeks, or even years; and *dramatic time*, which can be used to speed up or slow down the story's time for the effect of creating emotional responses and dramatic emphasis (Strazynski, 1996). The latter two points are also used in motion pictures as what is known as 'time compression'.

Scripted narrative format for motion pictures, television, and theater do vary in layout and detail of content but the linear presentation of the written scenes does not

change. The scripted words are brought to life and the audience is called upon to fill in the larger details with their own imagination. The narrative is consistently presented in *real time* from beginning, to the middle, and then the end.

Linear non-linear narratives

But there are exceptions to these rules, sort of. Although *real time* passes during a performance, the *story time* and *drama time* paradigms have been rearranged and toyed with in all narrative forms in various structurally experimental choices. Common techniques used in *story time* are the flashback to relay exposition of a past event, a dream landscape to add metaphors to the plot, supernatural elements and/or even actual physical time travel to another time and place. In *Our Town*, the newly deceased Emily travels back as a spirit to relive her twelfth birthday only to realize the memory of life is too heavy a burden, leading her to accept her fate in the afterlife.

Since the invention of the motion picture in the late 1890's, many experimental works have been produced that play with the perception of an audience. From Buster Keaton 'entering' the film itself, to an orchestra conductor directly addressing a film audience in the film 1940 Disney film, *Fantasia*, early filmmakers have played with their media and the audience's perceptions.

One of the best experimental motion pictures to play with narrative structure and story perspective on the screen was the 1950 cinematic masterpiece *Rashomon*. Director Akira Kurosawa presented a tale of a criminal act from the point of view of the people involved with each tale scripted and filmed from each person's biased and contradictive remembrance. The story ends without a full resolution of the facts, leaving the audience

to discern the moral truth from their own experience. In recent years, motion pictures have been increasing the challenge to an audience's perception of narrative structure.

Quentin Tarantino's *Pulp Fiction* tells seemingly separate episodic tales that become interwoven as the movie's *real time* progresses. The seemingly separate episodic stories are presented out of *story time* as they jump back and forth, notably relaying an event's consequence before the act preceding it is seen on the screen. Presenting events out of order, but intertwined, Tarantino is challenging the audience to be more engaged in the narrative.

Both *The Usual Suspects* and *Fight Club* tell tense, violent mystery-driven stories that lay out specific events on screen which may never have happened. Modern audiences have learned to trust the film maker to present a story honestly, but in the ending of both films a classic Aristotelian moment of plot discovery reveals to the audience that the entire story they have just witnessed may have been a deception.

Memento is told in tight episodic viewpoints of a man waking up every day with short-term amnesia, unaware of the previous day's events. Adding to the already complex tale, the filmmaker presents the film's scenes in reverse order with the main character's reality, information, and relationships changing day to day. The final scene ends up at the beginning, allowing all the narrative elements to fall into place like cascading dominos.

Time Code is an experimental film that actually spits the screen space into four separate scenes, each shot in one continuous take and, like *Pulp Fiction*, each story eventually intersects with another. The difference here is all four scenes are occurring at once, forcing the audience to continually shift attention from one scene to another and

build the relationships themselves as the narratives progress.

Run Lola Run and *Groundhog Day* present the game modality of starting over, or 'reset', in a motion picture form. The plots have their main characters presented with a series of cause and effects that continue to end badly. Although never explained how or why, the action is then 'reset' from the beginning. Remembering what went wrong in the previous 'game' the main characters in both stories are able to try again, and again, and again, until they get it right.

This particular style of storytelling is called a 'multiform' by Janet Murray. She defines the term as "linear narratives straining against the boundary of pre-digital media like a two-dimensional picture trying to burst out of its frame" (p. 29). Note that all of these examples do run in *real time*, but tell stories that encourage, if not demand, that the audience pay attention to the content more than a standard linear narrative. The audience is called upon to actively construct the pieces of the multiform story into a linear narrative they can understand.

Linear to Non Linear

Now to turn the tables back around for a moment. Can a linear narrative be made into a non-linear format? The procedure would be to take a traditional play or motion picture and deconstruct the linear story and to see if you can make a game out of the plot and world. As mentioned before *Die Hard* is a game paradigm in a motion picture that spawned an entire series of computer games. Can you make a game out of *Casablanca*? *Star Wars*? *The Lord of the Rings*? Would you want to?

The answer seems to be yes as many of these type of stories have successful

games based on their content. The computer game “*Lord of the Rings: the Two Towers*” and “*Lord of the Rings: the Return of the King* (Electronic Arts, 2002,2003) uses the film footage from the motion picture to cross fade directly into game play, without distracting from the plot. A revisiting of the interactive movie of the early computer game, with better technology and playability. This synergy of form has been known as ‘transmedia’, the occurrence of media paradigms crossing over into one another, and is proving to be a powerful marketing tool.

The two motion picture sequels of *The Matrix* released in 2003 were supported by the creation of the computer game *Enter the Matrix* (Shiny Entertainment, 2003). The plot content of the game play paralleled events of the motion picture feature *Matrix: Reloaded*, which ended in a suspenseful ‘cliffhanger’. The full narrative of the computer game reveals key plot elements for the third film feature *Matrix: Revolutions* and offer clues to how the second film’s ending will be resolves. In addition to the game play, exclusive linear content was filmed during the motion picture shoot specifically for game plot points. Players are literally be able to play the movie and interact with characters from the screen version and immerse themselves within the events that will open the next film. This crossover of motion picture and gameplay is a new intergration of the two mediums and but only offered the unique experience to the smaller demographic of game players, as the non gaming, motion picutres audience won’t be able to experience the game’s extra footage.

Non linear experience

But what if the audience could shift scenes about and move freely through a

narrative's structure? What if every individual had personal control of the authorship of the narrative? How would an author create that environment? Murray's 'multiform' definition is further described as 'a written or dramatic narrative that presents a single situation of plot line in multiple versions' (p. 30). Obviously, present technology of film, television, and stage do not permit such an ability, at least not practically. But one popular example of this ideal are the 'choose your own adventure' style of children's books that allows the reader/audience to make the choices for the main character's story.

Example:

*Walking through the dark woods, Alex comes to a fork in the road.
Lost and cold, he has no choice but to try his luck.*

'Choose the path on the left, go to page 128. To the right, go to page 150'
(READER chooses left, and turns to page 128 and continues...)

*Turning left, Alex walks down the path and sees a town with a warm light
that seems to welcome him in from the chill of the evening. Sounds arise from the
inn...*

So what was the consequence of the right path? These novels are still popular among children as well as adults, and are a basic example of what is known as interactive fiction or interactive storytelling (Crawford, 2003). The authorship of the tale, or the experience of the tale, is now out of the author's hand and is into the audience's. Most readers find it worthy of imagination to explore all the choices, and by performing the narrative themselves, they in a way own the narrative experience through their own perceptions. Part of this appeal is what is known in computer games as a 're-playability' (Adams, 2001), the notion of returning to the experience again, just to see how else the narrative will play out.

Authors have long been invoking the help of their audience to believe in the world

and situations they have created with what is known as the ‘willing suspension of disbelief’ (Laurel, p. 113). The character of the Chorus in Shakespeare’s *Henry V* gives a good account:

...“But pardon, gentles all, the flat unraised spirits that hath dar’d on the unworthy scaffold to bring forth so great an object...”

...And let us, ciphers to this great accompt, on your imaginary forces work...’

Here is laid out the request that the audience consciously allows for their imagination to be afire, prior to entering the experience whether written, viewed, played, or all of the above. The success of a good book, an enticing film, or a computer game are keyed into good, solid execution of the concept of taking the audience into a world where the narrative, no matter how fantastic, is consistently believable and well executed in narrative presentation.

As of 2003, the most popular non-linear narratives are to be found within the realm of computer driven interactive entertainment. Ernest Adams speaks of interactivity as a freedom and power for self expression when dealing with narrative control in computer-based entertainment. “Interactivity is almost the opposite of narrative; narrative flows under the direction of the author, while interactivity depends on the audience for motive power” (Adams, 1999).

Current new medias developed for content delivery are changing and growing daily along with the computer technology that enables them. A popular notion in the 1990s was that the internet and computer games only had the potential of being an additive genre of entertainment, offshoots from the established television and motion pictures form. A similar notion was touted of the presentation of the motion picture, or ‘photo-play’ as the form was first called in the early 1900s, being seen as a merging of

photography and theater (Murray, p. 66).

Indeed, the early silent films such as Chaplin's *The Gold Rush* and D.W. Griffith's *Birth of a Nation* followed a theatrical paradigm, with fixed 'stage' perspective, without full benefit of camera angles, sound, and special effects. Film makers were only learning their craft, but the popular belief at the time was that they were only an additive form of the theater. This additive approach led the producers of early computer games to follow the existing storytelling forms and apply the rules of linear story creation to non-linear story construction, so that many early computer games ended up looking like an interactive motion picture. But as the motion picture evolved away from a theater modality into its own unique storytelling medium over time, the computer game narrative is still only in its infancy and growing rapidly with a new generation of audience demanding control over the narrative experience.

NEW MEDIA

Taking take the audience-driven narrative model into the realm of computer-based technology and you have a number of creative considerations that have never existed before the 1990's due to the occurrence of 'convergence'. During the popularity of the internet as a entertainment delivery medium in the late nineties, convergence became the term used to describe the migration of traditional medias into digital technologies; the moving image of film and theater, the still images of paintings and drawing, and the audio and music of sound design now could all be presented in one inclusive medium through the technology available on the personal computer (PC).

These advances in traditional media presentation allowed the individuality of each storytelling paradigm to blur and even fall away. The conceptual distinctions are now more important than ever as the resultant media landscapes are becoming populated with art forms not rooted in a particular form, machine, or physical presence, but in the implementation of their respective ideas (McCloud, 2000).

Current technological innovations have brought new content delivery systems for narrative structures to reach an audience via the personal computer, most notably the digital video disc (DVD), the compact disc (CDROM), and the internet, better known as the world wide web (or WWW).

The world wide web

During the height of the world wide web's dot com frenzy of the later 1990's, there were lofty, and ultimately unrealistic expectations of the use of the internet as a vehicle of delivery for content to a mass audience. Money was invested in promises of

what many internet sites touted as 'interactive stories' and true 'immersive' content. Many problems were encountered, chief of all the speed and availability of accessibility to a wide audience. Despite hype to the contrary, the internet did not reach everyone, and those that do have access have varying degrees of 'download' or delivery speed. The main issue with entertainment content transported over the internet is the size of a computer file. Most consumers could not access such content in a reasonable amount of time and became unwilling to pay for it. When dissected, most of the interactive content proved to be nothing more than dressed up sequential art (comic book-like), but with motion and sound. Audio theater with pictures while entertaining is hardly interactive.

When investors realized that they wouldn't make money from the over-hyped medium and the financial bubble burst in mid 2000 during what became known as the 'dot com bust' (Cassidy, 2002), the majority of the promise of interactive entertainment faded considerably. Current on-line entertainment content is more akin to independent film making, traditional movie trailers, and flashy content in support of the other traditional media like television and motion pictures, all which still require speed of delivery to access properly but are mostly free of charge. Ironically, the additive prediction by Murray (p.67) for new media content currently holds true, proving that interactive medias of storytelling are still only in the early stages of development. The internet is still dependant upon the convergence of other technologies for expression instead of utilizing its own unique capabilities.

In his book *Reinventing Comics*, Scott McCloud addresses the self imposed restrictions by the 'digital' storyteller and challenges them to think outside the box. He states that though the fixed width of the computer monitor does often act like a page, it

may also act as a window (p.222). In a digital environment, stories have an infinite canvas for creation. The term ‘thinking outside the box’ is most appropriate here as content creators, or authors, currently seem stuck as the reliance on the fixed mediums are truncating their creative process.

McCloud predicts that the ideas that traditional media harbor will continue to escape the boundaries of the technologies that brought them into being until what he calls ‘the irreducible essence of each will emerge, and with it the code, for new forms to grow in this new digital environment’ (McCloud, p. 233). This essence for new media narrative content presentation is not yet been fully developed, and may not be for some time, but the one entertainment form that has begun to take up this challenge is the computer based game.

The computer game

Is a story important to a computer game experience? Early computer game’s narrative consisted of plots rooted in basic survival instinct. A problem is presented and the audience, or player, had to interact with the environment, via the fourth wall of the computer’s window, to successfully complete the tasks presented. The first person perspective game *Quake* from ID software presents the simple notion that you are a space marine who has to fight through hall after hall of monsters following the escalating action to the end of one level, only to go on to another level. There is no ‘story’ in this experience other than the player’s own emotional reactions which translates as a memorable narrative to the individual.

But the simple story can be made into a narrative form. A quick definition by

example: The motion picture *Die Hard* has a plot that is full of game play but written as a linear narrative. The main character, John McClane, is trapped in a closed environment and put into one difficult situation after another, each escalating in difficulty and challenge. For McClane this is a game with high stakes as he continues through all of his tasks, moving towards the ultimate goal of saving his wife from danger. The movie is a linear story, but the various actions and decisions made by McClane is a definition of a game play as a plot device. Screenwriter Steven de Souza has admitted this was his very intent (gamasutra.com, March 1998), and the *Die Hard* franchise has actually been produced as a successful computer game series, giving the audience control of the very choices McClane faces in the trilogy of films.

By its very nature, the story in a computer game is a non-linear narrative construction that uses a convergence of audio, visual, and audience interaction mixed into an ever changing content setting. An audience's mind set while participating in a gaming experience is different from the mind set of just watching and/or reading traditional media. While both engage the mind and emotions, computer games have by their nature a sporting element of competition, and present difficult challenges (Barwood, 2000). This dynamic of engagement can be differentiated by whether an audience's attention to media is to be passive (lean back) in nature or active (lean in) while participating in an interaction (Reeves, 1999).

In traditional linear presented media the author controls the story, and the audience 'leans back' to passively absorb the narrative choices made for them. In games, there is a direct conflict between the freedom allowed to the audience and the linearity to any narrative structure (Bates, 2000). To 'lean in' and engage is to be active

in the narrative outcome. Aristotle defines in *the Poetics* that the imitation of action is drama (Butcher,1961). Computer games require the audience to take action to initiate the drama and conflict so the story can progress. With direct control of the narrative experience, the audience literally becomes the motivation of the main character in the story of the computer game.

Genre and the computer game

A genre is described as a distinctive type, category, or style of creative composition. Comedy, horror, western, science fiction, among others are all examples of the descriptive forms for narrative presentations. This description still holds true for the computer game narrative, but the technology of game play itself has varying degrees of format that may also be described as different genres, or styles.

One genre is what is actually called a platform, which refers to the specific computer operating system, or OS, that an electronic game functions within and is a choice of technology and usability. The current available platforms are the personal computer, (PC games are made for both Microsoft Windows and Apple Macintosh OS), the world wide web via a PC, wireless devices such as cell phones, and what are called ‘console’ platforms (the Microsoft XBox, Sony’s Playstation 2, and Nintendo’s GameCube).

Beyond the technology there is the genre of content, but not all games have a scripted story in them. There are computer games for sports, education, flight simulation, and various other topics that, while they have a basic story to them, do not have a full narrative within its experience. This study will upon the computer game genres that do.

The traditional story genres apply to computer games as well. There are narrative games for mysteries, westerns, science fiction, etc., but there are also distinctive types of computer games that affect game play by having different perspectives on how an audience will interact with the content. The game play created can dictate the depth of a narrative experience and how it will be presented out.

Akin to written literature's descriptions of first, second, and third person narrative styles, the different common computer game types include:

The **First Person Shooter** or 'twitch' game is where the computer generates the main character's point of view (POV) as a first person display for the audience. The experience is immersive and gives the audience the illusion that they are the character, seeing the action unfold first hand. Popular story genres include military combat scenarios, horror, and survival of the fittest-style contests.

The **Adventure** game presents a pre-developed main character, usually a Sam Spade or Indiana Jones type (The *Tomb Raider* series with the persona of Lara Croft is the most successful of these), who the audience makes the direct choices for and drives the character along in the adventure..The perspective is generally first or third person. Third person is usually displayed as seeing the character from the side and/or above, allowing the monitor's window to display the scenery around the character. The game play traditionally follows a set narrative path were the audience makes the choices for the character at certain confrontational moments. Detective mysteries, gothic mysteries, and secret agent genres are common examples.

Role Playing Games, commonly known as RPGs, are more complex than Adventure games as the main character is someone that the audience creates by assigning

attributes, profession, and appearance. The audience has control over all character's actions from a third person perspective and can be accompanied by other computer controlled characters, such as hirelings or companions, called non-player characters (NPCs). Stories are generally a combination of the 'twitch' game and the adventure but the most popular include the fantasy and science fiction story genres.

Real-time strategy, or RTS, combine any or all of the different types but impose the restriction of a real time deadline to complete tasks or missions. Military scenario and civilization building are common use of this style of game.

The newest and most popular of game genres is the convergence of the RPG, the adventure game, and the connectivity of the internet to allow multiple players to all enter into one large environment in what is know as the '**massive multi-player, on-line role playing games**', or MMORPGs. In this new environment the players create their own communities in narrative situations and settings created by each game's design team. These are large undertakings which are very much in their infancy but are extremely popular with internet users. This game type is still new and learning lessons on how to implement story lines for multiple players, but the need for understanding of narrative content is still essential.

The one thing all of these game genres need is content, including the creation of characters, settings for them to inhabit, and the dialogs for them to have, but there is not a script form that exists yet for computer games that is this inclusive.

Outside the Box / Inside the World

When the Wackoshki Brothers wrote *The Matrix*, their main concern was the

creation of a great narrative experience, not how they were going to pull off the amazing action sequences they outlined (*Matrix Revisited*, Warner Brothers, 2002). By presenting their new ideas, the resulting production pushed the existing paradigms of visual special effects beyond the known technological threshold to create new innovations and what are now current standards of special effect excellence.

The writer of computer game content should embrace a similar notion and create worlds, characters, and stories without a constrictive mind set of looking to what has already been done. The safe level ground that most of the game industry has used for building an interactive narrative has been the motion picture. But the more successful games of 2003 (*Neverwinter Nights*, all 'The Sims' line, and Tom Clancy's *Splinter Cell*, among others) are creating stories embedded within their own deeply immersive and narrative full, digital environments.

In the RPG of *Neverwinter Nights*, the audience created main character explores vast narrative worlds, searching for the clues of the story, linking them, and then solving them through direct confrontations, violent and verbal. The Adventure game *Splinter Cell* lets the audience be the secret agent that takes the risks, and garnish the rewards through an immersive world where actions and choices have immediate moral consequences.

Unique in its game play, *The Sims* series allows the audience to create the stage, characters, and interactive choices for he narrative experience. Indeed, the entire experience consists of watching the created family unit go through day to day activities, with the goal to become happy and popular with the other computer generated character families. *The Sims* has been described as the virtual doll house and the ultimate voyeur's

tool which uses the concept of ‘procedural narrative’, or how to create basic possibilities for audience-created stories within a game environment. By putting the story inside the digital world, the author is leaving it to the audience to unravel and advance the plot.

The Sims has also been touted as the break out game from the fixed demographic of computer game sales. The one holy grail of the game industry is the ability to sell games outside the proven sales demographic (EW, December 2001). To explore the possibilities of this concept, this study proposes that an author of a computer game narrative not begin with making the technology platform a priority but instead should allow their creativity focus to the implementation of the story and then ask how it can be done. Innovation comes from ignoring the boundaries.

COMPUTER GAME NARRATIVE STRUCTURES

Screenwriter and game author Lee Sheldon's presentation from the 2003 Game Developer's Conference, '*All Stories Great and Small*', outlined the currently accepted narrative structures used in the creation of computer games: Linear, branching, the world wide web, and modular.

Linear narrative

In games, the common narrative structure with a beginning, middle, and end is used to relay expository information for the audience. Usually in the form of a prelude, or transition from one act, or level, to another presented in a flashy or entertaining way.

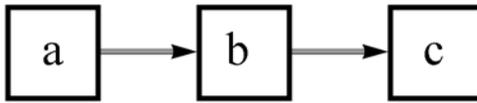


Figure 1: Linear Narrative Progression

Branching

The choose-your-own-novel approach provides different narrative path choices that lead the audience forward, but does not allow them to backtrack. Though the actions and experiences might differ, the destination is usually fixed.

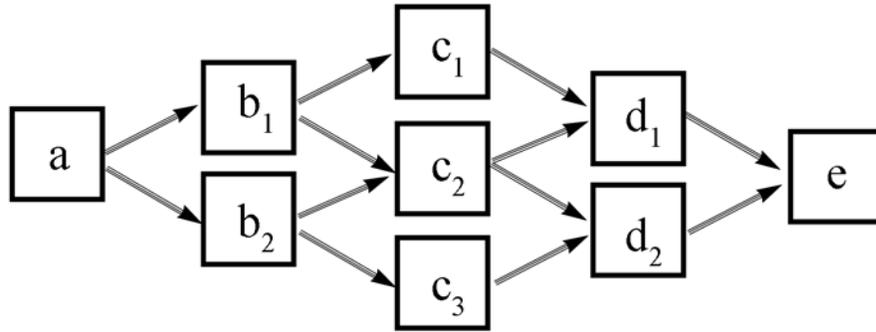


Figure 2: Branching Narrative

The world wide web

An example of simple non-linear path choices. Ability to move forward or back but only to existing, static environments or content. What is know as hypertext or associative narratives, where movement and content presentation is up to the audience choices and interest. Navigation is non-linear as the audience can go backwards and side step where ever the ‘linked’ texts may take them. Notably there is no set ending to the content, other than audience choice to stop.

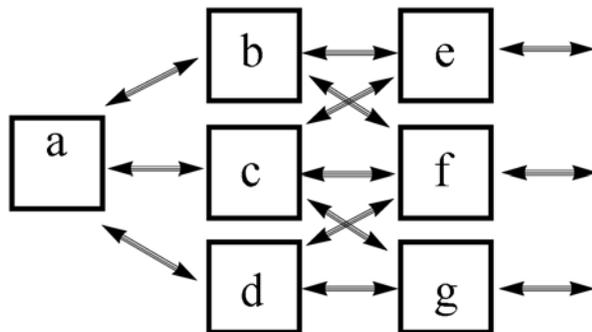


Figure 3: World Wide Web

Modular

The more complex non-linear, what Murray calls a kaleidoscopic narrative (p. 155). As illustrated in Figure 4, each module is a self contained unit of narrative content. The order the audience experiences them does not matter, as the story is embedded within the module. There is no set starting or ending point in the narrative structure, and the game story will be presented in the individual's own deduction of the story content from the embedded plot points within the modules descriptions and character interactions.

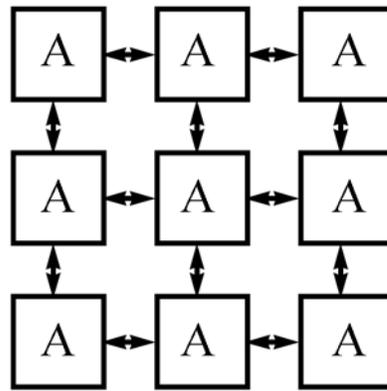


Figure 4: Modular Narrative Model

The truth is that the finished product of most computer games uses a mixture of all four forms depending on the narrative experience the game is striving to obtain for the player. A written form will be the starting point for the creative team to begin. And like motion pictures and stage plays, the production process of a computer game will bring new content, direction, and presentation changes and ideas to the narrative during the creation of the work.

The modular script

The script format with the most potential for game authors to outline stories is the modular approach. Using this, the author creates **the scenes and settings**, placing them in no recognizable order, leaving the audience to actively seek out the narrative that has been hidden within the digital setting. Years of viewing classic narratives on the stage and screen have allowed the audience to automatically assemble the presented discontinuous images and construct the narrative in larger patterns of continuity because they know how recognize and identify the conventions of the media (Murray, p.156). The writing process of creating a series of stand alone episodic scenes that can be assembled together to form a larger setting allows for the presentation of plotted material to differ with each individual player's experience.

Among the first internet environments created, even before the world wide web's 'browsers' (Mosaic, Netscape, and Microsoft Internet Explorer), was the ability to transmit text from one computer to another in real time through the technology of file transfer protocol, or FTP. A type of interactive entertainment evolved that is part storytelling, part socialization and all text. Multi-User-Domains, known as MUDs, are interactive, real-time, story environments played out over the internet by individuals (Appendix A).

There are numerous MUDs and come in a variety of story content complete with sophisticated role-playing rule-based settings where personal interaction within the context of the game, and other players, is of primary importance. The content is modular as the created environment, or settings, of MUDs are completely episodic in nature, with actions, objects, and information embedded within the textual content of each individual

room, or scene, that the player must assemble and connect together to discern the narrative content.

In 1994 the PC game *Myst* was released by Broderbund Software and Cyan, Inc. The game introduced a similar, if limited, modular approach through a successful convergence of media. The first person perspective environment is really no more than a fancy slide show of surrealistic landscapes and structures with an immersive audio track of sounds and music that together set a great mood that draws the player into the world. The player must explore an entire island of rooms and machines to literally pull the narrative from the scenery and piece together a complex and disturbing mystery. In *Myst*, the story is the game and narrative is revealed as tasks are performed, revealing more answers, but also more mystery. The player is a passive observer as all the actions have already occurred, but like a crime scene investigator the player must discover the pieces of the story and put them together as a narrative to advance the plot.

Ideally, modular scenes should be written with simple content and be a self contained piece of narrative, much like a scene from a stage play with clear entrances and exits and set actions or objects with which to interact. When pieces of an embedded story are encountered, the player's own intuitive knowledge of linear narratives will make the connections of plot, drama, and character development and allow for intuitive leaps for the player. As these suggestions may indicate, the idea is to encourage game authors to discard the motion picture paradigm and look to the basic principles of the theater.

The stage play as game narrative

In the play *Our Town*, the character of the Stage Manager is the guide for the narrative piece, who directly addresses the audience and leads them through the story of Grover's Corners. His written behavior deliberately breaks the 'fourth wall', the imagined barrier between audience and performer, even to the point of taking questions from the audience. This archetype of a guide, or helper, is common in a computer game and his almost god like ability to have power over the other character's suggests he is controlling the story.

The Norman Conquests by Alan Ayckbourn is comedy in 3 acts, with each act occurring in different set of the same building, and along the same linear timeline. Each act can be watched as a stand alone performance or all three together. The narrative action of the characters is understood in full, as you watch characters go off and come back on stage in one act, then later in the other acts you see what occurred with them while off stage. The independence of each act is an example of modular or episodic writing, with an eye on the continuity of the whole. The play also challenges the audience to piece together the timelines so that all the individual character arcs mesh.

In 1836, the German academic Georg Büchner wrote the play that can be argued to be one of the first pieces of non-linear narrative. *Woyzeck* is a play loosely based on Shakespeare's *Othello*, but with a more fatalist, German outlook towards fear, madness, and the hopelessness of life. The work has its own history of transmedia as it has been adapted into an opera and a motion picture. What is unique about the play, which was discovered after Buchner's death in 1837, is that the scenes are not numbered so there is

no discernable way to determine the sequential order of the scenes. Even though the core story is a linear narrative of obsession and murder, the order of presentation for the content doesn't take away from the audience's understanding. All the scenes are complete in themselves and have no firm connection to another scene. The play performed in any order would prove to be an interesting and unique experience.

What makes the story more interesting are the supporting characters, who seem to be written as modular pieces of archetype. The different people that Woyzeck encounters in each of his scenes offer complete and self centered comment on him, according to their perceptions, that lead into his own madness and crushing self-doubt. The absurdity of his military Captain's over the top behavior, the Doctor as the relentless pea-researching scientist, his friend Andreas as the companion or voice of reason to Woyzeck's inner turmoil. All the characters within the work enter and exit scenes with conversations and actions resolved. The order of their appearance and commentary does not lead into the next scene.

The main focus on creating a modular narrative is the attention to environment, or the setting, and the ability to create the world of the story into a free-standing, episodic form that can be left, as a stage, awaiting the character's entrance. When writing for setting, like a scene in *Myst*, or an object in a MUD, or the episodic evidence for Woyzeck's delusions, one can break down the plot point from a scene to what could be called a story node: a plot point that awaits the actor to interact with it.

- Improvisational theatre - discussion

- LARPing (Live action Role Playing) the use of Scenes and Setting as different items. (Everist, 2002) study on games and play and theatre and improv

The story node

A node is defined in a traditional sense as a thickened, swollen, or differentiated area, or the part of a stem from which a leaf arises. But by applying this concept to a story that can ‘branch’ off, the thickening can be a density of plot content in a non-linear scene, and the stem can be choices arising for a direction for the character to take.

The node can be a place, object, event, or a person. Taking a narrative scene from a story and writing the setting’s contents in an individual, inclusive episodic form can allow the entirety of the story to be split up into pieces, or nodes, that do not rely on a linear and progressive narrative for understanding. A common device in game narratives is to take the narrative content and split the story into separate acts, or levels. The distinguishing practice here is that the player/audience cannot move on to the next act until the story line is completed in the current one.

In the RPG *Diablo II*, the main character cannot progress in the story until the completion of a number of tasks, which act as plot points, usually embedded within an object or adversary. Tension continues to rise in each act as the stakes are raised, until upon the completion of all tasks, the story progresses to the next level or act.

The permutations of possibilities are vast in how the story can be embedded into the digital stage. Actions taken to complete tasks, also known as quests or missions, are fixed narrative events that can be reached by the main character through actions, information, and objects. The completion of these tasks are prerequisites to plot advancement. The implementation of this script form sounds daunting, but the attention to detail will aid the production process of the game by creating the symbolic escalation of tension or suspense.

Theater paradigm in games

A theatrical script differs from television and motion pictures as the content is fixed and complete. What is written is what will be done. The interpretations will vary from director to director, but the words and actions (or stage directions), will remain firm. This is what distinguishes theater from the other media script forms. A well-written theater script can be handed off to anyone, and they can create from the script without the writer present. Unlike novels or other forms of literature, theater incorporates the notion of a *performance*. Plays are meant to be acted out and drama is the imitation of action. The action in games is applied by the player, who creates the performance through the concept of Agency: the ability to take meaningful action and see the results of decisions and choices (Murray, 1997).

By adapting a theater framework for content creation, the interactive author can limit the potential distractions to the creative process inherent with the more modern techniques of film and television. A game author should not focus upon how the content is created and presented to the audience, but more on building the depth of each scene within the narrative world.

THEATER PARADIGM

If in the theater, all the world is a stage then in computer games, all the stage is a world. Within a digitally-created narrative world, each environment, level, or room is an individual and vast stage. Withn traditional theater, the physical environment is transformed by changes upon a fixed stage into a new setting called for by the script through a scene change. In the infinite canvas of the digital stage, scene after scene are pre-created and awaiting the actor to enter and interact.

Theater is a medium that requires muscles not usually exercised in other forms of writing as the creative dimensions are different and fluid. Presenting on the written page the concept of scene design, blocking of actions, and dueling character dialogue requires a new and revised mind set in order to be done properly (Strazynski, 1996). Theater shares a unity of narrative of time and space with games. Following the written form of a stage play the playwright can focus their creative intent to the desired, root theme of a story.

The Poetics

In *Computers as Theater*, Brenda Laurel states that no modern school of thought has produced a better dramatic model to work from than *Aristotle's Poetics*. Speaking broadly of all potential new media for storytelling, she writes “In order to build representations that have theatrical qualities in computer-based environments, a deep, robust, and logically coherent notion of the structural elements and dynamics is required” (Laurel, p36).

Even though these narrative ideal were written down in the fourth century B.C., they were about long before Aristotle put them to paper. Since then, no one has ever needed to replace these comprehensive and well integrated theories. Writers in any medium should be familiar the basic definitions, so in the *Poetics* (Appendix A, p. 51) discussed here are geared towards application in a non-linear, computer game story. Using the *Poetics* as starting point for the creation of a blueprint for a game story, utilizing the established forms dramatic thought and practice, one could treat them as a checklist of factors for game narrative construction.

All computer game stories need **plot** and **character**. Beyond those two basics, there are the inferred internal processes leading to an audience's choices, based on emotions, reason, intentions and choices (**Thought**). How does the digital environment communicate to the audience (**Diction**). What does the narrative world look like and how does the audience react to it (**Spectacle**). How is sound used within the narrative, whether it is sound effects or music (**Song**).

The story will need the **Protagonist**, the main character, whom the audience will interact with to experience the narrative. The **Antagonist** is the audience's adversary and can be a person, thing, or idea. The game will offer obstacles and complications that will create **conflict** adding to the protagonist's struggle to reach a goal. **Rising action** is an escalation of tension or suspense in the narrative where the audience will have to deal with many **moments of decision** that will effect the story. The Audience should experience **surprises** as they move through the narrative, especially with a number of **discoveries and reversals** to the player's knowledge that will change the plot. Finally,

upon completion of tasks and decisions, the protagonist should find **resolution** in his rewards and a release of emotion upon completing the narrative (**catharsis**).

Now by putting these into computer game terms specifically, the six main definitions of dramatic structure encompass the accepted ideal of drama's presentation.

Poetic Game Model

Plot is the heart of the story, and has a beginning, middle and ending. Plot is a verb and must move forward in action. Plot is a series of interlocking incidents that bring change to the characters involved through actions. The progression of the game, from one challenge to the next. Usually starts with an unfolding of dramatic problem. **In a game, the plot is revealed by the use of dramatic action created by the audience.**

Drama is the imitation of action to progress a story's narrative.

Conflict is the struggle against obstacles and complications that arise to keep the character from his goal.

Rising Action is an escalation of tension or suspense in the narrative.

Reversal of the Situation

Resolution

Pathos

Catharsis

Games will have many **moments of decision** for the player with real effects. Characters should experience **surprises** as they move through the narrative.

A complex narrative will offer **discoveries and reversals** to the player.

Growth and change. Characters must have inner revelations. Climaxes, end of act and

reward for solving or surviving.

The **character** is focus of change for the story. Character is action. Action is character. In a computer game, the main character's actions and choices are controlled by the player. Choices can have moral dilemmas and will have consequences but these drive the narrative experience forward.

Thought are the inferred internal processes leading to player choices. The player's emotions, reason, intentions and cognitive choices made from the presented conflicts in the narrative leading into the process of action and choices by the character. May be initiate from narrative subtext and expositional back story.

Diction is composed of Language, the art of delivery. How does the digital environment communicate to the player? Choices of style, presentation, and slang will influence the genre perception. Is the story a film noir, or horror, or comedy? This also applies to the user interface to the environemnt and how immersive it is.

Spectacle is everything that is seen. Digitally, this is the world. What are the rules of the world? Are they different from the real world? Who occupies the world with the main character? What are the colors? The realism? Interactivness ofhte setting? Enactment: how is the game played and perceived?

Song: Also known as Melody or Pattern: Audio prose and style. Ambient soundscapes can be as distinctive as any visual landscape. How is sound used in the narrative? While not as important to the progression of the story, the theme and or feel of the game can be greatly assisted by the use of sound effects, music, and lighting. The author's control over these elements add to the richness of the story and experience. The success of *Myst* has been largely credited to the designer's attention to the creation of

audience mood through original musical compositions, ominous sounds near and far from the player's perspective, and varying use of lighting effects. The use of audio as theater increased the audience's interest and made the game play much more immersive by activating the imagination.

Time

A quick recap on the notion of time in narrative structure: *period time*, the setting in which the story takes place, past, present, or future; *real time*, also known as the running time, is the actual time taken to perform the work; *story time*, the amount of time within the play that passes as the narrative is told, covering days, weeks, or even years; and *dramatic time*, which can be used to speed up or slow down the story's time for the effect of creating emotional responses and dramatic emphasis.

Now add in *game time*, the actual length of time predicted to take the player to complete the game. This is similar to *real time* but will be segmented and depend on the player's starting and stopping the game play, or if they meet up with wrong choices and have to start again from a past plot point.

The Stage

All action within a computer game's narrative concerning the main character's point of view (POV) will happen within the computer monitor's view. The player controlled character should always be within view of the main action. The computer monitor performs as the window into the world of the interactive drama. Using the theatrical stage as a model for each scene, the content can be placed, or staged, and the

movement of the other character's in the narrative can be set, or blocked out, by the author. In *The Matrix*, this virtual environment concept was labeled a 'construct', with its own rules and limitations for interaction. By setting the rules and content of each scene in the interactive narrative, the game author can spread the plot throughout the world, making the action of exploration necessary to construction of the story.

The more successful story worlds of *the Matrix* and George Lucas's *Star Wars* are immersive in their completeness of world concept. The set rules, environments, and realities within their respective narrative universes help to build an inclusive experience that successfully allows the suspension of disbelief due to the detail and complexity of the story's environmental construction.

Actors, Avatars, and Props

The term avatar in a game model refers to the digital representation, and extension, of the main character that the player controls to interact with the digital narrative. Again, the audience as player is the main character whose actions will be the driving force of action and plot.

Other characters within the digital world can be other 'real' people, as in the case of the on line games, or more commonly are known as the 'non-player character', or NPC. These characters are computer program controlled and vary in complexity but all have a function to aid the player in the progression of the story, either as friends, enemies, or suppliers of information.

An object can also be a center of plot progression. One of the best examples is from the movie *Casablanca*, where the possession of the 'letters of transit' are the

motivational force of the plot that unfolds around main characters and ultimately dictates their motivations and choices. The object itself isn't really important, as long as the author makes it important to the story. Alfred Hitchcock coined the term 'macguffin' to refer to the use of an object central to a plot's progression.

In games, objects can be given, hidden, or taken from other characters and have significance to the continuation of the narrative in the game.

NARRATIVE DECONSTRUCTION

Starting with the proposed theatrical computer game narrative checklist of the Poetics a walk through was completed of a scene from the original science fiction-fantasy screenplay *The Edenic War*.

The experiment began with a choice of game style that complemented the story best. Since the character of Albion is a preset character, and the main action, or story beats, are scripted only awaiting the choices to be made by the audience, *The Edenic War* as a game is an **Adventure** game.

Taking the linear scene from the screenplay that involves the protagonists introduction along with the rest of his crewmembers on in a SETTING that is used again and again in the narrative. Taking the scene apart and scurtinizing it lead to new narrative information revealed and intergrated into the modular scene. This valuable technique lead to discoveries and new insights to characters and events.

The actual separation of each Arisotilian element was applied so that the scene, actions, characters, sounds, and props where sorted down into two separate parts that follow in the linear for of script presentation. A Setting and a Scene. The setting does not change in appearnce unless plot calls for it. It is a static location waiting the arrival of actors in a scene. (**Scene – multiple iterations of actions awaiting choice/decisions**)

A scene as a modular script become static in its narrative form on the page awaiting the activation of the ‘story node’ metaphor by the audience/player. Each node is offered as a choice in a multi-branching narrative paradigm as a possibility FOR action. In the modular scene, everything seen should be able to be interacted with by the audience.

The following scene is truncated to the introduction of the setting and the scene so to illustrate the difference between the two in game terms.

THE EDENIC WAR

INT. ILIAD EXPLORER SCIENCE WORKROOM.

There are a number of work stations in this large room. Charts are spread out over a central table. There are four people looking over them.

RUNCIPIE is a elderly human woman dressed in frumpy clothing. She is speaking into a recorder device while examining a holographic display of the new solar system. There are nine planets around a yellow sun.

Working around her is QUADRON, a cybernetic being. It is a levitating, reflective cube that moves through the room with direct precision and methodically attends to multiple tasks with multiple appendages that grow, or morph, out of its body as needed.

A young, human male named ALBION moves beside Runciple to study the display.

Another finely dressed, older man moves to observe their discussion. He is an RIGELLIAN alien named BOLEM.

Runciple continues her report.

RUNCIPIE

Surveys to date have shown no trace of the planet Earth, home to the human race. Despite this we remain hopeful that one day, we will find her again.

Runciple switches off the recording device and looks to Albion.

RUNCIPIE

Well Albion? What do you think? You're the optimist.

ALBION

Optimism aside, the readings match all the known histories and myths...

RUNCIPIE

Surviving and credible histories, my boy. Can't place all your faith in mythological gibberish, you know.

Smiling at the jibe, Albion continues.

ALBION

Gibberish aside then. Long range scans show the third planet has a breathable, oxygen atmosphere.

BOLEM
Breathable for us you mean.

ALBION
That's why we have a crew of Rigellians, Slards, and Xenarians...we're all O-2 breathers.

The QUADRON floats in quickly and precisely beside Albion. It speaks in a hollow machine voice but has a genuine, emotional tone.

QUADRON
Speak for yourself, Albion. I don't share your limitations.

Quadron ZIPS away to continue its chores.

ALBION
No offense meant, Quadron. Just stating the obvious for our company friend here.

Bolem shifts uncomfortably while Runciple smiles to herself. The word play has been a continuous amusement for months. She turns to work the buttons on her terminal bringing up another holographic display of the planet in question.

BOLEM
I see no need for your continuous attempts to induce humor on my behalf...you are only entertaining yourself.

Albion smiles and relents.

ALBION
No harm intended Bolem.

BOLEM
I may have only been with your expedition for a short while, but I have completed over thirty deep survey missions not unlike this one.

Turning to Runciple, as if seeking an explanation.

BOLEM
Do you actually resent my presence?

Runciple does not look at Bolem. She speaks to him while examining the displayed readings and glancing to the hologram. The display of the planet is increasing in size and focus as she speaks.

RUNCIPLE
No, not at all. It is rather curious though, that after five long years in deep space without any contact from the

Galactic Union we suddenly get a visit from you. Just as we are finally getting somewhere with our search.

Runciple turns to him with a genuinely curious look.

RUNCIPLE

Now. Why is that? Can you at least tell us that much?

Bolem looks back and forth to Albion and Runciple. The Quadron floats closer, curious. Bolem clears his throat and stiffly continues.

BOLEM

Very well.

(beat)

Your homeworld's recent government elections have brought in a new leader. She has requested...and I emphasize request...that your expedition be discontinued.

Albion and Runciple look at each other and continue their work.

ALBION

(grins)

Is that all?

RUNCIPLE

We've known about that "request" for some time.

(beat)

This expedition is privately funded by a foundation set up years ago by the Progenitors.

Bolem nods and moves in.

BOLEM

Yes, yes. The original human refugees from Earth who encountered my race over two thousand years ago.

(pause)

That foundation has been closed.

Runciple starts. Albion stares at Bolem with disbelief.

>>> truncated <<<

Bolem's words seem lost to the humans. Both seem to be slipping into despair when...

QUADRON

Runciple, I think you might want to look at this.

All three beings turn towards Quadron.

NEW ANGLE: HOLOGRAPHIC DISPLAY IN BACKGROUND.

The planet displayed before them is a blue and green orb that is teeming with a rich atmosphere.

(This is Earth. Continental differences are not major.)

The sight fills Runciple with awe. She moves forward to her station. Albion moves for his, leaving Bolem STARING at the display.

RUNCIPLER

(cautious)

Quadron. Give me the readings.

QUADRON

Third planet in system of nine. Atmosphere breathable to humans. Variant temperatures over the planet indicate seasonal changes. Magnetic poles are off the central axis by 18 degrees.

As Quadron reads off the data, Albion's face betrays the beginning of elation. Runciple is not so quick to jump to the same conclusions. She continues to work her console, rechecking the data.

ALBION

Run. Do you think...?

Runciple shakes her head as if pushing off his optimism.

RUNCIPLER

Not yet. Matching readings with historical database. I'm calling up the Progenitor records. Quadron give me the datastream...link with my console.

(intense)

I want to see it.

A new display of data comes on-line in a column of data appearing on the left side of the screen. Runciple works the console some more.

QUADRON

Accessing.

A second datastream appears on the right side of the screen. Immediately, both start scrolling up and the word "MATCH" appears between both columns indicating that the data corresponds.

Bolem leans in.

BOLEM

Oh my.

Runciple sits back. The data continues to stream, unchanged. Every item from the database matches.

RUNCIPLER

Indeed.

(choking back tears)

Indeed. Well, Bolem...I think we'll be here a little bit longer. After searching for generations. I think we've just come home.

THE EDENIC WAR

Modular Scene

The Setting and the Scene

The division of the script for is in two parts for a game narrative.

Description of the setting occurs separately from the plot and characters. It is a static environment that holds descriptive instructions to what is interactable/usable.

Settings will change as scenes between characters occur. Actions, reactions, consequences, etc. all change the environment and other characters. Script this requires a notion of 'node' building, similar to a marker in a character. A scene cannot progress without certain actions.

In the Scene the characters are described, motivations laid out, and story nodes revealed.

The nodes will then interact with the setting and change it. The real meat of the

Modular script is in the scene.

SETTING

ILLIAD SCIENCE ROOM

DESCRIPTION

SCENE

ALBION

Motivation/node:

RUNCIPLE

QUADRON

BOLEM

CONCLUSIONS

The reality of a modular script is that it is only a starting point for the non-linear game story. Outlining the potential actions, which will build up in the character in consequence and knowledge, cannot be the absolute end result for the content. Just as in the motion picture or theater the performance, or content delivery, will be dictated by the game development team. This modular script form is a framework to add to the power of the traditional linear narrative pitch. By showing the potential interactive possibilities of the narrative, the work can be more attractive to game developers.

The modular script is a framework to begin the production of a game story. The decisions of technology and chosen game style will dictate and change during the production process by starting with the story first, then looking for the technology to implement it with, allowing the full gameplay narrative to flow out of the production process. The experiment process revealed certain facts and new terms. Mostly, the use of a traditional story treatment or narrative outline form is still very needed in the beginning of the process.

Story treatment

In his book *Labyrinths*, author Domenic Stansberry discusses the use of a treatment, a shorter but descriptive outline of a story for an interactive experience (Stansberry, p 107). In the motion picture industry there is the practice of the pitch, or synopsis, for a story ideas: The summing up of the core idea as briefly as possible to

present to studio producers, with the outline of the entire work is usually following.

This detailed outline of each individual, linear scene for a story will allow the game author to have a road map to pull the interactive story elements from by dissecting each individual scene.

By dividing these up into the Setting and the Scene, distinctive possibilities of interaction are set up but not necessarily used.

World building

As player the audience has the control of the question “to be or not to be” for a character. Ernest Adams suggests the author’s role in game creation is not to tell stories, but to build worlds in which stories can happen (Adams, 1995). Celia Pearce likens this concept as being an architect who must be able to , in a God-like fashion, see all conceivable experiences at once and to create the mediaspace in which they can occur (Pearce, p.28). A more appropriate way to describe this concept is the term “world building” coined by author Stephen Gillet in his scientific guide to constructing environments for science fiction authors (Gillet, 1996).

New media author Ethan Watrall (gamasutra.com, 2002) has applied this term to the creation of a gaming environment. Taking the convergence of all other medias into one new form, a worldbuilder would create content in a modular script form that doesn't restrict the story due to technological concerns and includes all important information needed for judgments to be made by the development team.

In the theater, the researcher associate for a production or company is known as a dramaturg, the equivalent to a continuity editor and production manager in motion

pictures. The dramaturg is responsible for the theatrical details of a production. A worldbuilder is a dramaturg for computer games.

This concept is not presented as a definitive answer, but as a different approach from the commonly accepted motion picture model. Technology will continue to grow and change, as will the form of story presentation, but as that progresses, the fluidity of the scripted form must also be allowed to change and grow.

Future innovations

Exploration of these new writing styles will open up a newer markets as new technologies keep springing up to deliver them. With a larger ability to deliver narrative experiences in the form of game play, more and more content will be created that will break outside the current, stagnant demographic of game sales.

The digital video disc (DVD) is also a young technology. There are simple games already upon the extras of most motion pictures. The console game manufacturers have been making their consoles double as DVD players, so dedicated game play on DVD could not be far away.

Technology is making the concept of 'artificial intelligence' more real every day. Currently in Georgia Tech there is a study of interactive drama simulations being conducted with interesting results (Mateaus, 2003), and will so grant game authors to create computer simulated supporting cast members for players to interact with.

The world wide web will once day soon allow the popular use of a Web Cinema idea, where users could play interactive stories on line that are more than just dressed up audio theater.

Augmented Reality (AR) is a reality, but not a practical one. AR allows an individual to wear a portable computer system that overlays real time virtual images and sounds in their real three dimensional environment. Sounding much like the virtual reality (VR), popular in the 1990s, the difference is that this is portable and uses a convergence of current technologies.

One of the greatest challenges for game studios is to break the barrier of the known demographic and expand the game market. A major challenge for the game industry, despite its success, is finding the way to expand its commercial sales past the known demographic of game players (Entertainment Weekly, December 2001). The industry is still very much in its infancy and just as the motion picture studios did during the 'golden age' of hollywood in the 1930s through 1950s, game studios have exclusive control of content and everything is done 'in house'. Opening up a way for authors to independently pitch game ideas to game studios has yet to occur. It would help in the expanding of the game playing audience.

Albert Einstein once said something to the effect that knowing a fact absolutely is the death of creativity. The suggestion here is that game authors need to get away from the glitz and shine of hollywood and look to the theater for the foundation to build story environments. By being open to innovation and experimentation in form, new and demographic-breaking narrative games can be produced with an emphasis on experimentation.

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APPENDIX A

Multi-User Domains (MUDs)

MUD is an acronym for Multi User Domain and refers to an interactive real-time text-based story played out over the Internet by individuals from all over the world.

MUDs come in a variety of types based on both thematic content and the particular MUD program employed. Some are based on thud-and-blunder warfare between human players and computer-generated monsters, others offer sophisticated role-playing environments where personal interaction within the context of the game is of primary importance.

Most of the MUDs listed here will provide a "guest" access account, which will allow you to access the game without having to create a customized character. When connected as a Guest, the administrators of the MUD will recognize that you are browsing, and will be receptive to polite inquiries about the MUD and eager to assist.

As with all interpersonal relations, both over the Internet and in person, courtesy and etiquette will be better received than abuse or immature behavior. Please do not abuse Guest accounts or MUDs; no matter what abusive behavior you might come up with, it's undoubtedly been done before by others like you and will only bore and disappoint your hosts.

MUD realms are text based, interactive worlds that are created in a C++ based object oriented library of pre-constructed items, usually referred to as a MUDLib. Everything seen on within the text based environment is an object oriented based program, including the players. These avatar programs are the basis for communication

in the realms. There are countless permutations of themes MUDs accessible on the internet, mostly through a direct telnet address.

SCREEN CAPTURE:

Everything below is displayed in a 'text box'.

The > prompt is where commands are typed in.

===

KoBra Space Station - Central Control

You find yourself at the hub of all activity within this Space station. The Directional Guidance program is currently aligned with the Dantooine solar system. Please make your directional references from the set parameters. Fighting and general disorder within the confines of the Space Station is forbidden and KoBra Inc Security sees that is enforced. There is a spiral staircase leading to the other levels.

There are six obvious exits: south, up, east, down, west, north.

C3PO, a protocol droid

C3PO says: The observation lounge has a wonderful view of the universe.

C3PO says: My friend Puzzem has so many puzzles to solve, he could use a hand.

> wave

You wave.

> north

You go north.

KoBra Space Station - Hallway

The intersecting hallway is octagonal in shape. The metallic construction of the KoBra Station is clean and precise. To the east is the cloning station, to the west is the player information station, and to the south is the control center. There is a map of KoBra Station on a wall.

There are four obvious exits: south, east, west, north.

> east

You go east.

KoBra Space Station - The Cloning Station

Massive data banks support the computer operating here with assistance from the surgeon droid. There are a number of medical bacta tanks along the walls. The medical equipment is quite advanced and seems to be used to create cloned bodies for unfortunate players that lost their bodies. There is a computer console that is currently showing a reanimatic sequence in progress. The program menu draws your attention to the keyboard.

There is one obvious exit: west.

TwoOneBee, a surgeon droid A bacta tank

TwoOneBee says: Greetings gentle sentient, how can I help you???

> look at tank

The tank extends from floor to ceiling and is made of a thick glass. This is the system used to create a cloned body for players killed in battle. The bacta is a red gelatinous fluid made with remarkable healing properties. Bacta is released into the tank from both sides to aid in the formation of the clone.

> look at droid

TwoOneBee is a medical droid. A humanoid skeletal shape, the droid appears as a complex mixture of cylinders, wires and appendages. Its job is to see to the well-being of all players on KoBra Mud. Within its programming is the reanimatic function as well.

TwoOneBee is in good shape.

> smile

You smile.