

University of Edinburgh School of Informatics

Restoring drama to complex,
interactive narratives

4th Year Project Report
Software Engineering

Tim Fletcher

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Abstract: This project examines the tension that exists in creating dramatic, interactive narrative between the freedom entailed by interactivity and the restrictions necessitated by drama. It examines past and present research in the area and outlines a possible technique to resolve this tension. This technique is demonstrated in a modified version of the computer game Neverwinter Nights.

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Disclaimer:

I would like to acknowledge that because of my tastes and means, the discussion of computer games in this paper has a strong Personal Computer (as opposed to gaming console) bias. No implication of superiority is intended. If the reader is more familiar with titles from console gaming which seem to better fit the examples given in the section on computer games, they are encouraged to consider whether the conclusions drawn are still valid, regardless of the game that provides them.

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1 Introduction

1.1 What is interactive narrative anyway?

Interactive narrative is one of the newest and yet oldest forms of literary art. It is what happens when games and stories collide. It is almost a contradiction in terms.

How is it old and new at the same time? In her study of the possibilities that the computerised world brings to literature, *Hamlet on the Holodeck* [1], Janet Murray looks closely at the origins of the concept of interactive narrative. It is believed that the bardic performers of the ancient and medieval world (of whom Shakespeare and now Homer are now recognised) continually adapted both the performance and details of their story according to the context of and feedback from their audiences. From this perspective, interactive narrative predates many of the more modern, ritualised approaches to storytelling. This interactive method fell from dominant favour, at least in Western society, until around the end of the 1960s, when the joint appearance of the computer game and the roleplaying game *Dungeons & Dragons* brought both the concept and the possibility of interactive narrative back to our society. Two thousand and also thirty years later, and we are still just beginning to explore the possibilities of this storytelling technique.

The reason why interactive narrative is almost a contradiction in terms is intimately tied to its composition, elements from each of two distinct forms of entertainment: games and stories. The contradiction lies in the dominant and defining features of these two forms.

Games encompass the “interactive” component of interactive narrative, and may be the oldest form of entertainment that exists. In one of the early books on the subject of computer games, *The Art of Computer Games Design* [2], Chris Crawford places the date of their appearance before the birth of mankind. Animals (particularly juveniles) play games, whether for education or entertainment. It is certainly true that possessing no formal language is a serious barrier to storytelling, but not to game playing.

The forms that games take are extraordinarily diverse – most of them are designed to test some ability or abilities of the player(s), but the ways in which they do this are many and varied. Tests of strength like wrestling bear little resemblance to tests of memory like the children’s card game matching pairs. However, one thing all games have in common is rules – ways to limit the options available to the players, and to define their goals.

It is the options that are the most important - games are in many ways defined by interactivity. There are other factors involved in making something a game, or in making something a good game, but ultimately they are dependent on interactivity. Whether it is the pleasure of the power to change the game world (agency in Janet Murray’s parlance), the satisfaction of examining the relationships between cause and effect, the joy of not knowing the outcome, or the thrill of winning, it is the interactivity that creates the appeal of games, and makes them unique.

Consider Snakes and Ladders for a moment. There are actions to perform: rolling dice, moving pieces, sliding up and down ladders and snakes, but there is no interactivity. Assuming you play by the rules, nothing you do makes any difference. There are no decisions to be made. Now consider a variant of Snakes and Ladders where at the beginning of the game, you each roll a die, and the player with the highest score gets to choose which colour piece they use. Now we have a decision to be made, but the decision makes no difference to the outcome of the game. Even if you have some favourite colour and derive pleasure from being able to play with a piece of that colour, this has arisen through chance and not through choice.

Of crucial importance is the restriction of choice – what rules impose. A game differs from a real life situation as much because your resources are artificially restricted. This is why children's games of Cowboys and Indians frequently degenerate into argument (“Duddah duddah! I shot you!” “No you didn't, I've got a forcefield!”) – there are no proper rules to restrict the participants' options. It isn't so much that the restriction of options improves the game, but that without such a restriction there isn't really any “game” at all.

Stories (as typified in modern times by the novel and the film) are a very different form of entertainment. Whilst games are about participation, stories are about a one way communication from the author to the reader or audience. Storytelling is something that we leave to the artists and craftsmen that create them – once they are finished, we can sit back and enjoy, usually with a minimum of conscious effort on our part.

A story is firmly bound up in the concepts of time, order and structure. A typical story is a telling of events, those events proceeding in a linearly temporal fashion, and carefully arranged to communicate some meaning. Even those stories which play with the linear presentation of events (“multiform” in *Hamlet on the Holodeck*, although this is a slightly misleading term) still arrange the events meticulously to communicate the most information or evoke the most emotion. (A simple example of multiform presentation is the flashback – the temporal order of events is different to the presented order of events. A more complex example is the film *Memento*, in which the scenes in the film are presented in reverse order, and during each scene we do not know how or why the characters ended up in the situation that they did.)

Interactive narrative, then, is a combination of these two. Even at its “purest”, it is a confused concept – the definition depends on the background of who is describing it. To someone with a literary background, interactive narrative is a story over which the reader can exert control to one degree or another, in order to further enjoy it (for the same reasons people enjoy games). To someone with a games background, interactive narrative is a game with a plot or story that ties the otherwise arbitrary events together and gives them emotional significance. The truth of course is that it is both of these things, and that theoretically it combines the emotional impact of a story with the interactive possibilities of a game.

Why, then, is it almost a contradiction in terms? It is more of a “computational infeasibility” problem than one of impossibility. We know that in the way it combines a story and a game, an interactive narrative must arrange events into an order to create

meaning and emotion, and also allow for interaction on the part of the reader – that is to say, decisions which are made which affect the outcome of events. (It is worth nothing that even a book is interactive in the sense that you can decide whether to turn the pages, or whether to read them in the correct order, but this is where the rules come in – those are not permissible actions to take in the game of “reading a book”.)

With this in mind, let’s consider the simplest of interactive narratives, from the literary perspective; a story with two endings, and the reader gets to choose which one “happens” in some way. It should be noted that in a “good” story the ending is not a distinct entity from the rest of the story: the story body should entail the ending in a suitable fashion. It is, however, possible to have a story which could entail multiple possibilities – though doing so convincingly would require more effort on the part of the author. The overall effort (and therefore time, and therefore expense) required to write this story is therefore:

Base story + alternative ending + complication of making story coherent with two possible outcomes

Remember that this is the simplest of interactive narratives. Now consider if the reader is allowed to choose the outcome on more than one occasion, or if they are allowed to choose between more than two different options. As well as the additional sequences that need writing for each potential choice, the content of the whole story needs to be continually reworked to ensure that any combination of “chunks” of the story that the reader is allowed to arrange make coherent sense as a story. As more and more decision points are added, and more and more choices are added, this process of brute force interactive narrative becomes impossible.

Something has to give, and usually this will be the “story entails the ending” aspect. Interactive narratives in general do not possess the same degree of careful arrangement to a certain end that linear narratives do. If we do not know, until some act of the reader determines it, whether our protagonist is going to succeed or fail, how can we seed him with virtues or flaws? It can also fail in the other direction – often so-called interactive narratives are not truly interactive, but only active in the same way as snakes and ladders – the reader/player can make decisions and choices, but those choices have no or very little outcome on what happens. They cannot influence the success or failure of the protagonist – that was determined in advance by his virtue or flaw (or other literary device).

This is where the contradiction comes in – a tug-of-war that is well-known amongst both those who dabble into adding interactivity to their narratives, and those who attempt to add meaningful, emotional stories to their computer games. The process of interactivity directly interferes with the process of narrative, and vice versa. It is not impossible to resolve, but usually prohibitively expensive. In theory the two are not mutually exclusive, but in practice they often become so.

(This argument can be approached from the gaming perspective as well, though it makes much less intuitive sense – a game with completely arbitrary and complex game mechanics, but no plot or story at all can gradually have more and more intrusive story content added to it – first a reason for the game to exist, then a reason

for each of the tasks the player has to complete, then individual plot-based reasoning as to the purpose and meaning of each of the player's decisions. This is a slightly nonsensical way to write an interactive narrative, indicating an apparent bias towards the literary perspective, but it can be simulated by, for example, trying to write a meaningful, emotion-inspiring plot for the game noughts and crosses.)

The complex, interactive narratives in the title are those which have refused to surrender their interactivity, and in doing so likely had to give up many of the things that made them meaningful and emotionally provocative. Before looking at the ways in which different interactive narratives have attempted to resolve this problem, there are a few more relevant terms and concepts to examine.

1.2 What do we mean by drama?

Drama is simple to understand, and difficult to execute. It's already been discussed at length in the previous section, everywhere that "meaning" and "emotion" are mentioned. Drama is really nothing more than the communication of meaning and emotion. It can occur by accident, but normally it is something we try and achieve on purpose.

In this context, meaning refers to the intellectual content of the story: who did what, how, why, where and when. Meaning is as essential to drama as emotion is. Instrumental music can communicate emotion, but without meaning it is not drama (the use of the word "dramatic" to describe a particularly loud and impressive piece of classical music is a slightly different usage of the word).

The other aspect of drama is how the information presented by the meaning makes us feel. What it means to *us*, rather than in objective terms. What emotions it inspires. It is not really possible to separate the two – even if the meaning presented is boring, boredom is an emotional response. The skill of creating drama is to combine the relevant events with the correct emotions in the correct doses.

The strict ordering that necessitates linearity alluded to in the interactive narrative section above comes into play when the author starts trying to manipulate emotions in this way. An interesting thing about emotions is that they are mutually affective – the current emotional state of mind of a person influences how they will react to future stimuli, and what state of mind those stimuli will push them in to. It is widely known, for example, that the emotional reaction of shock to a surprising event much stronger when the subject is calm, or even in tense expectation, than it is when they are already in a shocked state from something else.

Tension is actually one of the most important emotions in drama – whether it is the horror of discovering a mutilated body in a slasher movie, or the blissful relief of the girl finally choosing the right man in a romantic comedy, it is the tension beforehand that makes these events something other than just mundane transcriptions of events. In fact, in many cases the chief purpose of the meaning component of drama is just to set up events in such a way as to create tension.

This process does not merely occur moment-to-moment, however. Events lead up to or forebode other events which may take place far apart within the context of the story (sometimes with explicit foreshadowing, such as the weird sister's predictions at the beginning of *Macbeth*, and sometimes in a way that only makes sense in retrospect, such as the carefully structured plot of *Memento*). This relationship between events lends additional meaning and therefore additional emotional weight to them – a man about to kill another man is a potentially emotional scenario, but if we know who the two men are and where their differences come from (explained at length over the course of the story rather than immediately prior) then it becomes that much more powerful.

Drama, for the purposes of this project, is therefore defined as the intentional arrangement of events in order to provoke long- and short-term emotional response. It is this intentional arrangement which becomes seriously hampered as soon as we begin introducing interactivity into narratives – the potential consequences of the player/reader's choices interfere both with the moment-by-moment emotional manipulation, and the long-term structure of the plot which lends later events greater significance.

There is also a slightly distinct, third component to drama. Although sometimes derided as being less important (the famous “Artistic Licence” referring to a creator's right to get away with minor lapses in their creation making sense), consistency is actually crucial to the development of drama. A certain level of consistency is necessary just to make a story intelligible to other human beings – characters speak in coherent language, and you expect their motivations to remain constant unless something visible (or invisible for a good reason) changes them. Less obviously, you don't expect characters to act at random, the world to actually alter without some visible cause and effect, or the rules of the world to change. For example, once we know that Neo can alter reality in *The Matrix*, we don't expect him to suddenly be unable to do that (like other humans) for no explicable reason – in effect his normality would be abnormal, and break consistency.

This consistency issue is tied up with the broader concept of immersion, which is a hotly-debated concept in computer games, books and the cinema. In short (and to try and avoid presenting any controversial statements), immersion is synonymous with the concept of suspension of disbelief; a willingness on the part of the audience, reader or player to accept that the fictitious events they are witnessing are not actually fictitious, and to react to them with the same (or a muted version of the same) emotions as they would if the events were really occurring. After all, we know and recognise that James Bond does not exist, and that the man who looks like he's jumping out of a helicopter is probably not even the same actor, and yet somehow we can still be worried about whether James remembered to pack a parachute.

A character in Neil Gaiman's *Dream Country*, upon witnessing Shakespeare perform *A Midsummer Night's Dream*, remarks:

“This is magnificent -- and it is TRUE! It never happened, yet it is still true.”

Consistency is involved because when consistency is broken, it risks the participant having their suspension of disbelief disturbed or shattered. If believing that the fictional world makes no sense stops them from believing it is real, then this suspension of disbelief cannot occur, and nor can any real emotional involvement, and therefore drama. Once we are reminded that it is just a stuntman and that James Bond never dies, it is impossible to be tense or concerned by the situation, there is no emotion, and there is no drama.

1.3 Computer Games

Although computer games would almost certainly be better classed as games that as literature, the combination of things-to-do + unfolding plot which comprises the vast, vast majority of computer games made nowadays pushes them easily towards interactive narrative category. While they are not the only example of interactive narrative (others include hypertext novels and adventure gamebooks), they are without doubt the most well known. While not all computer games can be classified as interactive narratives, and it may well be that there are things to be learned about interactive narratives in general which are not true of computer games, they make a fine basis for discussion of the subject.

It should be noted that technically a computer isn't really "an" interactive narrative, but something that includes one. Of course, the degree and style of interactivity varies greatly, as does the dramatic quality of the narrative.

Very brief synopses of each mentioned game are presented in Appendix 2, for readers who are unfamiliar with the game in question. Games are arranged alphabetically rather than in order of appearance.

1.3.1 Drama in games

Drama, as we have already examined, is about having a story which communicates meaning and emotion. Computer games have had a fumbling development in this area – games with stories (going back as far as *Spacewar!*, which had a story of a sort – the spaceship is a spaceship rather than an obscure geometric shape) have always possessed rudimentary meaning, sufficient to communicate the bare minimum of what characters are involved in the events that are to transpire, and also possibly WHY they are involved in the events that are about to transpire.

In very early games this was often the result of surmising, rather than actual information. *Pac-Man* is a yellow monster creature of some kind who eats dots and avoids ghosts. We can surmise that his motivations for these two activities are that he is hungry, and that he does not want to die. The spaceship you control in *Space Invaders* is a character, of a sort (particularly if we assume it has a pilot), with motivations along the lines of "kills all aliens because he values the earth highly, and also doesn't want to die".

This motivational force of self-preservation has a long and glorious history in computer games, inextricably tied to the still-dominant plot-meaning of "kill all the

bad guys before they kill you”. Nowadays, though, the meaning communicated in computer games does more than just suggest (or even explicitly state) who the main characters are, and why they are doing what they’re doing. Games began aping the plot structures of conventional narrative quite early on, with the introduction of the concept that events could conspire and that the state of the world and its characters could change over time – in other words, a story.

Under the loose definition (where the story does not have to succeed in manipulating emotions, only attempt to do so by aping the form of something that does), many of these early game stories were dramatic. Events at the beginning of the story had some relevance to events at the end (for example, the continuing appearance and escape of the villain throughout the game), and the final sequences of the game were, or at least were intended to be, the most exciting (the actual confrontation with and death of the same villain).

At about the same time, text-based games such as the extensive catalogue published by Infocom were more rapidly moving from rudimentary Dungeons & Dragons-style “dungeon hacks” (a game where the majority of the interactions are either attacking and killing fantasy monsters, picking up their treasure, or fiddling with statistical representations of your avatar’s abilities) such as *Zork* (Infocom, 1980), to sophisticated “interactive adventures” like *The Lurking Horror* (Infocom, 1987).

What marks games like *The Lurking Horror* out is that unlike the graphics-based games of the same period and even later, such as *Double Dragon* (Mastertronic, 1988), *Super Mario World* (Nintendo, 1990) and *Turrican* (Accolade, 1991), that those who thought highly of the game praised it for its story, for its dramatic developments, and for its atmosphere. By comparison, the other three games approach to story is the standard motivation/climactic end sequence combination (with highly variable degrees of success – reviews dating from the period for practically every computer game ever made can easily be found online).

This division between games that apparently market themselves on story and games which apparently market themselves on graphics and action is immediately recognisable at any period during the 80s and 90s, and still today. The text adventure fell from favour towards the end of the eighties, to be replaced with two clearly identifiable sub-strands: the item-combination adventure which includes the point-and-click adventure (e.g. *The Secret of Monkey Island*, LucasArts, 1990) which perpetuated the plot-dominated text adventure, and the so-called RPG, better referred to as the CRPG (standing for computer role-playing game to avoid confusion with the pen-and-paper games such as Dungeons & Dragons which inspired them) which harked back to the statistics-based, monster-killing action of *Zork*. Occasional cross-pollination between the groups produced the story-dominated CRPG *Ultima* series (beginning with *Ultima I: The First Age of Darkness*, Origin, 1986).

The graphics and action games, meanwhile, went through fads. Platform games such as *Super Mario World* dominated for the eighties and most of the nineties, apparently regardless of platform (early home computers and game consoles alike), with other interfaces appearing only sporadically. With *Wolfenstein 3D* (id software [sic], 1992) and *Doom*, (id software, 1993), action gaming on the home computer moved from

being dominated by the platform game to by the first-person shooter. Other types of action games appeared, but what consistently grouped them together was the way their plots were just as sophisticated as the action games of the 80s – a reason that the protagonist was there doing what they were doing, and a vague attempt to have the difficulty and excitement of the game’s activities and visual stimuli increase as the game progressed.

The lasting convergence of the “action game” and the “story game” occurred in several apparently independent places. In 1990-2 several action games appeared, including *Wing Commander* (Origin, 1990), and *Dune 2* (Westwood Studios, 1992), which had plots that developed over the period of the game. At the same time, CRPGs (which had always had such plots) started to become more action-like, with real-time combat and similar changes. Whereas before story games had always changed in response to the user’s actions now they did so by themselves the way action games did. This change was apparently permanent, and the gradually-developing plot became the new standard format of any game with a story.

What had changed, though, was that the stories in games had the *capacity* for drama (dramatic under the loose definition), rather than succeeding in it. This situation noticeable changed in 1998, as discussed further below.

1.3.2 Consistency in games

It is a worthwhile aside to note that consistency plays a subtly different role in games to the one it does in stories (although if the game has a story, it should be included there as well). Consistency in the real world is important to us as learning animals – we learn by experimentation, by success and failure, and by applying the results of our experiments to future activities. Once we learn that touching fire results in pain (and damage), we do not touch the fire again (excepting some other overriding reason). Moreover, we associate closely-linked activities with each other. We can extrapolate from the way putting our hand in a candle hurts to predict that putting our foot in bonfire hurts. If the world’s traits kept changing – fire becoming safe and grass becoming painful to touch (with no good, observable reason) – then this learning process would be wasted time. We’d have to learn everything again whenever the rules changed.

Of course, in real life there are reasons to do with physics and chemistry that things behave and interact in a certain way that make it impossible for them to arbitrarily change. This is not true in a computer game. It is possible to simulate the fact that fire burns by making the player’s avatar take damage or having the screen flash red when it is encountered – but it is up to the world and the programmer to make sure that this trait is consistently obeyed. Depending on the implementation, it may be easy to intentionally or accidentally create the appearance of fire without any of the behaviour. Without consistent behaviour, it is impossible for the player to learn the rules of the virtual world.

1.3.3 Experiences, Simulations and Challenges

A classification which is important to make whenever discussing the dramatic value of computer games is whether they are experiences, simulations or challenges. In many ways, every game is all three of these things, but usually intent or accident will prioritise one of them.

An experience is a game which is played for the purposes of provoking emotional response, whether through a moving story (*Planescape: Torment*, Black Isle, 1999), through atmospheric engagement in the style of a horror film (*System Shock II*, Irrational Games & Looking Glass Studios, 1999), or even an attempt to combine the two concepts of computer games and electronic music (*Rez*, UGA, 2001). Experience-type games are generally dependent on factors like immersion (as defined earlier) to better communicate the intended emotional state. This can sometimes hinder the potential difficulty of the game – too much player frustration reduces immersion – which can reduce a game's value as a challenge. Games which are not primarily about experience can always include a plot that they hope will be moving or at least motivating somewhere in the background, and common techniques taken from cinema such as the creative use of sound, lighting and music to create atmosphere are found in many games that otherwise prioritise themselves as challenges.

A simulation is a game which is designed to be explored. Arguably many simulations are not games at all, because although they include rules, they often do not include any goals for the player to work towards. The game forms a model, and provides ways for the player to interact with that model, and then leaves them to it. Games like *The Sims* (Maxis, 2000) and the aptly named *Microsoft Flight Simulator 98* (Microsoft, 1997) are explicit simulations, where there is no way to win and no end to the game until you simply decide to stop playing. Other games, however, can include these modelling elements as part of their structure, giving the player freedom to explore a simulation within the context of a larger game. The goalless nature of a simulation prevents it from being a proper challenge game, but interesting it can be turned into one when players or groups over players assign goals for themselves.

A challenge is a game from which the player can derive satisfaction and a sense of achievement when they achieve its goals. In general, the closer matched the challenge is to the upper limits of the player's ability, the more satisfying such an achievement will be. Games which are intended to be challenges can sometimes be difficult to distinguish from games which are intended to be experiences, particularly when they contain similar themes and plots. The difference seems to be in the intention of the plot – whether the plot is there merely as an excuse for the challenges in the game, or whether the game exists as an interesting way of navigating through the plot. Games which possess plots and other experiential features but which are clearly designed to be played as challenges to be beaten include *Lemmings*, (DMA, 1990) and *Kuru Kuru Kururin* (Nintendo, 2002). There are many games which should fit squarely into this category, but would probably be offended at the suggestion, seeing themselves as experiences of some kind. A well-known game that is very easy to fit squarely into this category is the very famous *Tetris*, (AcademySoft, 1986 for the first), which unlike a surprising number of puzzle games does not burden itself with a plot.

The important thing to note about each of these factors is that different players place very different values on the different prioritisation of the three types. They match up quite neatly to the different reasons that people enjoy interactivity given earlier, with the exception that the pleasure derived from the power to change things (agency) does not easily pigeonhole itself into one of these three categories. Perhaps it is a pleasure that can be derived from any of them, provided they offer a wide enough interaction, or perhaps there is some strange hybrid of experience and simulation which seeks to offer the highest degree of both that simply hasn't been seen in action yet.

This is relevant because it illustrates that only in the case of the first category of games is drama even a relevant concept. A simulation is not primarily desirable because of its dramatic content, and not is a challenge. By placing our interest in dramatic games, we are firmly placing our interest in experiential games.

(This division of games into three prioritisation categories is heavily inspired by the GNS Theory of pen-and-paper roleplaying games. See website references in appendix one.)

1.3.4 Non-linear Computer Games

“Non-linear” is the catchphrase normally used to describe a computer game in which the player has some freedom in determining the ordering of events, or the outcome of events, during the game. It apparently used with preference to the word “interactive” as used in the synonymous concept “interactive narrative”, because of the confusion that would arise from the fact that all games are inherently interactive. However, any discussion of “non-linear computer games” should be considered a discussion of “computer games with interactive narratives”.

The first thing to clarify about “non-linearity” is that in mathematics we would refer to something as being non-linear, which is to say not like a line, because it is not straight. In computer games we are instead comparing a linear, line-like, plot which proceeds in a fixed sequence and a non-linear plot which in some way deviates from that sequence, either at random or as a result of the player's actions.

There is a further distinction that needs to be drawn over whether a game divides its plot up into chunks.

1.3.5 Mission-based and Continuous plots

From a certain philosophical perspective, all games are mission-based, in that they require you to complete a task, and then complete another task, and so on. However, many computer games are explicitly mission-based, in that they provide you with a task to complete and then acknowledge its completion. The completion is accompanied by a transition to a new mission, and usually a pause in the game (even if just the time it takes to load the data that comprises the new mission). If the mission is complex, it will often be presented with a “briefing screen” of some kind which explains in text what the player has to do.

Even back as far as *Space Invaders* or *Pac-Man* the game was divided into distinct missions, albeit with the same objective during each mission. In most modern games, these missions take the form of “levels”. A level is a programming distinction as much as anything, being an amount of world data ready for presentation to the player that can be stored in memory. The term comes, I believe, from old Dungeons & Dragons terminology – traditionally the underground complex the players are exploring is divided into a number of floors known as levels. Very modern mission-based computer games (probably beginning with *Quake II* (id software, 1997)) store each mission as multiple levels, because the density of environment data and the size of the mission area means that the complete mission cannot be stored in memory at once. Typically (although not always), the environment of a level is static, and dramatic changes only occur once the player has moved to a new level. Occasionally a game will feature an environment which changes dramatically (often the first location from the game now burnt down or otherwise destroyed) but this is usually a new set of level data which resembles the other. Mission-based is the default category for games, as the majority of them still use this structure.

When the overall transition to action-and-story-based games took place, the gaps between missions became an ideal place to insert “chunks” of plot. In this way, plot is used as a motivating factor for the player to complete a mission – if they achieve the tasks set out for them, they are rewarded with a development in the world, characters and story. This chunking process is very important to non-linear narratives, because it means we are working with discrete rather than continuous data, and limits the potential possibilities for plot arrangements.

Continuous games, by contrast, do not formalise the mission structure. Tasks are continually strung together one after another, with no absolute distinction between them. Two slightly different approaches to this category are illustrated by *Civilisation* (Microprose, 1991) and *Deus Ex*, (Ion Storm Austin, 2000). *Civilisation* is heavily continuous, because it provides the player with a single, overall goal to reach, at which point the game ends. Effectively, the entire game takes place on one level, where dramatic changes can occur. The player inevitably has to achieve sub-goals which overlap and are continually generated by the environment.

Deus Ex is continuous in that it is not explicitly mission-based, but is still level-based. The player moves from environment to environment, with the distinction being that goals are given to them by characters they meet “in-game” rather than in an ex-mission briefing screen. Since this conversation is a part of the game itself (mission briefings in *Deus Ex* in particular often involve talking to several people, with additional information to uncover if you find it), the game does not divide neatly up into missions. Effectively the whole game becomes a single multi-level mission.

Having vaguely defined non-linear plots as “deviations from a fixed sequence”, it is worthwhile examining the existing and potential degrees of non-linearity.

1.3.6 Degrees of non-linearity

A label and explanation, and example if necessary, is provided for each of the potential degrees. Note that it may be the actions of the player or some other factor which chooses amongst differing possibilities.

Linear: necessary for completeness. A linear game is a game which has no degree of linearity. The player has no influence over or ability to control the plot.

Branching: in one or more places, the plot allows for deviation amongst some small number of possibilities.

Mass-branching: in one or places, the plot allows for deviation amongst a large number of possibilities. It is possible that the actual number of possibilities is not perceptible to the player, and they confuse the situation with a freeform one.

Rearrangement: in one or more places, the plot allows for sections of it to be experienced in an order that it not predetermined.

Freeform: no possibilities are pre-determined. The plot is determined by some combination of the player's actions and the environmental influence of the game world. Whether or not truly freeform games exist (as opposed to mass-branching games) is a debated issue.

In the context of this project, the "complex" interactive narratives referred to could be any of the above types (with the obvious exception of linear). However, complexity is meant to imply that the computational feasibility problem from earlier in the Introduction applies. Is there enough freedom of possibilities that it is not merely a matter of writing a small number of outcomes?

Having made some examination of the concept of non-linearity, we can return to what happened in 1998.

1.3.7 *Half-Life*, (Valve, 1998)

Half-Life is deserving of a category of its own primarily as one of the most famous examples of a computer game which *successfully* implemented drama. It is notable not only because of its widespread commercial success (unlike the large numbers of CRPG-type games before it which achieved drama within a niche section of a niche market), but because of the way it concentrated on drama first, plot second. Its appeal was not absolutely universal, but by way of example

Half-Life is important because it is one of the few references we have can provide us with evidence an example of how to create a dramatically successful computer game. There are others, but none of them have the same widespread acceptance. While there is no specific source that can be cited as evidence that the game is the most successful dramatic game, its influence (and name) can be found anywhere on the internet that computer games are being discussed as a general subject.

What does it mean to say that it prioritised its drama above its plot? In terms of the arrangement of meaning and emotion, *Half-Life* had very little to say in its meaning. The plot of the story is unashamedly literarily equivalent to the very worst Fifties Sci-Fi B-Movies. Despite this, it manages to be maintain a constant level of drama of such quality that it is considered by many still not to have been equalled (the yearly reader's survey conducted by the UK PC Gamer magazine has placed it in first place for three years running now).

Its method is not secretive or complicated. It simply applies the same rules of drama that cinema does, the manipulation of emotion through the arrangement of scenes, both in the short term and the long term. The atmosphere is carefully arranged in each area so that as the player moves between them, he moves through atmospheric scenes.

It is important to note, however, that *Half-Life* possesses a linear narrative. At the very, very end of the game, the player is offered the choice of accepting an offer made to him, or being killed, but discounting this silly exception it is as linear a narrative as could be demonstrated. In every location there is one exit. In every situation there is one solution.

How is it relevant to a discussion on dramatic, interactive narrative? The simple concept of a computer game being able to communicate emotion through drama is not one that is universally accepted. (In 2002 a Judge in Missouri ruled that games were not capable of expressing ideas, and therefore weren't protected under US rights to freedom of speech; In 2001 Prince Charles began a campaign to encourage children away from computer games which he dismissed as "immediate gratification".) Until this perception changes, the continual presence of games like *Half-Life* is necessary as a reminder that the goal is even possible.

1.3.8 Dramatic, Interactive, Complex Narratives

We now have a developed context for what a dramatic, interactive, complex narrative is (at least perceived from the perspective of a computer game). How have existing games tried to deal with the problem? The simple answer is that they haven't, which is why the research question exists. *Half-Life* has a high level of drama, but very little interactivity. *Deus Ex* is dramatic and interactive, but it has a relatively simple degree of interactivity and deals with the problem exhaustively. *Civilisation* has extraordinarily complex interaction - there are a bewildering array of choices available to the player. It has no dramatic management at all - what happens is dependent on a realistic simulation model, not a dramatically managed one.

2 Literature Review

The problems of interactive narrative and dramatic, interactive narrative are not new ones. Previous research into the area either examines it or offers a solution.

2.1 The Oz Project [3]

A large research project no longer active at the Carnegie Mellon University, Oz concerns itself with interactive drama or interactive narrative as a whole subject. Their primary (and well-supported) claim is that it is the characters in a story or narrative who determine its true value as a dramatic work, and their research is appropriately orientated around this principle. This puts a heavy emphasis on artificial intelligence methods, particularly those concerned with the concept of agents as autonomous individuals with their own agendas. An important concept outlined in “Towards integrating plot and drama for interactive drama” [4] is that rather than each agent having specific, selfish, individual goals (as in generally the case in agent simulations) the agents are subject to the whims of an external drama manager which can override the needs and actions of any agent in the world in the interests of the story. This non-independent agent concept is similar to the group activity programming that was programmed into *Black and White* (LionHead, 2001), where townspeople moved between social activity controllers rather than operating entirely autonomously.

They have chosen to place their emphasis firmly on the Freeform Agent-based system of interactive narrative, where the player is loosed into a virtual world populated with hopefully believable characters, each controlled by an AI agent. With the correct priorities for the agents, the player generates the story in concert with them, partly through the emergence principle and partly through the agents’ dramatic intentions. This unfortunately means that their research is not as useful to other solutions to the dramatic, interactive narrative problem as it might be.

“An Oz-Centric Review of Interactive Drama and Believable Agents” provides an extensive examination of the issues facing the research project compared with existing research. It gives their basic formula for drama:

“Drama = Character + Story + Presentation”

Their explanation of believable characters is a lengthy examination of the similarities and differences such a concept has with mainstream AI techniques. Some of this is slightly muddled – the actual difference between designing a system to be like an ant and designing a system to be like James Bond exists, but is a philosophical rather than a practical one.

The section on interactive stories provides a nice illustration of the interactive story problem, ie the tension between linearity and non-linearity. It outlines the proposed model of the Drama Manager, a computer function which arranges plots. The basic concept is to divide a given plot into a series of discrete events. Rather than having a strict linear or branching path between these plot points, the drama manager will examine the plot points which have taken place so far, and the actions of the player,

and use heuristics to determine which plot point would be best placed next. This is an imaginative solution which I am interested to see the results of, but the rearrangement of plot points aspect of it seems inherently limited. Perhaps it is not as restrictive as it sounds, but it is presented as a system which rearranges a story rather than creating it itself.

An excellent point is raised about the dubious status of authorship in the interactive narrative world. An author/scriptwriter/director's task is to entertain us with a story. Clearly we desire such professionally arranged entertainment as the continuing success of the linear story entertainment industry shows. However, in the interactive world it is often left up to the player/reader to arrange things. What then, are we paying our hypothetical money to the author for? A hopeful answer is that the author has somehow provided us with an idiot-proof system, that is one which we cannot abuse to the extent that it stops being entertaining.

As of December 2002, the Oz project disbanded in order to form a company to sell the results of their research

2.2 The Gameplay Gestalt, Narrative and Interactive Storytelling [5] Craig A. Lindley (Undated)

This paper from the Interactive Institute's Zero Game Studio is an attempt to quantify the nature of what gamers refer to as a "skill set" or "skill base" (or just "skills"), which is to say the motor and mental functions that must be practiced in order to play a particular game. It refers to this construct as a "gameplay gestalt" (gestalt meaning something that cannot merely be described as the sum of its parts, and therefore an almost certainly inaccurate term save for the parents of small children who are console games experts and really cannot understand how it all works). It also outlines the concept of a "narrative gestalt" as the mental functions necessary to comprehend and contribute to an ongoing interactive story. The assertion of the paper is that these two sets of mental functions interfere with each other, and that proper development of a narrative gestalt (referring to the development of an interactive story of appropriate thematic depth) depends on elimination of the gameplay gestalt. The paper then outlines a proposed game system which tries to avoid the inclusion of a gameplay gestalt to this end.

The chief problem with this notion is that the evidence for it is simply the lack of games which combine gameplay and narrative. The concept is sound – from a certain perspective, it seems to make intuitive sense that comprehension of narrative and comprehension of gameplay would be mutually exclusive. However, without specific evidence to back up the concept it is nothing more than that. In fact, there is evidence to the contrary in the form of games such as *Planescape: Torment*, which feature a strong and deep narrative as well as all the elements that the paper considers a disruptive gameplay gestalt. *Metal Gear Solid* (Konami, 2000) features an extremely labyrinthine plot involving the typical anime-style selection of old enemies brought back from the dead, family members the protagonist never realised he had, double-triple agents who turn traitor and redeem themselves, multiple love interests and a conspiracy of supposed friends. Whilst it may not be great literature, it does require an immense amount of concentration and effort to understand what is going on through a

multitude of long and short cutscenes. At the same time, *Metal Gear Solid* includes extremely challenging gameplay, requiring extensive practice and retries to complete. Interestingly, each sub-section of the game requires a brand new skill from the player, rather than just a slight improvement of the skills used in the last challenge. In Lindley's terms, *Metal Gear Solid* has an extremely complex narrative gestalt and an extremely complex gameplay gestalt. It is also one of the best-selling games released on the Sony PlayStation, the best selling games console, ever.

It is also not clear what neatly distinguishes a gameplay gestalt from a narrative gestalt. If we are assessing them in terms of cognitive load, then it is easy to consider that a certain gestalt might require more or less cognitive effort on the part of the player. What then distinguishes the effort requires to understand the narrative from the effort required to understand the gameplay? According to this theory, an overly complex narrative must be undesirable, and yet films like *Memento* and *The Usual Suspects* are very watchable, despite their elaborately complex plots. Likewise, a game with an extremely complicated control system to learn ought to be undesirable, and yet Flight Simulators (some of the most complex games available) continue to sell well, and the control systems for the latest round of popular consoles (X-Box, GameCube, PlayStation 2) have controllers that are far more complex than their predecessors.

An important part of the paper's argument is that it is the repetitive nature of developing a gameplay gestalt that interferes with the narrative gestalt. I would assert the opposite – that the repetitive nature of the gameplay leads to it becoming transparent to the player, and therefore less of a barrier to the narrative gestalt. The controls of a standard first-person shooter game do not differ much between games, and so the well-developed gameplay gestalt the player probably already possesses allows them to instantly immerse themselves in the world of the new game (the first-person perspective and controls being an excellent catalyst for this) with a minimum of additional load. Only through repetitive action can the manipulation of controls move from conscious thought processes to the automatic actions governed by the cerebellum.

The grandiosely titled "Purgatory Engine" sounds much more interesting, although it seems to be designed to circumvent a problem that doesn't exist, any engine specifically designed to cater to the development of dramatic, interactive narrative can only be a good thing. However, much of it seems quite petty: Their engine will avoid such traditional game staples as treasure and weaponry. Even ignoring the technical aspect that an engine does not handle high-level concepts like treasure and weaponry, but physics, graphics and interaction, there are already games that do this, such as *The Sims*, which manages to portray stereotypical American family life quite well without treasure and weaponry. This is a kind of elitism, and nothing to do with drama. Are they suggesting that Robert Louis Stevenson's *Treasure Island* and Kenneth Branagh's film version of *Hamlet* are not works of dramatic significance because they include chests full of gold and guns, respectively?

Worse, the design then goes on to outline the concept of a game without a gameplay gestalt, which is to say that the player does not need to memorise any controls or patterns of controls in order to play the game. Mysteriously it does not outline how

this is to be done, presumably because such a task is fundamentally impossible. In order for a real human being to control or influence the actions of a virtual avatar, and without the successful implementation of the mind/machine interface technology currently in experimental development, there must be a set of intermediary controls. These controls can be simple or complex, but they must exist. Even if we accept the (unsupported) assumption that learning the controls and developing the gameplay gestalt interferes with the comprehension of narrative, then the solution is to make the controls as intuitive as possible, something which ought to be a priority for every computer game, not to make a misguided attempt to do away with them completely.

2.3 Is It Possible to Build Dramatically Compelling Interactive Digital Entertainment? [6] **Selmer Bringsjord, 2001**

This is a strange article, from the Game Studies journal, in that its structures are careful, reasoned, scientifically accurate argument around an unstated and absurd premise, which is this: The only form of dramatic, interactive narrative is a freeform Agent-based approach, where the story is dynamically generated. It then goes on to demonstrate that this is an extremely difficult, perhaps unsolvable problem, and therefore states with regret that the problem (of creating interactive entertainment which is dramatically compelling) is impossible.

At the end Bringsjord poses a solution to the problem created, by amending the assumption:

“Dramatically compelling interactive digital entertainment requires the presence in such entertainment of virtual persons, and therefore requires the presence of autonomous virtual characters.”

To:

“Dramatically compelling interactive digital entertainment requires the presence in such entertainment of seemingly autonomous virtual characters.”

And yet still there is a problematic and unexplained “autonomous” here, based on the assumption that it will not be compelling drama without real people. He cites cinema as an example of compelling drama, and yet the characters in a film are not autonomous – not even seemingly so. The audience well knows that the characters make no decisions of their own, but rather to the furtherance of the plot, dancing on the scriptwriter’s demand. That, in a good film, characters still act in accordance with their natures speaks more for the careful arrangement of their natures to the correct ends than any consideration for them as autonomous individuals.

A possible argument that could support this assumption goes as follows: in order to suspend disbelief and achieve immersion (something which is important to compelling drama), it is important that nothing disturb the audience/player’s reverie. Bizarre and unlikely behaviour from the characters will make such a disturbance. This is not a problem in a film, because with fixed behaviour it can be ensured (with a good writer, director and actors) that such lapses do not occur. With an interactive

world such control is not possible, and the player may take actions for which the virtual characters are not prepared, leading to a disturbance as they react unpredictably and presumably unrealistically.

This argument does not really hold up, though, simply because if we reject anything that might disturb immersion as being un compelling, we have to reject every media we have. Page-turning can disturb immersion, popcorn-crunching can disturb immersion. With all such disturbances people simply learn to cope. There are reports of players of *Thief: the Dark Project* (Looking Glass Studios, 1998) who were so disturbed by the unrealistic behaviour of the guard characters searching for them that they stopped playing. There are more reports of players who witnessed such behaviour and either didn't notice it as unusual or were unaffected by it.

2.4 Games Telling Stories? [7]

Jesper Juul, 2001

An investigation of the question “are games or are games not a form of narrative”, this article helpfully summates itself in a single paragraph:

“I would like to repeat that I believe that: 1) The player can tell stories of a game session. 2) Many computer games contain narrative elements, and in many cases the player may play to see a cut-scene or realise a narrative sequence. 3) Games and narratives share some structural traits. Nevertheless, my point is that: 1) Games and stories actually do not translate to each other in the way that novels and movies do. 2) There is an inherent conflict between the now of the interaction and the past or "prior" of the narrative. You can't have narration and interactivity at the same time; there is no such thing as a continuously interactive story. 3) The relations between reader/story and player/game are completely different - the player inhabits a twilight zone where he/she is both an empirical subject outside the game and undertakes a role inside the game.”

The conclusion therefore seems to be that games are not narrative, but that they are like narrative. The article appears to exist primarily as a specific counter to another theory that everything is narrative, and doesn't produce much that is generally useful outside of a refutation of that theory.

An interesting assertion is made concerning time in games compared with time in narratives, from a theoretical observational standpoint. The events in films, plays and books are generally presented as having happened at some point in the past – even if set in the future. What we are watching or reading is a transcript of some event or events, which may even be explicitly stated, as in the traditional “Once upon a time, these events transpired...” style. Fundamentally, time in games does not work like this, as the events take place right now, at the stage where the player (and by extension the player's avatar) does something. That this constitutes an absolute distinction between games and narrative is not clear, however. Certainly it is possible to tell stories from the second person, and in the present tense. Likewise, *Sacrifice* (Shiny, 2000) makes it clear at the beginning of the game that the events being portrayed in the game are a flashback, and so even if the player makes decisions in the now, it is not clear where the philosophical division of time lies.

2.5 Hamlet on the Holodeck (The Future of Narrative In Cyberspace)

[1]

Janet Murray, 1997

Already cited in the Introduction, this book has such a lot to say on the subject on the subjects of drama and interactive narrative that it is worth a closer look. *Hamlet on the Holodeck* is intended as a literary examination of the possibilities for the development of narrative as a medium as it moves into a computer-based world, and for the most part this is an examination of interactive narrative.

As stated earlier, it makes the interesting point that interactive narrative is actually a very old art form, dating back at least as far as Homer. The Greek epic-writer was apparently not the great poet that was always assumed, but instead a bard who composed his stories in reaction to the audience he was performing for, using a collection of rules, principles and rhyming structures to maintain the sense of a coherent poetic epic. The same principle is alive today on the theatre stage, where the actors subtly (or overtly) alter their performance night by night to react to the audience – but (with the exception of one extremely dubious play by Jeffrey Archer, they do not actually alter the outcome of the story in the way an ancient bard might have.

As well as providing a lengthy and informative summary of all of the various forms of narrative which may or have already found themselves a home in the digital world, the book outlines a theory concerning what it describes as the three defining characteristics of the digital environment – immersion, agency and transformation. Although a useful examination of the issues, the assertion that these characteristics are what distinguish the digital medium from others is not very well supported. In particular, the argument comes very much from a literary viewpoint (as you would expect given the author's background).

Immersion in Murray's terms is, more or less, the quality of escapism offered by entertainment, that which enables you to not only enter the fictional world presented, but actually forget that the real world still exists out there. The specific assertion here is that digital media are more capable of any other of immersion. Though this is supported only anecdotally, the examples demonstrate that a digital medium is capable of powerful immersion, but this does not mean that it is a defining characteristic. In fact, as examples are given throughout the book of the powerful immersive capabilities of book and film, it is not clear that the digital media offers anything revolutionary in this regard. Certainly, digital special effects of today look more realistic than plasticene special effects, but do they wow the audience more? Certainly the haunted corridors of *Thief*, *the Dark Project* are visually and aurally impressive, and certainly immersive, but are they, categorically speaking, *more* immersive than, say the novel *Harry Potter and the Chamber of Secrets*? This is a rather difficult assertion to demonstrate, and Murray does not attempt to do so.

Agency (mentioned earlier) is the quality of interactivity, but more than that, being able to interact and see the results. Although of great relevance to interactive narrative, it is not at all clear that it is a defining characteristics of digital media in general – and

here lies an important distinction between digital media and interactive digital media. Although the two are often seen as the same thing, they are not, and this is something that the book sometimes seems to forget in its attempt to be as comprehensive as possible.

Transformation is the most confusing of the three features. It appears primarily to be a celebration of the presentational capabilities of the computer, with some musings about the way it is easy to change between viewpoints. An example is given of a play (or rather set of three plays), *The Norman Conquests*, which shows the same night's events from the three different rooms of the house, with the action in the other two rooms hidden from the audience of that particular play. This is a similar idea to the viewpoint shifts in *Resident Evil 2* (Capcom, 1998) where you play through the game twice, once from the point of view of each of two different characters. Other similar examples of changes in viewpoint and presentation are given, mostly from non-digital media. Whilst they are intriguing, it is not very well demonstrated that transformation is a defining characteristic of the digital medium, particularly as most of the examples given to demonstrate what Transformation actually is do not take place in a digital system. It seems from the arguments given that Transformation is the viewpoint-shifting aspects of Immersion combined with the "I can alter my world" of Agency, allowing you to not only be someone else, but to act as if you were someone else. This is not unique to the digital world, and although it is easy to reason about ways in which the digital world facilitates this process, it is not readily apparent that it is either ideal for doing so or that doing so is the best of its capabilities.

In short these three characteristics read more like a list of three things that can be done with the digital medium if you want to, rather than a meaningful breakdown of what constitutes the medium. With that said, the exploration of each of the characteristics is excellent, and Immersion and Agency in particular are very relevant to the study of interactive narrative.

Hamlet on the Holodeck does make a number of outright dismissals in its examination of the medium. It takes only a cursory examination of computer games (with the exception of MUDs – multi-user dungeons, a kind of computer game where a large number of players all play the same game at once, communicating solely through their computers), seemingly viewing them as currently not mature enough to warrant much attention. It does make mention of the immersive qualities of more esoteric control systems such as the light gun - pointing a light gun at a screen filled with virtual bad guys being more realistically plausible than using a joystick or keyboard to steer around a little crosshair. To be fair, there were precious few computer games in circulation by the publishing date that escaped this criteria, but they did exist (for example, *System Shock* (Looking Glass Studios, 1994)), and Murray evidently had not played them. There is an unstated but very clear assumption that serious literature – which she apparently hopes will develop from today's fumbling attempts at interactive narrative – is a more worthy goal, medium and art form than mere games.

Additionally, the book entirely dismisses conventional pen-and-paper roleplaying games (such as *Dungeons & Dragons*) in a paragraph. The argument is that a digital environment (the example given is *Zork*) removes all of the real-world distractions associated with traditional gaming.

“The dungeon itself has an objective reality that is much more concrete than, for instance, the jail on the Monopoly board or a dungeon in a tabletop game of Dungeons & Dragons – or even a dungeon in a live-action roleplaying game – because the words on the screen are as transparent as a book. That is, the player is not looking at a game board and game pieces or at a Dungeons & Dragons game master who is also in his or her algebra class or at a college classroom or campsite in the real world. The computer screen is displaying a story that is also a place. The slamming of a dungeon door behind you (whether the dungeon is described by words or images) is a moment of experiential drama that is only possible in a digital environment.”

As with any artistic medium, immersion is dependent on both the skill of the artist, and the willingness of the audience to participate. Monopoly is not intended to be an immersive experience, and nor are most Dungeons & Dragons games. There are board games and pen-and-paper roleplaying games that are intended to be so, and succeed as admirably as Zork does. The assertion seems to be that the new, digital way of doing it is better simply because it is.

3 Design

3.1 Abstract Concept

To recap, the problem we have established is as follows. Games as they are becoming more sophisticated are expanding in two directions:

- 1) They are attempting to tell compelling, dramatic stories
- 2) They are allowing the player more freedom

It is well-known that these two directions pull against each other. The problem in question is how to improve each without sacrificing the other.

A solution is available in an extension of the “illusion of freedom” technique examined earlier. In this technique, a single path or small number of paths is manipulated to appear to the player as if it provided a wider degree of choice. Usually this illusion of freedom is maintained to combine an enhanced degree of interactivity, without the additional (and usually prohibitive) development costs of making something truly open and freeform. This illusion can be used in a different way, however, to maintain the dramatic structure of the plot whilst making it appear that the player has caused that structure to arise through their actions. This simple concept has a wide range of possibilities for implementation. The one I am concentrating on to demonstrate it is the concept of distinct role and identity.

As we know, characters are crucial to a compelling story. A character has two crucial aspects when it comes to a story – their identity and their role. Although they overlap, with care they can be separated. For example, take a typical movie character – the American border policeman who stops the protagonists from crossing. This character has a clear role – he or she has to be antagonistic or uncooperative in order for the scene to actually present a barrier to the protagonist’s efforts. The cop’s identity, however, is independent of this, and may even depend on the identity of the protagonists. If the protagonists are young black artists, then a stereotypical, racist Southern cop has an identity to fit the role. If the protagonist is a scatty lawyer in a hurry, then a first-day-on-the-job, by-the-book officer works just as well.

In fact, we can further abstract the role merely to a person (or event, but since we are dealing with “strong character” in an attempt to make our plot compelling we should stick with people) who blocks their progress across the border. The role then becomes easily recognisable as a “minor antagonist”. There are a potentially infinite number of identities which could be used to fill in that role, and a good scriptwriter or author will select an identity which is appropriate to or adds something to the story.

Like films, computer games fix the twin aspects of role and identity to their characters in advance – the evil warlord Rex is sadistic and cruel, ten feet high and loves pottery. Unlike films, non-linear computer games are forced to present their characters in the order in which the player chooses to, or randomly happens to, encounter them, rather than in a strict order that conforms to and adds to the plot.

Take a simple example: a game about smuggling contraband between American states (recently a popular topic for films). In this game the crucial enemies are the border

guards, and your task is to get past them in order to trade your lucrative goods. If we decide, rather than making them faceless officers of the law, to give the various border guards personality characteristics, then we are forced to alter their behaviour to put this personality across to the player. We could write clever AI routines which match the likes and dislikes of the officer to the appearance of the player's avatar and his vehicle. Now we have a highly "realistic" model of when the player ought to get stopped by the border patrols. Unfortunately, there is no room in this model for drama – it doesn't matter how far through the game the player is, or how crucial to their livelihood the load they're transporting is – the player will be stopped or not stopped based on the personality of the officer.

This is not what we want if we are managing the dramatic quality of the story that the player experiences – we want to be able to let them through unmolested when the story needs a peaceful moment, and stop them whenever we want conflict. An answer to this problem, then, is to distinguish the identity of the officers from their roles, and assign their roles to them dynamically as the story proceeds. A character then, behaves in a way dictated by their role (stopping or not stopping the player's progress, for example), but appears as a person dictated by their identity. The racist border officer effectively refers to the plot rather than to his internal programming to decide whether to stop the player – if he does, then his racism may form the rationale for the delay, and if he does not then a separate rationale can be created to accommodate it (perhaps he is asleep).

We now have the ability to apply, for example, an Aristotelean Three-Act plot structure to our game. Although this can be done in linear games, we now have the ability to provide a Three-Act structure in a freeform game, which maintains that structure regardless of the player's actions. Even with a freeform game, we could maintain a vague Three-Act structure by supplying the player with additional objectives and information, but now we can change the behaviour of characters in the world to build tension up appropriately. For example, if the player is en route to some kind of final confrontation with a mob boss, we don't want the pace to be slowed down by a long, delayed search at a border.

This role-and-identity system can be applied to any story where the part a character plays in the story isn't necessarily dependent on who the character is. Some simple examples include a murder mystery, where the role of "villain" does not need to be determined in advance; a romantic comedy, where the roles of "perfect match" and "unsuitable rival" are often obscured to the protagonist until the end of the story; any heroic quest story (whether of the fantasy genre or not) where some key character is the mentor and advisor to the protagonist, and some other turns out to be their opponent. Any of these stories could be made "more interactive" using this system and yet still retain the element of plot structure necessary to make compelling drama.

In terms of drama and consistency (remember that drama is dependent on consistency as much as on tension), it may appear that we have now eliminated consistency – how can there be no consistency when the villain has not been determined in advance? The answer is that whatever part of the system assigns roles and identities is responsible for giving the appearance of consistency to the player. Using this "top-down" approach to consistency, where the world can be completely rewritten to take into

account the needs of the story, we can mirror the process of dramatic writing undertaken by an author or scriptwriter.

What we need now is some way to describe when the behaviour of a character changes – when the sleeping officer wakes up, or goes back to sleep again. When an uncooperative character becomes a cooperative character, or the villain chooses to reveal themselves. The Three-Act structure is a very high level example of one way – we could finely describe the sequence of events that we want to occur to the player and on what circumstances we want to move to the next event. A plot can, at a certain level of abstraction, be broken down into a number of “plot stages” – scenes of a certain emotional tone which are arranged in order. These plot stages may have some critical function to perform in the revelation of the plot, or they may simply be inserted to maintain a particular mood for the audience or player. For example, at the beginning of all James Bond films (and most other action films), there is a punchy action sequence which serves to get the audience in the right frame of mind for the film, and often to establish the protagonist’s personality as a reckless but skilled hero. However, very rarely does anything happen that has any connection to the overall plot of the film.

As an example, here is a potential sequence of plot stages for an action film in the style of James Bond. Tone is the emotional mood of the scene, and plot is anything that takes place during the scene relevant to the overall story.

Tone	Plot
Action	Establish protagonist character
Humour	Introduce supporting characters
Serious	Explain world-threatening problem
Horror	Introduce villain
Action	Fight with villain’s henchman
Romance	Meet love interest
Action	Fight with villain’s guards
Action	Fight with villain
Action	Stop villain’s evil plot
Humour	Denouement

And the same thing for a murder mystery of the action variety where the killer makes a break for it rather than going quietly to jail:

Tone	Plot
Peace	Establish victim’s character
Shock	Discover/witness murder
Humour	Investigator arrives
Tension	Investigator finds red herring
Tension	Investigator reveals true killer
Action	Killer makes a break for it and is caught/killed
Humour	Life returns to normal

Obviously these are very simplified examples, but a plot of any length could be broken down and analysed in this way. The exact process of choosing the order (and

strict definition) of these moods is a separate subject entirely, and one which is examinable in terms of conventional, linear drama.

In a film, the tone of a plot stage can be made explicit with sound and cinematography. Music in particular can communicate the intended tone of a scene superbly, and isn't dependent on techniques which do not translate well to the computer game, like camera angles and clever dialogue techniques. Theoretically, and with the right techniques, any level of sophistication in the expression of mood could be achieved, such as altering the dialogue to be faster or slower paced.

There is also no pre-defined system for governing when a transition from one plot stage to another occurs. In film, they naturally progress over time, but the time distinctions also correspond to the actions of the protagonist. In a game these two are not necessarily linked – the player may dawdle along in some peaceful location. Whether the transitions should occur at fixed time period, or be linked in some way to the player's actions is a researchable question in its own right. It is possible to imagine circumstances under which either system would be appropriate.

3.2 High-Level Programming Structures

Here I will outline a high-level structure for implementation of this concept, regardless of platform. This system could easily be implemented in a text-only "adventure game" environment, or added as a so-called AI technique (in the sense used when referring to computer games) to just about any game which deals with characters. Most computer game platforms (as in, the programming infrastructure of the game in question rather than the physical hardware) support advanced programming capabilities and so it is reasonable to give a specification in standard computing terms. The specification is very much in the style of a system that could be added to an existing game system rather than a complete game system in and of itself. Therefore details such as how the world is stored and how the player interacts with the objects and characters in the world are not specified.

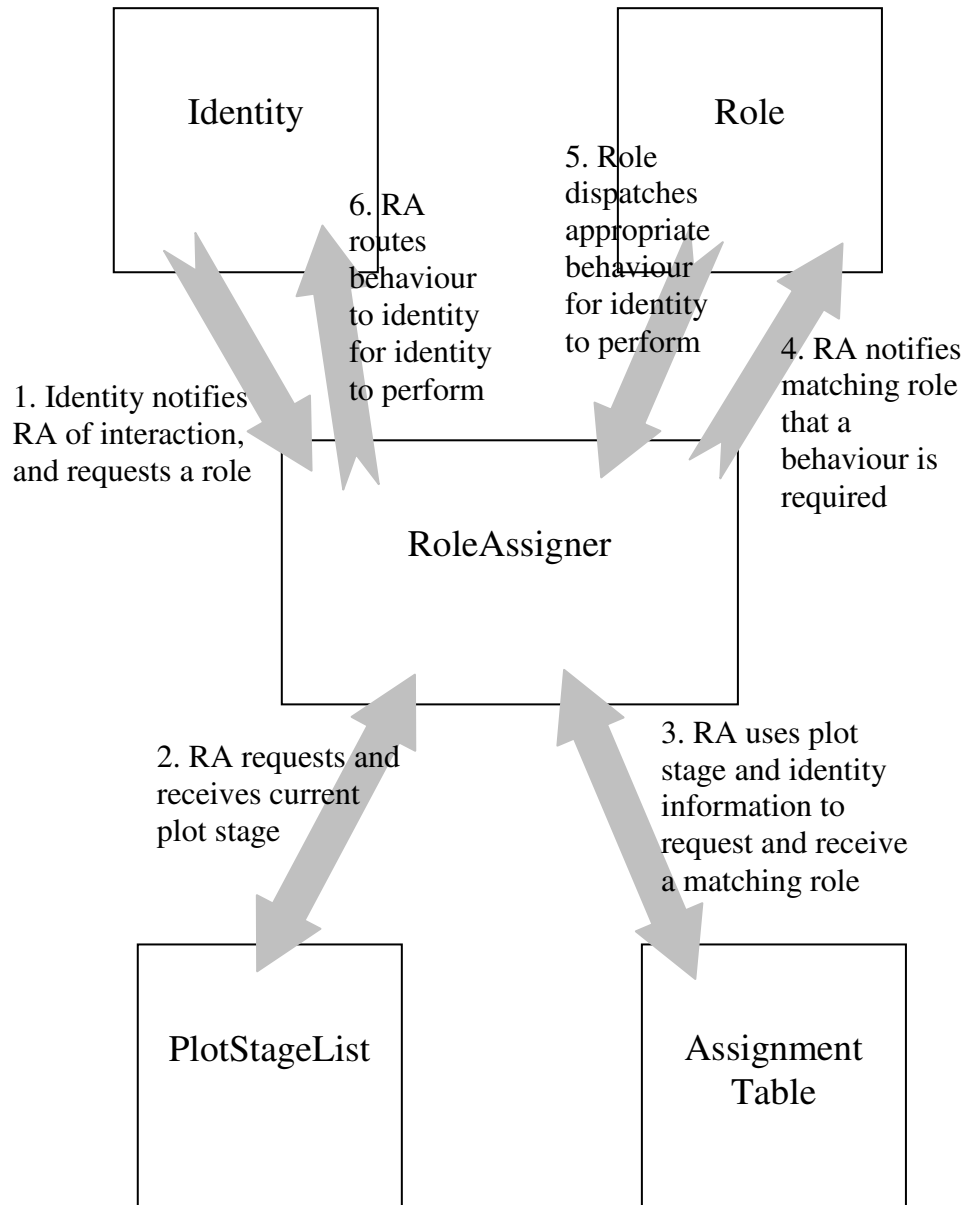
It is clear that from a programming perspective, the important aspects of this concept are the structures that store the role and identity data, the role assigner (which has remained entirely conceptual until this point) and the system of plot stages. If we consider a character to be sufficiently defined by their identity and their role, then this is all we need to store for each of them.

It is convenient, regardless of implementation, to think of these think in an object-orientated structure. Role and Identity are classes, and each such role and identity in the game is an object of that class. According to the strict design, the Identity class must support the demands of the Role class, and not vice versa (the role is of importance to the story, the identity is only of importance to the player, in the way we have described it). The Identity, however, is the part of the character that the player will be interacting with (however this interaction takes place within the game structure – in some games it will involve clicking on them, in others going near them, or killing them, or some other method). Therefore, the Identity needs to be able to call the Role object so that it can tell it what to do. The Identity and Role classes are generic data classes.

Class Diagram

Showing a typical function call sequence, initiated when an Identity object is interacted with, in numerical order.

RA = Role Assigner



The Role Assigner does not fit quite so well into the object-orientated style. There is only a single Role Assigner object in each class, and it is likely that implementation-specific changes will be made both across varying platforms and across varying stories. Nevertheless, it is possible to formally specify what the Role Assigner's methods and data are. The Role Assigner object is called by Identity objects whenever the player tries to interact with them. The Role Assigner then consults the plot stage data to find out what Role this Identity should now play, and assigns them to each other. The Role then supplies to the Identity the information it needs to communicate back to the player, and the Identity may filter, parse or process that information in an appropriate way.

The Plot Stage List is both simple and complex – each plot stage comprises a tone (which are just descriptive terms used by the role assigner to determine the style of the world at that time) but also the information about what happens during the plot. It is highly unlikely that this data can be stored in a convenient list form such as in the examples above – it is possible to conceive of a program which could spontaneously generate plot from such simple precepts, but that is not the focus of this project. As such, it is likely that this plot data will need to be held within the roles themselves, and the role assigner uses the current plot stage value to select roles appropriate to the plot stage.

We therefore need an additional structure to store a lookup table that the role assigner can use to determine which roles should be used during each plot stage, and under what circumstances. This Assignment Table would best be represented as a series of heuristics, at whatever level of sophistication is required. An extremely simple implementation would assign a specific role to each specific identity at each plot stage. A more sophisticated one (taking advantage of the point of the system) assigns roles freely according to the order of the player interaction, but this is highly implementation-specific and impossible to illustrate without examples. Using the earlier example of the smuggling game, the heuristic for the “player has to make it to New York, regardless of where they currently are” stage might say that all border guards are to give them an easy time (a Cooperative role, perhaps), except for the guard at the New York state boundary, who is to be assigned the Extremely Antagonistic role. The Assignment Table therefore takes the form of a single class which the Role Assigner feeds the current plot stage and who the player is interacting with (their Identity) to, and it returns the appropriate Role.

Class specifications:

(Note that much of what is specified in the classes is highly implementation-specific. We know that we need to store it, but we don't necessarily know quite what it is we're storing. Such data is listed as being of arbitrary type, and explained below.)

Identity class

Data:

Appearance appearance

Methods:

void Interact (optional Enumeration interaction)

void PostRole (Behaviour behaviour)

void Behave (Behaviour behaviour)

Appearance is highly implementation-specific. In some games it might be a textual description. In others it might be a simple sprite graphics, or a 3D model complete with animations. In any case, it describes how the player perceives the character in a non-behavioural fashion, their species, skin colour, etc. According to a strict interpretation of this theory, the player should not be able to access this information at all, because looking at something is interacting with it. In practice, it is highly likely that we will want some characteristics of the character to remain constant, and in the case of appearance it is technically infeasible to alter it substantially in real-time in many possible platforms.

Interact is a method which the player invokes. Again, the way in which they do this are dependent on the surrounding game structure. In some games, you explicitly invoke a character by clicking the mouse pointer on them. In other games, characters effectively watch and wait, and are automatically invoked when their virtual situation tells them that they have encountered something. Normally, this “Interact” method would then determine what the character should do. In this case, it calls the Role Assigner to find a role which will tell it how to behave. In a very complex system, characters could call Interactions on other characters. This concept is not examined further here.

PostRole is called by the assigned Role object via the Role Assigner. The argument is the behaviour to perform, which once again is highly implementation specified. It may be a piece of dialogue to display to the player, or it may be an action to carry out such as attacking, running away or playing an emotive animation. PostRole immediately calls Behave within the same object. Note that PostRole is named as such simply to avoid confusion with the similar PostBehaviour found in the Role Assigner class.

Behave is a generic method which has any input from PostRole assigned to it. If necessary or possible in the implementation, it filters this basic behaviour in such a way as to make it compatible with its appearance. For example, dialogue which is role-centric could be altered to be in accordance with the character’s apparent cultural origin whilst still communicating the same information and intent.

The identity class needs to call RequestRole is a Role Assigner method, and called under Interact. It tells the Role Assigner who is calling, and also what kind of interaction the player tried to perform if more than one is available (for example, “the player tried to talk to me” or “the player tried to attack me”). Note that RequestRole is named as such simply to avoid confusion with the similar RequestBehaviour found in the Role class.

Note that the Identity object does not ever store the role that has been assigned to it – each time an action is performed it must ask for a new role, in case a new role is necessary. The Identity object does not have the necessary information to make that decision itself.

Role Class*Data:*

Behaviour[][] behaviours

Methods:

void RequestBehaviour (Identity fromidentity, Integer plotstage, optional Enumeration interaction)

Behaviour is listed as an array, but could be any simple data structure which allows multiple conceptual behaviour objects to be stored. This structure is plot- rather than platform-specific. One behaviour object needs to be stored for each possible plot-stage and interaction combination, hence a two-dimensional structure is natural. If the number of interactions is singular or small, then it might be more appropriate to store the behaviours as one or more one-dimensional structures. Since we are always going to be looking for a specific behaviour rather than processing the data sequentially, some kind of random access structure such as a hash table would be preferable (in the case of two dimensions, a hash table of hash tables).

RequestBehaviour is called by the Role Assigner on behalf of one of the Identity objects. The Role Assigner sends the Identity in question (used to make sure that the behaviour gets back to the right Identity later), the plot stage we are on, and the interaction being performed if the system supports multiple interactions. This prompts the conceptually simple action of looking up the appropriate behaviour in the behaviour data, and sending it back to the Role Assigner with PostBehaviour.

The role class needs to call PostBehaviour, which is called from the Role Assigner, not the Identity directly, in case the Role Assigner wishes to interfere with the behaviour in some way. This takes the form of a simple dispatch, with the behaviour being bundled with the Identity that it is intended for so the Role Assigner routes it to the correct place.

RoleAssigner Class*Data:*

Identity[] identities

PlotStageList stagelist

AssignmentTable assignmenttable

Methods:

void RequestRole (Identity fromidentity, optional Enumeration interaction)

void PostBehaviour (Identity toidentity, Behaviour behaviour)

Regardless of the rest of the implementation, the Role Assigner class needs to have pointers to the complete set of Identities. In an object-orientated system, this is most easily achieved by including that data in a list-like structure within the Role Assigner. Any structure which allows for direct access to specifically-addressed entries would be suitable for this. If the Identities are indexed numerically, a simple array will suffice, otherwise a hash table can be used for more complex data. In practice it may be that the Identity data has to be stored “outside” of the Role Assigner, in which case it simply needs to include a pointer to where they are stored, or to the structure that includes them. Pointers to the singular Plot Stage List and Assignment Table are

uncomplicated. Note that the Role Assigner does not include the Role data – in an object-orientated system, this is most logically stored in the Assignment Table.

RequestRole is called by an Identity object, explaining who it is and what interaction has taken place. The Role Assigner gets the appropriate stage with GetStage, and then uses that information and the supplied Identity to call GetRole. With the Role object it receives from the Assignment Table, it calls RequestBehaviour.

PostBehaviour is called by a Role object, which is returning an appropriate behaviour. The Role Assigner now has the opportunity to interfere with this behaviour, and then returns the behaviour data to the Identity that originally requested it with PostRole.

The Role Assigner makes the following function calls to other classes:

RequestBehaviour and PostRole have already been explained. Note that those functions which are called by or call the Identity object are phrased in terms of roles, and those called by or which call the Role object are phrased in terms of Behaviour. This is to avoid duplicate function names.

Although this Request and Post coupling may seem cumbersome compared with simple function value returns, it is a conceptual distinction and seems more appropriate in a system where entities are threaded or semi-autonomous (as is the case in many games). As always, this is an implementation-specific matter and easily altered for the platform.

GetStage is called from the Plot Stage List, and simply returns the current numerical value of the plot stage we have reached.

GetTone assumes an enumeration of the possible tones that the Plot Stage List records, and that the Role Assigner knows what to do with, exists. It is expected that any instance of GetTone will be followed by some kind of behaviour in accordance with that tone, such as changing the music if the tone has changed.

SetStage updates the current plot stage variable stored by the Plot Stage List. Normally this will simply be an increment of one, but it is conceivable that a plot might want to move between stages in a non-sequential fashion for some experimental purpose. SetStage needs to have a predefined error value to return in case the Role Assigner tries to update it to some value that doesn't exist in the plot. Depending on the specifics of the plot, some immediate action may have to be taken at certain stages – for example a character may be made to appear and impart information to the player when they have reached a certain point. This would normally be taken at the same time as when SetStage is called to update the counter.

GetRole is called from the Assignment Table object, and asks for the Role object which corresponds to the appropriate plot stage and Identity.

Note that the details of when the Role Assigner might call GetTone and use that information, and when it calls SetStage are impossible to specify without knowing the specific details of the plot in question.

PlotStageList class*Data:*

Integer stage

Integer maxstage

Enumeration[] tones

Methods:

Integer GetStage ()

Enumeration GetTone (Integer stage)

void SetStage (Integer stage)

The Plot Stage List is responsible for storing the current plot stage we have reached, as well as the tone which corresponds to each plot stage (stored as an Enumeration of some kind). The maxstage variable records the highest plot stage possible, so that SetStage can return an error value if it is exceeded.

The Plot Stage Lists three simple functions are defined and explained in the Role Assigner class.

AssignmentTable class*Data:*

Role[] roles

Methods:

Role GetRole (Integer stage, Identity identity)

The Assignment Table is responsible for keeping track of all the Roles. In an object-orientated system this is most easily and logically represented by having the Roles organised as data within the table. As with Identities, any data structure which provides random access would be suitable, such as a hash table. Although potentially addressed by two variables (plot stage and identity), the Roles are not always determined in this way.

The GetRole function returns the appropriate Role for a given plot stage and identity. It may be that a certain plot stage and identity does not have a single, predetermined role assigned to it, and that heuristics must be applied to determine the appropriate role. In this case, the heuristics are within the GetRole function. A simple example would be a large if...else...else... structure which determines the correct role or potential range of roles for each identity.

3.3 Specific Implementation

In order to illustrate the system in action, and produce something which can be evaluated by users, I needed to eliminate all of the sections in the high-level design which are “highly implementation-specific” by actually producing a game which uses the system to control its plot in some way. As mentioned previously, what the project involves is a specific approach to the specific problem of how characters in the game world behave. It is not anything to do with the actual development of an overall game system, and as such the game aspect serves only as a framework for the approach to demonstrate itself. It was desirable to spend time and effort on the implementation of the approach rather than the game.

I therefore looked at a variety of possible platforms to implement the approach in. An examination of the advantages and disadvantages of each is useful from the perspective of any research which aims to implement a specific feature but is not concerned about the surrounding framework.

Writing a game from scratch

This is a solution with a wide range of other potential solutions within it. You are free to implement any form of game interface ever devised, each with its own strengths and weaknesses. The obvious advantage of this solution as a whole is that you can determine everything yourself, and there are no external restrictions imposed upon your implementation. The obvious disadvantage is that implementing your own game engine or interface is an enormous amount of work, none of which is focused on the features you are illustrating, and the results are, unless you are a specialist in the area, likely to be inferior to game engines that are publicly available for use. For this reason, I avoided this solution.

“Modding” for an existing game engine

First-person shooter games since Doom have maintained a healthy tradition of opening the game’s code to the players and letting them alter it. This resulted in the modern “mod” (which is short for modification) community, groups or individuals who produce both small-scale (such as a minor change to the way the weapons in the game work) and large-scale (such as completely replacing everything in the game) projects for free. Half-Life, the Unreal series and the Quake series are all well-known games with large modding communities. The advantage of these large communities is that they are well-supported. Although no company is willing to “officially” support mods for their game (such as provided technical assistance when it goes wrong), the larger communities tend to attract players whose abilities and knowledge of the game’s workings rival that of the developers themselves.

The advantage of taking a mod-style approach to an implementation is that you can work with a modern engine, capable of impressive graphics and the other interface issues which are the domain of the game engine. If you use a popular, well-regarded engine then you will be working with a programming platform which is “tried and tested” by a number of mod veterans who should provide assistance in case of technical difficulties. Using an existing game engine leaves you free to concentrate on the features to be illustrated.

There are however a number of disadvantages. One that many mod-builders would empathise with is that the development tools used for modding are those provided by the developers (Half-Life uses a program called WorldCraft, Unreal uses UnrealEd). These are used and developed in-house, and then released to the public usually with little alteration and less documentation. Although the documentation part has been largely resolved by the large communities for the popular engines, the development tools leave a lot to be desired. They can be frustrating and illogical to work with, lacking helpful features like Tooltips and Undo, and crashing on a regular basis.

Although dev tools for more modern engines are becoming more reliable and user-friendly in this respect, it is still a problem.

Another disadvantage, the significance of which very much depends upon the situation, is that anyone who wants to play or test your implementation needs to own a copy of the game. As well as the simple cost of buying one, modern FPS games tend to have prodigious system requirements (Unreal 2 asks for a minimum 733 Mhz processor, and a recommended 1.2 Ghz, along with an expensive modern graphics card).

Finally, a game engine does not actually include a game. The tools are there for you to create an environment and populate it with interesting characters, but that again is a lot of work. Characters that do not simply share the appearance of one of the characters from the original game (which are generally armed combatants or monsters of some kind) must be modelled and animated in an application such as 3DS MAX. Unless the desired environment is physically identical to one from the game, this must again be constructed from scratch. In the case of this project, I wanted to concentrate on a game which wasn't in the stereotypical science fiction style that all of the dominant game engines work with.

Neverwinter Nights

An interesting solution to the last problem with using an existing engine arose last year when Bioware released the game *Neverwinter Nights* (NWN). NWN was intended not to be a stand-alone game as such, but to provide the purchaser with the ability to create and play small games (modules, or "mods" for short, easily confused with mods for other games) in the tradition of the adventure supplements that used to be published for *Dungeons & Dragons*, the roleplaying game. This system takes the form of development tools much like those provided for modding other games, but in this case Bioware had as a design goal that the tools should be usable by people straight out of the box, rather than having to put in the hours of research and effort necessary to mod with other games. The dev tools are the product as much as the game, and therefore officially supported, whereas with other games the dev tools are an extra freebie.

Of particular interest is the simplicity with which visually appealing environments and characters can be created. Although this may seem like a shallow concern, research involving drama by necessity includes getting involved with issues like immersion. Immersion is at least partially dependent on the visual realism of the virtual world – it is certainly easier to imagine a highly-detailed forest, complete with falling leaves, than it is a blocky grey landscape with a couple of 2D tree sprites. NWN uses a "tile" approach previously seen in the dev tools that came with the game *Starcraft*. Tiles corresponding to different terrain – trees, grass, roads, buildings and so on – are painted down using a giant cursor, and they automatically blend together to make a coherent environment. Assuming that a tile exists for what you want to portray, you can lay down a simple environment in a few minutes, or a complex environment with lighting and small, customised objects in an hour or two. This compares very favourably with the days or weeks it takes to make a pleasing environment in conventional dev tools where everything has to be made from simple geometric

shapes – organic environments such as forests are particularly hard, which is probably why so many of those games take place aboard spaceships or in secret bases. The toolset includes a plethora of sound effects, and an assortment of fantasy-themed music. Unlike almost all game dev tools, it includes a conversation editor, which makes a game which was originally focused on fighting monsters an ideal environment for dialogue-based games.

There are unfortunately a few drawbacks to using NWN, but I found that these were minor or correctable enough to make it the best choice for implementation of this project. Firstly, although it includes a full scripting language (NWScript), NWN is a less sophisticated programming environment than, for example, Unreal. NWScript is not object-orientated, and relies exclusively on limited data access methods to view and change the state of the world. This wouldn't be a problem, except that the data access methods are mysteriously incomplete in places. It is impossible, for example, to spontaneously change the name of a particular character during play, or to set the weather to be stormy (which is one of the available weather patterns, it just can't be initiated using the same method that makes it rain or snow). As long as the sometimes slightly bizarre limitations are understood, this problem is outweighed by the ease of use factor.

Secondly, the game was designed to portray the generic, Tolkienesque fantasy world that Dungeons & Dragons traditionally takes place in. Although it can theoretically be used for other environments, the work involved to create the tiles and character models necessary would actually amount to more work than creating them with a different game engine, therefore eliminating the primary reason to use NWN in the first place. The fantasy world easily encompasses a medieval setting, and since any story genre can be placed in the medieval period this is not a major problem from a research perspective.

Thirdly, NWN uses a “point-and-click” interface, where a top-down view of the world shows the protagonist's avatar in the centre of the screen. Clicking on the ground moves the avatar to that point, clicking on an object (such as another character) initiates an appropriate action with that object, such as talking to them. Whilst this is in no way a problem, the level of control available to the module builder does not allow this system to be overridden. There is a user-made modification to the game (the “camera hack”) which changes the viewpoint to be first-person, but it would take very heavily involved decompiling and hacking to change the control system. By contrast, mod teams have successfully altered both the Unreal engine and Half-Life engine's default first-person mode to a top-down, strategic viewpoint. This expands into a more general limitation of NWN, that the limited scripting language is the only way to alter the game. This is not a limitation as long as the planned game is accommodated by the default NWN interface.

Finally, unlike most other moddable games, NWN does not allow you to override the executable which starts the game in order to load the mod by default with a separate icon. Although this may seem like a trivial concern, NWN by default allows the player to choose any module, and to play that module with a wide selection of different avatars with different names. Under some testing circumstances, this could be disadvantageous, and could require detailed instructions for play, or even

supervision. For example, in the case of testing with children it is not possible to supply them with a copy of the game which does not allow them to play the default NWN game.

3.4 Implementation in Neverwinter Nights

I will not outline in detail the process of building a Neverwinter Nights module – instead, I will discuss the specific details of the implementation of the approach I created, and any alterations that had to be made to make the high-level design in section 3.2 fit working with NWN.

The objective of the implementation is to put the theory into practice and actually test it, rather than just having an approach to discuss. As such, I decided to try and implement as many different aspects of the approach as possible – as many ways of loosening the reality of the world in favour of reacting to the player’s actions as I could.

With the proviso that any Neverwinter Nights module had to be set in a medieval or fantasy world, I decided to make a medieval murder mystery – the murder mystery had been a recurring plot structure throughout the project design, for tone structure, and as an ideal situation where there is a hidden role – the villain – who can be decided at the last possible moment.

I found three different places to implement a system where the player’s actions influenced reality of the world. Firstly, there was the identity of the villain. This had to remain unresolved until the appropriate point in the story for the player’s suspicions to be “right” and for them to be unmasked.

Secondly, if the player was going to go around and talk to a variety of witnesses, it would be nice to be able to have control over the order the witnesses give out information. Later witnesses can be made to give out more interesting or conclusive clues. This was an ideal situation to disassociate the identity of each witness from their role (early witness, late witness, and so on).

Thirdly, I had grown intrigued by the “border guard” example, and in a dangerous medieval world it seemed entirely plausible that different threats would try and stop you from getting to all the people to interview them. These threats could be controlled to only interfere with your progress at the most dramatic opportunity.

In addition, I could implement the tone track system by updating the coloured lighting, weather and music in the world to alter the mood.

Three minor things went wrong immediately, caused by bugs or missing features. Firstly, the modification to the game that allowed for long dresses that I had downloaded turned out to occasionally vanish, previously dressed people invisible from the waist down. Apparently this is a general problem when using custom model files. I removed those character who wore long robes from the game, except the Queen, who put on some trousers.

I then found that the functions to change the coloured lighting during play were still apparently not working, and worse yet, though the weather altering function worked, you could only make it sunny, snowy or rainy – none of which were particularly indicative of a murder mystery plot stage.

That left the music alone to communicate tone, and I felt that NWN's selection of music probably wouldn't make that much difference in communicating the mood of a murder mystery without help. I therefore abandoned the plans to keep track of the tone, and instead had to focus on the plot and the role assignments.

I laid out a simple world structure, making sure that there was a four-way choice in one area and leaving room for threatening guardians of some kind to guard the three exists that the player doesn't enter by.

The plan for the plot was relatively straightforward – the player is an inspector, who has been called by an innkeeper character (not a suspect) to investigate a murder. The fairy tale archetypes who live nearby (the king, the queen, the witch, the farmer, the ogre and so on) were both witnesses and suspects. The player would talk to each of the characters, collect a piece of evidence from each (which would be semi-randomly generated). When they made up their minds who it was, that person would then immediately generate a perfect alibi, meaning it couldn't be them, and forcing another round of evidence collection. After round two, whoever the player accused would shout “you'll never take me alive” and attack, finishing the story off with an action sequence.

This again immediately ran into problems, though of a different cause. Alibis aren't something you produce for yourself, they are something produced by other people for you. Why should the player believe it when the “not guilty” party says “no, it wasn't me because...”. So I reorganised it so the Innkeeper would be the point of contact for accusations, and the accusation would prompt his memory, producing an alibi. This was also silly – why would the inspector relay his concerns to the innkeeper rather than simply making an arrest?

So the concept was revised again, and a new character introduced: the chief inspector. The player would be a junior inspector, reporting to the chief, on his first case. That way the player has to do all the work themselves, but the chief can still moderate their decisions.

As stated earlier, NWN's scripting language is not object-orientated. However, the components of the high-level design map fairly easily, if with a loss of flexibility, into equivalent NWN components. Each character in the game has an explicit, distinct representation, so that covered identity well. Crucially, I could assign an appearance to each character representing their hair colour, height, build, mannerisms and other details useful to an inspector. The only real interaction open to a NWN character other than fighting is talking, which takes place through a dialogue file. The only “behaviours” that need communicating are what to say. With the discovery that dialogue files could be dynamically assigned between people, that covered the role components. Each character in the world is an Identity object, and each conversation

file is a Role object. The character determines how they look, but the Role determines what they say.

As far as the role assigner and data lists go, these are not heavy object-orientated components anyway. Each character can be linked to a script file which determines what happens when you click on them (usually it initiates a conversation), so the functionality of the role assigner could be implemented entirely within this one file. In theory, the role assigner should control every aspect of the character's behaviour, but in practice this would be extremely complex, and be of no use in a simple example like this.

NWN does not support custom data types like lists, but it *does* access all of its stored variables by string reference. While the details of how exactly it does this may be somewhat inefficient, this is not something that can be altered at a module level.

Rather than implementing them as small files in their own right, the plot stage list and assignment table were simply written as part of the role assigner. In a large implementation this would be a liability, because the whole thing would have to be rewritten if the plot were to change. In this small case, though, separating them would have been an unnecessary complication.

The selection heuristics for the assignment table took the form of a large if... then... else (since NWN provides little support for anything else) statement, with it referencing by plot stage, and then by other information within that if necessary.

With the programming infrastructure mostly in place, I began to write the dialogue for the roles, and ran into another problem. By necessity, because we do not know in advance which role will be assigned to which character, the dialogue must be generic enough to fit anyone. The clues offered when prompted must not implicate anyone in particular (leaving it mostly up to the player's imagination to fill in the blanks).

There is an intrinsic difficulty here. The role does not know who it is assigned to. The player thinks they are talking to the farmer, but actually they are talking to witness number four. This makes it impossible to ask witness number four about the evidence that other characters have provided implicating the farmer.

This would make the second round of interviews effectively pointless. The player would be unable to ask any of the characters about the other people had to say about them. I therefore had to cut this piece of the story too – now the player only talks to each witness once.

Witnesses 1-8 were each set up to generate a slightly randomised piece of evidence about the hair colour, height or weight of the killer. The evidence is purposefully inconclusive, and probably contradicting (since one witness is more likely to suggest it was blonde hair and one more likely to suggest dark hair). This leaves the player free to disregard the evidence from their chief suspect, and interpret the rest at their leisure. To make things more complicated, one or two of the characters had their appearances loaded – examining the witch told you that she looked smug and confident. The

farmer's wife has arthritis. The king looks blustery. The queen is fiddling obsessively with a pendant.

Once the player has formed an opinion of who they think it is, they have to return and see the Chief Inspector (whose role does not change) and make their accusation. The Chief Inspector knows one forensic "fact" (that he makes up on the spot) that means that the killer cannot possibly be the person that the player accuses. Coming up with one such additional piece of evidence for each character that would eliminate that character as a suspect but not any of the others proved to be one of the hardest things in the entire implementation. The results are not brilliantly satisfactory, mostly consisting of the chief inspector having heard that the character was wearing a certain type of clothes when the murder took place, and there is no sign of the stuff that falls off those clothes, so it can't be them.

This "alibied" character is removed from the potential suspects list, and the player is asked to review their evidence again and choose another suspect. Whoever the player chooses now immediately gets labelled as the murderer. The chief inspector gives the player instructions to bring them to justice, and kill them if they resist arrest (which is the law in this medieval land). A variable is stored in the role assigner function to make sure that when the player talks to the now-villain, they will react appropriately and attack.

Killing the villain, and recovering a note that explains the motive from the corpse (each character is carrying a personalised version of the same letter), the player returns to the chief inspector and the story concludes.

Adding the further complication of the guard creatures was simple by comparison. I decided that since the chore of talking to all the witnesses was a long stretch of the same kind of activity, that this should be broken up when appropriate. The basic behaviour implemented is this: the player arrives at a crossroads from the south, and needs to speak to at least one witness down each of the other paths. Each path is guarded by a guardian of some kind (a troll on his bridge, a royal guard at the castle gates and a mischievous fairy in the forest. The reactions of the characters depend entirely on which direction the player travels. Whichever path they take first, the guardian will be asleep. Whichever path they take second, the guardian is awake, and bars progress but lets them through when they explain their business. On whichever path they take last the guardian is awake and antagonistic, and must be bribed, threatened or killed to allow passage.

The basic intended effect here is that as the player gets down to only one or two witnesses left to take to, the suddenly there is a problem – and it doesn't matter which order they talk to them in.

With the implementation of these core features, I had a testable implementation, although after a little playing I added an additional Bandit character who helps out the villain at the end, because it doesn't make much sense for most of the characters to attack an armed inspector.

To summarise, the basic "gimmick" of the game is this:

The player has total freedom to talk to who they want to and accuse who they want to. They believe that there is a murderer (it is likely that they believe the murderer has been randomly selected, but they still believe there is one in advance), and that their task is to “solve” the clues and find out who. They have to speak to each witness, and accumulate the same order of clues no matter what order they speak to the characters in. When they have spoken to everyone, their first accusation always fails, forcing a dramatic moment where they must re-evaluate their conclusions. After making a second accusation, an action sequence occurs and the game is concluded. The player feels satisfied that their deductive powers were sufficient to solve the puzzle, even if they got it wrong once, and finishes the game happy. Hopefully, the way the clues and guardian encounters are arranged means that they felt that the pacing of the module somehow just worked, completely by coincidence.

There is an obvious weakness to such a blatant gimmick. If the player plays the game again, the joke will be ruined, and they won't enjoy it. In fact, it is possible that they will be so disappointed by the fact that their clever deductions from the first time were nothing but air – that effectively they were lied to – that it will effectively negate the pleasure gained from the first.

This potential weakness will need to form an important part of the evaluation.

After several botched attempts, I settled on the inoffensive but uninspiring name of “Murder in the Magic Kingdom”.

4 Evaluation

4.1 Evaluation method

When handling something as subjectively enjoyable as drama, certain evaluation methods become impossible. Any kind of metric collection, or measured quantitative analysis is doomed to failure. You can't objectively measure drama, therefore you can't collect quantitative data on it. The implemented game is designed to demonstrate a principle in action and so the only thing really to do with it is get people to test it out. There are three real options here:

- 1) Test it repeatedly myself. This is of minimal to non-existent use, because what I want to test is whether the experience is dramatic. Since my method has a built-in intolerance to repeated play, such repeated testing is useless.
- 2) Ask a large number of people to play the module, and obtain some kind of statistical data on what proportional of them report that they found it dramatic. The usefulness of this data is difficult to determine – what percentage of people would need to think it was dramatic for the experiment to be considered successful?
- 3) Ask a small number of people that are knowledgeable about games whether they thought it was dramatic, then ask them why they think that. This has the advantage that rather than generating difficult to interpret statistics, it generates useful feedback. On other hand, processing this kind of data can be sometimes be difficult. What if the evaluators all have totally different opinions?

I decided to use method three, that of select expert evaluators. This is partly to do with my prior experience of distributing games across the internet to large numbers of users and soliciting feedback. Testing over the internet is the only real option, because unlike many student projects the module is designed to take around an hour to complete, and therefore takes an hour to test. Organising a statistically useful quantity of hour-long tests with limited computing resources would not have turned out well.

My expert evaluators needed several traits to make them suitable for testing: access to Neverwinter Nights, the ability to write useful feedback, and a good knowledge of games to give a context to their opinions. By coincidence, I had recently received lengthy and constructive feedback from two members of internet discussion forums on for a different Neverwinter Nights project I had been working on. I had been in contact with both of these posters on the forums before, and knew them to be knowledgeable about games and game design.

Through an entirely separate mod project for the computer games Deus Ex, I been in contact with two professional computer games journalists that I respected the work of. Establishing that they also had copies of Neverwinter Nights available, their jobs covered the other two criteria very well.

These four people agreed to take part as expert evaluators, play the module, and provide feedback. They are:

Kieron Gillen: an award-winning computer games journalist who recently turned freelance after a lengthy employment with PC Gamer magazine. Examples of Kieron's writing can be found in a surprising number of different (and competing) industry magazines, and also on a variety of websites.

Richard Cobbett: Features editor for PC Plus magazine, Richard also writes freelance reviews and articles for other magazines including PC Gamer. Richard has an extremely extensive knowledge of computer games history, amongst a wide variety of related subjects.

Steven "SKWO5ATHOME": A forum member I met at the PC Gamer magazine forums, Steven can be found posting extensive and well-supported arguments on just about any subject, whether to do with computer games or not.

Steven Viscido: A forum member I met on the Neverwinter Nights forums, this Steven is a NWN module builder, and a regular player (the other evaluators own NWN, but do not play it regularly). Steven works in research and has previously reviewed grant proposals for the NERC.

In addition to suitable experts, I needed a strict test plan – because of the way in which foreknowledge could disrupt the experience of playing the game, even the expert evaluators would need to be provided with and follow a strict set of instructions on what to do and when to read what information.

Of particular interest was the question of whether playing the game for a second time was a worthwhile activity, and whether it had any effect on their opinion of the game as a whole. In addition, to make the smaller number of evaluators useful, I would need to encourage them to give and support their opinions on the subject so that I can extract useful feedback.

I eventually settled on a three-stage evaluation. The exact information and questions which was sent out to the evaluators is included for reference in Appendix 3, but the contents of each stage are explained here:

Questions 1 and 2 are provided to the evaluator, along with a readme file telling them not to read the questions yet, but to play the module through instead, and then open questions 1.

Questions 1) The evaluator is asked to give a quick appraisal of the game (a warm-up question), and a quick explanation of their reasoning while playing the murder mystery (this is mostly curiosity for me, but it could also be important for tracing an error if they report something unexpected). They are then asked to assess the internal consistency and dramatic quality of the game, independently and with reference to another game that they consider to have an emphasis on story – this gives context to the question.

The Evaluator is then asked to play the module a second time, and then answer questions 2.

Questions 2) The evaluator is asked to compare their play experiences, and indicate whether their opinion of the game has changed, and if so, how.

When the answers to 1 and 2 are returned, Questions 3 are provided to the evaluator along with an explanation of the project's approach.

Questions 3) The evaluator is asked their opinion of the approach and of the implementation of the approach. They are asked for additional thoughts on strengths and weaknesses, and also whether they prioritise internal consistency or drama.

The "test conditions" are that all the subjects know is that they are testing an experiment which is looking at drama and interactive narrative, and that it is implemented in Neverwinter Nights. They are specifically not informed in advance of any details of the project.

There was a potential risk involved in the evaluator being aware immediately (from the existence of two question files) that they will be asked to play the module twice. In the interests of giving the evaluators a fair estimation of time required, though, I felt this approach was justified. Because of the circumstances of the game – a murder mystery – I found it likely that their suspicions would lie with a random generation of a new, internally consistent murder mystery, and that the module's "trick" would not be suspected.

4.2 Expected Results

Questions 1)

The answers to whether they like the module aren't really that important – the later answers to whether they find the module dramatic are more relevant. Their outline of a solution is impossible to predict.

I was expecting positive answers to the question about internal consistency, and hoping for positive answers to the question about drama. The question about a comparison is to provoke discussion, but I would have expected this "toy" game to compare badly with any professional-produced game. I had no idea what games they would choose, but I assumed that they would be relatively well-known games that pride themselves on story.

Questions 2)

I was expecting the second playthrough to be much faster, and less interesting to play. I expected opinions of the game's internal consistency to change for the worse, and opinions of the game's dramatic quality to change greatly for the worse if they figure out the "trick".

Questions 3)

I expected opinions of the approach to be positive, but opinions of the implementation of the approach to find wanting in the very small test module provided. My personal answer to the consistency/drama prioritisation is that they are both equally important, but I didn't know what answers I would get. There are no defined answers to the requests for additional thoughts.

4.3 Actual Results

The complete evaluator responses (with repetitions of the original questions in the responses removed) can be found in Appendix 4. The overall impressions I drew from the four evaluators are presented here.

It seems that by apparent coincidence, all four of them were involved with the queen somehow on their first playthrough, either as the first or second suspect.

Initial reactions to consistency were positive, with the exception of bugs that were discovered (such as the innkeeper having no apparent physical appearance when you examine him closely). Initial reactions to drama were very mixed – comments on drama tended to focus around specific parts of module implementation, dialogue, characterisation, setting, etc, that were more or less incidental to the actual experiment. The weakness of the role system meaning all characters sound the same is quite a serious one. It seems that the careful arrangement of the witness roles and the guardian roles went completely unnoticed. Possibly my assumption that it makes any difference is false. Possibly it just makes little difference without the additional effect of atmosphere that implementing the tone track would make.

The games provided as having an emphasis on story came in at three totally different games from each evaluator. Several of the games provided were games they thought had an emphasis on story, but which didn't actually succeed in having a good story. Whilst this is an error on my part – I should have specified the success part, since that was the intent of the question, and the definition of drama attached to the evaluation sheet specifies that something can try to be dramatic without succeeding – it actually meant that in the comparisons, Murder in the Magic Kingdom did slightly better than I would have expected. Apparently popular by comparison to more than one professional game was the freedom available to the player – one of the original purposes of the project of course, and interesting to see that it didn't matter or wasn't apparent that actually you didn't have any choice – it seemed as if you did, and that's what counted.

Responses to the second playthrough were divided between disappointment as the gimmick was revealed and glee as the gimmick was revealed – just like they thought it would be. This suggests that the gimmick is not being well disguised enough – although it's interesting to note that I don't think any of the evaluators successfully guessed how the guardian system worked (first: asleep, second: lets you past, third: causes trouble). It may be attributable to suspicion on the part of evaluators who know they are evaluating something, and therefore are constantly wondering what that thing might be. Amusingly there was a little slack given on the characterless dialogue as it became apparent why it was characterless. This doesn't in any way alleviate that it is a problem.

There are a complex mixture of views in the third set of answers. It is clear from what they write that, remembering the theory that games can be experiences, simulations or challenges, that there are distinct views here. Kieron clearly values experiences, prioritises drama over consistency, and believes that challenge is illusory. SKWO5 believes that challenge is essential, also prioritises drama, and believes that my approach is of limited value precisely because it effectively removes the whole concept of challenge – completely the wrong audience, it seems, but a very useful demonstration. Steven V seems to prize simulations – I infer this from the way he places value on the approach because it provides freedom of expression he finds lacking in other games, and from the way he places consistency above drama. Only Richard weights drama and consistency equally as I do.

This three-way split amongst the evaluators makes drawing an overall impression rather difficult, but there is a clear confirmation that it is good for freedom and bad for challenge. The feedback that it would perhaps be better implemented on a smaller scale, and not as the dominant, plot-ruling mechanic where the replaying problem can really affect its value.

4.4 Self Evaluation

It is clear from the evaluation that there are a few problems both with the implementation (quite apart from the small bugs or slightly dodgy behaviour, like the admittedly arbitrary way the Bandit just appears from nowhere) and with the evaluation method. The lack of the tone track providing atmosphere as the drama supposedly increased seems to have eliminated the whole concept from notice, which is a serious flaw as it makes redundant two thirds of the implementation effort. Had I not assigned witnesses by role, and instead written a specific dialogue file for each character including their mannerisms and speech patterns, it seems generally agreed that this would have improved both the consistency and the drama. As far as the evaluation goes, the comparison with another game section is probably the least useful, although this may only be because the much of the drama component failed.

On a completely different level, the majority of the effort in the implementation went into things that actually had very little to do with the project at hand. The dialogue proved much more difficult to write than expected, and still ended being universally derided as “generic” (including by myself). Had I known what I know now, I probably would have avoided the dialogue entirely and come up with an altogether different implementation.

With a lot more time it would perhaps be possible to implement a much more complex version that bypassed the NWN dialogue system. Part of the problem is that the role system requires more subtle control over the actions of the character than just taking over whenever they speak, but having no idea who they are. I think my high-level model should be adjusted to deal more specifically with dialogue, which forms a major component of drama character interaction in almost all computer games. The principle of wanting it to remain generally applicable is good, but in practice, not much use.

4.5 Conclusions

It seems clear that the approach, which is to say the basic concept that it is okay to change reality depending on the player's actions sometimes in order to make the world seem adaptable to them, is a good one, and has some value. It is not at all clear that the heavy-handed implementation implemented in *Murder in the Magic Kingdom* is anything more than an amusing toy.

In terms of my project's stated goal, I don't think I can honestly say that I have resolved the tension between dramatic restriction and interactive freedom. Perhaps I'm part of the way there, but without fixing the fundamental drama issues and testing it again, it isn't possible to say so with any certainty.

One thing that coincidentally appeared was evidence to support the not-what-was-being-tested theory about player prioritising experience, simulation or challenge.

4.6 Further Work

I intend to distribute the module online (as any other *Neverwinter Nights* module) and see whether I can get any more useful feedback. With no time restraints, larger studies are possible, and I am interesting to see what I can do with it.

As far as less specific possibilities for future work go, there is the implementation of a generic, non-*Neverwinter Nights*-based system that could have tone and plot lists plugged into it, further examination of exactly which arrangements of tone should be used for drama, looking for another (and hopefully more flexible) solution to the original tension between drama and interactivity.

Appendix 1 – References

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Prince Charles describes computer games as “instant gratification”:

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Black & White’s group activity programming:

Game developer community site Gamasutra:

http://www.gamasutra.com/features/20020424/evans_01.htm

Half-Life:

Half-Life official website, demonstrating large number of awards:

<http://half-life.sierra.com/>

Neverwinter Nights:

Official Neverwinter Nights website:

<http://nwn.bioware.com/>

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<http://nwwvault.ign.com/>

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<http://www.indie-rpgs.com/articles/>

Appendix 2 – Gameopedia

Black & White

A strategic "god" game, where the player takes on the role of a deity who has the power to directly affect the land and the people living in it. B&W was renowned upon release for the unprecedented intelligence of the game's giant pet creatures.

Civilisation

An extremely influential game, father of a family of imitators ("Civ-clones"). Civilisation is a long-term strategic wargame which uses the entire history of mankind as its battlefield and sees the player controlling a single tribe of humans throughout the period.

Deus Ex

Currently one of the best examples of interactive narrative. Deus Ex is a first-person shooter game with statistical elements from CRPGs. It combined emergent gameplay principles from Thief with a new design approach designed to allow the player the maximum freedom of choice in how to resolve each problem that it set for them.

Doom

One of the most influential games ever made, Doom put the first-person shooter into place as the dominant action game control and perspective system on the home computer. It also went a long way towards inventing the modern mod scene. Doom is a primitive first-person shooter which sees the player fighting against hordes of demons and enemy soldiers for no particular reason.

Double Dragon

A "beat-em-up", one of the action styles of game that wasn't a platformer, where one or two players moved some martial artists around a city defeating thugs in hand-to-hand combat in order to save one of the protagonist's girlfriends, who had apparently been kidnapped by some kind of bad guy.

Dune 2

The father of the real-time strategy game, where vast armies of tanks are generated and then sent off across the deserts to destroy the enemy base, and set in the world of the Frank Herbert novels.

Half-Life

What isn't mentioned on the section in the thesis is that Half-Life is a first-person shooter game that sees the player shooting aliens and hostile government marines in a B-Movie scientific research accident story.

Kuru Kuru Kururin

A puzzle game where the player has to manoeuvre a spinning stick around a tight maze without touching the sides. Inexplicably, the game has a plot – the spinning stick is actually some kind of magic helicopter which a duck uses as transport when all his brothers and sisters go missing and have to be rescued.

Lemmings

A famous puzzle game where the player has to guide a large group of strange, green-haired creatures that bear absolutely no resemblance to lemmings across a dangerous landscape.

Lurking Horror, The

Allegedly one of the best text-only adventure games published by allegedly the best publisher of text-only adventure games, Infocom. Lurking Horror is a sci-fi horror story in game form.

Metal Gear Solid

One of the Sony PlayStations's biggest hits, Metal Gear Solid is a sneaky spy game which involves nuclear weapons, giant robots and one of the most absurdly intricate plots ever seen.

Microsoft Flight Simulator

A simulation game which aims to provide the most "realistic" flight simulator experience possible. Much of the world has been mapped out in special add-on packs, so that you can now fly a virtual commercial plane to virtually any virtual location.

Pac-Man

One of the early few classic games, Pac-Man was a tale about a face that ate dots but was killed by ghosts.

Planescape: Torment

A game that sold poorly but since developed an incredibly loyal following who will loudly proclaim that it is the best storytelling ever seen in a computer game. The game is about an amnesiac immortal who has to deal with the consequences of his former lives.

Quake II

Spiritual successor to Doom, Quake II is a very similar game, only with bigger levels and better graphics. Quake II is a useful illustration of why Half-Life is such an important game.

Resident Evil II

A game that tries to be nothing more than a computer version of a third-rate zombie film, and yet somehow manages to make one of the most interesting uses of multi-character perspective ever seen.

Rez

An extremely strange but compelling game where the player shoots enemies on the screen, but all the sound effects are musical notes or beats. The idea is that the sound of the game being played is music, rather than a racket.

Sacrifice

A combination of the massed unit control of the real-time strategy game and the frantic action of the third-person shooter, Sacrifice is about a wizard who can summon monsters, and cast spells.

Secret of Monkey Island, The

Regarded by many fanatical fans as the best game ever made, Monkey Island is a story- and amusing character dialogue-heavy game about an unlikely pirate.

Sims, The

Currently the biggest selling computer game ever made, The Sims is marketed at a never-before-considered market: normal people. A simulation of ordinary, stereotypical American home life, The Sims requires you to get a job and make sure the washing up gets done.

Space Invaders

Another early classic – steer a spaceship left and right and shoot up at the implacably advancing aliens.

Spacewar!

The first “proper” computer game. A physics-obsessed space simulation that involved carefully steering a spaceship between obstacles.

Super Mario World

An incredibly popular platform game that may well have invented the concept of the computer game celebrity hero.

System Shock

A game that no one bought, and regarded as one of the most immersive games ever made. Superseded by its own sequel, except for those who believe that the original is

better. A game set in a William Gibson-esque cyberpunk world, about hackers and robots and evil AI and that sort of thing.

System Shock II

Like System Shock, but with better graphics. Uses FPS controls, but prefers you to run away from things that fight them.

Tetris

One of the few games ever made with no plot whatsoever, Tetris is also one of the most famous. A block-building puzzle game, Tetris is given much credit for the success of the Gameboy handheld device.

Thief: the Dark Project

An imaginative alternative to the first-person shooter which used the same controls, but asked you to hide from your opponents rather than charging towards them with blazing guns as Doom did.

Turrican

An unremarkable platform game which serves as a useful illustration of the point that games at the time did not have more of a plot that could be surmised from the appearance of the protagonist. Some kind of sci-fi armoured warrior fights bad guys with an assortment of weapons.

Ultima 1: The First Age of Darkness

A CRPG which became more and more important with each of its eight sequels. Considered to have a very strong emphasis on story.

Wing Commander

A space combat game which took the player's successes and failures into account when deciding what happened next, and one of the first action game plots which developed during the game.

Wolfenstein 3D

A Nazi-fighting game which some consider the first FPS, and others dismiss as overshadowed by its successor, Doom.

Zork

The first text adventure game. Bore more than a little resemblance to Dungeons & Dragons, and required the player to type things like "go north" "open door" "attack monster" and "eat food". Apparently responsible for the existence of the early story game.

Appendix 3 - Evaluation questions

--- indicates that these are separate files

Murder in the Magic Kingdom

Readme

Tim Fletcher

Some useful definitions which are used by this project:

Internal consistency: Whether a story or game contradicts itself. It can be applied both to the setting that the story or game takes place within, and also the events that take place within the story or game.

Dramatic quality: Whether the story or sequence of events that comprise a game have been arranged in such a way as to evoke an emotional response of some kind. The story or sequence may not accomplish the dramatic quality it intends to.

Instructions:

Don't read any of the questions yet. Play through the "Murder in the Magic Kingdom" module once. Try to play the game with the mindset that you are simply playing the game, not playing the game for review or for the purposes of experimentation (if you do or would behave any differently under such circumstances). Do not repeatedly save and reload to try out different approaches to the game – this strategy will not be necessary to complete it in the optimal way.

In the story, you play the role of the Junior Inspector on his first big murder case. To play the module, simply place the file Murder in the Magic Kingdom.mod in your Neverwinter Nights/modules directory, start Neverwinter Nights, and begin a new game using the module.

You should play the module with either a level 1 fighter or a level 1 barbarian (barbarians have a faster movement speed which you may appreciate, but you may feel uneasy playing as an officer of the law with the ability to fly into a barbarous rage). The exact details of your character are unimportant – no skills are tested. A character with all of the default, recommended settings is perfectly suitable. Please note that as this is not a roleplaying module, there will not be any opportunity to develop your character. You should, however, give them a legible first and last name.

The module requires you to accumulate clues from a number of witnesses and use them to determine which of the characters is the murderer. For this you will need to take notes, either within Neverwinter Nights using the built-in journal system (automatic journal entries are not made for you), or using some other means such as paper and a pen.

Upon starting the module, make sure you talk first to the Chief Inspector, who will explain the situation. You will know when the module finishes because the Bioware logo will appear on the screen. No experience points or treasure are awarded in this module.

Once you have finished the module, open and read the file “questions 1 do not read.txt” – do not open the questions 2 file at this stage.

Murder in the Magic Kingdom

Evaluation Questions Part One

Read through all of the questions before answering them. Briefly in this case means no more than a sentence or a few sentences.

- A) Briefly, what did you think of the game?
- B) Give a brief description of your reasoning for determining which character was the murderer.
- C) Please give a brief assessment of this game in terms of the internal consistency of the game world and story.
- D) Please give a brief assessment of this game in terms of the dramatic quality of the story.
- E) List three games which you have played recently which you think of as having an emphasis on story.
- F) With reference to one of these games, please give a brief critical comparison of the internal consistency and dramatic quality of the chosen game and the DIS project game. You may use different games for comparing consistency and drama.

Now that you have answered the first set of questions, begin a new game of Murder in the Magic Kingdom. You may use the same character as before. Play through the second attempt at the game to completion. After doing so, open and read the file “questions 2 do not read.txt”.

Murder in the Magic Kingdom

Evaluation Questions Part Two

Read through all of the questions before answering them. Briefly in this case means no more than a sentence or a few sentences.

A) Now you've played the game twice, give a brief comparison of your first and second play experiences.

B) Has your opinion of the internal consistency and dramatic quality of the game changed? If so, please give a new assessment of the game in terms of these two factors.

Please email the your answers to Questions Part One and Questions Part Two to Tim Fletcher at the email address dungard@yahoo.com

Thank you for participating in this evaluation.

Murder in the Magic Kingdom

Evaluation Questions Part Three

Explanation of project approach:

This is an experiment into whether the rules of consistency can be stretched or broken in order to enhance drama. The tension in games between freedom to interact and restriction of freedom in order to tell a compelling story is a well-known one, with an assortment of different solutions with varying success. It is also a commonly-spoken notion that interactive games are not, usually, truly interactive, and that the illusion of interactivity suffices.

My experimental solution is to embrace this approach wholly, by divorcing the identity from role in the game characters (an approach which can be applied in a number of different ways). The idea of the Murder in the Magic Kingdom example is to provide the structure of a murder mystery (obviously a fairly simple one) whilst at the same time maintaining the illusion of being a freeform investigation.

It does this with three specific methods in this case; firstly the order in which you receive clues is fixed – what matters is the order in which you talk to the people in the world, not who you talk to. The clues get more useful as you go along – whereas if you were free to encounter them in any order, you might well get the red herring clues all clumped at the end. Secondly, the order in which you encounter the troll, guard and fairy determines the hostility of their reaction. This is a perhaps slightly misdirected attempt to heighten the tension as you approach the last of the witnesses. Thirdly, and most importantly, the identity of the murderer is determined solely by your accusation, and not by any internal consistency in the world.

The approach can also be used in subtler ways, to handle specific dramatic events during a game rather than the entire game structure. For example, if the player has to find a bomb at the climax of a story (or act), and the bomb could be in one of two places, it would be highly unsatisfying to go to one of the places only to have the bomb explode from the other, destroying the city.

There is a clear prioritisation at work here: the game is being made a “dramatic experience” (whether successfully or not) rather than a challenge – the challenge is illusory. An obvious weakness of the approach is that it severely hampers replayability – but current gaming beliefs are that a minority of players bother to replay anyway.

Perhaps the most serious aspect of this weakness is that it not only reduces the value of replayability, but that replaying the game (and thus discovering that you have been “conned”) will perhaps reduce the value of the first play. With a better implementation than Murder in the Magic Kingdom which managed to produce a meaningful, dramatic experience, this could be an important problem, both for commercial success, and for the enjoyment of the players.

A) What do you think of this approach?

B) How would you assess the Murder in the Magic Kingdom module as a small-scale demonstration of this approach?

C) Can you think of other limitations or strengths of this approach?

D) In story-based games, would you prioritise internal consistency or dramatic quality?

E) Do you have any other comments?

Appendix 4 – Evaluator Responses

STEVEN VISCIDO

Evaluation Questions Part One

A) The game was fun to play. Murder mysteries are unusual in a fantasy setting, and this was refreshing. Additionally, the game nicely used a variety of the standard fantasy creatures (troll, ogre, fairy, witch...) but in a "fairy tale" like manner, which gave it a "set in a simpler time" sort of feel (similar to what one might get from, e.g., Red Riding Hood).

B) My original accusation was the queen, as 2 clues pointed to her: the farmer's wife said it was a short person, possibly a woman, and the ranger said it was a blonde. The queen was both short(ish) and blonde. She said she saw someone with brown hair, but of course if she were the murderer she would do so to throw the investigation off-track. When I suggested her, the "sequin" evidence proved that hunch wrong, and I confess at this point I was stumped. Everyone else said that they had heard sounds of a struggle, but this can't really implicate any one person. The queen being definitely innocent and seeing different hair than the ranger could potentially have implicated the ranger (as a liar), except the queen did not have an apparently CLEAR memory, while the ranger seemed more clear. Frankly I was stumped at this point and just guessed the king, because he seemed slightly less forthcoming in his answers than anyone else... but to be honest I really didn't have any second suspect besides the queen.

C) The game world was a fantasy setting with very strong fairy-tale leanings. The troll on the bridge, the various fairy tale creatures, all reminded me of a sort of C.S. Lewis world. The world was self-consistent and did not contradict itself. The story was also consistent, being entirely about a murder and the collection of evidence to find the killer. The bandit made a surprise, yet entirely consistent, appearance at the end that was quite satisfying.

D) The story was engaging and invoked several emotional responses, including curiosity and (at the end) indignation (that the king would be a murderer, and that he would try to ambush an officer of the law). The events led nicely up to an appropriate climax.

E) Neverwinter Nights (the Official Campaign included with the game), Freedom Force, Baldur's Gate

F) Of the three this project reminded me the most of Freedom Force (where you play a superhero). There were many of the same elements, including solving mysteries and finding out who the "real bad guy" is, being ambushed along the way, and having to question suspects, witnesses, and people in positions of authority. Both games were internally consistent and had good dramatic quality. The project was (obviously) simpler in many ways than Freedom Force (because of its brevity). On the other hand, the project gave the user CHOICES when deciding whom to accuse or what path to take on the investigation, whereas Freedom Force did not -- it was essentially a pre-

written story with the player mostly along for the ride. In that sense the project had better dramatic flavour than Freedom Force -- it gave the player the chance to affect the outcome in different ways.

Evaluation Questions Part Two

A) The evidence was switched around between the first and second play-through. The second time, several different people saw someone "tall." As the ogre's description is that he is tall, I accused him and collected evidence from him. The second time, the clues pointed more distinctly toward the culprit than the first time. Otherwise the experiences were similar.

B) Not substantially, although the fact that a larger number of clues pointed to the same person the second time made it seem slightly more consistent. In general there was good dramatic quality and good internal consistency both times.

(email correspondence to investigate discrepancy)

Tim: I have one quick question through - you said that for your second playthrough the evidence all pointed to the Ogre, so you wrapped it up quickly. Did the Chief Inspector not present you with any counter-evidence on this occasion?

Steven: Yes, he did. I didn't see any point in being excessively detailed (especially since the instructions requested brevity), but I guessed the ogre second. My original thought for the "tall" person was actually the ranger. This was a complete mistake on my part (I guessed that of the NPCs he was the tallest, for some reason not thinking of the ogre as a potential suspect even though of course he was). When I was presented with counter-evidence, I thought, "DUH! Ogre is taller than anyone else." After bonking myself on the head a few times for having missed what in hindsight ought to have been obvious, I suggested the ogre and was told to go arrest him.

Since it was "right" (at least the way the game played out -- I did not look in the toolset to see how it was scripted, e.g. the 2nd guess is always right), I thought it seemed much more obvious and didn't include that in the comments. I can re-send it with that included tonight, if you need those details.

Evaluation Questions Part Three

A) The approach is interesting and in fact seems rather novel in the "computer RPG" (CRPG) arena. The grandfathers of today's current CRPGs -- Ultima, Wizardry, and Zork being the most popular and successful, all used the internal consistency approach, and most CRPGs have followed suit. In the classic model, the world is set by the game creator (with perhaps some random assignment of items when the game is first "generated" the first time one boots it up or inserts a new character). Subsequent activities by the player can uncover the way things are, but cannot really affect things.

The classic CRPG approach is designed superficially to mimic the true role-playing game from which the ideas are originally derived -- games such as Dungeons &

Dragons, Champions, Torg, or Star Frontiers. However, while they often bear the same "window dressing" (character classes, statistics, and so forth), CRPGs commonly fail at making the player feel he can affect the world. Most of the time the player feels like a passenger along for the ride, or at best, is able to make "multiple choice" decisions about where to go and what to do (i.e. you can enter the cave or climb the mountain... but don't try to cross the stream -- the developers didn't build that area so you can't go there and you will get a "blocked" message). The reason for these limitations is time and energy -- specifically, the game developer does not have the time or energy to program everything the player might do, so he programs a subset and then "blocks" the rest of the universe from being available.

The dramatic model used in this project is different because it basically does not set the story elements. That there is a murder and one of a small pool of suspects did it, is decided before hand, but the player, through his choices, directly determines who the murderer is. This is beyond simple randomization, because the murderer is unknown even to the game whilst it is running -- only the player's choices determine who the killer actually was. Such an approach gives much more control to the player, and allows the game to seem "flexible" -- the player won't get as many "blocked" messages in such an approach. However, the sense of freedom is really illusory, because on a certain level, to use the example of this project, there really is no murderer -- rather, there is the guy the player decides is the murderer which the game then accepts and reality "warps" to retroactively make that be the real murderer.

B) It was an excellent demonstration of the approach. It was very well done. I am quite familiar with the toolset and the manner of building NWN modules, and still I was hoodwinked the first time I played, into thinking that the murder had been set ahead of time and I was just figuring out the clues (which was of course not the case). The story held together very well, and it felt simply like a very responsive (to the player's choices) module.

C) The strength of the approach is responsiveness to the player. The real weakness of CRPGs to date is the lack of true responsiveness to player actions -- particularly unpredictable or unconventional actions. In a classic old-style pencil-and-paper RPG, there is a game master or other referee there to help the game world respond directly to player actions, but the computer can't be made do that (at least not very easily). The dramatic approach frees up the player a good deal, and allows him to pursue whatever path he wants.

The weakness of this approach is that it can become apparent, if the designer is not careful, that the method is being used. If a player gets the idea that there is no real murderer, but in fact whoever is accused second (or third, or whatever) is going to be retroactively made the murderer, the fun will quickly be taken out of it. Replayability is therefore harmed, since it is inevitable that the player will discover the truth upon the second play-through. The second problem is that a truly intelligent player intent on figuring out the puzzle or situation is going to inevitably hit inconsistencies, and those will bother him - how can the murder be both tall and short, blond and dark, human and non-human? While programming to prevent such inconsistencies is possible, the amount of work required to do so would probably be exponentially more difficult as game length and complexity increases.

D) I am a scientist and highly trained in deductive reasoning and cause-and-effect thinking. I am also very logical by nature. Thus, although I prize dramatic quality, I place a higher value on internal consistency. I do not like being "led by the nose" through an adventure -- that is, being more a passenger than a player -- any better than the next gamer. However, I prefer if stories are internally consistent, and make sense, and I value that more strongly than I value drama. This is not only true of gaming but also for regular story-telling media (movies, books, plays): if the story is not internally consistent, I have a hard time enjoying the drama supposedly contained therein (an excellent example of why I despise shows like "Buffy the Vampire Slayer" which may have great "drama" but are so internally illogical that I just can't watch them). Therefore, I prioritise internal consistency over dramatic quality.

On the other hand, I would rather not make a choice between the two. I enjoy dramatic quality as well, and the ideal (though admittedly very difficult to engineer) game would be one that does not have to sacrifice one of these traits for the other. To date I do not think any such game exists, but I have hopes that there will come a time when they are the industry standard.

E) This was an interesting experiment to participate in and I hope Tim continues to experiment both with NWN modules and eventually with other game media (assuming he intends to become employed by a company such as Cryptic, Bioware, Infogrames, or one of the other game development companies).

STEVEN "SKWO5ATHOME"

(email correspondence for clarification)

Steven: 2 quick questions: you want me to be brutally honest, right? And do you mind abbreviations like IMO and NOLF2 etc in my answers?

Tim: Yes, and no respectively.

Evaluation Questions Part One

A) Firstly, I found it felt rather- sparse? arid? -in tone. Though this gave it a nice compacted feel, the lack of things to do or see made it feel bald. I also could tell that the mod was meant to be bigger but that it was rushed together instead, as whilst your character had a set of unique armour/items that were carefully worded and made up, the conversations themselves felt generic and you could do little in terms of conversation choices. Also, the confrontations with the troll, guard and fairy felt as though more had been planned to add on to them, but were cut out at the last minute.

Incidentally, I found it rather flustering to note down plot relevant info myself, because initially I wasn't sure what I should be noting down! Journals are more important than I would have thought...

B) First of all, I thought it might be the witch. My reasoning was: she would have been able to disguise herself via magic, and it would therefore explain the differences

in the statements I had received. She was also the only character that had given you any kind of personal reaction (amusement). But I was wrong, so I more-or-less went with my gut instinct, and went for the queen. Reasons; she was blonde (first evidence I'd had indicated blonde) her statement was the only one that excluded herself as the murderer, the gates were closed on order (therefore I was suspicious of the royals) she was at least having some kind of emotional reaction (boredom) and she might have had the weight (due to her position) to make the other witness conveniently vague on what they saw. But mainly I went for her because I had no idea who else to go for after the witch was cleared! If there was some definitive way of telling who was the murderer from the evidence, I shall have to admit that I was not bright enough to spot it.

C) I didn't really notice much internal inconsistency; I suppose the only things that might count as inconsistent were the fairy's blocked path and the sleeping troll, as they were the only points in the game that were surplus to the plot, i.e. they were 'distractions' that could have been chopped out of the mod without any consequences. Though I suppose that if the king was so rich, there should have been no reason for the queen to have to kill anyone. The way they were all named seemed rather surreal too; is that internal inconsistency or not? I'm not sure...

D) There was little drama in the dialogue itself. In fact, the drama level was very low. However, there was a little bit of drama in your confrontation with the guard, as it might have been necessary to turn nasty. Likewise there was a sense of drama in the conversation with the fairy and going past the sleeping troll; it was possible that they might have turned nasty behind your back etc.

These factors probably affected the interview with the creature immediately afterward, for example after crossing the unlocked bridge gate, I had wondered whether I was leaving the civilised areas, and hence making me more suspicious of the character of the Ogre.

However, the main dramatic point was the potential for violence during the conversation choices with the guard. While the conflict with the bandit and queen had a drama potential, when I realised the king had his plot tag on (i.e. indestructible), the situation became decidedly less dramatic. I just left the king to do my dirty work.

E) Erk. I'm currently moving computers, so I haven't played anything recently released for ages. But anyway:

Sacrifice. Which I shall never stop playing, as the plot is brilliantly reactive, and sharp throughout.

NOLF2. IMO, plot wise it was less amusing than the first, but the Antarctic level lifted it out of mediocrity via creepiness.

Dungeon Keeper 2. Very amusing, but probably just because of the narrator. The plot was mainly a gimmick/cosmetic added to the game; it was too removed from the action to be a full part of the game IMO.

F) Quite hard to answer without having really played an RPG recently. However, Nolf2 has a bad internal consistency, in that the style is not constant throughout. The style is more consistent in the MIM mod, and it is more precise. Short sharp plot is something I personally favour.

The drama of nolf2 is very well done on certain levels (Antarctic level etc) where they let your imagination work overtime before introducing the unexpected baddie etc. Nolf2 also has characters with definite personalities, something missing from the MIM mod. It is therefore easier to feel an emotion for the more emotional characters in Nolf2, e.g. if the characters are not going to suffer an emotional response, why should you?

Evaluation Questions Part Two

A) Well, firstly it became very apparent why the game conversations felt generic, since they were! The same with all the confrontations; whether the troll or guard was asleep appeared to be a random choice scenario. On the second play a lot of the (deliberate?) mistakes showed through (i.e. the queen being compared to the 'kind' instead of 'king', the sentence '..they were the murderer?' instead of 'murderers?' the missing door behind the Inn etc.

I admit that I was disappointed to find there was no 'right' way of doing things as well. As a rather big fan of agatha christie, I wanted my character (Hercule Pinkerton) to have a deep (but solvable) mystery to get his teeth into. However, since there was no particular right way of completing the story, it removed a lot of the purpose from it. A lot of it was just clicking through conversations and walking around; there was a lot less challenge this time around. All in all, it was a much more 'flat' experience on my second play.

B) I suppose I can now see that the conversations were actually inconsistent, as they were random rather than having anything to do with the characters of the people you were trying to interrogate. Since 'solving' the murder isn't really possible either, I suppose it is also inconsistent with your average expectations of what a murder-mystery mod would contain.

The fact that the music in the inn levels was too long in looping also showed through during my second play; it meant there was less atmosphere inside the inn than there might have been, as you spent a lot of your time in front of a completely silent PC. But the drama was pretty much reduced throughout, though it briefly spiked up when I came across the new scenario (this time the fairy refused to let me through). The generic answers lowered the drama level quite considerably; it didn't matter much what you were going to do, you were going to get the same answers to everything (albeit in a different order).

Evaluation Questions Part Three

A) Straightaway I would say an RPG is not the right vehicle for it. Personally, the whole point of playing a RPG is the way you can replay it. This particular approach used in an RPG on any large scale could very well

destroy any good impression it made on first play as soon as someone tried a replay. It would have the same affect as someone showing you how a magic trick was performed, and then expecting you to still be amazed by it afterward. In my opinion, this approach would work best on a FPS style (mainly linear) game than an RPG. To try to give an example, this approach could work in a tomb raider game, as the character of the avatar (lara croft) and the design of the levels is more important than the storyline, so it would not matter if the other characters were rather impersonal.

I also think the real weakness of this approach is that it removes direct characterisation, rather than its replayability weaknesses. Without some kind of emotional link to a game, character becomes invisible and negligible. A way to illustrate this is to use System Shock 2 as a case point. In this game, your own avatar remains virtually invisible throughout; more a characterless machine than anything real. This does not affect the gameplay, as the other characters in the plot are so strong. It is the personality of your enemy-ally Shodan that you remember after leaving the game, and the other characters such as The Many, Delacroix or Bronson, rather than your own nameless avatar. If you had used the same approach of the murder in mind module on System Shock 2, all the actual memorable characters would become as necessarily invisible as your own; the story would feel entirely 'empty'. To have a story-driven game with an impersonal story would make it far less interesting and engaging.

When you are playing a game, you are being sold a dream; that you are the 'hero' or 'anti-hero'. Therefore you must have challenges to overcome (another weakness of the approach; I wouldn't call a game with no challenge to it a 'real' game myself) and/or some kind of emotional anchor to want to continue. In practise the Murder in Mind module reduces both these factors

To be honest, I would not say that the murder in mind approach has much practical application in a good gaming experience because of these flaws.

B) Perhaps a little transparent? I wouldn't say I was the most incisive of people, but I did notice that the game characters were rather generic in speech and less than sympathetic/emotional in character on my first play. I also think an RPG was not the best way to showcase the approach, nor to have the plot a murder mystery, as in a good murder mystery the conversations/evidence does have to mean something. In the Murder in Mind mod the evidence did not, by design. It also fell into the Elegia Eternum trap; you were being told the story rather than being/acting in a part of it. However it was pleasing concise (waffling is my own biggest flaw) and also pretty sound technically.

C) Well, the lack of emotional attachment to the characters & your avatar I've already mentioned. Another weakness might be the actual practical application of the approach. I don't like fiddling around with tags myself, and I imagine a big mod using the approach would prove to be over laden with

tags. It might prove to be too much work to keep a track of all the tags and options on a big mod. Personally I can think of no other strengths of the approach to add to the ones already mentioned...

D) Dramatic quality every time. As soon as you start playing a game, watching a film or reading a book, you are asked to make a rather large leap of faith from the outset, and a certain amount of suspension of disbelief and artistic license are likewise automatically expected. As long as you do not go too far to break that suspension of disbelief, it will give you a tremendous amount of creative freedom. To have a story that involves you on an emotional scale is far more important than its consistency, in my opinion. The 'rules' of the world you are making can usually be set out by the tone and style of the very beginning; as long as any internal inconsistencies keep reasonably within the rules, they are likely to be forgiven/forgotten, as long as the characters can directly involve the player. A story with only a little internal consistency and high dramatic quality would be a far easier to play through than the opposite.

E) The game with my favourite plot of all time is Sacrifice. It is sharp, gives you the wonderful illusion that your decisions are deeply important, reactive and (for such a heavily interlaced plot) is only inconsistent at one point.

And I'd also mention that it felt rather surreal to have the stranger sign off his all-important letter as 'the Stranger'! I can see that it would be difficult to get around doing it that way, but it was rather odd...?

Finally, I ought to say that I'm possibly not the best person to talk to on the subject of internal consistency, as for some reason, I'm lousy at spotting inconsistency anyway...

RICHARD COBBETT

Evaluation Questions Part One

A) An interesting idea to use the NWN engine for a murder mystery style game, although it was a shame that interaction was limited to pure conversation, with the number of dialogue options petering out to "Tell me what you know" after leaving the inn area. Having just finished it for the first time, I would hazard a guess that there is something fishy going on in the ending sequence, because it seemed highly unusual that I hadn't heard anything about the Queen's dress up to that point.

B) I settled on the Queen. The most common responses that I was receiving involved a character 'the height of a woman', with blonde hair, with hints to a second character being involved. The Queen fit the main description and of course had a potential partner on standby that the Witch lacked, with the Farmer's Wife the one who first provided that clue. The Ogre was ruled out of suspicion early on due to his obviously more monstrous looks, although his comments of a larger character potentially being involved was the reason why I picked the King after the sequins revelation.

C) It's difficult to talk about consistency of story when the very nature of a murder mystery suggests that people will be giving you different information to work from, although the teleportation entrance of the bandit at the end proved unexpected – especially with the innkeeper going to such pains to point out how hard it would be for him to get in and out without being detected. The game world itself hung together reasonably well, with the forest entrance clearly linked up by trees, the presence of the troll-bridge despite its lack of relevance to the main story. The main problem was the sequins revelation. Having been unable to investigate any items in the entire world beyond the corpse, and receiving few clues from that, it was hard to believe that I had missed such an obvious clue while talking to the innkeeper downstairs. Moreover, who would sign a letter “The Stranger”?

On a slightly more in-depth level, the use of descriptions for the characters managed to give them a level of interest considerably higher than the normal Neverwinter Nights fare, and the opening inventory loadout with the character's police outfit replacing their hero costume and the presence of customised weaponry. The level design, although using the normal NWN tilesets was also decent, from the separate rooms of the Inn to including the short castle exterior (with the guard whose reactions switched according to time of day – a neat little touch)

In terms of pacing, it was a good idea to keep the long infodumps at the start and then move onto the tidbits from other characters, as well as keeping their numbers high to blur the lack of much actually being said, although their very, very similar responses did start to become noticeable after the murderer's hair was mentioned for the umpteenth time in a village where everybody would know each other.

A few scripting bugs also popped up some unusual responses, most notably the King crying “I never would have believed they were the murder! Good work!” while I was stabbing him to death in the name of justice. Also, am I really allowed to commit regicide so casually? Tough kingdom...

D) Not a great deal actually happens, and the investigation elements are not a million miles away from “Guess Who?” in concept: begin with a fair number of people to investigate, hinting at a meaty mystery to solve, but really only offering a list of character descriptions to knock down. The Stranger himself remains enigmatic to the end, with absolutely no direct connection to any of the characters bar the murderer, and even the Chief Inspector comments on the rather flat motive at the end of it all. Nevertheless, there are a few elements which stand out, with Magic Kingdom using the different character classes on offer to hint at greater depth to matters, as well as solid character descriptions. Most interesting was the examination of the body at the start, and it's a shame that the same level of depth wasn't continued once you left the first room – being able to challenge characters about their stories and showing them evidence rather than being purely reactive.

The open ended nature of the accusations at the end both works for and against the player. It works well to give us the power to choose a specific villain rather than waiting for the character to put the numbers together, but without more information to work with, it's hard to make it more than a guess.

The appearance of the Bandit offers one last interesting twist, adding a level of sucker-punch combat to what was previously a combat free mission (there may have been another opportunity with the Troll, although I opted to pay him for passage across the bridge rather than pursue a combat solution). The level of this fight was well judged, giving you a quick jump, but not actually posing a life-and-death situation, even if you hadn't bothered to sheathe your knife. It was also good to see that I hadn't missed finding him on my tour through the woods – although I'm not quite sure why he was involved in this particular battle!

E) Shenmue II, Laura Bow: The Dagger of Amon Ra, The Last Express

F) Each of these games specifically offers the player a mystery, although with very, very different methods. Shenmue is by far the most primitive, despite being the most recent, with its mystery elements being nothing more than going to Point A and being told what to do by the person that you meet. It has beautiful technology behind it, and a completely believable world, but you constantly feel like an observer rather than hero. Magic Kingdom may be a mere fraction of the size, but correctly deduces that if the player will get much more involved in the action if they're controlling it – the open instructions to take down clues and look in depth tricking the player into believing that there is far more going on than is actually the case (the same principle behind The Maltese Falcon). Laura Bow 2 remains the pinnacle of this approach on the PC, although it proves rather more successful due to the passing of time, with complex interaction between the characters that has to be studied to piece together the solution – you can easily blitz through to the end of the game without solving a single puzzle, although you'll come a cropper when the Coroner begins asking questions. The approach taken here is the same as Magic Kingdom – offer the wrong answer and you're told the piece of information that you missed, but crucially this is because you missed it yourself rather than having had no opportunity to find out about it. It's the difference between being castigated for not doing your job properly, and outright being told “Nope, wrong!” The benefit of doing it Magic Kingdom's way is that there is no way to miss a clue, and the gameworld can be kept completely open, although it does have the side-effect of stripping the characters of distinct identity.

Evaluation Questions Part Two

A) The most noticeable thing is that my initial hunch was right and it is impossible to lose the game. With this in mind, the generic responses given by the characters make much more sense, although more could still have been done to hint at their actual guilt (Murder on the Orient Express style with everyone having their own motive) rather than leaving the ending completely blank. Nevertheless, it was a clever idea – making the player work and then giving them the satisfaction of feeling insightful rather than relying on them finding a hidden item somewhere. Mix up the character responses and add more detail to the conversations and it would be a very novel puzzle in any adventure or RPG.

B) The level of detail explaining why each character couldn't have been the killer works well, although it would have been good to have more hints along the lines of the farmer's wife's arthritis (which may or may not be serious enough to do enough

damage, but would leave it in question) rather than just making something up. Had I originally picked her as the victim I would have been much more likely to accept the Chief Inspector's new evidence. The drama element does heavily suffer from your greater understanding of the story, but this isn't too much of a problem given that this trick will only ever work once.

Evaluation Questions Part Three

A) Excellent as a basis

B) Decent, although the heavy use of random elements was very noticeable from the start, giving the Guess Who feel to the investigation rather than challenging you to solve the specific crime.

C) If the player spots the trick, they immediately lose the effect - not to mention the feeling of accomplishment if they find out what has been going on. The strength is to keep things flowing on a first play.

D) Both. Nothing lets down drama like an inconsistent world, but it's not enough to present a world and expect people to get an instant kick out of it.

KIERON GILLEN

Evaluation Question Part One

A) Briefly, what did you think of the game?

I enjoyed it. It's been a while since I've sat down and played a Neverwinter Nights module, and clearly this is an atypical one. The writing and atmosphere were mostly excellent, with a few provisos. I also couldn't help but get the feeling someone was messing with my head throughout, but I think that a replay will reveal my suspicions one way or the other with that.

B) Give a brief description of your reasoning for determining which character was the murderer.

To be honest, I was far from sure. I thought it was the witch as most of the clues, which could go either way, pointed to her. More people agreed the person upstairs was Brown than blonde, and the Queen thought it was someone small. I suggested her, and was told it wasn't someone magical. Since this made me suspect the Queen might be lying, pointing evidence at a fairly obvious suspect, added to the fact she seemed to be fiddling with her pedant obsessively when I examined her.

C) Please give a brief assessment of this game in terms of the internal consistency of the game world and story.

It's a detective story, which means that some of the traditional game terms of "Internal consistency" don't really apply. In games, lying to you happens so rarely, so it was good to sift through this. The main internal consistency breakers for me were the

inability to return to questioning someone with new information that someone else has revealed. The fact the King joined in beating the hell out of his wife the second it was revealed she was a murderer seemed a little odd. Oh - and the Innkeeper having no physical description was a bit sinister too.

D) Please give a brief assessment of this game in terms of the dramatic quality of the story.

The choice of environments was entertaining. I enjoyed the archetypes. The abstract conflict of the detective story turning into a final physical conflict rounded it off. Good foreshadowing with the Bandit. In terms of Drama, the main weakness was the fact that many of the characters spoke to the character in a similar voice. I couldn't really tell the difference in personality between the Ogre and the Farmer's Wife, for example.

E) List three games which you have played recently which you think of as having an emphasis on story.

You ask for Emphasis on story rather than actual *success* in that Emphasis. In that case, Postal 2, Blood Rayne and System Shock 2.

F) With reference to one of these games, please give a brief critical comparison of the internal consistency and dramatic quality of the chosen game and the DIS project game. You may use different games for comparing consistency and drama.

I'll choose Blood Rayne, which takes the elements of story and pretty much messes them up. The game opens with a rescue mission, and people are holed up in areas that simply don't make any sense. Their motivations for being there seem vague - as do yours. This Module instead chooses a logical, if somewhat ritualised, set-up. It's a small community. People are in their houses. You visit them and gather their information. You then report to your boss. You then go and arrest them. This all makes sense, with no need for the game to dictate false-seeming objectives to the player. Real Drama is limited in Blood Rayne as the major character developments all happen entirely separate to your input. Your friends get captured or slaughtered for no reason to do with what the player has done - in fact, since it happens when you complete a level, they get slaughtered *because* of your success. Here the various conflicts follow on from one to another - the final decision leads to a fight, but it's *your* final decision and linked to your tale rather than the one that the developers seemed willing to dictate in BloodRayne.

Evaluation Questions Part Two

A) Now you've played the game twice, give a brief comparison of your first and second play experiences.

My suspicions were pretty much confirmed - that the order you spoke to people directly impacted the information you have. Since I realised this, I tended to breeze through it. However elements like the increasing level of threat throughout - for example, the three gate-keepers resistance altering depending on the order you reach

them. One change is that I ended up wondering a bit more about the Bandit's motivation, a loose end.

B) Has your opinion of the internal consistency and dramatic quality of the game changed? If so, please give a new assessment of the game in terms of these two factors.

Not really - though I get the feeling other people might. I don't mind games cheating me, since its all illusion anyway and only experience matters. Other people, however, couldn't see the point of doing it if all you're doing is, essentially, turning the pages of the book. While internal consistency doesn't change for me, as while clearly it's **not** internally consistent it appears to be for the player as they progress, my appreciation of its dramatic qualities has increased. This method allows you to have the player decide on their route of progression, but makes sure that there's a meaningful outcome to whatever the player actually does. It's certainly an interesting technique.

Evaluation Question Part Three

A) I think it's ahead of the curve, if dangerous.

You're right that people don't like feeling tricked - or rather, it's rare to have something whose whole point is the trick (In film, something like *Unusual Suspects* is unusual in that it gets away with similar playing around). The art has to be couching this in the game in a way which disguises the fact you've cheated the player as much as possible - there's all manner of slight-of-hand which is possible to hide this sort of things.

(I was chatting with Richard about it (I think), and noted it would probably be of most use in day-to-day sort of activities in the game. For example, enter a pub. If it's full of villagers, make the first one be the one to give the most important information, and then drip off down the list of utility.)

The most dangerous part of this particular example is clearly that the climax is a **complete** cheat. For a small scale part of a game, the player may forgive you - especially if you've already had certain other bits where a more traditional approach has made them believe they may possibly be wrong - but applying it at a larger level may totally alienate the player.

I feel if this approach takes off, it'll be in the details where it will flower. Equally, the more you hide it, the better. Think about randomising the people's titles in the village every time you go there in every game, for example. Even on a replay, you may think it's an entirely different puzzle. Smoke and mirrors.

(And I think that if there was one way of working out if a player was actually playing fair - as in suspending their disbelief and playing the thing rather than cheating the code, and then toughening up its rules if they're not, you may be able to get away with a little more. It's fairly easy to notice how long someone's taking to make a decision in a section. If they're just running around and selecting options randomly, knowing it doesn't matter, you could give a suitable feedback)

B) This sort of scratch experiment for a separate approach is certainly interesting - and clearly the best way to actually demonstrate that you can use this as a sole tool to power the experience in a game. While, as I said above, I think this works better as an element in a design rather than the entirety of it, I think that something like this which bases it on it entirely is the only way to prove it.

Some designers should play it. They may learn something.

C) I think the main one is so huge that it overwhelms any other smaller problems you may have with it. The fact that someone can play through the game by clicking randomly is something, if someone discovers before playing the game, that ruins it totally.

D) Dramatic quality, though I think it's important to realise that Dramatic quality in a game need not be the same as Dramatic quality in most other forms. I think that one of Games' prime qualities is that the narratives which it tells need not hit the same rhythms as other forms - it often works best with a gradual narrative, of diverse elements stuck together, than the big enforced twist. There's bits of this in Deus Ex which works very well - and you're more than aware we picked it up in Cassandra.

E) I would, but you really need it now, and I'm very tired. Good work.

(Tim: Note: Cassandra refers to The Cassandra Project, a Deus Ex mod that Kieron and I are both involved in.)