SWEDISH BUSINESS SCHOOL, ÖREBRO UNIVERSITY

ASSIGNMENT 2: "INTERACTIVITY, STORYTELLING AND MOTIVATION"

INFORMATICS, GAME DESIGN, INTERMEDIATE COURSE

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Contents

1 Introduction

In this report, I will investigate and discuss the meaning and significance of *interactivity*, *storytelling*, and *motivation* in the context of computer and video games. My approach is to first spend a chapter defining each term, and giving some examples of different ideas and research concerning those terms. This is then followed by a chapter discussing the terms as they relate to playing and designing video games.

2 Interactivity, Storytelling, & Motivation

2.1 Interactivity

> *The word* interactive *operates textually rather than analytically, as it connotes various vague ideas of computer screens, user freedom, and personalized media, while denoting nothing. [...] To declare a system interactive is to endorse it with magic power.*
>
> — Espen Aarseth, *Cybertext*, p. 48.

2.1.1 Defining interactivity

As Aarseth says, *interactive* is a term that often goes poorly defined, if at all. I will, in this report, base my definition of *interactive* on Aarseth's term *ergodic*. Aarseth defines *ergodic literature* as literature where "non-trivial effort is required to allow the reader to traverse the text" (Aarseth 1997:1), that is to say, where the reader is required to do more than read, listen, or watch to progress the text.

While the above definition might seem rigorous enough, Aarseth's definition of *ergodic* (and, by extension, my definition of interactive) can and has been problematised — for example, it's hard to pinpoint what exactly constitutes "non-trivial effort": the line between interactive and non-interactive is blurry (Ibid:2p). *Tetris* is fairly obviously interactive — it requires reader-interaction to "make sense" — and *The Breakfast Club* is obviously non-interactive. But what about a film like *Time Code*[1] where the viewer is required to choose which portion of the narrative to follow, and which requires several view-throughs to get a complete picture of its plot? Or a a game like *A Mind Forever Voyaging* (Meretzky 1985), which requires the player to do nothing more than walk around in a simulated city?

These questions I think require us to further refine our definition of "interactivity". Turning again to Aarseth, we can make use of his terms *scripton* and *texton*. Scriptons and textons are the basic building blocks of a text: they are all the discreet portions of text out of which a work is made up; they are to text what an atom is to a molecule. Textons are all the possible parts a text *can* use, while scriptons are the ones which are actually used in a single reading (Aarseth 1997:62pp). To continue our molecule metaphor: textons are all the available atoms, whereas scriptons are the atoms in a given molecule. Say, for example, that we have 21 carbon atoms, 23 hydrogen atoms, one nitrogen atom, and five oxygen atoms — these are our textons. If we combine two of the hydrogen atoms and one oxygen atom, our text contains the scriptons, H_2O. If, on the other hand, we combine two of the oxygen atoms, our text contains the scriptons, O_2.

We can therefore arrive at a new working definition: *an interactive text is one where the reader is actively involved in the transformation of textons into scriptons, and where two different readings can produce two different sets of scriptons (different in either order or content).*

[1] Mike Figgis 2000. The film splits the screen in four, showing concurrent sequences of events simultaneously in four unbroken shots.

This definition will exclude the film examples above while including the games[2], which, for the purposes of this report, is what I want to do.

2.2 Story

Story is another term that is often used in ill-defined ways. For example, game designer Kevin Oxland claims that "stories don't exist in games" and that "every movie you see from The Terminator to The Sound of Music all use [sic] a similar structure and set of principles which have been honed and polished since the days of Aristotle" (Oxland 2004:152). The former statement is true only under a very narrow definition of story, while the latter is demonstrably untrue; just looking through my DVD-collection I see several films that don't use the classic aristotleian "beginning—middle—end" three- or four-act structure (see section 2.2.2): *Lola rennt*, *Rashomon*, *Primer*, *Timecode*, &c. It is a strange irony that a video game designer looks back toward a 2500 year old narrative ideal-form, while film studies researchers focus on the new narrative forms made possible by the "computerised age" (see, for example, Manovich 1999).

In the following sections, I will outline a a more inclusive definition of story (and of narrative and narration), and sketch out some attempts at describing narrative structures, which will form the basis for my discussion of stories in video and computer games in section 3. Discussion.

2.2.1 Narrative, Narration, & Story

In this report, I use the terms *story* and *narrative* almost interchangeably, though it is important to note that there is a subtle difference between the two terms. I will borrow my definitions from Manfred Jahn who defines a narrative as "Anything that tells or presents a story, be it by text, picture, performance, or a combination of these", a story as "A sequence of events involving characters" (Jahn 2005). Narration I will define, again following Jahn, as *the way in which a story is told*, or, in other words, the tone, genre, or perspective of a narrative (Ibid). To summarise: the narrative is the text, the story is the sequence of events refered to in the text, and the narration is the aesthetical and formal qualities of the text.

2.2.2 Narrative Structures

2.2.2.1 Aristotle and the Classical Hollywood Narrative

The first known attempt at distinguishing stories from non-stories, or good stories from bad ones, was made by Aristotle in his *Poetics* (circa 330 BCE) (Kwiat 2008). According to Aristotle, a well-constructed story consists of "an action that is complete and whole" and has "a beginning, middle and end": the beginning (presentation) introduces the characters, the situation, and the central conflict of the story; the middle (conflict) develops and intensifies the conflict; the ending (resolution) resolves the conflict (Alexander 2001:20-21). This basic, three-act structure, each act ending in a turning point, a moment of intensification or resolution of conflict, is the basis for much Western story-telling. Modified slightly into the four-act "neo classical structure" (with the middle act split into two), it is the foundation for what is sometimes called the "classical Hollywood narrative" structure, which most mainstream Western cinema follows (Ibid:27,64).

[2]Though, as James Newman points out (Newman 2002), the level of interactivity varies within games — there will nearly always be portions that are not interactive at all (cutscenes, maps, &c) — and there may be secondary players, on-lookers, for whom the game is not interactive at all, but who can still enjoy it.

2.2.2.2 Todorov's Minimal Narrative

A different, broader definition of what a narrative should consist of is that of Tzvetan Todorov, who claimed that a minimal narrative is a progression from equilibrium to disequilibrium and back to equilibrium. That is to say, any narrative consists of, at least, a state, a disruptive event, a reharmonising event, and a new equilibrium (Ibid:23).

Tetris, for example, begins at an equilibrium — no blocks have yet fallen — which is distrupted by the falling of the first block, creating a disequilibrium, and the game ends when the screen fills with blocks — creating a new equilibrium.

2.2.2.3 Polti ratios & Embodied stories

A recent model for analysing, and measuring the "storyness" of game narratives is Kirsty Baird and Richard Hall's use of *Polti units* to "provide a pattern language that can be either matched to existing stories or used in story authoring" (Hall & Baird 2008).

Georges Polti analysed classical and contemporary (to him) French works, based on which analysis he held that there are 36 basic dramatic situations (see Rossio 1997 for a conscise list) and that every narrative can be divided into one or more of these (Polti 1921:9–12). According to Hall & Baird, a game contains a story if it (or its elements) can be matched against at least one of Polti's situtations, or in their terminology, *Polti units*. Because almost all games match one or more Polti units, given enough effort[3], they further suggest dividing stories into two classes: *embodied* and *unembodied*. *Embodied stories* are those which match one or more Polti units and which generate characters in the mind of the reader. *Disembodied stories*, on the other hand, require the reader to actively reinterpret game elements (including herself) to find characters (Hall & Baird 2008).

Furthermore, Hall & Baird propose three ratios by which to measure the "storyness" of narratives: Level of Drama, Variety of Drama, and Involvement in Drama. I won't investigate them further, but they all revolve around counting instances of characters, Polti units, &c, and comparing them with each other.

This approach, while seemingly rigorous, is, like any attempt at idealising narrative structure, based on unproven assumptions: there is simply no way of proving that all "real" stories contain Polti units without resorting to circular reasoning[4].

2.2.2.4 Conclusions

As I mentioned, all prescriptive definitions of narrative — whether it's Todorov's minimal narrative, Aristotle's poetics, or Campbell's monomyth — share the same flaw: they simply dismiss all stories that don't fit their pet pattern as not being "real" or not being "well-constructed". Which is why I think that idealised narrative structures are best suited to analysing stories, for finding similarities between stories, for giving us clues about why one story works and another doesn't, or about how stories that have worked in the past were structured. They aren't laws that must be followed, but just different perspectives which are sometimes useful to assume. Tools among others in the craft of storytelling.

[3] For example, if we count the player as the solicitor and the game itself as the adversary, *Tetris* matches situation 12, *obtaining* (Rossio 1997; Hall & Baird 2008).

[4] Polti's, and Hall & Baird's, unstated definitions of *real story* and *Polti unit* are "A real story is one that contains Polti units" and "Polti units are events found in real stories".

2.3 Motivation

2.3.1 Undestanding motivation

Like *interactivity* or *story*, *motivation* is a deceptively problematic term. While it's easy to define simply as that which keeps the player playing, it's rather harder to pinpoint what exactly it is that motivates players.

2.3.1.1 The Expectancy–Value model

The Expectancy–Value (EV) model is an attempt at analysing people's attitudes toward behaviour, i.e. how likely a person is to want to behave in certain ways and how that attitude arises. EV postulates that a person's attitude toward a certain behaviour is based on the perceived probability of a favourable outcome and on the value placed on that outcome. This can be expressed in the equation, $A_B \propto \sum_{i=1}^{n} b_i e_i$; where A is the attitude toward behaviour B; b_i is the strength of the belief that B will lead to outcome i; and e_i is the evaluation of, or value placed on, outcome i. In other words, the attitude, A, toward behaviour B is proportional to the product of the beliefs and evaluations of all outcomes ($i = 1 \ldots n$) of B (Ajzen & Fishbein 2008).

So, if an action seems unlikely to lead to a favourable outcome or if its outcome is perceived as negative, a person will not perform it. This has obvious implications for game design: for the player to keep playing, the actions game requires her to perform must seem to lead to favourable outcomes.

2.3.1.2 Flow & Goal-setting

Taking a slightly different approach to understanding motivation, the impossibly named Mihaly Csikszentmihalyi focuses on *autotelic*, intrinsic or self-motivated, actions — actions taken for their own sake. To help understand autotelic activities, Csikszentmihalyi formulated the concept of *flow*; the so called optimal experience, when all concerns other than the activity itself fade away (Nakamura & Csikszentmihalyi 2002).

According to Csikszentmihalyi, the conditions which create flow include challenges that stretch existing skills (without exceding or underutilising those skills), and clear goals and immediate feedback about the progress being made. This balance of challenge against skill — that the level of difficulty and the participant's skill-level have to match — is a key factor; if the challenges are too hard they lead to anxiety, whereas if the challenges are too easy they lead to boredom (Ibid). That clear, challenging goals are important is borne out by the research of Edwin Locke and Gary Latham, who after a fourteen-year research program concluded that well-defined, hard-to-achieve goals lead to better performance than ill-defined, easy-to-achieve goals (Latham & Locke 1979).

These conditions, when met, lead to the subjective feeling of being "in the flow", a feeling characterised by intense, focused concentration on the present action; a merging of action and awareness; loss of awareness of oneself as a social actor; a sense of control; distortion of the sense of time; and experience of the activity as intrinsically rewarding (Nakamura & Csikszentmihalyi 2002).

The keys, then, to achieving flow in a game is that the player needs to have clear goals, immediate feedback, and that that the difficulty must match her skill-level.

3 Discussion

3.1 Bending Stories

As I've implied above (section 2.1.1), all games are interactive, but some games are more interactive than others. A game like *Sim City* (Wright 1989) has no story except as created in the mind of the player, whereas others keep the player strictly tied to a plot. A case in point is *Fahrenheit*[1] (Cage 2005a), which its creator, David Cage, calls an "interactive drama" where "the player acts and interacts in a narrative and emotional experience" (Cage 2005b).

The basic idea behing *Fahrenheit*'s story was, says Cage, to "solve the classic difficulty of telling a truly interactive story without generating an excessively complex tree structure" (Cage 2006). Cage was, in other words, trying to reconcile the tension of at the same time plotting a compelling story and allowing the player to affect it. Another of Cage's goals with *Fahrenheit*, and one of the ways he tried to make it an "interactive film", was to make the controls very easy to pick up; the entire game is controlled with the thumbsticks and it is always clear what the player is expected to do.

Cage succeeded in making a compelling story, where the player can't wait to see the next plot twist[2], but it is by no means a perfect game. While Cage tried to make the player feel involved in even the cutscenes, by making the player move the thumbsticks according to a pattern shown on-screen, that just ends up taking the focus from the action and pulls the player out of the story. *Fahrenheit* is an ambitious experiment and a good story, but it tells the story at the cost of gameplay, while, paradoxically, parts of the gameplay work against the story.

3.2 Narrative & Mimesis

> *This is a tidy, well-appointed kitchen. On the table you see a chainsaw.*
>
> — Giner-Sorolla 1996

At one point in *Mass Effect* (Hudson 2007), the player character has to find a way to return power to a research station. To do this she enters the systems core, where she must transfers station systems to the secondary power supply by — solving the Tower of Hanoi puzzle[3]. It's an odd moment. And it's not the first time that a game designer has resorted to the old standby of what Roger Giner-Sorolla (1996) calls a "set-piece" puzzle or a puzzle out of context — a puzzle which is there only to be a puzzle but makes no sense within the game world. No engineer in their right mind would design a power system that way, so the player is left to either dream up some far-fetched explanation for the incongruous puzzle or, as I suspect is often the case, just shrug and move on.

According to Aristotle, the defining characteristic of a narrative is imitation, or *mimesis*, of reality (Kwiat 2008). This reality, says Giner-Sorolla, need not be the same as the real, phenomenal world[4] but it does have to be logical and self-consistent — it needs to make sense — and any element that breaks this consistency he calls a "crime against mimesis" (Giner-Sorolla 1996).

Another type of mimesis-breaking game element can be found in most RPG:s, where players are expected to perform actions that go against what the player character would do were the PC real. For example, in *Star Wars: Knights of the Old Republic* (KOTOR; Hudson 2003) the

[1] Released as *Indigo Prophecy* in the United States.

[2] Though as Cage himself admits (Ibid) the second half of the story is not nearly as good as the first. Understandably, Cage focused on the beginning.

[3] A classic mathematical puzzle; a Java version can be found at MazeWorks.

[4] Indeed, I would argue that any representation becomes a thing unto itself, semantically seperate from that which it represents (Derrida 1990; Fiske 1990:66pp), but that's a discussion beyond the scope of this report.

player is expected to loot dead bodies and steal anything that isn't nailed down. Something that is very much out of character for a Jedi. While this is so common-place in RPG:s and adventure games (and pretty much any game with an inventory) that the player would most likely never notice it, the designers of KOTOR, probably unwittingly, draw attention to it during one of the sub-quests, where taking anything from the Sand People on Tatooine will lead to them turning on you. Paradoxically, demanding the player stay true to the player character's motivation at that one moment exposes just how much the player's behaviour in the rest of the game is out of character.

More subtly, this same kind of mimesis-breaking can be found in KOTOR's sequel *Star Wars: Knights of the Old Republic II: The Sith Lords* (KOTOR2; Avellone 2005). KOTOR2 has a gameplay/plot element called "influence", where the player character can gain or lose influence with her party members, and this influence will affect party members' alignment[5] and open up new dialogue options with them, ultimately leading to the PC being able to train party members in the Force. Unfortunately, this added level of agency[6] in PC–NPC interactions again breaks mimesis. NPC-interaction with the party members in KOTOR felt like it was about getting to know the NPC:s. In KOTOR2 it feels like a gameplay challenge: it becomes more about manipulating NPC:s (again out-of-character for a Jedi) than about conversation.

All these examples, I think, show that for a game narrative to work, the gameplay, the interaction, needs to support it. Any time the logics or implications of the gameplay clash with the world (characters, plot, &c) built by the narrative, it pulls me out of the game.

Still, this pulling the reader out of the text, forcing her to observe the act of reading, is something the other narrative arts do succesfully; Brechtian epic theatre, for example, was very much based on the idea of not allowing the spectator to simply consume the text, but to make her critically value her on reading[7] (Moore 2001). Below, I will discuss one game, *Metal Gear Solid 2*, which I believe attempts something along those lines.

3.3 The F word

While games are good at being fun, immersive experiences, it has been pointed out (e.g. Smith 2009a, 2009b) that it's rarely a game disturbs the player in the same way as films do. *INLAND EMPIRE* (David Lynch 2006), for example, is a disturbing experience: it has a fractured narrative that jumps freely between different levels of "reality", illusion, dream, and nightmare; there are nonsensical scenes of people in rabbit suits; and it is stylistically sometimes intentionally ugly. One game that comes close to the disturbing brilliance of *INLAND EMPIRE* is *Metal Gear Solid 2: Sons of Liberty* Kojima 2001, which, as I mentioned previously (3.2), works through techniques similar to Brecht's *verfremdungseffekt*.

3.3.1 MGS2: Brecht for the Nintendo Age

Playing *Metal Gear Solid 2* (MGS2), it feels like Kojima is constantly toying with the player: he teases us by letting us play as Snake[8] during the introductory chapter, only to replace him with the (almost certainly wilfully) offputting (to the core demographic — adolescent men) Raiden, who is not only himself effeminate and whiney, but also saddled with a girlfriend who keeps calling to discuss their relationship and to, obliquely, point out how unsatisfying a protagonist he is (lacking history, motivations, &c). The bosses are ludicrously over-the-top (a fat guy on rollerskates, a bisexual vampire, a suicidal woman who can't be hit by bullets, &c), and the

[5] In both KOTOR games, the player's actions affect the player character's light side/dark side alignment.

[6] I.e. the illusion that the player's actions have consequences in the game world (Murray 1997:126pp).

[7] Bertolt Brecht championed the use of the *verfremdungseffekt* or *distancing effect*: devices meant to keep the viewer from becoming emotionally involved in a play or identifying with its characters (Moore 2001).

[8] The player character from the first *Metal Gear Solid*, Solid Snake — much beloved by fans.

game keeps interupting its stellar gameplay portions with brilliantly long-winded, pretentious, and over-written cut-scenes, which keep spinning further and further out of control.

The entire game reads like a deconstruction of the first *Metal Gear Solid* (Kojima 1998): the basic plot-structure starts out practically the same, but it soon starts adding layers of simulation, and revealing an ever more labyrinthine backstory about memetics, genetics, artificial intelligence, and god knows what else. By the time I was in the end game, and the game told me to turn my console off, I was enjoying myself in a way I don't believe I ever have before or since in a video game. I wasn't enjoying the gameplay or the story, but rather I was enjoying the fact that Kojima was not only parodying himself but also parodying the very act of playing a video game[9] The game worked, for me, because it was aware of being a game, and kept pointing out that fact (sometimes subtly, sometimes not so subtly). And, similarly to *INLAND EMPIRE*, the strangeness of MGS2 is unsettling, sometimes downright frightening.

And MGS2 managed to combine its disturbing oddness with near-flawless gameplay, so it works on two levels: as a pure game, it has the very qualities conducive to flow — well-balanced difficulty, clear goals and feedback, &c — while at the same time, its strange plot and self-reflexivity keeps disturbing that flow. Somehow, Kojima managed a synthesis of immersion and distancing.

3.4 Goals & Motivation

What the overview of theories of motivation in section 2.3 showed us is, I think, that the player's motivations for continuing play can be many: it can be the lure of rewards (the favourable outcomes of EV: new shiny in-game items, progressing the story, &c), it can be the sheer enjoyment of playing, or it can be something else altogether. The key to all three models discussed above is that the player be challenged, that it is clear what she is supposed to do, and that she is told how she is doing.

A lot of my favourite games, from *Tetris* to *Skate*, work mostly through evoking flow: there is a pleasure in just playing them. But there are other modes of motivation: I am often, for example, motivated by story, or by more hard-to-explain factors like the all out wackyness of a *Metal Gear Solid 2* or *Nord and Bert Couldn't Make Head or Tail of It*[10].

3.4.1 Motivation & The Sandbox

Story-based video and computer games have inherited a basic, objective-oriented structure from the classical Hollywood film: the game or film sets up a central objective and a series of obstacles for the protagonist to overcome on the way to reaching that objective. Clearing each obstacle gives a minor reward and gets the protagonist one step closer to reaching the main objective (Smith 2002).

One of the first games I remember playing that didn't rely on this structure of a main objective and a string of sub-objectives was *Sim City* (Wright 1989). While not the first free-form, sandbox-style game, *Sim City* is certainly one of the most influental. Rather than setting up a clear objective, the sandbox game gives you some tools (in the case of *Sim City*, the building blocks — houses, factories, power plants, roads, &c — of a city) and lets you play with them[11].

[9] While there's been speculation that the satire and weirdness are unintentional, I think they're very much intentional. Kojima himself seems to confirm this, saying that he wanted to "use the medium" to create a story that could only be told in a video game. Relatedly, much like French art-house/exploitation director Jean Rollin, Kojima's straddling of the high-brow/low-brow divide has alienated fans on both sides (Rogers 2004; Cherry 2002).

[10] A hard-to-categorise text adventure, the gameplay of which revolves around different types of word play.

[11] Though *Sim City* does have goal-oriented "scenarios" — for example, the player has the goal of reaching a certain population in a certain time frame — those were never what drew me to the game.

Rather than motivate you with clear goals, the sandbox game lets you set your own goals. As the success of *The Sims* (Wright 2000) has shown, the commercial potential for this type of game is enormous, and its open-endedness has been incorporated in more strictly narrative games, like the *Grand Theft Auto* series and *Assassin's Creed*.

Even games with obvious goals often support an autotelic mode of play: *Skate* (Blackwood 2007) has a clearly stated main objective but the gameplay is rich enough that there is a pleasure in simply playing. I've spent countless hours playing the game, but most of my time has been spent freely skating around San Vanelona (the fictional city in which *Skate* is set), doing tricks. What motivates me, and I wager most players, in *Skate*, and in games like *Burnout Paradise* (Ward 2008) or *Forza Motorsport 2* (Turn 10 Studios 2007), is the act of playing it, not completing goals or collecting rewards.

The same is true of *Assassin's Creed* (Desilets & Raymond 2007). In fact, I would argue that the "normal" play-mode of *Assassin's Creed* — i.e. completing goals — works against my enjoyment of the game. The game has amazing mechanics: controlling the player character, an assassin named Altaïr, is intuitive, and most of the time he simply does what you want him to, whether it's jump between buildings or stab someone in the throat. The problem is the subquests you are given to use those mechanics in. There are a handfull of quest-types that return: interrogate somebody (which means following him to a secluded spot and punching him repeatedly), pick-pocket somebody, eavesdrop, assassinate, and collect flags. Yes, collect flags. With the exception of assassination, which is actually fun (mostly because of the superb character animations, but also because it is something that is both a challenge and feels in-character for Altaïr), the quests are all too similar between instances and too easy. The time between quests is spent either running around on rooftops, staying inconspicuous, escaping from guards or soldiers, or fighting. While being on the run has its thrill, the fighting is much too easy, with your advisaries standing around you in a circle and attacking on at a time, like the villains in a Bruce Lee movie. The game is redeemed slightly by an interesting story, but its failure to really utilise it's amazing mechanics leaves the whole experience feeling very dull.

4 Summary, Conclusions

It's a truism that it is hard to make a good game (or a good film or write good book, &c); what I've tried to point out in this report are some of the reasons *why* it is hard, and to sketch out some theories which might make it a bit easier. But, as we've seen, even theoretically sophisticated developers, like David Cage, will fail, and their failure can often be attributed to focusing on one of the facets (interaction, motivation, story) of design discussed in this report at the exclusion of the others. That game design requires a holistic approach, is, I think, important, but not necessarily universally true; there are games that are good stories and nothing else, or have good gameplay but non-existent stories. *Tetris* (Pajitnov 1985) has no story at all, but is still a good game. *A Mind Forever Voyaging* (Meretzky 1985) is barely even a game, but is still a compelling interactive experience. There are no iron-clad rules for making the good game. I think, however, that the theories discussed above can be useful guidelines or sources of inspiration. I think rather than using these guidelines as a cook book, which will most likely lead to technically proficient but boring games, they can be used to figure out why something isn't working or to figure out what it was that made other games work.

Coleman Francis[1] and David Lynch both make films that "break the rules" of cinema, but one of them is a hack and the other is a genius. What theory can give us is a framework for figuring out why.

[1] Francis was a hard-drinking, seldom-working actor who, between 1961 and 1965, directed three of the worst, most boring, and — oddly — most avant-garde films ever made (Woods 2003).

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