Towards a Taxonomy of Perceived Agency in Narrative Game-Play

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Notions of agency, authorship, and interaction tend to be broadly defined. Operational specifications exemplifying their empirical existence are needed to understand where and how players affect content, structures, process or outcomes during interaction. This article presents a taxonomy of parameters influencing interaction. In it are identified (a) game aspects in which the player feels agency, and (b) game mechanisms that encourage that feeling. Such a taxonomy is useful for (i) game designers considering where and how to incorporate user input and input triggers, and (ii) evaluating the quality of interaction, given that players judge game quality partly on the extent to which their agency is enabled or inhibited. The taxonomy builds on the results of a series of focus-group studies analyzing selected commercial narrative role-play and adventure games

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1. INTRODUCTION

A primary concern in narrative game design is the player's intervention in the progress and outcome of a story. Handing control and authorship to the player affects the potential for narrative design in various ways. A user's sense that he or she is the protagonist of the action, controlling future events, can conflict with the fact that aspects of the narrative are prewritten. A major challenge in designing games with a prewritten narrative is therefore to make the player feel that they are truly interacting within, and have agency within, the narrative world. One way of doing so is to place demands on the player's skills, implying that future events depend on the player's skill and therefore fall under his or her control.

Murray [1997:126] defines agency as "the satisfying power to take meaningful action and see the results of our decisions and choices". It comes from an interactor's sense of their own autonomy and power as they interact with the environment. In this article, I define agency as the perception of creating a change, that is, the *perception* of having

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some impact. I use the term 'agency' because 'authorship' is problematic, given its use by narratologists to encompass not just textual story elements (that is, those contained within the "text" itself) but the author's intentions as well as the reader's understanding and responses[1] —aspects not explicit in a media text. Player agency provides an illusion of player authorship: that the active and creative realization of the game text is accomplished by the player.

I contend that what players want is to feel and embrace an illusion of real authorship. While there is for narrative game designers a major difference in providing perceived versus real opportunities for the user to input into the program, I argue that for the player, this difference does not exist. Players suspend disbelief when game playing and they expect a well-crafted product to disguise the preprogrammed nature of the narrative. They measure their enjoyment of the interactive experience partly in terms of how well this suspension of disbelief is cultivated. Where this is achieved, the game and the players' imagination act together to create a virtual dimension, endowing the world of the game with its reality (adapting Iser's [1980a; 1980b] depiction of readers' responses to games).

While acknowledging that the relationship between a preprogrammed narrative (the type of narrative common in off-line role-play and adventure games) and player agency can be problematic, I conclude that contrary to certain arguments in the literature, they need not clash. Sophisticated users are aware of the new "language" of game-play, and they expect, even desire, that their experience will be directed. They know that the environment is artificial, but still a well-crafted product will enable them to participate in the fiction that they are the protagonists for action, that they author the outcomes.

To supply this feeling of agency, an essential question to answer is what game aspects can the player either control, or feel they are controlling, or have some influence over? The critiques of game-players gathered from a series of empirical studies (in which 25 players played selected adventure and role-play games, and then discussed their responses in small group sessions) are examined, to suggest a taxonomy for defining interaction, with demands placed on the user as its principal determinant. To reach understanding of interaction and players' sense of authorship, it is essential to identify game aspects over which the players feel they have agency.

I address two dimensions of game-play to illustrate the taxonomy: (1) action-motor skill-based interaction and (2) interaction with game characters. Extended to an inclusive listing of many parameters influencing interaction, it could be called upon by designers when deciding where and how to incorporate user input or triggers. In addition to serving prescriptive purposes, such a taxonomy serves a diagnostic function by providing a framework to analyze interactivity. Identifying where and how players' feel they are inputting into a game program is important to ground the notion of "interaction" in specifics, because although the term *interaction* is widely used as a defining characteristic of new media, beyond a number of broad notions, it is ill-defined conceptually, used differently by different disciplines, and rests on shifting conceptual grounds [Myers 2003].

In the context of narrative adventure and role-play games where aspects of the narrative are pre-written, this article

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[1] As seen in Reader Response Theory (alternatively, Reader Response Criticism). These are a range of critical studies which emphasize reader-centred analysis, highlighting the importance of the reader and the reading process in giving meaning, worth and relevance to media texts.

(a) tries to make sense of the practical significance and meaning of the issue of agency;
(b) begins to develop a taxonomy classifying (i) aspects of the game experience the players feel they have agency within and (ii) the design mechanisms that facilitate that perception of agency;
(c) provides examples and criteria—operational specifications—needed to locate the somewhat abstract or conceptual notions of interactivity within games.

2. RESEARCH DESIGN

This article's taxonomy extends from a series of studies exploring narrative dimensions of adventure and role-play computer-game design.

In Study 1, twelve participants' reactions to four narrative adventure games were captured and analyzed in five small group sessions. The games played were

> ➢ *Ecstatica II* (Psygnosis)
> ➢ *Broken Sword II: The Smoking Mirror* (Revolution Software)
> ➢ *Discworld II: Missing presumed* (Perfect Entertainment)
> ➢ *Curse of Monkey Island* (Lucas Arts Entertainment)

This study produced results that were tested and refined in a subsequent analysis of three games from the closely related narrative role-play genre. The examples and discussion presented here derive mainly from this second study. The games played in Study 2 were

> ➢ *Morrowind* (Bethesda Softworks*)*
> ➢ *Gothic* (Xicat Interactive)
> ➢ *Might and Magic IX* (New World Computing)

Thirteen participants played the three games individually before discussing their experiences across four small group sessions. There were two data-collection phases. The first phase elicited reactions to the three role-play games and comparisons between them, without reference to the Study 1 results. In a second phase, participants were given the summarized results of the first study and asked whether and why they agreed or disagreed with them in the context of the games just played, or games they had previously played. Discussions were audio-taped.

Criteria and features used to select the Study 1 and Study 2 games included the following:

1. *Narrative content*. Use of narrative within the games had to be significant, that is, reviews had to promise that narrative elements contributed more than just background information.
2. *Quality range*. The games selected had to reflect a quality spectrum to ensure the broadest range of responses from participants. "Popularity" statistics provided indicators of quality, which were supplied by the marketing department of *Virgin* and *Games World* outlets and by an internet site called Gamerankings.com (http://www.gamerankings.com), which collects statistics from a range of game sites and amalgamates and ranks them.[2]

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[2] The scoring system used by *Gamerankings.com* to produce the ratings was arrived at by averaging scores given to games by online web sites. They include media outlets (websites selling games), and sites devoted to game reviews. Often this involved converting the independent source score to a percentage from a five-star ranking system, say. This site was used to select games reflecting the desired quality range for Study 2.

3. *Single-player games*. Single-player games, rather than games requiring co-operation or competition between users, were selected for both studies.

4. *Playback platform*. The games had to run under the particular hardware and operating system configurations within the computer laboratories available for the studies.

5. *Suitability for the intended audience*. To avoid any possible criticism that the game evaluators might be "missing the point" of a particular game, the games selected had to be advertised as suitable for a late-teen, young-adult audience, to match the age profile of the game evaluators.

Study 1 participants were student volunteers taking a third-year Multimedia module in Queen's University Belfast; Study 2 participants were student volunteers taking a first-year Management Information Systems module in the same university. To facilitate sharing of experiences, participants were chosen to be homogenous within groups with respect to age [3].

The narrow age range (19 to 23, and one (pilot study) group of three post-graduates aged 25 to 30) limits the generalization of the findings with regard to other populations; further research could test the findings for age-differentiated responses. However, this age-group represents a significant section of the game-player population, although the average age of computer gamers has been creeping up, as the first teenager/early-twenties computer-game buyers of a decade ago have grown up with the medium.[4] Also, boundaries on the generalization of Study 1 and Study 2 findings do not constrain general applicability of the taxonomy in this article; the findings merely illustrate how such a player-centered taxonomy denoting interaction parameters was developed. In other words, the specific findings illustrated in the taxonomy may be age-sensitive, but not the approach to developing such a taxonomy.

These studies sought to identify factors that enhance or inhibit engagement in single-player multimedia CD-ROM game-play. Multiple products allowed a multitude of variations in game-play to be experienced and differences in perceived quality and motivation for the differences to be captured. In the small group discussions following game-play, players were encouraged to articulate everything that affected their enjoyment and evaluative feelings.

The controlled conditions of the studies could not simulate the entire environment in which game players usually operate. Computer adventure and role-play games typically require many hours, sometimes even weeks, of play to finish. One consequence of staging the studies in a controlled environment was a necessary time constraint, limiting evaluation to only the first hours of game-play. The time spent was judged sufficient for participants to reach informed judgments about the general likeability of a game, some themes, narrative elements, and other features. Furthermore, most participants were reasonably sophisticated[5] game players (they were asked to indicate the extent of their

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[3] Focus groups participant profiles are often homogeneous rather than heterogeneous, with participants chosen on the basis of commonality, rather than by random sampling: "The rule for selecting focus group participants is commonality, not diversity" (Krueger, 1988:26).

[4] According to a 2002 survey by the European Leisure Software Publishers Association (ELSPA), the average age of European computer gamers has been creeping up. It reported that the largest game-playing group was aged between 25 and 34 (Press release dated 8 April 2002 on the ELSPA website at http://www.elspa.com).

[5] Final selection of participant volunteers was determined by the extent of play experience indicated. This criterion was relaxed for a pilot study and to allow two of the seven Study 2 females (given fewer female volunteers) to qualify on the basis of having played 'some' games.

experience when volunteering to participate), and their previous experiences informed the discussions, so the findings are not limited to conclusions on these games only. Nevertheless, some Study 1 outcomes may have been affected by the relatively short game-play period (two hours of game-play). So the time spent on each game within the study sessions, tested only for initial satisfaction and success. As a consequence, game-play time in Study 2 (which tested the results of Study 1) was extended to approximately four hours and 15 minutes. This time span was still insufficient to complete any games, but nevertheless was a crucial interaction period, as initial impressions provide the basis upon which a player decides whether to persevere with a game or to abandon it.   To maximize the time available, players were given a short tutorial and a list of control keys. Participants initially played each game with no instructions, and then were directed to a few points where the games were presaved.

A phenomenological methodology guided the research design. Such methodologies which focus on how the artifact is received and experienced (player-centered rather than text-centered methodologies) are particularly important for analyzing authorship and agency, given their highly interpretative nature.

The transcript data was analyzed as follows. Participants' transcribed statements were divided into unitary statements, the basic units for analysis. Each unit comprised one sentence or a sequential series of sentences, referring to the same experience, object, event, or idea. For example, a series of sentences describing the experience of wandering aimlessly in a game environment became a unit whose referent was the experience of "wandering aimlessly". An opinion on the game-play followed by an opinion on the interface style became two separate units of meaning. The dialogue sequence between two people describing games where the level of challenge does not remain constant throughout the game comprised one analytical unit united by the shared referent, "challenge".

Each unitary statement was deconstructed under the following headings or channels:

1. *Referent*: what the statement explicitly refers to as a participant's declared concern or interest. It summarizes the problem or issue addressed.
2. *Reason***:** any suggestion by a participant to explain their reasons for concern or interest in this matter.
3. *Solution***:** any suggestion by a participant as to how an expressed difficulty might be resolved or improved. Otherwise, any such suggestion by the researcher (and indicated as such).
4. *Proposition***:** a tentative proposition or guideline based on consideration of the table's foregoing content. The proposition abstracted any "lesson" or evaluation criterion from the critiques.

Source statements and preliminary analysis carried out on them within the channels were moved as one unit into clusters. Units were clustered by comparing content in the proposition channel, that is, by the similarity of any lesson or evaluation criterion within that channel. It is significant that mutually contradictory unitary statements could reside within a cluster and enjoy equal weighting.

Clustered material was analyzed as follows. A summary proposition statement abstracting any lesson or evaluation criterion from the critiques, written for one unit within a cluster, was incrementally modified, extended or negated, based on consideration of other statements.

The outcome of cluster analysis, the proposition or summary of the lesson or evaluation criterion, was checked once more against the clustered material to ensure it satisfied the following criteria:

- that it was capable of explaining other statements on that issue;
- it completely explained a phenomenon (including, for example, if a factor is cited as influencing appeal, then more of that factor is expected to increase appeal and less should decrease appeal); that is, it had goodness-of-fit;
- there were supportive examples, but no negative examples; and
- no rival explanation met the above criteria.

If it did not account for all the collated unitary statements, the proposition was rejected or modified (for example, by including the negative instance to delimit the proposition's applicability).

Study 2 data was divided into unitary statements following the same criteria as for Study 1. The unitized statements were clustered according to the propositional groupings in Study 1. Data analysis cross-referenced Study 2 data to the list of propositions or summary findings from Study 1 to search for supportive or falsifying instances. When a new Study 2 statement did not support a Study 1 proposition idea, and that contradictory statement was a core statement or central to the idea, the proposition, or aspect of the proposition addressed, was amended or rejected.

3.   SKILL-BASED INTERACTION

We focus on two themes that arose repeatedly in players' critiques of games: first, skill-based interaction and second, players' interaction with characters.

A preliminary iteration of the skill-based interaction theme, as it emerged from the first empirical study (the analysis of four adventure games), reported in Mallon and Webb [2000] was later modified by results from the second study (the analysis of three role-play games), to take account of additional user preferences by the 13 players (to practice a range of skills,—notably strategic and sensory-motor—and to use skills involving the control of multiple variables). Our empirical examples are taken from the second study.

The idea that successful accomplishment of game tasks gives players the sense that they are the central protagonists, that they are responsible for achieving the goals, is fundamental to the players' sense of agency in game-play. If players succeed in their set-tasks, their accomplishment motivates them to continue.

Study 2 participants enjoyed demands placed on their hand-eye co-ordination skills, particularly in fast and furious action scenes where visual screen stimuli demanded rapid mouse and keyboard inputs. Participants distinguished between skilful inputs and interactions that required no more than pointing in the direction of greatest danger and pressing rapidly (the latter described disparagingly as "button pushing"). They enjoyed practicing their motor-reflex skills by visiting scenarios that required a high skill-level to get through and that allowed them to measure improvement:

- Car games – I think there is a lot of skill involved, being able to hit the brake just at the right time going round a corner because in Grand Turismo if you hit the brake too early and you slow down too much you won't get round the corner and if you hit it too late then you are just going to spin out. If you hit it at the right time, then you slide round the corner and keep your speed so there is a wee bit of skill involved there.

- It's like racing games, even though you are just pressing buttons, you have to press certain ones at exact times and you have to get the angle right to go round the corners so it is sort of skilful even though you are just pressing buttons.
- Your timing would have to be right – you get obstacles coming at you, and your timing would have to be right.

While the Study 2 data corroborates part of a Study 1 idea, i.e., that skill-demands stimulate players' feelings of control and authorship, it also offered new insights into why. In the examples above, players are adjusting a number of variables within the task, and this is one reason they give for their pleasure in playing. The difference between "button pushing" and "skilled input" is proposed to be the number of variables under the players' control. They are not just fighting, or supplying punches and kicks, they are simultaneously "dodging fire" or "ducking and diving". They are not just navigating around a corner in a car: they also have to hit the brakes, and time the brakes with the corner angle – all very quickly. Giving the players command over a number of elements not only varies the activity, but ensures that there are interim manoeuvres: the players do more than hit a button rapidly.

Participants also emphasized that the degree of sensitivity or precision with which they apply their skills is an important factor affecting enjoyment. Getting the timing right while jumping to moving platforms, dodging enemies, watching out for guards while sneaking past them, and leaping to avoid detection requires dexterity, sensitive timing, good hand-eye co-ordination, sensitivity to direction, and accurate targeting. In other words, it requires refined, subtle, and careful implementation of the players' skills. It was not just the number of variables under the players' command that influenced their enjoyment, it was also the degree of precision with which they controlled them.

The responsiveness of the environment to the players' input was a particularly important factor in enabling the users to develop their skills. For example, the players looked for greater realism in the fighting scenes through sensory response to the effects of their weapons. They felt the feedback in two of the games (some said three) was lacking and that the response was inappropriate.

- Might and Magic is terrible: You are just clicking and you can't see what you are attacking.
- Might and Magic you get these splatters of red that are supposed to be blood just landing here, there, and everywhere. While in Gothic, you actually see the dagger getting stuck into you and you sort of stumble and then fall and then someone would come over and shoot an arrow into you. It's a little bit more gory, but more realistic also. I enjoyed Gothic for that – even when I was getting killed myself. The graphics were unbelievable – really well presented.

The aspiration for realistic sensory feedback in combat scenes was not just, or even, a "bloodthirsty" craving. Further comments showed that the lack of "appropriate" response from the program led to confusion regarding what was happening. The lack of adequate sensory response affected the feeling of control. To control fighting, meant seeing and manipulating weapons; to do so fully, required feedback on an action. So the type of response they got had a powerful effect on their feeling that skill-based interaction was actually ensuing – on their sense of their own skill:

- re: Might and Magic — I didn't like the way you couldn't see your sword. It was hard to know whether it was working or not.

The degree and "intelligence" (a term the players used) of computer responses are therefore not just powerful stimulants, they are also directly instrumental in demanding and provoking the degree, range, and subtlety of skilled responses by the players.

Note that as players become more experienced, they may want the tool (or weapon) to be hidden, to disappear from consciousness — many games will offer hotkeys to hide the weapon to free screen space — but during initial play, seeing their weapon would help players to test its effects. Players want an environment that responds intelligently, realistically, and *developmentally to their interaction* – in this case, by allowing players to adapt their tool-handling over the course of a game to take their gradual learning into account.

As the number of components of a task under the players' command are extended and as complexity and the degree of precision required to implement their skills is augmented, so is the level of difficulty. Several participants expressed their frustration at not being able to achieve the basic skill levels required to advance, or to discover special game features to slow the action. The existence of a point where the level of difficulty becomes too high for the player was recognized as a ceiling overload point, identified by Csikszentmihalyi [1990], where the level of difficulty becomes so high that it demoralizes rather than stimulates the user. This is an essential boundary that must constrain the techniques (identified above) that attempt to increase complexity and sensitivity in order to enhance engagement. This is important: if tasks become too difficult, players no longer have agency: they cannot contribute to the tasks and goals:

- …and how it makes you feel. If you go into a game and you just can't do it from the start, it just makes you feel useless.

Participants wanted the game to be slightly harder than the skill level at which they entered it. They preferred to maintain a level of difficulty just out of their reach—not so easy that it came naturally, but hard enough so that they had to practice:

- You want it to be hard enough so that when you sit down the first time you are not going to be able to do it automatically. Like it is so easy that it just comes naturally to you. You want it to be slightly harder, so that it takes practice for you to become good at it, especially if it is a competitive games, like a football game. You don't want everybody to sit down and be just as good as each other at it. That would just be boring. You want it to be that it is difficult enough that you need to practice to be good and therefore if you do practice and play the game you are going to be better than the next guy that comes in to play you. That would be stimulating.

In addition, many participants expressed their engagement with games that called for conceptual planning or strategy skills together with sensory-motor activities.

- Say you have to drive one person from one point to another point in say five minutes and say there is policemen chasing you, which route are you going to take to get there in the quickest time possible. Or another one where you have to steal a car and plant a bomb in it and you can't mark the car at all. You have to get it down to the other end of town and get the bomb planted in it and get it back without a scratch on it and you only have about five minutes to do this so you are flying down the road trying not to hit any other cars. That's quite hard to do so you have to plan out how you are going to do it, which route you are going to take with less traffic. It is exciting. (re: James Bond) Sneaking up on people is just better than 'bang you're dead'.

- It gives the game player a lot more satisfaction knowing that they have strategically selected the weapon and find the way you expected it to occur — to wipe out the four people using a grenade — has actually occurred. You have succeeded. It gives you a certain amount of self satisfaction.

So participants responded extremely favorably to opportunities to make tactical and strategic decisions. In combat they enjoyed exercising stealth and cunning, as opposed to

Table I

Aspects players feel they have agency on, that they affect	Mechanisms facilitating felt agency
Partial but limited control over tools and implements for action-motor tasks such as combat or driving. (e.g., agency only in pointing a tool in the right general direction and activating it).	The functionality of tools and implements is partly automated (analogous to an automatic camera or automatic car transmission).
Adjusting and manipulating multiple attributes of tools during action-motor tasks. Greater demands on their skills through a greater degree of control than in the above limited control instances.	Placing a number of attributes of a tool's functionality under player control. Providing manual as distinct from automated control tools.
Refined, subtle, and careful implementation of the required action-motor skills.	Requiring a degree of skill (sensitivity or precision) to work the tools. Providing realistic sensory feedback during action scenes.
Stretching and improving skills	Increasing the level of difficulty by various means, such as altering the variables or conditions which affect the original challenge (e.g., speed constraints, number of opponents, progressively better competitors, variation in terrain conditions), or by providing additional challenges,—all of which make more demanding claims on players' skills.
Exercising and combining multiple skill types. (Many, although not all, players preferred the combination of tactical and strategic skills with action-motor, rather than the exercise of action-motor skills alone.)	Placing demands on strategic as well as action-motor skills for successful task performance. Differential feedback contingent on successful or unsuccessful strategies and actions by players.

acting with just brute force; in role-play team management, they wanted to choose a character with the most appropriate weapons or fighting skills and position them to cover each other: to strategize.

Implications: towards a taxonomy of where and how to incorporate player agency

A picture of players' critiques is supplied above; I now extract from these critiques a taxonomy of (a) aspects of the action-motor tasks the players feel they have agency over, that they are affecting; and (b) the game mechanisms that facilitate that perception, illustrating to the players that their input is recognized, and perhaps acted on in response. Note that players do not feel the same sense of agency in all games: that they discriminate between preferred games on the basis of these factors.

While this taxonomy is based on a simple separation between the players' feelings of agency and the mechanisms that trigger those feelings (with the demands placed on the user as the determinant), the implications are more complex. First, it supplies outcomes useful for two purposes and two user groups. It bridges between systems-centered and player-centered approaches to games analysis. The former concentrates on the game object (e.g., on game rules, game logic, game objectives, game variables, and outcomes of these through player manipulation). The latter concentrates on players' interpretations, meaning, objectives, perceptions, sensual awareness, subjective reactions and ways of viewing the game object (Egenfeldt-Nielsen [2003], using the terms "player-centered" versus "system-centered" to describe this distinction). So the taxonomy provides a bridge linking the two approaches. Second, the taxonomy delivers both analytical and prescriptive outcomes, in that it delivers (a) on how and why particular responses are engendered, which is useful for analysis and diagnosis of players' feelings of agency; and (b) feedback on interventions that may be used by game designers to develop or improve game artifacts. So it helps the analyst to understand the players' motivation and thinking; and shows the designer where and how to incorporate user input or triggers.

4. CHARACTERIZATION

The discussion below briefly summarizes the players' response to their interactions with game characters (discussed in detail in Mallon and Webb [2005]) before this work was extended to include that response in the development of a taxonomy to deconstruct perceived agency.

While players sought realism in the games, in the expectation that the environment would conform with the physical laws of the outside world, as discussed in the context of sensory feedback during fighting scenes, they also sought realism in the behavior of the game characters. Players complained about game characters' identical responses when clicked on repeatedly; they expected evidence to indicate a relationship had been established.

- I have played games before where maybe they had ten different things to say so the first time you walk up to them they say, "O, I can have you!" and the second time they say, "Are you joking, leave me alone!" and the third time they say "I am starting to get annoyed. Can you leave me alone!" They remember that you have been to them before and therefore if you keep going up and up and up they say "Go away" or whatever, because they realise that you are just pestering them.
- It's not taking away from the realism of the game because that is what someone would do.
- (re: Grand Theft Auto) They know you from before because you have worked with them and then betrayed them to somebody else.

The players wanted characters to remember previous interactions in the short-term and the long-term, and to behave accordingly (although in dialoging with characters players were anxious that information they might later need be repeated).   The programmed "memory" mentioned in the last comment is complex.

As well as variety in their interactions with game characters, players also wanted the response to be appropriate to circumstance and character motivation:

- In Gothic, the guy sent me to do this task because I needed to get into the castle, and I just wanted to see what would happen if I ran past him into the castle, and the first time I did it the guard stepped forward and went "you can't go in yet". I did it the second time, and the guards this time said "Just one more step and you're dead" sort of thing – something different, and I went in the third time and they drew their swords and killed me. So it had two warnings but it was not repeated. That was quite good. But at the same time they didn't just take their swords and kill you the first time you did it. Otherwise you could just be running around and be close enough to the castle and it wouldn't happen by accident, you wouldn't get hit by accident.

This suggests a subtle refinement of the parameters of consequences—that they should not only be harmful or beneficial, but calculated and appropriate. Players want the degree of the penalty to match the degree of the fault; they hope for a measured response.

The players' desire for agency was also expressed in their thoughts about their own characterisation. Their pleasure was enhanced or diminished depending on how well their own character was drawn and how discernibly this could be measured in terms of game action or consequence. For example, at the beginning of *Morrowind*, players were given a series of choices in outlining a character or persona to represent them in the game. They assumed that choices would prove significant later, perhaps in their abilities, their skills, or their weaponry. Possibly the games might have eventually provided evidence of significance, but in the time players spent playing, they were disappointed:

- I had a dagger, I'm supposedly a warrior and I'm fighting a monk and he just had his fists, and he beat me, killed me. I don't understand how a monk beat me up if I am an imperial soldier. It seemed a bit strange.

Players responded extremely favorably to the inclusion of psychological elements such as trust in a game, allowing them to make moral or attitude choices, and to evidence that such choices were consequential. They particularly liked it when the approach they chose regarding attitudes such as rudeness, politeness, goodness, or badness had a subsequent effect on the action.

- In Gothic there was sort of an ignorant answer (to the Guards), or else you could be nice to try to get them to let you in.
- Did you ever see a film called 'The Thing'? It's a very good film with Kurt Russell. He doesn't know who to trust and the game is the sequel of that. It's about what happens after the people around you are reacting to your actions because they don't know who to trust either, so if you act irrationally like shooting your gun off or pointing your gun at them for no real reason, they will start to get agitated and annoyed, until finally they just destroy you completely and kill you. So they are acting directly to how you are acting. So if you give them weapons, they will trust you more.

The invocation of psychological issues is very favorably received.

Implications: towards a taxonomy of where and how to incorporate player agency

We deconstruct such critiques to build a taxonomy that classifies where and how the players feel they have agency in their interactions with game characters.

The examples show how characterization can be made interactive for players. Issues of characterization, relationship, and trust are directly intertwined with the game-play – creating a greater sense of realism, presence, and acceptance.   The players' pleasure was enhanced or diminished depending on the skills demanded from them during interaction, how well both their own and other characters were drawn, and how discernibly this could be measured in terms of game action or consequence.   Players' responses underline the role of interaction and agency in assisting their suspension of disbelief.

Table II

Aspects players feel they have agency on, that they affect	Mechanisms facilitating felt agency
Making intelligent, moral or attitudinal choices.	Good and bad dialogue choices (provocative or compliant, polite or rude) or behaviors (i.e., stealing, initiating combat) having differential consequences.
The motivation for their behavior, their intentionality, is significant.	Ensuring that action consequences are commensurate with players' intentions and motivations (e.g., by capturing data on the number of attempts at inappropriate behaviors or calculating rewards and penalties on the degree of success or fault).
Building relationships with game characters on a psychological level.	Introducing alliance and adversarial relationships between game-characters and players based on moral and attitude exchanges involving trust, rudeness, politeness, good, and bad behavior.
Building long-term relationships (negative or positive) within the game world.	Long-term recording and remembering of player actions by game characters to give temporal or historical evidence that a relationship had been established, and to underline longer-term significance of user input.
Their own character design: players' choices on their avatar's persona. (Options to select an avatar (the main character controlled by and representing the player) or a team, and adapt their appearance, skill-levels, or personality-traits, may be provided.)	Responding by proving choices significant later in abilities, skills, or weaponry.

5. CONCLUSION

Given Myers' complaint that beyond a number of broad notions [6] interaction is ill-defined, the descriptive taxonomy (based on variables significant to players), with its operational specifications that establish the empirical existence of concepts [7] should prove useful. The above deconstruction tables were developed upon critiques relating to two dimensions of interaction only: skill-based motor interaction and interaction with game characters. They serve only to exemplify how the taxonomy works: a more extensive and multileveled taxonomy could be developed from additional studies, including additional games, with demands placed on the user as its principal determinant. With an inclusive listing of many parameters that influence interaction, it could (a) be called upon by designers when deciding where and how to incorporate user input or triggers; and (b) be used to evaluate game quality.

Similar opportunities for player agency are not supplied in all games. Players compared the games on the basis of such features, distinguishing skilful inputs from those that required no more than "button pushing" (pointing in the direction of greatest danger and then rapidly pressing buttons), and criticizing the lack of adequate sensory response during combat scenes because it affected their feeling of control ("I didn't like the way you couldn't see your sword. It was hard to know whether it was working or not"). They criticized games where the characters did not remember players' input either in the short-term or long-term; where motivation for actions was not accounted for (skeletons "coming at you for no reason"); where bad behavior (e.g., stealing repeatedly in front of a guard) was not penalized; and where avatar choices were not significant ("it makes no difference what you choose to be").

It is clear from their critiques that players judge game quality on the extent to which their agency is enabled or inhibited. Therefore, a useful outcome of building such a taxonomy is that it provides a means for assessing the quality of the interaction.

Despite the sometimes heated debate [8] in the late 1990's and early 2000's on the relationship between narrative and games (a key issue was the disruption in authorship by interaction), the question of how the user influences the content, structures, process, or outcomes of a narrative in games has never been fully resolved. It still remains one of the most crucial and problematic questions (and the subject of many experiments) in the development of narrative games such as adventure and many role-play games. Any answers will broadly benefit our understanding of interaction in new media. Concerns over authorship date back to early literary criticism, but as authorial control is one of the features most disrupted by new media, new insights are needed. Giving players opportunities to contribute to the narrative is one of the largest challenges facing narrative-game design, but achieving it is essential to the evolution of interactive

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[6] Myers (2003:76-79). Myers cites Reeves' (1999) definition of interactivity in a learning environment: "A learning environment is 'interactive' in the sense that a person can navigate through it, select relevant information, respond to questions using computer input devices such as a keyboard, mouse, touch screen, or voice command system, solve problems, complete challenging tasks, create knowledge representations, collaborate with others near or at a distance, or otherwise engage in meaningful learning activities." Calling for a semiosis of play, Myers says that beyond such broad notions as denoted by Reeves, the term interactivity is ill-defined, used differently by different disciplines and rests on shifting conceptual grounds.

[7] Operational specifications demonstrate the existence, or the degree of existence, of an empirical occurrence of a concept. They are testing mechanisms: they might be instructions to be carried out, criteria to be fulfilled, or examples to establish the concept's presence.

[8] Theorists engaged in the debate included Eskelinen (2004), Frasca (2003), Jenkins (2003), Juul (2003; 2001; 1999), Laramee (2003), Onder (2003), Kücklich, (2002), Ryan (2001), Carson (2000), Costikyan (2000), Egenfeldt-Nielsen (2000), Adams (1999), and Talin (1998), among others.

narrative. Unless we provide such opportunities, narrative (and its attendant benefits) risks being sidelined in the development of games.

The approach underlying the taxonomy that defines interaction from the player's perception of agency forms a bridge between the "landscape of action" and the "landscape of consciousness" (to borrow terms from Bruner's [1986] conception of narrative). It captures within the taxonomy the interpretation that humans put on actions and events in terms of goals, intentions, motivation, values and attitudes – a type of reader-response approach that includes the players' needs and affect. It recognizes that good agency and good interaction spring from players' desires as well as the game artifact.

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