

“Does immersion in games have any impact on a games quality?”

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P086888

**Submitted in partial fulfillment of the requirements of BA in Creative Computer Games
Design**

Swansea Metropolitan University

1st February 2008

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Table of Contents

Statement of Research.....	5
Introduction.....	6
Gameplay.....	6
Tactical Immersion.....	6
Strategic Immersion.....	7
Engagement.....	8
Ambience.....	9
Vision.....	10
Engrossment.....	10
Believable location.....	11
Narrative Immersion.....	12
Suspension of disbelief.....	12
Total Immersion.....	14
The SCI-Model.....	15
Research Summary.....	16
Method.....	16
Brief Game Overviews.....	18
Results and Findings.....	19
Tactical Immersion.....	19
Interface.....	20
Strategic Immersion.....	21

Sound.....	22
Vision	24
Character Emotions	24
Suspension of Disbelief.....	26
Further Findings.....	26
Gameplay.....	27
Cameras	28
Making the player play with caution	29
Level Decoration	30
Cut-scenes.....	30
Conclusion	31
Appendix.....	35
Bibliography	36
© Matthew Barry - No reproduction without express permission of this author.	
Notes taken whilst playing the chosen games.	38
Terminator 3: Rise of the Machines	38
Lord of the Rings: Fellowship of the Ring.....	40
God of War Two.....	42
Enemy List.....	44
The 400 Project	45

Images

Page 28: Image 1 – God of War: Perseus Fight – 2007

Page 30: Image 2 – Lord of the rings: Renders of Frodo (player character) – 2002

Word Count: 6282 (without references and tables).

Statement of Research

Immersion is a phrase used frequently in the gaming industry to review, rate, promote and describe video games. Players are known to play games for hours on end due to immersion. They are so involved in the game experience that they have no record of what time it is or how long they have actually been playing. Making a game immersive is not an easy task.

This dissertation looks at immersion in games, what makes them immersive and if immersion is the key to successful games within the industry. Different types and views of immersion will be looked at and how they are achieved. The different views will be compared with one another to see if there are any similarities.

Looking at and comparing different types of immersion will supply a set of rules/methods on what makes a game immersive. With this information, immersion can then be measured within games.

Once this information has been obtained, games rated at different levels (highly ratings, medium ratings, low ratings) will be looked at. The games will be analyzed to see if they have the immersion elements (found in my research) within them. This way, we can find out if immersion is a big factor that makes games sell.

By the end of this experiment, a new, clearer message on how to create immersion in games should be available.

Introduction

Immersion is a phrase used frequently in the gaming industry to review, rate, promote and describe video games. Players are known to play games for hours on end due to immersion. They are so involved in the game experience that they have no record of what time it is or how long they have actually been playing. Making a game immersive is not an easy task. This dissertation will examine various key elements in game design which contribute towards promoting player immersion and the extent to which these elements are implemented within modern games.

Immersion and suspension of disbelief are talked about a lot in the gaming industry. However, there does not appear to be a single, correct explanation of gaming immersion as a whole. According to Ernest Adams (2004: http://www.gamasutra.com/features/20040709/adams_01.shtml), there are different types of immersion which can be used for different games. Each type can be created or destroyed with certain gameplay elements.

These different views have been looked at and broken down into three elements of games: gameplay, ambience, and narrative.

Gameplay

Tactical Immersion

Tactical immersion is when a player is immersed in the fast paced/immediate parts of gameplay (Adams, 2004: http://www.gamasutra.com/features/20040709/adams_01.shtml), which players often refer to as being 'in the zone'. Typically, players become extremely focused on hand-eye co-ordination. Examples of this would be *Tetris* and *Geometry Wars*.

Both games require a lot of hand-eye co-ordination which may induce a trance-like state within the player.

Challenges that can be solved in a split second are needed to achieve tactical immersion. For example, in *Tetris*, shapes need to be rotated in rapidly; in *Geometry Wars*, players need to shoot in a certain direction. Anything too complicated or that makes the player think for more than a second could easily destroy the immersion. Games like these do not tend to have any other major play strategies. Also, they do not have big storylines. The player should be so immersed in the tactics that he/she would not want to pay much attention to the rest.

User interface (UI) plays a big part in tactical immersion. The trance will be destroyed if there are slow, sloppy controls. The UI needs to respond quickly with the controller and the controls should be fairly simple. Gameplay throughout the game needs to be relatively constant – any major changes such as a boss that can only be defeated in a way different from the rest of the game will break the immersion.

Strategic Immersion

Strategic immersion is promoted when games require players to think about how they play, as opposed to mere hand-eye co-ordination. The type of immersion concerns creating a route to success, which may be achieved through numerous opportunities/possibilities. You must analyse, calculate and work out what to do next. This type of immersion can be found in different types of games. In *Command and Conquer*, players must find out where the enemy is and think about their next path in order to stay safe or complete the mission. In *Theme Hospital*, the objectives are to record the average amount of accident and emergency patients who come in per day to make sure you have enough free beds. This shows that the game does not need to be turn-based or involve battles to be strategically immersive.

Irrational gameplay can break the immersion (Adams, 2004: http://www.gamasutra.com/features/20040709/adams_01.shtml). So, for example, soldiers from *Command and Conquer* may choose an inferior path (such as one which leads to danger or death) when there is a much safer path somewhere else. You would not expect soldiers to do this in real life and you would get annoyed if they done this in the game, and therefore, breaking the immersion. If a game includes too many mistakes like this, the player will find it difficult to create a strategy that works.

Like tactical immersion games, strategically immersive games do not make it compulsory to follow the story. Some games offer stories, but these could lead to the player being distracted from his/her plans and moves.

Cairns and Brown (2004, *A Grounded Investigation of Game Immersion, PDF*) have their own views on what they think are the three levels of immersion. They believe engagement is the first step.

Engagement

Cairns and Brown (2004, *A Grounded Investigation of Game Immersion*) say that immersion barriers are needed to be lowered to get the player engaged within the game.

The player must spend time, give effort and pay attention to what is happening in the game for this to occur. If a player does not like a certain aspect of the game right away, he/she will probably not even attempt to play the game.

The player must be able to learn the main controls of the game very quickly. The player must not get frustrated by difficult controls so that they will want to keep playing the game.

The things talked about here are features of gameplay that, according to Cairns and Brown (2004, *A Grounded Investigation of Game Immersion*), need to be addressed correctly. This will allow the player to engage in the game and reach that first stage of immersion.

Ambience

Anything that adds to the natural look and feel of a game can be viewed as ambience. According to Andrew Rollings and Dave Morris (2004: *Game Architecture and design, Pages 142-143*), one guiding factor in determining whether immersion makes games more successful relates to a game's ambience. It is stated that "*the best elements of games are those that enhance ambience as well as gameplay*". If this is true, immersion is a big part of making games successful. This will be covered later on.

Rollings splits ambience into categories – sound and vision.

© Matthew Barry - No reproduction without express permission of this author.
According to *Game Architecture and Design* you hardly notice sound in games:

"It can work on your subconscious mind and draw you into the game world without you being aware of it".

(Rollings and Morris, 2004, Page 143),

The music (and also other sound) adds to the atmosphere of the game. An example of where sounds play an integral part of a game can be seen in titles such as *Guitar Hero*, which is based on playing the right guitar notes as they appear on screen. If you miss a note, a horrible sound is played, and you fail.

Vision

Vision is not seen as just how sharp the graphics look. Rollings and Morris (2004: *Game Architecture and design, Pages 144-145*) explain that the actual style of the game affects the vision. Things like crooked buildings rather than normal straight ones will make the game more eerie and spooky. This affects the atmosphere of the game. They also talk about the use of colour, which can affect the ambient feeling of a game. In *Sin City*, the film is shot in black and white, giving it a cold, lifeless feel. However, sometimes when a character is attacked, bright-red blood bursts from the wound. This makes the attack seem a lot more aggressive and shocking. This type of scene would not be powerful and memorable if it was all in colour.

Engrossment

© Matthew Barry - No reproduction without express permission of this author. Looking back to the Cairns and Brown (2004, *A Grounded Investigation of Game Immersion*)

theory the next stage after engagement is engrossment. Good game construction is needed to allow engrossment to happen. The game elements need to unite in some way so that the gamers' emotions are now also affected by the game. These elements include visuals, interesting tasks and plot. Due to the investment in time, effort and concentration put into the game at this point, the player now becomes emotionally involved with the game.

This is where the player is less aware of his/her physical surroundings. Some players tend to eliminate any distractions in their surroundings (lights off, phone off etc) so they can enjoy all of the game's elements. They suspend their disbelief of the game world – this allows the gamer to then be able to go onto the next stage of immersion, referred to as total immersion, which will be discussed later in this dissertation.

Believable location

With the technology available today, it is not hard for game companies to create a realistic looking world. However, graphics alone do not create a believable location. The location must react to certain interactivity and forces.

“Realistic graphics must be matched by realistic behaviour, if you cannot achieve the latter, ditch the former”

(2003: Chris Crawford on Game Design: Page 112)

This is where physics comes in. The objects within a fantasy landscape/location should react to magic/powers, so for example, a blast of energy should knock over something/smash a window. It is about keeping the environment consistent and believable.

The items/objects in good games are usually so sharp/detailed that they blend in together so that the level/place gives off a natural aura like it would in the real world. When playing *Tomb Raider Legend* on Xbox 360 after playing *Rainbow Six: Vegas*, *Tomb Raider* is no longer as realistic because of the items/objects. Even though the items in *Tomb Raider* have great textures and 3D models, objects such as crates and broken buildings look like they have been added there by a games designer without any reason. In comparison, *Rainbow Six: Vegas* only incorporates items that would be seen in the area you are standing in. For instance, in a casino, there are slot machines, roulette tables, etc. No crates would be seen here. Attention to this sort of detail helps to create a believable atmosphere, allowing the player to become more immersed in the game.

Narrative Immersion

Being narratively immersed into a game would be very similar as if you were narratively immersed into a book or film. (Adams, 2004: http://www.gamasutra.com/features/20040709/adams_01.shtml) People become immersed in the story when they create an emotional bond with the characters on screen/paper. They want to find out what happens to the characters in their journey through the story. If the narrative is written well enough, players may ignore the bad or annoying elements of gameplay such as random artificial intelligence (AI) movements, difficult controls etc.

Obviously, a story told well will create narrative immersion. If the story contains emotionless characters, unlikely events or bad conversations, the immersion is broken. A lot of game businesses employ professional story writers to write the game narrative.

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Suspension of disbelief
When reading a fiction novel, watching a film or playing a game, you are regularly expected to believe in a story/event that you would never believe would happen in reality. For example, a reader is probably not going to believe that one soldier could infiltrate and destroy a whole Navy/RAF base. Sci-Fi and fantasy films, in particular, require the audience to believe in something imaginary, such as a terminator coming from the future to protect a 14-year-old future war leader, or, you are expected to believe that a small farm-like creature has to take a small ring across miles of land to destroy it before it ends the world. You would not believe these stories if they were shown on the news channel.

So that you can take pleasure in watching/playing/reading these events, your sub conscious mind tells you to believe that the fiction you are interacting with is real (for the duration of

the activity). This is known as suspension of disbelief. (2003: Andrew Rollings and Ernest Adams on Game Design, Page 58)

When you are playing a game, your mind will suspend your disbelief, however, this only works to a certain extent. The more factors the game has to maintain the illusion of reality, the more immersive the game will be. However, the writer cannot push the limitations of believability too far.

“If a character that is supposed to be walking on the ground starts walking into the air for no recognizable reason, players will realise it is a bug and their suspension of disbelief will be lost”

(2005: Richard Rouse: Game Design Theory and Practice: Page 13)

This will be looked at in further detail during the experiment.

One of the biggest aspects of maintaining the suspension of disbelief is harmony. (2003: Andrew Rollings and Ernest Adams on Game Design, Page 58). Harmony is when everything included in the game feels like they are all part of one integrated whole. Everything looks and feels consistent. Adding extra features such as extra blood, huge explosions, bad language etc is unnecessary. Anything you add that does not fit with the world can ruin the illusion of the world (breaking that suspension of disbelief). This comes down to believability.

Believability plays a big part in achieving immersion in games. “Believable agents” is now a term used to describe aspects in games that are life like, (http://www.csc.liv.ac.uk/~mjw/pubs/ker95/subsectionstar3_5_4.html) whose actions and reactions make sense, and who are not featureless/emotionless objects that appear on screen.

Total Immersion

According to Cairns and Brown, total immersion is when “*the player can empathise with the game characters and feel the atmosphere of the game*”. To create a believable atmosphere “*The game features must be relevant to the actions and location of the game characters*”. Similar to the “*Believable location*” section talked about previously. If players become totally immersed, the game becomes the only thing that they care about. The real world is blocked out.

They say that if the player cannot associate with the game characters, it will prevent total immersion. A very interesting statement. Some would argue *Sonic the Hedgehog* and *Mario* had almost no story and revealed very little about themselves. However, they were very successful games – so, perhaps total immersion is not needed for games sales.

As stated by Ed Hooks, empathy is the key. ~~© Matthew De Hoy, No reproduction without express permission of this author.~~

“People need to empathise rather than sympathise to get them emotionally involved with a character.”

(Acting for animators, SAND 2007, Swansea Institute),

However, he says you cannot empathise with a character you can control. The character needs to do actions himself in order for you to empathise with them. Hooks says that a friend/sidekick for the character is needed. He states that you can empathise with the friend through the main character and become extremely involved with him/her when they are in danger or need help. Friends and companions will be looked at when the experiment for this dissertation is carried out.

A well written story can engross a player into a game and urge him/her to play so they can see what happens next. However, the game may seem as if it should be a movie if it does not

include exciting gameplay. (2004: Rollings and Morris: *Game Architecture and design*, Page 37)

Rollings and Morris say that using a game to tell a story is something that should be left alone. If you just want to tell a story, you should write a book, play, script etc.

The challenge with games is to intertwine these stories with gameplay. Due to the fact that these naturally do not work together, a player may get distracted from a story by playing some random gameplay or vice versa.

The SCI-Model

Laura Ermi and Frans Mayra (2005: *Dark Waters: Spotlight on Immersion*, Page 1) (game researchers) have their own look on immersion in games. They designed a gameplay experience model which focuses on three types of immersion: sensory, challenge based, and imaginative (SCI). - No reproduction without express permission of this author.

Evidently, sensory immersion suggests that it aims to concentrate on the player's senses. "Large screens close to the players face and powerful sounds easily overpower the sensory information coming from the real world". This makes the player totally concentrated on the game itself.

Challenge based immersion – "When one is able to achieve a satisfying balance of challenges and abilities".

Imaginative/Fictional Immersion – "One becomes absorbed with the stories and the world, or begins to feel for or identify with a game character".

As you can probably see, the summarised types of immersion talked about in this dissertation (Gameplay, Ambience and Narrative), are the main types of immersion in the SCI model.

Research Summary

As you can see, immersion in games is a difficult topic to define. There are different views on immersion that are all valuable and useful. There are a number of types of immersion that are promoted in different ways. Not all games contain these different types of immersion. Immersion is endorsed by how the player controls the game, good game construction and believable visuals and stories. Ambience and good gameplay are needed to create good games. Players need to empathise with the characters in order to become emotionally immersed within the narrative of games. Overall, immersion can be measured by looking at a number of significant elements. These will be looked at and examined to see whether or not immersion has an impact on a games success.

Method

© Matthew Barry - No reproduction without express permission of this author. With all of the research gathered, the next task is to devise a suitable method which can be used to measure immersion. The main objective is to determine whether or not immersion makes games more successful. In order to achieve this, a range of games with different levels of quality will be examined. This experiment will include a high-rated game, a medium-rated game and a bad-rated game. Games ratings from *www.gamerankings.com* will be used. This site collects ratings from numerous industry critics (from gaming magazines, websites etc). It also allows anyone who has played the game to submit their own reviews and ratings. The site then creates an average score for the game, based on the critics and players ratings.

In total, three games (shown in Table 1) will be examined on the *PlayStation2*. The analysis will help to explore whether or not there is any relationship between the level of immersion and game quality. The results may also give an indication of the importance of various elements such as graphics, style, and story, within the chosen games.

Table 1 – Games chosen for this analysis

Game Title	Average Rating (www.gamerankings.com)
<i>Terminator 3: Rise of the Machines</i>	38.6%
<i>Lord of the rings: The Fellowship of the Ring</i>	63.4%
<i>God of War 2</i>	92.6%

Each game is categorised into the Action/Adventure genre. The main story/part of the game will be played from the beginning to the end (sub/bonus games will not be included for this dissertation). If only a certain level/section of the game is played, the player will not receive the full experience of the game. This would lead to ineffective results which would not be suitable for the intended task.

Notes will be made throughout about anything that stands out in the game. After each session of play, notes will be made on how the game makes the player feel and if the game makes the player become immersed in the game in any way.

To actually record immersion within these games, a checklist has been produced. The list is made up of the main points talked about in the above discussion. Each game will be played to see if they have these elements within them. Also, the time period in which some of these elements actually occur in the game will be recorded. For example, one game may have a level that immerses the player to a great extent. However, the other levels may not immerse the player at all. Therefore, the game would not be considered as very immersive.

If the high-rated game contains a lot of the points discussed above, and the low-rated game does not, this shows that immersion plays a part of the games success.

Table 2 - Example Checklist

Element of Immersion	Comments/Rating	Time Period
1. Gameplay		
Tactical		
Split second challenges		
No/little Story		
Strategic		
Irrational Gameplay		
2. Ambience		
Sound		
Vision		
Interface – does it divert you from the gameplay?		
Believable Location		
3. Narrative		
Character = emotionless/full of emotion		
Conversation skills		
Unlikely events		
Suspension of Disbelief pushed too far?		
Harmony		
Can you relate to the character?		
Does the protagonist have a sidekick/friend?		
4. Other		
Are there any bugs/glitches within the game?		
Are the controls easy to learn?		
Do you feel immersed?		
Any other comments?		

Brief Game Overviews

Terminator Three: Rise of the Machines (T3) - based on the film, the game takes you into a world where the human race is on the brink of annihilation. You battle through a post-apocalypse war to stop the machines from executing John Connor (human resistance leader).

Lord of the Rings: Fellowship of the Ring (LOTR) – based on the book, you follow the storyline of a fellowship on a journey to destroy the one ring of power. You encounter fantasy creatures such as Orcs, Goblins and giant spiders.

God of War Two (GOW) – set in mythological Sparta, the game tell the story of Kratos as he rules over war and journeys to the far reaches of earth in an attempt to change his own dreadful fate.

Results and Findings

The discussion below relates to the notes taken whilst playing the games from beginning to end. The most appropriate findings and results are talked about; some smaller, less suitable outcomes can be referred to in the appendix.

Tactical Immersion

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At first you would not think any of the chosen games would be very tactical, and for two of these, this was certainly the case. LOTR and T3 had no split second challenges within them – therefore, according to Adams (2004: http://www.gamasutra.com/features/20040709/adams_01.shtml) you cannot become tactically immersed within these games. However, GOW has what are known as QuickTime Events (QTE's). Basically, it is a cutscene that requires you to press a certain button when it is shown on screen. If you do not press it quick enough (usually within a second) you fail/die. You do not have time to look at the controller to see what button to press. Since players need to pay constant attention to the screen, QTE's emphasise the need for quick hand eye co-ordination, making the player become immersed in the game. This corroborates with Adams (2004: http://www.gamasutra.com/features/20040709/adams_01.shtml)

Interface

In all three games, you have number of powers/weapons that you can choose from. In T3 and LOTR, you have to cycle through these weapons in order to choose one. LOTR freezes the gameplay whilst you do this and it can become tedious. This is best shown during the Gandalf vs Balrog fight.

You play as Gandalf who can only heal himself by using one of his powers. Any attack from the Balrog results in a lot of damage (meaning you need to heal yourself every time you get hit). After you attack you will probably get hit, so you need to cycle through the weapons to the healing power. After that, you cycle back to the attack powers and repeat the process. During the whole fight you will cycle though the power approximately 10-15 times (meaning the gameplay stops/freezes 10-15 times). This is meant to be a boss battle that should be very intense but the immersion is broken due to the constant stops in gameplay. In the previous © Matthew Barry - No reproduction without express permission of this author. discussion above, Adams says that immersion will be destroyed if there are slow, sloppy controls (2004:http://www.gamasutra.com/features/20040709/adams_01.shtml). This was proven here.

T3 allows you to still control the character whilst cycling through weapons. However, if you are in a battle and have no ammo, you have to cycle through other weapons whilst enemies fire at you (making it rather unfair). GOW allows you to select each power with a press of a button. Each power has its own button. This allows you to quickly select one in times of need. Whereas the T3 and LOTR user interface diverts players from gameplay, GOW includes the user interface into its gameplay through the QuickTime Events.

Adams says that tactically immersive games do not include big storylines (2004: http://www.gamasutra.com/features/20040709/adams_01.shtml). However, you would

disagree with this statement after playing GOW. GOW has a large storyline and has tactical challenges within it. Of course, the game is not all based on split second challenges. To make Adams' theory more accurate, you could say that games consisting of *only* tactical challenges have no/little story and games that include *some* tactical challenges may have larger stories.

Strategic Immersion

As said above, irrational gameplay breaks strategic immersion (Adams, 2004: http://www.gamasutra.com/features/20040709/adams_01.shtml). The soldiers (your allies) in T3 can be very unintelligent. Some soldiers run out into open areas (when there is plenty of cover) and get shot or die. In one particular mission, a certain soldier is meant to fix a machine so you can advance through the level. On some attempts, the soldier would stand in the same spot, even when all threats were eliminated. This went on for so long that the level needed to be restarted. Other times, he would run straight to the machine whilst a number of enemies were firing at him.

“Make the Game Appear Fair to the Player”

(Noah Falstein – Rule 55 added to the 400 project - <http://www.theinspiracy.com>)

(See appendix for a detailed description of the 400 project.)

In LOTR, the hobbits (your allies) do not keep up with you when they are easily capable of it. You then come across multiple enemies that you have to fight on your own. The other hobbits should be helping and it makes the game seem unfair. However, during some battles, the enemies just stand there when you attack them. The enemies obviously seem brainless and this can also break the immersion.

Throughout GOW, the enemies seem clever. If there are multiple enemies, they circle around you and close in. They also use their shields realistically. For example, they will only block when you attack. Unlike LOTR, when sometimes the enemies constantly block even if you are a number of feet away from them. You need to think about and plan your attacks in GOW. As you can see so far, the higher the rating a game has, the more immersion elements it has within them.

Sound

Rollings and Morris say that sound can work on your subconscious mind and draw you into the game (2004, *Game Architecture and Design*, Page 143) However, the sound throughout T3 is overall poor. The big, powerful guns only give off a soft electronic sound when they are fired. They sound very weak and you would not believe that they could destroy enemy robots. This type of sound in games conflicts with rule number eighty seven from the 400 © Matthew Barry - No reproduction without express permission of this author. project.

“Make the Player Feel Special and Powerful”

(Bruce Harlick - [://www.theinspiracy.com](http://www.theinspiracy.com))

You feel very weak with the weapons supplied and in no way to they make you feel special. Also, the background music does not really fit to the scenery and is repetitive. There is no change in the tempo of the music. It stays the same speed throughout. The very poor quality of the sound in game makes it stand out, meaning that it does not subconsciously immerse you into the game. The T3 sounds are not very clear and they blend together to create one annoying track.

In LOTR however, the music fits in well with the levels. For example, in the Shire (a farm like peaceful place), the music is soothing and relaxing. It gives a good impression of the place. The game uses a lot of atmospheric sounds you would expect to here, such as birds, running water etc.

In GOW, the music changes depending on gameplay. If you are fighting, the music would be fast and loud. If you are solving puzzles, the music slows down and becomes less enraged. GOW also uses a lot of atmospheric sounds such as wind for high open areas, small rocks falling in caves etc.

The quality of the sound can have a major impact on the game.

“In a study done by Lucas Film when they were testing out the THX standards, it became apparent that decent sound can actually fool the brain into thinking the picture is better.”

(Jake Simpson - <http://www.gamedev.net/reference/articles/article1130.asp>)
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The study consisted of a group of people. They watched the same film twice; once with average quality sound and then with high quality sound. The feedback showed that overall; the group thought the movie with the high quality sound looked graphically sharper too.

This is why sound should not be seen as less important within the games industry. Sound should be seen as important as the graphics and gameplay itself.

“The hardware is there, there is just not the concentrated effort placed on that facet.”

(Michael Lafferty - http://pc.gamezone.com/news/09_14_07_12_30PM.htm)

Vision

The vision throughout T3 is mostly the same. Most levels consist of rubble, concrete and stone pillars. The repetitive imagery does not keep the player visually excited. The game is supposed to be visually realistic. However, due to the blocky modelling of rubble and buildings, it makes you feel as if you are only playing a computer game. You find it hard to believe that it could be happening in a real world.

Rollings and Morris say colour can affect the ambience of a game (*Game Architecture and Design*, 2004, Page 143). The colours in T3 are quite de-saturated and not very contrasting. This makes the game look quite boring in parts. However, in one level, you are inside a base full of electronics and machinery. The colours here are very bright and saturated. These colours make the game look almost cartoony. The sudden jump of colour styles makes you feel as if you are playing a different game which obviously affects your state of immersion
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within the game.

Character Emotions

T3 already has a problem when you try to relate to the player character. You play as a robot so as expected, the robot contains no emotion in his voice or facial features. The character is very blank. As stated above, emotionless characters are not very good storytellers and they are hard to relate to. (Adams, 2004:
http://www.gamasutra.com/features/20040709/adams_01.shtml)

Therefore, it is difficult to react emotionally to the characters actions. You do not really care if the character 'dies' because it has no feelings, it is just a machine. If you were playing as

human however, you would be more emotionally involved with the character because you would be able to understand the thoughts and feelings he/she is going through.

The LOTR characters have emotional voices but their faces and body gestures are blank. The physically expressionless characters almost make them seem robot like. When they do portray strong emotion through voice, it makes them look like they are bad actors because the emotion is not shown through the body. They are not convincing which naturally does not make you believe in what they want to achieve.

Kratos (GOW player character) is very stern and angry all of the time. The emotion is exposed through his face, voice and actions. However, in one scene only, we see him being apologetic and remorseful to his dead wife (she appears as a spirit). This was totally not like him and the dramatic change in behaviour shocked you and engrossed you into the scene. The unexpected event and scene of forgiveness made you want Kratos to carry out and achieve his goal even more.

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This leads on to what Ed Hooks said about player characters. He says that you cannot empathize with someone you can control, but you need to empathize with them to become emotionally attached to them. However, when you play GOW, you thoroughly hope that Kratos gets his revenge on the Gods of Olympus when the forgiveness scene is shown.

Of course, at that point a cutscene is showing, so you are not actually controlling the character. However, when you play from there on, and especially when you are fighting Zeus, the master of all gods, you wish to inflict a lot pain and despair on your enemies to get revenge on them for killing *your* wife. The wife no longer belongs to Kratos, you believe she is yours and it is your responsibility to revenge her.

Suspension of Disbelief

T3 includes a level that gives you access to play missile command (1980's arcade game). Why would a robot, who is destined to save the world from other robots, want to play an old arcade game in the middle of a battle? The location of the arcade cabinet is full of rubble and beat down but the cabinet appears fine. This is a perfect example of where the suspension of disbelief has been pushed too far. Also, during hand to hand combat levels, one machine is able to do back flips and other acrobatics. These machines are supposed to weigh over 1000 pounds.

Rollings and Adams state that harmony helps with the suspension of disbelief (2003: *Andrew Rollings and Ernest Adams on Game Design, Page 58*). The arcade cabinet looks like it has just been added there for fun and it does not fit in with the rest of the world. Also, T3 has a lot of unnecessary explosions that make you feel as if they were added to make the game look attractive. These excessive features help to break the suspension of disbelief.

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LOTR and GOW work well at keeping the suspension of disbelief intact. LOTR includes one small problem however. One character has an unlimited amount of arrows in his arrow case. This is a small problem that may stop the character from being a believable agent. Everything in the GOW world looks like it could happen within the world. There is nothing that stands out and makes you feel as if it should not be there.

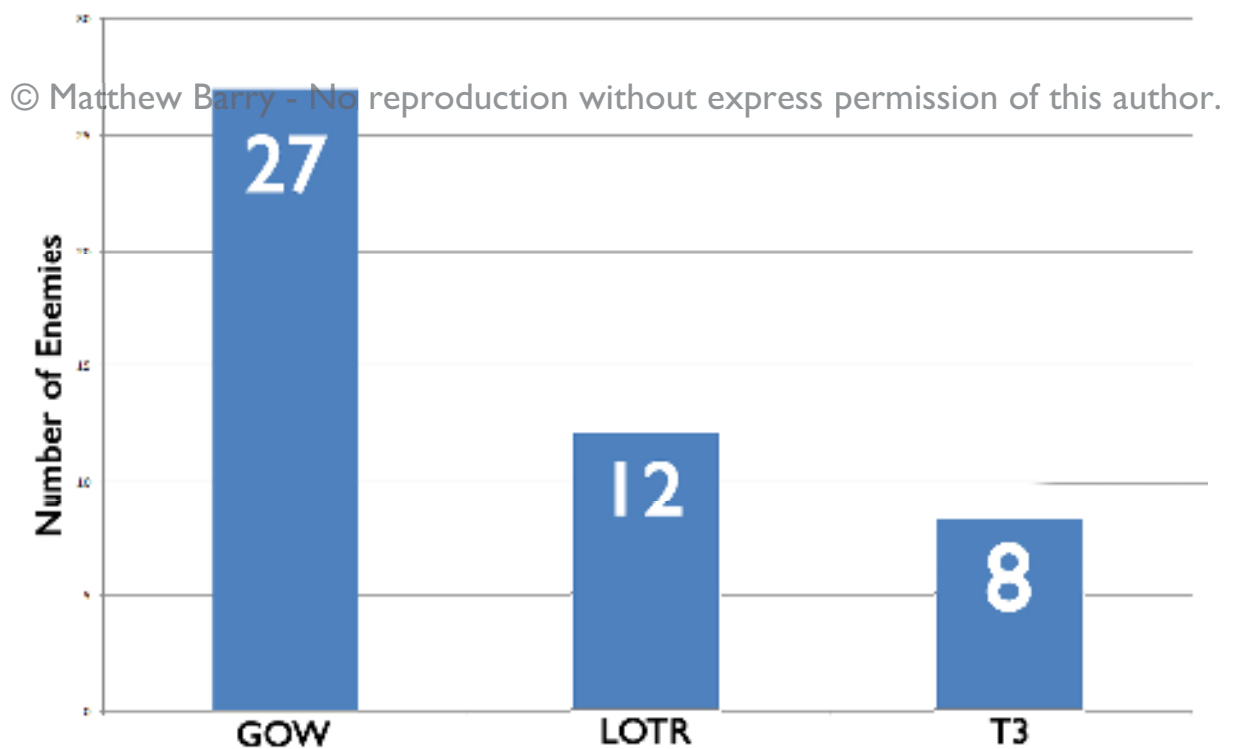
Further Findings

Whilst playing the games, other notes were made apart from the ones that related to the checklist above. Some factors that affected the immersion of the game appeared throughout all three games.

Gameplay

A good mix of gameplay helped to keep the immersion state present during the sessions of play. For example, in T3 you only shoot or fight enemies. In LOTR, melee fighting is the main action carried out with a small amount of puzzles. In GOW however, there is an even balance of puzzles, fighting and QTE's (and also levels where you are flying). There are a number of diverse enemies that have to be killed in different ways. This makes each fight scene unique, whereas, T3 and LOTR had mostly the same enemies throughout. The different changes in gameplay keep the game thrilling for the player. Carrying out the same battles with the same people, with only the location changed, can be tedious for the player.

Table 3 – Visual representation of number of enemies within chosen games



(See Appendix for list of enemies)

Another issue with the gameplay is the rise and fall of the difficulty.

“Make Challenges Vary in More than one Degree”

(Dan Arey – Rule 57 added to the 400 project - <http://www.theinspiracy.com/>)

Games need to have hard and easy sections. Hard sections would be fast paced boss battles and then to let the player relax a little, slower paced easier challenges should be introduced (such as simple puzzles or simply travelling to the next location).

The difficulty through T3 is very linear. Boss challenges and what should be harder enemies are not much harder to defeat than the standard robots (armoured tanks can be destroyed with three sniper bullets). Some cutscenes convey a message that the enemy is going to be very difficult to defeat. However, they are very easy to beat. This leaves you feeling disappointed with the lack of challenge from the enemy.

© Matthew Barry - No reproduction without express permission of this author. LOTR is slightly better at offering different levels of difficulty. Enemies require a certain amount of damage to be defeated (depending on size). There are also fast and slow paced challenges.

GOW satisfies the player by offering easy and hard enemies and also easy and hard puzzles. Some fights actually require you to think of how you would defeat the enemy and they can become puzzles themselves.

Cameras

One of the things that determined feelings towards these games was the camera. If the camera does not focus on certain characters/objects, or if something blocks the cameras view, the player will become annoyed and this will break the immersion.

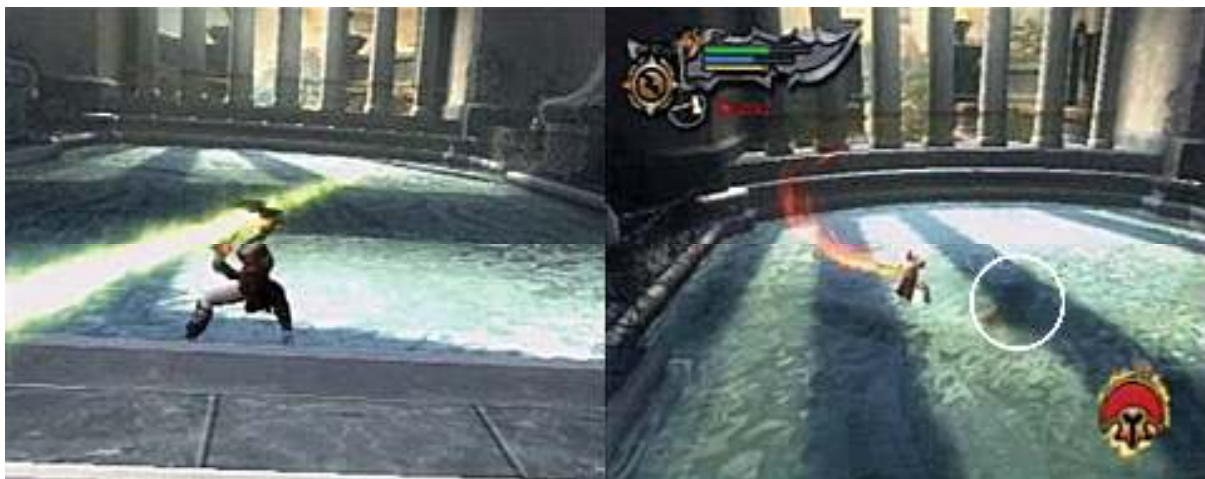
The final battle of LOTR required you to shoot a flying demon. However, the demon flew off screen most of the time so you had to guess where it was. You could never tell if your arrows hit it or not. You would expect something intense and fun for the final act of a game but this challenge is disappointing and annoying.

Making the player play with caution

This proved to keep the player ‘on edge’ during GOW. In a number of levels, the location became foggy, very quiet or you generally did not know what was going to happen.

During one GOW battle, you fight Perseus who has the ability to turn invisible. You can only see where he is if you really look hard at the location; you may see small shadow movements indicating where he is. This made you cautiously move through the level and immersed you into the game. You are drawn towards the screen trying to find your enemy. When he finally attacks and makes himself visible, you get a fright. This adds to the experience of the game.

Image 1 – God of War: Perseus Fight



Attack from nowhere

Enemy shown through shadow (circled)

Level Decoration

Level decoration was something that stood out within all three games. The T3 levels consisted of mostly just rubble and concrete. The LOTR levels had more decoration but the levels still looked quite bare. GOW had a lot of decoration and the locations felt very full. There was high attention to detail to every object within the scene.

Cut-scenes

The story in T3 was shown through a number of ways. Engine rendered, pre rendered and real footage scenes were used. This meant there was a constant change of visual quality with the characters. In the engine rendered scenes, the characters looked like computer game characters (due to low poly/textured models). Then, in the pre rendered scenes they looked slightly more realistic due to higher poly models and special effects. Obviously, they looked real in the real footage scenes (taken from the film).

You were expected to believe that these different renders of characters were the same people. This broke the immersion and believability. Whilst watching the pre rendered cutscenes or film footage, you wished that you could play as one of those characters rather than the low poly version.

LOTR also used engine and pre rendered cutscenes. The style and quality of the pre rendered cutscenes were so much better than the engine graphics that you felt slightly disappointed when you had to play as a low poly character that was just realistic looking in the previous scene.

Image 2 – Lord of the rings: Renders of Frodo (player character)



In Game

Pre-rendered

GOW used the same style and quality for cutscenes throughout (engine rendered). There was no sudden jump in graphical style. This helped to keep the players immersive state intact.

Conclusion

If you compare the amount of immersion elements within these games, you can clearly see
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that the higher the rating, the more immersion elements the game has within it.

The table below shows what games had what elements and how successful they were within the game. A tick states that the element was designed to a high standard, ½ tells us that the element design was acceptable but could have been implemented better. Finally, an X shows us that the element was designed badly or had a negative effect on the game.

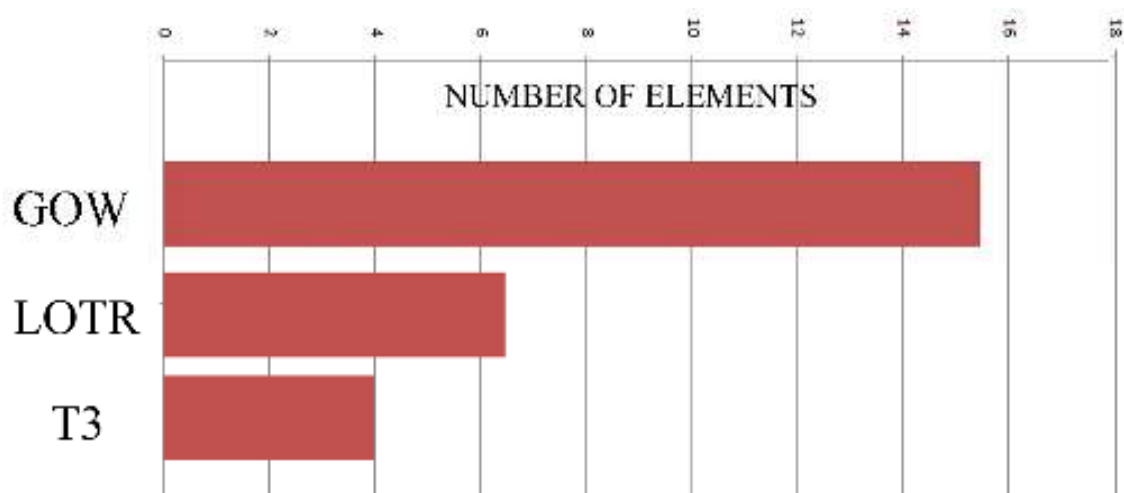
Table 4 – Overall look at immersion within the chosen games.

Immersion Element	God of War	Lord of the Rings	Terminator 3
Tactical	✓	X	X
Strategic	✓	X	X
Sound	✓	✓	X
Vision	✓	✓	✓
Interface	✓	X	X
Believable Location	✓	✓	✓
Emotional Characters	✓	X	X
Conversation Skills	✓	X	½
Unlikely Events	✓	✓	X
Suspension of Disbelief	✓	½	X
Harmony	✓	✓	✓
Relate to Character	✓	X	X
Sidekick/friend	✓	X	X
Bugs and Glitches	½	X	X
Controls	✓	½	½
Do you feel Immersed?	✓	½	X

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Final Score	15 ½	6 ½	4
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Table 5 – Visual representation of number of immersion elements within chosen games



By looking at the results found in this experiment, you can see that immersion does have a large impact on the quality and the success of the game. GOW included almost 100 percent of the elements whereas T3 integrated only a few.

Some might argue with the accuracy of the results due to two games being based on films and one of them not. This meant the game design had to be based around the narrative where as the designers of GOW had complete control over the narrative and level design. However, a good design team would still be able to create a good game whether there was a fixed narrative or not.

If the experiment was to be carried out again, games released around the same date would be used. There is a five year gap between the tested games and this may have lead to the most recent game having an advantage (due to the advances in technology).

Below is the new checklist. The new and different views on immersion (found through the © Matthew Barry - No reproduction without express permission of this author. experiment) have been added in red.

Table 5 – Revised Checklist

Element of Immersion	Comments/Rating	Time Period
1. Gameplay		
Does the player carryout a number of different challenges?		
Is there a wide range of enemies?		
Does the pace and difficulty of the challenges change?		
Are you required to advance with caution?		
Tactical		
Split second challenges		
No/little Story		
Strategic		
Irrational Gameplay		
2. Ambience		

Sound		
Vision		
Interface – does it divert you from the gameplay?		
Believable Location		
Do the levels look bare?		
3. Narrative		
Character = emotionless/full of emotion		
Conversation skills		
Unlikely events		
Suspension of Disbelief pushed too far?		
Harmony		
Is there a difference of graphical quality between gameplay and cutscenes?		
Can you relate to the character?		
Does the protagonist have a sidekick/friend?		
4. Other		
Are there any bugs/glitches within the game?		
Are the controls easy to learn?		
Does anything block the cameras view of the player and its enemies?		
Do you feel immersed?		

Overall, the experiment was successful and the results gave us a better look at the importance of immersion in games. It is hard to find one solid resource that contains a wide range of things related to immersion. This experiment has brought these different views of immersion together so that they can be used as a guideline when creating games (through the format of a checklist). Hopefully, if you cover each section within the checklist, you should be able to produce a high quality game.

Appendix

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Author(s)	Year	Title	Location	Publisher
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Crawford, Chris	2003	Chris Crawford on Game Design	Indianapolis	New Riders
Morris, Dave, Rollings, Andrew,	2003	Game architecture and design (<i>New ED</i>)	Indianapolis	New Riders
Rouse, Richard	2004	Game Design: <i>Theory & Practice</i> (2 nd Ed)	Plano, Texas	Wordware

Papers

Author	Year	Title	Location
Arsenault, Dominic	2005	Dark Waters: Spotlight on Immersion	University of Montreal
Cairns, Paul	2006	Quantifying the experience of immersion in games	University College London
Cairns, Paul, Brown, Emily	2004	A Grounded Investigation of Game Immersion	University College London

Articles

Author	Title	Location
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Simpson, Jake	Sounds From All Over	http://www.loonygames.com/content/2.4/feat/

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Believable Agents	http://www.csc.liv.ac.uk/~mjw/pubs/ker95/subsectionstar3_5_4.html
Falstein, Noah – Rule 55 of the 400	http://www.theinspiracy.com/Current%20Rules%20Master%20List.htm
Lafferty, Michael: Sound in games	http://pc.gamezone.com/news/09_14_07_12_30PM.htm

Other

Person	Format	Date	Location
Ed Hooks	Acting for Animators (<i>SAND</i>)	2007	Swansea Institute

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Notes taken whilst playing the chosen games.

Terminator 3: Rise of the Machines

1. Gameplay		
Tactical		
Split second challenges	None	Throughout
No/little Story	Story is quite big but leaves big gaps in it.	Throughout
Strategic		
Irrational Gameplay	Soldier who's supposed to fix comlink just stayed in same place (in cover) after all enemies had been killed (had to restart level). Other times he runs out when enemies are still there and dies.	Similar thing happened twice.
2. Ambience		
Sound	Not powerful – soft electronic sounds for big guns. Makes them sound weak. Background music is repetitive and can become annoying.	Throughout
Vision	Most of the levels look the same – stone pillars, rubble + concrete. Nothing there to keep the player visually excited.	Most levels except base level and present day.
Interface – does it divert you from the gameplay?	Weapon choice is slow - need to cycle through weapons to pick one.	Throughout
Believable Location	Believable I suppose – mostly just rubble. Expect to see more in a futuristic war setting.	
3. Narrative		
Character = emotionless/full of emotion	He is a robot so he is meant to be very blank. Other characters shout and scream a lot when there is nothing happening.	Throughout
Conversation skills	A lot of the cutscenes are taken from the film – therefore they talk like you would expect them too (due to actors).	Throughout
Unlikely events	One level gives you access to play missile command. The whole room is wrecked but this arcade cabinet is fine. Not believable.	One of the first levels.
Suspension of Disbelief pushed too far?	In character fights – one machine is able to do back flips and other acrobatics. These machines are supposed to weigh over a 1000 pound.	Throughout
Harmony	Despite the fact the levels look quite bare, everything that's in them does seem like it could fit into the world (except the arcade cabinet).	Throughout
Can you relate to the character?	He doesn't show any emotion so it's hard to relate to him.	Throughout
Does the protagonist have a sidekick/friend?	In certain levels you have to look after John and Kath (mission is to keep them safe). However, they walk very slowly – you can run through the whole level and kill everything to clear the path (not once did they get hurt). Just seemed like a normal level.	Present day levels

4. Other		
Are there any bugs/glitches within the game?	Sometimes when you shoot directly at an enemy, the bullets go straight through them. Some characters don't do what they are supposed to.	Throughout
Are the controls easy to learn?	Easy but fiddly - zoom takes too long, weapon choice isn't quick enough, camera sometimes jumps no matter what control is pressed.	Throughout
Do you feel immersed?	No, got bored quite easily and wanted to stop playing way before I actually did.	Throughout
Any other comments?	Poor game overall, can see why it was given very low	

Other notes:

- Guns don't seem powerful/dangerous – no kick back (animation is still).
- Too many fire explosions – makes you feel they were added just for the sake of it.
- Bad animations throughout – not believable when characters die/are terminated (more funny than serious).
- Cheesy music in parts.
- In one fight you have to fight another terminator who looks exactly like you (so there's 2 Arnold Schwarzenegger's on screen).
- Seem to be doing the same thing over and over again.
- Only takes 3 sniper bullets to defeat tanks.
- LT doesn't go to objective for 10 mins – doesn't even react when you shoot at him.
- Terminator dies after falling approx 20 feet (he's supposed to be nearly indestructible).
- Bright colours make it look cartoony in places.
- 1 bullet destroys entire mainframe computer (it's about the size of a truck).
- Grenade launcher doesn't throw grenades, just a particle effect.
- 1 cutscene shows a machine as if he's a boss – looks hard – but then I killed him with two shots.
- Can't tell difference between floors and lift (really a gameplay issue than immersion).
- At some points, when your character reloads his weapon he says 'Rock 'n' Roll' instead of 'Lock 'n' Load'. Cheesy and stupid – totally breaks believability.
- Some levels are too noisy and you can't hear the mission brief (machinery, steam, guns).
- A number of levels only took about 30 seconds – doesn't give you a chance to become immersed.
- Fight scene against 'female terminator' – in previous cutscene she gets hit by a car and is fine. However, if you throw a crate at her she goes flying.
- Car chase cutscene – you feel like you want to play it rather than watch it – annoying.

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- Sometimes when you block in a fight she can still damage you as if you were not blocking.
- Cutscenes jump from rendered to film footage – expected to believe they are the same people (breaks believability and immersion).
- 1 level = ended up punching cars because run out of ammo – none could be found. Punching cars to blow them up is just stupid.
- 1 shot would kill some robots that are meant to be very hard to defeat.
- Skips chunks of narrative – you end up in totally different place from previous scene. Makes you think of what happened during that time.
- Some AI characters constantly run into walls.
- Fight scenes = take turns to hit each other ‘I punch, then you punch’ etc. Some moves are from wrestling – choke slam being the main.
- Last cutscene – your character forces a bomb into the main enemy’s mouth and says ‘eat me’. Cheesy and stupid. (Glad to finish the game!).

Lord of the Rings: Fellowship of the Ring

1. Gameplay		
Tactical		
Split second challenges	None	Throughout
No/little Story Strategic	Story is quite big but leaves big gaps in it.	Throughout
Irrational Gameplay	Hobbits don't keep up with you – you are left fighting on your own – seems unfair. Sometimes enemies don't fight you they just stand there.	Throughout
2. Ambience		
Sound	Shire music is soothing and peaceful – gives a good feel of the place. The game uses sounds you'd expect to here (birds, running water etc).	Throughout
Vision	Everything is consistent – <u>nothing that looks like it doesn't belong there.</u>	Throughout
Interface – does it divert you from the gameplay?	Cycling through weapons can be slow – especially Gandalf vs Balrog fight.	Throughout
Believable Location	All the levels are believable. Health – mushrooms for hobbits (good), bread for others (bad) – found in random places.	Throughout
3. Narrative		
Character = emotionless/full of emotion	Voices are emotional, faces and body gestures are not. The mix makes them seem robot like.	Throughout
Conversation skills	Only mouths move when talking, the tone of the voices change dramatically when they don't need to, sounds like bad acting rather than real conversation.	Throughout
Unlikely events	None	
Suspension of Disbelief pushed too far?	Unlimited amount of arrows in Striders arrow case.	Throughout

Harmony	Everything looks like it could fit, except for some hobbits who just stand and stare into the same place until who interact with them.	First level (hobbits)
Can you relate to the character?	The character changes throughout so it's hard to build a relationship with them. You feel as if they are just you're tools on your quest.	Throughout
Does the protagonist have a sidekick/friend?	Samwise Gamgee and other hobbits – they don't really aid you on your quest. Gimli does all the fighting for you in <u>mor</u> ia.	Throughout (except for first level).
4. Other		
Are there any bugs/glitches within the game?	Screen flickers sometimes – can see underneath of level – items get in the way of the camera, can't see.	Only in 3 levels
Are the controls easy to learn?	Yes but are slow.	Throughout
Do you feel immersed?	You can become easily bored when there are no clues of where to go – breaks immersion. Other than that you could play it whilst talking to someone.	Throughout
Any other comments?	Not a very exciting game has a few good stages but nothing spectacular.	

Other notes:

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- Long cutscene at beginning of game – about 6-7 mins.
- You can throw rocks at birds but they will not move – rocks bounce off.
- Spiders spawn out of nowhere.
- Spirits in the barrow downs are difficult to see (annoying).
- All levels are quite bare, just mainly dirt or rock.
- No indication of where to go – no hints at all.
- Sometimes voices are very strange – no urgency in them or strong emotion.
- Fights are very similar – I hit, you hit etc.
- Songs that they sing make you feel embarrassed for them.
- Background music fits really well.
- Loading screen every time there is a cutscene (breaks the immersion and can be boring).
- Controls don't change action quick enough – characters still attack in same direction even after another button has been pressed (annoying).
- Hobbits don't attack enemies at times – they just watch.
- Arrow/Rock aiming is sometimes completely off. Even with close targets.

- Orcs drop out of the sky.
- Camera turns by itself so you can't see enemies.
- Cutsscenes jump from engine – rendered.
- Enemies just stand there even when you're hitting them.
- Enemies cover the camera.
- Skips chunks of story.
- Bottles and bread are located in random/not natural places.
- Allies appear out of nowhere then disappear again on different levels.
- Moria is full of repetitive scenery. Level is quite long and become visually boring.
- Same gameplay all the way through.
- Frodo has a really low jump.
- Orcs still use bows when you are standing right next to them.
- Gimli won't die – let him do all the fighting – you stand there watching and you become bored.
- Too much focus on story in Lothlorien – too long and boring.
- No change in difficulty of gameplay – same thing throughout.
- Enemies are stupid
- End fight = hardly ever see Nazgul – can't tell if you are hitting it.

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God of War Two

1. Gameplay		
Tactical		
Split second challenges	QuickTime events (QTE) - very intense/exciting, epic, movie like cameras.	Throughout
No/little Story	N/A – Big/In depth story	Throughout
Strategic		
Irrational Gameplay	None – enemies are clever, know where you are and circle you.	Throughout
2. Ambience		
Sound	Windy – Compliments the big open temples. Music changes depending on gameplay – fighting = fast etc	Throughout
Vision	Everything looks consistent, high detail on objects (down to material of clothes). All fits in with Greek mythology.	Throughout

Interface – does it divert you from the gameplay?	Part of the gameplay – QTE, power/energy bars, time bar, power of titans logo, rage etc.	Throughout
Believable Location	Everything's consistent, nothing out of place – dead bodies give good atmosphere of place.	Throughout
3. Narrative		
Character = emotionless/full of emotion	Very angry/stern all the time (meant to be) except for 1 part of the game we see him being sorry (to his wife) – totally not like him – not used to seeing this.	Throughout
Conversation skills	Talk to big statues a lot of the time but still believable (voice acting is dramatic and helps a lot)	Throughout
Unlikely events	None	
Suspension of Disbelief pushed too far?	Everything seemed like it could happen within this world.	Throughout
Harmony	Nothing seems to be added there just to make the game look pretty. Everything is happening for a reason.	Throughout
Can you relate to the character?	You want him to get back at Zeus for stabbing him. You like him because he's not afraid of anything.	
Does the protagonist have a sidekick/friend?	Not Physically – you earn the power of the titans, titans voice in your head aids you on your quest.	Throughout
4. Other		
Are there any bugs/glitches within the game?	1 small thing – you can't roll under gaps that you could easily fit through – only gaps the size of characters height can be passed.	Only 1 time
Are the controls easy to learn?	Easy to carry out but there are a lot of them – remembering them can be a problem.	Throughout
Do you feel immersed?	The huge environments make you feel small + it's going to be hard to achieve your goal, overwhelming scenery, things you dream of when you are young.	Throughout
Any other comments?	Cameras make it more film like + makes you more immersed in the game – music helps a lot too.	

Other notes:

- The QTE are extremely immersive both gameplay wise and film like wise.
- You believe the temples and huge statues are real or based on real locations because they are so well done.
- There's a good mix between puzzles, fights and QTE's.
- Multiple enemies make you concentrate on each individual one. Skeletons reform (makes you pay more attention because you have to see where they fall).
- Foggy tunnels hide enemies – have to be alert all the time.
- 1 puzzle hints that you need to get to the area that's glinting – you wonder what's there and as you approach, the pile of rocks turns into a monster – big jump/fright.

- Fast paced action against medusa's sister – don't want to pay attention to anything else – totally focused on combat.
- Uses QTE's, good camera angles at the same time that makes you become totally immersed in the fight.
- Puzzles are very hard – spend a lot of time thinking of what you need to do.
- Some parts can be repetitive – too many enemies in some places – just want to advance to next section.
- The scene where you were fighting Icarus was practically immersive – faded camera effects give the illusion that you are falling.
- Perseus Fight = enemy is almost invisible. Constantly struggling to see where he is – squinting – visually immersed.
- Cutscenes are also immersive, especially titans vs Olympians fight. Epically immersive.
- Spike Challenge – have to focus on a number of things at once – spikes coming through floor, open doors + battle at the same time – got to time when you should move to a certain area (strategic).
- Slow motion camera effects let you see the attacks at high detail.
- After each time you collect a new piece of armour, it shows on the characters body (helps with believability).
- One fight is shown through silhouettes. Hard to see character at times – you're also curious of what's in the background (background is not silhouette).
- Fighting the sisters of fate – extremely immersive. Have to fight hard characters, lock them in mirrors then smash the mirrors. Whilst this is happening you have to swing around the arena because 1 of the sisters electrocutes the floor (whilst dodging fireballs) – you cannot complete this if you are not alert/paying a lot of attention/immersed.

Enemy List

God of War

- | | |
|--------------|----------------------------|
| • Lakhesis | • Gorgons |
| • Atropos | • Cyclops |
| • Clotho | • Cerberus Hounds |
| • Typhon | • Sirens |
| • Prometheus | • Satyrs |
| • Undead | • Colossus of Rhodes |
| • Skeletons | • Theseus |
| • Wraiths | • Barbarian King |
| • Harpies | • Cerberus |
| • Nymphs | • Euryal (Medusa's Sister) |
| • Gryphons | • Perseus |
| • Minotaurs | • Icarus |
| • Kraken | • Last Spartan |
| • Zeus | |

Lord of the Rings

- Giant Spiders
- Goblins
- Orcs
- Urak Hai
- Balrog
- Nazgul
- Water Creature
- Dark Riders
- Wolves
- Spirits
- Town People
- Trolls

Terminator 3

- T-900 Green
- T-900 Yellow
- T-900 Red
- T-X
- Soldiers
- Police
- Tanks
- Flying Ships

The 400 Project

© Matthew Barry - No reproduction without express permission of this author. The 400 Project is an ambitious attempt to collect "The 400 Rules of Game Design." They are collected for designers to make better games. <http://www.theinspiracy.com> is the first place they have been collected and will serve as their long-term home. Rules are being submitted by designers from all over, but most of the existing rules were written by Hal Barwood and Noah Falstein".