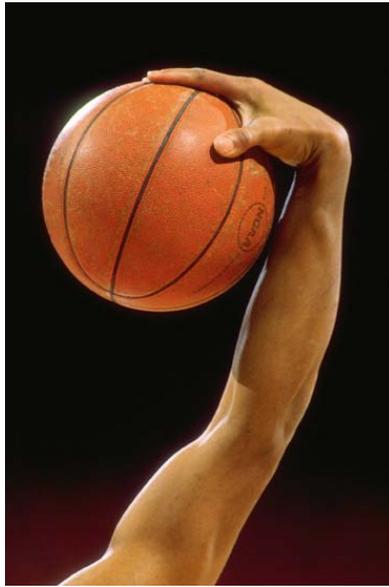


What is the relation between Compute game genres and Emotions?

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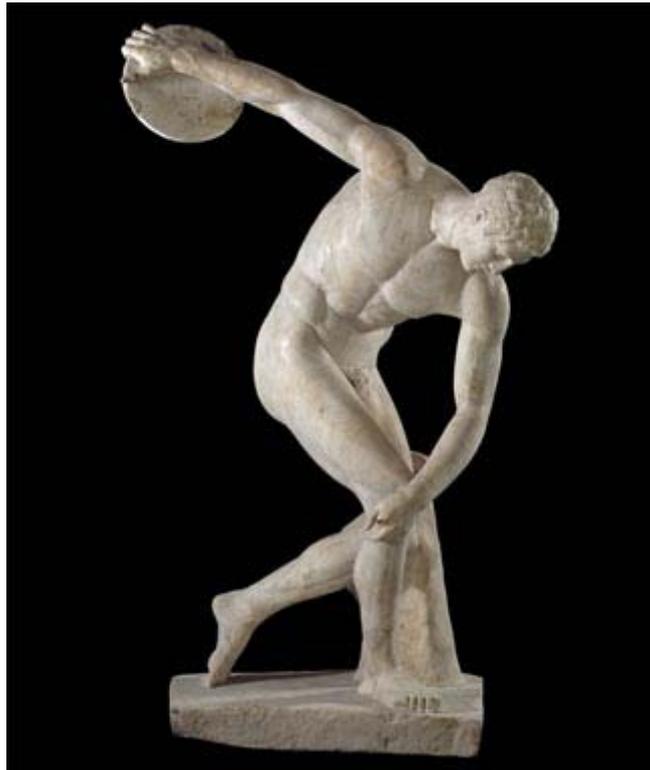
1.1 Electronic Game

In 1950, the mathematician and engineer Claude Shannon, proposed that computers could be programmed to play chess. (Shannon, C. (1950). "XXII. Programming a computer for playing chess." *Philosophical Magazine (Series 7)* 41(314): 256-275.) In 1958, William A. Higinbotham of the Brookhaven National Laboratory in New York used an analogue computer, control boxes, and an oscilloscope to create "*Tennis for Two*" as part of a public display for visitors to the laboratory. These are first steps of how the idea of making electronic games evolved. Ralph Baer who was a television engineer began in the late 1960s to develop technology and design games that could be played on television sets. ("electronic game." *Encyclopædia Britannica*. 2010. *Encyclopædia Britannica Online*. 05 May. 2010 <<http://www.britannica.com/EBchecked/topic/183800/electronic-game>>) Then in 1972 the first home video console were built for gaming. ATARI and Activision are first game designers which start game development during 70`s. "Pong" was one of the earliest games which was designed by ATARI engineer Allan Alcorn in 1972. . By the beginning of 1980 there were numbers of companies which prepare games on home consoles.

During 80`s, personal computers and also video games get more popular. People start to play video games both on personal computers and consoles. A **video game** is a term that contains all electrical devices (for playing game) like consoles, personal computers and arcade stations ("electronic game." *Encyclopædia Britannica*. 2010. *Encyclopædia Britannica Online*. 05 May. 2010 <http://www.britannica.com/EBchecked/topic/183800/electronic-game>). The personal computer`s games or "**Computer Game**" term is belong to big part of video games that are focused on using an operating system resources and programming languages which both are developed by user or other developers. The product is an interactive program which runs stand alone and can provide gaming for users in personal computer stations. The big difference between video game and computer game is in case of having ability to programming by users. (Shannon, C. (1950). "XXII. Programming a computer for playing chess." *Philosophical Magazine (Series 7)* 41(314): 256-275.)

1.2 What is a Game?

Game is a universal form of recreation generally including any activity engaged in for diversion or amusement and often establishing a situation that involves a contest or rivalry. ("game." Encyclopædia Britannica. 2010. Encyclopædia Britannica Online. 05 May. 2010 <http://www.britannica.com/EBchecked/topic/224863/game>). This recreation is in cases of learning new skills; gather marks or presenting an art. Key components of games are goals, rules, challenge, discovery, arrangement, fun and interaction where all of them have long history in all human societies and cultures. (Salen, K. and E. Zimmerman (2005). The game design reader: A rules of play Anthology, The MIT Press.)



The Ancient Olympic Games

In addition, Game is a time consuming process which established between one or more than one persons followed by some rules to reach or obtain which define as game goals. (Myers, D. (2003). The attack of the backstories (and why they won't win), Citeseer.) Player of game follows the rules and tries to challenge with game by using personal intelligence, power and energy to reach to goal by interaction with situation. During playing time, players experience emotions, concentration, focus and team behaviour and also communication. (Smed, J. and H. Hakonen (2003). "Towards a definition of a computer game." Turku Centre for Computer Science).

Game, as psychological aspect, has some learning effects on conscious entities like human. As Marc Prensky mentioned children learn their subjects faster when it presented to them with gaming methods. (Prensky, M. (2001). "Do They Really Think Differently?" On the Horizon, NCB University Press 9(6).) Learning during playing is more enjoyable for most of children. (Marsh, J. (2010). "young children's play in online virtual worlds." Journal of Early Childhood

Research 8(1): 23) Game also has some medical effects. Playing game is useful way for cure some physical and psychological problem of people. One 85-year old Wii player said: “It gets me moving and keeps my mind active. I read the papers, go for walks, make my tea, but the Wii means I can do some things that in reality I’m a little past ...a game of bowling is my favourite and I’m actually fairly good.”(Roger Hardy. (24 April 2009). “Report -Successful aspects of video games in the over-50’s age group “).

Before digital revolution in communication and media, many games were played as physical action and board games. Sports are examples of physical action in game which are based on physical movements of body in terms of gaming. Board games use tools and icons for game. Player use board game’s tools and follow game rules to play. Chess is example of a board game. By introducing video games in 70’s, a new type of games were developed for people which use a monitoring electronic device (like TV) and an input interface for interaction. (Liestøl, G., A. Morrison, et al. (2004). Digital Media Revisited: Theoretical and Conceptual Innovations in Digital Domains, The MIT Press.)



Nintendo entertainment system 1985

In 80’s programmers define game fundamentals theories which lead us to new area of gaming. Today digital games cover old concepts for playing like physical action and board game’s.

1.3 Game as a digital product

1.3.1 Video Game Industry

Video game industry creates computer games by using programming science, graphic, audio, electronic hardware and also mass communication devices like internet and TV for attract people for playing Game. Video game industry today, uses techniques of cinematography. They support game development in case of visual and audio style of motion picture production. Also, cultural information and psychological experiences are used by game developers to make game fascinating more. (Egenfeldt-Nielsen, S. (2003). Exploration in

computer games-A new starting point.) The U.S game industry was worth \$10.3 billion in 2004, but it generated a further \$7.7 billion in economic value. ("An Industry Shows Its Growing Value" - BusinessWeek visited 1st June 2010 http://www.businessweek.com/innovate/content/may2006/id20060511_715050.htm?campaign_id=rss_innovate)

There are some related businesses to game industry. Magazines are one local example in this case. Today there are around 28 magazines related to video games (Wikipedia contributors. "List of game magazines." Wikipedia, The Free Encyclopedia. Wikipedia, The Free Encyclopedia, 22 Mar. 2010. Web. 5 May. 2010). WCG is another example. WCG (World Cyber Games) tournament which establish in 2002, is preparing international Olympia for computer games. Player plays WCG games on an international cyber tournament from 90 countries. The age of players is between 10 to 35. They play with each other on specific game from specific game genre. Winners as team or individual became famous in game culture. Their playing style is like reference for other player in that specific game and game genre. (WCG official website - <http://www.wcg.com>)

1.3.2 Computer game

Computer games are a part of video games that are operated by computer circuitry ("electronic game." Encyclopædia Britannica. 2010. Encyclopædia Britannica Online. 05 May. 2010 <<http://www.britannica.com/EBchecked/topic/183800/electronic-game>>). To explain further, a computer game is an interactive electronic medium that provides a site of interaction between the user and the logic of game. This logic is processed by the CPU, which then fetches the computer program and presents that as the "game" to the user. All computer games have a "beginning point" and this is the initial moment that the user starts to interact with the game.

In order for the user to access and interact with the computer game, additional input devices are required such as a keyboard or mouse and in some cases, a game specific device like a joystick. Computer game needs an output medium for presentation, both in terms of visual and aural presentation. Usually the visual presentation is displayed via a TV, monitor or video projection and the aural presentation is presented through sound players like headphones or speakers. (Crawford, C. (1984). The art of computer game design, Osborne/McGraw-Hill. And Wolf, M. (2001). The medium of the video game, Univ of Texas Pr.)

The computer program which runs the game, use various kinds of algorithms like data processing algorithms, gene algorithms, fuzzy logic algorithms; in different programming styles such as Object Oriented Programming (OOP), in the Assembly language and on Web 2.0 applications. (Rabin, S. (2002). AI game programming wisdom, Cengage Learning.)

The program must also present the sounds and graphics based on the "game story" (also known as "scenario"). In a general sense, the game story is like the bridge or

connection between the digital device and a collective human narrative in the case of cultural and literary identity. (Smed, A. J. and H. Hakonen (2003). "Towards a definition of a computer game." Turku Centre for Computer Science and Costikyan, G. (2002). *I have no words & I must design: Toward a critical vocabulary for games.*) The scenario is designed based on the causal relationship between user inputs and responses to these inputs (interactions) in a digital virtual reality environment that is created by the game's program. Furthermore, the interaction between the game program and the hardware also follows causality rules (action/reaction or request/answer) as a flow on effect from the originating user action. However, there is also the interaction that follows a causal relationship from game program back to user – this is the concept of "intelligence" within the game and uses algorithms like fuzzy maths and gene rules. At the advanced level of game programming, the artificial intelligence (AI) in the game program is capable of changing according to player stimulus. (Rabin, S. (2002). *AI game programming wisdom*, Cengage Learning.)

1.3.3 Gamer/Player

For the purposes of this article, a "gamer" or "player" is simply a user of computer game. This means the player is a person that spends time interacting with a computer game program. In terms of those interactions, it can take the form of following instructions, searching and navigating, discovering and commanding, developing a strategic construct or sometimes simply guessing. (Atkins, B. (2003). *More than a game: The computer game as fictional form*, Manchester Univ Pr.)

Gamers can play the game as individual or as a group and often they have some common features. One of these features arises from the situational basis of playing the computer game: gamers are trained to focus and concentrate and use their intelligence to reach or discover goals in an electronic interactive medium. As such, gamers can learn through game interaction, how to manage time, how to navigate in a virtual reality and analyse and approximate best solutions for problems (prioritisation and problem solving) *within* the scenario and the rules of game. There are even instances when the amount of time and cognitive action a gamer puts into playing computer games are more than any other conscious activities of their life (as in the case of a strong addiction to computer game). (Ermi, L. and F. Mäyrä (2005). *Fundamental components of the gameplay experience: Analysing immersion*, Citeseer) Computer games not only motivate gamers to play but there is often the effect of players inviting to other people to join their story and play with them in the game. Some pro-gamers (professional gamers) can become totally disconnected from normal life activity and just focus on playing game. Gamers do not see this addiction as a problem, but rather it is viewed as a mental power and as striving for higher levels of cognition and consciousness. (Salen, K. and E. Zimmerman (2005). *The game design reader: A rules of play Anthology*, The MIT Press. And "Second Skin" documentary Directed by Juan Carlos Pineiro-Escoriaza March 7, 2008 DVD August 25, 2009)

1.3.4 Game Culture

Although there is not one definitive way to describe a “culture model”, it can be defined as the stories or images of an experience that one can tell oneself or simulate in one’s mind as the “norm” or as “typical”. (Salen, K. and E. Zimmerman (2005). The game design reader: A rules of play Anthology, The MIT Press. p611, James Gee - Speaking of Games). So, in the case of “game culture” because gaming is the common interest for players, they join together to form a community of fans that supports certain computer games and their development, which, interestingly happens irrespective of a player’s social and cultural background. This combination of the relatively low importance of cultural backdrop and the high impact of advanced technology in the makeup of gaming culture is one of the most fascinating social features of the video game phenomenon. (Wolf, M. (2001). The medium of the video game, Univ of Texas Pr. pp.156)

In this way, it can be argued that computer games are a great equaliser since the commonality that gamers share is not based on age, background, nationality or education. Furthermore, while engaged and playing the computer game, all players face the same challenges, the same levels of complexity, the same visual setting but can direct the game interaction in the same way or in different ways depending on the actions they choose to take. (TED Talks, Oct 2008, “David Perry on videogames”, viewed 5 May 2010 http://www.ted.com/talks/lang/eng/david_perry_on_videogames.html and Taylor, T. (2006). Play between worlds: Exploring online game culture, The MIT Press.) It can be postulated then, that while there is a collective shared experience, as psychologically players have the same source of data with which guides them to the same behaviour and the same reflections, there is also individual expression in how different gamers choose to play the game.

1.3.5 Game Genre

In the real world, there are different tasks that people face in normal life. For example consider activities like driving a car or solving a crossword puzzle. The first example is related to navigating a vessel and uses certain methods of data processing and certain methods of physical actions. The other example is based on searching and comparing data in a memory bank then deciding if the data is a successful match – a process of elimination in order to reach a decisive result. If the above descriptions were taken as being *different modes of interaction* between the person driving the task and the task itself then this principle (when applied to computer games) is termed as the “game genre”. Since game genre is defined by gameplay interaction, the previous examples of driving a car and doing a crossword puzzle can be likened to a car simulation game or a puzzle computer game respectively, in terms of the logic and techniques of the interaction. (Myers, D. (1990). "Computer game genres." Play & Culture 3(1990): 286-301.)

1.4 Game Genre and Gamers

A gamer has special characteristic. According to Kirkland (2009) some gamers play their favourite game even in their imagination. They dream of their favourite game and game characters during their sleep. Based on game genre, they think about the situations in game and all possible ways for win or loss most of time. The issue is critical in case of children's behaviour on games. (Kirkland, E. Horror Videogames and the Uncanny.)

Gamers are aware of specific interactions when playing the same game genre. (convention) For example, "first person" players know that the "R" key on the keyboard is in most cases related to "Reloading" a weapon or "Strategy" players also known how to use "Ctrl" key for grouping their units. (How to Customize Dota Hotkeys - visited 10th June 2010 <http://www.playdota.com/forums/231304/how-customize-dota-hotkeys/>) Game genre is like a monitor that shows kinds of interaction a player likes and chooses to play computer game. Some people play a game genre just for fun but some players (hardcore gamers) play in that genre because they psychologically need that moment (happen) in that specific game genre. (Van Leeuwen, L. and D. Westwood (2008). "Adult play, psychology and design." *Digital Creativity* 19(3): 153-161.) That makes them satisfy and they feel better after that, the feeling like drinking good drink or using drug. Some gamers escape from the life to feel better times in gaming and spend lots of time for that reason. (Atkins, B. (2003). *More than a game: The computer game as fictional form*, Manchester Univ Pr.) The relation between player's character and game gender supports game culture. Players which play same genres share their experiences, play tournaments and online games, motivate other players to play that game and also some develop game by creating new versions of game known as "MOD" (Mod is a developed computer program which can connect or join to main program of computer game and create new features in that for players - Wikipedia). (Sotamaa, O. (2003). "Computer Game Modding, Intermediality and Participatory Culture." *New Media*: 1-5.)

Game genre has social effect that organizes and gathers players with same interest. There are magazines, books, web sites and also fashion clothes and tools related to games and game genres. The age of gamers were between 12 - 24 on 70's and 80's but now they cover mostly all ages. Most In a comparison between genders it was found that male and female computer game players play individual genres of games for the same reasons. However females tended to play more simulation and 'individual' style games. (Sotamaa, O. (2003). "Computer Game Modding, Intermediality and Participatory Culture." *New Media*: 1-5.) Woman established their own genre in computer games also. (Liestøl, G., A. Morrison, et al. (2004). *Digital Media Revisited: Theoretical and Conceptual Innovations in Digital Domains*, The MIT Press.)

1.4.1 Game genre's Key words

There are different types of game genres and some of them are totally unique in case of the interactivity between players and game. This article summarize game genre into 4 main categories which are Simulation, First Person, Arcade, Adventure and Strategy. (Raessens, J. and J. Goldstein (2005). *Handbook of computer game studies*, The MIT Press and Liestøl, G., A. Morrison, et al. (2004). *Digital Media Revisited: Theoretical and Conceptual Innovations in Digital Domains*, The MIT Press.) In order to categorise different types of game genres, certain keywords related to game genre must firstly be defined.

1.4.1.1 Interaction style

Interaction style describes the method by which a player interacts with the game. Interactions such as navigating a game object, searching between items, solving a puzzle, comparing different situations and commanding game units. An example is, in chess (a strategic game), the interaction style is analysing all the possible moves and then deciding on the best move to play at that stage of the game. While in soccer (a team game) the interaction style is normally based on navigating players and controlling the teamwork. Finally in a game like Tetris (a puzzle game) the interaction style is controlling an object to find the best “fit” or solution for the challenge.

1.4.1.2 Scenario (game story)

The scenario (or game story) is like the skeleton of the computer game. It is explained in a document with flowcharts, pictures and formulas that explicitly defines all the game characters, the game environment, the levels of the game, the sounds and a description of the interaction rules between the player and the game program. Therefore the scenario is really just concerned with all the significant factors that constitute the complete player experience of that game. Consequently, from the point of view of the end player, the scenario is the complete “feel” of the game includes not only the “story” or plot of the game but also the interaction style, density and speed. (Rollings, A. and E. Adams (2003). *Game design, New Riders*.) A game story is distinctly separate to the game genre, in fact, the same scenario can occur in different genres of games. For example imagine a scenario related to a historical event like D-Day such that the game goal is for the player to capture a bay in France. Both the games “Medals of Honour” (a first person simulation game) and “Panzer General” (a strategy game) share this game story but are from two distinct genre types. (Salen, K. and E. Zimmerman (2005). *The game design reader: A rules of play Anthology*, The MIT Press)

1.4.1.3 Human knowledge resource

For the purpose of this article, the phrase “human knowledge resource” is defined as the anthropological understanding of human society and culture encompassing all manner of human knowledge including science, art, history and literature etc, in short, the entire gamut of human experience.

Computer games utilise human knowledge resource both as an important consideration in the design phase of the game and also later in the presentation of the game in attempts to make the game is interesting and relevant.

For example, if a comparison was made between the original version of Tetris and newer versions, it can be seen that the newer Tetris have additional features i.e. amended graphical icons or sounds that have greater complexity, generally, with the view of improving aesthetics and adding functionalities. It can be postulated that these upgraded characteristics of game design have scientific and artistic influences based on the accepted ideals of aesthetics and functionality that is current at the time the game is being created.

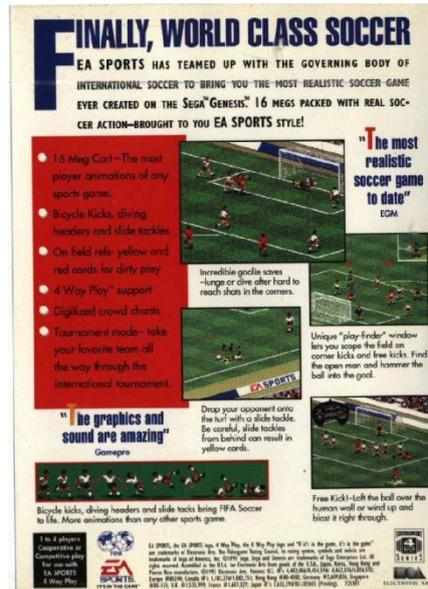


Screenshot of the 1986 IBM PC version – Wikipedia



“The Human Tetris Project.” - “For 25th Anniversary, Tetris Gets Social Via Facebook” April 12th, 2010 - By Christopher Mack - <http://www.insidesocialgames.com/2010/04/12/for-25th-anniversary-tetris-gets-social-via-facebook/>

Another example is comparing a FIFA 98 game poster with an EA FIFA 2010 screen shot as shown below. This highlights the differences in layout of visual elements and information related to each instance.



FIFA International Soccer - 1993



The FIFA Manager 2010 PC Game

The cultural roots of a game story can sometimes be illustrated by considering the inspiration behind the creation of the game. A direct example is the fact that the “World of Warcraft” game is based on the world that JRR Tolkien imagined and created in his Lord of the Rings books, published in 1927. The game environment is similar to what he describes in his books and players love it and play it all around the world in different countries. (Wang, T. (2006). "A

Marxian Analysis of World of Warcraft: Virtual Gaming Economies Reproducing Capitalistic Structures.")

1.4.1.4 Interaction density

The level of complexity of interactions between the player and the game program is defined as "interaction density". For instance, games with a low density of interaction are typically designed for beginner players and for gaming that is simple. However, more complex games with a high density of interaction are generally built for expert players and for gaming that is more advanced.

Different elements of a game structure are often necessarily inter-related and in the case of what is the appropriate level of interaction density, often this will take its cue from convention in regards to the genre of the game and game story.

Interaction density is categorised into two main areas. Firstly, there is the interaction density that is related to playing with standard game features in the case of navigating an object, selecting objects and controlling the state and location of an object and combining different objects together etc. In short, this first tier of interaction density is based on game rules and game program functions that allow players to choose the interactive situations.

Secondly, there is the interaction density that is based on the level of customisation available for interactive features. This means that players can customise the way and methods of interactions during the time of play by changing the interface. This area of interaction density is widely used in Strategy games where players can invent or create a new situation in game and interact (play) with game program within that situation. Some sport games in case of coaching and management will use this second level of interaction density techniques. Fuzzy maths and genetic programming are tools for describing interaction in this case. This kind of interaction density follows dynamic data structure programming and will dynamically adjust a situation according to player's instructions.

1.4.1.5 Game Speed

Each computer game need time to be played by user (gamer). A game starts when player choose to interact with game and finished after player reach to the goal or goals of game. The time between start and end of computer game define as Game speed. It is directly related to game story, player's motivation and also player's communication in team games. Game speed is not number of frame rate of animation or duration of sounds in terms of fast or slow, it describes time in each section of game story. It covers interaction methods in case of how long players can do a specific interaction with game during play time.

1.4.2 Game Genre types

1.4.2.1 Simulation

Simulation is actually the oldest genre in computer games. As the name suggests, simulation is based on navigating objects within a virtual environment while limited by the rules of that environment. Simulation games create a virtual reality for players by using the logic of physics, mathematics and the rules of cause & effect. Each simulation follows specific rules related to the environment with which it arises. (Harrigan, P. (2004). *First person: new media as story, performance, and game*, The MIT Press. And Salen, K. and E. Zimmerman (2005). *The game design reader: A rules of play Anthology*, The MIT Press. And Thiagarajan, S. and H. Stolovitch (1978). *Instructional simulation games*, Educational Technology Pubns.) For example if the game story is based on navigating an airplane, then the game rules are based on simulation of real physics (gravity, wind speed and features of terrain like mountains, sea and fog etc). However, if the game story were based on driving racing cars, the game rules would then be based on technical issues related to the car engine, the tyres and features of the road. The ultimate goal for modern day simulations is to reach an understandable “reality” in case of “navigation” as a style of interaction. The genre of simulation in terms of computer games can be broken down into three sub-genres: First Person Simulation, Third Person Simulation and Sports Games.

Simulation games can be multiplayer in which all gamers play together in a common virtual reality through which, they can also observe other player’s interactions. In multiplayer simulations, the essential technical point is the latency of sending and receiving data on the network so that it can be seen by other players. (Smed, J., T. Kaukoranta, et al. (2002). "Aspects of networking in multiplayer computer games." *The Electronic Library* 20(2): 87-97.)

Simulation games are popular in game culture particularly with the advent of the multiplayer capability because players find themselves in the centre of all interactivity in the game environment and this can be motivating force for them to play with the game. (Salen, K. and E. Zimmerman (2005). *The game design reader: A rules of play Anthology*, The MIT Press.)

Interaction density in simulation games is high and therefore, the speed of interaction is fast. This means that when players act or react in the game, the time between the player command and the game response is short. Therefore players can switch between different interactions with high speed. The speed of interaction is designed and calibrated based on the natural timing of human interaction, which is an important point in the design of simulation games. Natural timing describes how long the interactivity must work in the simulation in order to make the simulation game feel realistic and within player control. (Thiagarajan, S. and H. Stolovitch (1978). *Instructional simulation games*, Educational Technology Pubns.) Certain actions like

jumping and crouching in first person games will aim to simulate the real sense of a jump and a crouch for players during the game. "Splinter Cell III" and "Call of Duty 4" are two examples of games that have good natural timing programmed into the gameplay interaction. (Frome, J. and A. Smuts (2004). "Helpless Spectators: Generating Suspense in Videogames and Film." TEXT technology 13: 13-34. And Harrigan, P. (2004). First person: new media as story, performance, and game, The MIT Press.) One of the best examples of players being able to increase game speed by optimising interactions in navigation and shooting based on the game's level of interaction density is illustrated in the game "Quake 3 Arena". In this game the difference between amateur players and pro-gamers are quite marked. Pro-gamers have to the skills and experience to increase game speed by coordinating interactions in harmony with the game's natural level of interaction density and interaction speed. Players of average experience must first practice to adjust to the basics of timing in this game and then practice further to apply these principles of basic timing to get in synchrony with the game's timing. (38)

Another important issue in simulation games is the "effectiveness" of the interaction. Effectiveness in game interaction describes the level of *efficiency* with which the player input *impacts* on the game. For example, if gamers play a combat air simulation game, some gamers will play with relatively more concentration and navigational accuracy than others. The effectiveness of an interaction like shooting guns for these players in the game would be different because the player who concentrates and moves the air plane more slowly is likely to have better efficiency in targeting and shooting than a wild player who plays with less care and skill. (Gross, T., J. Gulliksen, et al. (2009). Human-computer Interaction-Interact 2009: 12th Ifip Tc 13 International Conference, Uppsala, Sweden, August 24-28, 2009, Proceedings, Springer-Verlag New York Inc. P 342)

Simulation games using high technology in digital media, for simulating real life situations. Air craft simulations, car racing and economy systems are examples of real life situations. During time, they use other aspects of "human knowledge resource". In FIFA 2010 which is a sport simulation for soccer players, there are full details of each player in case of pictures, 3D model and technical details related to his previous professional business records. (Wikipedia - FIFA World Cup video games) In World of Warcraft which is an online game (Second Person simulation), players face with lots of icons related to culture, armoury, magic and special characters. There are some classic versions of Simulation games like Microsoft Flight Simulator which are fully based on technological and technical aspects of air plane navigation and also they have their own culture. Simulations games are moving toward fantasy-reality after three decades now.



Microsoft Flight Simulator X (Rio de Janeiro), released 2006

Simulations use hardware resource in case of fast interaction with user. This means simulation games are critically based on DMA (Direct Memory Access) and CPU speed in computer hardware architecture. New technologies in graphic cards and GPUs mostly bring new features for simulation games. They played with more details, dynamic sound effects and complex data processing and offcourse physics. The visual reality of simulation is based on 3D features because using 3D techniques makes the virtual reality closer to real reality for players. (Peerdeman, P. "Sound and Music in Games." And Haugehåttveit, O. (2006). "Programming graphic card for fast calculation of sound field in marine acoustics.") Some old games like FIFA were using 2D animations for game that makes these game looks like arcade games before 2000. But now they use 3D technology to show how real they could be and this shows how they change the genre close to Simulation than arcade. (Wikipedia - FIFA World Cup video games)

1.4.2.2 First Person and Third Person

First person genre is 18 years old. First person genre is like a simulation game. Player move and interact inside a virtual reality based on some physical rules, mathematical structures and cause & effect rules. But, the interaction between player and game is simply "Critical" than simulation games. (Harrigan, P. (2004). First person: new media as story, performance, and game, The MIT Press.) They observe the environment from their monitor like watching outside from window in real life. Player interact with objects in the game`s environment like shoot, calibrate, change, get, add, destroy, detect or delete and also invent. The scenario of First Person genre is more tangible in case of more interaction with details of environment. Scenario of First person game uses "human knowledge resource" from wide range of topics. For example, "Call of Duty 4" is a First Person game which use data related to warfare recently used in United Stat`s Army and presents a simulation of battle in city and countryside. (allgame.com-http://www.allgame.com/game.php?id=66678)



Call of Duty 4 - 2007

On multiplayer first person games, when players face other players as opposite side, each movement and interaction is critical. Jonathan Wendell known as “Fatality” is one of game cultures icon in first person genre. He won approximately \$500.000 during international tournaments like WCG and local tournaments in many first person games. (42) His style of shooting and navigate character (move) is famous and referenced for lots of first person hardcore player.

Third Person genre is a computer game genre like First person but Third Person genre player can observe his/her character in game during playing time. The player character reflects to interaction of players, it means, player can observe his interaction whit main character of game. Third Person genre is very popular mostly in console games. Third person games have more real effects on players in case of emotions and motivation. Tomb Raider is an example of how this genre has serious effects on players. Tomb raider appears in 1995. Main character of game is the British archaeologist Lara Croft which is a young girl. This game found thousands of fans in game players and finally in 2001 adventure film adapted from the Tomb Raider video game series were produced and sold \$274 bill worldwide. (Atkins, B. (2003). More than a game: The computer game as fictional form, Manchester Univ Pr. And "Tomb Raider." Wikipedia, The Free Encyclopedia, 5 May. 2010.)



Tomb Raider III 1998

In Third person players navigate an avatar (character) in game and all interaction of that in game. For example if you do “Jumping” in a First person game, all game environment move and you feel you “really” jump. In Third Person, not only environment move, but the avatar (character) that represents player, is jumping too. This prepares a big area of development special techniques in movement and reaction that make Third Person a different genre. Most of the film making based on Video Games are from Third Person genre in computer games. Third Person games present the hero and enemies on same stage. In other word, problem and solutions are in same area and player must “Choose” an interaction for solving the problem in game stage. Most of children like this style and the old popular game, Super Mario is based on this concept. Third Person game story can gathers various “human knowledge resources” and mixes them for game story. For example player character could be a samurai with all details and sounds and techniques related to samurais, but the game can designed based on modern civilization in far future by using modernism concepts in art. Mixture like this from human knowledge resource is used in most of Third Person genres. One of the old and famous third person games is Mortal Combat. This game shows a big series of interaction in case of navigation a character that presents martial arts techniques. Before 2000, mostly Third person games were known as “Arcade-Adventure” games, it covers vast collection of 2D animation base games. (Raessens, J. and J. Goldstein (2005). Handbook of computer game studies, The MIT Press.) After 2000, by powering 3D game engines, most of these Arcade 2D animation games switch to 3D area and simulation rules. Here these games change to Third Person genre and also divide them from Adventure genre which is more based on complex interactive story.

1.4.2.3 Arcade

In 1980 the Japanese arcade game manufacturer Namco Limited, introduced Pac-Man to the world. Before that in 1978, “**Space Invaders**” which is designed by Tomohiro Nishikado, was introduced the main concept of arcade game. Arcade games are based on controlling a character on the screen by using interactions like shoot, movement, change size or engage with some objects. Arcade games use cause & effect rules in interactions. They have a 2D environment which changes during time when players play the game. (“arcade game.”

Encyclopædia Britannica. 2010. Encyclopædia Britannica Online. 05 May. 2010 <<http://www.britannica.com/EBchecked/topic/1369617/arcade-game>>.) Arcade genre is based on 2D animation with simple rules for playing. At the core of an Arcade game there are simple rules for interaction which can be easily learned by player. Tetris is an example from the arcade genre. The main interaction is rotation of the block and moves left and right; simple and short. Somehow, developers use arcade genre basics for making Adventure or Third person. Arcade games can be easily developed with beginners because interaction density is simple. Web games and mobile phone games which use the arcade genre style are a recent development in arcade games. (Soh, J. and B. Tan (2008). "Mobile gaming." Communications of the ACM 51(3): 35-39.)



Arcade game which developed by beginners. (<http://www.all-freeware.com/results/science>)



“Sub Hunt” Arcade iPhone game. Aug 6th, 2009 by greyhoundgames.

As Crawford, C. (1984) mentioned, Arcade games are supported by a big area of “human knowledge source” in case of Comics and art works. These sources also have their own visual literature. Classic western comics and Manga (Konzack, L. (2002). Computer game criticism: A method for computer game analysis, Citeseer.), are used by Arcade developers for creating Arcade games. Scenario in arcade games is independently wide. It means, “All” kind of story which can be drawn on paper, could be prepared as a game in the arcade genre. (Salen, K. and E. Zimmerman (2005). The game design reader: A rules of play Anthology, The MIT Press.) Most arcade players in the 80’s and 90’s were familiar with Joy Stick which was used for controlling game character. Third Person genre also starts from Arcade games but because of its nature, it needs more details and realism in game and so turns to use 3D environments for game presentation and already became more complex. (Raessens, J. and J. Goldstein (2005). Handbook of computer game studies, The MIT Press.),



Project X – Amiga 500

Arcade games are important because even non-gamer people play that for many reasons. Some people use arcade games after job hours to make fun. Some use them for concentration and relax. Some play with their families in holidays. Some people do gambling on arcade games. All this popularity is because of simple rules of playing. Even elderly people have some sympathies to play Arcade games with family or alone. Today Nintendo Wii use wireless technology for Arcade games that is supported by high technology. This shows the big area of business behind simplicity of this genre. (Hardy., R. (2009). "Report -Successful aspects of video games in the over-50's age group." and Kline, S. (2000). "Killing Time: a Canadian meditation on video game culture." Children in the new media landscape. Games, pornography, perceptions. Göteborg (UNESCO International Clearinghouse on Children and Violence on the Screen; Children and Media Violence Yearbook 2000): 35-59.)



Wii Sports - Nintendo

Arcade games are used for educational purposes both as game development or general learning. (Millionsofus, January 14, 2009, "Welcome to an exploration of: Multiplayer games, virtual worlds and energy efficiency ", viewed 5 May 2010, <<http://www.youtube.com/watch?v=dDRo-QgqiEk>>) People make Arcade games by using middle level of knowledge of coding, graphic and sounds. They can use Action Script,

Objective C or PHP programming languages for programming an Arcade game. Some packages like Adobe Flash also have abilities for creating arcade games with medium knowledge of programming. (GRIFFITH, C. (2009). "Real-world flash game development: how to follow best practices and keep your sanity (paperback).")



Flash Games for Windows - <http://forums.techarena.in/video-games/1019143.htm>

1.4.2.4 Adventure

Adventure genre uses an interactive scenario with high levels of complexity in game story. Player attract by their curiosity to “Search” and “Discover” the “Secrets” in the game stages and “Choose” the interaction with environment. Adventure genre use mathematical puzzle theory from simple type like “if-then” to complex type like logical graphs and complex data structure. Recently by using high quality graphics and sounds and follow some cinematographically methods in motion and special effects, Adventure games became like an interactive book for players. They describe story which reader (player) can be a part of that and then reader (player) can make changes on how the story going on (interaction). Comic and sci-fiction stories are human resource knowledge for Adventure game’s game story. Adventure games can use all visual and audio items in case of creating and supporting the comic or sci-fiction story. (Berger, A. (2002). Video games: a popular culture phenomenon, Transaction Publishers. And www.Allgame.com “Adventure description” viewed 10th June 2010 <http://www.allgame.com/genre.php?id=21>)



Phantasmagoria – 1995

Adventure game can use various kind of Interaction Style. The core of Adventure games are based on discovering and choosing right choice, so players face some puzzles that take time to be solved. This time consuming puzzle is based on player interaction or define as static structure. It means, some puzzles have specific solutions (static structure) but some, can have different solutions based on how players play the game (dynamic structure). Some puzzles use time machines for Interaction style. It means player must overcome the situation in game in specific period of time that presented by some alert or a visual icon like time meter. In other Interaction styles which support discovering, player must find some specific items throw searching and interaction with game to solve puzzles.

1.4.2.5 Strategy

Strategy games emphasize planning and management over direct control of the action. (52)

There are two main styles of game in Strategy genre:

1- TBS or Turn-base Strategy: Two distinct classes of game have emerged from the strategy genre. Turn based strategy (TBS) games involve each player taking their turn to move units, order production, mount attacks and so on, one after another. The Civilization (www.firaxis.com/civ3) series is the definitive example of this kind of game.

2- RTS or Real-Time Strategy: Real time strategy (RTS) games, as the title suggests, take place in real-time with players moving units, ordering production etc. in parallel. The Age of Empires (www.ensemblestudios.com) and Command & Conquer (www.westwood.com) series, along with Total Annihilation (www.cavedog.com), stand out as fine examples of this genre.

(Fairclough, C., M. Fagan, et al. (2001). Research directions for AI in computer games, Citeseer.)

Some players prefer to make big army and then try to capture other player's territory but some prefer to communicate with other and make a political system to remove other player from game in long term period. These strategies are some strategies that are used by players during play time.

Turn-Based Strategy (TBS) is a great model for economical games. These games are just using numbers and texts. All player's interaction is focused on comparing numbers and data on tables and making decisions for the next turn or movement. Space Empire IV is one example of TBS economy game. Players have various data tables full of items which are connected with some economical rules and also follow some mass economy systems like Wall Street between galaxies. (Wikipedia - "Space Empire IV" - visited 2th June 2010 - http://en.wikipedia.org/wiki/Space_Empires_IV) "Heroes of Might and Magic" is one of popular TBS game. The story is based on knightly cultures in Europe and players can use magic, unit power and get more extra items during turn based played time. Most of players like the way of move and discover the game environment. The story prepares data related to icons and character in simple way which make game easy to play for normal player. (Wikipedia - "" - visited 2th June 2010 - http://en.wikipedia.org/wiki/Heroes_of_Might_and_Magic)



Heroes of Might & Magic IV (TBS) - 2002

RTS games are based on interactions like "Command" and "Decision making" and show immediate result for player in game. In RTS, players start with some accessories and default items and structure as "Main Base" or "Start Point". Then they grow this main base by using resources which provided inside game environment for "collecting" by player. The strategy they choose to grow their base (start point) and face with other players is an active sequence like arcade games but interaction density is quite high and complex. It is total interaction with mass amounts of data related to items and situation in game. (Buro, M. (2003). Real-time strategy games: a new AI research challenge, Citeseer.)

AI in strategy games covers by big area of mathematical functions and fuzzy logics. Some game developers use genetic algorithms for AI. (brainz, 15 Real-World Uses of Genetic Algorithms, viewed 5 May 2010 <<http://brainz.org/15-real-world-applications-genetic-algorithms/>>)

Strategy genre use “human knowledge resource” in the way of preparing icons for units, define cultural and environmental aspects for game’s environment and space and use classic or modern aspects of visual art in case of character details, sounds of units and music of game, historical events and game special effects. (Salen, K. and E. Zimmerman (2005). The game design reader: A rules of play Anthology, The MIT Press.)

2.1 Emotions and computer game

2.1.1 An introduction to emotion

Emotions can be viewed from a philosophical perspective as a “feeling theory” or from the perspective of cognitive theory which studies processes in the brain on a physiological basis or according to a sequence of behaviours. (Lewis, M., J. Haviland-Jones, et al. (2008). *Handbook of emotions*, The Guilford Press. and 57. Jenkins, J., K. Oatley, et al. (1998). *Human emotions: A reader*, Wiley-Blackwell.) Psychologists believe until age three the main emotions in children are contentment, interest and distress. It is theorised that all other emotions then develop during their lifetime based on environmental issues like culture and self-cognition. (Lewis, M., J. Haviland-Jones, et al. (2008). *Handbook of emotions*, The Guilford Press.). In other words, when someone experiences an emotion, it is often accompanied by some physical changes in parts of the body (like facial expression and vocalisation) and then these emotional experiences or effects can cause further changes in knowledge or behaviour which could theoretically lead to a new cognitive condition. One example is “increasing motivation”. Motivation can be defined as an individual’s choice to engage in an activity and the intensity of effort or persistence in that activity. (Garris, R., R. Ahlers, et al. (2002). “Games, motivation, and learning: A research and practice model.” *Simulation & Gaming* 33(4): 451.) In the example of a computer game: the feeling of being able to effect changes in the game by one’s own actions, can give the player an illusion of being in control. This can then, in turn, serve as a motivator for the player to play that game further. (Vorderer, P. and J. Bryant (2006). *Playing video games: Motives, responses, and consequences*, Lawrence Erlbaum.–chapter 7)

2.1.2 Selected emotions and computer game

As discussed earlier in this article, the central premise of games is that they are fun and a source of enjoyment. (Van Reekum, C., T. Johnstone, et al. (2004). “Psychophysiological responses to appraisal dimensions in a computer game.” *Cognition & Emotion* 18(5): 663-688.) However, this article will further explore some of the other common emotions which are engaged in gamers when playing computer games. In addition to joy (happiness), this article will discuss anger, pride and helplessness because these are the emotions that were found to be common in the literary sources. (Van Reekum, C., T. Johnstone, et al. (2004). “Psychophysiological responses to appraisal dimensions in a computer game.” *Cognition & Emotion* 18(5): 663-688., Merks, P., K. Truong, et al. (2007). *Inducing and measuring emotion through a multiplayer first-person shooter computer game.* and Ravaja, N., T. Saari, et al. *The psychophysiology of video gaming: Phasic emotional responses to game events*)

If emotions can in fact motivate players to play more, as previously mentioned, this would seem consistent with the empirical evidence that games can be effective tools for enhancing learning and understanding of complex subject matters – presumably through this proposed phenomenon of increased motivation to play. (Garris, R., R. Ahlers, et al. (2002). “Games, motivation, and learning: A research and practice model.” *Simulation & Gaming* 33(4): 441.) This lends further weight to the idea that computer games can illicit motivating forces with regards to replay ability.

The genre that players choose to play is related to their personality (private cognitions and behaviour) within their cultural and social context. This simply means that players will decide on a specific genre that they feel *comfortable* playing and which they will derive *satisfaction* in playing based on their external (cultural and social environment) and internal circumstances (personal behaviour and cognition). (Salen, K. and E. Zimmerman (2005). *The game design reader: A rules of play Anthology*, The MIT Press)

2.1.2.1 Joy and Happiness

According to Averill (1992), there are three general approaches to understanding happiness. Happiness in regards to:

a) Systems of behaviour. b) Enabling mechanisms. c) Personality characteristics.

(Lewis, M., J. Haviland-Jones, et al. (2008). *Handbook of emotions*, The Guilford Press.)

Systems of behaviour means coordinated patterns of responses “designed” to achieve a goal or fulfil a function. With regards to game genres, this approach would relate to its “interaction style” and “interaction density” and also in the concept of “control”. Control refers to the exercise of authority or the ability to regulate, direct, or command. Games evoke a sense of personal control when users are allowed to select strategies, manage the direction of activity, and make decisions that directly affect outcomes, even if those actions are not instructionally relevant (Van Reekum, C., T. Johnstone, et al. (2004). "Psychophysiological responses to appraisal dimensions in a computer game." *Cognition & Emotion* 18(5): 663-688).

J. Huizinga in his classical work *Homo Ludens* (1938) gives the following definition for play [Hui55, p. 132])

“[Play] is an activity which proceeds within certain limits of time and space, in a visible order, according to rules freely accepted, and outside the sphere of necessity or material utility. The play-mood is one of rapture and enthusiasm, and is sacred or festive in accordance with the occasion. A feeling of exaltation and tension accompanies the action, mirth and relaxation follow.”

(Smed, J. and H. Hakonen (2003). "Towards a definition of a computer game." *Turku Centre for Computer Science*.)

To relate this back to the context of computer games, for example, players who play complex simulations like *Silent Hunter III*, describe the joy of navigating a submarine on missions. (57) RTS players, enjoy commanding their game units, establishing new functions and designing patterns during game time. (Williams, J. (1986). *The complete strategist: being a primer on the theory of games of strategy*, Dover Publications.)

2.1.2.2 Pride

Pride is the “enhancement of one’s ego-identity by taking credit for a valued object or achievement, either our own or that of someone or group with whom we identify” (Jenkins, J.,

K. Oatley, et al. (1998). *Human emotions: A reader*, Wiley-Blackwell.). With regards to the direct emotion itself, pride can be described as a combination of joy and deep satisfaction and it can be assessed in terms of the favourability of one's reactions to hypothetical positive events. (Lewis, M., J. Haviland-Jones, et al. (2008). *Handbook of emotions*, The Guilford Press and Mark P. Zanna, "Advances in Experimental Social Psychology", Volume 27)

Pride has two main types, one is pride in behaviour and another is pride in self. Pride in behaviour can sometimes have hubristic presentation while pride in self may or may not have any physical presentation at all. (Dalgleish, T. and M. Power (1999). *Handbook of cognition and emotion*, Wiley.)

In computer games, especially on MMO (Massively Multiplayer Online) games, players experience pride based on how they achieve the game's goals which can be monitored and observed by other players through feedback systems like direct messaging (by other players) or rankings issued by the game and finally via labels like "leadership" and "hero" which can be said to have a positive connotation. The rank of hero in MMO (MASSIVELY MULTIPLAYER ONLINE) gets credit and special attention from other players and this can be a source of pride within that virtual reality. (67)

At certain times when a player finishes a mission or gets a high score, the game gives to that player some awards and ranks and this is sometimes accompanied by some special music or video footage. An example is in the game "Red Alert I" when Joseph Stalin gives to players a medal of honour during a section of video. (68) In addition, high score boards are posted and visible to all players, suggesting that this allowance for comparison can be a driver for increasing player pride. (Storm, C., G. City, et al. "www.xeodesign.com** Why We Play Games: Four Keys to More Emotion in Player Experiences Nicole Lazzaro, President XEODesign,«Inc.")

2.1.2.3 Anger

Anger is referred to as a primary emotion (Campos et al, 1983). Every culture has rules for displaying anger and expressing it in culturally acceptable ways. (Lewis, M., J. Haviland-Jones, et al. (2008). *Handbook of emotions*, The Guilford Press). Anger is often discussed in terms of the experience (e.g. stress, frustration) and its behavioural outcomes (e.g. aggression, violence). In research literature, anger is generally discussed as an emotional reaction to negative, aversive states. (Levinson, D., J. Ponzetti Jr, et al. "Encyclopedia of human emotions." *Journal of Personality and Social Psychology* 49: 1246-1265.) There are nine main expressions (and experiences) of anger: identity management, aggression, frustration, lack of fairness, incompetence due to ignorance, incompetence due to egocentric motives, relationship threat, predispositions (like drug addiction) and general learned response. (Levinson, D., J. Ponzetti Jr, et al. "Encyclopedia of human emotions." *Journal of Personality and Social Psychology* 49: 1246-1265.) Anger has bodily presentations and can be measured through physiological changes such as increased cardiovascular and muscular activity. (Dalgleish, T. and M. Power (1999). *Handbook of cognition and emotion*, Wiley.) From a philosophical view, anger in the first place is a moral emotion; second, it is a passion; and finally the appropriateness of anger varies both within and across cultures. (Power, M., M. Power, et al. (2007). *Cognition and*

emotion: From order to disorder, Psychology Pr.) These descriptions show how anger is close to cognitive areas in psychology.

Pellegrini and Holmes (1999) explored social interaction using facial expressions, social distance and body contact, and various kinds of verbal behaviour. With respect to social interactions, it was expected that aggressive video games would elicit more negative behaviours in each of these categories. (Raessens, J. and J. Goldstein (2005). *Handbook of computer game studies*, The MIT Press. – P 137) Braun and Giroux (1989) observed that the majority of the most popular arcade games were violent in nature; this violence took the form of war, sport, ingestion, and criminality. (Dill, K. and J. Dill (1999). "Video game violence:: A review of the empirical literature." *Aggression and Violent Behavior* 3(4): 407-428.)

MMO game players experience anger in a variety of situations. For example, Figure 1 shows the evidence of anger in “World of Warcraft” which is played between 11 million users in the world. As Figure 1 shows, evidences for anger are related to control and functionality in game.

Table 12.2 Four factors producing anger in World of Warcraft

Items	Loadings
1. Raid/Instance Experiences (RI)	
Players do not pay attention in raids/instances and cause wipes	0.784
Players do not perform their part in a boss encounter	0.759
When players make the same mistake repeatedly and cause wipes	0.752
Players do not act on instructions they should be listening to	0.738
A wipe occurs that results from useless and unproductive actions	0.685
Players repeatedly do not do what they are asked to do in raids	0.674
Raid/instance members do not play as part of a raid/instance	0.672
Players in a group go AFK (Away From Keyboard) and contribute little to a raid/instance	0.645
A party continually wipes at bosses who were beaten in the past	0.644
Players wipe the raid after doing something they shouldn't	0.642
Players do something wrong and lay the blame on others	0.637
People who do not listen to raid/instance leaders	0.630
Players join a group, leave before completing, or after they die	0.620
People complain that the guild is not raiding/instancing enough	0.592
Players 'jump the gun' in raids/instances.	0.556
Players moan during raids and then leave 10 min after the start.	0.546
2. Grievers (GR)	
Outnumbered by the opposing faction who are CCing you	0.799
You are ganked on a regular basis	0.772
As a low-level you are accidentally PvP-tagged, then ganked by ??	0.765
After returning to your corpse you are killed again by opp. Faction	0.764
You are AFK, a member of the opposing faction CCs you	0.726
You are ganked/corpse camped followed by a taunt (e.g., /spit)	0.721
3. Perceived Time Wasting (PTW)	
Doing events I consider are time wasters (e.g., mana regeneration)	0.721
I have to wait around on bigraids/instances with nothing to do	0.647
You are grinding, and another player drags the mobs away	0.570
You lose an item on a fair need/greed roll	0.412
4. Anti-social Players (AS)	
Impolite behavior toward others/yourself	0.824
Players who are generally insulting	0.786

Figure 1 (Bainbridge, W. (2010). *Online Worlds: Convergence of the Real and the Virtual*, Springer-Verlag New York Inc. P-150)

2.1.2.4 Helplessness

The term “helplessness” (which was introduced in the 1960’s) is based on three essential components:

- 1) *Contingency*. This refers to the objective relationship between the person’s action and the outcomes that he/she then experiences.
- 2) *Cognition*. This refers to the way in which the person perceives, explains and extrapolates the contingency.
- 3) *Behaviour*. This refers to the observable consequences of (non)contingency and the person’s cognitions about it.

(Peterson, C., S. Maier, et al. (1995). *Learned helplessness: A theory for the age of personal control*, Oxford University Press, USA. and 70. Levinson, D., J. Ponzetti Jr, et al. "Encyclopedia of human emotions." *Journal of Personality and Social Psychology* 49: 1246-1265.)

This emotion experienced based on data that collected from game by players and how player interact with game. Sometime helplessness is a part of the game scenario which makes players artificially “helpless”. At the most suspenseful moments, the game puts the player in a wait-and-see position, reducing them momentarily into helpless spectators. In the case of interaction style, games can also generate suspense during split-second moments of player impotence and generate helpless moments in game. A good example is the third person game “Splinter Cell” which has scenarios and interactions when the player experiences a “helpless” situation. (Frome, J. and A. Smuts (2004). "Helpless Spectators: Generating Suspense in Videogames and Film." *TEXT technology* 13: 13-34.)

Conclusion

Numbers of players which play computer games, play game for fun but some players, play game as an essential activity during life time. These players play game for many reasons. Some reason is related to international tournaments and some are related to learning and educational purposes. The common point between players of a computer game is “motivation” which came from emotional issues on players. Players of a specific genre, have more emotional issues in case of playing game because they “like” to play in that genre. This motivation and emotion related to play a computer game genre has both psychological and technical evidences related to cognitive process of data on player’s mind and type and style of interaction which characterize game genre. Mostly MMO player play Third person games and most WCG players play Strategy and First Person.

The ultimate direct connection between game genre and emotions is unknown yet, but based on some experimental researches in cognitive psychology and cultural evidences from game culture, there are some relations between style & type of interaction (game genre) in a computer game and players emotions. The computer game genre has special features in case of “Game” and “Game Playing”, which is support and accept by human’s emotions like “amusement” and “joy”. This is the base and roots of for other relations and connections between game genre and emotion.

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