

A Study on the Psychology of Game Design Based on the Hierarchical Theory of Needs

Siyu Han

School of Art And Design, Beijing Institute of Technology, Beijing, China, 1002488
3120211899@bit.edu.cn

ABSTRACT

In order to study the influence of Maslow's hierarchy of needs on the psychology of game design, a research analysis using literature analysis and observation is conducted in this paper to discuss the needs of the bottom motivation, preliminary needs, basic game needs, emotional extrapolation needs and high-level gameplay needs in game design. Through the analysis of Maslow's relevant psychological theories and linking these valuable psychological theories to the current situation of game design, the different influences of Maslow's hierarchy of needs on game design are explored and further discussed at the lower and higher levels of needs respectively, and the importance of Maslow's hierarchy of needs on game design is derived. On this basis, the design strategies that should be adopted to satisfy players' needs in game design are proposed.

Keywords: Hierarchical Theory of Needs, Game Design, Design Psychology

1. INTRODUCTION

The popularity of smart devices has brought about a change in the way of entertainment, and their higher hardware configuration and faster transmission speed, etc. have gradually evolved single-player mini-games, which take up little memory and are mainly fun, into online games, which take up a lot of memory and are mainly immersive experiences. Traditional PC-based gaming devices are limited to specific locations such as network centers and homes[1]. And people can experience mobile games in their leisure time such as taking the underground and waiting for meals. In the huge game market, there is no shortage of high-quality games produced but the phenomenon of shoddy production is also endless, affecting the player experience.

The American psychologist Maslow, the founder of humanistic psychology, proposed the hierarchy of needs in his book *A Theory of Human Motivation*, published in 1943. In order to understand human behavior in society, Maslow believed it was necessary to provide some initial insights into basic human needs and internal drives[2].

Human beings are creatures of constant need, rarely reaching a state of complete satisfaction except for a short period of time, and one desire is often quickly taken over by another after it has been satisfied. The satisfaction of

human desires is a hierarchy of basic needs in terms of strength or power[3] which is often referred to as a hierarchy of needs. Maslow considered human needs as a structured whole and divided them into five levels: physiology, security, love and belonging, respect, and self-actualization, which are arranged from lower to higher levels, each playing an important role and forming a "pyramid" of needs. Maslow's Hierarchy of Needs theory reflects, to a certain extent, the common pattern of human behavior and psychological activity. In it, Maslow also divides these five needs into higher and lower levels. Physiological and safety needs are called lower needs, while social, respect and self-actualization needs are called higher needs. The point of this hierarchy is that only when one level of need is largely satisfied does one attempt to satisfy the next level of need. The five needs are continuously satisfied from low to high, with the lower level needs being relatively satisfied and then progressing to the higher level, with the higher the level the lower the percentage of satisfaction[4]. Of course, the order is not completely fixed and sometimes there are variations or exceptions. The first two needs are considered primary needs, which can be satisfied through external conditions: the remaining three needs are higher needs, which can only be satisfied through internal factors[5]. There are several needs that can exist at the same time during the same period of time, and there is always one need that plays a primary role, which is no

longer a motivating force once it is satisfied[6].

As society becomes more and more human, more and more research has been conducted on humanistic thinking, and scholars in China have put forward their views from different perspectives. Zhu [7] analyses the rationality and limitations of the hierarchical theory of needs, arguing that although the theory has historical limitations, its comprehensive application of psychology sociology anthropology and other disciplines under the conditions of socialized mass production, using the modern scientific and technological revolution, has studied the problems of human thought and behavior, and put forward some reasonable opinions, certain of which are in line with the laws of general human thought activities applied to dry socialist society. Cheng Gang [8] discusses the hierarchical theory of needs from a new perspective, pointing out that the hierarchical theory of needs has a sixth level on top of the existing five levels: the need for self-transcendence, which makes human needs rise from a flat state to a three-dimensional state and gives us a new understanding and appreciation of the hierarchical theory of needs[9].

Current academic research has focused more on Maslow's Hierarchy of Needs itself. However, there are only a few studies on the background of design psychology combined with games as a platform with a large audience. This paper is based on Maslow's Hierarchy of Needs and explores the influence of Maslow's Hierarchy of Needs on game design through literature research and observation methods, hoping that this study will provide a reference value for related research in this field.

2. PSYCHOLOGY OF DESIGN

Design psychology, as a branch of psychology, has a guiding role in human-computer interaction design[10]. The design principles of design psychology still influence game design today and will continue to do so in future game design interfaces. The design principles of design psychology continue to influence game design today and will continue to do so in the future of game design interfaces.

The field of game design has always been inextricably linked to psychology, and usability assessment of game interfaces is itself an important part of software psychology. Existing usability evaluation methods have been developed by applying various psychological methods to the design of game interfaces, for example, cognitive walking involves the psychological knowledge

of cognitive psychology[11].

Design psychology is a discipline that applies the psychological state of the user, particularly the user's needs, to design through consciousness. It also studies the state of mind of the designer during the creation of the design and the psychological response of the design to society and the individual, which in turn acts on the design to make it more reflective and satisfying.

3. THE SPECIFIC USE OF THE HIERARCHICAL THEORY OF NEEDS IN GAME DESIGN

According to the hierarchical theory of needs, the design of the game can be divided into several corresponding levels according to the psychological needs of the players. In the following, this paper will analyze the different levels.

3.1. Lower Level Needs (Physiological Needs and Safety Needs) and Game Design

The lower needs have been met, which provides the environment and conditions for the popularity of games and game design. With economic development, people's living standards have been greatly improved. Physiological needs and safety needs have been met for most people. With this has come the popularity of computers and smartphones, and the cost of their acquisition and use has fallen dramatically. This has provided the basis for the popularity of online games.

From the two basic points of needs theory: the satisfaction of lower-level needs is followed by the emergence of higher-level needs. This has provided the environment for the popularity of games and better game design.

3.2. Basic Game Needs and Game Design

This layer includes playability design, physiological needs, safety needs and the ability to extend the controls. Playability design can also be referred to as play points and play systems. It is the source, motivation and core of the play. The distinctive feature of games is that they are highly experiential and independent of other traditional forms of entertainment. As in Figure 1, PUBG Mobile requires players to go to different areas to find supplies while avoiding enemies so that they can use supplies for themselves when attacked by others and avoid player deaths.



Figure 1 PUBG mobile

3.3 Higher Needs (Need for Belonging and Love, Need for Respect, Need for Self-Actualization) and Game Design

3.3.1. Initial Game Design Needs: the Need for Respect

How easy the game is to play, how comfortable the controls are and how easy it is to download are important criteria for players to choose this game. This is in line with the need for respect. The need for respect can be divided into three categories: self-esteem, other-esteem and desire for power, including self-respect, self-evaluation and respect for others. Related to self-esteem, such as self-respect, self-confidence, the need for independence, knowledge, achievement and competence. Once this need becomes a driving force, it will give rise to lasting motivation. Self-esteem includes the desire for freedom to gain confidence, worth, ability, competence, independence, etc. Respect from others includes prestige, recognition, acceptance, concern, status, reputation and appreciation. He believed that the satisfaction of the need for respect would lead to feelings of confidence, worthiness, competence and innate talent, etc. Conversely, the frustration of this need would lead to

feelings of inferiority, weakness and incompetence, and consequently to compensatory or psychotic tendencies. The most stable and healthy self-esteem is based on well-deserved respect from others, not on unfounded flattery.

The need for security derives from basic human needs and is a dynamic balance. In games, the player's need for safety is satisfied when he or she finds supplies (ammunition, blood, items). Excessive levels of human arousal create a tendency to avoid stimulation and, conversely, a tendency to seek it. Excessive safety and excessive excitement should be avoided in game design, and a certain degree of contrasting arrangements is the relaxed rhythm the game should have.

The ability to extend the controls is a set of control restrictions designed to facilitate a quick introduction to the player. However, the limited control skills need to be given back to the player during the game. Making up for the lack of it brings more pleasure to the player than ordinary leveling up.

The ease of play, the comfort of the controls and the ease of downloading are important criteria for players to choose the game. As in Figure 2 , Super Mario is an easy game to play, comfortable to control and has a large and loyal fan base.



Figure 2 Super Mario

3.3.2. Designing for Emotional Externality in Games: the Need to Belong and Love

The design of emotional extensions to games refers to plot and emotion-related design beyond the point of the

play. In literary works, the player is driven by a desire to complete the story, and the most important feature of the game is the interaction between the characters and the plotting process. The tight plot makes this sense of immersion stronger and facilitates greater immersion in the game's world.

In terms of characterization, the pre-game persona only fixes the appearance and main character traits of the player characters and computer-controlled characters (NPCs), leaving a lot of room for the player to play. The characterization of the game can only be fleshed out in the course of dynamic gameplay, and immersion is a very important aspect of the game, and vivid game imagery is the best way to satisfy this in terms of literature.

In terms of touch and resonance, as with Hollywood blockbusters, a game makes a deep impression by touching and resonating with the soul. It is only this touching of the deepest parts of the human psyche that can create a great impact. What people remember most about a game, film or novel may be a visually stunning scene, a plot that touches the player's heart.

The social need, also called the need to belong and love, refers to the individual's desire to be cared for and understood by family, organizations, friends and colleagues; it is the need for friendship, trust, warmth and love. The need to socialize is more subtle and difficult to grasp than the physical and security needs. It includes the desire to socialize and the feeling of belonging. Love, is not just the love between the sexes, but in a broad sense, embodied in mutual trust, deep understanding and giving to each other, including giving and receiving love. The need to socialize is related to one's personality, experience, living environment, race, habits, religion, etc. This need is difficult to perceive and impossible to measure. In the case of the game *Identity V*, for example, a dark tone is portrayed in the game with slightly creepy characters and horror music, which adds to the tension and enhances the player's immersion

3.3.3. High-Level Gameplay Design Needs: the Need for Self-Actualization

High-level enjoyment of play is what is called freedom. Freedom is a realm, a sense of unrestrained ease. Such a feeling is rare in life, so it becomes particularly valuable. Absolute freedom in games does not exist, replacing his virtual (relative) freedom, the so-called freedom in games is not determined by the player, but depends on the designer.

Freedom and restriction are in fact a discursive pair that corresponds to each other. Good games, you feel, offer freedom while at the same time creating more freedom, but their designers succeed in making the players feel that "they are free". Games are called interactive art because, unlike previous art forms, they offer a more participatory, experiential and transformative audience (this last point distinguishes games from films) and the degree of participation in the process of playing is a valid reflection of the degree of freedom.

In the freedom of the game, the player can persuade many enemies and friends to join his side or choose to

defect to others and share the same fate; the player can help an underdog club reach the final of the Champions League or, of course, use a big team to win back-to-back titles countless times: the player can maintain the running of the calendar or change the history that has already taken place, decide whether someone lives or dies, and so on. All this, typical of virtual freedom, these seemingly omnipotent actions make them feel that they are the kings of the world, that they can change everything, the fate of the characters and even the history of mankind.

This corresponds to the need for self-actualization. The need for self-actualization is a need of the highest order. Fulfilling this need requires accomplishing work that is commensurate with one's abilities, using one's potential to the fullest and becoming the desired persona. It is a creative need. The person with the need for self-actualization seems to be doing everything possible to bring himself to perfection. Self-actualization means experiencing life fully, actively, obviously and with full concentration and attention. Achievement is different from the desire to grow, in that achievement seeks certain ideals and often works tirelessly, treating work as a creative activity and hoping to solve major problems for people so that they can fully realize their ambitions.

4. CONCLUSION

Game design and psychology are two seemingly unrelated fields of study, but in fact, they are deeply interconnected especially at this critical moment when the young industry of games is developing rapidly.

In this paper, through the analysis of Maslow's relevant psychological theories and linking these valuable psychological theories to the current situation of game design, the different influences of Maslow's hierarchy of needs on game design are explored and further discussed at the lower and higher levels of needs respectively, and the importance of Maslow's hierarchy of needs on game design is derived. This paper attempts to make the game design practice more theoretically supported and to find more action possibilities from the root of action. A broader scope of development is sought for the development of the game industry.

REFERENCES

- [1] Du Guidan mobile games [J]. *Packaging Engineering* 201839(04):245-250.
- [2] TAN Xiaofang. Rethinking Mainstream Economics from Hierarchical Theory of Needs [J]. *Guangxi Social Sciences*.2005(06):47-49.
- [3] Maslow. *Maslow's Philosophy of the Human Person* [M]. China:Kyushu Press,2003:1.
- [4] Maslow. *Maslow's Philosophy of the Human Person* [M]. China:Kyushu Press,2003:55.

- [5] Maslow. Maslow's Philosophy of the Human Person [M]. China:Kyushu Press,2003:56.
- [6] Maslow. Maslow's Philosophy of the Human Person [M]. China:Kyushu Press,2003:57.
- [7] ZHU Zhiqiang. Commentary of Hierarchical Theory of Needs[J].Journal of Wuhan University (Social Science Edition),1989(02):124-126.
- [8] CHENG Gang Hierarchical Theory of Needs has Sixth Level[J].Business Management,2017(01):51-52.
- [9] Luo Naisong. Modular ideological education of college students under the view of Maslow's hierarchy of needs theory[J]. Contemporary Education Theory and Practice,2013,5(01):32-34.
- [10] Brenda Laurel,Computers as Theater, Addison-Wesley Publishing Company, 1993:35-45
- [11] Stephen W Little john,Theories of Human Communication, Belinont,Wadsworth,1989:37