

Comparison and Analysis of FPS Mobile Game Interaction Design

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FPS타입모바일게임의 인터랙션 디자인 비교 분석에 관한 연구

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Abstract The rapid development of the mobile internet has gradually changed the carrier of electronic games from PC to mobile. mobile games have become an excellent choice for many people to spend their spare time and enjoy life. Among many types of mobile games, Number of users of FPS games has increased rapidly in recent years. Based on the 《Emotional Design》proposed by Donald Norman, this article compares the interaction design of China's most popular FPS game《Game for peace》and Korea's most popular FPS game 《PUBG》, and analyzes their similarities and differences, and then use that as a basis to summarize the three levels of emotional design-Visceral level, Behavior level, and Reflection level, which is the user interface, interaction mode, and interaction experience in interaction design Emotional expression on the two games. This theory provides suggestions for interactive design in the information industry such as mobile games.

Key Words : FPS mobile games, Emotional design, User interface, Interaction mode, Interaction experience

요약 모바일 인터넷의 급속한 발전과 더불어 컴퓨터 게임의 단말이 PC에서 모바일로 점차 바뀌고 아울러 모바일 게임은 많은 사람들이 여가 시간에 삶의 즐거움을 향유하는 절호의 선택이 되고 있다. 최근, 다양한 타입의 모바일 게임 가운데 FPS 타입의 게임 사용자가 큰 폭으로 증가되고 있다. 본문은 도널드 노먼 (Donald Norman)의 《Emotional Design》에 기초하여 중국에서 가장 인기 있는 FPS 게임인 《Game for peace》과 한국에서 가장 인기 있는 FPS 게임인 《배틀그라운드》의 인터랙션 디자인을 비교하면서 이 두 게임의 공통점과 차이점을 분석하고 이를 근거로 감정 인터랙션 디자인의 삼차원 이론을 총결산하였다. 삼차원 이론은 본능층과 행동층, 사고층으로 나뉘며 각각 인터랙티브 인터페이스, 인터랙티브 행동, 인터랙티브 체험이 이 두 게임에서의 감정적인 표현이다. 또한 이 이론은 모바일 게임을 비롯한 정보화 산업의 인터랙션 디자인에 조언을 제공한다.

주제어 : FPS 타입의 게임, 감정 디자인 이론, 인터랙티브 인터페이스, 인터랙티브 행동, 인터랙티브 체험

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1. Introduction

With the popularity of the Internet and smart devices, the accelerating pace of life and the fragmentation of time, the mobile game market is developing rapidly. Mobile games have gradually become the main choice for people to relax, entertain their lives, and spend their free time, ushering in a golden age of development. In this trend, mobile game, which fully considers the real needs and psychological feelings of users, can be recognized and favored by users. According to Aurora Mobile's 《Mobile Game Industry Research Report 2019》[1], the MAU of Chinese users reached 825 million, the penetration rate was 73.6%, and the average monthly usage time per capita was 879 minutes. The main users of mobile games are students and white-collar workers. In the past six months, more than 70% of heavy users paid for games. According to the report, as of the end of 2019, the MAU of FPS mobile game users reached 172.5 million, with a coverage rate of 16.4%. Among them, the number one FPS mobile game is 《Game for peace》, with a penetration rate of 11.2%.

Due to fierce market competition, mobile games need to be of high quality now and in the future. One of the most important factors that affect the quality of mobile games and attract users' attention is interaction design[2,3]. The essence of interaction design is to allow users to enjoy a good experience and pleasant feelings during the interaction with the product[4,5]. Based on the three levels of emotional design proposed by Donald Norman[6], this article compares the interaction design of China's most popular FPS mobile game-《Game for peace》and Korea's most popular FPS mobile game-《PUBG》. Analyze and summarize the similarities and differences between the two games, and use this as a basis to elicit important factors in game interaction design.

2. Emotional Interaction Design

2.1 The importance of emotion in design

With the gradual introduction of psychological concepts into the game field, The game industry's requirements for products have gone beyond accessibility, usability, and practicability[7,8]. Cognitive psychologist Professor Donald Norman concluded in his research that design can give people unconscious impulses, pleasant feelings and good memories. This influence is directly related to people's emotion and mood. It can be seen that interaction design that does not emphasize emotional experience is difficult to attract users. The essence of most games is that players constantly verify whether their choices are meaningful. When players begin to realize that their choices are meaningless, A game becomes less and less fun. This shows that the design needs to be developed around people's emotions. The interaction design of the game needs to realize the combination of rational logical thinking and emotional concept to meet the entertainment needs of players[9,10].

2.2 Three levels of emotional design

Donald Norman proposed in 《Emotional Design》 that human brain activity is divided into three levels- Visceral, Behavior and Reflection.

The emotion of the Visceral is the spontaneous feedback behavior of people to external things, good Visceral level design makes people feel physiologically happy. Emotions at the Behavior level are related to use, and a good Behavior level design can make users psychologically happy. The reflective level of emotion is the highest level of consciousness, emotion, mood, and cognition. A good reflection level design can arouse different memories. Reflect on what you do, build identity and express emotional appeal. Emotional design focuses on influencing the emotion and mood of users from three different

levels, enhances the attractiveness of the design, gives the soul of the product, and builds a bridge between users and the product[11].

2.3 Mobile game of emotional interaction design

Interaction design is to solve the communication problems between products and users, and make the interaction process closer to users' natural thinking habits and ideas. Therefore, rational thinking occupies an important position in interaction design. However, mobile game players are people with cognitive abilities and emotions. They don't want to be ignored in the process of using the product. They hope to get a wonderful experience during the game. Therefore, the interaction design of mobile games must realize the combination of rational and logical thinking and emotional concepts[12]. Emotional interaction design is to add the application of emotion and psychology to the interaction design principles, focusing on bringing users an unparalleled emotional experience. The interaction design of the game is an important factor that makes users enter a state of concentration. Smooth interactive design can better allow users to enter the state of flow experience. Flow experience is not only a state of mind, but also a positive spiritual experience obtained when achieving goals. Emotional interaction design corresponds to three levels in mobile games: user interface, interactive mode and interactive experience, as shown in Fig 1.

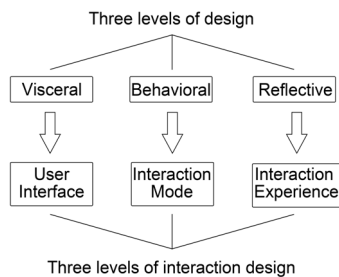


Fig. 1. Emotional interaction design corresponds to three levels in mobile games

3. Research Status

3.1 The usage condition of FPS mobile game users

In order to obtain real and effective information, the researcher conducted a questionnaire survey. A total of 126 people participated in the questionnaire survey. They were screened by the question "Which type of mobile game makes you invest the most time?". A total of 88 respondents chose the "FPS first-person shooter game" : 《Game for peace》, 《PUBG》, etc.". First of all, the background part of the questionnaire, the contents is to understand the basic situation of FPS mobile game players, such as gender, education level and other questions, The second is to understand the Environment, reasons, average daily usage time, and usage experience when these players enter the game. The results of the questionnaire show that the audience for FPS games is even in gender distribution, as shown in Fig 2. Most of their professions are students and professionals, as shown in Fig 3. Subsequently, the author conducted in-depth interviews with students and professionals of different genders in 《Game for peace》and 《PUBG》and drew customer journey maps.

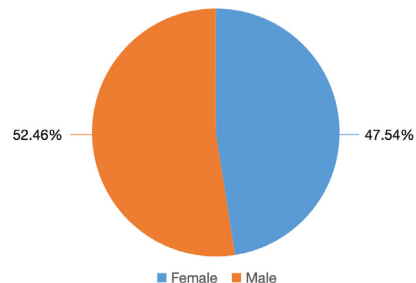


Fig. 2. The Gender distribution of players

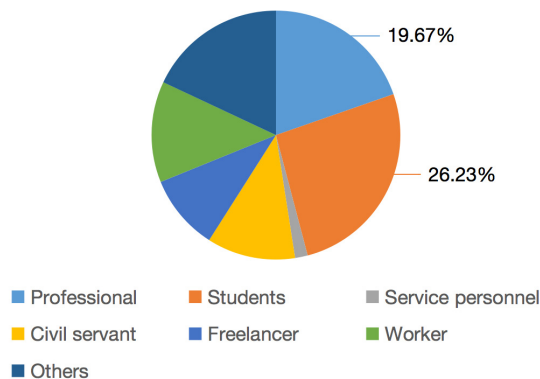


Fig. 3. The occupation distribution of players

3.2 Comparison of emotional interaction design in《Game for peace》and《PUBG》

On December 21, 2017, Korea's PUBG company released a shooting game named 《PUBG》. It has attracted widespread attention since its release. In the same month of the same year, PUBG and China Tencent reached a cooperative relationship. As well as the impact of the version number review, on May 8, 2019, Tencent released the same military experience mobile game 《Game for peace》in China. Both 《PUBG》and 《Game for peace》have been occupying the top of the download list of FPS games released in recent years. Both games have real-world maps and rich game environments for users to experience, allowing hundreds of users to compete in the same game and win with their battle strategy and shooting abilities.

3.2.1 Comparison and analysis of the visceral level design of 《Game for peace》and 《PUBG》

The visceral level of reaction is that people obtain surrounding information through vision, smell, hearing, touch, and taste. After the comprehensive processing of the brain, they quickly make judgments on the environment, so the appearance, color, music and other external characteristics of the product It plays an

important role in emotional design. For the game, the user's impression of its user interface determines its "destiny"[13]. 《Game for peace》and《PUBG》have the same screen styles. Both designed their background theme that restore the reality of real world battlefields. Coupled with strong military atmosphere music and military style colors, giving players a strong sense of substitution to enjoy the game.

First of all, in the users interface design, the two games have the same overall style except for the different details of the entrance options such as store and backpack. The protagonist of the game stands on the grass of the training base and holds weapons, the uniform military realism style is deeply loved by users, making users immersive, and narrowing the distance between products and users. Secondly, in terms of color design, both games use color psychology, and simulate the color atmosphere of real war as the main theme. Because color has an ideographic function. Therefore, in the interactive design of the game, colors can express emotional ups and downs. In addition, designers can use background music to set off the theme of the game. Therefore, both games use battle-colored music to make users immersive. The interaction design of the two game interfaces is different. The 《PUBG》interface design is the same as the computer client 《PUBG》, while《Game for peace》rearranges the design of entry options such as store.

3.2.2 Comparison and analysis of the behavior level design of 《Game for peace》and《PUBG》

The design of the behavior level is directly related to the use. Good interaction design methods can conform to human thought habits and natural instinctive behaviors, and accelerate users' understanding and adaptation speed. Let users get a relaxed and pleasant operating experience[14]. The interaction mode of these two games fully considers the emotional needs of

users, not only has a clear interaction logic and framework, but also conveys emotions in different mode to enhance the user's Immersion. The two games establish social functions and reward mechanisms, and use design methods that respect user habits and use emotions that affect users, so that users have a strong sense of participation and flow experience in the game.

First of all, two games have convenient social functions. Users can communicate with other users anytime, establish friendships in the game and give gifts. Online games are a continuous product, and the fun of social gameplay sometimes goes beyond The game itself is a psychological need of the player. Through online games, players can cross the boundaries of space and become friends with players in different places, and gain a sense of belonging and respect in interactions. In terms of social scope, the two games are different. Users of 《PUBG》 communicate with users of servers in other countries, While 《Game for peace》 can only establish social relationships with users in mainland China. In addition, two games have player rank rankings. Users can check their ranks among friends and strangers and compare them to prove their existence. Next, is the reward mechanism, in two games, when the users enters the game, the first is to receive rewards interface, the system will give users COINS, skin, treasure box, etc., the realization of the reward system in the game process is a communication between the players and designers, designers understand the motivations of the player intention and psychological state, the player from the game get incentive in order to enrich the experience and to continue the game. Finally, the two games guide players to interact with the game in a way that respects the user's operating habits, so as to reduce the user's learning cost. For example, after entering the game, the user can control the user's movement by dragging the joystick and control the perspective by swiping the screen. In

addition, the user can set the position of the operation button according to their own operating habits in the setting options. They can subconsciously operate and interact without much thinking.

3.2.3 Comparison and analysis of the reflection

level design of 《Game for peace》and《PUBG》 Reflection is an indirect cognitive act. The user transforms and associates the potential information and features contained in things, And apply them to life experience. Reflection level of design involves deeper psychological feelings. The interactive experience that emotional interaction design brings to users determines user stickiness, product connotation and meaning. For games, the implicit information conveyed by the game will stimulate players' memories and reflections, and integrate the experience outside the game with the feelings inside the game to create an immersive experience[15]. There are many FPS games on the market, but the open gameplay and interesting social functions of 《Game for peace》 and《PUBG》are extremely popular among users. The emotional interactive experience makes these two games fascinating and endless.

Games exist to solve real problems. They not only need to fill the virtual emptiness of the users, but also need to create emotional resonance for the player, so as to truly solve the inner emptiness of the users. After the researcher conducted in-depth interviews with the users of the two games, the customer journey map is shown in Fig 4,5,6,7. According to the results, what users care about in the game is not the success of the competition, but the communication with teammates during the battle. In addition, the open gameplay of the game also improves user stickiness, and users can play the game through their own combat plans. Whether it's 《Game for peace》or《PUBG》, it

satisfies the users's need for pleasure in battle. The reproducible non-linear narrative structure of the two games is played, for example, the randomness of weapons/weather/resources is user favorite The important reason for this game.

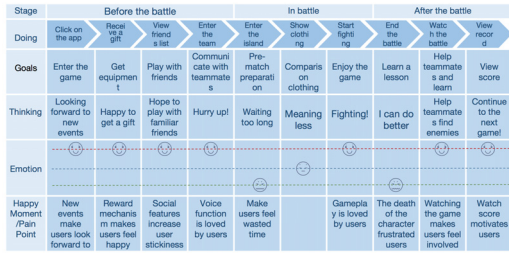


Fig. 4. «Game for peace»'s male customer journey map

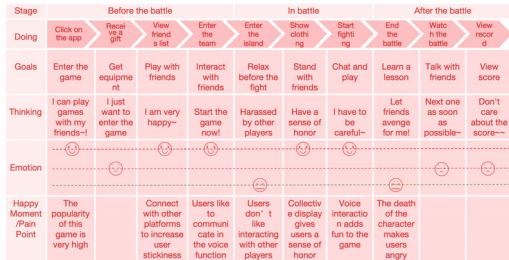


Fig. 5. «Game for peace»'s female customer journey map

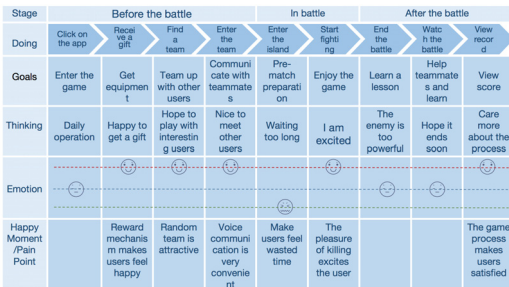


Fig. 6. «PUBG»'s male customer journey map



Fig. 7. «PUBG»'s female customer journey map

4. Result

The three levels of emotional interaction design complement each other. Users gain interactive experience by interacting on the user interface. That is to say, instinct level design and behavior level design determine reflective level design, and good interaction experience will improve people's satisfaction with the whole interaction process. The user's color emotions, formal emotions, language emotions, and feedback emotions should all be valued by interaction designers.

5. Conclusion

In mobile games, excellent emotional interaction experience can not only improve the stickiness of users, but also enable users to think about the meaning of themselves and things in reality from the game and inspire people's positive emotions, which is one of the values of the game.

Based on the emotional design theory proposed by Donald Norman, the article expounds the three levels of emotional interaction design, and analyzes the emotional interaction design of FPS mobile games with the largest number of users in China and Korea. It provides theoretical Suggestions for the interaction design of digital industries such as games.

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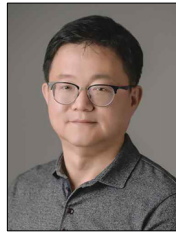


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