Research of the Attractiveness Factors of MOBA Mobile Games Based on Evaluation Grid Method

Shen Qi¹²*, Chen Chun-Chih³ and Wu Shu-Ming²

¹ Jiangsu Maritime Institute, Nanjing, 210000, China
² Tungfang Design University, Kaohsiung, 82941, Taiwan
³ National Kaohsiung Normal University, Kaohsiung, 80201, Taiwan

*Corresponding author’s e-mail: dreampure@qq.com

Abstract. The purpose of this paper is to explore the game player's experience and preference for MOBA (multiplayer online battle arena) mobile games, and to identify the attractiveness quality factors that affect the MOBA mobile game design. In this paper, Honor of Kings is the subject of discussion and research; qualitative research methods are adopted to go deeper into interviews involving deeper gamers; the attractiveness of the MOBA mobile game is summarized; the evaluation grid is constructed and analyzed, which provides a reference for the subsequent MOBA mobile game design and improvement.

1. Introduction

In recent years, with the advent of touch-screen mobile phones and the arrival of the 4G network era, the mobile game industry has undergone tremendous changes. From the emergence of smartphones in 2008, with the popularity of smartphones and the continuous improvement of hardware performance, MOBA games have been released in the mobile game market, which not only enriched the entertainment of mobile phones, but also gradually became the driving factor for the development of mobile phones. From 2012 to 2017, the proportion of mobile games in China's online game industry grew from 13.1% to 62.1%, while the PC client game market further narrowed [1].

At present, MOBA mobile games account for 1% of the supply side of the Chinese mobile game market, and the demand side is 38%, reflecting the market popularity of MOBA mobile games. The development direction of the future esports games is mainly entertainment and low thresholds; entertainment refers to the enhancement of viewing and the randomness of the game; the low threshold refers to the increase in the size of the crowd and the difficulty in operation [2].

This study is intended to explore the game player's experience and preferences for MOBA mobile games; and by the evaluation grid method, the characteristics of the attractiveness factors of MOBA mobile game are summarized, which provides reference for game design and improvement.

2. Discussion of references

2.1. MOBA Mobile Games
MOBA mobile games, that is, Multiplayer Online Battle Arena (MOBA), which is also called Action Real-Time Strategy game (ARTS), is derived from real-time strategy games (RTS). Usually, players are divided into two teams; each player can only control one of the game characters in one of the
teams; the confrontation elements are arranged in an orderly manner in the game timeline and the scene space; through the driving of the gameplay process and the guidance of the worldview design, the players spontaneously carry out the operational confrontation and strategy game to defeat the position of the opposing team as a victory condition, and then they get satisfaction from it, this is a multiplayer instant battle game [3].

The characteristics of the MOBA games are as follows: 1) fairness and competitiveness; MOBA games emphasize the precision and tension of the operation; competitiveness is the main driving force for the rapid development of the MOBA game industry; in addition, competitive fairness is also the reason for the popularity of MOBA games; every time the player starts the game, they stand at the same starting point; 2) real-time confrontation; confrontational play is one of the core gameplay of MOBA; each game is a unit, 10-40 minutes per game; the game system can automatically match teammates, and players can enter the game anytime, anywhere, which is in line with the characteristics of the modern fast-paced life time fragmentation; 3) convenient operation; at present, the mainstream operation mode includes a virtual joystick plus a skill button, which requires the player to operate simultaneously with both hands; Junior players can also get started quickly, with high acceptance of players; another way of operation is click-to-click and skill buttons, which can be operated with one hand; the operation is very convenient, and the target of the attack is clear, which effectively reduces the probability of misoperation [4].

2.2. Honor of Kings

Honor of Kings is a MOBA mobile game developed and run by TiMi Studio Group of Tencent Games on Android, IOS and NS platforms. Honor of Kings is a mobile game similar to dota; the gameplay is dominated by competitive games; players can play PVP battles of various modes such as 1V1, 3V3, 5V5, etc., and can participate in the adventure mode of the game to carry out the PVE (Player VS Environment) clearance mode; after qualifying, they can also participate in game qualifying.

As the most successful MOBA mobile game, Honor of Kings is currently downloaded more than 800 million times in the Android app market, with more than 200 million registered users. Unlike female players who are less than 10% in PC-based MOBA games such as DOTA or LOL, the proportion of female players in the Honor of Kings is 54%, which is inseparable from the game function and art design. The MOBA mobile game, represented by the glory of the king, caters to the following needs: 1) the need for mobile-based boutique games; 2) the need for fragmented entertainment; 3) social needs [5].

![Figure 1. The theme of Honor of Kings.](image1)
![Figure 2. The skill effect of heroes.](image2)

2.3. Attractiveness Engineering and Evaluation Grid Method

2.3.1 Attractiveness Engineering

The word "Attractiveness" is called Miryoku in Japanese; attractiveness is the user's subjective preference, mainly from its value judgment system; this value judgment system comes from the user's sensory reception, psychological decision-making, sociology, art evaluation and other fields[6]. In 1991, Ujigawa invited a number of scholars to conduct research on "Miryoku engineering", which was
aimed at "creating the attractive products, space technology and learning." This method mainly compares the object A and B by personal interviews, and clearly discusses the similarity or difference relationship of the objects, so the individual properties of the target objects are sorted out. Sanui divides the research method of Miryoku engineering into two steps: the first step is to evaluate the preference or disgust of the object for the evaluation of the target object; the second step is to clarify the meaning of the answer through additional questions, and to summarize the respondent's answer to specifically analyze the product's attractiveness factors for the user's preferences, and then sort out the relevant construction's evaluation grid. This research method is called "Evaluation Grid Method ", hereinafter referred to as EGM[7].

2.3.2 Evaluation Grid Method
EGM mainly conducts interviews through highly involved ethnic groups, compares various characteristics from the user's actual behavior cases, and sorts out authentic evaluations and opinions; even the correspondence between abstract feelings and specific conditions that are often difficult to capture can be studied by sub-methods. In the related research of attractiveness engineering, EGM provides a concrete and rational way to analyze the attractiveness factors of things. In order to know the user's feeling of the attractiveness of things, the way of in-depth interviews is adopted, the stimulus is provided in the category under the theme, and the degree of preference of the subjects is compared, so that the subject has obvious feelings. Therefore, the subject's original concept of the subject is learned, and then the subject is guided to make a clearer analysis of the original evaluation concept, and the original evaluation concept is the link between the upper abstract concept and the lower specific description. Further, the subject and the network evaluation grid of the product are sorted out[8].

3. Research methods
In order to clarify the different needs of gamers for MOBA games, and to identify the attractiveness quality factors that affect MOBA mobile game design, this study explores the attractiveness experience attributes of MOBA mobile games by using the EGM evaluation grid method of attractiveness engineering, which provides the basis for subsequent questionnaire design. The evaluation grid method is used for in-depth interviews. The main subjects are 9 players of Honor of Kings, including 5 males and 4 females. They are both Honor of Kings players with more than 2 years of experience. They are 18 to 25 years old. The EMG interview method is divided into three parts: “original reason”, “specific reason”, and “abstract reason”. The original reason is to ask the abstract feeling from the back up, and to point down the specific items. For example: Question interviewee “What is the reason that Honor of Kings is attracting you?” The interviewee answered for the first time, "I think the sound of Honor of Kings is well," then the "game sound effect" is extracted as the original reason of attractiveness, and then from the top down, according to the original reason, "Do you think the game sound is attractive?"If the interviewee answers “I like to hear the sound that will be triggered after killing the other hero”, then, the "snack effect after killing the other hero" is extracted as the specific factor of attractiveness; finally, continue to ask the interviewee, "What do you think the sound effect attracts you after killing the other hero? Can you describe the specific feeling?" If the interviewee replies "I feel a sense of accomplishment after hearing", then the "sense of accomplishment" is extracted as an attractiveness abstraction factor. Through the collation of interview content, and the construction of its evaluation grid, finally, the evaluation grid of the Honor of Kings attractiveness factors is summarized.

4. Analysis and discussion

4.1. Honor of Kings attractiveness factors evaluation grid
4.2. Analysis of results

To analyze the EGM Hyponymy Project (specific factors); Since the number of interviews is 9 people, projects with scores of more than half are adopted, that is, projects with scores 5 or more. The most attractive to gamers is the project (9 times) is drawn: the beautiful theme screen, playing with friends/heterosexual friends, beautiful Skins of heroes, many heroes/many combinations, and 1-2 heroes updates per month; these specific factors are the most attractive to game players to meet their personal preferences; Show QQ friends online, team up quickly (8 times), the gameplay is good, heroes' skill effects are cool, background music is constantly updated, simple operation and easy to play (7 times), the game has contingency and nondeterminacy, 10-40 minutes per round, has strong immediacy (6 times), the theme screen is constantly updated, game shows QQ/Wechat friends' rank, the heroes commonly have history background, game has many modes, explore entertainment modes (5 times); Projects with scores 5 to 8 in the interview also have some value in meeting the personal preferences of players.

To analyze the EGM Hypernym Project (abstract reason); Since the number of interviews is 9 people, projects with scores of more than half are adopted, that is, projects with scores 5 or more. The
most attractive to gamers is the project (9 times) is drawn: exquisiteness, attraction, richness, vanity, honor, accomplishment, satisfaction, and excitement; these abstract reasons are the most attractive to game players to meet their personal preferences; freshness, interesting(8 times), pleasure, mpathy, challenge(7 times), portable(6 times); Projects with scores 5 to 8 in the interview also have some value in meeting the personal preferences of players.

5. Conclusions and recommendations

According to the above research results, the interview results are established as attractiveness evaluation grid; and 6 original attractiveness factors (game graphics, game social, hero system, game sound effects, gameplay, game peripherals), 28 specific attractiveness factors, 19 abstract attractiveness factors are counted. In addition, through interview data, it is found that the game screen, game social, and hero system are most recognized by the interviewees in the original attractiveness factor. In the specific attractiveness factors, 5 factors including the beautiful theme screen, playing with friends/heterosexual friends, many heroes/many combinations, and 1-2 heroes updates per month, are mentioned the most. Among the abstract attractiveness factors, exquisiteness, attraction, richness, vanity, honor, accomplishment, satisfaction, and excitement are the most frequently mentioned. It can be seen that the above attractiveness factors are the main driving force for game players to become sticky to the Honor of Kings.

In order to meet the needs of gamers, clarify the gamer's experience preferences, and draw more complete research conclusions, in the follow-up, it is expected to increase the number of EGM interviewers, expand the age stage of EGM interviewers, and use the evaluation structure of the Honor of Kings attractiveness factor to provide a reference for the subsequent questionnaire design. In the later stage, the AHP level analysis method can be used to check the validity of the questionnaire and the weight of each attractiveness factor, and to find out the quantitative value of the attractiveness factor, which can provide reference for the design and improvement of the later MOBA mobile games.

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