Research of the Attractiveness Factors of Tactical Competitive Shooting Mobile Games Based on Evaluation Grid Method

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Abstract. The purpose of this paper is to explore the game player's experience and preference for tactical competitive shooting mobile games, and to identify the attractiveness quality factors that affect the tactical competitive shooting mobile game design. In this paper, Game For Peace is the subject of discussion and research; qualitative research methods are adopted to go deeper into interviews involving deeper gamers; the attractiveness of the tactical competitive shooting mobile game is summarized; the evaluation grid is constructed and analyzed, which provides a reference for the subsequent tactical competitive shooting mobile game design and improvement.

1 Introduction
With the change of online games to the mobile game era from the PC era, online mobile games have greatly expanded the scale of players through openness and communication due to the trend of mobile electronic entertainment. Due to the improvement of mobile phone hardware performance, a number of phenomenal games have entered the mobile game market, among them, the tactical competitive shooting mobile game "Game For Peace" has a mobile game market share of 11.2% from time to time and has become one of the most popular tactical competitive shooting mobile games [1].

Tactical competitive shooting mobile games come from the development of competitive shooting games. Competitive shooting games have always been a popular game item for the following reasons, on the one hand, the shooting itself has magical charm, which brings people a sense of blood and excitement; on the other hand, competitive PK can stimulate the player's desire to win and lose, which makes the game more interesting and fun; based on these, in the tactical competitive shooting mobile game, the tactical combination game mode has increased, the interaction between players has been greatly enhanced, and the sociality has expanded [2].

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

2 Discussion of references
2.1. Tactical competitive shooting mobile games
Tactical competitive shooting mobile games are developed on the basis of first-person shooting game (FPS), in which shooting games are performed from the subjective perspective of players; however, in tactical competitive shooting mobile games, more emphasis is placed on teamwork, competition, and strategy; and gamers must continuously collect material and strive to survive in a map full of various random elements in order to win[3].

According to Wei Xiaofang, the reasons why tactical competitive shooting mobile games are hot are as follows: First, the game has a strong sense of rhythm and is full of excitement; throughout the game, players need to be careful, cooperate with the audiovisual dual sensory experience, and the revival function is not available; second, gamers can have a sense of gain and honor through the game experience; the higher the level of the gamer, the more beneficial they are to survival and the more they can prove their personal strength; third, team operations can develop online extensions of offline relationships, gamers tend to team up with familiar people, and gamers communicate through voice to avoid the loneliness of playing games alone, meanwhile, gamers can also develop offline dating through online dating to become friends in life [4].

2.2. Game For Peace
Game For Peace is a tactical competitive shooting mobile
phone game independently developed by Tencent's Lightspeed & Quantum Studios Group. In Game For Peace, the game player controls the game character from the first perspective, and the game player wins by killing all other opponents in the game map in individual or team mode. For character settings, item props (such as weaponry, item enhancements, consumables, vehicles), scene maps, feature systems (such as player teams, mission systems, trading systems, PVP systems, and combat systems), etc., the game is unique in design, which has made it one of the most popular tactical competitive shooting mobile games.

In terms of fragmented experiences, Game For Peace caters to the needs of gamers. For example, the size and size of game maps and the time required to compete for strongholds have been adjusted. In each game, players only need a few seconds from the start of the game to shooting at each other. In addition, in order to prevent a long tug-of-war in a certain base, a variety of weapons with strong attack power will be refreshed at specific points in the game to further speed up the game[5].

2.3. Miryoku Engineering and Evaluation Grid Method

"Attractiveness" refers to the subjective preferences of the user, which comes from the user's value judgment system and is categorized into user sensory reception and psychological decision-making; the Japanese expression of Attractiveness is Miryoku[6]. In 1991, Ujigawa co-sponsored a number of scholars to launch the research of "Miryoku engineering", which aims to create "products and technologies with charm, space and technology". In this method, objects A and B are compared through user subjects, and similarity or differential relations are clearly discussed, and then the individual properties are rectified. Sanui divided the research method of Miryoku engineering into the following two steps: The first step is to ask subjects to evaluate the target and answer their preferences or dislikes about the object; the second step is to, via the additional question, further clarify the meaning of the previous answers, organize the subjects' answers, analyze the attractiveness elements of the product's preferences for the subjects, and draw the relevant structural network diagram. This research method is called "Evaluation Grid Method (EGM)[7].

The evaluation grid method provides concrete and theoretical foundations for Miryoku engineering research. The analysis of attractiveness factors is mainly to conduct subjects with high-intake users of things, and to compare various features from the actual subjects' cases, and then to sort out evaluations and opinions with considerable credibility; even the correspondence between abstract feelings and specific conditions that are difficult to capture can be aggregated by this method. In order to know the subjects feelings about the attractiveness of things, the method of in-depth interviews was adopted, and stimuli were provided according to the categories under the theme, and the comparison of subjects had obvious differences according to the preferences of the subjects. Therefore, the subjects were informed of the original concept of the subject, the subjects were then guided to make a clear analysis of their original evaluation concepts, the original evaluation outline was combined with the higher-level abstract outline and the lower-level specific description, and then the evaluation grid of the subject and the product was rectified. The specific steps of EGM are as follows: The first step is that the subject needs to answer the likes or dislikes about the evaluation of the target object; the second step is that the subject answers additional questions to clarify the meaning or conditions of the answers in the previous step; the third step is to sort out the answers of the subjects, specifically analyze the attractiveness factors of the subjects' preferences for things, and rectify the relevant construction grid[8].

3 Research methods

In order to clarify the different needs of gamers for tactical competitive shooting mobile games, and to identify the attractiveness quality factors that affect tactical competitive shooting mobile game design, this study explores the attractiveness experience attributes of tactical competitive shooting 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 11 players of Game For Peace, including 6 males and 5 females. They are both Game For Peace players with more than 2 years of experience. They are 17 to 28 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 Game For Peace is attracting you?” The interviewee
answered for the first time, "I think the sound and picture of Game For Peace is well," then the "Game sound and picture" 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 and picture is attractive?" If the interviewee answers "Real sound quality and picture with an immersive feel", then, the "Real sound quality and picture with an immersive feel" is extracted as the specific factor of attractiveness; finally, continue to ask the interviewee, "What do you think the real sound quality and picture with an immersive feel attracts you? Can you describe the specific feeling?" If the interviewee replies "I feel a sense of accomplishment", 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 Game For Peace attractiveness factors is summarized.

4 Analysis and discussion

4.1. Game For Peace attractiveness factors evaluation grid

![Figure 3. Game For Peace attractiveness factors evaluation grid](image)

4.2. Analysis of results

To analyze the EGM Hyponymy Project (specific factors); Since the number of interviews is 11 people, projects with scores of more than half are adopted, that is, projects with scores 6 or more. The most attractive to gamers is the project (10 times) is drawn: pleasure, ostentatious, excitement, honor; these abstract reasons are the most attractive to game players to meet their personal preferences; exquisiteness, interesting, happiness, freshness, portable, challenge, equitable, lucky; Projects with scores 7 to 9 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 4 original attractiveness factors (game sound and picture, game social, gameplay, game equipment), 14 specific attractiveness factors, 14 abstract attractiveness factors are counted. In addition, through interview data, it is found that the game social, gameplay is most recognized by the interviewees in the original attractiveness factor. In the specific attractiveness factors, 2 factors including convenient voice communication and real conversations with friends, team sports game with friends, are mentioned the most. Among the abstract attractiveness factors, pleasure, ostentatious, excitement, honor 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 Game For Peace.

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 Game For Peace 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 a reference for the design and improvement of the later Tactical Competitive Shooting Mobile Games.

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