

Exploration and Application of Emotional Interactive Design in Game Design

WeiHang Weng

Hangzhou City University, Hangzhou 310015, China

Abstract. This paper aims to explore the application of emotional interaction design in game design and analyze its influence on game experience. Emotional interactive design takes emotion and emotional experience as the core of design, and strives to create richer and deeper user experience through various technical means and design strategies. In the field of game design, the research and application of emotional interactive design are relatively few, and its potential and value need to be tapped. This paper analyzes and discusses the basic concept and principle of emotional interaction design, emotional interaction in game design and its specific application in games, thus revealing the importance and potential of emotional interaction design in game design. Through case analysis and future prospect, this paper provides useful enlightenment and reference for further exploring the application of emotional interaction design in game design.

Key words: Emotional Interactive Design; Game Design; Exploration and Application.

1. Introduction

In today's digital entertainment industry, game design, as a complex and diverse art and science, not only makes people immerse themselves in the wonderful experience of virtual world, but also becomes a bridge connecting people and technology. With the continuous progress of science and technology, games are no longer limited to simple entertainment media, but become a complex of emotion, experience and interaction [1]. In this context, emotional interaction design has gradually attracted the attention of academia and industry. Emotional interaction design takes emotion and emotional experience as the core of design, and strives to create a richer and deeper user experience through various technical means and design strategies [2].

However, in the field of game design, the research and application of emotional interactive design are relatively few, and its potential and value need to be tapped. Games are not only simple entertainment activities, but also the communication and sharing of emotional experiences. The application of emotional interactive design can not only enrich the game experience, but also deepen the players' cognition and emotional investment in the game world. Therefore, this paper aims to explore the application of emotional interaction design in game design and analyze its influence on game experience. By deeply studying the principles, methods and practical cases of emotional interactive design, we will provide new ideas and perspectives for the practice and research in the field of game design. We hope that through the research of this paper, we can provide useful enlightenment and reference for further exploring the application of emotional interaction design in game design.

2. An overview of emotional interactive design

Emotional interaction design is a design method centered on users' emotion and emotional experience, aiming at encouraging users to have positive emotional experience through technology and design strategies [3]. Emotional interaction design emphasizes the emotional connection between users and products or systems, and strives to create a more humanized, enjoyable and meaningful user experience.

Emotion is regarded as an important part of user experience in emotional interaction design, which focuses on identifying the expression and needs of users' emotions, and understanding users'

emotional state through various means, such as language, body language and physiological indicators. Emotional interaction design strives to create an experience that resonates and connects with users' emotions, so that users can feel the emotional experience that is understood and cared about. Through effective emotional feedback and adjustment mechanism, respond to users' emotional needs and provide corresponding emotional support and guidance [4-5]. Emotional interaction design follows a series of emotional design principles, such as affinity, trust and pleasure, to ensure the emotional quality of user experience.

Through color, icon, animation and other design elements, create a pleasant and comfortable user interface experience and enhance the user's emotional experience. Design interactive processes with emotional expression and resonance functions, such as interactive dialogue system, emotional recognition and response system, etc. Integrate emotional elements into the game plot, character design and user interaction to create a richer and deeper game experience. In the process of product design, users' emotional needs and experiences are considered to create products and services with emotional value [6]. Emotional interactive design, as a new design method, is gradually being widely concerned and applied. Its application in game design is particularly important and will bring new emotional levels and experience dimensions to the game experience.

3. Emotional interaction in game design

In game design, emotional interaction refers to making players have rich emotional experience and establishing closer emotional connection with the game world through various design means and strategies. Emotional interaction design not only pays attention to the mechanism and content of the game, but also emphasizes the emotional interaction and emotional resonance between the player and the game.

Use fascinating plots, emotional conflicts and turning points to guide players into the game world and have emotional resonance with game characters. Design game plots that can trigger players' emotional reactions, such as sad and happy plots and exciting conflicts, to enhance the emotional depth of the game experience. Design game characters with distinctive personality and rich emotional expression, so that players can establish emotional connection with them and participate in the growth and destiny of the characters. Through humanized character stories and emotional expressions, players' resonance and emotional input are stimulated, and the attraction and playability of the game are enhanced. Design a game interaction mechanism that can trigger players' emotional reactions, such as decision-making, emotional expression, role interaction, etc., to increase players' sense of participation and emotional experience. Using emotional interaction design, we can create an interactive game experience with emotional feedback and resonance functions, so that players can experience more real and rich emotions in the game.

The application of emotional interactive design in game design can not only enhance the entertainment and attraction of the game, but also deepen the player's understanding and emotional input in the game world [7]. Through emotional interactive design, the game is no longer a simple entertainment tool, but also a carrier for conveying and sharing emotional experiences, bringing players a richer and deeper game experience.

4. Application of emotional interactive design in games

4.1. Application of emotional interactive design in game plot

In game design, emotional interactive design plays an important role in the process of building and unfolding the game plot. Through well-designed game plots, game developers can guide players to experience various emotional experiences, thus deeply integrating into the game world and enhancing the emotional depth of the game experience.

" Life is Strange" is an adventure game with choice and consequence as its core, and emotional interactive design has been fully applied in the game plot (Figure 1). The plot development in the game is influenced by the player's choice, and the player needs to make decisions with great influence in various situations. These decisions not only affect the process and outcome of the game, but also directly trigger the emotional response of the players, such as moral dilemma and confrontation with evil forces. Players' choices will lead to different emotional experiences, such as guilt, struggle, decision, etc., and deepen players' emotional investment in the game world and characters. The plot setting in the game involves many rich emotional elements, such as friendship, love and family relations. Through vivid characterization and complex emotional relationships, players are guided to experience emotional highs and lows in the game. Emotional themes such as tension, sadness and hope in the game plot are closely connected with the emotional experience of the players, which makes the players resonate and connect emotionally in the game.



Figure 1. " Life is Strange"

The design of the game scene incorporates rich emotional elements, such as delicate picture performance and touching music coordination. These emotional scene designs strengthen the players' emotional input and sense of identity in the game world. Emotional scene design is not only for aesthetic feeling, but also for creating emotional atmosphere and promoting the depth and breadth of players' emotional experience. The application of emotional interactive design in the game plot can not only enrich the emotional level of the game experience, but also deepen the players' emotional input and cognition of the game world [8-9].

4.2. The application of emotional interactive design in game role modeling

Game characters are the bridge between players and the game world, and their shaping directly affects players' emotional input and game experience. The application of emotional interaction design in the game role modeling aims to create characters with rich emotional expression and personality characteristics, so as to promote players to have emotional resonance and emotional connection [10].

" The Last of Us " is a highly acclaimed action adventure game, and its role modeling embodies the essence of emotional interactive design (Figure 2). The main characters in the game, such as Joel and Ellie, have rich personal backgrounds and emotional stories. Through vivid character setting and elaborate storyline, players can understand the inner world and emotional motivation of the characters more deeply. The emotional story of the character is full of humanity and complexity, involving deep emotional themes such as love, loss and survival, which triggers the player's concern and emotional investment in the fate of the character.



Figure 2. " The Last of Us"

The characters in the game show rich emotional reactions and interactive behaviors, such as facial expressions, actions and manners, dialogue content, etc. These emotional character performances enable players to feel the emotional state and inner feelings of the characters more truly. The interaction between players and characters, such as dialogue choice and cooperative action, further deepens the emotional connection and resonance between players and characters. The characters in the game have experienced a variety of emotional experiences and growth processes, such as from sadness to hope, from despair to tenacity. This emotional character growth enables players to participate more deeply in the growth and destiny of the character. The emotional growth and development of the character not only reflects the development of the game plot, but also affects the emotional experience and emotional input of the player [11].

4.3. The application of emotional interactive design in game interface design

Game interface design is an important part of interaction and information exchange between players and games. The application of emotional interaction design in game interface design aims to create a pleasant, comfortable and fascinating game experience through the design of interface elements and the choice of interaction methods, thus enhancing the emotional input of players and the emotional depth of game experience.

"Journey" is an adventure game with exploration and cooperation as its core, and its interface design embodies the essence of emotional interactive design (Figure 3). The interface in the game adopts simple and elegant visual style, and creates a warm and dreamy emotional atmosphere through soft tones, smooth animation and unique artistic style. Emotional elements in visual design, such as warm light and shadow effects and soft color matching, directly affect the emotional experience and emotional input of players.



Figure 3. "Journey"

The interaction in the game is simple and intuitive, but it contains rich emotional elements. For example, communication between players and other players through music and light and shadow interaction is not only a game mechanism, but also a way of emotional expression and resonance. The interactive design in the game interface pays attention to the emotional experience and emotional connection of players, and strengthens the emotional bond between players and the game world through emotional interaction.

The information transmission mode in the game interface is simple and clear, but full of emotional elements. For example, the actions and choices of players in the game will affect the atmosphere and emotional experience in the game interface, such as the wind blowing in the desert, carrying emotional temperature and feelings. The emotional information transmission mode enables players to understand the game world and emotional stories more deeply, and enhances the emotional depth and breadth of the game experience. The application of emotional interaction design in game interface design can not only enhance the visual appeal and operation friendliness of the game, but also enhance the emotional input of the player and the emotional depth of the game experience.

5. Case analysis

"Undertale" is a role-playing game with choice and consequence as its core, and its emotional interactive design brings unique game experience to players. Every choice of players in the game will affect the development of the game world and the fate of the characters. Players need to choose between morality and emotion. This emotional decision-making design enhances the emotional depth and participation of the game experience.

The characters in the game have rich personality and emotional expression, and the interaction between players and characters is full of emotional elements, such as friendship, love and loyalty, which deepens the emotional connection between players and characters. The simple and emotional screen design and music soundtrack are used in the game interface, which creates a fantastic and dreamy game atmosphere and enhances the emotional input of players and the immersion of the game experience (Figure 4).



Figure 4. "Undertale" game interface

"Celeste" is an adventure game with platform jumping as its core, and its emotional interactive design performs well in the game experience. Madeline, the protagonist in the game, has a rich emotional inner world. Players can deeply feel her inner struggle, strength and growth in the game, thus establishing emotional connection with her. The plot of the game revolves around Madeline's adventure. Through the plot and level design, players are guided to experience different emotional states, such as challenges, setbacks and achievements, which enhances the emotional depth and breadth of the game experience (Figure 4).



Figure 5. "Celeste" checkpoint design

The game interface is simple and emotional, and soft colors, touching music and warm screen design are used to create a warm and comfortable game atmosphere, which enhances the emotional input of players and the pleasure of game experience (Figure 5). The application of emotional interaction design in game design can not only enrich the emotional level of game experience, but also enhance the emotional input and cognition of players to the game world, and enhance the attraction and playability of the game.

6. The future development of emotional interactive design

Although the application of emotional interactive design in game design has made some progress, its future development is still full of challenges and opportunities. Table 1 is some prospects and predictions for the future development of emotional interaction design.

Table 1. The future development of emotional interactive design

development direction	describe
Driven by technological innovation	Based on AI, virtual reality and other technologies, emotional interactive design will have more technical means and platforms to enhance the emotional depth and personalization of the game experience.
Emotional intelligent design	In the future, the game system will more intelligently perceive the emotional state of players and automatically adjust the content and difficulty of the game to meet the emotional needs and experience expectations of players.
Cross-domain integration	In-depth integration with psychology, cognitive science, human-computer interaction and other fields provides more comprehensive theoretical support and practical guidance for emotional interaction design.
Emotional experience innovation	Game designers will guide players to have stronger emotional resonance and experience connection through emotional plot setting, role modeling, interface design and other means to enhance the entertainment and attraction of the game.

With the continuous development of AI, virtual reality, augmented reality and other technologies, there will be more technical means and platforms for emotional interaction design. For example, an intelligent game system based on emotion recognition technology can more accurately perceive the emotional state of players and make corresponding emotional feedback and adjustment, thus enhancing the emotional depth and personalization of the game experience. Emotional interaction design will be more intelligent and personalized in the future. The game system can automatically adjust the content and difficulty of the game according to the emotional preferences and characteristics of the players, so as to meet the emotional needs and experience expectations of the players. This will greatly improve the playability and attractiveness of the game, and enhance the emotional input and participation of players.

Emotional interaction design will be further integrated with psychology, cognitive science, human-computer interaction and other fields. Through interdisciplinary cooperation and communication, we can fully understand and explore the mechanism and effect of emotional interactive design in game design, and provide theoretical support and practical guidance for its further development. In the future, emotional interaction design will focus on creating richer and deeper emotional experiences. Game designers will guide players to have stronger emotional resonance and experience connection through emotional plot setting, role modeling and interface design, so as to enhance the entertainment, attraction and influence of the game.

The future development of emotional interactive design in game design will be multi-faceted, which needs the support and efforts of technological innovation, cross-domain integration, emotional intelligent design and so on. We look forward to the further development of emotional interactive design in game design in the future, which will bring more rich and profound game experience to players.

7. Conclusion

Emotional interactive design is of great significance and value in game design. Emotional interactive design can not only enrich the emotional level of the game experience, but also enhance players' emotional input and cognition of the game world, and enhance the attraction and playability of the game. Through emotional interactive design, the game is no longer a simple entertainment tool, but also a carrier for conveying and sharing emotional experiences, bringing players a richer and deeper game experience. Emotional interactive design can be applied in various ways in game design. Emotional interaction design can be embodied in the game plot, role modeling, interface design and other aspects. Through plot setting, role performance, interface layout and other means, players can be guided to have a positive emotional experience and establish a closer emotional connection with the game world. There are still some challenges and problems in the application of emotional

interactive design in game design. For example, how to balance the relationship between emotional expression and gameplay, and how to ensure the effectiveness and sustainability of emotional interaction design. In the future, we need to further explore the best practice and development direction of emotional interaction design in game design to meet these challenges and problems.

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