

When the Audience Becomes the Storyteller: Role Identification and Emotional Experience in Interactive Films

Zilin Fan

School of Languages, Cultures and Societies, University of Leeds, LS2 9JT Leeds, UK

Abstract. This study delves into the phenomenon of audiences becoming storytellers within interactive films and its impact on role identification and emotional experience. By analyzing works such as *Black Mirror: Bandersnatch*, this paper reveals how interactive films provide a unique mode of narrative participation and, to some extent, redefine the relationship between audiences and films. The research finds that role identification and emotional experience in interactive films fundamentally differ from traditional films. The decision-making process in interactive films not only increases the sense of investment in the plot but also deepens identification with characters. However, this narrative form also presents challenges, including maintaining narrative coherence and balancing audience choice freedom with overall story quality. The study also discusses the complex impact of interactive films on audience emotional experience and offers suggestions for the future development of interactive films, including exploring new narrative techniques, targeted marketing strategies, technology integration, and the importance of personalized narratives. This paper provides new insights into understanding the impact and future development of interactive films and offers guidance for creators to produce more engaging and participatory interactive narrative works.

1 Introduction

Since their inception, movies have been regarded as the offspring of commercial and technological evolution. Today, with technological advancements and economic growth, the emergence of interactive films has captured significant attention. The world's first interactive movie, produced in Czechoslovakia and named *Kinoautomat*, achieved global fame at the 1967 Montreal World's Fair [1]. Subsequently, in 2018, *Black Mirror: Bandersnatch* was declared by the influential *Wired* magazine as heralding a new era of interactive narrative in television, signaling a gradual blurring of the boundaries between cinema and gaming. Interactive films are primarily characterized by their extensive use of filmic video sequences (referred to as Full Motion Video or FMV), allowing users or players to intervene, thereby creating or influencing a dramatic storyline through their actions [2, 3]. Participants may also assume the role of detached onlookers, akin to film viewers, yet possess the ability to modify the environment or interact with the characters through dialogue. The purpose of interactive storytelling lies in enveloping users within a digital realm, making them believe in their vital contribution to the progressive storyline, where their decisions have impactful results [4].

Furthermore, interactive films utilize Interactive Digital Narratives (IDN), a form of narrative expression implemented as a multimodal computational system with optional simulated elements, experienced through

participation. During this interaction, the participant's involvement markedly shapes various aspects and stages of the narrative [5]. Essentially, within interactive cinema, interactivity serves not merely as a narrative component but also as a mechanism for audience engagement in storytelling. Alterations in narrative modes inevitably alter audience experiences, particularly in aspects of role identification and emotional experience. Understanding the emotions of viewers while watching films is crucial, as it has become a significant topic within film studies [6]. Moreover, such emotional experiences can evoke various emotions in the audience, and identifying these emotions can assist filmmakers in understanding audience movie preferences [6]. Therefore, researching the emotional experiences and role identification of interactive film viewers is vital for the future development of interactive films, both as a subject of film studies and as a commercial product.

This paper is grounded in prior research on interactive films and analyzes audience evaluations of interactive films such as *Black Mirror: Bandersnatch*, *Late Shift*, and *Erica* through data analysis. It highlights existing issues and compares the experiences offered by interactive films with those of video games and traditional films, thereby accurately determining the impact of interactive films on audience role identification and emotional experience. Finally, through analysis and deduction, it offers suggestions and directions for the creation and development of future interactive films.

Corresponding author: ml23z2f@leeds.ac.uk

2 The current state and issues of interactive films and their audiences

2.1 The narrative complexity and changing roles of audiences in interactive films

Narrative plays a pivotal role across various media, including novels, films, television, and theater, in both oral, visual, and written forms. The ubiquity of storytelling in human culture could be interpreted as positioning narrative as a cognitive tool for understanding [7]. The significance of narrative is evident, and as interactive films emerge as a hybrid of cinema and video games, they inherently possess characteristics of both, especially in terms of narrative and interactivity. The SSP model is considered the best model currently available for capturing the fragmented, distributed, and interactive nature of Interactive Digital Narratives (IDN). In this framework, the concept of "story" is not explicitly displayed within the digital medium or system. Instead, it encompasses what is referred to as the "source story," a phrase that encompasses the entirety of possible narratives. These narratives have the potential to be brought into existence by the interaction of the user, culminating in an evolved and rearranged output [5]. This leads to the formation of a story essentially crafted by the audience. Koenitz adopts a cognitive narratological approach, viewing the narrative as a cognitive schema activated through various modes of expression and narrative tactics [8]. Interactive films build their narratives in such a form, where the audience plays a crucial role within the narrative, serving both as participants in and evaluators of the final work. Therefore, in the study of interactive films, "the audience's emotional experience" becomes particularly important, directly affecting their final impression of the work.

The interplay among human emotions, thought processes, and decision-making contexts is tightly interconnected [9]. Studies show that identifying human emotions is challenging because external factors significantly affect emotional reactions [10]. Therefore, changes in narrative form inevitably lead to variations in audience emotional experience and role identification. Audience emotional experience and role identification are related yet distinct concepts; emotional experience encompasses a broader range, including emotions related to narrative, such as role identification or emotional experiences within the story or game world, as well as external perceptions. Films provide not only content but also means and space, similar to psychotherapy, allowing viewers to see their own mental projections on the screen [11]. This implies that the audience engages in a process of projecting themselves, thus their various emotions constitute their ultimate emotional experience. Emotions can be detected through significant physiological signals such as pupil dilation, heart rate, body temperature radiation, and brainwaves [12]. Despite current technological constraints in emotion differentiation, various data sources can enhance the analysis of emotional information, such as audience

reviews and feelings after viewing, which can serve as direct evidence for understanding audience emotional experience [13].

Role identification involves "integrating with the character, assimilating the character's awareness of narrative developments, embracing the character's objectives, and experiencing the character's feelings" [14]. Identifying with a character is symbolically taking the character's stance and empathizing with them. In the identification process, readers "leap into another kind of thinking" and adopt the character's perspective, thus, when a story is immersive, audience role identification is enhanced. Role identification is encompassed within emotional experience; in interactive films, users always play a primary role in the unfolding storyline, meaning role identification is constantly present in interactive films [15]. Therefore, role identification is also a crucial factor affecting the audience experience in interactive films and must be analyzed separately in the study of audience emotional experience in interactive films, as both play significant roles in the development of interactive films.

2.2 The impact of interactive storytelling on audience role identification and emotional experience

In interactive storytelling, the development of the story is not linear but multilinear, involving the audience's interactive choices, making each viewer's experience potentially unique. Due to its interactive nature, audiences can unfold the story based on their choices, or they might never see certain parts of the story. This increases the complexity of analyzing and evaluating such works, as it is impossible to predict all possible story paths and outcomes [3]. Experiments conducted on prototypes with user testing through complex SSU subsystem construction have shown encouraging results regarding the enjoyability and comprehensibility of the output movie variables, demonstrating the narrative potential of interactive films [16]. However, there are many challenges and issues in the actual performance of interactive films. Due to the narrative mode of IDN, the same interactive film necessarily has multiple stories and endings, and each different story line and ending will inevitably cause different emotional experiences for the audience. That is, an audience facing different storylines and endings of the same interactive film will have different emotional experiences. Moreover, different audiences, due to different choices leading to different stories, will have different emotional experiences from the same interactive film. Therefore, as a whole, interactive films need to provide each storyline with a logical and reasonable complete ending, which directly affects the audience's emotional experience.

Furthermore, participants are engaged in a bidirectional interpretive cycle, where they concurrently contemplate the narratives that have materialized and the potential directions their future engagements might take [17]. This means that this dual interpretation process divides the attention of the interacting audience into two

parts: one focusing on the emerged storyline and the other on the anticipation of future stories. This division can reduce the audience's immersion, as they cannot achieve the so-called state of flow, but rather engage in more rational external thinking, rather than immersing themselves fully in the story. Balancing coherent story development with the audience's emotional needs is a major challenge in interactive storytelling, to ensure that players feel they have the ability to affect the course or result of their narrative journey while maintaining its coherence. This external form of interaction also affects the audience's emotional experience.

Research by Sebastian Arndt, Martin Ervik, and Andrew Perkis indicates that different subjective dimensions affect the level of immersive experience. However, as a product or commodity, the "customer," or the audience of interactive films, can directly showcase the result of the audience's emotional experience through their intuitive evaluation of the film.

Therefore, this paper investigates the ratings and comments on Black Mirror: Bandersnatch on IMDb, which as of February 22, 2024, had a rating of 7.1 and analyzed 1038 user comments.

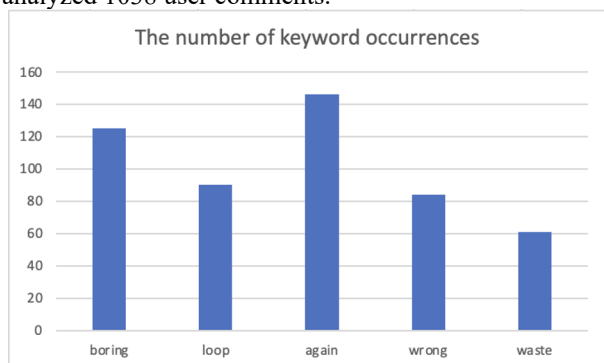


Fig. 1. Black Mirror: Bandersnatch's high frequency negative reviews on IMDb. (Picture credit :Original)

Figure 1 shows that "Again" appeared 146 times, "boring" 125 times, "Loop" 90 times, "wrong" 84 times, and "waste" 61 times. From these audience comments, it can be found that viewers experienced negative emotional experiences of "repetition" and "boredom." The biggest variable between traditional and interactive films is "interaction," which many people believe causes these negative emotional experiences. However, decision points in interactive narratives are considered an enjoyable part of the narrative experience rather than interruptions [18]. This means that participants in interactive narratives generally appreciate the opportunity to make choices within the story, indicating that decision points enhance rather than diminish the storytelling experience. Therefore, the cause of such negative emotional experiences is not the interactive form itself but the continuity, logic, and completeness of the story narrative not adapting to the interactive form, lacking positive changes, especially in how interactive branching options are cleverly set. The sense of "repetition" mentioned in audience comments as a "waste" of time indicates that the story's logic needs improvement and fails to provide a smooth and meaningful story experience.

In traditional narratives, audience empathy for a character may simply be due to liking, but in interactive films, the audience's ability to control character decisions opens up other possibilities. Audience decisions can be based on character presets, project themselves, or view the story as a game, merely choosing what they believe to be the best story option [18]. With three modes of participation available in this interactive context, the three choices of participation will inevitably lead to different forms of role identification. Clearly, when audience empathize with a character or project ourselves into making decisions, audience role identification can be almost as strong as in traditional films or video games. However, once the audience views the interactive film as a test or game, the situation changes. According to Buselle and Bilandzic's psychological model theory, story transportation (or narrative immersion) occurs in the mental process of constructing a story model. If story coherence is disrupted, it interferes with this process [19]. Therefore, when the audience sees themselves as experiencers of a novel game rather than true participants in the story, they isolate themselves from the world within the game, inevitably breaking the coherence of the story experience and hindering their role identification, ultimately leading to a boring emotional experience of not identifying with the world in the game.

Interactive stories can elicit psychological reactions uncommon in conventional narratives, particularly regarding the self's involvement differing from traditional narrative engagement. Participants in interactive stories might experience a heightened sense of accountability for the characters' behaviors, meaning interactive narratives can generate more experiences of role identification [18].

This paper compares evaluations of Late Shift, Erica, and Detroit: Become Human on Metacritic across different platforms, revealing some differences in audience feedback.

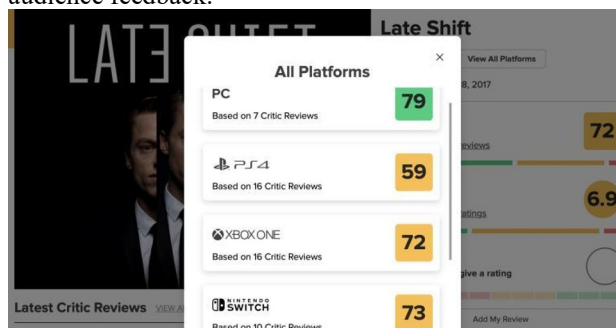


Fig. 2. Late Shift's ratings for various platforms as shown on Metacritic. [20]

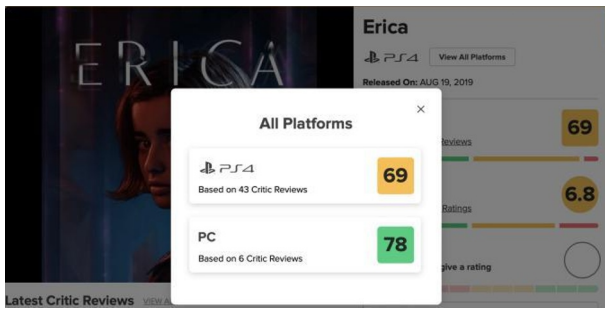


Fig. 3. Erica's ratings for various platforms as shown on Metacritic. [21]

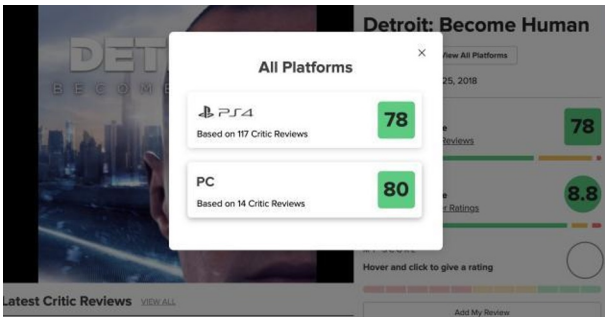


Fig. 4. Detroit: Become Human's ratings for various platforms as shown on Metacritic. [22]

Figure 2, Figure 3 and Figure 4 shows that these three interactive films or interactive film games have significantly higher user ratings on PC than on PS4. Many factors could lead to such rating differences, such as the type of film inherently expressing anger, or users not understanding the film in the way it intends, or users having a default emotional response to watch the film seriously regardless of its content. External factors might also affect users' emotions, such as being troubled by factors unrelated to the film [6]. PS4 and PC audiences have different expectations for interactive films, resulting in different emotional experiences.

Besides the differences in emotional experiences caused by different audiences' expectations, the playback platform can also affect the experience. For example, PCs often provide clearer and smoother visuals, and obviously, a larger screen and better picture quality can help audiences immerse themselves better in the game world. Immersion can be described as the profound involvement of our senses and emotions in an experience, and deeper immersion will inevitably enhance the audience's role identification and emotional experience, hence the higher ratings from PC audiences compared to gaming platforms like PS4 [23].

Ultimately, through these data comparisons, it can be concluded that interactive narrative theory can enhance the audience's emotional experience, but role identification depends on different audiences' modes of participation and attitudes, as well as the setting of story logic, completeness, and even the playback platform. Meanwhile, the audience's narrative experience is influenced by their attitude, whether they want to undergo a test-like game or relaxingly experience a narrative.

3 The future of interactive films: personalized narratives and new challenges in audience experience

Based on the analysis of the current situation, it is clear that while interactive films allow audiences to participate in the narrative, their emotional experience and role identification still face many challenges. Determining the timing and audience for which interactive narratives yield the highest effectiveness can guide potential creators in assessing if the advantages of such narratives justify the extra expenses [13]. Since different subjective dimensions affect the level of immersion experience, interactive films need to categorize in advance to meet the more personalized demands of different platforms and audiences. For example, Black Mirror is exclusively broadcast on Netflix, while Erica and Late Shift are sold on Steam and various platforms. Different platforms have different audiences and expectations, necessitating filmmakers or creators to refine film genres to cater to the needs of different audiences, minimizing the negative impact on audience emotional experience caused by expectation differences mentioned earlier. Just as different games require different skills, such as motor skills, cognitive abilities, etc., categorizing interactive films helps their target audience find them directly, reducing the impact of external factors on audience experience.

Due to the loose narrative structure, maintaining narrative coherence may be a specific issue for interactive narratives. Fundamentally, each story path must constitute a complete story [18]. In interactive films, different choices generally lead to different branches or endings. If these choices do not affect different plot developments, then such choices are meaningless. Therefore, how to ensure that each choice leads to a logically consistent plot and a complete ending is a critical consideration for interactive films. Similarly, how to understand different plots for the same character, whether to make them logically consistent like real life or design each choice to push the character into another parallel world, are logical issues that creators need to plan in advance. It is important to note that while interactivity is a form or perhaps a gimmick, the story itself is still paramount. The story that creators truly want to convey to the audience is the most important, as only this can evoke the audience's emotional experience and role identification.

Immersiveness measurements show that content does not necessarily have to be highly arousing to be the most immersive. Therefore, it is more important that virtual reality users have the impression of controlling the experience, thus enjoying it more [23]. Therefore, better immersion will inevitably lead to a better emotional experience and role identification, and combining with VR technology may be a main direction for the future development of interactive films.

Personality characteristics or personal variations could influence how user control and narrative structure affect the results of interactive stories. Specifically, some people may enjoy and have the capability to process

narrative choices, while others may lack the ability or motivation to easily choose story paths [17]. Given these individual differences, narratives should be personalized in a way that allows audiences to better understand the complex interweaving that shapes each person's life [5]. The format of interactive films is destined for individual rather than group viewing, which can help audiences have a more immersive experience but also tests personalized narrative. Incorporating various forms of emotional feedback from different audiences into the narrative may help audiences construct more unique story roles, enhance role identification, and ultimately, provide them with a more personalized emotional experience.

4 Conclusion

In this study, this paper delved into the phenomenon of audiences becoming storytellers within interactive films, especially focusing on the impacts on role identification and emotional experience. Through a review of existing literature, the construction of a theoretical framework, and analysis of interactive films such as "Black Mirror: Bandersnatch" and other similar works, it can be discovered that interactive films offer a unique mode of narrative participation. This mode, to some extent, redefines the relationship between audiences and films. Interactive films are not just a form of entertainment; they challenge the boundaries of traditional narratives, providing a more immersive and participatory experience for audiences.

Our research found that role identification and emotional experience in interactive films fundamentally differ from those in traditional films. The decision-making process in interactive films not only increases the sense of investment in the plot but also deepens identification with characters. This identification stems from the audience's direct control over the story's direction and the impact on characters' fates, thus fostering a deeper emotional experience. However, this new form of narrative also presents challenges, including maintaining narrative coherence and balancing audience choice freedom with overall story quality.

Additionally, our analysis revealed that the impact of interactive films on audience emotional experience is complex. On one hand, interactivity enhances the sense of immersion and satisfaction; on the other hand, excessive choices and potential story branches may lead to audience confusion or emotional detachment. Therefore, the design and implementation of interactive films need to carefully consider how to balance these factors to optimize the overall audience experience.

Based on these findings, this study offers several suggestions for the future development of interactive films. Firstly, creators should explore new narrative techniques and structures to enhance story coherence and audience engagement. Secondly, given that different audience groups may have various expectations and preferences for interactive films, targeted marketing and vertical distribution become key. Additionally, integrating advanced technologies, such as virtual reality,

could provide new narrative possibilities and deeper levels of immersive experience for interactive films. Lastly, considering the importance of personalization, developing interactive films that adapt to different audience emotional responses may be an important direction for the future.

In summary, as an emerging media form, interactive films offer a rich field for research and possibilities for future development. By deeply exploring audience role identification and emotional experience, people can not only better understand the impact of interactive films but also provide guidance for creators to produce more engaging and participatory interactive narrative works. With continuous technological advancements and changing audience demands, interactive films will undoubtedly continue to evolve, offering richer and more diverse narrative experiences for audiences.

References

1. C. Hales, *Digit. Creat.* **16**, 54-64 (2005)
2. P. Rubin, How the surprise new interactive Black mirror came together, *Wired*, <https://www.wired.com/story/black-mirror-bandersnatch-interactive-episode/>. (2018). Accessed February 18, 2024.
3. B. Perron, D. Arsenaault, M. Picard, C. Therrien, *New Rev. Film Telev. Stud.* **6**, 233-252 (2008)
4. M. O. Riedl, V. Bulitko. *AI Mag.* **34**, 67-77 (2013)
5. F. Nack, *New Rev. Hypermedia Multimedia* **28**, 69-75 (2022)
6. E. Mishra, P. Nikam, S. Vidhyadharan, and R. Cheruvalath, *Acta Psychol.* **230**, 103736 (2022)
7. R. J. Gerrig, *Experiencing Narrative Worlds: On the Psychological Activities of Reading* (Yale University Press, Professor Richard J. Gerrig, 1993)
8. H. Koenitz, Towards a specific theory of interactive digital narrative, 107-121, <https://doi.org/10.4324/9781315769189>. (2015). Accessed February 18, 2024.
9. Norbert, *Cogn. Emot.* **14**, 433-440 (2000)
10. E. Schreuder, J. Erp, A. Toet, V. L. Kallen, *SAGE O.* **6**, (2016)
11. C. Hauke, I. Alister, *Jung and Film: Post-Jungian Takes on the Moving Image* (Brunner-Routledge, East Sussex, Ian Alister, 2001)
12. K. M. Esther, R. Karin, S. Jeroen, G. Beatrice, *Front. Hum. Neurosci.* **7**, 810 (2013)
13. K. Thoring, R. M. Mueller, Badke-Schaub, in *Proc. Tenth Int. Conf. Des. Emot. - Celebration Contemplation*, 57-66 (2016)
14. N. Tal-Or, J. Cohen, *Poetics* **38**, 402-418 (2010).
15. K. Oatley, *N. I. S. C. F.*, 36-69 (2002)
16. F. Guerrini, N. Adami, S. Benini, A. Piacenza, J. Porteous, M. Cavazza, R. Leonardi, *ACM Trans. Multimed. Comput. Commun. Appl.* **13**, 1-22 (2017)

17. C. Roth, T. van Nuenen, H. Koenitz, Ludonarrative hermeneutics: A way out and the narrative paradox, in proceedings of International Conference on Interactive Digital Storytelling, ICIDS, 1-22
18. M. C. Green, K. M. Jenkins, *J. Commun*, **64**, 479-500 (2014)
19. R. Busselle, H. Bilandzic, *Commun. Theory* **18**, 255-280 (2008)
20. Metacritic. (2024). Late Shift. Retrieved from: <https://www.metacritic.com/game/late-shift/>. Accessed February 18, 2024.
21. Metacritic. (2024). Erica. Retrieved from: <https://www.metacritic.com/game/erica/>. Accessed February 18, 2024.
22. Metacritic. (2024). Detroit: Become Human. Retrieved from: <https://www.metacritic.com/game/detroit-become-human/>. Accessed February 18, 2024.
23. N. Nunes, I. Oakley, V. Nisi, Factors of immersion in interactive digital storytelling, in proceedings of International Conference on Interactive Digital Storytelling, ICIDS, 265-269