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# “I Kind Of Had An Avatar Switch”: The Role Of The Self In Engagement With An Interactive TV Drama

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## ABSTRACT

This paper reports results from a study which examined viewers’ cognitive and affective responses to an interactive TV drama. Ten participants were videoed interacting with ‘Our World War’ [1], and then interviewed about their experience using the video playback as a retrospective prompt. An interpretative framework was designed to guide analysis by probing themes of narrative engagement identified in previous literature. We report findings relating to five themes of engagement: cognitive, affective, perspective taking, competence and autonomy, and transportation. Our data adds to the existing literature on interactive stories by highlighting the pivotal role of the self in engaging with interactive drama, with self-reflection emerging within each theme. We conclude that two experiential states drive engagement: a transported experience; and one in which self-reflection limits transportation.

## Author Keywords

Interactive TV; interactive narrative; interactive storytelling; self-reflection; self-determination theory

## ACM Classification Keywords

•Human-centered computing→Human computer interaction (HCI); HCI design and evaluation methods; User studies;

## INTRODUCTION

Television is no longer the dominant force it once was. Viewership in the UK, for example, amongst 16 to 34 year olds is declining [12]. This age group reports a preference for ‘on demand’ viewing, especially via hand-held media. Gaming too is growing in popularity, with 42% of UK adults now playing games [12]. Interactive TV dramas, defined as narratives in which the action is influenced by viewer interaction [15], offer new, immersive and self-defined experiences. Interactive narrativity presents both an opportunity and challenge for TV programme makers seeking to create TV dramas that viewers will value and are economic to implement [22]. It has the potential to open up a new TV format, which meets the needs of people who have grown up interacting with digital media and content through game playing and the Internet. Understanding the key drivers of interactive TV engagement will therefore be

critical to the successful development of future interactive programming.

The study reported here was designed to understand the experiential aspects of engaging with an interactive drama in which viewers are asked to make decisions at key points in the narrative. As our stimulus, we used an online interactive narrative ‘Our World War’ developed by the BBC in 2014 that had not yet been evaluated from an audience engagement perspective and presented an opportunity to probe how viewers engage with an interactive TV episode (see ‘Materials’ section for more details).

## THEORETICAL BACKGROUND

Few studies or articles explore the nature of interactive TV dramas [e.g. 6, 10, 22, 17], and there is a lack of data regarding viewer engagement with interactive TV narratives. In our approach, we reviewed the literature on interactive print narratives [9], linear narratives [e.g. 2, 7] and with video games [16, 21], to help us understand the factors involved in engaging with a visual, interactive narrative structure.

Exploring other worlds through the medium of storytelling may result in the sensation of transportation [7], where the reader or viewer experiences the sensation of becoming lost in a story, with their mental capacities and systems becoming focused on the characters and events. Transportation involves a shift into the world of the narrative, including a loss of awareness of current location, and a loss of self-awareness [2].

Part of a shift into the narrative world involves identification with a character [3], whereby the reader or viewer begins to lose their sense of self to be replaced by the perspective of the character with which they identify. Indeed, the more a viewer can lose themselves in the narrative, including experiencing the emotions of a character through empathic identification, the greater their enjoyment [2, 8].

In an interactive narrative, where a viewer is choosing the characters’ actions, they may express a sense of responsibility for the outcomes in the story [9]. In the context of video games, Rigby and Ryan [16] propose that the player may not only experience emotions in relation to fictional events or characters, but also a sense of playing an

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integral role by influencing the storyline and outcomes. This also suggests the individual's ability to exercise agency over the narrative may also play a critical part in the viewer experience.

Such a sense of autonomy is a key aspect of motivated behavior according to Self-Determination Theory [SDT; 4], and has been found to predict enjoyment in video gaming [16, 21]. For example, Tamborini et al [21] found that both hedonic experience (arousal and affect) and non-hedonic needs (a sense of autonomy and a sense of competence) were predictive of enjoyment with video-games: players needed to feel capable and in control.

Within the context of an interactive TV drama, there is a need to identify the salient factors involved in engagement. Roth et al. [17] applied quantitative questionnaire methods to assess several measures of experience from the literature on narrative entertainment. Our study builds on this approach by using qualitative in-depth interviews to understand experiential aspects from the viewers' own perspectives. We sought to answer the question: how are the themes of narrative engagement, as identified in previous literature, experienced during interaction with an interactive TV drama?

## METHODOLOGY

### Design

The study used a qualitative interview design, which was analysed using a thematic framework [20]. Framework analysis allows the researcher to use previously identified themes to guide the analysis and allow the indexing of interview excerpts. The study was, therefore, deductive in its approach, with pre-defined themes of engagement used to inform the thematic coding.

### Participants

Ten students of the University of Salford (7 female and 3 male) were recruited for the study, aged between 19 and 28 years. The sample was an opportunity sample, recruited through poster advertisement on the Salford campus.

### Materials

The stimulus used for the study was 'Our World War' [1]. The interactive episode is accessed online and comprises three scenes featuring a small group of British soldiers in the First World War. The action centers on the dilemmas the soldiers faced during battle. The viewer takes the role of Arthur who comes into the role of a platoon leader after the commander is killed in the opening scene. In total, the viewer is asked to make 6 choices over the course of the interactive drama, under pressure of a countdown clock. Feedback is given on the appropriateness of each decision after the choice is made. 'Our World War' may be described as 'pseudo interactive' [22], since it invites viewers to make choices to influence the narrative, even though the narrative is actually pre-prepared, meaning that

the decisions are not necessarily played out in the action. Instead the action reverts to what the author has predetermined to be the correct choice. The exception is the last scene in which the viewer's decision determines one of two possible endings. The episode lasts approximately 20 minutes.

Data collection of the stimulus interaction was facilitated by two video cameras, one directed to record the participants' facial expressions, and the other directed at a Microsoft Surface tablet screen they were using to access the interactive TV drama. Interviews were recorded for transcription on a digital voice recorder.

### Procedure

Each data session took place in the Media Psychology laboratory at the University of Salford, which is designed to appear like a sitting room. Each session began by ascertaining background details of the participant's experience with video games, interactive television and 'Our World War'. The participant was then provided with the tablet to access and play 'Our World War'. They were then left alone to work through the interactive episode, with their facial expressions, verbal reactions and the tablet screen recorded. After completing 'Our World War', they were interviewed immediately post-play on their experience, with questions probing emotional and cognitive experience, their sense of control and their engagement with the narrative and characters. One problem with studying media engagement is when to measure the experience. If done during viewing or interacting, the true nature of the experience is interrupted by the questioning process. If done afterwards, the experience may be forgotten. We sought to reduce this problem by filming participant interaction and using the playback as a retrospective memory prompt to tie questions to the specific events in the narrative. Therefore, the second part of the interview involved playing back the video footage to use as a prompt to probe further about specific decisions or parts of the plot (e.g. *'How did you feel about making that decision? Why was that?'*). A soft-laddering technique was used which probes deeper into answers by continually questioning 'why'. This allows the researcher to move from discussion about a particular behavior (e.g. pausing over a decision or demonstrating an expression of frustration) to probing the psychological experience that underpins the behavior (e.g. I felt confused by what to do, or concerned about the consequences). Finally, participants were asked questions on their overall impressions of 'Our World War' and the concept of interactive TV dramas generally. Each session lasted between 1 hour and 1.5 hours depending on the duration of their stimulus 'playing' and the semi-structured interview. The semi-structured interview data was then transcribed verbatim.

## Analysis

Data analysis was conducted using thematic framework methodology [20]. Thematic framework methodology is a matrix based analytic method, which aims to “classify and organise data according to key themes, concepts and emergent categories” (p.220). For our analysis, the data were organized according to themes which emerged from the literature. Four factors of engagement were identified (affective, perspective taking, competence and autonomy, and transportation) and we added ‘cognitive’ as a fifth factor of engagement because the nature of the stimulus was designed to facilitate discovery about the First World War. The data were coded deductively according to these identified themes. However, while coding deductively, any emergent sub-themes, (e.g. ‘self-reflection’ and self-esteem’) were additionally coded, and were added to the framework following initial coding. Once the themes and sub-themes had been identified, the data were then organized in a matrix, which allowed for all extracts which related to each theme and sub-theme to be identified.

## RESULTS AND DISCUSSION

The thematic framework analysis is summarized in Table 1, below. The themes of engagement were probed through interview questions and used to code interview excerpts.

Themes of engagement	Sub-themes
1. Cognitive	Ease of cognitive access Learning Self-reflection
2. Affective	Arousal Sympathy Self-esteem
3. Perspective taking	Sympathy Identification (empathy) with characters
4. Competence and autonomy	Agency Challenge Self-esteem
5. Transportation	Narrative Emotional Identification

**Table 1. The thematic framework, and factors of engagement which emerged within themes.**

These interactive TV narrative themes and sub-themes are defined and discussed in turn, thus providing interpretations of participants’ responses in relation to the stimulus and the wider theoretical context. Extracts are presented for each theme which are representative of those identified in the thematic matrix.

### Theme 1: Cognitive experience

The theme ‘cognitive experience’ relates to how participants discussed the mental ease or difficulty of the experience, and what reflections or learning were prompted by the stimulus. Participants commented on difficulty assimilating the plot details: *‘It was for me, hard to remember after that scene where they tell you who you are and what their job titles are. And then after that when you see them again, it’s hard to remember who they were, like their names, you know.’* (P4, F). Such comments demonstrate the importance of building the necessary ‘mental models’ to support narrative comprehension and engagement [2]. Participants also commented on the usability of the interactive features: *‘After the first act, it was quite simple.’* (P6, F). Together, these show that ease of cognitive access to both plot details, and interactive controls are salient to the experience of interactive TV dramas.

The data showed some evidence of response to the educational aspects of the narrative, with the informational content raising awareness: *‘When the titles come up and it’s giving you more information at the end and they’re telling you about the amount of bodies that might be buried in High Wood... It’s sad that people have to go through this kind of stuff.’* (P7, F), or supporting existing beliefs: *‘I guess it just kind of reinforced whatever feelings I had towards war.’* (P10, F). These experiences, however, did not emerge as key features of engagement.

In contrast, the amount of introspection expressed by participants on their own decision-making abilities was prominent in our data. Reflecting on their decisions and judging themselves seemed to be important: *‘It seemed like I almost scored higher on the moral aspect, and I don’t know whether that’s a female instinct where you try to protect someone, which could be it. But I notice that I always opted for the safer choice, rather than sacrificing other people.’* (P4, F). The participant here suggests that perhaps it is her ‘female’ instinct that is leading her to make these choices. This is the only example where the participant’s gender is made relevant in the data. Several other participants were prompted to reflect on their leadership skills as a result of the interactive decision-making: *‘I wouldn’t be a good (leader) because I don’t have that, um, conviction to lead with authority’* (P8, F), and *‘I feel that with the type of person that I am... I feel I’m able to take command of a group.’* (P5, F). The opportunity for self-reflection through interaction was explicitly appreciated: *“I think people enjoy those type of quizzes and games that show them something about themselves. (...) This is something that you can kind of learn a little bit about yourself.”* (P7, M).

## Theme 2: Affective experience

The effectiveness of the storytelling in 'Our World War' is demonstrated through the heightened emotional experience reported by our participants: *'It was a rollercoaster that. As in it was upsetting'* (P3, M), *'It's quite intense (...) I felt quite emotional all the way through it.'* (P2, F), and *'I felt kind of overwhelmed emotionally.'* (P1, M). The pressure to make decisions that impacted the narrative events was also arousing: *'I still feel some adrenaline pumping through my body. It's very difficult to make that decision with the clock ticking.'* (P9, F). Participants described the affective engagement as emotionally overwhelming and upsetting, yet when asked if they would recommend the experience, responses were positive: *"Absolutely. I have a lot of friends who would love it."* (P1, M). This demonstrates that mediated experiences can be appreciated even if characterized by negative mood states such as sadness. Several theorists [e.g. 13] propose that viewers can be motivated in their media choices beyond simple pleasure-seeking, sometimes valuing more meaningful and reflective experiences (eudemonic motivations). This is reflected in the following extract: *"It was very emotive and it did make you think and it's important to do those things, rather than staying as you are."* (P2, F).

Whilst the characteristics of affective engagement may be tied here to the particular narrative events or interactive features of 'Our World War', a more general point is that the self-reflection prompted by the interactive decision-making did not preclude sympathetic responses toward the events and characters: *'I was fighting back the tears when that poor lad died at the end.'* (P3, M) and *'I felt like I actually cared about them.'* (P5, F).

## Theme 3: Perspective taking

Several extracts referred to how the interactive elements engendered an immersive identification with the characters and a loss of self: *'Because you are making major decisions, you become commander-in-chief, you become that person where you get to make the call'* (P4, F). This demonstrates more than the sympathetic response we observed in some other excerpts. Instead, it suggests an empathic state in which participants shared the characters' identity [3], seeing the events unfolding through their eyes and experiencing their emotions: *'I felt like I was experiencing, like the emotions they would be experiencing themselves'* (P6, F). Evidence from this study suggests some participants were readily able to identify with the characters; *'You do find something about a character you can relate to, um that you can identify with. And you can almost take on that identity.'* (P5, F). Thus, taken together, the data suggests dual experiences where the participants sometimes *became* the characters, whilst at other times maintained a sympathetic detachment. This shift between modes is described by P1 as an *'avatar switch'*: *'I placed myself in his shoes. I kind of had an avatar switch.'* (P1, M).

Although gender differences were not explored as an objective of this study, the data suggests that gender may not be a strong influence to the extent to which the viewer experiences perspective taking. For example, even though the characters in this interactive drama are male, both male and female participants still slipped into identifying with the characters and willingly expressed their emotions in relation to them. Indeed, it appears that even when gender may not be matched between character and viewer, identification can be facilitated by other characteristics: *'I really kind of identified a bit with the cautious one (...) because I think I'm quite like him.'* (P7, F).

## Theme 4: Competency and autonomy

Our data also revealed affective responses emerging from self-reflection based on the interactive decision-making involved in 'Our World War'. These responses can be viewed through the lens of Self-Determination Theory, which posits that a sense of autonomy is a foundation for motivated behaviour, as is a sense of challenge and the ability to experience our own competency [4]. The ability to interact fostered a sense of agency, described as a positive affective experience: *'I liked being able to choose the outcomes, and then learn from whether or not it was one of the good things to do'* (P8, M). This sense of autonomy was not compromised by the pseudo-interactive structure of the narrative: *'I felt like the decisions that I made were my decisions.'* (P5, F).

As discussed, 'Our World War' prompted self-reflection, demonstrating how the interactive elements allowed participants insight into their own competencies. Whilst the particular challenges may have been specific to the narrative (moral decision making and leadership), a wider implication is that the challenge related to the decision making in general allowed the participants to test their own abilities. Indeed, one participant commented that he would seek out other interactive episodes because of the inherent challenge in the decision making process: *"Oh yes, I will do that. Just to challenge myself. I like the whole score thing, the whole scenario and the decision process, it's something that makes you think."* (P1, M).

Conversely, competency may be experienced in a somewhat negative way when the decisions made are perceived to have led to an undesirable narrative outcome: *'I felt guilty straight away because I was gonna shoot somebody and he could've been a Brit and he was.'* (P3, M) and *'Then I chose to send the fastest guys, which was not appropriate. So then I felt a bit, uh, deflated. I began to question my tactical nouse then.'* (P1, M). Our data therefore suggest that the ability to make decisions that influence the unfolding narrative may prompt affective reactions linked to self-esteem. Ryan et al. [18] and Tamborini et al [21], theorize the importance of competence and autonomy in the context of the gaming experience. Similarly, our data suggesting that viewers of interactive

TV dramas will be driven to reflect on their own sense of worth by way of competency-based, agentic content.

### Theme 5: Transportation

Our final theme considers the experience of transportation, i.e. becoming lost in the narrative, and unaware of surroundings [8]. Participants described being *'immersed in the game'* (P4, F), and *'in the moment'* (P2, F), and *'in the narrative'* (P9, F) suggesting transportation into the story world. This theme also draws upon evidence presented in earlier themes. For example, transportation is also closely linked to the concept of identification with characters, as evidenced by the *'avatar switch'* expressed by P1. Transportation also overlaps conceptually with *'presence'*, which is defined in the context of gaming as feeling in, and experiencing emotions relevant to the narrative world [16]. This is evidenced in our data through the sadness expressed by a number of participants to the narrative events. Whilst some participants discussed being *'in the narrative'* (P9, F), Kim and Biocca [11] describe presence as involving both *'arrival'* in the mediated environment and *'departure'* from the physical environment. This is described by some of our participants: *'When it came to the second act, I completely forgot where I was. I was engrossed in it.'* (P5, F), supporting the notion of transportation away from the real world.

Again, however, we observed a contrasting experience, with one participant feeling like a *'fly on the wall'* (P5, F) therefore positioning themselves as a detached observer. This lack of transportation seems not to be related to the production values, since the same participant also commented that *'It felt real... because I'm seeing the person, I'm hearing the person, I can see the person sweat. I can see the person, you know, their emotions.'* (P5, F). Whilst some participants seemingly retained a sense of detachment from the story world, this nevertheless did not prevent affective engagement: *'I don't think I lost a sense of where I was. I was very aware of where I was but I can also say that yes, I can say I was emotionally affected by it.'* (P10, F).

### CONCLUSION

This study offers data which complements existing knowledge in relation to the experiential aspects of interactive storytelling, in particular highlighting the role of the self.

In the context of interactive storytelling, Roth et al. [17] collected quantitative data revealing that manipulating whether a game is played through a character impacts on the nature of the experience, leading them to conclude that "IS (interactive storytelling) environments may face a specific challenge with respect to user experiences, that is, allowing users to exert global control over story developments while keeping them immersed in story developments." (p.632). Our data supports this finding

qualitatively, and further shows a key role for self-reflection in determining the type of narrative experience. We propose that the self-reflection prompted by the interactivity created an experiential state of self-awareness that is incompatible with character identification and with the loss of awareness of surroundings necessary for transportation. Our data links this self-reflection with the challenge inherent in the interaction. Indeed, supporting evidence from a study of engagement with an interactive narrative finds that frustration with gaming challenges was also a barrier to transportation [19].

Self-reflection and expressions of self-esteem as a factor of needs satisfaction in gaming [18] were manifest prominently in this study. Participants reflected on their abilities, and this emerged as a key factor in defining their experience with *'Our World War'*. Participants appeared to be preoccupied with their own performance, finding challenge on a moral level, as well as on a practical level. The importance of challenge, involved in promoting a sense of competence [5], was also evidenced by this study. We propose, therefore, that challenge should be a strong consideration for scriptwriters and designers of interactive episodes. They should consider methods for scaffolding performance to ensure that audiences are both challenged and supported in their interactions, thus optimizing viewers' level of challenge and engagement.

Our data also suggest that engaging interactive experiences can be crafted even when a *'pseudo-interactive'* narrative structure is used in which decisions do not actually influence narrative events. The results suggest that it may be the decision-making process itself that is important through fostering self-reflection and a sense of challenge.

The difference between a transported state and one characterized by self-reflection has been noted previously in media use in general [14]. Our data are consistent with this approach, demonstrating two broad classes of experience; one in which the viewer is immersed in the narrative world, and another in which they are driven to self-reflection through the challenge of interaction.

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### REFERENCES

1. British Broadcasting Corporation (Producer). 2014. *Our World War*. [Website]. Retrieved from <http://www.bbc.co.uk/programmes/articles/1kWsQcFTPFjfz9sdxFTGFhC/our-world-war-interactive-episode>

2. Rick Busselle and Helena Bilandzic. 2008. Fictionality and perceived realism in experiencing stories: A model of narrative comprehension and engagement. *Communication Theory* 18 (2008). 255-280. doi:10.1111/j.1468-2885.2008.00322.x
3. Jonathan Cohen. 2001. Defining identification: A theoretical look at the identification of audiences with media characters. *Mass Communication and Society*, 4, 3 (2001). 245-264. doi: 10.1207/S15327825MCS0403\_01
4. Edward L. Deci and Richard M. Ryan. 1985. *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
5. Edward L. Deci and Richard M. Ryan. 2000. Intrinsic and Extrinsic Motivations: Classic definitions and new directions. *Contemporary Educational Psychology* 25 (200). 54 - 67. doi: 10.1006/ceps.1999.1020
6. Inger Ekman and Petri Lankoski. 2003. Integrating a game with a story: Lessons from interactive television concept design. *Computers & Graphics* 20 (2003). 167 - 177. doi: 10/1016/j.cag.2003.12.002
7. Richard Gerrig. 1993. *Experiencing Narrative Worlds: On the Psychological Activities of Reading*. New Haven: Yale University Press.
8. Melanie C. Green and Timothy C. Brock. 2000. The role of transportation in the persuasiveness of public narratives. *Journal of Personality and Social Psychology*, 79, 5 (2001). 701-721. doi: 10.1037/0022-3514.79.5.701
9. Melanie C. Green and Keenan M. Jenkins. 2014. Interactive narratives: Processes and outcomes in user-directed stories. *Journal of Communication* 64 (2014). 479 - 500. doi: 10.1111/jcom.12093
10. Stacey Hand and Duane Varan. 2007. *Exploring the effects of interactivity in television drama in interactive TV: A shared experience*. Paper presented at proceedings of the EuroITV Conference, 24 - 25 May 2007. Amsterdam. doi: 10.1007/978-3-540-72559-6\_7
11. Taoyong Kim and Frank Biocca. 1997. Telepresence via television: two dimensions of telepresence may have different connections to memory and persuasion. *Journal of Computer-Mediated Communication* 3, 2 (1997). doi: 10.1111/j.1083-6101.1997.tb00073.x
12. Ofcom. 2014. *Adults' media use and attitudes report*. Retrieved from <http://stakeholders.ofcom.org.uk>
13. Mary Beth Oliver and Arther A. Raney. 2011. Entertainment as Pleasurable and Meaningful: Identifying Hedonic and Eudaimonic Motivations for Entertainment Consumption. *Journal of Communication*, 61 (2011). 984-1004. doi: 10.1111/j.1460-2466.2011.01585.x
14. W. James Potter. 2009. Conceptualising the Audience. In M.B. Oliver & R. L. Nabi (Eds.) *The Sage Handbook of Media Processes and Effects*. Sage: London
15. Mark O. Reidl and Vadim Bulitko. 2013. Interactive narrative: An intelligent systems approach. *AI Magazine*, 34, 1 (2013). 67 - 77. Retrieved from [www.aaai.org/ojs/index.php](http://www.aaai.org/ojs/index.php)
16. Scott Rigby, and Richard M. Ryan. 2011. *Glued to games: How video games draw us in and hold us spellbound*. Santa Barbara: Praeger.
17. Christian Roth, Ivar Vermeulen, Peter Vorderer, Christopher Klimmt, David Pizzi, Jean-Luc Lugrin and Marc Cavazza. 2012. Playing in or out of character: User role differences in the experience of interactive storytelling. *Cyberpsychology, Behavior, and Social Networking* 15, 3, (2012). 630-633. doi: 10.1089/cyber.2011.0621
18. Richard M. Ryan, Scott Rigby, and Andrew Przybylski. 2006. The motivational pull of video games: A Self-Determination Theory approach. *Motivation and Emotion* 30 (2006). 347 - 363. doi: 10.1007/s11031-006-9051-8
19. Angeline Sangalang, Jessie M. Quintero and Kate E. Ciancio. 2013. Exploring audience involvement with an interactive narrative: Implications for incorporating transmedia storytelling into entertainment-education campaigns. *Critical Arts: South-North Cultural and Media Studies*, 27, 1 (2013). 127-146. doi: 10.1080/02560046.2013.766977
20. Liz Spencer, Jane Ritchie and William O'Connor. 2003. Analysis: Practices, principles and Processes. In J. Ritchie & J. Lewis (Eds.), *Qualitative Research Practice: A guide for social science students and researchers* (pp. 199-218). London: SAGE.
21. Ron Tamborini, Matthew Grizzard, Nicholas D. Bowman, Leonard Reinecke, Robert J. Lewis, and Allison Eden. 2011. Media enjoyment as need satisfaction: The contribution of hedonic and nonhedonic needs. *Journal of Communication*, 61 (2011). 1025-1042. doi: 10.1111/j.1460-2466.2011.01593.x
22. Marian Ursu, Ian. C. Kegel, Doug Williams, Maureen Thomas, Harald Mayer, Vilmos Zsombori, Mika L. Tuomola, Henrik Larsson, and John Wyver. 2008. ShapeShifting TV: interactive screen media narratives. *Multimedia Systems*, 14, 2 (2008). 115 - 132. doi: 10.1007/s00530-008-0119-z