The Versatility of Visualization: Delivering Interactive Feature Film Content on DVD.

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Abstract

This article investigates how the film production process has been influenced by the DVD format of delivery. It discusses how the digital output is affecting the creative process of feature film production and the affect upon the visualization process during preproduction. It will deploy two case studies - *My Little Eye* (2002, Dir: Marc Evans) and *Final Destination 3* (2006, Dir: James Wong) – utilizing diagrammatical visualizations of their interactive content. Both these films produced additional content during the feature film production phase to offer viewers an alternate and interactive viewing experience on DVD. The article concludes by exploring how a current technological advancement, Blu Ray DVD Production, will act as a further catalyst to develop the interactive film genre beyond the initial phases investigated within the current case studies.

Article

> The two most important aspects of visualization, the physical connections with the medium and the opportunity to review and refine work as it is created, are hard to implement because of the complexity of film production. (Katz, 1991:5)

It has been 10 years since the mass inception of the so-called Digital *Versatile* Disc (DVD). Since that time, the market for DVD hardware and content has expanded exponentially. The DVD forum reported that 'Film distributors depend more on DVD sales than box office takings.' (July 31, 2006) Home video sales now account for nearly 60% of Hollywood's revenue (LA Times 2004). The versatile format allows for a higher volume of media content to be stored and accessed in a non-linear manner. Standard DVD-Video discs can contain up to ninety-nine tracks of content. Each track can include up to nine streams of video, eight streams of audio, thirty-two subtitles and multiple languages. There is now the expectation that at the very least, DVD feature film titles will include the ubiquitous directors' commentary, subtitles, multiple audio tracks in a minimum number of languages, the making of/behind the scenes documentary, trailers, stills photographs, storyboards, additional scenes and alternate endings. This content is accessed through progressively sophisticated graphical and animated menu systems. There is also an ever-increasing expectation for interactive content and additional interactive features within the feature film itself, although it is interesting to note that according to a Wall Street Journal, viewers are just as likely to claim that they are 'disappointed' if a disc contains no bonus materials as to admit that they watch them 'very rarely'. (Parker, 2004) All DVD players support General memory parameters

(GPRMs), which can only be addressed by the DVD disc in play. Sixteen 16-bit memory locations are available to be used for basic computation or storing values. This allows for rudimentary interactivity. For example, GPRMs can be used to remember which segments of an interactive story have been viewed. (De Lancie, 2001:41) There is therefore the opportunity for filmmakers to exploit this capability in order to deliver film content interactively. However, the content of the feature film DVD discs has tended to remain locked down and formulaic, for example remote control features remain disabled until the viewer has been subjected to a copyright notice and the studio company logo. Only then is the viewer is faced with a menu system through which to navigate to the different elements of content. It can therefore be argued that rather than giving control to the user, the DVD format actually restricts viewer engagement and allows a further authorial 'stamp' to be placed on the work by the creator/director. For example, the very nature of the director's commentary tends to be one of superiority, heightening the auteur effect, in which Parker (2004) notes 'enforces a heightened attention to intricacies of intention'.

Additional DVD content is being generated as an intrinsic part of the feature film production process. Often, the documentary film crew work alongside the main production units to shoot additional footage, which forms these add-ons or 'extras'. The term 'extras' tends to characterise the nature of these additional features in that that they are somehow isolated and disparate from the feature film. It suggests, and is certainly common practice within feature film DVD presentations, that any content that has been cut from the film (deleted scenes, alternate takes) are then included in the hierarchical menu system, which is normally presented to the viewer as a front page, as a contents page would be to a reader of a textbook. This directive is in place despite the capabilities of the DVD architecture, which would allow such content to be embedded into the experience of watching the feature film, similar to hyperlinks within a web page. There are some examples in which DVD feature films have designed hidden features in order to access alternate content. Christopher Nolan's DVD release of *Memento* (2001), contains a hidden button (or hyperlink) within the navigational menu system, which when pressed at a specific moment, when the words 'Memento Mori' appear within an interactive menu, the feature film is played in the reverse order to which it had been cut for the theatrical release (which is actually the correct chronological order of events). In 2000, three years after the commercial introduction of DVD it was noted that;

> DVD has rapidly achieved an impressive installed base: some 8 million set-top DVD-Video players and 30 million computer-hosted DVD-ROM drives. But only a seeming handful of more than 5,000 titles in commercial release really exploit DVDs interactive potential, either within DVD-Video specification or delivered on DVD-ROM. (De Lancie, 2000)

Over the last seven years, there are still a relatively small number of examples of feature film DVD titles containing interactive content, which has been authored as an integral facet of the viewing experience, despite the formats interactive capabilities. Whether this is related to viewer expectation - the belief that watching a film should be a passive experience - or to the fact that viewers tend to access such content 'very rarely' - or to the limitations of time and budget imposed on feature film production, it is important to draw a comparison to the arrival of television in the 1950's. Firstly because it mirrors a parallel trend to home cinema entertainment, in that it stimulated viewers to stay at home. More pertinently, television was not only the invention of the hardware itself; it was the invention of the three-camera set up, of television studio productions and of the various different genres of programming. Essentially, the invention of this new delivery environment was the invention of new screen-based genres. However, there has since tended to be an assumption that with the invention of new screen delivery environments, the same content can be shifted in the same form onto the new screen. This seems to be the case of the DVD format.

> It is extremely difficult to find any type of original programming for DVDs. The great majority of DVD content we see today has begun life in another medium – as a movie, a TV series, a documentary, or a classic video game – before being ported over to this new platform. (Handler Miller, 2004:366)

Instead of harnessing the capabilities of the medium whereby new genres of interactive storytelling could be conceived, what we are witnessing is the effect characteristic of Remediation, whereby old media is recycled, reformatted and delivered through a different channel.

> What is new about new media comes from the ways in which they refashion older media and the ways in which older media refashion themselves to answer the challenge of new media.
> (Bolter and Grusin, 1999:15)

There were some notable attempts at the creation of interactive DVDs, during the turn of the 21st century; *Tender loving care* (1999, Dir: David Wheeler), *Silent Steel* (1999, Dir: Toney Markes) *Point of View (2001, Dir: David Wheeler),* and *Stab in the dark* (2001, Dir: David Landau). *I'm your Man* (1992: Dir: Bob Bejan) was released on DVD in 1998. During its original 1992 theatrical release in custom-built cinemas in the US, the seats were fitted with pistol grip devices that allowed viewers to vote on both which characters perspectives that they would see the stories from and also choose which narrative pathways that the three protagonists of the story could take. (Figure 1) This structure known as a parallel narrative, is one of the seven formats of interactive fiction that Favre (2002) defined, the other six being; enhanced narrative, nodal narrative, multipath narrative, multimodal narrative, topographic narrative and algorithmic narrative. Within *I'm Your Man* the choice with the most votes would be the one screened in the cinema. This interactive cinema platform, which Lunenfeld branded as 'a much-hyped hybrid that never did quite make it' (2002:145), was perhaps one most

suited to the DVD mode of delivery, being far more economically viable on this portable format. The content of the *I'm Your Man* DVD is as a series of separate films, which can be accessed at nodal choice points through a standard menu system which allows the viewer to utilise their remote controls to make narrative path decisions. These come in the form of a primary address from one of the characters direct to camera asking the viewer for some form of direction. This was a somewhat crude use of the format and did not use the DVD hardware's memory capabilities. This is apparent in the fact that the branching system of *I'm Your Man* is operated in a context-free manner. Previous user choices are not stored. Marie-Laure Ryan (2001) has noted, no matter what choices the user made in the past, the same range of options remains open at any decision point. As Ryan confirms 'one of the most serious architectural problems is the shot that fails to keep its dramatic promise in all possible developments'. (2001:277)
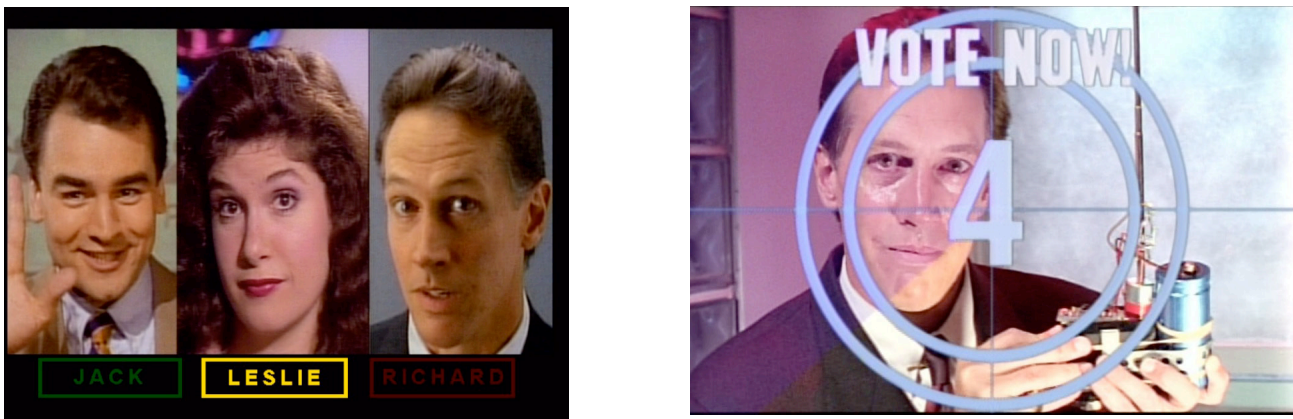

Figure 1, I'm Your Man, DVD Stills of two different decision points within the film

Here, she refers to a can of mace, which is introduced by one of the characters in an early scene. If the viewer chooses a certain route through the films content, they never see this item put to use. The structure of the story at both the cinema and on DVD meant that the narrative had to be halted for the viewer to make a conscious decision, an example of what Crawford cites as a 'constipated story' (2005:130) This mode of delivery and deployment of interactivity could be described as a fractured viewing experience in which a viewer is forced to constantly leave the story, a situation which characterises the interactivity versus immersion debate. The interactive mode of *I'm Your Man* is one of character perspective; the story is stopped at several points, through a direct camera address from one of the three protagonists to request some form of guidance. The structure of parallel narrative, also known as perspective narrative, or the multiform story; 'a single situation or plotline in multiple versions' (Murray, 1999:30) allows the viewer to follow the story from the perspective of a selected character. The viewer cannot change the outcome of the story or influence events but can change from one character to another.

This article now probes two recent examples that use the same DVD format and the associated authoring tools that have been available. Both are from the horror genre and both produced within the last six years. *My Little Eye* and *Final Destination 3* work in contrast to one another on a number of levels. They exemplify the polarities of feature film production. The former is the product of the Hollywood Studio, characterised as such by its tendency to emphasise spectacle over narrative. (The procedure of planning and shooting additional content for the DVD added 5 days and $750,000 to the $25,000,000 budget). The latter was produced on a far smaller budget, and was firmly within the independent film movement, which Willis would claim is 'celebrating the handmade, and a narrative focus that was about the everyday'. (2005:15) The producer of *My Little Eye* described the process of production as 'anti-filmmaking'. Within the director's commentary he states that; 'the equipment we shot it on could be bought down at Dixon's'. The choice of these examples also reflects the trend that certain genres, which attract certain kinds of users are, arguably more suited to the delivery of experimental and interactive content (i.e. sci-fi, fantasy and horror) Steven Einhorn justifies *New Line Home Entertainment's* investment into this content on *Final Destination 3* 'thriller audiences are big gamers – comfortable with this kind of programming' (LA Times, April, 9, 2006). The most crucial comparative facet for the purpose of this discussion is that the two different films offer two different types of interactivity. These different types of interactivity follow two distinctly different modes in their approach to altering the viewer's experience of the narrative;

> 1. The viewer's interactions cause a variation of perspective; either through a character or through the mechanics of the production process; by changes in the camera angle or audio stream;
> 2. The viewer's interactions cause a variation of plotline and story outcome.

The first example using the former mode of interactivity is the special DVD release of Marc Evan's *My Little Eye*. The film was conceived and influenced during the first year of the international televisual phenomenon of the Big Brother TV series, in 2000. In a set which consisted of a 3 storey custom-built house in a disused leisure centre, static locked off digital cameras were used, restricting camera movement to slow zooms, and mechanical reframing characteristic of CCTV cameras. *My Little Eye* sought to emulate and provide a cultural comment on the new voyeuristic reality television programme, whilst making a genre specific film, which adhered to the rules of horror. The premise of the story is that five twenty something's are put in a house for six months, living to a number of set rules, the winner of which receives $1,000,000. The film is naturalistic and low-tech and uses one-chip CCD cameras as the staple technology. Within the interactive DVD version of *My Little Eye*, a graphical user interface is overlaid onto the film, from which two interactive features can be accessed. The first

allows the user to switch between multiple cameras. This option is restricted to four specific scenes within the film. When this option is available to the viewer, a red camera icon flashes in the bottom frame of the interface. (Figure 2) The viewer can then press the camera angle button on the remote control to switch the between 4 or 5 cameras. (Figure 3)
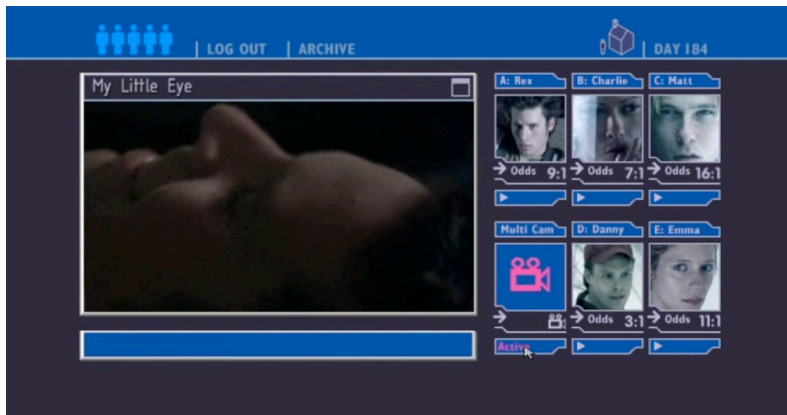

Figure 2: My Little Eye: DVD Menu, allowing the viewer to switch from ordinary viewing mode to multi-camera mode
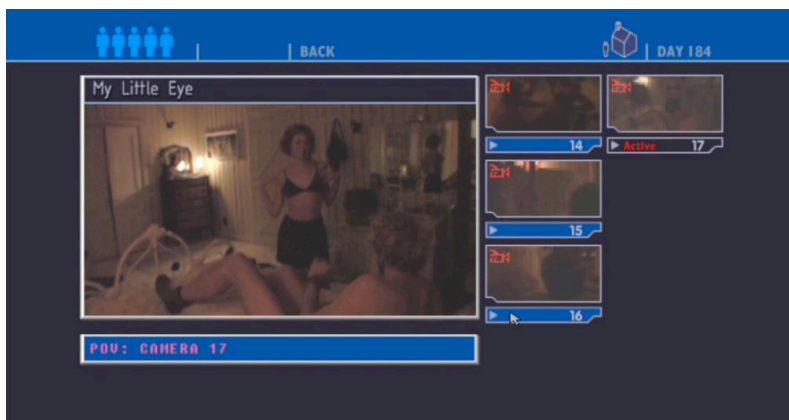

Figure 3, My Little Eye, Interactive DVD interface, allowing the viewer to switch to different camera angles of the same scene

Illusions of interactivity within each of the four camera angle selection points are prevalent, since upon closer inspection, in all four instances, the camera sources are not simultaneous multicamera action. Footage from different camera sources is chosen deliberately to look as if it is live action, but it is not. This implies that this interactive DVD feature of this disc was perhaps an after thought on the producer's part, and did not form part of the director's pre-visualization process. The other interactive feature enables viewers to switch the audio stream by using the remote control. This is the same technology available on standard DVD presentations

whereby users can switch on a Director's Commentary, and listen to an additional audio channel, or audio dubbing in an alternate language, where the existing soundtrack is replaced by another version. The viewer can then hear covert exchanges between two characters from the fictitious 'company' on walkie-talkies on audio stream 2. This reveals the actual nature of the five main protagonist's imprisonment inside of the house, and substantially alters the perspective of the viewer's experience of the film. The theatrical version works on the premise of a twist toward the climax of the film, whereby we discover the fates to befall the housemates. One of the characters (Rex) discovers the web site of which they are a part and the characters see the gambling odds against their names. This is the point at which they realise that they are the subjects and potential victims of a snuff web cast. As a viewer of the cinematic release this is the same point in the narrative at which the viewer makes the same discovery. However, within the interactive DVD version, the plot is revealed by the very nature of the interface. We are viewing the content as if through the same fictional web browser as depicted in the film (see figure 4) When the viewer first accesses the 'site' they have to input a four digit code found on the sleeve of the DVD in a 'credit card' field.
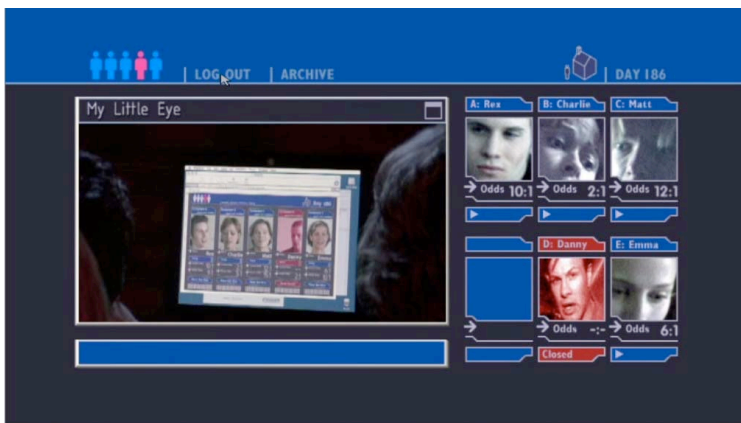

Figure 4: The moment at which the housemates discover the site and the gambling odds against their names

The viewer then sees Danny's, the first victim, odds closed when he is found dead, hanging by a rope within a stairwell. The viewer is therefore positioned as one of the fictional high stake gamblers acknowledged in the final scene of the film. The viewing position is subverted from one of passive onlooker to a suggested (and fictional) active participant. As the characters are killed off one by one, the viewer witnesses the odds changing. (*Figure five*)
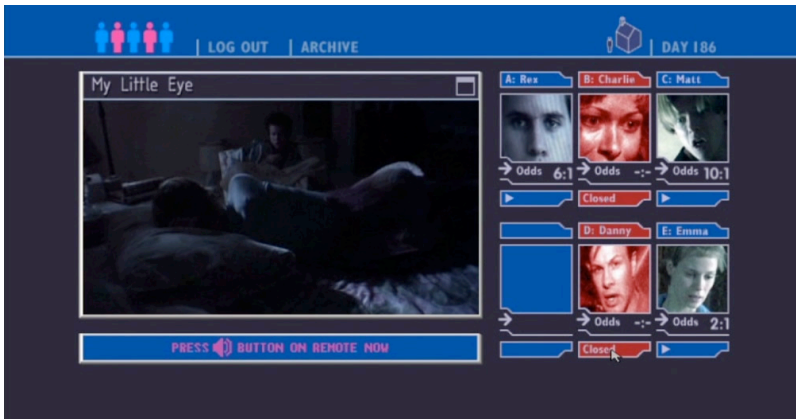
Figure 5, *My Little Eye* **DVD Interface**

The viewer's interactions within *My Little Eye* do not offer the opportunity to affect or change narrative pathways in anyway. Instead access to additional footage on the disc is permitted as an intrinsic part of the viewing experience. Through the design of the interface, the viewer enters into the world of the snuff web cast. This is a design technique, which has been used before within the horror genre. Within the DVD release of *Se7en* (Dir: David Fincher, 1996) the menu system has been designed as if by John Doe himself, giving the viewer a further insight into his world and imaginings. In these examples what the viewer is experiencing is an enhanced narrative (Favre, 2000). *My Little Eye* has parallel (perspective) narrative tendencies to a limited extent, and the viewer experiences a sense of user agency and immediacy as they can switch between the parallel sources instantaneously as if they are viewing live action. However, the double logic of remediation (immediacy and hypermediacy) is apparent since 'even webcams, which operate under the logic of immediacy, can be embedded in a hypermediated web site' (Bolter and Grusin, 1999:6).

In contrast, the thrill ride edition of *Final Destination 3*, allows the viewer to change the plot line, within a narrative structure, which would be defined by Favre as a multi path or nodal narrative. The premise of the feature film works on exactly the same premise, as it's two predecessors. The main protagonist has a flash-forward to a catastrophic event, in which all passengers on the aeroplane/highway/rollercoaster are killed. As a result he/she decides to leave the mode of transport with a group of friends and they then witness the accident realised. The characters are subsequently killed off one by one in a series of elaborate, special effect laden accidents in the order in which they would have died had they remained on the original aeroplane/highway/rollercoaster. The *Final Destination 3* DVD promotional posters state; 'You're in control of the movie! Change the course of the film and the characters fates'. The *LA Times* believes that 'this is the first time that has been done on a DVD from a major motion picture studio' (Dutka, 2006) The DVD version of the

film is viewed in its traditional presentation, as opposed to the graphical overlay method that *My Little Eye* employs, but is preceded with a series of instructional slides stating that at various points the viewer is faced with storyline choices. The storyline choices that appear as graphical slides are far more subtle and integrated into the viewing experience in comparison to *I'm Your Man,* although the narrative is still halted at certain nodal points (6 times – see the diagrammatical visualization in Figure 9) in exactly the same way for the viewer to make the decision.

Figure 6, Final Destination 3, Choice Point 1

There are no direct to audience addresses from the main characters as there are in *I'm Your Man*, and the choices are far more abstract and unspecific, we do not actually get to choose how six characters die as stated in the promotional literature. We choose to do 'something', which will trigger a different set of events that precede the fatality of a character. The example in figure six is the first choice point in the film, whereby a coin is tossed by one of the characters, as the coin is flipped into the air, live action transits into the slide and the viewer has a set amount of time in which to respond. By following the *Heads?* route, the path of the original feature film is followed. If *Tails?* is selected, the story is concluded, the viewer watches a series of graphical slides in which it is discovered how the four survivors of the accident go on to lead happy and fulfilling lives, followed by the feature film's title sequence. This is then halted, and the viewer is presented with a menu choice, and is given a second chance to select *Heads?* and if selected will lead to them rejoining the feature film at the point at which they exited it. The viewer is here subjected to a foldback scheme (Crawford, 2005:126), whereby the storyline is folded back to a predetermined path. In this case, to the point before the roller coaster action takes place. There are six such instances where this happens, (see Figure 9) and the viewer is able to select an alternate path through the narrative. Apart from the second death scene in which Ashley and Ashlyn are killed at a tanning salon (in the theatrical release, both are burnt alive, in the alternate scene, Ashlyn escapes and they are both electrocuted as she tries to pull her burning friend Ashley from the sun bed), there are no alternate deaths, we

are not actually able to 'change the characters fates'. The film's use of the DVD scripting technology is advanced in terms of the GPRMs being utilised. Viewer's choices can be recorded and additional content offered accordingly within the context of the previous choices that have been made. This occurs at both point 5a and 8a in figure 9. Floating graphical buttons appear for timed instances at these points, which, if selected, allow the viewer to access additional content. In the former example, we can look at Frankie Cheeks camcorder footage, which was shot as an integral part of the feature film production, as an intentional extra for the DVD. (Figure 7) In the former, we can read a newspaper article detailing the events of the previous film in which the highway crash is reported. These interactive events are only accessible to viewer's dependant on their previous choices. However, there is one particular technical slip up, akin to the *I'm Your Man* mace incident, which was previously discussed, which suggests a lack of attention to the DVD interaction pre-visualisation. In a scene following a choice point, prior to choice 5, where the character Frankie Cheeks is either killed off or saved, the character, Mary speaks the line 'three people have died'. If the viewer had elected to save Frankie, (the alternate path to the original feature) of course only two lives (Ashley and Ashlyn's) would have until that point been lost.

Figure 7: A timed floating graphical overlay, which allows access to additional footage if 'yes' is selected. This part of the disc is only available to viewers who earlier selected to save Frankie at choice point 4.

In *Final Destination 3*, the viewer is faced with a series of constipated moments, in which the narrative is halted until a selection has been made. The interactive DVDs directed by David Wheeler, *Point of View* (2001) and *Tender Loving Care* (1999) have attempted to address the immersion versus interactivity paradigm. Instead of the story stopping to present the viewer with a conscious choice, there are interludes whereby the viewer is taken out of the film to answer a series of questions or thematic apperception tests. The narrative is then

apparently tailored to the viewer's 'psychological profile'. 'The viewers psyche is the invisible director of the tale, determining both character and plot development every step of the way' (www.aftermathmedia.com) Despite these claims, actual narrative intervention is minimal. An analysis of the video media contained on the disc reveals that there is little variation in plotline, and an alternate viewing experience dependent on psychological responses is limited only to a choice of different endings. Again, within this example the content producers create an illusion of interactivity.

What is revealed through the examples - *My Little Eye* and *Final Destination 3* is comparable to the reality TV genre, which Favre would describe as a multimodal narrative system. This is a system whereby a story is formed across several media; TV, www, mobile phone and press, characteristic of most forms of reality TV output. The most successful feature film example of a multimodal narrative system would be *The Blair Witch Project* (1999, Dir: Daniel Myrick and Eduardo Sanchez), in which the reliance of the different media forms on the effect and authenticity of the narrative was paramount to the films success. In *My Little Eye*, the viewer is positioned as the voyeur, able to see what the characters cannot and are made aware of their impending fates. In *Final Destination 3* we are able to affect the character's fates and then be able to watch that fate played out as we the audience are able to harm them (physically) in the case of *Final Destination 3* as we do so (mentally) when we can choose which person is evicted from their environment in the example of Big Brother.

Final Destination 3 favours spectacle over narrative and uses the DVD as a vehicle to showcase visual effects that would otherwise have not been seen by the viewer. This in some way justifies the excessive budget. The user is the spectator able to navigate the content, in a manner that is arguably not that much different from using a traditional DVD menu and sub menu system. Conversely, *My Little Eye* uses as a narrative device to posit the viewer as a participant, as a character in the story. It is important to note that the limitations of the standard DVD format means that by enabling the special interactive viewing features of both films, the other interactive features are rendered unusable, most importantly for gaining insight into the director's pre-visualization of the interactive content through the directors commentary. We are therefore given no insight into the interactive design and the intended interactive choices of the film. Within the extra features of both discs; the 'making of' documentaries and the director's commentaries, much discussion is given to the achievement of the various visual effects, and to the directorial decisions that are made in relation to the plot line. However, no interactive visualization is mentioned, implying that interactivity and the DVD mode of delivery was a retrospective decision by both directors during the preproduction and production phases. The focus of the discussions are primarily upon the theatrical release of both of the features. In the director's commentary of *Final Destination*

3, it was explicitly mentioned by one of the production team, that they were given money by home video to shoot alternative scenes. There was no discussion of this additional content being using interactively on the DVD by the director. Rather the additional funding enabled the director to shoot alternate takes to affect the narrative flow of the film. For example, the stills camera scene in *Final Destination 3* was originally used as the ending to the film, when the ending was changed, the shot was removed (and then subsequently appeared in the extras) The alternate takes were discussed as important for the theatrical release of the film; responding to the results of test screenings, but certainly not for their impact on the DVD. Pre visualisations are discussed only in relation to special effects, particularly with reference to the roller coaster sequence. From figures 8 and 9, what is evident, aside from the structure of the interactivity (whether it be a constipated story, a parallel narrative, an enhanced narrative, a multimodal narrative) is that we have what Marsha kinder classifies a database narrative;

> Database narratives refers to narratives whose structure exposes or thematises the dual processes of selection and combination that lie at the heart of all stories and that are crucial to language: the selection of particular data (characters, images, sounds, events) from a series of databases or paradigms, which are combined to generate specific tales (2002:6).

In terms of the structure of such databases, Meadows (2003) presents three different structures of interactive narrative with varying levels of complexity; the nodal plot structure, the modulated plot structure and the open plot structure. In relation to the case studies discussed, both examples would collude to the nodal plot structure; 'nodal plots are a series of noninteractive events, interrupted by points of interactivity' (2003:64). In essence what we have in the DVD release of both films, and of interactive standard DVD production in general is limited scope for interactivity beyond the categories of parallel, enhanced and nodal interactivity.

Within standard DVD production so far there has certainly been no attempt or opportunity to create an open plot structure (Meadows, 2003), or a topographic narrative (Favre, 2002) such as a simulation or world's structure. Garrand (1997) confirms that 'in a virtual world programme, the participant explores an environment or an experience; in an interactive narrative, he or she explores a story' (1997:67) This is due to the technical restrictions of the format, which doesn't allow for this level of interactivity. The use of Blu Ray technology within DVD design and production opens out the opportunity for more sophisticated forms of viewer interaction and participation, by the enhanced ability to add complexity. It has the potential to unify the thus far awkward marriage between gaming and film which standard DVD technology has been unable to achieve. It also brings us closer to the promises of home theatre systems. Bill Whittington argued that these systems should 'encourage greater agency on the part of the spectator, (while) fostering heightened interactivity and control over programming' (1998:76)

The Blu ray architecture hosts a side element of programming language known as VDJ. It is a fully programmable application environment based on Java, which allows the design and delivery of interactive and creative content. Compared to the rudimentary capabilities of GPRMs, VDJ exponentially expands the possibilities of interactive film production and viewing, and has the potential to extend the interactive narrative landscape to topographic and algorithmic narrative possibilities. (Favre, 2002) The former example is one of environmental exploration and the latter, is user generated, created as viewers interact with one another and the material with which they are provided.

I would like to propose two modes of feature film interactivity possible using Blu Ray DVD, which allude to topographic and algorithmic structures. They also reflect the double logic of remediation; the transparent and the hypermediated respectively. These proposed modes, which are commonplace in the world of computer gaming, could be realised through the generation of *intuitive* and *re-mixable* content within feature film production.

> 1. **Intuitive** – possible through the use of user response systems, such as bodily movement tracking or object tracking, (within the gaming world, comparable examples are demonstrated through the *wii*, and the *i-toy*)
>
> 2. **Re-mixable** – possible through the direct engagement of viewers and of user manipulations, (evident in games such as *Sim City*, and through the website *Second Life*)

Both of these proposals would require additional hardware to ensure functionality, (i.e. the use of motion detection; vision sensors and pressure sensitive floor mats in the former example, and computer peripherals; keyboards, mice and graphics tablets, in the latter). Both would present a notable shift in the film production landscape, both in terms of film production processes and also in viewing habits and behaviours of the viewing demographic. Intuitive response systems have already been developed within the experimental film making realm, and are prevalent within multimedia installations and audio visual art (i.e. Paul Rokeby, 1986: *Very Nervous System*, Sammy Spitzer, 1996: *Birds,* and Toni Dove, 1998: *Artificial Changelings*) and also within screen based research. Walter Murch (2001) references eye-tracking technologies, which have been used within cinematic research to record viewer's eye movements around the celluloid frame. This type of research involves analysing the viewers eye movements retrospectively, rather than them prompting real time events as the intuitive interactive DVD systems would propose. Andrea Polli produced a number of audio and video based pieces, a CD Rom – *Gape* (1996), and an installation *Inside the mask* (1998) which used eye-tracking software to prompt differentiations in the audibility of voice samples instantaneously. Such non-command-based (Jacob,

2007) technologies could be introduced into the home cinema realm in order to prompt changes in filmic narrative content, both in its ordering and pace dependant on both users conscious and unconscious physical responses. This mode which would attempt to create an environment of transparency, all conscious decision points are removed; as in an awareness of the environment in which the user interacts.

Conversely, the re-mixable film, by its nature as a conscious creative process exists within a hypermediated environment. The essence of the re-mixable film genre is encapsulated within the *mod* film or modifiable film, born from the Video/Vision Jockey (VJ) culture. Michaela Lewidge has written and directed the first film of its kind entitled *Sanctuary*, which will be released both as a theatrical feature, and in a remixable form. The remixable release will be available online through www.creativecommons.org.uk and will involve all the films assets being available to the viewing public to download, modify and remix.

> Re-mixable films are films designed to permit explicit sampling of film assets. A film MOD (or modification) is like a game MOD, a modified version which you can experience as a bolt-on (or replacement) to the original experience. (modfilms.com)

Within the example of *Sanctuary*, the CG character *Customisable Dude (CD)* can be manipulated and controlled, as can environments in which exchanges between characters take place (made possible by the fact that a majority of the scenes were shot against blue screen) These affects can take place on an individual user level, and can then take place collaboratively on-line to create a collective experience, which so far has not been achieved through interactive film productions;

> Interactive narrative games favour a single user with the time and the solitude to solve puzzles and make choices. (Bolter and Grusin, 1999:94)

Just as the invention of television led to the invention of the different genres of television programming and the multi-camera studio, so too should the technology of DVD bring with it a proliferation of new techniques of interactive storytelling. The future of advanced DVD production technology is a future in which narrative interactions will be previsualized within the film production process. The generation of suitable interactive content will be factored into both the preproduction planning stages and the film production process, and will in turn affect the ways in which we engage with the content, shifting both user consumption and expectation exponentially.

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Films
Blair Witch Project (1999, Dir: Daniel Myrick and Eduardo Sanchez) Artisan
Final Destination 3 (2006, Dir: James Wong)
I'm Your Man (1992, Dir: Bob Bejan) Planet Theory inc

Memento (2001, Dir: Christopher Nolan) I Remember Productions llc

My Little Eye (2002, Dir: Marc Evans)

Point of View (2001, Dir: David Wheeler) Digital Circus Entertainment ltd

Se7en (1996, Dir: David Fincher)

Silent steel (1999, Dir: Toney Markes) Tsunami Media inc

Stab in the dark (2001, Dir: David Landau) Clarke Com and Murder to go

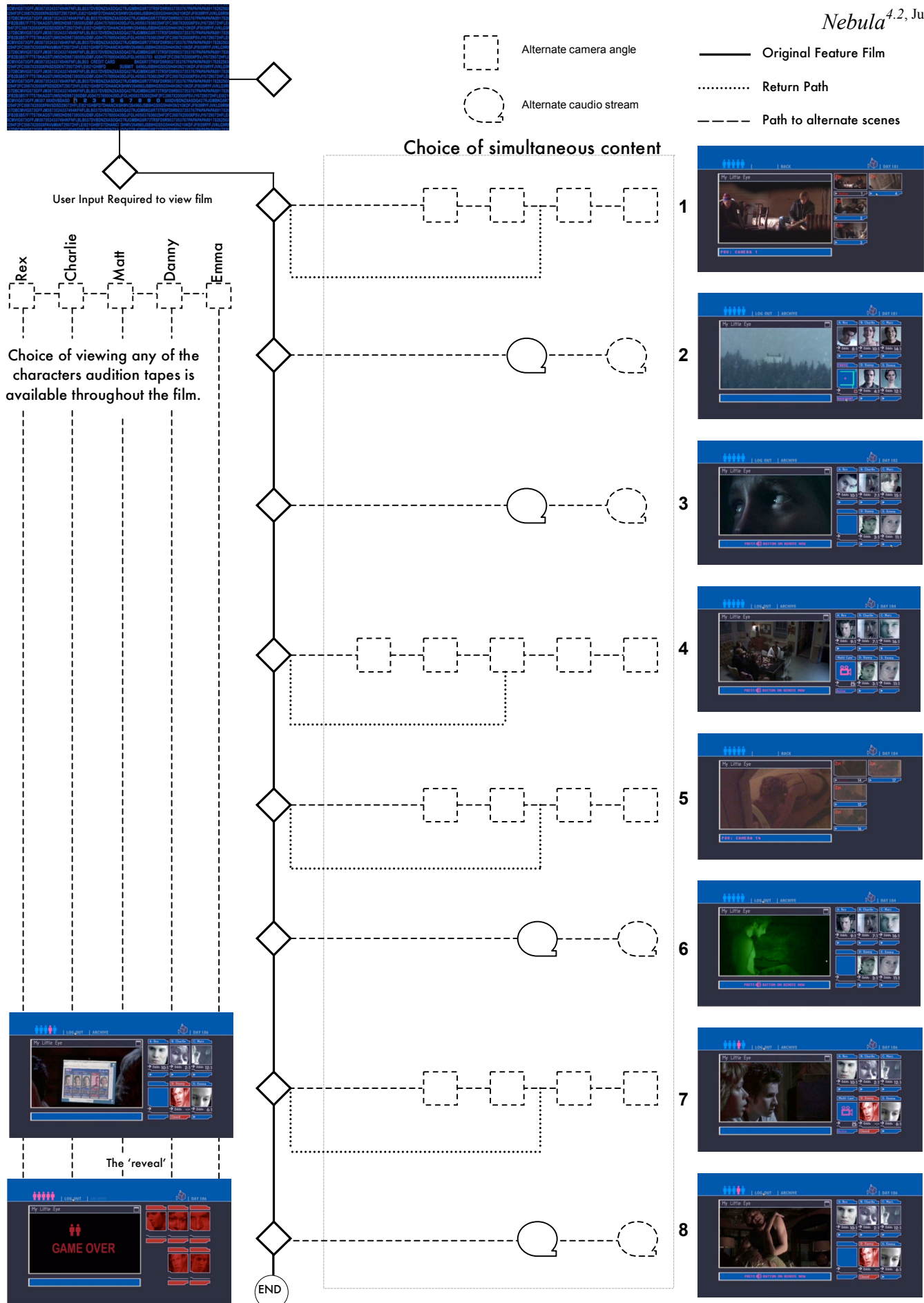Tender loving care (1999, Dir: David Wheeler) Aftermath Media llc

Alternate camera angle

Alternate caudio stream

——————— Original Feature Film

·············· Return Path

– – – – – Path to alternate scenes

Choice of simultaneous content

User Input Required to view film

Rex
Charlie
Matt
Danny
Emma

Choice of viewing any of the characters audition tapes is available throughout the film.
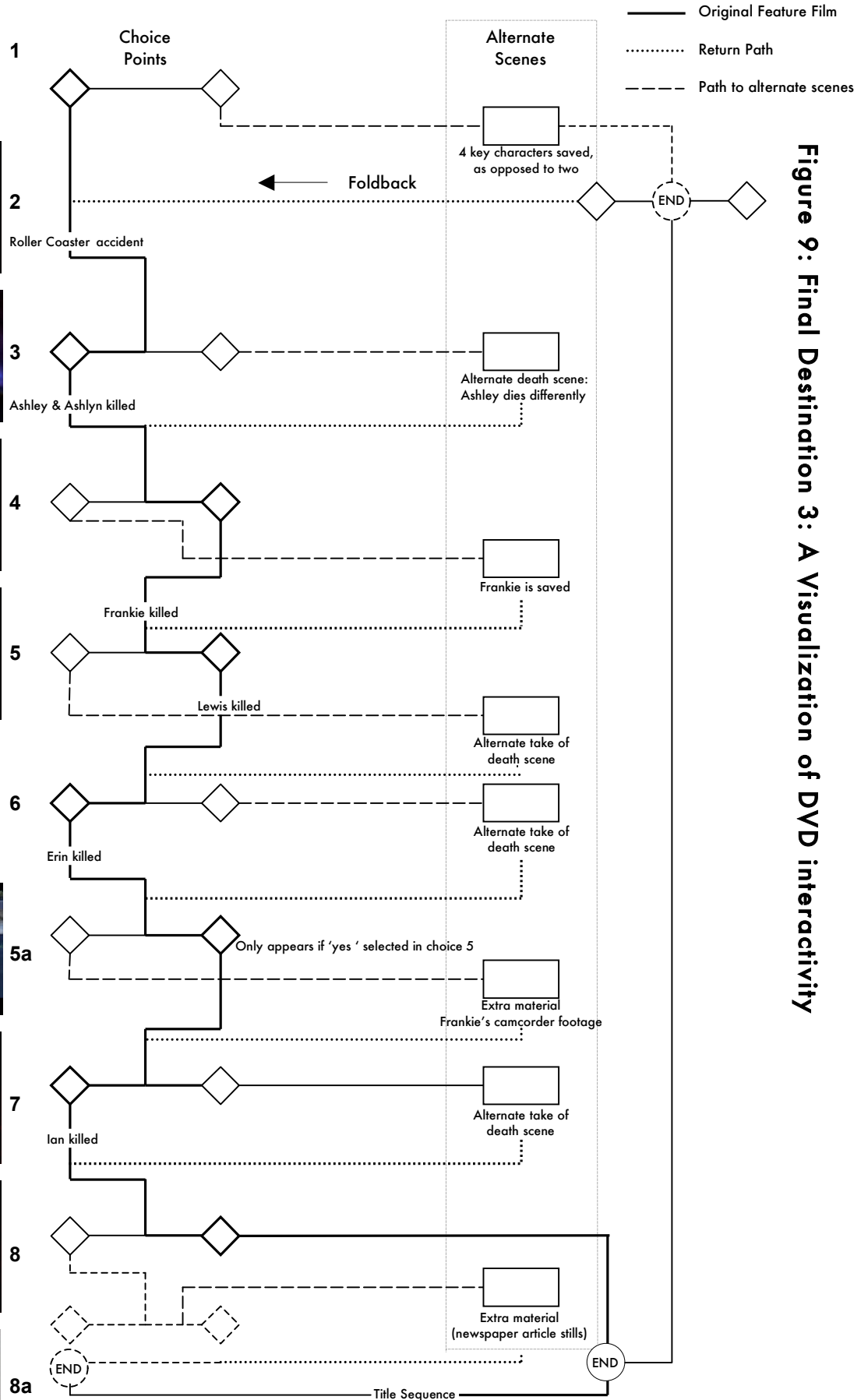
1

2

3

4

5

6

7

8

The 'reveal'

GAME OVER

END

Figure 9: Final Destination 3: A Visualization of DVD interactivity