Some digital media approaches to non-linear narratives and interactivity.

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ABSTRACT

In this paper, I describe the conflation of non-linear and linear narratives through digital media using examples from the interactive documentary The Shoebox that is built around three 360 degree panoramic Virtual Reality scenes. In The Shoebox users can play each of the three VR scenes as a scripted linear sequence or they can interactively navigate from one scene to another or to a dititional media. This interactive architecture is to be extended to include an additional layer. When the user clicks a node and accesses a fragment of media, for example: video fragments; still photographs; animated stills; or audio clips, the selected fragment descends to a timeline within the field of view. As each icon is clicked these segments build along the timeline and after a number of segments have been acquired the timeline itself can be played as a linear sequence. The construction of this additional layer of sequential, temporal narrative, obtained through non-linear interactive actions, plays the content of the story in the traditionally, cinematic way.

Categories and Subject Descriptors
D.3.3 [Multimedia Software]: LiveStage Pro 4

General Terms
Documentation, Design, Experimentation, Theory.

Keywords
Linear narrative, non-linear narrative, Virtual Reality, 360 degree panorama, interactive.

The practical piece accompanying this paper is a prototype for an interactive digital documentary titled The Shoebox. It is based on the true story of a 10 year old girl who loses both her parents in separate incidents and who is taken from her family home and put into a series of boarding houses until she is age 21.

When a WWI veteran, who has been blinded in one eye on the battlefields of France, drives his car into a tram, he is killed. He leaves behind a wife and 3 daughters. It is 1937. Tragically, 3 years later the girls’ mother also dies from a mysterious illness. The girls, Gwendaline 17, Marjorie 14 and Heather 10 are put under the guardianship of their father’s brother, Uncle Jock, a stock and station agent who lives in Kaniva, north-western Victoria, Australia. A silence descends over the family as the old ones feel it is best not to upset the girls by talking about their unfortunate situation. Uncle Jock insists the girls are not to be separated. Yet it is WWII and accommodation of any sort is very scarce. So they are boarded 100’s of kilometres away in a succession of houses. For Heather, the youngest, it is a dozen homes in 11 years. With only scraps of information and two small photographs she ponders her origins and the cause of her mother’s death for over sixty years until unexpectedly, at the age of 72, she is handed a shoebox containing documents that fill in some of the pieces of her story.

This prototype uses LiveStage Professional® software and the technique of 360 degree QuickTime® virtual reality (VR) panoramas to explore the documentary form. There are two methods of navigation, auto play and manual. In auto play mode, an narrated linear narrative accompanied by programmed movements and pop up images is played for each of the scenes. In manual mode, the user explores each scene with the navigation buttons (pan left, pan right, tilt up, tilt down, zoom in and zoom out) or by drawing the mouse around the scene. Additionally in manual mode, the user accesses hotspots and nodes embedded within each VR panorama to activate clips and to move between scenes. These non-linear narrative techniques of hypertext, links, and nodes, enable the user to navigate their own path through the piece. This fragmented delivery method was chosen to mirror the fragmentation of the nature and content of the story.

Digital Medias that combine the use of linear, temporal narrative and non-linear, spatial narrative allow the user’s interactivity to be discussed in the paper. How have non-linear devices and interactivity changed the landscape for both users and producers? Are these forms compatible with the traditional...
narrative techniques or can they work together to achieve both user comprehension and user participation with the work?

‘We are entering an age of new narrating that, in a way, the sequential and time-based nature of traditional narratives is being replaced by emergent experimental and radical attempts to reconsider the role of storytelling in developing “technologies” [Rieser & Zapp 2002:xxv].

I became interested in digital media after my experience working as a documentary photographer and audio-visual producer. The traditional framework of narratives is thought to be linear and sequential, but with digital media, this is no longer the case. Digital narratives can be non-linear and exist in a spatial and simultaneous domain with new media forms. Or to put it another way, linear narratives make use of time while non-linear narratives make use of space.

In regard to interactivity the difference is one of audience reception. As Negroponti (1995:84) phrased it a decade ago ‘being digital will change the nature of mass media from a process of pushing bits at people to one of allowing people (or their computers) to pull at them. This is a radical change’. With traditional mass media, the audience is passive and can be influenced, whereas in digital media, the audience can actively participate in the story.

Classical narratives predominantly follow the Aristotelian model of forced narrative events, and whether they are factual or fictitious, in a realistic fashion using characters as tools to create identification in the audience. As Zapp (2002:78) says:

“The viewer is taking on the role of a voyeur, witness or emotional judge. He or she is immersed in the story by emotional means of identification, such as a character, plot, to provoke sympathy or an empathy with the characters or draws possible parallels to the viewer’s subjective reality.”

Dovey (2002:143-4) describes this audience identification as a type of transportation, which is a chiefed through temporal devices. ‘Linear successions, cause-and-effect, is what allows the reader/user to “re-lax” in the tale. The user is left with the satisfaction of an experience with beginnings, middles and ends’. Le Grice (2001:290) also acknowledges the temporal importance in narrative and says ‘narrative is a method by which events – real or imaginary – are given coherence through the representation of sequential connections’. Novich (2002:69) agrees, stating ‘it is a matter of replaced all the medium of narration with a sequence of linear narratives. A narrative sequence is shown on the screen at a time’.

Consequently temporal linear narrative has become the primary medium of cinematic storytelling, which is a challenge to the traditional modes of media and the audience’s role has changed from a passive observer to an active participant.”

In our digital era, the principle of linear storytelling is now being challenged in the medium of computer games. The ability to incorporate real-time interaction is fundamental to the success of digital games. As Rieser (2002:147-8) explains ‘the very linearity of film is stimulated a number of conventions to counteract its effect. Flat backdrops, jump cuts, etc. are introduced fluidity to a rigid medium’. These conventions may have varied the order of time in the narrative, however, they did not change the intrinsic moral or aesthetic value of the product. The linear, horizontal, sequential and temporal features of digital media are not unique.

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Further, solid state electronic systems (machines) achieve all their connections, do all their work, by electronic pulses; even if hierarchical, they are fundamentally non-linear. Whatever is conceived as the unit of data, its storage and retrieval is substantially freed from a predetermined sequence derived from the physically linear co-ordinations of a familiar, mechanical
medium (both film and video locked into the mechanics of the linear sequence of film editing). Through the Random Access Memory (RAM) structure of the computer, the sequence of retrieval does not have to match the sequence of storage and all address locations are effectively equidistant (Le Grice 2001:282).

Still, Le Grice (2001:289) recognises that simply because a film is a digital process, this does not necessarily make it non-linear. He claims, ‘the current fashionability of the term “non-linear” creates some problem of definition’, because although film-makers are now using non-linear systems, these are only non-linear in the way they store and retrieve data, how ever, ‘the pr inciples on which it h e combining ( the edited segments) are combined in the finished product conform to linear narrative concepts. The technology allows non-linearity – the concepts remain linear’. As Hales (2002:105) puts it ‘in this case the technology is not leading to a change in thinking simply a way of getting things done more efficiently and more economically’.

The au to p lay sect ions of f The Sho ebox c omposition n the principles of a tradi tional naive rati ves, w ith a na r rator de scribing e vents c onc urrently a nd i maging a ppearing on screen ( the c oncept of the n arration as a n a lin ear, sequential, hor izontal an d no t e mporal fa shion. Cubitt (2002:6) highlights the increase in narrative forms through ‘the rise of the popular pr ess, f ilm, radio a nd television’, y et marvels at the sequential, horizontal and temporal fashion. Cubitt (2002:6) says, ‘the succession of events chronologically that changes it from linear to non-linear. As Dovey (2002:140) says, “the remarkable persistence of film narrative in the twentieth-century media can only be apprehended as rem arkable i f one appreciates t he narrative form, as a story, novel, report, essay or article, can now be accessed through a network of links in which a spatial relation between component parts can be preserved.”

Ross Gibson and Kate Richards are a rather different example of this. Their project ‘Darkness Loiters, Crime Scene, LAW Live with the Necks, Crime, Life After Wartime’ is an example of contemporary art and design that combines the database of crime scene photographs taken between 1945 and 1960 by the New South Wales Police Service, with haiku-like texts and sound effects and music files into a landscape of other modes of documentation and dissemination. Crucial among them are forms of data storage and retrieval that are not structures in time, as is the narrative, but in space.

Gibson (2005:5) says the operating system underpinning LAW is designed as a ‘speculation engine…throwing batches of pictures forward in turbulent patterns’ and that ‘the system gains cohesion according to the history of each investigator’s interaction with the database’.

Over time, a set of micro-narratives and modulations accrue until eventually a kind of database meta-narrative builds up to account for the entire image-world of the arch. Cruially, each in investigator will gather up a di flerent set of micro-narratives and mode and each in investigator will ten d to ‘stream’ different records continuously one after another (Manovich 2002:66-7).
The timeline can then be played as one continuous linear sequence. As the user rolls over each icon a corresponding fragment of linear video is placed on a timeline at the bottom of the frame. Up to a maximum of ten icons can be chosen and each new selection buts up against the previous one on the timeline. The timeline can then be played as one continuous linear sequence of video fragments. The order and arrangement of each viewing is open to change and variation depending on the user’s selections. In all, there are 48 possible scenes or video fragments which in Citron’s words, ‘presents two narratives: four generations of my Irish Jewish heritage played against four decades of lesbian life in America, offering a do-it-yourself story in both documentary and interactive ways.’

Adrian M isles an d C1 are S tewart’s i nteractive o nline video Exquisite Corpse (2002) deals with the mix of non-linear and linear narrative in yet another way. Exquisite Corpse “consists of three ‘child’ movies that load into individual ‘panels’ within a single parent movie” (Miles 2005, p1). Each child movie plays as a linear sequence a though i ts i s disrupted by the user’s interaction. Clicking on any of the child movies’ top or bottom bars changes the frame rate (playing speed) of the clip and so each time the work is played the content is different. Miles explains:

‘it is important to appreciate that … this is a ‘film’ that has no canonical squence … it produces an almost infinite n umber o f co mbinatorial p ossibilities because you always move around the work differently, and with the variable playing rates of the clips complex variations occur’.

With Exquisite Corpse Miles and S tewart are p laying w ith the very t emporality o f the narrat i ve a s a w ell as the s patiality of simultaneous and sequential montage. Miles says:

‘…this is a film that has no fixed duration. There is no end to this movie, simply because the three films loop, and the manner in which the narrative come commentary works is that the end of one loop and its restart is not a ‘start’ but becomes a ret urn o r a rep rise. If you like the narrative structure and style is m uch m ore m usical t han o w i t s usual within film with its fixed d irection a nd d uration (Miles, Corpse 2005:1).

These are j ust a f ew o f t he i mportant s teps i n the ex periment w ith non-linear narrativity and interactive. Much discussion h as t he a sk p lace as t o w he ther non-linear a nd linear narrat ives a re c onnected a nd c ancel l i ng. e ac h o w i s us u al d et ermining t he r elationship w hether n arration a nd i nteractivity a re a n tithetical (Wand 2002:167). Also whether t he s e modes a re ne w o r, i n f act, ha ve b een di splayed i n di fferent m edium s t hroughout t ime. R iser (2002:146) gives a concise summary when he says:

The frequent assertion that interactive narrative is ‘a contradiction in terms’ centres on the argument that the diegetic space of narrative is comprised or destroyed by interactive engagement with the story; … this argument is ba sed on a m isunderstanding of narrative mechanisms. The active participation of audience is not new nor is it disruptive of narrative diegesis; it is merely incompatible with certain narrative conventions, which have become unduly emphasised by historical accident.

I will not explore the pros and cons of these debates in this paper, however what is becoming clear is that a number of commentators and digital artists alike are recognising that new interactive media is most understandable to users when it incorporates a mixture of non-linear and linear narrative. A S Dovey (2002:143) claims not only do new media change the narrative from one of a horizontal temporal type to a vertical spatial type but that both should be functioning for a piece to be considered understandable. Acknowledging that his trend W and (2002:167), quotes U lrich Weber (2002:167), explaining his process states,

Most of my work entails finding historical fragments in the aftermath of so many cultural ‘breakages’ or violence and then filtering narrative or dramatic ‘backfill’ to explain the existence of the evidence. More and more, I am interested in how searchable databases, as well as, linear story telling, can be understood rather than didactic experiences.

In this paper I have described the structural difference between linear and non-linear narrative and demonstrated that the linear is based on a temporal and the non-linear is based on a spatial relationship. With examples from artists and their artistic explorations within this field I have revealed how others have engaged with temporal, horizontal and sequential as well as spatial, vertical and simultaneous narratives and how these two seemingly opposed techniques, rather than acting as binary opposites and cancelling each other out, can operate in a complimentary way within a piece. T he non-linear techniques pr ovide t he traditional narrative devices to bring to gether the fragments into an understandable story.

With my prototype of The Shoebox I have combined both linear and non-linear narrative techniques in this way. Each VR panorama can be p layed as a linear story, t he a u to p lay movemen t creates a diegetic space and t he temporal narration reveals the content of the narrative. Additionally, the nodes and hotspots within each VR panorama work as e-networked pathways for the user to navigate further fragments of clips, and in this way engage with the work in a narrative way. His engagement places the user within the work, consequently changing their relationship from one of observer to one of participant with the piece.
I chose these devices as a means of revealing the story to the user in a fragmented way, as a mechanism to mirror the fragmented way the protagonist discovered the real events of her family’s experiences. Some of the real events and facts on which this prototype is based are disjointed and fragmented, and rely on the recollections and memories of a girl whose life has been traumatized and shattered. In a life of absence, memories are a vital tool for survival. Yet these same memories are also the site of enormous distress. The process of remembering and retelling can be extremely painful.

If a story is a documentary how should it be told? If the main protagonist of that story feels great emotional distress from the telling, should it be told? If the protagonist is also a close friend or family member, and feels great distress from the telling, how then, should it be told? These are some of the issues that can be discussed in another forum.

REFERENCES


