netvideo nonvideo
newvideo: designing a multilinear nonnarrative form for interactive documentary
An exegesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy

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Declaration

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the submission is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

Seth Keen
2014
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Navigation

This submission has three components: the exegetical text, the durable visual record and an oral presentation, which will occur as part of the examination.

1. EXEGETICAL TEXT

In the written document that follows I discuss the iterative design and production of several digital artefacts and the research associated with this practice inquiry.

It assumes that the included durable record, consisting of video screencasts as selected digital artefacts edited together in a QuickTime movie file are viewed as they are discussed in the exegesis.

2. DURABLE RECORD

The included USB flash drive contains a video file RECORD.mov of video screencasts of a user engaging with each work—it has chapter points to indicate the location of each screencast. Please refer to the instructions below for viewing, or the README.pdf file on the USB flash drive.
Please insert the USB drive into your computer and transfer the QuickTime movie file to your desktop. The documentation includes sound so audio is required. (You will need a recent version of QuickTime to view the movie—http://www.apple.com/au/quicktime/download/, which runs on both Microsoft and Apple operating systems.)

Each screencast is indicated clearly for the reader in the text, in the following manner using brackets (see video chapter 1 Blow it on RECORD.mov).

To view each screencast separately chapter points have been provided in the QuickTime file. In the playback bar of the movie click on the small square that looks like a window with four panes as shown in Figure 1.

![Chapter Button](image)

Figure 1: Screenshot, Player control in QuickTime movie file.

This will display the menu displayed in the screenshot in Figure 2. In this menu each of the screencasts is titled, and numbered from 2-10. Select a screencast from the menu to view it separately. (Please note the QuickTime movie will continue to play the next screencast if you do not return to the menu or click pause.)

To view another screencast, roll your mouse over the movie window to bring up the playback bar. Click on the small window in the playback bar once again to return to the chapter menu.
LIST OF VIDEO SCREENCASTS

1. (Video file title)
2. *Blow it* (25 seconds)
3. *GT Tango* (31 seconds)
4. *Humphrey* (30 seconds)
5. *Train Trip* (1 minute)
6. *Hazzards Videoblog* (1 minute, 15 seconds)
7. *Train Travel Vlogumentary* (40 seconds)
8. *Videodefunct Pedestrian* (2 minutes)
9. *Glasshouse Birdman* (6 minutes)
10. *Bogota Prototype* (4 minutes, 15 seconds)

Total duration of QuickTime movie (17 minutes, 17 seconds)

3. ORAL PRESENTATION

The oral presentation will include a presentation of the research and will be recorded to become part of the durable record.
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Abstract

This research explores interactive documentary and focuses on identifying how the affordances of video, computers and the network can be used to create a web of relations between shots within an interactive documentary that utilises the multilinear structure of the Internet. The aim of this investigation is to help practitioners who do not understand these affordances to learn what they are, and what is important when making an interactive documentary online. As an outcome of my inquiry I propose that documentary practice is transformed in this multilinear environment, resulting in a reconceptualisation of the term 'documentary maker'. A practitioner who produces on the Internet is more accurately named a 'documentary designer', and I support this new role by outlining the affordances of 'granularity', 'remix', 'indexing' and 'spatial montage', and how they can be used to produce an interactive documentary online.
Chapter one
Introduction
Writing

Video became my medium of choice to communicate ideas visually to people from an early point in my career. While studying graphic design, I became hooked on video after having the opportunity to play with visual effects in a post-production studio. I discovered, while training in a documentary unit on the solo production of television programs, that seeing and recording material on video was second nature to me. Working as a television documentary maker a video camera acted like a pen for what I would describe as writing visually.

In contrast to working with moving-images and sound, writing text on paper has always been a struggle. I remember spending countless hours drafting primetime documentary proposals for submission to television funding organisations, and long nights scripting short drama films. Writing the thesis for my previous Masters, and this doctoral exegesis, has been equally challenging. In parallel with what is being investigated in this PhD I prefer to present information in a way that is nonlinear and not governed by cause and effect. I see things visually and work intuitively in relation to the ambiguities that images offer both creators and viewers.

Despite the tussle I have with writing, the process of theorising my practice has been invaluable on several levels. In regards to my aim as an academic to make a contribution to practice-based research and pedagogy, this PhD study has provided me with the ability to use writing to develop theoretical perspectives on media practice. Using theory to change my approach towards the way I make work, in combination with understanding how to reflect on that process, with informal writing on a research blog, formal
writing in this exegesis, and writing academic presentations and publications, pushed my research and teaching into innovative areas. Evidence of the transformations that have occurred are demonstrated in the success of my research blog, the type of projects produced in this doctorate and as a researcher, and the way I work with students on the nexus between practice and theory. The process of writing in different contexts has enabled me to discover how media practitioners can articulate the often unspoken intricacies and complexities of creative practice.

**Video Web**

Often answers to difficult problems will come to me in the ‘hour of the wolf’, that hour before dawn. Whilst lying in bed one morning and mulling over my approach to this PhD research I remembered making my first half-hour television documentary *Just to Back a Winner* (1991), featuring Ken Kennedy (Figure 3) who liked a ‘flutter on the gee gees’ (horse racing). In this commissioned work I focused on documenting life in an inner-city betting shop. Working with a low-fi Hi8 video camera, I hung around and recorded the daily machinations of punters. I used video then in a similar manner to the way a photojournalist would use stills. I approached the documentation as a type of photo-essay. Recording different characters’ highs and lows, I spent hours capturing the nuances of that smoke-filled room. However, this approach towards recording did not enable me to edit the material into a linear cause and effect narrative that flowed from beginning to end, as was the expectation of the commission. So, I altered my approach to follow a key character, and made a chronological recording of his annual journey to a country racetrack.
This reflection on the obstacle I encountered in recording those punters draws attention to the problem explored in this PhD research. Plantinga’s concept of an ‘open structure’ (1997) offers an insight into the process of recording moments that caught my eye and editing them together in *Just to Back a Winner*. Plantinga proposes that:

In general, open structures are more episodic, meandering, and idiosyncratic than their formal counterparts, although no film can avoid formal structure all together. Formal structures are motivated by the requirements of conventions of composition. Open structure may be motivated in various ways, by the filmmaker’s associations while filming, by an anthropological experiment or a journey, or by pure chance. (1997 pp.145–6)
In the making of *Just to Back a Winner*, my approach mirrored Plantinga’s open structure: I documented what interested me in regards to particular aspects of the punters and the place they inhabited. In the editing phase, I discovered that these first recordings needed a type of structure different to that used in a cause and effect narrative. I found that an open structure could easily become incoherent for the audience. In this doctoral research, I used my experiences in the editing of *Just to Back a Winner* as a base from which to explore what is required to form relations between shots in an open structure.

An open structure, as Plantinga (1997) points out, still requires some type of coherent order. Plantinga states that a ‘pure open structure would render the projected world formless, as though observation had occurred without the direction of the filmmakers’ (1997, p.135). The observational documentaries of Frederick Wiseman are used by Plantinga (1997) as examples of works that successfully explore an open structure for cinema and television viewing. Plantinga cites the example of Wiseman’s *Law and Order* (1969) as a demonstration of some of the characteristics of an open structure. In *Law and Order* Wiseman documents and edits together the activities of an urban police unit, following his own perceptions of the activities that take place. Plantinga (1997) proposes that Wiseman’s portrayal contradicts a formal approach taken towards this topic, which would potentially provide context and details of activities that occur in a systematic and clearly defined order. Open structures typically do not rely on narrative causality or establishing a logical ordering of events. The beginning and ending of the work are not necessarily used to provide context for the viewer as they are in formal structures. Plantinga (1997) argues that each sequence of shots in *Law and Order* is equally important, in contrast to formal structures that
use techniques such as voice-over to make some parts more important than others. These characteristics of an open structure draw attention to filmmakers like Wiseman using editing to experiment with the form of documentary and how a topic is communicated to the audience within a linear structure.

In my study, I explored Plantinga’s concept of an ‘open structure’ within the networked architecture of the Internet. I was interested in using a multilinear structure to create a work that had no beginning, middle or end.

In *Reality Hunger: A Manifesto* (Shields 2011), which critiques fiction and its use of plot and narrative causality, the author provides an example of an open structure that can have no defined start and end point. Shield’s analysis of the concept of ‘bricolage’ points towards a type of assemblage that is made up of different things through a process of improvisation. In this type of work the creator is not concerned about the viewer being provided with a beginning, middle and end, instead the aim is simply to make the pieces come together visually as a whole:

> If you grow up not with toys bought in a shop but things that are found around the farm you do a sort of bricolage. Bits of string and wood. Making all sorts of things, like webs across the legs of a chair. And then you sit there, like the spider. The urge to connect bits that don’t seem to belong together has fascinated me all my life. (2011, p.110)

Shields refers to ‘bricolage’ in relation to the notion of ‘collage’ and observes in regards to a structure in the form of a spider web that ‘unless you watch the spider weaving you’ll never know where it started’ (2011 p.123). Shields (2011) argues in his analysis of collage that there are many ways to shape a work in a linear
structure, but it is still a sequence of events that has a beginning, middle and end. In a linear structure each event explicitly relates to the event before and after. In simpatico, as part of seeking a different way of making a documentary, I have found a linear structure to be restrictive in relation to my ability to include material that would usually be discarded and conveying the multiple aspects of a topic.

Research Question

Searching for a structure that facilitated the option to have no beginning, middle or end, I moved my documentary practice online. I discovered in the networked architecture of the Internet that the affordances of video, computers and the network required a different multilinear approach towards form and practice. This lead to my research question of: How can the affordances of video, computers and the network be used to facilitate a web of relations between shots, in a multilinear structure?

Context of Study

I contextualise my research question by examining how the terms ‘multilinear’, ‘web of relations’ and ‘affordances’ are used in this inquiry.

The term ‘multilinear’ refers to a structure that facilitates the potential to have no definitive start and end point, and is examined in relation to how it is used to describe the networked architecture of the Internet. The concept of ‘web of relations’ is analysed in association with documentary form and Plantinga’s
notion of an ‘open structure’ that does not rely on narrative causality. The use of the term ‘affordance’ in this investigation is taken from Norman (1998) within the field of design, and refers to the properties of things in relation to how they are used. In my research I focus on how the affordances of video, computers and the network are utilised to design and produce what I describe as ‘online interactive documentary’.

**Multilinear**

I use the term ‘multilinear’ rather than ‘nonlinear’ to describe both the structure of the Internet and the type of documentaries being made, because people in the field of hypertext use the term ‘multilinear’. I adopt the term ‘multilinear’ from Landow (1992) who advocates that the term is more appropriate than ‘nonlinear’ to describe a hypertext system and the type of texts created in that architecture. Landow suggests that:

Electronic links connect lexias “external” to a work—say commentary on it by another author or parallel contrasting texts—as well as within it and thereby create text that is experienced as nonlinear, or, more properly, as multilinear or multisequential. (1992, p.3)

In regards to exploring an alternative term for ‘nonlinear’, Aarseth (1997) also critiques the use of ‘nonlinear’ due to its relationship to the hegemony of the term ‘linear’ and the limitations of that alliance, and examines other options. Both Landow and Aarseth question the suitability of using the term ‘nonlinear’ to refer to hypertext systems and texts.

In my investigation I utilised the term ‘multilinear’ to represent the networked architecture of the Internet, moving beyond the constraints of a linear structure, and demarcating the different
forms of documentary in this investigation. Therefore, in this research a ‘linear documentary’ produced for television transforms into a ‘multilinear documentary’ on the Web. In my research a documentary that has a multilinear structure is made in a system that facilitates multiple relations between separate granules. The system and the audience can link these separate granules, in the form of shots and sequences, into different combinations. A multilinear documentary made up of such separate granules does not need to be fixed or static, and can be changed into different configurations. The term ‘granule’ is used in relation to the concept of ‘granularity’, which is discussed in detail later in the exegesis.

**Web of Relations**

The concept of a web of relations, in this discussion, is considered in relation to Bordwell and Thompson's (2010) notion of ‘nonnarrative’. I use Bordwell and Thompson’s definition of ‘nonnarrative’ to describe the form of documentary produced in this inquiry. These authors define ‘narrative’ and ‘nonnarrative’ in regards to the form of a documentary and how relations are organised between shots. It is important to point out that in connection with the broad and diverse field of narratology I focus on Bordwell and Thompson's (2010) distinction between ‘narrative’ and ‘nonnarrative’ as it provides a useful demarcation between two different approaches towards organising relations between shots in a documentary.

Bordwell and Thompson (2010) contextualise definitions of ‘narrative’ and ‘nonnarrative' by outlining the concept of ‘form’ in film. Form works in unison with content as part of a system that is integrated into an organisational whole (Bordwell & Thompson 2010). They state:
...a film is not simply a random bunch of elements. Like all artworks, a film has form. By film form in its broadest sense we mean the overall system of relations that we can perceive among the elements in the whole film. (2010, p.57)

Bordwell and Thompson describe most documentaries as ‘being organised as narratives, just as fiction films are’ (2010, p.353). However, the authors claim that some documentary forms can be described as ‘nonnarrative’ (2010).

In an evaluation of what constitutes a ‘narrative’ Bordwell and Thompson state:

Typically, a narrative begins with one situation; a series of changes occur according to a pattern of cause and effect; finally, a new situation arises that brings about the end of the narrative. (2010, p.79)

Bordwell and Thompson (2010) propose that cause and effect, along with time, are integral elements that help the audience connect events together into a narrative. They suggest that in most cases in fiction characters, through their actions, play a pivotal role in producing cause and effect in a narrative. Bordwell and Thompson explain that ‘characters create causes and register effects’ (2010, p.82). In regards to the notion of time in Bordwell and Thompson’s analysis, cause and effect occur within temporal constraints. Even when events are presented in an order that is not chronological the audience uses a temporal framework to place events into chronological order. Similarly, in Just to Back a Winner (1991), I followed a punter as a key character and edited his actions together in chronological order as part of demonstrating the cause and effect changes that occurred for that character.
Other motivations are utilised to connect events together into a whole in a nonnarrative (Bordwell & Thompson 2010). The authors identify different types of nonnarrative: ‘categorical’, ‘rhetorical’, ‘abstract’ and ‘associational’ (Bordwell & Thompson 2010, pp.353–81). In their analysis the ‘categorical form’ is determined by arranging material into a taxonomy that is formulated around a structured process of classification. The ‘rhetorical form’ is motivated by the aim to communicate an argument and is used to direct an audience towards a particular point of view. The ‘abstract’ and ‘associational’ forms are categorised as types of ‘experimental film’ (2010, p.368). In the ‘abstract form’ the documentary maker focuses on using visual attributes to convey a perspective on a topic. Bordwell and Thompson state that the ‘abstract form’ is created around ‘colours, shapes, sizes and movements in the images’ (2010, p.368). The final ‘associational form’, in contrast with the categorical form, connects material together by looking for illogical relationships. A key aspect of this associational form is the juxtapositions that are created through unrelated associations (Bordwell & Thompson 2010).

With regards to my earlier discussion about making the documentary Just to Back a Winner within a linear structure, using Bordwell and Thompson's definition of ‘narrative’ and ‘nonnarrative’, I started out with a nonnarrative approach that then changed to a narrative method to create the work. Therefore, following Bordwell and Thompson in my research I focus on differentiating examples of nonfiction into the categories of: ‘linear narrative’, ‘linear nonnarrative’, ‘mulitlinear narrative’ and ‘mulitlinear nonnarrative’. Although it is possible to use a multilinear structure to create a narrative, or a nonnarrative that has a start and end point, in this inquiry I am specifically interested in exploring a ‘multilinear nonnarrative’ form of
documentary that has no beginning, middle or end. In reference
to Bordwell and Thompson’s different types of nonnarrative, in
this study I explore abstract and categorical forms of multilinear
nonnarrative in the networked architecture of the Internet.

Affordances

In the *Design of Everyday Things* (Norman 1998), the term
‘affordance’ is defined as the ‘perceived and actual properties of
the thing, primarily those fundamental properties that determine
how the thing could possibly be used’ (1998, p.9). Norman
suggests that a person forms a ‘conceptual model’ of how things
are used, and this is comprised of ‘affordances, constraints
and mappings’ (1998, p.12). A pair of scissors is provided as
an example. The holes in the handles, which are designed to
take fingers, are an ‘affordance’. The diameter of the holes is a
‘constraint’ designed to indicate how many fingers can be put in
each hole. In regards to the concept of ‘mapping’, the relationships
developed between the constraints and affordances—in this case
the fingers and the holes—indicate how the scissors are to be
operated (Norman 1998).

With computers, Norman (1998) draws attention to the issue of
conceptual models being made visible on a device that is not as
tangible as (for example) a pair of scissors. Norman outlines that:

The abstract nature of the computer poses a particular
challenge for the designer. The computer works electronically,
invisibly, with no sign of the actions it is performing. And it is
instructed through an abstract language, one that specifies the
internal flow of control and movement of information, but one
not particularly suited for the needs of the user (1998, pp.177–8).
Norman (1998) uses this argument about the abstract characteristics of computers to make a point about the mission of interaction designers who work solely on making the computer usable for users, as opposed to programmers who focus on the operability of computer software. In regards to designing conceptual models for computer users, Norman (1998) suggests interaction designers concentrate on turning the abstract qualities of a computer into perceivable and comprehensible designs that can be used easily like other everyday things. I would suggest, using Norman’s concepts, that a significant part of creating conceptual models for computers, like in the design of a pair of scissors, involves making the relations between the ‘constraints’ and ‘affordances’ perceivable to computer users in the form of ‘mappings’.

Making a connection with working with computers in my research, and the nexus between design and media production, the concept of affordances is also contextualised in *Inventing the Digital Medium* (Murray 2012). The author states: ‘Looking at the computer as a single new medium we can see its defining representational affordances: The computer is encyclopedic, spatial, procedural and participatory’ (Murray 2012, p.51). The ‘procedural’ affordance of computers is described as having the ‘ability to represent and execute conditional behaviours’ (Murray 2012, p.51). These procedural properties of computers allow granules of information to be organised into different combinations that are not fixed. Murray’s second ‘participatory affordance’ enables a user to influence the process of how granules are converted into communicable information, along with altering and adding content. The ‘encyclopedic affordance’ utilises the potential to store large volumes of information in varying types of collections that can be communicated as knowledge. In regards to ‘spatial affordances’,

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space on a computer becomes virtual and navigable, which sets it apart from more traditional media in regards to how it is represented in an interface.

In a similar manner to Murray, and in response to the work of Norman, in this inquiry I aim to explore the characteristics of the mediums being used, and identify affordances that can be used to inform a documentary practice online. Rather than exploring the affordances of things as argued by Norman, I have defined the affordances of video, computers and the network in this research as ‘granularity’, ‘remix’, ‘indexing’ and ‘spatial montage’, which are discussed in detail in the Digital Artefacts section. ‘Granularity’ is an affordance of video in relation to working with fine granules that are able to remain independent on computers and in the network. The affordances of computers are ‘remix’, ‘indexing’ and ‘spatial montage’. ‘Remix’ refers to using the computational properties of computers to combine granules of video. The term ‘remix’ is used in this context to refer to the audience having the ability to mix the media in a system, rather than reappropriate it for other purposes, like for instance in DJing practice. ‘Indexing’ involves using the storage capacity of computers to classify video for access and retrieval, and ‘spatial montage’ refers to the design of the Graphic User Interface (GUI) and the ability to have multiple windows operating concurrently. Finally, the ‘network’, which in this study is seen as the infrastructure of computers that make up the World Wide Web as an application that runs on the Internet, facilitates all of these four affordances. The network as a multilinear structure enables multiple relations to be created between multiple granules of video in a fine granular form, and for them to be remixed into different combinations. Databases of video content uploaded to web servers provide the online functionality and infrastructure
required to make use of the storage capacity of computers. The adoption of multiple windows in Internet browsers allows spatial montage to be an acceptable part of interface design.

**Linear Acculturation**

My analysis of these affordances of video, computers and the network is motivated by a desire to explore a form of documentary that does not necessarily rely on the established conventions of traditional film and television documentary making. In this section, I examine several video practitioners who draw attention to the acculturated practice of linear video production of fiction and nonfiction works online.

In an analysis of the effects of digitisation on networked video practice, Miles (2008a) proposes that in shifting to the computer video production has become similar to other forms of desktop media production. Digital video, like other digitised formats, can be authored in a range of software both within non-professional and professional contexts. However, Miles claims that:

> …these desktop tools have largely concentrated on maintaining ‘film and ‘video’ as hegemonic aesthetic material objects… as a linear, time-based object that consists principally of a sound and image track.’ (2008a, p.10).

Working from this argument, the objective in my research is to explore possibilities outside of this acculturated approach towards desktop video production. This involves using off-the-shelf and customised tools to produce an online interactive documentary.

Another way in which traditional conventions have guided video online is related to the Internet being used like a TV set. Percy, in an analysis of interactive works online, states: ‘Internet Native
Filmmakers: Use The F*cking Medium!’ (2011). Percy’s aim here is to advocate for forms of fiction and nonfiction with which the audience can interact as the work is being experienced. Moskowitz (2011) also contends that most online video is not ‘real web video’. This type of online video is described as being a version of TV, like an independent black box within a web page. An example of this separation is that when searching for a YouTube video the link connects to the web page holding the video rather than to the video itself. Handled in this way video is not ‘native to the web’ because it is not fully integrated into the infrastructure of the Web.

Similarly, in an examination of documentary practice online, Schneider (2011) proposes that documentary is in a state of flux due to the influence of ‘network conditions’. In Schneider’s argument, the objective is to reinvent documentary by responding to the ‘aesthetic potential of contemporary networked production’ (2011). Production in and through the network is conceived of as computers, the Internet and the Web being used to capture, store, index and stream video content that is accessed and retrieved through a web browser (Schneider 2011). Responding to the unstable condition of documentary on the web, in my research I use different strategies to identify how the affordances of video, computers and the network can be utilised to establish a more stable approach towards documentary practice online.

In my project, as part of exploring how the affordances of the network can be utilised, the objective is to work against the paradigm of online video being a version of TV. Instead, I explore a form of online interactive documentary that makes use of a multilinear structure.
Aim and Scope

A process of iteratively designing sketches and prototypes framed my research into how the affordances of video, computers and the network can be used to create a web of relations between shots in a multilinear structure. This research problem defined my aim to help practitioners who do not understand these affordances to begin to learn what they are, and what is important, when articulating and disseminating a multilinear nonnarrative with no beginning, middle or end.

In regards to the scope of this investigation, I focus on analysing how my own practice is transformed within the networked architecture of the Internet rather than examining technological developments. Since my research started in 2006, online video has grown and changed enormously. Videoblogging as a practice started in 2000, video-sharing websites like Vimeo (2004) and YouTube (2005) have flourished, and new digital platforms have evolved for presenting video, including smartphones and tablets. Cameras have become smaller and codecs have improved. HTML5 Video is currently changing how video can be integrated into the web. Tools like 3wdoc (2009), Popcornmaker (2010), Klynt (2012), and Zeega (2013) support the authoring and publishing of online interactive documentary. With these ongoing technological developments, I chose to identify the affordances of granularity, remix, indexing and spatial montage as part of determining how practitioners work with these tools. I propose that understanding these affordances will help people comprehend how to use these new tools in a better way. An objective of this research is for the affordances I have identified to be used conceptually to inform practice, and as the basis for further investigations into the production of interactive documentaries online.
Significance of Study

This research is significant to documentary practitioners as a community because it outlines the concept of the ‘documentary designer’ and the importance of paying attention to the affordances of granularity, remix, indexing and spatial montage. The role of the documentary designer and these key affordances are evidenced in the ‘Bogota Project’, (referred to later in this section, and discussed in detail in Chapter Four). In addition to this my research explores the ongoing requirement to respond to the development of new technologies and the redefinition of documentary practice due to the effect of those changes. It is proposed that if documentary practitioners can work towards a better understanding of the affordances of video, computers and the network, they will be able to change their practice and improve the quality of documentaries published on the Internet.

This study has contributed to the articulation and dissemination of documentary on the Internet. The affordances identified in this inquiry were tested in a project with an industry partner. In collaboration with World Vision Australia (WVA) the ‘Bogota Colombia Virtual Tour’ (WVA 2009a) website (Figure 4), was published online from 2009–2012; it was a type of online interactive documentary. This type of collaboration and innovative approach towards producing a documentary with organisations outside traditional legacy media like film and television has been identified as a necessary part of the future development of documentary on new digital platforms (Coutard 2011). Research into documentary on new digital platforms, including the Internet, suggest that it is an ‘ecosystem in transformation’ that requires new approaches towards conceptual and production processes (Coutard 2011, p.2). My research, and this project with WVA,
provide an alternative perspective on how documentaries can be conceived and made on the Internet.

In relation to the contribution this study is making outside my own practice, my own work is a significant addition to research on changes in documentary practice in response to the development of new digital platforms. Within this research I specifically focus on interactive documentaries published on the Internet. Most examples of this type of research into interactive documentary developed during my period of candidature are
still becoming established internationally. The International Documentary Film Festival Amsterdam ‘IDFA doclab’ (2007) focus on collecting examples of ‘interactive webdocs and other new forms of digital storytelling that expand the documentary genre beyond linear filmmaking’ (IDFA 2007). The i-Docs symposium based in the United Kingdom examines the ‘ethical, aesthetic, political and financial consequences’ (Aston & Gaudenzi 2011) of the development of interactive documentary. The ‘MIT Open Documentary Lab’ (MIT 2012a) advocates historical connections with the innovative potential of documentary and focuses on exploring the transition to interactive forms. Through projects like Moments of Innovation’ (MIT 2012b) the MIT Open Documentary Lab aims to examine documentary’s relationship with technology and how it is represented both conceptually and visually. The International Visible Evidence Conference on documentary film and media, now in its 19th year, includes the category ‘New Fusions…new platforms and interactivity’ (Clarke & Summerhayes 2012). The ‘New Fusions’ category is evidence of many documentary conferences including discussions on the changes that new digital platforms and interactivity are causing in documentary practice.

Background

This background section situates the documentaries that have been produced in this research within a broader body of work. This evaluation is conducted from the position of a documentary practitioner who is theorising practice, rather than from the perspective of a film theorist. I start by examining the term ‘user’ in connection with the changing role that occurs for the audience,
before scrutinising the practice of online interactive documentary, which I contextualise through an analysis of interactive documentary practices. (It is important to note that many of the interactive documentary taxonomies (Nash 2012; Gaudenzi 2013) I refer to emerged after the practice component of this investigation was completed in 2009.)

Users

The programs I produced for television were for an audience who are collectively referred to as ‘viewers’. Interactivity in television is limited to being able to surf channels; Digital Video Recorders and video-on-demand only offer options to rewind, forward and pause. However, these actions are tied solely to the process of viewing and do not alter the linear structure of what is being viewed. In an examination of the difference between television and the web, Nielsen (2008) uses the terms ‘lean-back’ and ‘lean-forward’ to differentiate the two mediums. Television, described as a ‘passive medium’ is ‘lean-back’, whereas the Web, an ‘active medium’ is ‘lean-forward’. A web user, unlike a television viewer, expects to have some type of physical engagement in the formation of a work as part of addressing their personal interests and desire to explore something specific (Nielsen, 2008). Nielsen’s differentiation represents a significant change in the role of the audience; the audience for the documentaries I produced for television were ‘lean-back’ participants, while online interactive documentary audiences are ‘lean-forward’ participants who can be involved in the construction of the work.

Despite the appropriateness of the term ‘user’ in many contexts, there are some problems with my use of ‘user’ to describe a person engaging with interactive digital media. Several theorists
have solved this problem by inventing their own terms. In an overview of interaction design, Murray opts for the term ‘interactor’ and claims that ‘user’ is a ‘narrow and somewhat outdated term...reflecting a model of the computer as tool that we put to use’ (2012, p.11). Murray identifies the difference between people interacting with a device and a purpose-built system. For example, using Murray’s argument, in the documentaries made in this study a user is expected to do more than simply turn a computer on and search and download clips for playback, as is the case with catch-up TV¹. Instead they navigate their way through a database of content and assemble a work that has been designed to operate inside a specific system. Therefore, it is useful to recognise that the term ‘user’ describes a type of ‘lean-forward’ audience which constructs and simultaneously views the work that is created.

Other theorists of interactive documentaries also debate the term ‘user’ in this context. O’Flynn draws attention to the change in the role of the audience when User Experience Design (UxD) is integrated into the production of a documentary:

> In the interest of recognizing how radical the quality of a shift to experiential design for the audience is in an interactive medium, I will use two distinct terms, ‘user’ and ‘interactant’ in order to acknowledge the utilitarian and consumer orientation of the term, ‘user’, and highlight in contrast the agency and participation of the ‘interactant’ in playing with

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¹ Catch-up TV is a service provided by television broadcasters, which provides audiences with the option to view television programs at a time that suits them. For example, catch-up TV enables viewers to watch a program after it has been broadcast.
dynamic interfaces that then shape and frame the experience of a given work. (2012, p.145)

Similarly, Gaudenzi (2013) uses the term ‘doer’, based on the requirement for a user to engage with an interactive documentary. However, in my research I have chosen to use the term ‘user’ because it is a convenient and well known generic term (Murray 2012), and many people in the interactive documentary community are not familiar with the fields of user experience and interaction design. Nevertheless, these debates point towards a requirement over time to establish new terms that can be used in theoretical discourse on interactive documentaries.

**Interactivity and Genre**

Interactivity is a distinguishing feature in digital media. Online publication of a movie in a linear form, as it was produced for cinema, does not alter the way the work is represented to the audience (Ryan 2004). In contrast, Ryan states ‘[w]hen interactivity is added to…the movie, its ability to tell stories, and the stories it can tell, are deeply affected’ (2004, p.338). An objective in my research is to explore how an interactive multilinear nonnarrative can be used to convey a topic in an alternative way. Therefore, I explore how the Internet can be used differently from a TV set by presenting documentary in an interactive form.

The works produced in this research are situated within interactive digital media, which Ryan (2004) categorises into different genres as part of a means of identifying different uses of interactivity and the role of the user in the creation of a work. These categories are ‘hypertext, text-based virtual environments, interactive drama, computer games, and live
Internet transmission through webcams’ (Ryan 2004, p.340). The hypertext genre ‘[are] networks of textual granules called “lexia” or “textrons” connected by links’ (Ryan 2004, p.340). According to Ryan (2004) text-based virtual environments, use the network to create large-scale places for people to gather socially to construct fabricated communities and spaces. Interactive drama, in contrast to text-based virtual environments, focuses on creating virtual reality spaces that people can experience. The predominant aim in these three-dimensional spaces is for people to engage in a sensory experience from a first-person perspective. Computer games in a similar fashion to the two genres just mentioned transform a participant into a character, or ‘player’. The final genre, webcams, use continuous recording and the distribution functionality of the Internet to provide uninterrupted surveillance of people and events, offline in reality TV shows, and online on websites.

The documentaries I made in this study are situated within the ‘hypertext’ genre of digital media, as they primarily involve the process of connecting granules of video together into a web of relations. Ryan states that ‘hypertext has been conceived as a matrix that expands into a multitude of texts, as readers unravel new signs from its finite database of discrete lexia’ (Ryan 2004, p.340). Most of the sketches and prototypes in my inquiry are comprised of shots that are linked together into a web of relations, which creates multiple pathways through the work, thereby creating a hypertextual structure. Ryan (2004) points out that if the connections between separate granules are seen as being used for the purpose of conveying multilinear narratives and nonnarratives, then hypertext is a type of ‘machine’ that is used to create those works. In this research I explore the design of tools
that make use of this machine-type quality of hypertext to form multiple relations between shots, and enable users to construct varying combinations out of those shots.

Having situated the works made in this research within a genre, now it is useful to examine the concept of interactivity in relation to the documentaries produced in my inquiry. Ryan’s classification of genre is useful, but it does not tell us how people interact with a work, which is clearly important in relation to understanding interactive documentary. In another taxonomy, Ryan establishes the categories ‘internal/exploratory, internal/ontological, external/exploratory, external/ontological’ (2004, p. 339) to delineate different types of interactivity, particularly with regards to fictional forms of interactive works; however, in this context I use it for nonfiction purposes. In the first part of Ryan’s interactivity taxonomy a user interacts with a work either from an internal or external position. For instance, a user participating in a virtual environment as a type of avatar is positioned internally, within the work itself. In contrast, a user in an external position is situated outside the virtual environment. The other part of this taxonomy consists of two forms of participation defined as ‘exploratory’ and ‘ontological’. Ryan proposes that in the exploratory mode: ‘users navigate the display…examine new objects… [but] have no impact on the destiny of the virtual world’ (2002, p.596). This means they are unable to add to the work and contribute to what is being conveyed. In comparison, in the ontological mode the user has the ability to influence the direction that the work will take, such as in someone having options to alter the ending of a fictional interactive work as a form of ontological participation (Ryan 2002).
Using Ryan’s interactivity taxonomy, I would suggest that the documentaries in this investigation are in the ‘external/exploratory interactivity’ category. Ryan explains that this type of interactivity is typically demonstrated in many examples of hypertext novels, and proposes that: ‘[r]eaders regard the text less as a world in which to immerse themselves than as a database to be searched or as a construction kit for assembling a world’ (2002, p.597). In the online interactive documentaries made in this investigation users engage with a closed system, and navigate and access multiple clips stored in a database. The users, acting as a curator, select and assemble clips into different combinations. They explore the material that is provided within the structure of relations created by the producer.

**Interactive Documentary**

In a broad historical examination of the definition of ‘digital interactive documentary’, Gaudenzi (2013) draws attention to the evolving nature of this form of documentary within a field that is also continually changing. Gaudenzi states:

> If documentary is a fuzzy concept, digital interactive documentary is a concept yet to be clearly defined. What is implicit in its terminology is that an interactive documentary needs to use a digital support, and be interactive. A linear documentary that has been shot with digital technology, and that is distributed on the Web, is a digital documentary but not an interactive one. (2013, p.26)

According to Gaudenzi (2013) the lack of clarity around what defines an interactive documentary is due to many of the early works being made by new media artists who created theoretical perspectives that often did not make connections
with the documentary field. In addition to this some theorists initially saw interactive documentary as an extension of linear documentary, therefore developing an expectation that they would be similar in terms of how they were analysed. Looking for a different viewpoint on interactive documentaries Gaudenzi claims that they ‘…do speak about, and with a language of, our new digital networked world’ (2013, p.27). This is certainly a view that I follow in my research, which focuses on online interactive documentaries. Despite interactive documentary being undefined, what is made clear in Gaudenzi’s evaluation is that the audience must be able to tangibly make something happen to an interactive documentary. In my research, the aim from the beginning was to move beyond the publication of a linear documentary online to a form of interactive digital media, which involved the audience in ‘lean forward’ participation.

In connection with the hypertext genre, Gaudenzi (2013), like Ryan (2004), draws attention to the ‘hypertext mode’. Gaudenzi (2013, pp.38–49) uses a ‘modes of interaction’ framework to demonstrate how technology and interactivity are utilised by the producer in different forms of interactive documentary. Gaudenzi (2013), traces the first interactive documentaries to the late 1970s, and locates them in the ‘conversational mode’. For example, Gaudenzi cites the Aspen Movie Map (MIT Lab, 1980), which worked with videodiscs. The conversational mode is differentiated from the hypertext mode by the aim to create a fluid, responsive type of interaction between the user and the apparatus being used. This form of interaction is referred to as a type of ‘conversation’ in terms of the spontaneity and feedback that is achieved between the user and the apparatus. In contrast, according to Gaudenzi (2013), the ‘hypertext mode’, which emerged on personal computers in the Apple Multimedia Lab in
the late 1980s, interaction was modelled around the algorithmic potential of computers. Even though the computational potential of computers is used in both these modes, in the hypertext mode the affordances of a computer are used to establish beforehand a number of set connections between granules using links. Gaudenzi's example of *Moss Landings* (1989) is represented as a precursor of the hypertext mode, in which a database is used to store a set number of videos, and links are used to move from one to another. A direct correlation can be made here with the type of interactive documentaries produced in this inquiry.

As part of contextualising interactive documentary it is useful to summarise Gaudenzi’s other two modes of interactive documentary. Firstly, I summarise the ‘participatory mode’ that extends the concept of the hypertext mode, by making a database extendable (Gaudenzi 2013). A connection can be made with Ryan’s (2004) ‘ontological’ type of interactive participation as was mentioned in the discussion on interactivity. Gaudenzi (2013) refers to research in the mid 1990s, again at the MIT lab, as an example of this participatory mode. Gaudenzi cites Davenport and Murtaugh’s (1995) design and development of the ConText browser as an early example of research into a tool that could be used to author and publish the participatory mode of interactive documentary. According to Gaudenzi, Davenport and Murtaugh aimed to design an open system that enabled users to both explore the content in the database and add to it. In this mode of interactive documentary:

The author decides on the tools and rules and lays down the first layer of bricks, but there is room for collaboration and expansion. The function of the user is both explorative and configurative. She first browses and then can choose to add
content. The author becomes a database designer. (Gaudenzi 2013, p.56)

Gaudenzi (2013) outlines the potential for this participatory mode to be expanded in relation to later developments occurring around social media in the Web 2.0 phase of the Internet.

The ‘experiential mode’ is the fourth and final type of interaction that is examined by Gaudenzi (2013) in the development of interactive documentaries. This mode refers to developments occurring in ‘locative media’ through the use of mobile technologies. In this mode the user experience is affected by the physicality of the location, which due to the organic nature of these environments is seen as having a fluid, changeable orientation compared to the fixed, algorithmic hypertext mode that is worked out within defined and set conditions.

**Online Interactive Documentary and Design**

In regard to the development of documentary across new digital platforms, Nash (2012), comments, like Gaudenzi (2013), on the evolving and experimental development of documentary form, and recognises the formation of interactive documentaries on the Internet. Nash states that:

As new media technologies and new forms of communication emerge, contemporary documentary makers are engaging in a process of actively re-thinking the documentary project. They are imagining what documentary might become: non-linear, multi-media, interactive, hybrid, cross-platform, convergent, virtual, or something else as yet un-thought. Within this experimental space the webdoc has become an established mode of documentary production. (2012, p.197)
I join other documentary makers in this exploratory phase of what I refer to as the development of the ‘online interactive documentary’. In this inquiry, I use the term ‘online interactive documentary’ to refer broadly to interactive documentaries published on the Internet.

According to Nash (2012) interactivity as a concept within the context of online interactive documentary can imply a variety of audience interactions. This interaction is divided into ‘navigation through content, immersion in a virtual world or participation in a community’ (Nash 2012, p.198). In this investigation I focus on Nash’s definition of interactivity by exploring how the audience find their way through a database of video information. Nash (2012) claims that this type of online interactive documentary allows a person to have command over the information being presented and is designed to motivate them to be actively involved in how that information is arranged for presentation.

In addition to examining the notion of interactivity, Nash who describes online interactive documentaries as ‘webdocs’, outlines general types of online interactive documentaries, including ‘narrative, collaborative and categorical’ (2012, p.197). In summary, the ‘narrative webdoc’, ‘privileges a mode of engagement that is similar to linear documentary’ (Nash 2012, pp.202–3). A ‘collaborative webdoc’ is an open form of documentary that solicits contributions from users. The ‘categorical webdoc’:

…may consist of a list of elements, but more often the list is united in some way such as by theme, subject or location… the temporal ordering of elements is less important than the comparisons and associations the user is invited to make between the documentary’s elements. (Nash 2012, p.205)
I would suggest that the online interactive documentaries in this research are best situated in the categorical mode due to my focus on using a classification process in the final prototypes made in this inquiry.

O’Flynn (2012), similar to Nash (2012) and Gaudenzi (2013), evaluates the emergence of different forms of interactive documentary across multiple digital platforms and connects this development with a transformation towards incorporating design into documentary practice. O’Flynn proposes that:

…notions of interactivity have changed over the past decade…
[due to], a shift away from a binaristic ‘choose your own adventure’ orientation towards plot as an either/or structure and narrative causality to an exploration of experiential interface design. Here, i-docs of the last five years have demonstrated an increasing attention to interface and user experience design as dynamic structural elements expressive of a thematic core to the given narrative. (2012, p.156)

In this research, which explores a multilinear nonnarrative form of online interactive documentary, user experience and interface design have played an integral role in the process of exploring a web of relations between shots. In my investigation, similar to O’Flynn, I focus on design as a key component of online interactive documentary practice.
Research Methodology

Poetic Research

A change that has occurred in my practice as a result of conducting this research was learning to start from what is made. In the early stages of this doctorate I was encouraged to roll up my sleeves, get my hands dirty and start making interactive documentaries. I used a ‘poetic research’ model and the notion of the ‘hunch’ to invigorate this process (Rosenberg 2006). A pivotal part of the success of following a hunch in poetic research is the requirement to begin from existing theoretical and practical knowledge when venturing into unknown territories.

Rosenberg (2006) uses Bakhtin's concepts of the ‘centripetal’ and ‘centrifugal’ as a way of understanding the relationships formed between the practitioner and the practice. The centripetal moves inwards and refers to an established body of knowledge, while the centrifugal moves outward to something that is yet to be realised: the centrifugal is intuitive, risky, a step away from conventions and norms (Rosenberg 2006). Applying the idea of following a hunch opened my documentary practice to being iterative and evolving. I used my existing knowledge to work out what I did not understand to initiate the next inquiry. This involved letting go of an approach led by planning ahead. Instead, I responded intuitively to what was being produced by posing open-ended questions that required exploration. I became interested in what might happen to my practice, if there was space that allowed intuition to be followed, with the idea of not knowing what could eventuate.
I have followed Rosenberg’s concept to develop an ‘abnormal paradigm’ using ‘hyperbole, metaphor, ellipsis, pun…[and] neologisms’ (2006, pp.8–9) as a way to induce what he calls ‘poetic tropes’ that let us generate the unexpected. I was inspired to create poetic tropes that could be used to push my own practice into ‘open water’ as is demonstrated in the sketch in Figure 5, which maps issues and focal points in this inquiry. This, in combination with Rosenberg’s (2006) notion of establishing three thematic ‘triggers’ produced the words, ‘netvideo, nonvideo, newvideo’ that form the basis of this practice inquiry. These themes set up the potential for different phases of design and production to emerge and consequently allowed this practice to veer away from an established linear path. I would suggest that Rosenberg’s poetic research model deviates from a cause and effect mode of discovery and connects with my investigation into nonnarrative that, to use Plantinga’s (1997) terms, is ‘open’ and ‘meandering’.

Taking a centrifugal perspective influenced the approach taken towards theorising this research. Rosenberg (2006) proposes that the starting point for the centrifugal is complexity, pulling together varying threads. When the practice is grounded, pulled back inwards, connections are made across a variety of references from different theories and this produces an outcome that may not necessarily have an obligation to any specific theory. My research brings together and draws on several areas of academic inquiry, including documentary theory, online video, interactive cinema, narratology, database cinema, archival research, social media research, computer science, interaction design, design research and practice-based research. I have used a method that has led to no particular focus on any one theorist or theoretical concept: rather, I have endeavored to synthesise numerous sources through
a method that critically reflects on the experience of making the works. This has included raising propositions and new knowledge from what was learnt for both scholarly and industry debate through publications and presentations (refer to the reference list and bibliography).

Figure 5: Scanned image, Reservoir sketch (Seth Keen 2006)
The Digital Artefacts

In this research the digital artefacts that were produced include customising a Content Management System (CMS) to produce sketches and prototypes that used video. The digital artefacts in this research were created through separate projects, some conducted individually and others in collaboration.

I adapted the concept of a ‘cultural probe’ (Gaver, Dunne & Pacenti 1999) into a prompt that could be used as a catalyst for each practice inquiry. In design research, a probe is often a carefully designed artefact. For example, in Gaver, Dunne and Pacenti’s project, the probe consists of an envelope that contains an ‘assortment of maps, postcards, cameras, and booklets’ (1999, p.22). These artefacts are designed to direct and initiate a conversation around unanticipated design ideas with the participants involved in their project (Gaver, Dunne & Pacenti 1999). In contrast to using a probe as a means to work with collaborators situated outside the project design team, I used the concept to induce ideas self-reflexively. I did this by formulating questions from the research prompts to provoke unexpected outcomes. This was a useful method for achieving Rosenberg’s centrifugal concept of moving beyond my own established body of knowledge.

Often these prompts were open-ended and experimental. Schön’s concept of the ‘exploratory experiment’ provides an insight into how such probes are used:

> When an action is undertaken only to see what follows, without accompanying predications or expectations, I call it exploratory...Exploratory experiment is the probing, playful activity by which we get a feel for things. (1987, p.70)
These prompts were created progressively as part of the iterative design and production process that was used to make each digital artefact. Following this iterative process, the digital artefacts are analysed chronologically in the Digital Artefacts section.

**Online Video**

Another aspect of the methodology that was conceived early in my candidature was initiating discourse around online video practices. One of the projects in this study involved collaborating on conceptualising an international conference series to critique online video. With limited theory on online video existing when this research began in 2006, I collaborated on developing critique in this area. I did not predict that YouTube was going to have such an impact on online video: with online video becoming ‘…the new stress point—the new fiber’ (Carr 2006), the advent of YouTube and other changes needed to be considered in order to reflect critically on my own research. In collaboration with Geert Lovink and Sabine Niederer at the Institute of Network Cultures (INC), Amsterdam, and Vera Tollman in Berlin, we researched and conceived ‘Video Vortex’ (INC 2006a) as a platform for the critique of online video as shown in the web page documented in Figure 6, which culminated in several conferences and published readers. I came up with the Video Vortex title in response to YouTube being a type of void—a black hole of endless online video content. Video Vortex has become an ongoing conference series that facilitates a diverse range of perspectives from artists, hackers, practitioners and theorists on the development of YouTube and online video more broadly.

Several themes of inquiry were developed initially as part of establishing the concept for the ‘Video Vortex’ conference series that included ‘Theory’, ‘YouTube Studies’, ‘Art’, ‘Technology’
and ‘Society and Politics’ (INC 2006a). I contributed an article based on this doctorate research to the first conference reader in a technology section, detailing an authoring and publishing tool produced in the software customisation phase of this investigation. Video Vortex has progressed into a broader examination of how online video is affecting television, film, visual arts and digital activism. This doctoral study makes contributions specifically to discourse on the redefinition of documentary on the Internet, and more broadly to the field of online video, due to my integration of design practices and ‘online video aesthetics’.
Databases and Archives

Another key part of Video Vortex is the examination of ‘the rise of the database as the dominant form of storing and accessing cultural artefacts…’ (INC 2006b). Both the database and the archive are becoming points of examination for documentary makers engaging with new media technologies. This is demonstrated, for example, in the ‘Video Vortex’ conference series and the ‘Database Narrative Archive’ (DNA 2011)\(^2\) symposium held at Concordia University in Montréal. This broader research into the relationships between database and archives, and the creation of multilinear narratives and nonnarratives, connects with working with database systems and forms of classification in my research.

Research Blog

In parallel with my ongoing involvement in the Video Vortex conference series and making the digital artefacts, I documented and reflected on the process in a research blog as seen in the screenshot in Figure 7. This reflection is informed by Schön’s (1983) concept of ‘reflection-in-and-on-action’. Blog entries documented what took place and would often query what happened. This blog was used to document feedback on presentations of the research and has been used extensively to inform not only the ongoing iterative process of design but the critique of the digital artefacts in the exegesis. Published publicly, the research blog has enabled me to develop ongoing research networks, along with dialogue with other researchers and practitioners. (Please note—quotes from this research blog have been italicised to separate them from other references.)

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2 An event staged as part of the research and development of the Korsakow System (Thalhofer 2000) for making ‘database films’ by the ‘Concordia Interactive Narrative Experimentation and Research Group’ (CINER-G).
Video Interviews

I have used my experience as an interviewer both in documentaries and other research at several points in the course of this investigation. Video interviews were conducted in the netvideo phase with two networked video practitioners at an early stage in the practice inquiry. These interviews exposed the tacit knowledge involved in this type of video practice and shed light on issues that were used to inform the prompt for this phase of the inquiry. Other video interviews in the nonvideo phase focused on me, the programmer David Wolf, and interaction designer Keith.
Deverell, with whom I collaborated on software customisation, as in Figure 8. These video interviews were published in the *Banter* (Videodefunct 2007a) prototype in the system being developed to make content prototypes. In the newvideo phase video interviews were conducted with the digital media team who collaborated on the project with World Vision Australia (WVA). These interviews provided insights into the motivations behind the project completed with WVA and the issues encountered in production.
Practice Critique

It was important to experience a diversity of critical feedback on my practice in the course of the research. This critique allowed me to maintain a perspective within an industry context and inform the direction of the design and production of individual works. My involvement in the Video Vortex project provided access to collective knowledge on online video and ongoing debate, discussion and critique. Regularly presenting my work, both locally and internationally, as demonstrated in a photo of a workshop at the Netherlands Institute of Media Arts in Figure 9, added to these perspectives. Finally, my aim to test this research in an industry context led to the WVA project, where I gained a perspective on this investigation in a real-world situation.

Figure 9: Photo, Videofunct and Showinabox workshop (Laurene Vaughan 2008)
Polyvocal Writing

The method used to write about the digital artefacts in this research has been informed by the aim to make my writing practice like my documentary practice, mainly in relation to how I use video interviewing as a technique. The idea to approach writing in this way came from a forum on practice-based research writing, held at RMIT in 2010. In this forum Professor Peter Downton in the RMIT School of Architecture and Design described a practice-based research exegesis as being a type of project that should reflect the qualities of the creative practice of a candidate. Seeing my exegesis in this doctorate research as a form of documentary, I decided to interview myself like I would a character in one of my own documentaries, scrutinising in detail what I had been doing and making.

A key objective in the theorising phase of this research was to facilitate a ‘polyvocal’ (Hamilton & Jaaniste 2009) form of writing as explored in a mapping exercise (see Figure 10) and visualised structure in Figure 11. Svenungsson in ‘The Writing Artist’ (2009), analyses the varying approaches artists take towards writing up artistic research. The complexity and ambiguity of artworks are used as reference points for an approach that could be taken towards scholarly writing:

My point is that all these writers...employ tricks and play games in order to achieve the rich, multi-layered and ambiguous goals they have set for their texts. In a painting or an installation many contradictions will exist side by side. Whether you see them or not is dependent on your point of view. The visual field is not governed by dominant languages in the same way, as is text (a text will have to be written in a specific language, whereas the visual producer can freely employ several concurrent language structures simultaneously). (Svenungsson 2009, p.4)
Figure 10: Photo, Exegesis post-it-notes (Seth Keen 2010)
What is being proposed in Svenungsson’s argument is a style of writing different from what is commonly accepted by academia, a form of writing that is aligned with how artists would conduct their creative practice, a ‘multi-faceted and ambiguous writing’ (2009, p.4).

In the writing up of this exegesis I explored a synthesis of what are described as ‘context’ and ‘commentary’ models of writing in practice-based research (Hamilton & Jaaniste 2009). The primary role of the context model is to contextualise the practice, while the commentary model is ‘reflexive, personal and subjective’ (Hamilton & Jaaniste 2009, p.6). Both of these models have flaws,
so Hamilton & Jaaniste propose a polyvocal combination, a mixed form of styles and genres.

**Ethics Committee Approval**

An application for ethics approval of research involving human participants was submitted to the RMIT University Human Research Ethics Committee in 2006 and approved in April 2007, (Register Number HRESC A-011). During this research I collaborated with interaction designers, programmers and clients. My documentaries recorded portions of the lives of many people. I conducted research video interviews with practitioners and digital producers. Plain Language Statements were given to each participant. Participants read and signed these statements before each production or interview commenced. I retained the original and a copy was given to each participant. The required ethics clearance for the recording of children and adults in Colombia was handled by World Vision Australia.

**Overview of the Study**

This exegesis consists of the Introduction (Chapter One), critical reflection on the digital artefacts in Chapters Two, Three and Four and Conclusion (Chapter Five). Chapters Two, Three and Four are structured around the three phases of practice inquiry, ‘netvideo’, ‘nonvideo’ and ‘newvideo’. The analysis of the digital artefacts chronologically follows their process of design and production.

In the Digital Artefacts section (Chapters Two to Four), the reader is invited to view the digital artefacts as represented in video screencasts where indicated in the text. Viewing instructions
are included in the ‘Navigation’ section at the beginning of this exegesis and in a read me text file (README.pdf) on the USB flash drive.

I created an analytical framework to critique the digital artefacts which was adapted predominantly from two models of reflection: Schön’s (1983) concept of reflective practice and Borton’s (1970) development model. This analytical framework involved examining each digital artefact in relation to context, then through a type of ‘close reading’ critiquing each digital artefact in relation to how my practice was being transformed, culminating in a discussion that stepped back to explore what has been discovered more broadly. These discussion sections are used to inform the conclusion.

**Netvideo**

In the ‘netvideo’ phase (Chapter Two), I evaluate three digital artefacts that I refer to as video sketches. *Blow it* (Keen 2006a), *Train Trip* (Keen 2006d) and *Net-vlog*. These digital artefacts were designed and produced in an interactive video authoring application.

**Nonvideo**

In the nonvideo phase (Chapter Three), I discuss the software customisation of a system to make an online interactive documentary, along with three prototypes produced in iterations of that system. This chapter focuses on the software customisation carried out in collaboration with interaction designers and programmers, and provides context and critique on the adapted blogging software used. The prototypes made in the system include *Hazzards Videoblog* (Videodefunct 2007b), *Train*
Travel Vlogumentary (Videodefunct 2007c), and Videodefunct Pedestrian (2007).

Newvideo

In the newvideo phase (Chapter Four) I reflect on the design and production of two prototypes as examples of potential large-scale online interactive documentaries. They are the ‘proof-of-concept’ prototype Glasshouse Birdman (Videodefunct 2008) that was made to initiate an applied research project, along with the Bogota Prototype (WVA 2009b) produced in an industry partnership between World Vision Australia and RMIT University.

Conclusion

(Chapter Five) as the Conclusion consists of three sections. The first contains a summary of the affordances of granularity, remix, indexing and spatial montage, identified in this investigation. The second is an evaluation of the proposed role of a documentary designer and implications for documentary practice. In the final section I conclude with several innovative propositions for online interactive documentary that include: examining the concept of ‘associative patterning’ in a multilinear nonnarrative, the interactive documentary as a type of ‘machine’ for forming relations between shots, and the requirement to understand the affordances of the mediums being used in relation to the articulation of content, the interaction of the user, and the digital platform that is used for publication.
Chapter two
Netvideo
In this chapter I analyse three digital artefacts produced in the ‘netvideo’ phase of the inquiry. In the first section of this chapter I focus on a series of digital artefacts called the ‘rhizome sketches’. (I have appropriated the term ‘rhizome’ from Miles’ rhizome templates used to make these works. Miles use of the term rhizome is informed by Deleuze and Guattari theory). I then use the prompt ‘What is a networked Videoblog?’ to analyse in the second section the digital artefact Train Trip (Keen 2006d), and in the final section the digital artefact Net-vlog.

**Rhizome Sketches**

In this first section on the rhizome sketches I provide context on the rhizome templates used to make them, and reflect on the sketching process, and follow this with a close analysis of one rhizome sketch titled Blow it (Keen 2006a). In this analysis I look at the use of spatial affordances in the design of the rhizome templates, and how this system affected my practice. I conclude by focusing on how the design of the rhizome templates utilised the affordances of video, computers and the network.

Following the poetic research model proposed by Rosenberg (2006) the objective in this early stage of the research was to move into ‘open water’. Rosenberg observes that:

> The centrifugal force pulls away from the ground, its movement is counter to the process of grounding. It pulls into open water. Centrifugally driven practice/research explores possibilities beyond, and creates deviations from programs to normalize. Its aims are to expand and develop opportunities. (2006, p.5)
The aim was to “swim outside the flags”, beyond the familiar skills and knowledge of my existing practice, and to embrace the fear and uncertainty that the transition from shallow to deep water creates. I used the process of sketching as a means to venture into the unknown in order to identify where the research might go. Schön (1983, p.40) refers to this process as ‘problem setting’, this is where a project is undertaken in order to set parameters for further inquiry and development. I wanted to explore, through the making process, the issues the Internet poses for a documentary practice conducted online. I began by investigating how the affordances of video, computers and the network could be utilised to make a multilinear online documentary.

Rosenberg states: “Ground” refers to an extant body of knowledge or mode of practice’ (2006, p.3). The terra firma in this inquiry includes theory and my practice, both previous and current. Making these digital artefacts and then closely analysing aspects of them provided some insights into how to reframe my problem during this research phase. Schön (1983) refers to a problem being reframed as part of the process of working out the changes that have occurred in a practice and how those changes inform the next course of action. This is achieved by comparing what has occurred in the practice with existing tacit knowledge, a comparison of what has happened with what is already known within the established repertoire of the practitioner.

Netvideo as a hypothetical form of video informed this first phase of the practice. ‘Net’ is short for ‘networked’. I interviewed two people who define their practice as being ‘networked video’. Miles’ (personal interview, 14 June 2007) uses the description ‘networked interactive video’ to describe his interactive videoblogs called ‘Vogs’. Wolf (personal interview, 6 June 2007)
describes the audiovisual tool ‘Vidgets’ produced in his Masters research as a form of ‘interactive networked video’. These Vogs and Vidgets were created through an exploration of the affordances of video, computers and the network. In this inquiry, ‘netvideo’ is used to frame this first phase of practice, and explore these affordances.

**Rhizome Templates**

Utilising Miles’ rhizome templates, which are publically available as downloads from the Internet, I made a series of seven rhizome sketches, with each one being posted individually on my research blog. They were produced over a period of six months in 2006. The rhizome templates were authored by Miles using the now defunct QuickTime authoring application Live Stage Pro (1995). These templates were QuickTime movies, which had been programmed to hold and play separate QuickTime movie files. The following is a description of the rhizome templates and how they were used:

Technically, the rhizome movies are 320 x 240 pixel QuickTime movies. Each uses two internal video windows of 160 x 120 pixels to present two simultaneous video streams. Each rhizome template determines what to load in either video window through an associated XML file. Very basically, if you want to use a rhizome movie you download the relevant template and hand edit its XML file to point to the external video (or jpeg) files that you want played in your rhizome movie. This means that what you play in the rhizome could be located on your computer, or of course anywhere on the Internet, and potentially you can obviously include material that is not yours. The XML file is read by the QuickTime movie whenever it is launched—in other words at run time. (Miles 2007, p.101)
Miles developed six different rhizome templates, each with slightly different characteristics. I chose to predominantly work within the constraints of rhizome templates 1 and 4. In both of these templates video is presented in a diptych composition.

The rhizome templates provided me with a system to initially explore methods for producing and publishing a form of interactive online video. The alternative would have been to author some type of system myself. The only other options that I knew of in 2006 were authoring interactive videos in the applications Live Stage Pro (1995) or EzediaQTI (2000). Both of these applications were designed primarily to author one-off works, similar to the way Dreamweaver is used to author a website. In comparison, a rhizome template provided the potential to make numerous interactive video works. Rhizome templates were designed to limit the amount of coding needed to make an interactive online video. I was excited by the idea of these templates being made available for download as a ready-made writing tool for making interactive online video.

**Sketching**

The rhizome sketches were made quickly and intuitively; my aim was to jump in and learn. Taking this approach allowed the making process to be relatively free and uninhibited. These small-scale video sketches provided the opportunity for me to try out different things, with the objective being to take what was learnt and iteratively apply it to the next digital artefact. Creating video sketches represented a significant change in my approach towards documentary making. Previously, when making a documentary for television, I would have tested most of my ideas out in the scripting and pre-production phase on paper,
rather than picking up a video camera and recording material to test out ideas. In this inquiry, a digital artefact produced as a sketch, became a reference point for critique and provided ideas for further development.

My exploration into making an online interactive documentary required me to engage with screen-based design. I found myself being drawn into the processes used in interaction design to create digital artefacts. Sketching with video demonstrated the beginning of a shift in my practice towards a nexus between the design and media fields. Having previously trained as a graphic designer the process of sketching as a form of ideation was not new. On reading Sketching User Experiences (Buxton 2007), I recognised the importance of using the sketching process as a means to work towards creating a large-scale interactive digital media artefact. Buxton (2007) believes that sketching is a valuable way to scope out a design because the sketch is an expendable form that can be used to test ideas and make discoveries within a design process. This is how I saw these rhizome sketches being used.

In the rhizome sketches form was pre-determined by Miles in his template design. The constraints built into each of the rhizome templates affected the type of interactive online video that could be produced. Miles (2007) describes the rhizome templates as being a type of sketch that were made available to others to explore an alternative type of video practice. I would propose that the rhizome templates are also sketches in the sense that they contain ideas about the potential creation of tools for making interactive online video. In this research these templates were a starting point for exploring both a documentary practice online and the design of a tool to support that practice.
Blow it, (see video chapter 2 Blow it on RECORD.mov), is a rhizome sketch that I use to analyse my series of rhizome sketches. I made Blow it with rhizome template 1, which presents two QuickTime movies in a diptych composition as we see in the screenshot in Figure 12. These movies play and loop continuously when the work is downloaded. The user action in this rhizome template allows the user to rollover one window to make its sound prominent while muting the sound in the other window.

Figure 12: Blow It Rhizome sketch (Seth Keen 2006)

Blow it contains shots of council workers using leaf blowers to blow leaves and rubbish off the footpath onto the street. I have always looked at this process of blowing leaves as a cleaning or gardening method with some humour, as it seems like the detritus is simply being blown from one place to another. Also, the noise that emanates from a leaf blower is excruciating. The luckless
pedestrian without OH&S regulation earmuffs is left cowering, their faces grimacing as they walk quickly away hoping to escape having a maelstrom of dust blown their way.

I wanted to create a difference between the two looping shots in the diptych composition in Blow it, not only aurally but also visually. Both movies loop continuously, when the work is opened. There are two perspectives of sound presented in each video window, one from the point-of-view of the pedestrian and the other from the council worker. In the closer shot on the right, the sound has been altered to make it seem like it is muffled, being heard through earmuffs. In the wider shot on the left the recorded atmospheric sound reflects what the pedestrian hears on the street. Cropping the same shot in closer and starting the loop from a different duration point in the shot created the visual difference.

**Miniatures**

On the street, with noise-making machines strapped to their backs, these leaf blowers are larger than life. In the browser window they disappear into the palm of your hand, becoming the size of tiny toy figures. The frame size of the QuickTime movies ends up being miniature compared to video broadcast on a television. Each of the movies displayed are 160 x 120 pixels. Placed side-by-side they are generously letterboxed within the larger 320 x 240 pixels, QuickTime movie. When I download Blow it, it does not fill the computer screen, there is no option like on YouTube to view full-screen. These rhizome templates are designed to be a fixed size and viewed as miniature, video diptychs.

Making these rhizome templates available online extends Miles’ previous videoblog practice of Vogs, a form of online interactive
video. The ‘Vogs Manifesto’ (Miles 2000) has nine principles, some of which acknowledge the constraints of the technologies being used. For instance, the restrictions of bandwidth should be taken into consideration. Due to the constraints of bandwidth and storage, online video content is compressed and uploaded at a smaller frame size to reduce data size. These rhizome templates work with these constraints and accept that online video can be reduced to a miniature form.

Looking at recent developments in video technologies and into the future, there may be no need to continue to significantly reduce the frame size of video to make file sizes smaller for upload and streaming; bandwidth speeds will improve and storage space will become cheaper. Improved codecs have made viewing clips full-screen on a computer a viable option. These codecs have enabled the size of the video file to be reduced without compensating on quality. Despite these developments, there are other reasons for making these QuickTime movies miniatures, like responding to video being presented on a computer rather than a TV set.

You need to sit close to the computer to see the tiny leaf blowers in *Blow it*. These rhizome templates are not designed for passive couch potatoes sitting a long way back from the screen with a TV remote in their hand. The computer user is now active and sits up close to the screen with a mouse in their hand—close enough to read text in a small font size. When I use a computer I often have several windows open at the same time. Each of these windows can be manipulated and shifted around. When video content is presented full-screen, the designer ignores the option for a user to view and manipulate other content and applications simultaneously. Windows on a computer screen can be scaled and the proportions changed; the shape of that window is irrelevant, unlike the fixed ratio of frame sizes for film and video content.
This permits designers to experiment with different frame ratios and proportions. A computer is a machine that can be programmed and is designed for users to interact with it, using a mouse and keyboard. A computer is not designed to be used by passive, ‘lean back’ TV viewers who, as Nielsen notes, are ‘in relaxation mode and vegging out’ (2008).

*Blow it* is embedded and viewed in my blog alongside other entries. I watch these leaf blowers alongside other content in the browser window. The rhizome template used has been designed to integrate online video with other content in the browser window. Whereas most online video is designed to consume the whole screen. Manovich (2001) maintains that there are different motivations behind the design of the cinema interface unlike the design of the computer interface. The cinema interface is designed for a ‘lean back’ viewer and an immersive, fixed structure; in contrast, the computer interface is designed to encourage active participation and the ability to manipulate data. I would maintain that making online video full-screen on a computer is influenced by the presentation of moving imagery in the cinema and on a television screen, but the designs of the rhizome templates emulate some of the motivations behind Human Computer Interaction (HCI) design. On the computer multiple screens can be presented in a multilinear way, there size can be scaled, a user can move them around.

**Spatial Montage**

The leaf blowing men were cloned and multiplied across the two windows in *Blow it*. The two men in each shot, duplicated in the diptych composition, become four men cleaning the streets like choreographed dancers across the two windows. For the rhizome template designer, liberated from single-window video, multi-window video is open for exploration on a computer screen. In
this case two video windows are displayed side by side. The spatial dimensions of the browser window are used to play with the scale of the frame dimensions and the presentation of multiple windows simultaneously. Manovich (2001) refers to windows and screens being displayed alongside each other simultaneously as a form of ‘spatial montage’ and claims that a complex version is multiple images of varying proportions displayed together in the same space.

Investigations into the concept of spatial montage, also referred to as ‘windowing’ (Galloway 2012, p.5), conducted in my previous Masters research (Keen 2005), are extended in this study. In my Masters inquiry, I explored an alternative approach towards creating relations between shots in a linear nonnarrative by using split-screen techniques in the documentary *The Hazzards* (2005), as shown in the video frame in Figure 13. This involved

![Figure 13: Video frame, The Hazzards (Seth Keen 2005)](image)
dividing the screen into multiple windows and screening shots simultaneously within a linear nonnarrative form. Manovich (2001) argues that spatial montage, in contrast to temporal montage in cinema, shifts the focus from sequentially connecting one shot to another to spatially arranging shots within the dimensions of the screen.

In Manovich’s (2001) evaluation of spatial montage, the argument for working with moving imagery both temporally and spatially on a computer is based on the affordances of the Graphic User Interface (GUI). A computer enables manipulation of the surface of the screen as a fluid, non-static form of interface. The multiple window configuration of the GUI provides a model to design the display of moving images both temporally and spatially. The design of the rhizome templates, as a diptych composition, responds to the affordances of the GUI. In this doctoral research, this time within the architecture of the network, I continue to explore the concept of spatial montage in the rhizome sketches and other digital artefacts produced in the practice inquiry.

**Independent Shots**

In *Blow it* the movies are independent of each other. Users can decide which perspective on the sound they want to hear—the sound of the leaf blowers heard through ear protectors in one clip or the pedestrian option in the other. In QuickTime each movie can be scripted with user actions that operate independently of the other movie. This is described as being ‘like having two monitors alongside each other with each displaying content from completely different sources’ (Miles 2007, p.104). In rhizome template 1, rolling the mouse over one movie makes the other movie mute. With each movie independent ‘the activity of one can
be communicated to the other’ (Miles 2007, p.104). Responding to each movie being independent and the constraints of the user actions, I explore how sound can be altered to make connections between the two separate shots.

In the Rhizome sketch *GT Tango* (Keen 2006c), (see video chapter 3 *GT Tango* on RECORD.mov), also made in rhizome template 1, a difference between the two movies is created by simply recording two different scenes with different sync sound. In one shot the character on the left is playing a track from a music recording in the car. In the other a band is playing a different song in a bar, as demonstrated in Figure 14. What I am introducing here is a form of video that is both interactive and presented spatially.

Figure 14: Screenshot, *GT Tango* Rhizome sketch (Seth Keen 2006)
Instead of forming relationships between shots that follow each other in a linear trajectory, the relationship between the shots is being created spatially across the two movies being viewed simultaneously. The design of the experience for the user in the rhizome sketches is informed by creating a difference between the two movies. This is a difference that not only involves forming a relationship between the two shots presented but allows the user to engage. In rhizome template 1, with the user action set around the sound being on and mute, this difference is influenced by that constraint. For instance, in *GT Tango* the music is different; in the driving shot on the left the music is slow and melodic, but upbeat quirky music emanates from the band on the right. In all of the rhizome sketches made in rhizome template 1, I found it was important to provide the user with sounds that could be mixed across the two windows as part of facilitating an exploration of the differences between the audio presented in the two shots.

**Single Shots**

The leaf blowers in *Blow it* are presented in each video window as a single shot, rather than a sequence of shots edited together. In all these rhizome sketches I decided to not edit sequences; instead, I focused on capturing single shots. The aim was to reduce editing to simply trimming in and out points on a shot and then uploading it online. This is unlike a documentary for television, where I would normally focus on recording multiple shots to create a sequence—for instance, close-up shots of the blowing machine, shots of rainwater scattering out of the gutter, and the concentration on the leaf blower’s face. I would be looking for numerous ways to capture varying viewpoints and shot scales, all with a sequence in mind. In contrast, in these rhizome sketches there is a conscious shift to capturing a moment in a single shot.
The motivation influencing this shift to recording a single shot can be connected to some of the principles behind the creation of the ‘Lumiere Manifesto’ (Pedersen & Shoot 2007). This manifesto, created by two videobloggers as a guide to videobloggging practice, is inspired by the filmmaking of the brothers Auguste and Louis Lumière in 1895. These early films were single shots ranging from 38–49 seconds in duration. Working from these first single shots, Pedersen and Shoot (2007) focus on the potential of individuals, both non-professional and professional, to use video to capture personal and idiosyncratic viewpoints of the everyday. The writers advocate a minimal approach that leaves a shot as it is recorded. They state ‘[at] best, we display an edited view of our worlds. At worst, we destroy important viewpoints through unnecessary editing’ (Pedersen & Shoot 2007). Wanting others to work with single shots, they define a set of constraints that emulate the work of the Lumière brothers. These constraints are: ‘No zoom, No edit, No effects, 60 seconds max. Fixed camera, No audio’ (Pedersen & Shoot 2007). Reading this manifesto, I am surprised at how much of it applies to the way I recorded video in my rhizome sketches. All my shots last less than 60 seconds, and as the manifesto claims, a practitioner working on the network needs to respond to the affordances of that environment; in the rhizome sketches I began to do exactly that.

**Videographic Photography**

*Blow it* was recorded with a point-and-shoot digital camera. I have at my fingertips, within the university, many video cameras that record high quality video and audio, yet I chose to use a compact, low-cost digital camera. In this device, video is an add-on function for photographers to use when they think video is a better option than a photo. I was interested in utilising the
portability of this type of digital camera because it provided the option to capture unplanned moments, something unexpected. For years I had looked at leaf blowers blowing away and said under my breath, “I wish I had a video camera on me now”.

When working as a documentary cameraperson I look for a suitable position to capture a shot that will communicate the activity being recorded. In most cases there is only so much time to negotiate an unexpected moment and get the recording. It takes practice to be in the right place at the right time, to capture an image that communicates succinctly what is taking place. With cameras like the one used to make these rhizome sketches, and the development of video technology on Digital Single-lens Reflex Cameras (DSLR), there is the potential to capture moments as they occur like a photographer. I call this type of recording a form of ‘videographic photography’.

An example of this videographic photography approach is demonstrated in Humphrey (Keen 2006b) (see video chapter 4 Humphrey on RECORD.mov). Similar to Blow it the same shot has been repeated across the two video windows, with post-production effects added to one shot to create a difference between them. In this case applying the post-production effect of ‘reverse’ onto one shot creates a difference. The reverse effect changes the action and sound. In Humphrey (Figure 15) a Labrador is panting with exuberance, plodding noisily into a pool of water to pick up a floating tennis ball. Taking a momentary break to recuperate, he stops in the centre of the pool, ball in mouth, catching breath before the next enthusiastic round of throw and retrieve. The shot of the dog planted on all fours, steadfastly out of reach in the middle of the pool, hogging the ball, had a certain irony and humour, “… it is cool here, and no one will bother me”. This particular moment in this moving-image
shot recorded on video could be made into a still taken from the sequence of frames. This sequence was recorded on video because I had noticed this moment several times and wanted to capture the humour. I would suggest that an event I would normally capture in a photo acted as a starting point for recording a short-duration shot on video.

Figure 15: Screenshot, Humphrey Rhizome sketch (Seth Keen 2006)

The audience as a user can mouse across the two sound perspectives in Humphrey, like a Hip Hop DJ scratching across two turntables. These rhizome sketches are momentary and can be visited multiple times. The creator works within the same constraints of the rhizome templates, over and over, like learning to play a musical instrument. Making numerous sketches to see what is possible is a practice that works within the constraints of the rhizome templates. I have chosen to shift my documentary
practice from the planned to the unplanned. A sketch is triggered by an event encountered on the street. Record, transfer, upload, and publish. A moment caught from my pocket. Numerous videos are recorded on the premise that they will be edited later, similar to the way I record and curate photos. This change is significant as it represents a move towards an informal type of practice that focuses on creating independent granules, in this case self-contained single shots that function independently within each rhizome sketch.

**Performers**

These rhizome sketches require the engagement of a user to remix the available shots into varying narrative patterns. Kinder (2003) in an evaluation of interactive cinema, situates the user as a ‘performer’ who, like a dancer or a musician, performs the narrative through interaction. Douglas also refers to hypertext fiction as being performed:

> Until a reader assembles it, performing it, the text exists only as a set of potential motions, a sequence of steps and maneuvers that become actualized only the instant that the reader selects a segment of text and fulfills a condition for movement. (1999, p.31)

In this evaluation by Douglas (1999) a reader weaves their way through a web of pathways. The reader brings a work into existence through a process of performance. I discovered through making the rhizome sketches that the system and the content were created for a user as a performer, which affected the approach taken towards the design of the content in relation to engaging a user.
I propose that the concept of the user as a performer interacting with a rhizome sketch is tied to the design of the templates, facilitating a form of remix. The rhizome templates can be used to create relations between small numbers of clips retrieved from a directory, and by responding to the prescribed user actions and constraints each rhizome template enables the formation of varying patterns between shots through a type of remix process.

A user is required to make *Blow it* function as a form of interactive digital media. The different sound perspectives created in each movie will not be understood unless someone moves the cursor over each window. I take the view that there has to be an incentive to get the user to interact with the work. When *Blow it* is downloaded, the shots of the leaf blowers play on opening and repeat endlessly. Repetition is used here to invite the user to find out what happens if they interrupt the loops. In editing television documentaries I have never used the same shot twice; in contrast, in *Blow it* I chose to record a repetitive activity, endlessly blowing leaves from one place to another, which will be used again and again. Watching these rhizome sketches loop is like watching a needle stuck on a record. They urge you do something to break the repeating cycle.

In regards to the Kinder’s (2003) notion of a user being a type of performer, in *Success: aka the Rhizome* (2006), an online interactive video made using the rhizome templates (Figure 16), rhizome movies are described by Murphy as being an ‘ergodic text’. The term ‘ergodic’ refers to Aarseth’s (1997) hypothesis for a ‘cybertext’ that is a form of text created on the basis of the way it performs. A game of football is used as an example of an ergodic text:
...both stories and games of football consist of a succession of events. But even though stories might be told about it, a football match is not in itself a story. The actions within the game are not narrative actions. So what are they? The adjective I propose for this function is ergodic, which implies a situation in which a chain of events (a path a sequence of actions etc.) has been produced by nontrivial efforts on one or more individuals or mechanisms. (Aarseth 1997, p.94)
Aarseth explains that ‘a cybertext is a machine for the production of a variety of expression’ (Aarseth 1997, p.3). The *I Ching* is provided as an illustration of a cybertext that uses numerous combinations of symbols to produce a finite number of texts (Aarseth 1997).

Working with Aarseth’s claim, I would argue that *Blow it* is a form of ergodic text, albeit in a limited way. In regards to using Aarseth’s concept of ‘trivial’ and ‘nontrivial’ actions, the user action in *Blow it* focuses on the trivial and predictable activity of switching a sound on and off in each window. In the example of a football game, the spectators do not know what will occur next as the action of players kicking a football to score points are nontrivial actions, which makes this game operate in an ergodic fashion. By contrast, once a user engaging with *Blow it* understands the user action assigned to the work they know what will occur beforehand. However, the limited nontrivial aspect to *Blow it* is the varied and unpredictable audiovisual combinations that can occur between the two looping shots as the sound is turned on and off. Using Aarseth’s theory on ergodic texts to analyse *Blow it* is useful as it permits the observation that what is expected of a user as a performer of a work can vary depending on the design of the user actions and how content is presented in the interface.

**Authoring and Publishing Tools**

My making of the rhizome sketches was prompted by the motivation to begin producing interactive online videos, with the aim to develop an understanding of how the affordances of video, computers and the network could begin to be understood.
Having the rhizome templates available to start making interactive online videos allowed rapid experimentation, as I did not have to go through the process of developing a tool. Instead I responded to the constraints of a tool that was already exploring those affordances.

The rhizome templates introduced me to the possibility of using a tool for authoring as well as publishing. In the past, I used analogue and digital editing systems to make fixed television documentaries. For me, this began with analogue, linear video editing systems linked to edit decision lists that recorded tape numbers and time code data. I then progressed to nonlinear digital editing systems and the use of applications like Avid and Final Cut Pro. These editing systems were designed within film and television industry standards and were influenced by practices developed around film editing. These editing systems were predominantly designed to represent moving imagery as a linear sequence, in a single window that filled the screen. In television production the application used to edit a documentary also allows the export of a file for broadcast. Once this file is exported it becomes fixed and has no direct association with the application used to make it. In comparison, the rhizome templates, with minimal coding, enabled me to publish interactive video online. These templates provided a pre-configured architecture into which clips could be placed. The rhizome template with video content was uploaded to a web server for publication. This type of system becomes an authoring and publishing tool for interactive online video content.
Spatial Affordances

Making the rhizome sketches involved working with video both temporally and spatially. Manovich (2001) notes that in new media that ‘spatial construction’ plays a pivotal role in redefining how media is communicated. In Murray’s (2012) evaluation space is used differently on a computer than in film and television. Murray takes the view that space is utilised on a computer to arrange images so they can be used to organise information. For instance, the GUI is described as being an example of using icons and windows to organise information. In the rhizome templates the spatial affordances of the computer screen are explored through the use of multiple windows and scale. The two windows scaled down to a miniature size are used for both navigation and presentation purposes, as part of arranging the content for the user.

The spatial affordances of the computer introduced an increased amount of variables in relation to negotiating how spatial aesthetics are used to convey a multilinear nonnarrative. In television documentary production I did not have to consider how the spatial dimensions of the screen were used. In the editing process of these documentaries I focused on using temporality to create a sequential, linear narrative and nonnarrative. In my previous Masters (Keen 2005) research I explored the spatial dimensions of the screen by using split-screen techniques within a linear nonnarrative; however, the video content screened in each of the windows is fixed. In these split-screen works the sequences in each window are not separate but part of one movie file. This means spatially that the same shots will be presented with each other each time the work is played. In contrast to this, in an interactive video work on a computer there is the option to
use hyperlinks to retrieve and present additional material in each window. For instance, in rhizome template 6 hyperlinks are made available to retrieve additional clips stored in a directory. These clips increase the number of variable relationships that can occur between clips in the diptych composition. This feature of being able to add material creates another dimension to the process of working with the spatial affordances of the computer.

On a computer the spatial affordances enable the way material is presented to the audience to be more varied and fluid than is possible on television. Murray (2012) identifies a difference in how space is represented on a computer. Murray states that the ‘computer creates virtual spaces that are also navigable by the user’ (2012, p.70). As with rhizome template 6, the challenge for me as the producer of a rhizome sketch in this template was to work out how this ‘virtual space’ could be utilised in regards to other shots being able to be introduced into one of the windows of the diptych composition from the directory. Production of a multilinear nonnarrative given the fluid nature of space in this environment, requires the development of a different set of skills and knowledge compared to linear editing for television broadcast. It is different because of the unfixed nature of the work and separate shots being available in a variation of orders.

My response to the production of the rhizome sketches was to focus on working with the limited user actions and two visible clips available in rhizome template 1. I duplicated the shots in each diptych to keep things simple, as part of working towards developing an understanding of the type of spatial relations that could be formed between shots. In the rhizome sketches I was learning how to work with spatial montage on a computer in an interactive video work.
Granularity

In making a television documentary shots are recorded then joined together on a timeline to make a linear work. I would suggest that in most cases the approach towards recording shots for a television documentary is influenced by the sequential characteristic of a linear structure, one shot following another in the timeline. The exported documentary is one video file made up of numerous shots. In contrast, the rhizome templates are designed to present video in separate files. Manovich (2001) uses the term ‘modularity’ to define this affordance of new media. In Manovich’s analysis modularity refers to the notion of digital media content being made up of independent parts that can be divided into small units that can remain separate. A connection can be made between the concept of modularity and ‘granularity’. Miles explains that:

Granularity is a term common to the hypertext literature... and refers to the scale of the units used within a larger system. For example, the Web can be considered highly granular (in general) because it is made up of many millions of individual parts, each of which appears well suited to being interconnected in quite unstructured (non hierarchical and multilinear) ways. (2005)

The rhizome templates make use of the affordances of the computer to separate video content and to then make connections between those independent granules.

The ability to work with video as separate files affected my approach towards recording video content. A rhizome movie consists of separate movies that are played simultaneously within a ‘container’ movie. Having the potential in the rhizome sketches
to work with independent movies induced me to think about capturing meaning in a short duration of time. In the rhizome sketches, I started to think about shots existing separately as part of a collection of independent shots rather than as part of a sequential, linear work, thus the way I recorded video started to differ from how I did it for television documentary.

**Videoblogging**

Continuing my interest in a short form of video that could be self-contained and exist independently, I moved on to explore videoblogging practice. I decided after completing several experiments in the rhizome templates that it was time to look at other online video practice and tools as part of facilitating the production of larger-scale online interactive documentary with a larger number of clips. In 2006, videoblogging was gathering momentum alongside the growth of online video on YouTube, and videoblogs seemed a relevant part of continuing to explore the notion of a networked video form.

**Networked Videoblogs**

The prompt ‘What is a networked videoblog?’ was used to produce a variety of digital artefacts. This included video interviews that informed the production of two video sketches.

Adopting Schön's (1987) concept of an ‘exploratory experiment’, I used a prompt in this phase of the research to induce something unexpected:
This is much of what an infant does when he explores the world around him... It is also what a scientist does when he first encounters and probes a strange substance to see how it will respond... (Schön 1987, p.70)

As a child I remember spending hours turning over rocks at the beach to see what was underneath. I remember the expectation of discovering a crab, or some other exotic creature waiting for the tide to return. Due to the element of surprise, my fascination with this activity was never lost. Schön (1983) claims that the process of experimenting is used differently in research compared to practice. For instance, in scientific research experimentation is often used to eliminate possibilities and narrow down a specific reason for something occurring so a solution can be found. These types of experiments aim to produce a definitive outcome and are referred to as a ‘controlled experiment’ (Schön 1983).

Schön (1983) argues that it is much harder to achieve a definitive outcome in practice due to the changing nature of that process. The conditions of practice are often unstable and unpredictable. One approach towards this instability is to use experiments to discover something that is not necessarily expected. Correspondingly, I did not expect a definite answer the question that was posed by my prompt. Like a child, I planned to poke a videoblog with a stick to see what happened.

Interviews were used to provide access to tacit knowledge from practitioners working with video on the Internet. Due to the open and exploratory nature of the prompt, I decided one way to build a perspective, was to interview practitioners exploring similar territory. I chose Adrian Miles (personal interview, 14 June 2007) and David Wolf (personal interview, 6 June 2007) because I was already familiar with their practice and research. Both were based
in Melbourne and had affiliations with RMIT University. Later on, I collaborated with Wolf on the development of the Videodefunct System as the major project in this research. These networked video practitioners provide, through their practice based research, access to extensive documentation on their research, which helped me prepare the interview questions. I used the interviews to explore ideas and issues around the notion of video as a networked form. I see the term ‘networked’ in this context being used to describe the use of the affordances of video, computers and the network to inform video practice that engages with the Internet. The prompt provided an underlying focus for the interviews, along with questions that established the context of the practitioners and their practice.

**Videoblogs**

This inquiry moved to a focus on videoblogs for several reasons. By 2006 videoblogging practice was growing rapidly and constituted a substantial form of online video practice to analyse for my research. Associations can be made between videoblogging and documentary practice: Hoem describes videoblogs as ‘diary films … personal first person narratives’ (2004). I also had experience researching videoblog practice through my Masters (Keen 2005) research. In addition, I had become immersed in blogging-related practices as from 2005 onwards I taught students blogging, including compressing and embedding video into their blogs.

In 2006, the definition of a videoblog was unclear. Some heated discussions and differences appeared within the videoblogging community that subscribed to the videoblogging mail list (2004). Richard (surname unknown) wrote, ‘We're here to talk about
videoblogging, and we don't even agree on what it is’ (2006). In a videoblog titled ‘Vlog Anarchy’ (2005), Verdi contends that it would be better if videoblogs were not defined in order to prevent the genre from becoming typecast and restricted. I would suggest that some of this confusion was due to the video format being published alongside other formats on a blog. This produced videoblogs with different amounts of video content dispersed amongst written blog posts, photos and audio tracks. Miles (personal interview, 14 June 2007) described a videoblog as being determined by how a videoblogger would define their practice. In this definition any amount of video content added to a blog makes it a videoblog, depending on the motivations of the individual practitioner and whether they want to be acknowledged as a blogger or videoblogger. This definition of videoblogs shifts the emphasis onto practice, instead of the video format.

At the time this inquiry was established, videoblogs had already achieved a high degree of success on the Internet in regards to how many people were engaged in the practice. This uptake of videoblogging demonstrated the success of the practice and how video could be integrated as content into a blog. It could be argued that this success was due to videoblogs already being ‘networked’. The term ‘networked’ in this context, as explained earlier, is used to refer to utilising the affordances of video, computers and the network to support videoblogging as a practice. That these affordances of the network are being used is evidenced in the way that videoblogs have all the qualities of a blog, such as permalinks, trackback, comments and individual posts with permalinks. The network facilitates the integration of videoblogging as a practice into existing toolsets, in this case content management systems designed initially for blogging. Video content produced offline could easily be published within
blogging software, which opened up videoblogging practice to both non-professionals and professionals. Nevertheless, putting this success aside, the interviews with Miles (personal interview, 14 June 2007) and Wolf (personal interview, 6 June 2007), revealed issues around some of the constraints of the blogging system originally intended for text-based content. Many of the issues that Miles and Wolf discussed were due to inherent differences between the text and video formats. Therefore, following up on some of these issues, the prompt in this phase of the inquiry is used to explore how the affordances of video, computers and the network can be used differently within the context of videoblogging practice.

Train Trip

I used a theoretical critique and an example of videoblog practice to inform the design and production of the video sketch, *Train Trip*, (see video chapter 5 *Train Trip* on RECORD.mov). The theoretical influence came from Weinberger’s concept that:

> The Internet is designed to move bits *and not* decide which bits to move, which bits to block, what is done with the bits, and whether anyone should pay for receiving particular bits. It’s the Internet’s job to allow such capabilities to be added by the people who want them. Thus, by design, all the Internet’s bits know is what they need to know to travel from point A to B in numbers that surpass human understanding. (2003, p.148)

Adopting Weinberger’s hypothesis, I refer to ‘bits’ in this analysis as granules of video content. In *Small Pieces Loosely Joined: a unified theory of the web* (Weinberger 2003) the argument focuses
on the way the Internet provides an infrastructure to separate content into small bits that can then be linked together. This infrastructure creates the opportunity to take something apart and make new associations between those bits. Weinberger (2003) proposes that these bits are 'loosely joined' because if the Internet is doing what it is supposed to do, then it is people, not the machine, who decide what is linked to what through the choices they make. This sets up the opportunity for surprises, accidents, breakages, associations and representations that may not have been expected.

In regards to the concept of ‘granularity’ and Weinberger’s idea of separating content into small bits so that they can be connected into multiple relations with each other, an association can be made with an issue that emerged in the interviews with Miles and Wolf. Both practitioners discussed the desire to make video as permeable as text on the Internet. These two experienced video practitioners expressed frustration with the way video is treated as a type of inaccessible object within the network in the way that most video is uploaded to the web on the premise that it will not be connected to other videos. In other words, all the relations that are created between shots exist internally within the video as a self-contained object. As I mentioned in Chapter One, Moskowitz (2011) raised a similar concern in relation to the web being used like a TV set and video being an impenetrable black box.

While researching videoblogs I found and became interested in VIDEO: Going to work (Dedman 2006), a work that records a journey to work on a train in New York City, as shown in Figure 17. Consisting of a single long take, it captures getting on the train, the journey, then getting off the train. I decided to find out what happened when a similar continuous shot of a train journey
was translated into an interactive video work. I was interested in Dedman's video work for several reasons: the recording was chronological and linear, there were no edits, and the shot was recorded informally, capturing the banality of the everyday. I wanted to find out what would happen when I cut a similar journey into small granules and created multiple relations between them in the multilinear structure of the network.

*Train Trip* (Keen 2006d) was produced in the interactive video application eZediaQTI (2000). In 2006 I was using this application to teach online interactive video in an undergraduate course because it was one of the few applications that facilitated the authoring of interactive video content without requiring coding skills. This software, like Live Stage Pro (1995), became obsolete in 2009, signalling more broadly the lack of interest in this type of
interactive video production. In comparison to the more advanced application Live Stage Pro, which Miles used to author the rhizome templates, eZediaQTI does not provide the flexibility to code complex user actions and interactivity.

My journey into work was recorded as one continuous shot in *Train Trip*. This long take was then cut up into nine shorter movies presented simultaneously alongside each other, as shown in the screenshot in Figure 18. This work differs from the rhizome sketches in that the windows have multiplied, and are stacked on and around each other in a matrix composition. Like miniature portholes, each of the nine ‘child’ movies provides a view into my own train journey to work in Melbourne. Glimpses of the journey flash past in endless loops, like jumbled flashes of memories collaged together.

![Screenshot, Train Trip interface (Seth Keen 2006)](image)

*Figure 18: Screenshot, Train Trip interface (Seth Keen 2006)*
The interactivity in *Train Trip* is simple: each movie has pause and play as user actions. These user actions enable the user to choose how many movies they want to have playing simultaneously. In order to indicate how to interact with the work and get the user to engage with the content, on opening one movie plays and loops automatically. All the movies are set to loop when played, with the aim being to invite the user to start and stop combinations of shots.

Because I was interested in making the work open to other content on the Internet, five of the clips have single words on them which link to external websites. For instance, on the video clip of the train pulling into a station is the word ‘time’, which connects to the timetable on the train service website. Some of these links form explicit relationships, while others, like the word ‘accident’, are implicit (‘accident’ links to an image of a broken collarbone, which I had at that time). The words as links, and the external websites they connect to, were designed to provide additional context.

**Granular Video**

I discovered how granularity affects the structure of a multilinear nonnarrative through making *Train Trip*. In an interactive work the size and number of granules affects the complexity of the relationships between them:

Granularity is here defined as the chosen unit size for building story. With it also comes the balance between power and efficiency: by using smaller story granules, there are more ways in which they can fit together, but more work is required for describing how all these pieces can fit together…Conversely, the larger the story granules, the fewer number of ways they can fit together, but the easier it is to put them together.
The bigger the story granules, the less reasoning required. A balance or compromise must be struck, keeping in mind the complexity required by the goal. (Brooks 1996, p.327)

Applying Brook’s argument to *Train Trip* we can see that the increased number of granules facilitated an approach that explored a more complex multilinear nonnarrative than in the previous rhizome sketches.

*Train Trip* is comprised of nine shots, which means many relationships can be created between each of them. The complexity of being able to create additional relationships between shots (compared to the rhizome templates), and having them displayed concurrently, affected the editing approach. The change in editing approach occurred due to the option to have up to nine looped shots playing concurrently, which affected the level of granularity of each shot. I ended up making each shot 10–15 seconds in duration as part of achieving a balance between shots played in different combinations. The work seemed to function better aesthetically when the loop durations of each shot were of nearly the same duration.

The shots being presented spatially as a collection also influenced the editing approach. The context created in the work as a whole allowed me to work with abstract representations of the train journey, such as a glimpse of house roofs put into context by a shot of the train stopping at a station. Knowing that each shot is going to be played alongside the others influenced the editing decision to include abstract representations of the journey in short durations of time. One shot can be more abstract than another because of the shots that connect the work with a train journey. Meaning in relation to how the shots are fragmented is affected by them being in a collection.
Collage

Following Weinberger, I describe the type of associations made between clips in *Train Trip* as having ‘loose relationships’. These loose relations occur due to multiple relations occurring between shots in the spatial montage composition. The control in a linear edit, of working with defined relations between the shot before and after in a timeline, changes to a number of less defined relations taking place amongst multiple shots spatially.

Framed in separate video windows, trees, architecture, blue sky, blurred flora, passing tunnel lights and railway infrastructure are placed alongside each other in a type of collage. This is a ‘video cut-up’ of a train journey, a process that can be associated with the fold-in and cut-up techniques developed in 1959, by William Burroughs and Brion Gysin. In the cut-up technique used by Gysin text is cut up and rearranged into a collage with other text and images. In the fold-in method developed by Burroughs one page of a book, magazine, or newspaper, is folded in alongside another page; both these techniques use collage to create relationships. Written text folded together with other text on another page creates serendipitous associations (Packer & Jordan 2001). Collage as a process in these fold-in and cut-up techniques can be connected to, as explained earlier, Manovich’s (2001) concept of spatial montage and Shield’s (2010) notion of bricolage occurring when a web of relations is created between a multitude of granules. All of these processes work with spatial aesthetics as a means to explore relationships. The spatial dimensions of the screen and a technique of ‘video collage’ are used in *Train Trip* to create loose relationships between shots.

*Train Trip* is like a tiny section out of a Nam June Paik videowall. In Paik’s video installation *Megatron/Matrix* (1995), 215 video
monitors are stacked together into a videowall. Looking at the visual patterns created across multiple monitors in this work the physical space of the exhibition room is used to create visual patterns on a grand scale. Paik uses multiple monitors displayed alongside each other to experiment spatially with repetition and scale. In a similar fashion in *Train Trip* a matrix of video windows is used to create visual patterns spatially between shots. Shapes, colour, light and dark, movement from right to left across each video window, all create patterns of movement. The arrangement of shots is determined by the patterns that are created visually between the shots, as a whole. For example a lighter toned shot is placed next to a darker one. In regards to the process of collage the spatial composition of video windows in the screen becomes as Manovich (2001) suggests as important as temporal considerations.

**Multilinear Nonnarrative**

In a multilinear nonnarrative chronology becomes irrelevant. In *Train Trip* with no certain destination, and a journey of never-ending loops. Looping child movies play over and over, making time stand still. Recorded inside the train, over a looping shot of passing rooftops, the train intercom announces, “The next station is North Richmond…The next station is North Richmond…” The chronology of the train journey is cut up in this work. There is no reliance on chronology, with each shot shifting easily from one time period to another. Similar to Burroughs’ deconstruction of a written text being used to ‘explore nonlinear perceptions of time and space’ (Packer & Jordan 2001, p.304). I used the fold-in method to create shifts in time, as described by Burroughs:

The fold-in method extends to writing the flashback used in films, enabling the writer to move backward and forward on
his time track—for example I take page one and fold it into page one hundred—I insert the resulting page composite as ten—When the reader reads page ten he is flashing forward in time to page one hundred and back in time to page one...

(Burroughs, cited in Packer & Jordan 2001, p.305)

Jumping from one page to another in a book in this fashion and having fluid shifts in time, correlates with how shots are used in *Train Trip* to represent the journey into the city.

I discovered that chronological events, when they are broken up into granules and rearranged into a spatial composition, create a different perspective on the notion of chronology. My realisation echoes Weibel’s view that the multiple screen experiments in video art create a different representation of chronology:

> Repetitions, the suspension of linear time, temporal and spatial asynchrony blast classical chronology apart...linearity and chronology, as classical parameters of narration, fall victim to multiple perspective projected onto multiple screens. (2001, pp.49–50)

Weibel (2001) claims that the multiple relations that are created spatially between multiple screens have connections with the rhizomatic network of the World Wide Web. In this rhizomatic structure ‘every point can be connected with any other point’ (Weibel 2001, p.50). In *Train Trip* the viewer can connect any shot with the other shots presented in the matrix. A connection can be made with the use of the term ‘rhizome’ in Miles’ rhizome templates. Miles (2007) assesses the use of the term ‘rhizome’ as a description of the characteristics of hypertext, and uses those rhizomatic attributes to argue that even when shots are made shorter in duration they can still be used to form relations with others. This is evidenced in *Train Trip* in the short durations of
the nine clips presented. Even though the chronology of the trip into the city has been cut up and scrambled, these shots as a collection with multiple relations still provide a representation of this journey.

The motivation for forming relations between shots in *Train Trip* is based on arranging them aesthetically within a spatial composition. I was not concerned about cause and effect, or maintaining the chronological recording of the events. I would claim, based on Bordwell and Thompson’s taxonomy of nonnarrative forms in documentary, that *Train Trip* would be categorised as an abstract form of multilinear nonnarrative. Most of the shots in *Train Trip* were chosen to convey movement. Although I did not consciously set out to take an abstract approach towards this work, the process of working with what was recorded led to making selections motivated by abstract qualities. Bordwell and Thompson (2010) suggest that abstract films often draw attention to patterns that exist around us in everyday life. Working with this concept, in *Train Trip* I provide different perspectives on movement in relation to a train journey into work. Placing these variations of movement together spatially creates patterns for the viewer.

It is important to remember that I could have taken the recorded video content of the train journey and created an abstract form of nonnarrative in a linear structure. However, in a linear nonnarrative the relations between shots are restricted to the ones before and after. The key difference that is being explored is the potential to create multiple relations between shots in a multilinear structure with no start and end point. In the *Train Trip* interface each shot has relations with eight other shots and there are nine points to begin and end. Working with Bordwell and Thompson’s (2010) concept of a system of relations in connection
with form, it is useful to understand that associations can be created between shots to produce a documentary as a complete work with either linear or multilinear nonnarratives. This observation points out that in this inquiry it is not about creating an opposition between these two types of nonnarrative structures. The objective instead is to explore the similarities and differences that occur when a system of relations is created between shots in a nonnarrative produced in a multilinear structure.

A key objective of this exploration was to explore a form of networked videoblog. This involved presenting a train journey in a multilinear structure, which raised several observations. In relation to granularity I learnt about the significance of working with independent clips within a collection that explores the same subject. Presenting the clips concurrently as a collection enabled the duration of each video clip to be reduced to 10–15 seconds, due to the number of relations that could be created between shots, and the context created by the work as a whole. This exploration into the duration of story granules continues to define granularity in relation to the number of independent shots being presented and the design of the system and interface. Working out the degree of granularity in *Train Trip* drew attention to issues associated with ‘retrieval’. In *Train Trip* all the clips are displayed on the screen for access and navigation purposes. Providing the user access to all the clips at once influences the graphic layout of the clips. In this work I am yet to utilise the concept of virtual space described by Murray (2012), like for instance using hyperlinks to retrieve clips from a directory in the rhizome sketches.

What is being worked out in *Train Trip* is a system of relations that work within a multilinear structure. In the production of
documentaries for television I recorded shots, and edited them into sequences, to create a work in a linear structure using stylistic conventions developed historically through linear documentary practice. Working with form in a television documentary involved developing, through the process of editing, an understanding of the variations of relationships that could be created between shots, sequences and scenes within a linear structure. Translating a linear version of a train journey into a multilinear nonnarrative reveals some of the techniques that can be used to create relations between shots, and how form as a system of relations is affected by that architecture. In *Train Trip* this included working with the qualities of granularity and spatial montage.

In an analysis of what works produced in a multilinear structure can do, compared to works made in a linear structure, Douglas (1999) points out how the concept of a ‘sequence’ can be understood within hypertext. In this argument a sequence in a linear work is ‘singular, fixed, continuous and [an] authoritative order of reading and writing’ (Douglas 1999, p.37). In a work in a multilinear structure, Douglas (1999) proposes that a sequence can be used to refer to the notion of following trails from one granule to another. These granules as a whole are connected together by the associations that have been created between them. In this type of structure the relations that are formed between parts are ‘associative’. I would propose in reference to Douglas’ (1999) ‘polysequential’ concept that a multilinear nonnarrative is made up of a variety of numerous independent sequences. In the digital artefacts being produced in this inquiry, I am learning how to create sequences that exist independently of each other, along with working out how to create multilinear associative relations that connect them together.
Douglas’ view on what constitutes a sequence in hypertext poses a challenge in regards to creating a system of relations between shots that makes sense to the audience. Whitelaw (2002) observes that—due to the expansion of bandwidth, the development of online video and the increasing emergence of interactive documentary forms—the formation of relations between shots is altered in a multilinear structure:

New media forms pose a fundamental challenge to the principle of narrative coherence, which is at the core of traditional documentary. If we explode and open the structure, how can we be sure that the story is being conveyed? (2002, p.1)

It is this issue of a documentary making sense to the user that poses a problem in this study. A correlation can be made here with Plantinga’s (1997) concept of an ‘open structure’ becoming too formless in linear nonnarrative.

**Multilinear Video Essay**

Responding to Weinberger’s idea, of making larger wholes through connecting granules, provided some insights into the constraints that the video format imposes on that process. In relation to Weinberger’s concept of moving granules freely from A to B, a connection can be made with Douglas’ noting of the fluid nature of sequences in multilinear works. Within the web of relations created in *Train Trip* is the potential for a form of nonnarrative that is more open-ended than in a linear structure. The process of cutting and separating a long take into smaller shots and presenting them simultaneously in a spatial composition is a step towards utilising spatial montage to create a web of relations between shots.
Continuing my investigation the next experiment brings all the different responses to the prompt ‘what is a networked videoblog?’ together into what I refer to as a type of ‘multilinear video essay’. In the next *Net-Vlog* sketch the idea of creating a collection of clips around a topic is scaled up, with an increased number of clips being presented to the user. The design of the interface in *Net-Vlog* is informed by the need to provide the user with navigation and access to that content.

**Net-vlog**

A key objective with the *Net-vlog* multilinear video essay was to produce work to present at a conference. I wanted to investigate the form and content of the multilinear video essay being used to present this research, and what was developed represented a significant turning point in this inquiry.

I made the transition to working with ‘video annotation’ in *Net-Vlog*, by adding text-based metadata to each of the movies as part of an indexing process. The shift to using an indexing process was prompted by working with interview content. The outcome of this video annotation process was the development of what I will refer to as ‘informal taxonomies’, using the interview questions and the responses from the interviewees to classify each movie into categories and sub-categories.

In *Net-vlog* the ‘video interface’ and ‘tag cloud interface’ were produced, using the authoring application eZediaQTI (2000). In eZediaQTI a work is created as a set of ‘frames’, which I will refer to as ‘pages’ in this analysis.
The ‘video interface’ design, as depicted in Figure 19, presented excerpts from the video interviews, arranged in a square matrix of four video windows. Separate thumbnail images were used to represent the clips available to be played. The space between these previews was used to hold text. Each video clip was annotated with short dialogue excerpts from the interview content. The interview questions were used to group clips together and create sub-categories, which were then presented on separate pages. Each of these pages could be accessed through a menu of questions in the sidebar.

Figure 19: Screenshot, Net-vlog video interface (Seth Keen 2006)
The tag cloud interface as demonstrated in Figure 20, utilised the design characteristics of a tag cloud. In Net-vlog, questions and subsequently clips were assigned keywords in the tag cloud interface. For instance, the keyword ‘videoblog’ leads to the question—‘What is a videoblog?’ and grouped around this question are four interview responses. This tag cloud interface was used as an index page to access the work, and font size was used to indicate frequency: the larger the font size, the more movies were assigned to that keyword.

Figure 20: Net-vlog Tag cloud interface (Seth Keen 2006)
The design of Net-vlog was initiated from the content of the interviews recorded with Miles and Wolf as part of exploring the prompt ‘what is a networked videoblog?’ The verbal responses in the content determined the type of granules that were created in this video sketch, in this case single shots, and affected the design of the interfaces. Due to the shots being similar visually, in this case the framed head and shoulders of each interviewee, the focus shifted to working with the information contained in the interview questions and responses. This dialogue influenced the decision to use an indexing and classification approach. The interview questions were used to categorise responses into groups. Excerpts from the recorded dialogue were used to annotate each movie and indicate the content that movie contained. The design of the tag interface reflected the themes being addressed in the work and how many responses were assigned to each category. The video interface design presented movies assigned to a question alongside each other for selection.

In response to the concept of granularity and continuing the use of single shots, in Net-vlog the trimming process involved identifying interviewee responses that lasted from 20 to 90 seconds. I was interested in the user as an audience working with clips of similar duration for two reasons: firstly, so each clip would download consistently within the same amount of time, and secondly, in relation to each clip being part of a collection made up of similar granules. In reference to Brooks’ (1996) earlier assessment of granularity and the size of the unit being tied to the complexity of the web of relations that is created, the aim in the fragmentation process was to work with the smallest possible amount of dialogue and still have that dialogue make sense in regards to a clip being self-sufficient and independent.
Indexing

The shift to working with annotation and indexing occurred in *Net-vlog* because I chose to work with interviews. In contrast to shots used to capture action, interviews contain words and this lent itself to using words to categorise the material.

Annotation was also used due to the repetitive visual nature of video interviews in the previews. The same ‘talking head’ does not provide opportunities to use different visual imagery as a preview to represent a shot; text was therefore added to delineate one ‘talking head’ from another. By annotating each video clip with a description, shots can be organised into a taxonomic schema and the descriptions act as a navigation device for the user to access and retrieve content. (This approach is demonstrated in Cooke’s Korsakow online interactive documentary *Live Audio-Visual Performance in Australia* (2012), which focuses on interviewing VJ practitioners; excerpts of dialogue are placed directly on top of preview images, as seen in Figure 21).

Even though I did not fully realise the potential of annotation at the time I made *Net-vlog*, this work initiated an extensive exploration of the concept of indexing and retrieval of video content. While *Net-vlog* does not utilise a ‘database system’, its movies are called into the interface when links are activated in each of the pages. The indexing and archiving process in this case utilises the affordances of a computer to organise and store data rather than a database management system as used in blogging software. In an analysis of interaction design, Murray (2012) describes using metadata to classify media elements into taxonomies; a schema, which is ‘devised to organise knowledge in
standard ways’ (2012, p.209). The Dewey Decimal system used by libraries for cataloguing is an illustration of a schema and form of taxonomy (Murray 2012). In Net-vlog I used a classification process to organise the interview material into an informal taxonomy based on my own interpretation of the material.

The tag cloud interface in the interaction design of Net-vlog represents a move towards visualising information. I used a tag cloud as a navigation tool, knowing that users were familiar with how it functioned in relation to content. The large number of movies in this sketch compared to my earlier work induced
me to design an interface that visualises the information being presented to the user, as well as providing navigation, access and retrieval. A tag cloud was also used later in the early development of the Videodefunct System. The tagging system I adopted for this work was based on creating themes from the questions used in the interviews. For instance the question, ‘What is a videoblog?’ became the tag ‘videoblog’ in the tag interface.

In contrast to the collectively created social media tagging\(^3\) that occurs on Flickr, which is referred to as a folksonomy\(^4\) (see Figure 22), the indexing process in Net-vlog is produced by an individual and used to make an informal taxonomy. I did not record the interviews knowing that this classification process would occur. So, from a bottom-up perspective, using tagging, I created an informal taxonomy based on my own interpretations of each clip.

The use of tags by users on the web can be examined to determine similarities and differences in how tags are being used in Net-vlog. Simons points out that tags are part of the Web 2.0 phase of the World Wide Web, where tagging sees users being given the ability to ‘control [their] own data’ (2008, p.239).

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3 Tags are generally used in social media environments and are common on social bookmarking, blogging, image and video sharing websites. Tagging generally involves assigning a keyword as metadata to content. In most cases tags are created informally by individuals as a way to categorise their own and other people’s content.

4 Folksonomy is a form of classification that utilises tags to categorise content. The word folksonomy brings together the words folk and taxonomy as a way to describe a type of classification that is created by users and producers of content on the Internet. Multiple users, usually on user-generated online databases, generally create folksonomic forms of classification through a process of collaborative tagging.
Ames and Naaman (2007) examine the process of tagging on the photo-sharing website Flickr to gain an understanding of why users tag. They suggest that users tag on Flickr to organise and retrieve data, and a key objective of using metadata added to photos is for users to make their content searchable by adding context. Context and memory are motivations for tagging; a tag is information that will help users remember where a photo is stored. Within this social media environment tags are also utilised to locate the photos of other Flickr users. Tags are also used for social purposes—to let people in the Flickr community see a user’s photos and form associations with other people and their photos.
The taxonomies created collaboratively on Flickr occur in an ad-hoc manner according to Ames and Naaman (2007). In Net-vlog, the producer organises video content and makes it accessible to an audience using tagging in a similar way to how users tag photos on Flickr. However, there is no motivation to use tagging for social purposes as the work does not permit external participatory activity. Instead, tags are used predominantly for the purpose of creating context. This context is not being created for memory purposes but to structure a type of multilinear nonnarrative for an audience. The informal taxonomy in Net-vlog is therefore being formed deliberately, in a controlled manner, to create a categorical form of multilinear nonnarrative (Bordwell and Thompson 2010; Nash 2012), using indexing as a process to create a system of relations. The aim in this work is to use indexing to produce a documentary.

**Categorical Multilinear Nonnarrative**

In the categorical multilinear nonnarrative that is created in Net-vlog it could be argued that relations created through associations are more important than temporality. In the categorical form of online interactive documentary Nash (2012) outlines, the associations created between shots take precedence over temporal constraints. Similarly, Plantinga (1997) points out that the structuring of the categorical form occurs in relation to a topic rather than causality, and involves a different use of time. Plantinga states:

> Categorical discourse normally presents subjects of a topical nature. Its representation is synchronic—of entities existing simultaneously, rather than diachronic—of entities and events as they unfold in time. (1997, p.104)
From Nash and Plantinga’s perspectives, in Net-vlog the work as a type of multilinear video essay does not document a progression of events occurring over time. Instead the aim is to present different perspectives that are accessible to the user in varying orders.

I propose that viewing a categorical form of linear nonnarrative influences how shots are grouped into sequences and larger scenes much more than in the process of viewing a multilinear nonnarrative with no beginning, middle or end. Bordwell and Thompson (2010) characterise the film Olympia (1938) as an illustration of the categorical form of linear nonnarrative. This film is divided into sequential sections Bordwell and Thompson describe as types of categories and sub-categories. The categorical form ‘might move from small to large, local to national, personal to public’ (Bordwell & Thompson 2010, p.354). Bordwell and Thompson (2010) provide the example of the director Leni Riefenstahl focusing on documenting the games before moving to specific contests between athletes, progressing in the linear edit from bigger picture items to smaller personal details. In contrast to this, in Net-vlog, a multilinear nonnarrative with no defined start and end point, I could not rely on the user having engaged with one category before another. This is because the user, through the tag cloud interface can enter the work at various points. Therefore, the taxonomy that is created in Net-vlog is influenced by different motivations compared to a linear nonnarrative, in this case knowing that the work can begin and end at any point.

Another example of using indexing to create a multilinear nonnarrative with no start and end point is the online interactive
documentary *Gaza Serdot* (2008). On the ‘topics’ page (Figure 23), users are provided with an unordered list that allows them to access the content at different places. Here the classification process and selection of shots that make up a category are indexed to function independently within a larger whole. Nash (2012) demonstrates that groups of shots in the categorical mode of online interactive documentary are self-contained and can exist independently of each other. Both linear and multilinear nonnarratives using a categorical process require the creation of
a type of informal taxonomy. However, in comparison to a linear nonnarrative, the characteristics of a multilinear nonnarrative structure, which may have no beginning, middle or end, affects the classification process differently, compared to a linear nonnarrative, in regard to each granule being self-sufficient and accessible in different orders.

Encyclopaedic

Annotating and indexing video content in *Net-vlog* represented a significant shift in this inquiry towards utilising the capability of a computer to archive and store large amounts of information, and using that functionality to portray multiple perspectives on a topic. Murray claims that the storage capacities of computers and the ability to create multiple relations between units of data can be utilised to include specific information on a topic, along with multiple perspectives:

> The capacity to represent enormous quantities of information in digital form translates into an artist’s potential to offer a wealth of detail, to represent the world with both scope and particularity…It offers writers the opportunity to tell stories from multiple vantage points and to offer intersecting stories that form a dense wide-spreading web. (1998, p.84)

Murray’s view links with this inquiry in relation to portraying multiple perspectives through a web of relations. In addition, Murray (2012) notes that utilising the encyclopaedic affordances of computers involves working out how to segment and classify information so it can be indexed, stored and retrieved. A key objective in this process is to make that information accessible
and coherent for a user. In *Net-vlog*, I experienced all these processes as part of adopting a classification approach.

Despite the encyclopaedic characteristics of a computer enabling access to coherent information, Murray (2012) proposes that it can have a detrimental effect on the structure of an interactive work. In *Net-vlog* the design of the interface was influenced by the navigation aids common on websites. A side bar was used to display a list of links to other pages and subsequently groups of clips in the work. The user is expected to navigate through these pages to view clips. In regards to the relations created between granules, Murray (1997) claims that an issue with this encyclopaedic characteristic is for works to become formless. In this type of structure, granules end up being presented using a table of contents with links. The user is expected to click (tediously) through numerous links and follow multiple paths to engage with the content. In reference to Murray, *Net-vlog* risks becoming formless through a menu-based structure that moves away from using spatial montage to combine clips together on playback, as seen in the rhizome sketches and *Train Trip*. In *Net-vlog* clips are viewed individually, like on a catch-up TV website and this means the remix quality in *Net-vlog* is restricted to the relations that can be created using links, rather than using spatial montage, with the presentation of multiple clips concurrently.

Another difference to the categorical form in a multilinear structure is the ability for a user to combine content into a variety of associations. *Net-vlog* was created as a type of essay; its objective was to bring together different responses to the prompt of what is a networked videoblog? I wanted to experiment with using a multilinear structure to create multiple relations between ideas documented in the interviews. Alter (2003) refers to the
CD-ROM project *Immemory* (1997) by Chris Marker as an example of a type of interactive documentary. In this work, the viewer—now a user—‘co-directs, edits and arranges the text’ (Alter 2003, p.21). The work remains unfinished with the user creating ongoing pathways through the material and combinations. Shaw (2003, p.23), in an analysis of interactive cinema, describes the ‘recombinatory’ theme as a form of experimental cinema that uses a database and interactivity to access stored audio-visual content. Shaw claims that recombinatory work ‘embrace[s] the idea of an unascertainable complexity of path options, leading to unforeseeable patterning of narrative conjunctions’ (2003, p.23). *Immemory* is categorised in *Future Cinema* (Shaw & Weibel 2003) as a recombinatory work, because of the role that the user is expected to play in the construction of the work and the varying combinations that can be created out of the content (Filser 2003). In a similar way to *Immemory*, *Net-vlog* explores how remix as a process, carried out by a user, can be utilised to weave information into multiple relations.

**Software Customisation**

The exploratory experiment a methodology used to create *Train Trip* and *Net-vlog* introduced a shift in the way I approached the practice inquiry in this research. Poking a videoblog with a stick to see what would happen provided impetus to progress. Analysing the networked videoblog prompt from several perspectives through the use of interviews with practitioners and the creation of two different digital artefacts produced insights used to inform the next stage of design and production.

The next phase of practice moved towards collaborations with interaction designers and programmers as part of customising a system that could be used to author and publish an online
interactive documentary. The *Net-vlog* sketch pointed towards the appropriation and customisation of an existing web content management system rather than creating a work using an interactive video authoring application like EzediaQTI. Exploring a networked form of videoblog led to a continuing focus on videoblogging practice, while using the encyclopaedic potential of the computer to annotate and index video content into a categorical form became a key aspect of the design of the Videodefunct System.
Chapter three

Nonvideo
In this chapter I reflect on what was produced in the nonvideo phase of the inquiry and describe how I moved into software customisation and the parallel production of prototypes. I describe the customisation of a Content Management System (CMS) and the making of prototypes in that software. Within this project, the customised CMS the ‘Videodefunct System’ is referred to as the ‘VD System’. The design and development of the VD System is analysed in the first section of this chapter. The three prototypes produced over multiple iterations of the VD System are examined in the following sections. The prototypes are the *Hazzards Videoblog* (Videodefunct 2007b), *Train Travel Vlogumentary* (Videodefunct 2007c), and *Videodefunct Pedestrian* (2007).

**Videodefunct System**

The project was undertaken collaboratively with Keith Deverell and David Wolf, interaction designers and programmers working at RMIT University. The project, which occurred over a period of two years, involved the design and production of several iterations of the VD System. I examine the iterations of the VD System (VD System 1, 2, 3, & 4) separately from the prototypes that were made with them. The project was initiated by a collaborative cross-disciplinary research grant ‘Who would have thought of that?’ The first two prototypes, *Hazzards Videoblog*, and *Train Travel Vlogumentary*, were published online as tests. *Videodefunct Pedestrian* was published in a net-art exhibition.

Moving into software customisation represented a shift in my approach towards documentary practice, as this type of project required collaboration with people with different skills.
and knowledge. The proposal for the project was again framed as a prompt, with the aim being to continue my exploration of unexpected outcomes. In the proposal, we stated:

The project video-database is an experimental audiovisual work that examines the dissemination of video content on the Internet. The project explores a cross-fertilisation between Graphic Design and Media practice. The proposed objective of the project is to examine video-database models somewhere between YouTube and videoblogs. (Deverell & Keen 2007)

We planned to reuse and modify an existing CMS as part of our method. We aimed to customise a tool that already existed rather than start from scratch.

The group planned to take an experimental approach towards discovering how video could be presented online. In an evaluation of the project, I wrote:

The ‘itch’ that motivated the development of the VD system was a frustration with the existing ways that video content was being displayed on the Internet. A key objective was to find a more poetic way to display online video. (Keen 2008, p.231)

In regards to the term ‘poetic’, the aim was to explore poetic representations of topics in a multilinear nonnarrative form of documentary. In addition to this, as a group we were interested in venturing beyond the acculturated use of the Internet as a type of TV set, as mentioned earlier.

In relation to objectives of the project, ‘Video Poetics: Technology, Aesthetics and Politics’ (Eleftheriotis 1995) provides an insight into the approach that the group followed. Eleftheriotis describes
the construction of narrative in most popular cinema as being motivated by the desire to be ‘coherent and meaningful’ (1995, p.103). This is an approach that excludes anything that is messy, that does not ‘contribute to the progress of the narrative … the composition of the frame or the logic of the sequence’ (Eleftheriotis 1995, p.104). In contrast, as Eleftheriotis outlines, a ‘video poetics’ is motivated by experimentation in order to test the aesthetic limitations of video technologies:

Poesis is also evident in the production of audiovisual works of experimental character which is governed not by the desire to master technology … but by an opening up to what technology can reveal (the non-recurrent, non-recognizable, non-determinate, non-expected or non-mastered/ordered).

(Eleftheriotis 1995, p.107)

Using this video poetics conceptual model to contextualise the project more broadly, the affordances of video, computers and the network are utilised to explore an unexpected outcome, as part of continuing Schön’s concept of the exploratory experiment, as explained earlier in relation to the prompt—what is a networked videoblog?

**User Experience Design**

Interaction design was used to inform the project. In ‘Beyond skin deep: Exploring the contribution of communication design within interaction design projects’ (Dunbar 2009), interaction design is described as progressing historically from Human Computer Interaction (HCI). Dunbar (2009) proposes that even though technology is considered to be a core element of interaction design, as an iteration of HCI, there has been a shift towards more of a focus on the computer user’s experience of digital artefacts.
and it requires an interdisciplinary approach. This is called User Experience Design (UxD), and focuses the design process towards understanding the users’ perspective. Dunbar claims that the emphasis on usability and functionality in software engineering is extended to a consideration of aesthetics and communication as part of designing for the user. Within the context of this inquiry we need to acknowledge that an online interactive documentary is designed for a user and, as mentioned previously, relies on that person performing the work. In the production of a television documentary I focused solely on making the content engaging for a ‘lean back’ audience, in contrast to a concentration on both the content and user experience in the production of an online interactive documentary.

**Prototypes**

A process of prototyping was used to develop a working version of the VD System. Buxton (2007) claims that a prototype can vary in terms of scale and quality, depending on how it is developed to meet a design brief, but even in an under-developed phase a prototype serves a different purpose to a sketch. A prototype is more pragmatic and defined, with the specific intention to model and test an idea, whereas a sketch is exploratory and disposable. As Dunbar states:

> Prototyping can be seen as a way in which designers and developers can collaboratively shape an interactive system in close contact with the digital materials, allowing an interaction design project to put an interactive system out into the world for people to experience. (2009, p.126)

The VD System was initiated by testing out ideas using a prototyping process online, in a real world context. The digital
materials included blogging software, a web browser, and the varying scripting languages in the VD System. In this nonvideo phase the emphasis was on technical development of a functioning system that could be used to create a form of online interactive documentary.

**Reuse**

A key objective informing the VD System was the reuse of an existing CMS. Designing the VD System with open source code introduced me to the process of rewriting and customising existing software. The blogging software WordPress was used to make the VD System. Using blogging software connected the software development with the functionalities and interaction design that had already been developed in this CMS. This process of reusing existing software has a connection with Manovich’s (2008) concept of media production on the web being informed by a ‘tactical model’; this is a form of production that facilitates flexibility, with the ability to access code and rewrite it for other purposes. The project took a tactical approach, utilising existing open source code to create the VD System as part of meeting the aim to customise software that was readily available.

**Blogging Software**

To provide some context around blogging software and why it was chosen to develop the VD System, it is useful to examine the development of blogging as a practice. Helmond (2007) maintains that the historical record on the development of blogging is debatable due to different researchers creating their own versions. Retterberg (2008), in her own historical overview of blogs, points out that blogs were originally produced as conventional websites with each page developed manually using HTML code.
These early versions of weblogs began soon after the Web was established in the early 1990s and not long after the release and widely adopted use of the Mosaic browser in 1993. Retterberg attributes the first blog to Justin Hall (1994) as a type of online journal that he used to document his life from childhood onwards. At that time conventional websites were produced on the premise that they would be static and permanent. In contrast blogs—as a type of personal online diary—were seen as constantly being changed and updated, and were produced knowing that they would never be finalised. This was a different approach towards publishing content on the Internet and at the time was a transformation which eventually led to the development of the first dedicated blogging platform Pitas (1999), quickly followed by Blogger (1999). In the early 2000s several CMS for blogs became available, including WordPress (2003).

In contrast to a generic blog or videoblog, which is ongoing and constantly being altered and updated, the envisioned online interactive documentary in this inquiry was produced with a completion point in mind. This is similar to a conventional website that does not have ongoing updates. Blog software provides the potential to update a documentary topic with new video content as it is recorded over a long period, but most of the works produced in this inquiry were made within a limited period of time on the premise that, like a television documentary, they would be published in a finished form.

The WordPress CMS was used to make the VD System for several reasons. All three people working on the project were familiar with it in relation to managing and publishing content online. The blogging software also connected the project to videoblogs, which had been identified in the original proposal as having the
potential to be taken in a hybrid direction. Finally, WordPress, as an existing toolset, provided the architecture needed to facilitate the indexing, navigation, retrieval and presentation of video content online.

A CMS, more broadly defines a network application that is designed to manage the publication of digital content. The practice of blogging is altered significantly through the functionalities of a CMS. No knowledge of code is required to add content to a CMS, and as Lovink (2008) claims, the growth and success of blogs is due to this shift from a reliance on code to a concentration on producing content. As Lovink states: 'From early on, blog culture has been the home of creative and social content producers' (2008 p.5), and the CMS took care of the archiving, storage and retrieval of that content for the blogger. In this inquiry using a customised version of the WordPress CMS pointed towards providing an authoring and publishing tool that documentary makers could use without having to code.

WordPress is designed to handle the addition of content using a database system. In addition to the database providing an archival system for content, WordPress uses a template system to take care of the interface design. If a change is made in a template, it affects the layout of every associated page in the CMS. A myriad of interface designs, named ‘themes’, are available through the WordPress software development community as demonstrated in Figure 24. These themes can be downloaded and activated in the administration area of the blog. The VD System used customised WordPress themes designed for the production and publication of video. Iterations of these themes were used to make the prototypes.
Videoblog Plugins

The focus on videoblogs in relation to this research was an extension of the ‘networked videoblog’ prompt and sought to examine an alternative type of online video tool. In ‘Videodefunct: Online Video is not Dead ’ (Keen 2008), I wrote:

Engaged in an ongoing examination of video blogging as part of teaching and this research, I noticed that weblogs originally designed for text-based content were being modified to accommodate the video format as the main form of content. An early example produced by (Mefeedia 2004), (now obsolete) was a plugin that automatically created a separate video archive page for video content as it was posted. Video bloggers wanted to
separate video content from other posts, for example text-based content and provide users with the option to access that material directly. The design of plugins like this one are motivated by the chronological focus of a blog as a form of online journal in which the idea is to keep providing new material for users as the latest post at the top of the home page. For example, a video blog like Chasing Windmills (Rosario & Cordova 2005) acts like a television soap series, utilising this chronological feature to get users to return for the latest installment. In comparison, some video bloggers see each video clip that they post as having equal relevance for users and therefore they wanted to provide an alternative form of access. (Keen 2008, p.232)

Observing this issue with chronological posting and videobloggers wanting to provide different types of access to video content prompted the exploration of a hybrid form of videoblog. The objective was to create a system that provided a different type of interactive experience for the user, and to adapt blogging software beyond the focus on chronological posting.

‘Video archive’ pages, (see Figure 25) from Verdi’s ‘Vlog Anarchy’ (2005) videoblog, provided an insight into the plugins\(^5\) being used to modify how video content was presented on videoblogs. On this archive page still images taken from each video are used as previews and displayed in a grid. The Mefeedia (2004) video archive plugin enabled previews to be added to this page automatically each time a video clip was posted to the videoblog. The previews link to the permalink of the original post and can be viewed independently at their individual URLs.

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5 A plugin is additional functionality that is integrated into existing software applications. A CMS like WordPress supports customisation by enabling plugins to be added.
Figure 25: Screenshot, *Vlog Anarchy* video archive webpage (Michael Verdi 2005)
Show in a Box was a group developing a suite of plugins for videobloggers, as shown on the group’s plugin web page in Figure 26. My exploration into providing alternative access to video continued through the influence of the ‘VideoPress Video Archive’ (Krempeaux 2007) plugin developed in collaboration with the Show in a Box (2007) group. The development of these plugins demonstrated the motivation to customise blogging software for the video format. These plugins included the ‘VideoPress Video Archive’ (Krempeaux 2007), ‘VideoPress Related Videos’ (Krempeaux & Elbows 2007) and ‘VideoPress Recent Videos’.

Figure 26: Screenshot, Show in a Box Plugins Webpage (Show in a Box 2007)
(Krempeaux 2007). The ‘archive’ plugin worked in a similar way to the earlier Mefeedia video archive plugin. The ‘related videos’ plugin allowed each video clip to be assigned to a specific group of clips, providing the user with cross-referencing between other clips and the one being viewed, as demonstrated in Figure 27. The ‘recent videos’ plugin enabled recently posted clips to be displayed as previews in the sidebar. These plugins gave a videoblogger alternative ways to provide the user with access to video content. These were forms of access that utilised the functionality of a blog CMS to circumvent the chronological posting of video.

Figure 27: Screenshot, Ryan is Hungry related posts webpage (Ryan Hodgson 2004)
**VD System 1**

The VD System went through several stages of development. The first iteration, VD System 1, sought to work with the features being developed in video archive plugins. I had been watching David Wolf’s development of a website called ‘The Guild of Commercial Filmmakers’ (2007) that used WordPress. I noted that:

> Wolf was customising the open source weblog application WordPress and was sharing his developments on his own blog. Working with a large volume of material, he had designed a streamlined process for posting video clips and a more detailed method of archiving. Over time this customised video blog has moved to using a number of features that provide users with varying ways to cross-reference the television commercials published on the website. The chronological access that features on most videoblogs has been removed from the home page, along with the use of the date and time stamp attached to each post. (Keen 2008, p.232)

Wolf joined Deverell and I on the project as an interaction designer specialising in programming. The developments Wolf had been making on WordPress were used as a starting point for the design of the VD System. The backend features Wolf was customising were combined with some of the archive plugin features being used in videoblogs at that time.

The video-specific plugins being used in videoblogs were integrated into WordPress’s opening and category pages in VD System 1. A matrix of nine previews was provided on the index page, with recent clips added as posts displayed in this matrix.
Below this recent clips matrix the individual posts could be accessed in reverse chronological order like on most conventional blogs. The archive feature provided a matrix of thumbnail images that expanded as new clips were added, as we see in Figure 28. If a category like ‘family’ was selected, the clips assigned to that category would be displayed on that page as previews in a matrix. All the other features of a blog remained intact, including the functionality to search, comment and trackback.

Figure 28: Screenshot, Hazzards Videoblog archive page (Videodefunct 2007)
Wolf was using ‘custom fields’ within the WordPress architecture to streamline the posting and upload process of video. These custom fields were used to add specific information to individual posts so that all the video embedding information that would normally be written into the actual post as complex code was simplified and added directly into the form spaces provided, as is shown in Figure 29. For instance, the URL of the clip that had been uploaded and the width and height of the video clip were entered into the custom fields and their values were then used to populate necessary code in all relevant pages.

Figure 29: Screenshot, VD System dashboard (Videodefunct 2007)
Hazzards Videoblog

I used existing footage to produce the Hazzards Videoblog (Videodefunct 2007b) prototype seen in Figure 30.

![Hazzards Videoblog index webpage](image)

Figure 30: Screenshot, Hazzards Videoblog index webpage (Videodefunct 2007)

The content of the Hazzards Videoblog (see video chapter 6 Hazzards Videoblog on RECORD.mov) was used because it could easily be cut into short clips. I was familiar with the content from my Masters project, The Hazzards (2005). The video used was from 8mm home-movie footage recorded by the Hazzards family, telecined into a digital video format. In my Masters research I described the Hazzards' footage as a recorded diary of events, like a type of ‘filmblog’ (Keen 2005). I was interested to find out what would happen when this content was added to a system.
developed in blogging software. VD System 1 made it easy to index a large number of separate clips into categories and form associations between those clips.

Like the earlier *Net-vlog*, the *Hazzards Videoblog* prototype acts as a video archive similar to Murray’s (1997) concept of a table of contents, with the user being required to simply move from one link to another. Despite this similarity, there are a number of key differences in the design of VD System 1. The tag cloud used in *Net-vlog* is replaced with a matrix of preview images. Instead of using text, the video content is represented to the user in the form of preview thumbnails. Images are used to help the user navigate and access the video content. Customising the back end of the CMS using custom fields provided a streamlined and consistent way to easily upload, index and publish a large number of clips. Working with an online system shifts the production process to a direct engagement with that digital platform. Instead of building the digital artefact offline and then publishing online, it can be created in the environment in which it is published. The producer is able to get an immediate sense of what it will be like for the user.

VD System 1, using the Hazzards content, provides multilinear access to separate clips. For example, users through various navigation aids, the preview matrix design, and existing blogging software features like the search function and archive features, can access the stored clips in a variety of orders. Choosing multiple paths through the video content creates a form of multilinear nonnarrative for the user. The user is able to co-construct the multilinear nonnarrative to some degree by being given choice, with the option to access clips associated with different themes and view those clips in varying orders.
At this point I made some minor modifications to the blogging CMS. When we started the project I did not think a lot of the features that are characteristic of a blog would be removed. However, further modifications were needed. The major blogging feature of reverse chronological posting was not a priority as I was interested in how sequences from the Hazzards material could be linked together thematically, rather than chronologically. But, at that time I did not envision getting rid of the date and time metadata added to each post:

*Another influencing factor is the chronological diary format of a blog. In this example the date and time of entry are not a considered part of the [multilinear] narrative. In a future work this feature would provide for the user, insights into how a project and [multilinear] narrative is structured. I note, that generally in most vlogs and even blogs for that matter the idea generally is as a user and visitor to a blog or even through RSS feeds to keep an eye out for latest posts. But, also blogs do operate as an archive that can be searched in a number of ways. The trick is to possibly work with both of these features.*

(Keen 2007a)

In later iterations of the VD System, many standard features of blogs, including chronological posting, were removed. These modifications demonstrated a shift away from the ongoing videoblog practice of regularly posting clips towards structuring a multilinear narrative from a collection of clips. This was similar to the way the *Hazzards Videoblog* was produced using existing footage. A blogging CMS was being used in this prototype for archival purposes rather than videoblogging.
Databases

In order to consider the relationships between the characteristics of a database and the formation of associations between granules, in connection with the concept of ‘montage’ (Eisenstein 1974), in a multilinear nonnarrative, ‘database’ as a concept needs to be clarified. According to Manovich a database is:

…defined as a collection of data. The data stored in the database is organised for fast retrieval by a computer and is therefore anything but a simple collection of items. Different types of databases—hierarchal, network, relational and object-orientated—use different models to organize data. (2001, p.194)

In my inquiry, a database is used to make a multilinear nonnarrative. For instance, Hazzards Videoblog as a digital artefact uses a relational database as part of a CMS to store video files, which as single shots are connected together into a categorical form of multilinear nonnarrative, using indexing.

Manovich (2001) draws attention to different principles underlying the way that relations are created in a narrative and how a database is used to organise information. Manovich refers to these principles of organisation as ‘database logic’ (2001, p.194). Manovich takes the view that:

…a database represents the world as a list of items and it refuses to order this list. In contrast a narrative creates a cause-and-effect trajectory of seemingly unordered items (events). Therefore, database and narrative are natural enemies. (2001, p 199)

Even though this view asserts an incompatibility between these two different processes, Manovich (2001) believes that the formation of relations between granules in a work can be achieved using a database.
In ‘The Database as a System of Cultural Form: Anatomies of Cultural Narratives’ (Paul 2007), the author examines a video installation that works with the ‘logics’ of a database. Fragmentation and classification are used to create a different interpretation of programs in a television series. In ‘Every Shot Every Episode’ (McCoy & McCoy 2001), as shown in Figure 31, a database is created by assembling TV programs onto DVDs in a video installation. Each shot in ‘Every Shot Every Episode’ is burnt onto a DVD as a collection of shots; 227 DVDs are stacked and catalogued on the wall beside a DVD player and screen. In ‘Every Shot Every Episode’, twenty episodes of ‘Starsky and Hutch’ (the 1970s television series) are transformed into, as Paul describes, ‘a form of enhanced cinema that focuses on the construction of single shots and the messages that they convey’.

Figure 31: Photo, Every Shot Every Episode installation (Jennifer McCoy, Kevin McCoy 2001)
Connections can be made here with the use of single shots in *Hazzards Videoblog* and the use of indexing to create thematic groupings of shots—such as in a DVD titled ‘Every Laugh’ within this video installation, in which all the shots that contain laughing are grouped together (The Metropolitan Museum of Art 2006). The DVDs act like the categories used in *Hazzards Videoblog*. Paul (2007) suggests that the functionality of a database is often used in visual art to explore associations that are not made visible in the original material. In ‘Every Shot Every Episode’, I would suggest that a categorical multilinear nonnarrative is created out of existing television programs using an indexing process and the storage functionality of multiple DVDs presented as a collection.

In relation to exploring whether a database can be used to create an online interactive documentary, Kinder (2003, p.348) maintains that the functionality of a database operates in simpatico with the process of forming relations between granules in a work. Kinder sees:

…database and narrative as compatible structures whose combination is crucial to the creative expansion of new media, since all narratives are constructed by selecting items from databases (that usually remain hidden) and then combining these items to create a particular story. (2003, pp.348–9)

A connection can be made here with the way a television documentary is edited together. In nonlinear editing on a computer shots are trimmed, labeled and stored in multiple directories. Shots are then selected and combined to create a work. A linear timeline in this case is used to structure the relations between shots. In a database, Kinder (2003) claims that once granules are arranged into categories and a framework is
established for retrieval, then a pattern is created in relation to a user having motivations to pursue and follow. In *Hazzards Videoblog*, I learned how to use a multilinear rather than a linear structure to achieve a similar aim: the creation of patterns from a database of shots. I would suggest in this inquiry, working from Manovich and Kinder's arguments, that a database sustains the creation of a multilinear nonnarrative as a form of online interactive documentary.

**Remix**

I would propose that the design of VD System 1 offered limited interactivity to the user due to the database operating like an archive. For instance, in *Hazzards Videoblog* a user can choose a video clip from the matrix of previews on the opening index page, view it at a discrete URL, then return to the index page and choose another preview and clip. This menu-based design leads to clips being selected and viewed separately and connects with Murray’s earlier point about users not being engaged enough when information is presented in this way. I contend that the notion of these clips as a collection that work as a unified whole is not fully realised in this menu-based design. Instead, a database is mainly being used to store and retrieve one clip at a time. This limited interactivity is not uncommon in a database, which is used to simply provide an accessible record for users through a menu-based structure.

The missing component in VD System 1 was the remix quality, where the user acts as a type of editor, as in Marker’s *Immemory* (1997). The user navigates the content in *Hazzards Videoblog* by utilising menus, the preview matrix pages and search feature to access and retrieve one video clip at a time. Clips in the *Hazzards*
\textit{Videoblog} are viewed singularly, rather than in a multi-window configuration. The lack of a multi-window option to combine clips means there is a limited use of spatial montage compared to the earlier rhizome sketches and \textit{Train Trip} (Keen 2006d). The thumbnail matrix on the front page and in the category sections utilises the spatial affordances of the screen, but clicking on a preview (like in catch-up TV) takes the user to a single, linear clip. This makes this iteration of the VD System similar to a video-sharing platform like YouTube. What is not made available to the user is the ability to act like an editor and remix clips together into various orders. This process of the user becoming a type of editor has been described as an integral part of a design approach toward interactive cinema projects (Davenport & Murtaugh 1997).

In \textit{Hazzards Videoblog}, I use the functionality of a relational database as part of the CMS to index clips into a form of archive. What I see occurring here is an exploration into how this type of database system and indexing can be used to create a web of relations between shots, and through that process enable a user to edit a work together. Davenport and Murtaugh propose that a relational database can be used to involve the user in the editing process:

\begin{quote}
...when I was working on my first “interactive” documentary, I was introduced to the concept of relational databases. From that time forward, I have had the sense that if we could only find the right way to index documentary film segments, then we could design an “editor in software” that would emulate the processes and expertise of the film editor. (1997, p.449)
\end{quote}
Conversely, in VD System 1, I have utilised the functionality of a relational database to keep clips separate, rather than form a unified whole with multiple clips. If Davenport and Murtaugh’s concept aims to create a type of editing software, then I propose that the design of the interface needs to facilitate remix as an editing process that can be used to assemble a work made up of multiple clips.

Manovich concludes that ‘creating a work in new media can be understood as the construction of an interface to a database’ (2001, p.200). In digital media, in contrast to most traditional visual arts, the interface and content are independent. The design of the interface can change how a database is used and subsequently the experience for the user (Manovich 2001). The interface in the Hazzards Videoblog, which is a slightly modified version of a typical blog interface, is primarily designed to provide (like in a videoblog) access to separate clips stored in a database and is structured around chronological posting. However as I was interested in using a CMS for a different purpose, the design of the VD System was motivated by the aim to facilitate remix and spatial montage as an integral part of a multilinear nonnarrative.

**Interactive Video Content**

Looking for a way to bring remix and spatial montage back into the interface design of the VD System, similar to what occurred in the rhizome sketches and *Train Trip*, I explored making each piece of video content interactive in the next prototype made in VD System 1.
Train Travel Vlogumentary

In the *Train Travel Vlogumentary* (Videodefunct 2007c) prototype (see video chapter 7 *Train Travel Vlogumentary* on RECORD.mov) I experimented with remix and spatial montage in the content added to VD System 1. This means rather than having multiple windows in the interface of the tool, as was the case with the rhizome templates, different multiple window compositions were created as separate interactive videos, and then added to VD System 1 as content. I made five interactive videos using the application EZediaQTI, which were uploaded into VD System 1. The aim was to experiment with remix and spatial montage within the content created, rather than in the design of the VD System interface. Therefore, the main focus of this part of the practice inquiry concentrated on the design and production of several interactive videos. As I described in my blog:

*The [interactive videos] are explorations of the theme ‘train travel’ and are influenced by a poetic approach. The poetic angle provides plenty of room to explore a number of varying types of form that utilise spatial montage and interactivity. I am not sure where it is all going but overall the aim is to create a broader sense or experience of train travel through a series of small video responses.* (Keen 2007c)

The prompt informing the creation of these interactive videos, and the *Train Travel Vlogumentary* prototype in Figure 32 as a whole, focused on a poetic approach towards using spatial montage. The content of these videos would document poetic interpretations of my own travels on the Melbourne train network. The following evaluation of this prototype places emphasis on the concept of creating a ‘vlogumentary’ and analysing spatial montage in more detail.
Through creating the prototype *Train Travel Vlogumentary* I developed some criteria for making a ‘vlogumentary’. In a blog post at that time, I proposed the following criteria as a starting point:
What is a vlogumentary? I see it as an audiovisual (AV) documentary that uses a blog structure or (CMS) Content Management System. It has the following properties:

1. The predominating medium is video and audio in varying forms.

2. The blog is created for the duration of the documentary production and is therefore set up around a particular intent with a completion date.

3. The concept of a blog being chronological and set around the latest post is important but also the blog as an archive is crucial. This means the access to the rest of the content through (searching, categories and archives) needs to be considered.

4. The posted AV content needs to be short in duration with a degree of self-containment, along with being part of a larger whole (the blog).

5. Possibly there could be links from one post to another to direct user engagement.

6. The blog is open to two-way conversation (via comments) with the participants in the documentary and others outside of the project. (Keen 2007c)

In regards to the earlier discussion on Manovich’s concept of designing an interface to a database, I was still unclear at this stage in the design process about how customised blogging software could be used to create a multilinear nonnarrative form of documentary. As an example, in the blog entry above the
chronological and comments feature of blogging software were still seen as being included in the design of the VD System. The objective at this stage in the design process of the VD System was still to maintain many of the features of a blog. My vlogumentary criteria draw attention to the influences that existing qualities of blogging software had on the customisation process within the VD System.

In *Train Travel Vlogumentary* I made each interactive video different as part of exploring how the affordances of remix and spatial montage, could be used to make poetic representations of topics in a multilinear nonnarrative. Some of the interactive videos continued to utilise the diptych composition of the earlier rhizome sketches, while others explored a matrix of four video windows. In this analysis I chose to examine one of the interactive videos, titled *Crossing* (see video chapter 7 *Train Travel Vlogumentary* on RECORD.mov).

*Crossing* is a diptych composition of two video windows. A train passing through a crossing is documented in two shots, one wide shot and the other a close up, as depicted in Figure 33. In the left window the long shot captures the train passing and the stop sign in the foreground at the crossing, with the sync sound heard on playback. In the right window the same stop sign at the crossing is framed in a close up and the synch sound is mute. In the bottom corner of *Crossing* a square button links to another interactive video posted in the prototype. The hyperlink is used to create relationships with other interactive videos in *Train Travel Vlogumentary*. Interaction for the user in *Crossing* simply involves starting and stopping each shot separately to create different combinations between the two shots in the two windows.
In an analysis of comics McCloud (1993) calls the space between two panels in a comic strip the ‘gutter’. The gutter in comics is the space where the reader creates ‘closure’ by making connections between panels. In this argument closure in relation to our perception involves the reader bringing granules together.

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6 The term panel in a comic refers to a single image that captures a moment in time. A comic strip is made up of multiple panels or images that are used to create a sequence.
into a comprehensible whole. Temporality, movement and a sense of place are created by the comic reader through the closure that occurs in the gutter. Closure in comics is used to join ‘moments and mentally construct a continuous unified reality’ (McCloud 1993, p.67). McCloud (1993) identifies six types of transitions between panels to analyse the different ways that content is used to create closure in the gutter.

The first transition, ‘Moment-to-Moment’, is—as the description suggests—a subtle difference in an action between two panels that occurs over time. For example as McCloud (1993) illustrates, the planet Saturn becomes bigger as a satellite moves towards it. The second transition, ‘Action-to-Action’, involves more change between the two panels. For instance, in the first panel a baseball player stands ready to bat then in the second panel hits the ball. ‘Subject-to-Subject’, the third transition, indicates a shift from one idea to another within a sequence. In McCloud’s example, in one panel an athlete crosses a finish line, then in the second panel the timekeeper clicks a stopwatch. A ‘Scene-to Scene’ transition takes a bigger leap for the reader, moving from one place to another or flashing forward substantially in time across two panels. For instance, in one panel a person is in Bombay, in the next another person is in Paris. The fifth transition, ‘Aspect-to Aspect’, focuses on a detail related to what is presented in the first panel. For example, in one panel is a decorated Christmas tree in a house, in the second panel Santa’s face in the blizzard. McCloud states that this transition ‘bypasses time for the most part and sets a wandering eye on different aspects of a place, idea or mood’ (1993, p.72). The final, sixth transition—‘Non–Sequitur’—is more ambiguous, with the aim being ‘[to offer] no logical relationship between panels whatsoever’ (McCloud 1993, p.72). In
McCloud’s final illustration, in the first panel is a spaceship, in the next an old couple stand in front of a farmhouse.

Therefore, working with McCloud’s concept of closure and the spaces between video windows, there is a gutter in *Crossing*, which can be analysed using the ‘Aspect to Aspect’ transition, which is described as providing a sense of a location (McCloud 1993). In this work I aim to provide a user with an idea of what it is like to wait at a train crossing. The diptych composition is used to emphasise the impenetrable barrier that the train and junction gate create for the pedestrian. Juxtaposing wide and close-up shots of the event provides an opportunity to explore the spatial relationships between these two perspectives, in the gutter. Closure for the user involves a simultaneous engagement with these two perspectives and forming relationships between them in the gutter. McCloud describes this as participation, with the readers bringing their own interpretation to what occurs in the gutter.

In *Crossing*, even though the images are not static as in a comic, closure occurs in a similar way to how it occurs in a comic. In ‘Metonymy in the Moving Image: Multichannel Cinema’ (Rhodes 2005) the term ‘multichannel’ is used to refer to the screen being split into multiple frames, while a screen that is not split into multiple frames is referred to as ‘single channel’. Rhodes states: ‘It is for us, to reconcile this irreconcilable space, to invent closure between these panels, to imagine the virtual set—or world—which includes both channels’ (2005, p.11). Connections can be made here with McCloud’s appraisal that the reader of a comic creates closure in the gutter between panels and Manovich’s concept of spatial montage. In Rhodes’ evaluation, the relationship of the viewer is changed in ‘multichannel cinema’
due to the viewer needing to resolve the space between channels. Single-channel cinema is replaced with image ‘contiguity’, the coexistence of images. Instead of meaning being passed on from one image to the next through image replacement, like in single-channel cinema, meaning is dispersed spatially (Rhodes 2005). Rhodes concludes that ‘instead of transference of meaning, one shot leading/building to the next there is a spreading … a contagion’ (2005, p.19). Manovich’s concept of spatial montage and McCloud’s notion of closure applies too, as in a multi-window work like the Crossing the user as a viewer, like a reader of a comic, makes connections between the ideas that are presented spatially across the two windows.

In reference to Rhodes’ (2005) concept of ‘contagion’ and a form of juxtaposition occurring spatially, the two shots in Crossing are played out of sync in a contradictory manner. The wide shot of the train passing in Crossing loops repetitively, the close up of the stop sign is also set to loop. The user can start or stop each shot separately, causing different combinations to occur between the shots in playback. Having one shot with sound and one mute creates variations in the way the audio is portrayed in relation to the video. The shots are designed to playback together, and individually, in no particular order. In reference to McCloud’s concept of the gutter, and the Aspect-to Aspect transition, I would suggest that my aim is to create disjuncture between the two windows through the way these two shots have been edited and combined in the diptych.

The concept of montage for Eisenstein (1974) describes the process of two shots being juxtaposed to produce a more significant effect than the individual shots. As Eisenstein states:
The basic fact was true and remains true to this day, that the juxtaposition of two separate shots by splicing them together resembles not so much a simple sum of one shot plus another shot—as it does a creation. It resembles a creation—rather than the sum of its parts—from the circumstances that in every such juxtaposition the result is qualitatively distinguishable from each component element viewed separately. (1974, p.8)

Eisenstein’s argument focuses on a change occurring when two shots are edited together, with that change producing something that did not exist before. The viewer’s interpretation brings about, to use Eisenstein’s term, the ‘creation’ that is formed through this combination of two shots. It could be argued, using Eisenstein’s concept, that in Crossing the user produces an interactive, spatial montage ‘creation’ through both viewing and engaging with multiple shots spatially. This type of creation in Crossing occurs spatially rather than temporally as it would in a cinematic edit, and is reliant on a user to make it happen.

Aspects of Bizzocchi’s (2009) analytical framework for split-screen works can be used to evaluate the use of spatial montage in Crossing. In ‘The Fragmented Frame: The Poetics of the Split-Screen’ (Bizzocchi 2009), the spatial dimension of the screen is referred to as a design process that can be analysed from the perspective of ‘three levels: the narrative, the structural and the graphic’ (Bizzocchi 2009, p.1). In Bizzocchi’s critique of split-screen film and television a window is described as a ‘frame’. The ‘narrative level’ examines the change that is used to develop and progress the relations between granules as a whole, across multiple frames, along with looking at how those relations are organised within each frame. The ‘structural level’ focuses on ‘the formal relationships between the frames’ (Bizzocchi 2009,
Bizzocchi includes looking at representation of time, space and the use of aesthetics like repetition and scale, along with the associations that are created between images and sound as aspects of these formal elements. The third level, graphic elements, assesses the design of the split-screen composition, which includes looking at the shape and number of frames, the layout, and the changes that occur to that configuration over time (Bizzocchi 2009).

Looking for a method to evaluate the ‘narrative level’ of a split-screen work, Bizzocchi (2009) refers to Eisenstein’s list of ‘conflicts’ used in association with the concept of ‘montage’ in cinema editing. Eisenstein’s list is: ‘Conflict of graphic directions, Conflict of planes, Conflict of volumes, Conflict of scales and masses, Close shots and long shots, Conflict of depths, Conflicts of light and darkness’ (Eisenstein cited in Bizzocchi 2009, p.4). Eisenstein (1949) describes conflict as being used in montage to create explosions similar to those that occur in a combustion engine. The explosions that occur between shots through the process of conflict move a linear narrative forward, from beginning to end. Close and wide shots along with others in Eisenstein’s list are described as creating conflict by utilising a ‘principle of optical counterpoint’ (1949, p.40). In Crossing, I propose that a wide and close-up shot of the same event are used to create a notable difference between the two shots presented alongside each other. In reference to Eisenstein’s concept of a conflict, different perspectives are used in Crossing to create a juxtaposition between the images visually. However, in Crossing the objective is to not progress a narrative forward, instead the idea is to invite a user to explore relationships spatially as part of performing the work.
An illustration of working with the structural level and graphic elements of Bizzocchi’s framework exists in the interactive video *Preoccupied*, also posted to the *Train Travel Vlogumentary*. In *Preoccupied*, variations of the same shot are repeated across a four-window matrix, as shown in Figure 34. In these shots the passing train tracks and sleepers are recorded from a train window. The four trimmed shots are looped from different starting positions, similar to the technique used in *Crossing*. The rhythm of the train moving on the tracks remixed from different start points creates repetitive, rhythmic movement and sound. In relation to Bizzocchi’s structural level concept, repetition as an aesthetic is intensified in *Preoccupied* by adding additional video windows to the composition. At the graphic elements level, the rectangular diptych used in *Crossing* is duplicated into a square matrix in *Preoccupied*. This increases the number of gutters between windows and requires closure to occur across four windows.

*Preoccupied*, and the earlier experiments carried out in the rhizome sketches, have obvious parallels in terms of the temporal and spatial aesthetics that can be created between multiple windows. In the interactive videos produced in the *Train Travel Vlogumentary* I continued to explore, as in the rhizome sketches, Manovich’s concept of defining conventions for working with spatial montage. I contend that Bizzocchi’s analytical framework, as demonstrated in the critique of *Preoccupied*, is useful to begin working out some approaches to designing the spatial composition of multiple windows, and how time and space are represented.
Granular Design

Remix and spatial montage were used in the interactive videos added to VD System 1 to provide an experience for the user different to the earlier Hazzards Videoblog. In Train Travel Vlogumentary the user is expected to interact with each video as a type of independent granule within the work as a whole. Also, as opposed to viewing a linear video clip in a single window in Hazzards Videoblog, the user in Train Travel Vlogumentary engages with relations that are created between shots spatially across multiple windows in an interactive video. The remix aspect of the user acting as a type of editor occurs
through an engagement with each interactive video. However, I suggest that this creates the potential for a user to become caught up in one interactive video inside the prototype, rather than forming relations between numerous interactive videos in the work. This is an issue if the aim is to create a web of relations between granules in a work as a whole. Instead, in *Train Travel Vlogumentary* I used a customised blog CMS to present interactive videos that function separately, like individual rhizome sketches.

In *Train Travel Vlogumentary* as a whole, granularity is present within the interactive videos themselves, like in a rhizome sketch. How granularity is utilised relates to Brooks' (1996) point about defining the size of each granule in regards to the complexity of the relationships that will be created between them to form a larger work. In regards to my earlier vlogumentary list of points, to create short duration videos that work together as part of a larger whole, I do not think the interactive videos in *Train Travel Vlogumentary* achieve that aim. This is because the multiple relations created between shots occur independently within each interactive video rather than between them as a collection. These interactive videos are designed to function as relatively complex stand-alone works rather than be used to form multiple relations with other interactive videos. Another issue is production time: I stopped making interactive videos for *Train Travel Vlogumentary* because each one involved a lot more work than simply trimming in and out points on a single shot like in the other sketches and prototypes. I realised through making *Train Travel Vlogumentary* that a remix quality, and the use of spatial montage, needed to occur within the design of the VD System interface, in the tool itself, rather than in the content.
Readable

In this inquiry I did not seem to be able to lose the use of spatial montage in the interface design. I have argued previously in the critique of the rhizome sketches that working with multi-window compositions is tied to using the spatial affordances of the computer and responding to the multi-tasking habits of Internet users. In *Train Trip* spatial montage was used to explore multiple relations between an increased number of clips, and the spatial affordances of the screen were also utilised for navigation purposes. In *Net-vlog* and the *Hazzards Videoblog*, I suggested that the absence of using spatial montage to remix clips into different combinations caused the works to become like versions of catch-up TV, with each clip viewed in isolation. In *Train Travel Vlogumentary*, I outlined that spatial montage is used to work with McCloud’s concept of transitions and subsequently the closure that can occur in the gutters between multiple windows spatially. Another reason for using spatial montage, I would contend, is linked to exploring how a database can be used to create, in relation to the prompt informing the design of the VD System, poetic representations of video online. To further this interest in achieving poetic outcomes, I suggest that Manovich’s (2001) database logic concept and Murray’s (2012) encyclopaedic affordances of computers could be utilised to achieve this aim.

An issue that Schneider (2011) points out in relation to affordances of the network is the potential to lose the poetic qualities that most documentaries strive to achieve in a linear form. Schneider (2011), in a proposal for the redefinition of documentary within networked conditions, as explained earlier, outlines that the process of making moving imagery ‘readable’ for indexing, storage
and retrieval creates a form of image in which everything is made apparent. Schneider states:

…everything is supposed to become legible and decipherable in order for it to be searched, categorised, indexed, tagged and in the last instance subject to an algorithm. (2011)

The image subject to these conditions loses anything that is ‘unreadable, illegible and unforeseeable’ (Schneider 2011).

Iorga provides a useful overview of the argument Schneider presented at the Video Vortex 6 (2011) conference:

Schneider controversially claims that text-to-image hybrids (i.e. subtitles), which can be indexed, represent death to film since they make everything calculable. This anti-computationalist perspective continues with his recommendation of an algorithm that produces difference rather than sameness, multiplicity instead of identity, since online aesthetics are all about weaving items into a mesh of similarities instead of discontinuities. (Iorga 2011)

The inclusion of spatial montage in the interface designs in my inquiry was partially motivated by Schneider’s (2011) ‘readable’ issue. In contrast with the process of making everything ‘calculable’, to use Iorga’s description, the objective through the aesthetics of spatial montage is to make the loose relations that are created through the indexing process evident for the audience. These loose relations between shots are made visible to the audience in the space between windows and are achieved by working with remix and spatial montage in a variety of ways within the dimensions of the screen.
Multi-window Playback

The interactive videos in *Train Travel Vlogumentary* (Videodefunct 2007c) encouraged me to use spatial montage in a different way for the next prototype. The remix aspect of the VD System needed to bring a collection of shots together, rather than being a feature in the content added to it. *Hazzards Videoblog* (Videodefunct 2007b) and *Train Travel Vlogumentary* were small-scale prototypes that had minimal content added to them using VD System 1. They were used as tests to find out how the interaction design should progress. The next iteration of the VD System involved integrating a multi-window video player into the interface design.

Videodefunct Pedestrian

VD System 2

The VD System 2 iteration moved away from the typical interface used in blogs, to an interface that featured a multi-window video player. This interface design we called the ‘VD Player’. Recognising the potential to start making documentaries in VD System 2, the prototype *Videodefunct Pedestrian*, (see video chapter 8 *Videodefunct Pedestrian* on RECORD.mov) was produced and submitted to a net-art exhibition as shown in Figure 35.

The design of VD System 2 brought together varying responses to the concept of designing a hybrid form of videoblog. My role as manager of the project was to work out what could be ‘mashed’ together in the design of the VD System. At that point in the project, Deverell was working on a multi-window display:
Keith Deverell, the third member of the VD collective had been developing through his VJing practice and Masters Design (Communication) research, interfaces that explored the simultaneous display of multiple video windows. These interfaces, following the VJ process of calling single clips from an archive, acted as a type of mixer. (Keen 2008, p.233)

Creating a ‘bridge’ to integrate this video mixer concept with the customised fields and video archive features developed earlier, proved to be a significant step in the design of the VD System. At that time, coinciding with these developments, WordPress
developers added a tagging feature to the latest update of the WordPress CMS. Being able to index clips with both a category and tag added another hierarchical layer to the indexing process. Having more than one level of indexing allowed for the creation of a more complex informal taxonomy and set up the functionality required to combine clips together in a multi-window composition, and consequently counter Schneider’s ‘readable’ issue. I would suggest that the ability to work with two levels of indexing in combination with the affordances of remix and spatial montage provided the opportunity to create a poetic portrayal of the everyday.

Working within the dimensions of the browser window we decided to explore, as in my previous Masters work *The Hazzards* (Keen 2005), a rectangular triptych composition for playing back clips in the VD Player interface. Three windows provided the potential to create more complex spatial relations between shots compared to the two windows in the rhizome templates, and facilitated a layout of three columns of preview images underneath the triptych playback windows. The centre column was used to display text and previews associated with categories. The left and right columns were used to display text and previews associated with tags from the database of clips. The two levels of indexing of categories and tags in combination with the triptych composition provided the possibility to remix clips together, across the three video windows.

Initially three separate web pages were created in VD System 2. The first web page was used as an index. The index web page functioned like an archive (later called the ‘database’ web page) that displayed all the clips added to the prototype. This web page operated like an archive interface in conventional videoblogs,
as demonstrated in Figure 36. The clips were listed in reverse chronological order and displayed individually using previews. Each clip on the home page was presented with title, category and tag metadata. Individual permalinks were accessible, with each clip being able to be viewed on a separate web page with its own URL.

The second web page featured a type of tag cloud, similar in design to what was used in *Net-vlog*, as shown in Figure 37. From the index page the user, via a ‘Player’ link, moved to the second web page. This web page presented a list of the categories created in the indexing process, with frequencies of clips assigned to each category. Clicking on a chosen category linked the user to the third web page, the VD Player, where videos could then be viewed.
The third web page was the VD Player design. Here, previews associated with the chosen category appeared in the middle column under the triptych video windows composition. A selected clip from this middle column, displayed in the middle window, brought up two repeated lists of tags in the left and right columns, as displayed in Figure 38. By selecting tags and clips from the displayed previews in the middle, left and right columns, the user could combine three clips in the triptych composition. If the user rolled over a video window the sound was played from that clip, while the sound level in the other two clips was reduced.

VD System 2 facilitated the production of a more substantial online interactive documentary prototype than the earlier tests.

Figure 37: Screenshot, Videodefunct Pedestrian category webpage (Videodefunct 2007)
With the issue of uploading and embedding video taken care of in VD System 1, I developed a production workflow for editing and compressing clips for publication for VD System 2. Included in that process was a consistent approach towards editing the shots into granules quickly and simply. In Videodefunct Pedestrian these were shots of 15–60 seconds. The editing involved selecting in and out points from the rushes for each video clip. The ability to categorise and tag each clip in VD System 2 provided the opportunity to develop an informal taxonomy utilising these two different levels of indexing as each clip was uploaded in the administration panel.

Figure 38: Screenshot, Videodefunct Pedestrian VD Player (Videodefunct 2007)
Everyday

Within the context of the net-art exhibition, *Videodefunct* *Pedestrian* aimed to portray representations of the everyday that are often seen on blogs and videoblogs. ‘Pedestrian’, on a secondary level, acknowledges someone walking the streets and recording their surroundings and experiences:

Pedestrian started out as a vlog response to the banal, the everyday as in plain vanilla, humdrum, boring, run-of-the-mill, dull, and ordinary. The content in Pedestrian is shots of locations in Melbourne, Australia and a train trip from Melbourne to Adelaide, in South Australia. Deverell recorded the shots on a domestic level video camera as he moved through these locations. The material has a personal candid tone that reflects his point-of-view. The style of the shots has a lot in common with early home movie footage that documented holiday and travel experiences. (Keen 2008, p.274)

With the ‘blogart’ exhibition brief requiring a media art outcome, there was freedom to take an experimental approach, which provided plenty of leeway for this work to be an abstract form of multilinear nonnarrative. I created abstract themes by using ambiguous words such as, ‘passing’ and ‘obstruction’ to name the categories. The tags, in comparison to the categories, in most cases were literal and descriptive, such as ‘Architecture’ and ‘South Australia’, which ties in with Schneider argument about the process of indexing making everything readable. However, I propose that the tags were generally more literal because this level of indexing involved referring to corresponding details in multiple clips rather than the categories offering a broader representation of a group of clips. In regards to achieving a poetic outcome using indexing I suggest that the combination of
abstract categories with literal tags provided the opportunity for serendipitous associations to occur.

Exploring the everyday continued the focus on this topic as evidenced in many of the artefacts produced earlier. In *The Everyday*, Johnstone (2008) describes how artists look for ways to make what often goes unnoticed, visible. Artists, through varying interpretations of the everyday, following different motivations, draw attention to the ‘trivial and repetitive actions compromising the common ground of daily life’ (Johnstone 2008, p.12). In *Videodefunct Pedestrian* forming relationships between shots and combining them spatially creates a poetic interpretation of the everyday. VD System 2 as a type of remix system allows categorical forms of online interactive documentary to be made, of which *Videodefunct Pedestrian* is one example. In this work I chose to work with the everyday and present it from different perspectives, not only within the single shots recorded, but also through how those shots were combined spatially in the triptych composition.

**Remix Poetics**

In regards to utilising remix as an affordance in the design, the VD Player interface enabled the user to construct the work, as documented in my blog:

> The prototype Pedestrian is currently in development, merging the database back end and user interface of WordPress with customised presentation methods utilising Asynchronous JavaScript and XML (AJAX). The aim is to provide the user with a number of alternatives in terms of the playback of the video clips...they may be viewed in clusters in a random fashion as well as in more structured ways that are influenced by the choices the user makes. (Keen 2007d)
In VD System 2 the user has the ability to bring clips together into different spatial combinations.

In the ‘Videodefunct’ (Keen & Wolf 2008) presentation at the international ‘DIY TV: Video, UGC, Mobile and IP TV content & services’ (X-Media Lab 2008) event, VD System 2 was described as being a ‘recombinant video player’. Seaman uses the term ‘recombinant poetics’ to refer to a ‘computer-based mechanism that enables her/him to become actively engaged with aspects of experience arising from the combination and recombination of text, image and/or music/sound elements’ (1999, p.35). I suggest that this recombinant process is a remix process as discussed in relation to the rhizome sketches and the ‘recombinatory’ (Shaw 2003) concept of using the affordances of computers to create a range of different relations and patterns between granules. The term recombinant within the context of Seaman’s research describes how ‘the user of this techno-poetic mechanism metaphorically ‘splices,’ ‘combines,’ and/or ‘recombines’ media-elements to create ‘novel’ combinations, producing new ‘mediamolecules’ (1999, p.35). The VD System as a recombinant video player draws attention to the remix process, providing both a method for recombinating shots, and through a process of montage and collage the creation of additional meaning. For instance, the user is able to select tranquil shots of the calm sea at St Kilda beach and play them back beside views of passing Australian bush through the window of a train. This combination of shots in *Videodefunct Pedestrian* references Eisenstein and McCloud in creating something new in the spaces between the three windows.

The interactivity provided by the VD Player feature can be seen as documentary makers moving towards being ‘designers of combinatory engines and the possible narrative and nonnarrative,
discourses they enable’ (Miles 2008, p.226). Miles contends that it would be naive to describe the VD System as being interactive; a more appropriate description is a:

...combinatory [environment] which provides templates or structures that provide for possible connections to be formed … engines that allow content to be contributed and then ‘mixed’ (for want of a better term) on an ongoing basis. (2008, p.228)

In *Videodefunct Pedestrian* video content is uploaded into a system that enables multiple connections to be formed between shots. In a typical videoblog the videoblogger uploads video content for it to be viewed as a single shot or sequence in isolation. Miles (2008) concludes that videoblog content is about creating and publishing, in comparison to designing a system as a type of combinatory engine that enables content to be remixed online. In most cases a video clip on a videoblog or on YouTube is designed to be viewed, not remixed. The move to designing a type of combinatory engine for presenting online video represented a significant shift away using the web as a type of TV publishing platform for single, linear clips in my practice.

**Closed System**

Later in 2008 I noticed that the approach towards modifying blogging software in the project was different to that used in the Show in a Box (2007) project:

In comparison to the [VD System], a key objective in the Show in a Box project is to continue utilising the social media functionalities of video blogging. Most conventional video blogging utilises commenting, trackbacks and web syndication available on each post, as a way to generate connections
and communities across other websites. A defining feature of blogging is the permalink, which provides each post with a singular identifiable web address. The permalink has a significant effect on the social media functionality of blogging by fragmenting a web page into smaller units that can be accessed as individual web pages. In contrast, the VD player creates a type of self-contained media object that is made up of numerous clips. Not being tied to these social media functionalities allows the VD system to move to a form of access that does not rely on an archiving system based on chronology. (Keen 2008, p.236)

The blog CMS was being customised for a different purpose in the project compared to Show in a Box, which focused on videoblogging practice. Unlike the Show in a Box project the design of VD System 2 did not include the use of these blog characteristics, because the VD System 2 focused on using indexing to remix multiple clips in a multi-window composition as a unified form of documentary.

In *Videodefunct Pedestrian* the video clips are accessed via three URLs on three web pages. In later iterations the VD Player was designed to use a single web page, at one URL. This removed the permalink feature, and the discrete URL links, to each of the posts as separate web pages, like in a videoblog. In connection with Moskowitz's (2011) argument that most online video does not have its own discrete URL within the web, the removal of the permalink feature in the blog CMS represented a shift away from this aim. At least on a video-sharing website like YouTube, or a videoblog, each video can be accessed on a separate web page, at a discrete URL, in contrast to all the videos in the VD Player interface having a single URL. Therefore, the removal of
permalinks in the VD System contradicted my initial objective of utilising the affordances of the network and working with the characteristics of a blog. One reason for the removal of the permalinks was due to the aim to create a documentary as a completed, discrete media object made up of multiple clips. However, even though Videodefunct Pedestrian was made in a closed system, I still worked with granularity to form a web of relations between shots. The change in the design of the VD System led to a continuing focus on granularity, only now internally within a closed system.

In regards to using the affordances of the network to convey a multilinear nonnarrative online, VD System 2 removed the ability to create links externally to other content on the web. In a WordPress blog users can make comments, create trackbacks and pingbacks to individual blog entries, and users can add content to the blog being visited as well as create external links to other websites. In parallel with this the producer of the blog can utilise the ‘intertextuality’ (Landow 1992) of the network to create links with other content on external websites. All of this was removed in VD System 2, making the system closed to the network. In the Hazzards Videoblog and Train Travel Vlogumentary prototypes all these blog features were kept; even the permalinks remained, with users being able to link to a video clip on its own separate web page. Making the VD System closed meant the system was relying solely on the internal relations created between shots within the work, and represented a shift back to a more traditional documentary approach of the producer having complete control over what was portrayed to the audience, as the granules used to make a these multilinear nonnarratives could only be created by the producer of the work.
With all my works to date being able to be viewed solely on a computer, does this mean only the affordances of video and computers are analysed in this study? For example, as explained earlier the VD System as a closed, self-contained system could operate offline with the Internet unplugged. However, I argue that in my inquiry the affordances of the network are still being explored in a prototype like Videodefunct Pedestrian. Firstly, customising a popular form of blogging software designed to manage the articulation and publication of content on the web reflects the goal to explore how the affordances of the network could be utilised. For instance, working with the indexing characteristics in blogging software demonstrates the design of the VD System being open to some blog characteristics and the process of tagging used to classify content on the web. Secondly, with all the works made in this inquiry published online, the critique has been conducted in relation to the network. For instance, the design of Train Trip was informed from Weinberger’s (2003) network concept of ‘small pieces loosely joined’ and the resulting discovery was used to iteratively inform the design of the following Net-vlog and VD prototypes. Finally, in association with other online interactive documentaries that are predominantly closed and situated within the ‘categorical form’ (Nash 2012), the documentaries made with the VD System are designed to be published on the Internet and engaged by users on that platform. The ability to publish Videodefunct Pedestrian online continues this exploration into the categorical form of online interactive documentary.

In addition to this, we had not stipulated in the proposal guiding this phase of the research that interactive online video had to include contributions from users. We did not plan to create
what Nash refers to as a ‘collaborative’ form of online interactive documentary where Nash differentiates the collaborative form by focusing on additions made by users:

… the community that forms around the project provides the structure of the project in the first instance. The meaning of the documentary for those who participate is bound up with the relationships that form through their contribution… (2012, p.206)

In this collaborative form several different social networking activities may be provided to users, such as adding content, commenting, messaging other users and forming a community of collaborators around the work (Nash 2012). A connection can be made here with many of the activities that take place on a blog. This use of social media practices and the affordances of the network links with Gaudenzi’s (2013) assessment of what she describes as the participatory mode of interactive documentary, and its likely expansion in the future.

In Videodefunct Pedestrian the decision to work with single shots as content was retained in the next prototypes as part of continuing my interest in exploring spatial montage aesthetics using a single shot, and working with a fine granularity. The duration of 20 to 90 seconds was used as a guideline for the editing. The trimming of the in and out points on each shot was informed by the motivation to create granules that functioned independently. In relation to the notion of granularity, selecting a large number of shots to be played independently in the VD Player interface introduced me to thinking about the meaning that could be represented in a shot, within a short duration, and between shots spatially in the triptych composition. The notion of ‘meaning’ in this context is related to how each clip will be used, in this case to create a web of relations between
shots. Even though I was working with material, not purposely recorded for *Videodefunct Pedestrian*, I discovered, through experimenting with the level of granularity, how much meaning could be conveyed in a short duration of time, similar to the process in *Train Trip*. The meaning held in each shot had to work independently and be able to be utilised in relation to a multitude of shots as a collection.

In an analysis of granularity, Brooks points out the multifunctional nature of video in this type of multilinear structuration:

> For metalinear story, granularity has to do with the representation of meaning for each story piece. Given the fluid and flexible nature of digital media, the meaning of a granule is based not on physical limitations, but more on how (or how many ways) the granule can be used to tell a part of a story. When a writer writes a metalinear story granule, what that writer is creating is a multifunctional cog that can be positioned in many different places within the linear story. The writer must, therefore, be aware of the issues connected with the creation of each granule—economy of size vs. precision in use. A balance or compromise must be struck, keeping in mind the complexity required to communicate the story at hand. (1999, p.50)

I discovered through the process of editing shots in *Videodefunct Pedestrian* a shift in my approach where focusing on each shot being able to exist independently became a key motivation for my edit decisions. I would describe this editing process as being like selecting photographs. This is a different approach to making editing decisions in a linear documentary, which is informed by the relationships with the shots before and after in the timeline as part of creating sequences.
Loose Relationships

The process of adding keywords to shots removes the reliance on making explicit the connections between each shot like in linear editing. In contrast to creating explicit relations between shots, indexing is used to create implicit relations using keywords (Davenport and Murtaugh 1997):

...simple keyword descriptions associated with media objects provide the crucial function of isolating authors from the process of defining explicit relationships and links between units of content. Instead, by connecting a material (story element) to a keyword, the author defines a potential connection between the material and others that share that keyword. By connecting each material to a set of keywords, the author enables a material to be related to other materials in more than one way. (p.452)

Using a form of indexing to create relationships between shots creates implicit relations for the users when they interact with the work (Davenport & Murtaugh 1997). Davenport and Murtaugh suggest that in contrast with a hypertext system that relies on the user following links from one lexia to another, the user becomes part of a system that utilises decentralisation. Connections are made through a process of selection and sequencing which is informed by the integration of clips with keywords. Adapting Weinberger’s (2003) concept of ‘small pieces loosely joined’, as mentioned in relation to Train Trip, I refer to these implicit relations created through indexing as ‘loose relationships’. This contradicts Schneider’s argument that indexing makes everything apparent and logical, the process of using indexing to form loose relations between shots counters his ‘readable’ issue. For instance, in Videodefunct Pedestrian the indexing process as has been demonstrated, enables the user to bring together clips that do not necessarily have logical associations.
In *Videodefunct Pedestrian* I began to explore the processes involved in creating a multilinear nonnarrative using an informal taxonomy through indexing. The chosen categories were ‘Above, Obstructions, Passing, Stationary, Underneath’ as demonstrated in Figure 39. The clips in most cases were assigned to one category and given several tags. In *Videodefunct Pedestrian* the process of using editing to create relations between shots in a linear documentary shifted to forming relationships between shots using a process of indexing.

![Figure 39: Screenshot, Videodefunct Pedestrian posts webpage (Videodefunct 2007)](image-url)
The clip ‘Dimboola’, as one example, is given the category ‘passing’ and the tags ‘architecture, colonial, minimal, roads, slow, south australia’. Adding keywords as metadata to shots creates relationships. Davenport and Murtaugh claim that this has the following effect:

First, the base of content is truly extensible. Every new material is simply described by keywords, rather than hardwired to every other relevant material in the system. In this way, the potential exponentially complex task of adding content is managed and made constant. Second, because sequencing decisions are not precoded, viewers may play a more active role in the construction of the experience. Instead of using predetermined links bound to a specific purpose or organizational scheme, viewers may influence how they want to move from one material to the next. (1997, pp.451–2)

Establishing loose relationships is a way of working that is very different to editing a linear documentary. Creating a sequence of shots in a linear editing process involves making precise decisions about which shot follows the one before, and the final sequences are set for the viewer. Each shot in a linear narrative is restricted to the two relationships it has with the shots either side of it. The informal taxonomy process, in contrast, enables one shot to have multiple loose relationships.

As an example, the associations created in the gutters in *Videodefunct Pedestrian* are not pre-determined. When the ‘Dimboola’ clip is selected by a user from the ‘Passing’ category, a range of different shots can be selected to view alongside this shot from the varying tags provided in the left and right columns as shown in Figure 40. The different spatial sequences that are formed, and the loose relations created between shots, are determined by the indexing process.
In many cases, due to the number of relationships formed between shots, a user may be the first one to experience a particular spatial sequence. This means that compared to the spatial sequences created in the rhizomes sketches, *Train Trip* and *Train Travel Vlogumentary*, what happens in the gutters in *Videodefunct Pedestrian* is not worked out in advance by the producer. Due to the number of combinations that are possible I did not go through the work and test every combination of clips that can occur in playback. The combination of these shots is determined by the informal taxonomy that is created. Seaman (1999) explains that in these types of generative environments a ‘techno-poetics’ occurs which is informed by and tied to new media technologies. Seaman states: ‘Central to recombinant poetics is the exploration
of a plethora of new ‘poetic’ technological relations’ (1999, pp.33–4). In Videodefunct Pedestrian the associations that occur in the gutters between each shot are determined by a process of indexing video into an informal taxonomy, then selecting and viewing that content in a type of combinatorial system.

Creating loose relationships between shots in this prototype differs from the editing process used in a linear documentary. In my television documentaries time is spent on crafting each relation formed between single shots. Often these edit decisions are played back and refined multiple times as part of that process. However, in Videodefunct Pedestrian, due to each shot having multiple relations in an informal taxonomy, I do not witness all the relations that are created between shots. In this context I see the notion of loose relationships being used to explore Seaman's (1999) concept of recombinant poetics, which in my research involves using the affordances of video, computers and the network to provide the user with the ability to combine granules into varying combinations. However, in comparison to the loose connections created between content on the web, in Videodefunct Pedestrian the aim is to control that looseness so the multilinear nonnarrative that is created makes cognitive sense to the user. This relates to Ryan's (2002) analysis of hypertext and the producer creating a work that can be assembled and constructed by the user.

In an appraisal of ‘external-exploratory’ interactivity, for Ryan (2002) a web of relations risks becoming too random. Ryan explains that:

> In classical hypertext, the network is usually too densely connected for the author to control the reader’s progression over significant stretches. Randomness sets in after one or two transitions. But randomness is incompatible with the logical structure of narrative. (2002, p.597)
A response to this issue, Ryan (2002) contends, is to work with relations between granules as a type of puzzle that is pieced together. Adapting Ryan’s concept, a documentary as a type of puzzle still has to have a structure that creates patterns that the audience can understand. As Jones outlines, there needs to be a ‘narrative pattern that typically links the main story elements together in a holistic theme’ (2003, p.23). This type of pattern provides the reader with something that cognitively makes sense. The system of relations that is created using a generative system has to be conceived and arranged by the producer (Jones 2003). For instance, I learnt in *Videodefunct Pedestrian* to reduce the number of tags assigned to each granule, to avoid ‘overtagging’, as shown in the number of tags assigned to each shot in Figure 41, and work towards controlling randomness in this type of multilinear nonnarrative.

Figure 41: Screenshot, *Videodefunct Pedestrian* crossing tag (Videodefunct 2007)
Another approach towards avoiding randomness involves controlling the loose relations that can occur spatially in the indexing process through the way that the taxonomy is formulated. Working from McCloud’s transitions the aim is to use indexing to create associations between shots that reflect the intent of what is being communicated to the audience through the type of closure in the spaces between windows. In *Videodefunct Pedestrian* the aim was to create an abstract form of multilinear nonnarrative. I saw *Videodefunct Pedestrian* as a type of travelogue, an everyday representation of a person travelling through locations, using the representation of movement to convey that idea. This focus on the abstract qualities of movement is similar to the approach taken in *Train Trip* and *Train Travel Vlogumentary*. McCloud’s Non-Sequitur transitions could be seen as part of achieving an abstract form of multilinear nonnarrative in *Videodefunct Pedestrian*, and I would argue this type of transition occurs due to the use of abstract, ambiguous categories. In another work in which the aim is to create logical relationships and more straightforward closure between shots, indexing and the creation of an informal taxonomy would take a different approach. As an example, if the goal is to achieve McCloud’s Moment-to-Moment transition, which focuses on the subtleties of an action occurring from one moment to the next, the categories and subsequent tags in this work would be more pragmatic and logical.
Proof-of-concept

In the next prototype, I aimed to refine the design of the VD System and my skills in using it as an authoring and publishing tool to make an online interactive documentary. Therefore, the next production phase included creating a documentary that responded directly to the constraints of the VD System, which involved pre-production planning in regards to the concept and the approach taken towards recording the video content.
Chapter four
New video
In this chapter I examine the Glasshouse Birdman (Videodefunct 2008) prototype and Bogota Prototype (WVA 2009b). These works were used to test and progress the VD System and the production methods developed in earlier sketches and prototypes. Glasshouse Birdman was created as a proof-of-concept that informed the Bogota Prototype, developed externally with World Vision Australia (WVA) in an industry partnership.

Glasshouse Birdman

The content for Glasshouse Birdman (see video chapter 9 Glasshouse Birdman on RECORD.mov) was chosen after a visit to the digital media department of WVA, based in Melbourne. At WVA I viewed video content of Indian children salvaging rags to make an income. Hours of material had been recorded and logged for viewing and a lot of this content would never be seen publicly, because in most cases the organisation worked with short duration, linear narratives that were created through a process of working out what needed to be excluded from the edit. I was interested in seeing how the VD System could be used by an organisation like WVA to present a broader range of content to their sponsors, so I decided to produce a proof-of-concept.

Working from the WVA process of connecting a sponsor with a child, I established a prompt to create a form of ‘video portrait’ on Terry Dale, a wildlife carer. The aim was to see how the VD System could be used to profile an individual in some detail:

Glasshouse Birdman, the next prototype, follows a more traditional documentary approach towards a subject. A form of personalised documentary that captures the day-to-day life
of a wildlife carer Terry Dale in Queensland, Australia. I saw this production as a type of video portrait of an individual, capturing their daily routine and stories of their experiences. In this prototype, I used the video camera as a pre-production research tool and did not follow a script. I recorded events related to Dale's interest in caring for birds, alongside activities that reflected the nuances of his character, with the aim to demonstrate the personality behind the passion. (Keen 2010, p.106)

Here I was interested in exploring how the VD System and the production processes being developed could be utilised to create a personal profile of an individual.

**VD System 3**

In VD System 3, used to make *Glasshouse Birdman*, as shown in Figure 42, the design of the VD Player interface shifted to becoming one web page. In this modified version of the VD Player interface, the category list was placed under the centre window of the triptych composition. The left and right window columns had the same tag lists used in the earlier VD System 2 interface. Selecting previews in any column enabled clips to be brought together into different combinations in the triptych composition. Miles describes this process of selection and combination as a type of ‘remixing’ by the user:

> By having a suitable reservoir of clips, with enough tags (so that clips share a large range of tags, many of which they have in common), the user can compose, in concert with the system architecture, individual videographic works by selecting individual tags ... What may appear, and what sequences may be developed, are subject to this play of author-defined,
user-selected tags and clips. The sequences shown, and the relations created between sequences via the triptych video panes, are always variable and open through the ongoing aggregation of additional content (more clips) and of course by users selecting other tags or even repeating the same tags, which can return other clips and sequences (Miles 2008b, p.225)

In VD System 3 we focused on improving the remixing process and the navigation for the user by streamlining the interaction design into a one screen interface to maintain context and create a type of video player. In this video player the user could focus on curating and remixing shots into multilinear nonnarratives.

Figure 42: Screenshot, Glasshouse Birdman prototype (Videodefunct 2008)
In the making of *Glasshouse Birdman* I was interested to see how scripting, recording and editing video using the VD System changed compared to making a television documentary, particularly in regards to tailoring the production processes to the constraints of the tool being used. Working with granularity as an affordance, I chose to develop recording techniques to capture self-sufficient moments that could function independently as single shots. Having no sequences as clips in the work reduced the editing process that would normally feature in a television documentary. The editing moved to becoming predominantly a process of indexing. Post-production was reduced as well, with shots used as they were recorded, with no additional visual effects or sound added.

The aim of this recording was to make a type of video portrait, which like in *Videodefunct Pedestrian*, explored a poetic interpretation of the everyday. The main objective was to work as closely as possible with the subject over several days and record their day-to-day life, with the idea being to work out what needed to be recorded during the process of recording. I focused on developing a granular approach that would enable me to capture intimate, candid, informal moments within self-contained shots. This included working with portable low-fi equipment in an informal manner, similar to the approach taken towards recording the rhizome sketches. I chose to work in this way because it allowed me to develop a close rapport with the subject. Extending the recording approach developed with the rhizome sketches, the aim was to refine this methodology to produce a larger-scale online interactive documentary prototype.
Granular Recording

I detected several changes in my own practice in regards to the way I interacted with the subject and articulated the multilinear nonnarrative during the recording of *Glasshouse Birdman*. The low-fi, portable recording equipment enabled me to alter my rapport with the subject and the way action and interviews were recorded. I discovered that this informal interaction with Dale led to a more reflexive style of documentary making than my previous television documentaries. Also, instead of capturing significant changes occurring in a subject’s life over a long period of time, like in the earlier example of *Just to Back a Winner* (1991), the focus shifted to capturing self-contained ‘vignettes’ over a few days. In addition to these changes, I was able to record everyday moments that I would not usually include in a television documentary.

A part of achieving this intimate rapport with the subject involved using small portable equipment that was easy to operate and allowed me to have my face clear from a viewfinder. Dovey (2000) points out that low-fi, portable, user-friendly devices alter the relationship that can be formed with a subject. In an analysis of developments in factual television, Dovey describes the size of the apparatus being used as altering the recording practice and the relationship with the subject:

The availability of broadcast miniature cameras is changing working practices. The physical effects of the apparatus within this model cannot be underestimated. Using an object not much bigger than a Walkman it is possible to produce broadcast quality image and sound. These changes immeasurably alter the dynamics of the social event of recording. The apparatus, including the usual two or four
person crew, is less visible, reduced to a single person with a single object, which is small enough to allow an operator’s body and face to remain in physical interactive contact with the subjects in the film. (2000, p.60)

Working with a small, single-chip camcorder with a flip-out screen for viewing what was recorded transformed the relationship that I could form with Dale in *Glasshouse Birdman* and the way I recorded interviews and action.

The technique I used in interviews became more informal and conversational. In this prototype the interviews were like an informal conversation, and tended to wander off in different directions. The change in rapport with the subject due to the smaller portable equipment enabled this conversational style to be developed over the recording period. I discovered that this allowed me to get closer to the subject and obtain responses that I would not usually get in a formal constructed interview. I no longer conducted interviews with lights in a seated position; instead they occurred as Dale went about his daily activities. Dovey notes that working solo with miniature apparatus changes the interaction with a subject:

> Here the quality of that interaction is fundamentally altered, from one predicted on a subject to one based on a more equal footing. The quality of the resulting interaction is less formal, more causal, more like a chat with a friend than an audition for a job interview. This is not to argue that either performance is transcended. The register of performance changes from a public to a more private mode. (2000, p.61)

Having a small video camera that I could hold in one hand changed the dynamic to being more like recording family
photos with a point-and-shoot digital camera. I did not have to think too much about the equipment and could focus instead on interacting with the subject and being part of the activities taking place. The consequence of working with a camcorder, as Dovey describes, altered the relationship to being more personal and on the same level.

I discovered in this prototype that I was shifting towards a more reflexive documentary-making practice. The change that occurred from previous documentaries was the use of shots that included my interactions with the subject. Dovey observes that ‘reflexive films are texts which refer to their own process in the final product —they take on the problematics of film-making itself as part of the process of making meaning’ (2000, p.27). In these types of films, the reflexive process can include the filmmaker participating in the work (Dovey 2000). The transformation to a more informal, conversational recording approach included working reflexively. The interactions I was having with the subject were included in several shots. I propose that in relation to my own practice this reflexive style was brought about by the shift to a more casual rapport with the subject.

I did not have to focus on capturing change occurring in the subject’s life over a long period in the recording process of Glasshouse Birdman. In my previous television documentaries, I would normally record for longer periods of time and aim to capture transformations occurring in a person’s life, as part of making use of a cause and effect structure to progress a linear narrative. In some cases this would involve being on standby with a camera ready to record as significant events occurred. However, in Glasshouse Birdman knowing that the material was not going to be edited into a linear narrative altered the approach taken to
recording a subject. I believe this change occurred due to working with self-contained granules ranging from 20 to 90 seconds in length. The notion of change occurring for a subject became less important, with moments being captured as they occurred over a short four-day period. I would describe this as capturing multiple vignettes of a person’s daily life as it happened within the scheduled timeframe. The portrait in Glasshouse Birdman as a multilinear nonnarrative of separate vignettes provides multiple perspectives on Dale’s life as wildlife carer, compared to the narrative profile on Kennedy in Just to Back a Winner being restricted to covering his cause and effect journey to a racetrack.

In relation to the concept of granularity, I found the process of working with independent shots liberating compared to joining shots together into a sequential linear work. Independent clips facilitated the recording of meaningful events in a single shot, and as I was working with a software system that allowed structure to emerge, the coverage required to produce a work no longer provided constraints over what was recorded. This allowed me to record moments I would not normally include in a television documentary, because they could exist independently and the final work did not have to fit a predefined length as I did not have to think about capturing sequences made up of multiple shots of varied frame sizes taken from different viewpoints. There was not the pressure to achieve the sequential flow of a linear script that had been worked out in advance; instead I could focus on framing and following an activity or interview, in its entirety, in a single shot.
Indexing Patterns

Relations between shots were worked out in the indexing process, which involved responding to the material that was recorded and working out how shots could be grouped under categories and tags in *Glasshouse Birdman*. The formation of categories and tags was informed by the aim to bring groups of shots into small sequences and large scenes, like in a television documentary. For example, a scene in a television documentary would be equivalent to any category in *Glasshouse Birdman* that contains several groups of shots, while several shots allocated to a common tag would be equivalent to a smaller sequence. However, the difference for the audience using the VD System is they get to assemble the shots and decide what sequences are created, and in contrast to editing a television documentary, a shot can have multiple relations with other shots.

The aim in *Glasshouse Birdman* was to use indexing to create a categorical form of online interactive documentary. This involves using a classification process to create a type of informal taxonomy, which in this work is structured around the life of an individual; the indexing is informed by who they are and what they do. Nash states that ‘the categorical webdoc may also work to build an argument by focusing on relationships of similarity or difference or by compounding different forms of evidence’ (2012, p.205). I suggest that the indexing process in *Glasshouse Birdman* was instigated by mainly looking for similar thematic qualities between shots. For instance, to help the audience understand Dale and what motivates him, the background interviews about his childhood are indexed under the tag ‘Childhood’, as we see in Figure 43, within the ‘Birdman’ category.
Using categories and tags to create multilinear nonnarrative pathways for the user involves making recognisable patterns. For example, under the tag ‘Animal Lover’, as shown in the screenshot in Figure 44, I grouped shots that demonstrated Dale’s care and interest in animals. These shots as a small collection present examples of Dale’s kindness towards animals. The objective was to direct the user to small clusters of shots that explored a particular ‘small’ theme, and I imagined the user being immersed in this group of shots before moving onto another group of shots. The user moving from one group of shots to another is similar to the process of watching one sequence after another in a linear documentary; however, there is no set structure to the order that occurs and how many shots will be viewed at a time. In
Glasshouse Birdman patterns are created through these semantic relationships formed between text and moving imagery. These relationships are determined in post-production, and this is when the multilinear nonnarrative pathways and patterns emerge.

I propose that the patterns that are developed in Glasshouse Birdman are what Bernstein (1998, p.22) has identified as ‘contours’. Bernstein observes that:

A contour is formed where cycles impinge on each other, allowing free movement within and between paths defined by
each cycle. Movement among the cycles of a contour is easy, and infrequent links allow more restricted movement from one contour to another. (Bernstein 1998, p.22)

A ‘cycle’, according to Bernstein, is the process of a user ‘return[ing] to a previously-visited node and eventually depart[ing] along a new path’ (1998, p.22). A cycle, in Glasshouse Birdman is where a user explores one or more shots in a group of shots, indexed under a single tag, then following one of these shots indexed with more than one tag, they move into a group of shots under another tag. The effect for the user is a cycling process through groups of shots that have similar associations and making connections between themes to form contours, by following shots that have been tagged within multiple thematic groups.

In Chapter Three, I noted that Miles (2008b) observes similarities between the VD System and the Korsakow System (2000) in regards to the process of indexing and how multiple relations are formed between shots. In an examination of interaction in the hypertext mode of interactive documentary, Gaudenzi (2013) draws attention to the different motivations of the author by analysing the online interactive documentary The Love Story Project (2007), produced in the Korsakow System. Gaudenzi states in regards to works made in the Korsakow System that:

...the author accepts to have the control of the possible branching narratives, while a generative linking structure assumes that the author does not want to build a tree of possible narratives but just to build associative logics between families of topics or data (2013, p.99).

Gaudenzi’s observation is useful in regards to understanding what distinguishes a work like Glasshouse Birdman from other
interactive documentaries in the hypertext mode. In many cases the producer constructs set pathways through a multilinear nonnarrative, but in *Glasshouse Birdman* I created pathways through the use of an index process, what I will refer to as ‘associative patterning’. This approach to the formation of a web of relations, as Gaudenzi (2013) notes in an interview with Thalhofer, the producer of *The Love Story Project* (2002–7), is based on the premise that the multilinear nonnarrative that is created is not completely defined by the author. This is because creating loose associative relationships between shots is more important than defining set pathways through the content.

**Granular Aesthetics**

In relation to the effects of granularity and the constraints placed on the recording process in *Glasshouse Birdman*, it is important to note that I deliberately chose to work in a particular way in the VD System. The decision to work informally with low-fi recording equipment was based on personal motivations to progress in my own practice, techniques to work intimately with a subject as part of capturing an authentic portrayal of them as an individual, and extending recording practices developed in the previous sketches and prototypes.

There is no reason why working in the VD System could not have involved using better quality equipment to record high-definition video in a more formal style, with edited sequences of multiple shots that included additional sound design as clips. For example, as an alternative, in contrast to similar durations and stylistic consistency across all the clips in *Glasshouse Birdman*, would be to create unpredictable variation for the user, with groups of clips clustered together based on differences rather than similarities. However, regardless of the ability to take different stylistic
approaches towards the creation of content in the VD System, my analysis in this research has revealed that granularity as an affordance imposes certain types of conditions on the production process of an online interactive documentary, such as recording and editing each granule to function independently and as part of a collection, along with understanding that a granule can have multiple relations.

A significant difference between my practice in *Glasshouse Birdman* and in my previous television documentary making is the effect that the structural characteristics of granularity had on the approach taken towards recording and editing. The structuring of a multilinear narrative involves the creation of separate self-sufficient granules of meaningful information. For instance, in the VD System if I decided to make the clips an edited sequence of multiple shots, the aim would still be to achieve a relatively short duration with a fine level of granularity. Also, the design of these fine granules of video is informed by them being brought together into a collection in which they have multiple relations. I propose that these influences are illustrated in my choice to make each granule a single shot rather than part of a sequence consisting of multiple shots edited together. As an example, I found that a sequence as an individual clip has a level of internal complexity through the process of implicitly arranging numerous shots together and creating (as Eisenstein suggests) additional meaning through those combinations. The complexity created within a sequence then has to be able to be combined with other sequences in different variations. I discovered that using single shots was easier in regards to working with multiple relations and the complexities created through the remix process. It is both the independent quality of these granules and the ability
for them to have multiple relations that imposes constraints on their design.

**Informational Documentary**

An issue that emerged in the indexing process was *Glasshouse Birdman* becoming an informational representation of the wildlife carer process rather than a poetic video portrait of Dale. In *Glasshouse Birdman* the aim was to explore how indexing could be used to create a poetic outcome. I was interested in seeing if a linear structure could be replicated in a multilinear structure using indexing. Over time I discovered that issues started to

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Figure 45: Screenshot, *Glasshouse Birdman* Pheasant Coucal (Videodefunct 2008)
occur in the indexing process, with a disparity emerging between shots in terms of what was being represented; the documentation of the different bird types, and the feeding processes, pointed towards providing other wildlife carers with informational insights into how to save injured native birds. The wording used to categorise and tag these shots was didactic and informational, as is demonstrated in the screenshots in Figures 45 and 46. In contrast, the material that captured the personal, idiosyncratic nature of the person being recorded, and the annotation used to index those shots, provided more of a poetic representation of Dale as an individual. As the indexing process progressed I began to lose sight of what this work was trying to achieve and how to make connections with the audience.

Figure 46: Screenshot, Glasshouse Birdman categories and tags (Videodefunct 2008)
If I use Schneider’s (2011) ‘readable’ issue to think about Glasshouse Birdman, I can see how indexing affects the objective to achieve a poetic outcome. In responding to Schneider’s (2011) argument, I suggest two approaches to address the issues that began to emerge in the indexing process in Glasshouse Birdman. Firstly, I have raised the concept of using loose relations to create disjuncture between shots in the gutters between multiple video windows. In Glasshouse Birdman, indexing in combination with remix in a spatial montage composition was used to produce combinations of clips that were not worked out in advance. I suggest that this sets up serendipitous relations in the gutters. Secondly, in reference to visual art that explores ‘database aesthetics’, like in Every Shot Every Episode (2001), I propose the idea of exploring creative relationships between text and images through the semantic choices that are made in the formation of a taxonomic schema. For example, in Videodefunct Pedestrian I explored abstract relations between text and images to create an informal taxonomy as one of many contexts that could have been used to inform the classification process. Therefore, if the objective of Glasshouse Birdman is to provide a poetic representation of Dale then the text-image relationships should reflect that motivation. In this case this would be about recognising how Dale’s wildlife carer activities, what he does every day, could be related to him personally, in regards to the serendipitous qualities he offers as an individual.

Visible Rushes

Even though Glasshouse Birdman as a proof-of-concept example using the VD System brought up some issues with the indexing process, the work as a whole demonstrated the potential to
approach the documentation of a topic differently compared to previous television documentaries that I had made. In regards to WVA’s recordings of ‘rag pickers’ in India and the motivation to solve the issue of finding a way to make archived material visible to the audience, the VD System as a tool for making an online interactive documentary provided some solutions to that problem. A connection can be made here with Murray’s (2012) concept of using the encyclopaedic affordances of computers to present large amounts of detailed information. In a linear edit, the aim is to work out what to discard, in contrast, a multilinear nonnarrative has no set duration, and is therefore not restricted in the amount of content that can be added. For instance, there is the potential to include the behind the scenes material that is provided on a DVD as additional content not included in a feature film.

I also realised after *Glasshouse Birdman* (Videodefunct 2008) had been assembled that there is the possibility to continually record additional content in a multilinear structure. Another link can be made with Davenport and Murtaugh’s (1997) idea of indexing providing the flexibility to work with large volumes of information, due to the ability to continually add content in an unrestricted way. This is in contrast to shots being constrained in a sequential linear work to relations with the shot before and after on the timeline, within a set duration of time. The flexibility to add a variety of content in combination with the ability to form a web of relations between shots enables the complexities of a topic to be conveyed, and an unlimited number of perspectives included. All of these factors in relation to exploring new ways to work with online video appealed to WVA, and were relevant to their objective to demonstrate how people negotiated poverty and utilised their aid at a specific location.
Bogota Project

The ‘Bogota Project’ (see video chapter 10 Bogota Prototype on RECORD.mov) was produced in an industry research and development partnership between RMIT University and World Vision Australia (WVA) over 2008–09.

In order to learn about the production processes that occurred on the Bogota Project I conducted video interviews with two people from WVA who had key roles in the project: Martin Thiele (personal interview, 21 October 2009), the main supervising producer of the project, and Chris Olver (personal interview, 21 October 2009), a digital media producer who carried out the editing and indexing process. Talking to Olver provided another perspective on the processes that I had been going through while producing prototypes in the VD System.

The target audience for the online interactive documentary produced in the Bogota Project was WVA sponsors. WVA, an international relief and development organisation, manages Area Development Programs (ADPs) with impoverished communities in many locations worldwide. The proposed online interactive documentary was intended to be used to provide supporters with information on an ADP at a specific location.

The Bogota Project was to document an ADP in a community of people on the outskirts of Bogota, the capital city of Colombia. WVA wanted to document from multiple perspectives the complexities of an ADP and how it was managed at a specific location as demonstrated in the themes as categories shown in Figure 47. An objective was to make
the information provided about ADPs more transparent so sponsors understood how donated money was being utilised. The Bogota Project aimed to include the audience in the process of shaping the multilinear nonnarrative, and so used the form of an online interactive documentary. It is important to understand that the motivations behind this project in relation to creating documentary were mainly driven by the desire to provide an audience with information.

Figure 47: Screenshot, Bogota Prototype opening webpage (WVA 2009)
The aim with the Bogota Project was to make a type of informational online interactive documentary by creating a prototype in the VD System and using that prototype to inform a published online version. The prototype made in the VD System is referred to as the *Bogota Prototype* in this exegesis.

Theile (personal interview, 21 October 2009), the WVA supervising producer, pointed out in the interview that video sharing platforms like YouTube are shifting people’s understanding of authenticity when it comes to engaging with online video. This is similar to Dovey’s claim that:

…the low grade video image has become the privileged form of TV ‘truth telling’, signifying authenticity and an indexical reproduction of the real world; indexical in the sense of presuming a direct and transparent correspondence between what is in front of the camera lens and its taped representation. Secondly, the camcorder text has become the form that relentlessly insists upon a localised, subjective and embodied experience. (2000, p.55)

Within the context of WVA’s objectives, Thiele asserted that the proliferation of this type of content made ‘the intimate and the raw much more acceptable as an aesthetic’ (personal interview, 21 October 2009) for their sponsors. Accordingly, WVA realised that it was not imperative to employ a large professional crew to record online video. This mirrored the shift that I was experiencing in my own practice—the desire to achieve authenticity, by recording with low-fi, lightweight, portable video cameras in an informal manner and publishing the content with minimal post-production.
VD System 4

The Bogota Prototype used ‘VD System 4’. In this version of the VD System sound controls were added under each video window so the user could control the audio level of each shot independently in the triptych composition. In addition the display of previews was modified so it was easier to browse multiple previews assigned to categories and tags, by indicating what previews and shots had already been chosen for viewing by changing the opacity of a preview once it was viewed. A 140-letter brief word description was added as a rollover for each preview, so the user had some idea in advance of what they would be selecting to view.

Figure 48: Screenshot, Bogota Prototype Andres tag (WVA 2009)
As shown in Figure 48, the same character (the young boy Andres) can be seen in each playback window and several previews. In the left playback window he is eating with his friends in a canteen. In the middle playback window Andres is in the street leaving home with his friend Javier. In the right playback window he is giving a tour of his bedroom. The user can elect to have a higher sound volume in one window by activating the bar below its window. To select new clips, the user returns to the columns of previews and makes a new selection. The clip ‘Andres’ bedroom’ is tagged with ‘andres’, ‘bedroom’, ‘on a tour’, ‘sponsored child’. These other tags allow this clip to be placed in different contexts.

This project with WVA provided the opportunity to refine the design of the VD System and see how the production methods that were being developed alongside that system could be utilised by others. WVA used the VD system as an ‘off-the-shelf’ tool to author and publish video, with the videographers simply focusing on recording granular single shots and editing them to a duration of 40 to 90 seconds. In this project, the highly skilled professional camera crew and editor usually needed to make most television documentaries were not needed. The most significant aspect for Olver (personal interview, 21 October 2009) was working out how to create an informal taxonomy that communicated what was required. The complex and time-consuming process of temporal montage editing was replaced with an indexing process that required different types of skills and knowledge.

**Story Matrix**

A significant outcome of the collaboration with both the WVA digital media team and staff was the development of what Thiele
(personal interview, 21 October 2009) referred to as a 'story matrix'. A story matrix is a type of framework that can be used in advance to determine the shots and structure of a multilinear nonnarrative with no beginning, middle or end. On paper it is a template of rows and columns that outlines an informal taxonomy in the form of categories, tags and specific shots. Conducting a number of workshops with the varying people connected to a topic creates a story matrix.

In the *Bogota Prototype* the research and design process is integrated into the interaction design. The whole story matrix process started from the perspective of what the users would want to know through the use of the ‘frequently asked questions’ methodology. The scripting process in this case becomes part of the experiential design. I propose that, even though this project was informational in regards to the WVA’s online marketing objectives, this design-orientated approach towards designing a pre-production framework could be utilised for other types of online interactive documentaries. This is because what is occurring here is a response to documentary as an interactive form. In the *Bogota Prototype* this involved understanding what the user wanted to understand about WVA’s aid programs in combination with providing a broad range of accessible choices. The WVA digital media team worked from the premise that users would have different interests that they would individually want to examine in more detail. Conversations with staff in the workshops helped the WVA digital media team work out the broad range of questions that users wanted to answer. Designing the, pre-production framework involved more than conceptualising a multilinear nonnarrative, it also included designing the user experience.
The story matrix process follows several steps. At the WVA offices in Australia the story matrix was devised through workshops with the digital media team and staff from different divisions in the organisation. The aim of these workshops was to determine what people in WVA expected to be in the documentation of an ADP, along with what the sponsors wanted to learn about an aid program. In the pre-production phase of the *Bogota Prototype*, a range of viewpoints was formulated through an explorative process that involved finding answers to open-ended questions in collaboration with WVA staff. This process, over time, produced the story matrix, as the process shifted from ‘frequently asked questions’ to creating an informal taxonomy on paper. Questions were connected to characters and grouped into themes, which were later adapted into categories and tags in the prototype CMS. Grouping these varying perspectives into themes established ideas about how the recorded content would be indexed. In relation to documenting multiple perspectives on the ADP, the WVA staff’s varying input created a story matrix that could be used to inform the recording process.

These workshops with groups of people who offer different perspectives on the topic are used iteratively to determine major themes which become categories in the CMS, then sub-themes as tags. Using this process the aim is to work out what and who will be recorded. In a similar manner to how a shot list is created in a television documentary, the final stage of the process involves working out a list of self-contained granules. However, the difference to television documentary production is that this list of shots is determined in relation to each of them being separate and having multiple relations as part of an informal taxonomy.
A transformation that I observed during the process, in regards to my own previous television documentary practice, was the change in the producer’s authorial role. The process of determining what needed to be communicated to the WVA sponsors about the Colombian ADP involved the WVA digital media team and the supervising producer being led by the collective input of different perspectives from staff occupying diverse roles within the organisation. I suggest that this change was due to the requirement to understand the needs of the users as ‘lean forward’ participators, as opposed to working with ‘lean back’ television audiences. The role of the producer is transformed through the work being interactive, and is shifted further in the Bogota Prototype by collaborating with people who understand the users who will be engaging with the work. In comparison to the way I have written and produced television documentaries, this shift in role of the author represents a substantive change.

The design of the story matrix in the Bogota Prototype is informed by the qualities of granularity and indexing. Because the Bogota Prototype is presented as a multilinear nonnarrative with no beginning, middle or end, the scripting is not based on a linear structure and progression of events flowing from one shot to another. A difference between a television documentary and the Bogota Prototype is that shots in the latter are presented independently as discrete granules. Pre-production for video in this form involves designing granules that could be both self-sufficient, and joined into a web of relations. The decision to work with a fine granularity in the form of single shots led to creating a flat type of structure that allowed shots to be recorded and presented in a variety of orders. I use the term ‘flat’ to point out...
that in contrast to a linear structure, which relies on progression from the beginning to the end, all shots in _Bogota Prototype_ can equally be viewed in any order. Working with indexing as an affordance, categories and tags were used to cluster shots into large and small groups. Indexing was used in advance to begin working out a taxonomic schema that could be used to inform both the field recording and later indexing process in post-production.

In the pre-production phase of _Bogota Prototype_ the conceptualisation of the work included responding to indexing as a classification process, and in this case a work with no fixed duration or defined start and end point. This included beginning to identify the multiple relations that could be formed between shots. Having the potential in a flat structure to facilitate the inclusion of material in an unrestricted way allowed a large number of viewpoints and voices to be represented in the story matrix. Overall, this shift to creating a story matrix to guide the recording and indexing processes demonstrates a change in approach towards pre-production in this form of documentary. This phase of pre-production requires responses to different qualities and influences compared to the television documentaries I have produced. The formulation of the story matrix in the _Bogota Prototype_ involved conceiving all the perspectives that could be included rather than identifying what would be excluded, as was the case in my television documentaries.

**Web Matrix**

For the purposes of this inquiry, I adapted Thiele’s ‘story matrix’ term and process into the concept of a ‘web matrix’. I use the term ‘web matrix’ for two reasons. Firstly, due to this investigation
examining a form of nonnarrative, I prefer not to use the term 'story' in relation to a cause and effect narrative. Secondly, the term 'web' is more appropriate due to exploring the creation of a web of relations between shots online in a multilinear structure. Making connections between the objectives of this research and the process that took place with the WVA digital team and staff, I define a web matrix as a model for determining, in advance, a preliminary type of informal taxonomy that can be used to inform the recording, editing and indexing processes in a categorical form of multilinear nonnarrative.

The creation of this web matrix is significant for documentary practice as it can be used to define how a web of relations are formed in an online interactive documentary. In relation to the design process that was used to create it, the formation of the web matrix occurred iteratively, with the outcomes of one WVA workshop informing the next. This started with examining the constraints of the tool being used, which included looking at what that tool could facilitate in combination with examining its limitations—such as how granularity altered the approach towards recording video in the field, and what user actions were available in the interaction design. The next stage involved using targeted questions to formulate broad themes, sub-themes and then a shot list. Compared to my pre-production experience on television documentaries, I see the web matrix process as being more collaborative, open and evolving in terms of generating the information required to get an understanding of what will be recorded and how multiple relations will be created between shots.
**Everyday Recording**

The Colombian cameraperson and director Daniel Perez attended a workshop at WVA in Melbourne that reflected on the recording processes used in *Glasshouse Birdman*. Perez working with these techniques experimented with a low-fi approach in the recording style used to gather material for the *Bogota Prototype*. For instance, in many clips he recorded in available light and used handheld pans and the zoom feature to record a moment in a single shot. The videographer in many of these single shots finds ways to document each event in one continuous take and is not too concerned about the quality of that coverage. Also, within the 40–90 second constraint imposed on the duration of the clips, Perez developed a consistent visual approach towards the recording of each clip similar to the approach used by me in *Glasshouse Birdman*.

Shots that portrayed ‘everyday’ moments in the *Bogota Prototype*, such as the image of a boy shaking the paw of a dog in Figure 49, produced unexpected reactions from viewers in some preview screenings. Olver described these ‘day in the life’ recordings of children and their parents’ lives as representing around half of the content in the prototype and receiving the most comment from users:

> …the day in the life carried through in the shooting style... it proved to be the more compelling footage, the intimate portraits of people’s lives, following them to work, following them to school, in their houses, brushing their teeth. The ordinariness of it, the mundane kind of tasks...really painting a better picture than a expert voice telling you people here live in a certain way. (personal interview, 21 October 2009)
A connection can be made here with the everyday activities included in the *Glasshouse Birdman* prototype, and the observation that a single shot as an independent granule, within a multilinear structure, does not require the same justification to be included as a shot in a sequential linear work.

Figure 49: Screenshot, *Bogota Prototype* Miguel playing with dog (WVA 2009)
Indexing Multiple Relations

The selection and editing process in the Bogota Prototype was informed by whether a shot was independently compelling and how its context changed when it was tagged. Editing was reduced to trimming in and out points, with temporal montage as a technique no longer being required. In addition, because the shots are not being placed alongside each other in a linear sequence, the emphasis on the cut points between shots is not important. For example, the commonly used technique of cutting from a wide shot to a close up to make the edit flow from one shot to the next is not required. In the Bogota Prototype, trimming for shot selection was determined around whether a shot recorded a moment that communicated an aspect of the ADP and could function independently. Olver stated that ‘… if it is not fascinating on its own then it is not strong enough to be up there…’ (personal interview, 21 October 2009). Olver claimed that the other factor that influenced this shot selection was the process of adding text as metadata to a shot. In a few cases when the prototype was more fully populated, a shot that did not seem compelling would be included when a tag was added to the shot. The context provided by the tag enabled the shot to be included. The editing process therefore shifts to selecting and annotating a granule which functions both independently and as part of a collection.

Creating an informal taxonomy requires learning how to recognise associations in the recorded material. In the post-production phase of the Bogota Prototype, in the logging and selection of the shots from the nineteen hours of rushes, Olver added logging notes including in and out points and also keywords, which in some cases became actual tags. These keywords were mainly pragmatic initially, as Olver described:
… Who? What? When? Where? Why? How? Who is in the clip? What they are talking about? Where are they? … What they are actually doing, and there were other keywords, what else was in the clip? And then a more abstract notion of thematic things like prejudice or violence, or something they may not have been overtly discussing but were inferring something about … We used that as an extra category of ‘miscellaneous’ … (personal interview, 21 October 2009)

Olver described indexing and uploading the first 30—odd shots as being like ‘… blind man’s bluff’ (personal interview, 21 October 2009). The idea was to get clips online as a starting point towards determining how the taxonomy could be formulated. This indexing process involves assessing the content and identifying themes as a starting point, similar to what occurred with Glasshouse Birdman.

Olver’s approach towards preparing the material in the Bogota Prototype provides several things to consider as a guide for the indexing process and for formulating production methods for making a categorical type of online interactive documentary. Firstly, even though a web matrix as a type of informal taxonomy was created in advance, it is important to respond to what the recorded material offers in relation to forming a taxonomic schema. From my experience this is similar to what occurs in a television documentary, with the edit often extending the script that was used to guide the recording process. However, the difference is that the editor, working as a type of archivist, is learning how to look at the material in relation to a process of classification rather than creating a sequential, linear work. In the Bogota Prototype to make sense of the material Olver brings together multiple questions to analyse each shot and organise it
for indexing. The original web matrix provides a guide for those questions, in combination with what the material itself suggests towards the formation of the taxonomic schema. In the Bogota Prototype the categories and tags, and consequently the informal taxonomy that was created evolved through the process of indexing in the post-production phase.

Secondly, in a similar way to what I experienced in the indexing process in Glasshouse Birdman, a methodology is required to identify similarities that a shot may have with other shots. A comparable process occurs in a television documentary edit in the logging, selection and placement of shots into separate bins, as part of beginning to bring sequences and larger scenes together. On the other hand, the process of identifying multiple relations between shots is different, particularly with respect to distinguishing the before and after relations between shots in a linear edit. For example, in the Bogota Prototype the shot titled ‘Arley’s Homework’, which shows the boy Arley working in his schoolbook in the kitchen at home, has the tags ‘Arley’, ‘Belen (his mother)’, ‘Homework’, ‘Kitchen’, ‘Mother’, ‘Sponsored Child’, ‘Studying’ and is in the category ‘Education’. All of these tags can be directly related to Olver’s list of questions, ‘Who? What? When? Where? Why? How?’ What I am drawing attention to here is a methodology that can be used to define multiple relations between shots, along with acting as a guide for the indexing process and the formation of an informal taxonomy.

Several levels of indexing are needed to organise the content so that relations can be created between groups of clips, as shown in Figure 50. In this context, hierarchy is used to create sections within the larger work as a whole. For instance, an important part of the indexing process is being able to segment the material into separate themes and use hierarchy to control the use of a
tag. Olver described how there was no point having a tag that ‘becomes a useless tag because you click on it and you get 90% of the material …’ (personal interview, 21 October 2009). The tag ‘poverty’ was provided as an example of a keyword that was used a lot to index shots. Olver described using the hierarchal characteristics of categories to limit the number of poverty-tagged clips being viewed at one time. Through trial and error,
Olver negotiated how to use the categories and tags within the constraints of this system. The structuration of a multilinear nonnarrative then involves controlling the multiple relations between shots, at different levels of hierarchy, encompassing: individual shots, shots as a group assigned to a tag, and multiple groups of shots as tags collated into categories.

This process of utilising the hierarchal constraints of VD System 4 in the Bogota Prototype is important in relation to the problem of the patterns created for users becoming incoherent. As I pointed out in regards to ‘overtagging’ in the Videodefunct Pedestrian prototype, and in the example of the ‘poverty’ tag that Olver describes, hierarchy is used to control the use of this tag, so it does not lose meaning all together in the work as whole. A connection can be made here with Bernstein’s (1998) ‘contour’ concept, mentioned earlier, which is used to illustrate patterns in hypertext. Where Bernstein (1998) refers to links being used sparingly to control the transition from one group of nodes to another. In the Bogota Prototype, Olver works with categories to segregate the use of the poverty tag into different contexts and work with the complexity of multiple relations between shots in the VD System. Even though, as Ryan (2002) outlines, it is not possible to direct a user through a hypertext work, the aim is to create patterns that invite the user to piece the work together.

**VD Modifications**

The Bogota Prototype provided insights into how the VD System could be used in an applied context to form a web of relations between shots. It proved to be a useful tool for making an informational form of documentary, as demonstrated in
WVA’s expressed interest in commercialising the VD System to document their aid programs at other locations. The organisation also pointed out how the VD System could be used collaboratively by WVA offices worldwide as a type of audiovisual research tool, due to the ability to include unlimited multiple perspectives on a topic and record and index video with a low level of professional skill. In addition to this the web matrix and recording approach that had been developed for the Bogota Prototype was used during the production of this work to start recording material in several other locations. However, the Bogota Prototype also pointed towards further developments and refinements that needed to be made to the design of the VD System in relation to responding to Schneider’s issue of the indexing process making the content too readable and predictable.

Two possible modifications to the VD System became evident through the experience of working on the Bogota Prototype (WVA 2009b). One would be to explore making the informal taxonomy less apparent to the user by removing the categories and tags as text from the interface design. Having the clips presented with no text would focus the audience on the relations that occur between the clips as moving imagery, rather than on text-image relations and the taxonomic schema the producer created. Another possible modification in regards to spatial montage is the facility for the producer to customise the composition of multiple windows in the interface. In the comparable Korsakow System (2000), the producer has the facility to design the layout of the multiple windows. This flexibility would allow the producer to determine how spatial montage is used to convey a multilinear nonnarrative both temporally and spatially.
Other developments to the VD System that would make it easier to produce an online interactive documentary are in relation to creating a tool for producing a web of relations between shots. In the VD System it is difficult to keep track of the connections that are made and visualise the informal taxonomy that has been created. I would suggest this web of relations could be visualised in some way for the producer. For instance, several ‘view’ options could provide different visual representations of the connections formed between clips. This visualised schema of the web of relations would help with issues like overtagging and make it easier to understand what was being created as a whole. This modification would be designed to aid the indexing process in the same way that visual and technical refinements are made to non-linear editing software as part of making it easy to use as an authoring tool.

**Documentary and Design**

As a collaborative process in the Bogota Project, I detected a transformation in my role as a documentary maker. In the past, as part of responding to a funding grant from a broadcasting commission and television network in the role of producer-director I would take on an authorial position and be involved in every aspect of the production. In comparison, on the Bogota Project I acted as a type of facilitator. The research and experience that had been developed through the design and production of prototypes in the VD System provided a model for others to use. For example, in the Bogota Project I found myself conducting workshops to communicate how the VD system worked and could be utilised. This included demonstrating the approach taken towards recording in *Glasshouse Birdman* as part of showing how to work with the constraints of the VD System.
Workshops were also conducted with numerous staff members from different areas of the organisation to work out what needed to be recorded. In the post-production phase I provided workflows to the media producers handling the editing and indexing of content, and managed meetings that involved refining the interaction design of the VD System. All these processes required a different set of skills that were being informed by design practices.

What identifies many of the activities that I carried out on the Bogota Project as types of design practices is the shift to creating a framework for other people to use to make a documentary. This is in comparison to focusing on creating a work for an audience in the production of a television documentary. A correlation can be made here with the concept of creating websites that act as a type of service for users. For instance, the developers of a video hosting website, like YouTube, focus on designing a service for people to use rather than making video content. The implementation of the Bogota Project involved moving away from the production of video content to designing a variety of processes that communicated to the WVA digital media team how to script, record, edit and index video using the VD System. The development of these varying processes required a design, rather than a media production approach due to the concentration on working with people as producers and collaborators rather than viewers.

Transformations in the role of the documentary maker to more collaborative and shared practices are attributed to alterations occurring in media practice online (O’Flynn 2012). As O’Flynn points out, audiences are demanding different forms of communication:
...the impact of social media and the rise of participatory strategies of engagement have positioned audiences as collaborators and creators who can expect an immediacy of response and the opportunity for agency. And as the digital sphere provides opportunities for webdoc, i-doc and transmedia documentary film-makers that are unprecedented, the shift from film-maker to transmedia producer, curator and collaborator now demands a flexibility and willingness to experiment with the means of communication and a commitment to engage in communication. (2012, p.156)

A correlation can be made here with the objectives of WVA in the Bogota Project in relation to providing their sponsors, as Internet users, more involvement in the way information is communicated to them as an audience. WVA were conscious of a need to work with interactivity online in a different way in order to meet the changing expectations of Internet users.

Another integral part of working on the Bogota Project involved the prior design of the VD System. Without the VD System and the proof-of-concept version made in that tool the project would not have been realised. The process of developing the VD System as a customised CMS required me, as a documentary maker, to engage with user experience and interaction design. I note in an analysis of the evolving forms of documentary on new digital platforms that O’Flynn makes a similar observation in regards to interactive documentary makers having to engage with what is referred to as ‘experiential interface design’ (2012, p.153). O’Flynn states ‘The creators of i-docs, unlike film-makers, have to constantly innovate in form in the marrying of interface and narrative …’ (2012, p.153). I suggest that this process of the documentary maker having to engage with user experience
and interaction design, as demonstrated in the Bogota Project, involves integrating design practices with existing documentary production skills. This integrated process of design and media practice involves learning to approach the production of a documentary as a collaboration between the interaction designers working on the interface, with the media practitioners recording and indexing material into a work.
Chapter five
Conclusion
In this research I have explored the question of how the affordances of video, computers and the network could be used to create a web of relations between shots in a documentary. The process of iteratively designing sketches and prototypes online in combination with an analysis of an open structure (Plantinga 1997) framed this research question. Pursuing my aim to help documentary practitioners who do not know these affordances, understand what they are and what matters when articulating and disseminating a multilinear nonnarrative with no beginning, middle or end, I used practice-based research methodologies to design what I now refer to as an online interactive documentary.

Looking for a methodology that could be used to push my practice into new territories, I adapted Rosenberg’s (2006) concept of poetic research from the field of design to support the iterative design and production of digital artefacts which included sketches, tools and prototypes. Reflecting chronologically on the practice and the digital artefacts made in this inquiry produced several threads as points of discussion that are used to inform the sections in this conclusion. These sections include a summary of the affordances of granularity, remix, indexing and spatial montage, the concept of a documentary designer, and several propositions for online interactive documentary.

My investigation produced one perspective on the development of a multilinear nonnarrative form of online interactive documentary. This research was informed by the motivations of my own practice and the experimental approach taken towards the practice inquiry. The iterative methodology used to guide the practice led to the customisation of software and the design of the VD System as a closed system. Initially my goal was to work
with the affordances of the network in a more holistic sense, but I discovered that a web of relations could be created between shots within a closed system, and that within the context of this study the network was not crucial. My research demonstrated that a documentary made in a multilinear structure could be presented offline and online. For example, the VD System and the work *Videodefunct Pedestrian* (2007) were presented offline on a computer in the *Hitting a Vlog with a Hammer* (Dedman, Deverell, Hodgson, & Keen 2008) workshop at the Netherlands Media Arts Institute. I came into this research with certain expectations about working with the affordances of the network and learnt that many characteristics of the network were not required in this investigation.

Despite my research progressing towards the design of a closed system, the outcomes from this study are significant to the domain of online documentary practice in that they offer a perspective drawn from the influences of computers and the network. With documentary in a transitional phase due to ongoing changes in media practice and the phenomenal rate of development of digital technologies, it is crucial to provide alternative models to theorise emerging documentary practices. My practice-based research provides a perspective on how digital platforms like the Internet are shaping documentary practice, and makes a contribution towards recent practice and theory on online interactive documentaries. I propose that if documentary practitioners can work towards a better understanding of the affordances of video, computers, and the network they will be able to make the shift towards changing their practice and improving the quality of online interactive documentaries.
As a result of this inquiry I discovered that documentary practice is transformed on the Internet as a digital platform, resulting in a reconceptualisation of the term ‘documentary maker’. A practitioner who produces on the Internet is more accurately named a ‘documentary designer’, and I support this new role by outlining the affordances of granularity, remix, indexing and spatial montage and how they can be used to create a web of relations between shots in an online interactive documentary. I discuss these affordances below, then evaluate the role of the documentary designer, and conclude with propositions for the future of online interactive documentary practice.

Granularity, Remix, Indexing and Spatial Montage

In the introduction I established that my objective was to work with the affordances of video, computers and the network, and to determine how to use them to form a web of relations between shots in a multilinear structure. However, the evaluation of how these affordances were used led to the exclusion of many of the characteristics of the network, due to customising blogging software into a closed system. Acknowledging this shift in the inquiry, I argued that the overall aim of my research could still occur online within a closed system. I also pointed out that due to practice being conducted online, within a customised version of web software, and it being situated in the hypertext genre using the World Wide Web as a type of hypertext system, this study provided insights developed from a network perspective.
In regards to Weinberger’s (2003) concept of ‘small pieces loosely joined’, I began this research and maintained throughout the inquiry a focus on video as a fine granular form, which was realised consistently through the use of short-duration single shots. Working with video in granules that exist independently of each other had a significant influence on how the affordances of video, computers and the network were utilised to create a web of relations between shots.

Granularity as an affordance affects how video is recorded, segmented and annotated into meaningful units that can be joined into multiple relations. Video segmented into fine granules of meaningful information makes use of the generative attributes of the computer to remix a variety of combinations. The fine granular characteristics of this form of video enable practitioners to create a complex web of relations between granules. For the practitioner, granularity as an affordance shifts the production process of a documentary to a focus on the design of granules that can function independently and as part of a collection.

The design of a tool to be used to author and publish an online interactive documentary gravitated towards working with the affordance of remix. This affordance as a process of montage and collage uses the generative characteristics of the computer to recombine video into a variety of configurations. Remix used in this way facilitates users to actively engage in the construction of a multilinear nonnarrative and invites them to realise the work that has been created. This remix affordance affects the approach practitioners take towards conceptualising this type of documentary, and shifts the focus to working with a form that is not fixed like in a linear documentary.
The move to large-scale documentaries consisting of many clips prompted the use of the storage capacities of a computer, which introduced the affordance of indexing as a means to facilitate navigation and the retrieval of that content. The video annotation process of adding metadata in the form of textual descriptions to granules, and creating an informal taxonomy, became a core part of crafting a multilinear nonnarrative. The informal taxonomy created through an indexing process pointed towards forming implicit relations (Davenport & Murtaugh 1997) between shots. Following Weinberger (2003), I defined these webs of relations as consisting of loose relationships. An exploration of the indexing process in several prototypes drew attention to this affordance, causing a significant transformation in the approach taken towards representing and communicating a documentary topic. In response to this change described, in the evaluation of the Bogota Prototype, I developed collaboratively a process referred to as a ‘web matrix’, as a classification technique of defining multiple associations for a granule.

I detected an ongoing requirement to work with the affordance of spatial montage in the design of the interface used to present an online interactive documentary. Spatial montage as an affordance utilises the multiple window characteristics of the computer screen to enable relations between shots to be represented both temporally and spatially. The configuration of multiple video windows is used for navigation and playback purposes, with both being used together to portray a multilinear nonnarrative. Understanding how to work with the fluid, spatial characteristics of multiple windows informs the approach taken towards the design of the interface as a visual representation of the multilinear nonnarrative that has been created.
I noted that spatial montage, as an affordance, was required for two reasons. Firstly, it enabled me to circumvent the issue of using menu-based designs that simply invited users to click from one single video to the next (like in catch-up TV). Secondly, spatial montage was valuable in realising the loose relations created through the indexing and remix processes in the gutters (McCloud 1993) between multiple windows. I concluded that spatial montage provides the potential to produce poetic outcomes in the gutters and is a counter to the ‘readable’ (Schneider 2011) issues caused by the indexing process. In order to capitalise on spatial montage as an affordance, I claimed that a practitioner is required to learn new conventions in relation to the narrative, structural and graphic levels of the screen (Bizzocchi 2009).

In regards to the research problem of examining how the affordances of video, computers and the network can be used to facilitate a web of relations between shots in an online interactive documentary, the affordances of granularity, remix, indexing and spatial montage collectively begin to draw attention to what matters for documentary practitioners when working on the Internet. The applied use of these affordances was demonstrated in the Bogota Project I completed with WVA. I intend to undertake future research to further develop an understanding of the affordances of video, computers and the network, with a particular focus on the affordances of the network, with the aim to design an open system that facilitates a participatory mode (Gaudenzi 2013) or collaborative mode (Nash 2012) of online interactive documentary.
I came to this research as a documentary maker and discovered that design methods could help address the problem being investigated. Design methods were employed to explore solutions to issues raised iteratively in the practice inquiry. I propose that if documentary is to progress in a similar manner to other online media that have utilised the affordances of the network, then documentary must find ways to integrate media and design practices. Many forms of online media use the affordances of the network to connect information into a web of relations, and these media originated through design practices that involved software development, such as social media tools and services. Design can be considered as a process that responds to problems that arise through change, which is why it has become a key feature of many practices associated with the fast-paced development of the Internet. If documentary is going to adapt to the constant transformations occurring in online media, then it can look to design for solutions.

Documentary practitioners require a new set of skills and knowledge to work online if they wish to practice within the dynamic and technology-driven domains of the Internet. I discovered through this inquiry that media production in this context starts from the process of designing for a user and is affected by the constraints of the tool that is used. This means that in order to work in this area the documentary designer requires some understanding of user experience and interaction design as part of working with specialists such as interaction designers, web developers and programmers. Another part of working with the materiality and forms of making that this networked approach demands is an understanding of code, so that
they can visualise what can be designed and how the interaction
design can be modified in relation to the user experience.

In the transition to these new skills and knowledge there is the
potential to utilise existing practice methodologies that have been
developed around documentary practice in the film and television
industry—for example, techniques such as storyboarding, camera
tests and pilot productions. However, the shift to sketching and
prototyping digital artefacts, along with exploring an end point
that is not as defined historically through previous practice,
involves an approach that is open towards exploring options. A
suitable outcome in many cases is worked out collaboratively in a
design process with the client, the interaction designers and the
users, and is dependent on the varying conditions of each project.
This is a process that requires a combination of media and design
practices to produce content for publication online.

By naming this new type of documentary practice ‘documentary
design’ I am endeavoring to continue the process of documentary
practice being in a continual state of redefinition in response
to the development of new technologies. A documentary
designer approaches the production of a documentary through a
collaborative process of investigating suitable solutions relative to
the particular requirements of each project. This shift in approach
towards designing a documentary is important because the
production of interactive digital media on the Internet involves
more than just creating content. In reference to Norman’s (1998)
concept of affordances and how the properties of a medium are
used to make an online interactive documentary, the documentary
designer designs for a ‘lean forward’ user. This transformation to
designing for a ‘lean forward’ user involves the producer working
as a type of co-creator, in comparison to the production of a
television documentary for ‘lean back’ viewers.
An implication of this research for me as a documentary practitioner was the shift into the role of facilitator in projects. This shift in the responsibility of the director on a documentary draws attention to changes occurring in media practice more broadly and a move towards facilitating others to document their own stories. On the Internet the production of media is often connected with the design of tools that enable users to consume, share, produce and publish content, for example the practices of blogging and videoblogging. Many of these tools are designed to be user-friendly and accessible to both professionals and non-professionals, with the aim to encourage people to create their own content. I propose that documentary practitioners working online can adapt this approach in their collaborations with organisations and individuals on the documentation of subjects. Design in this context is used to create tools that can be used for making interactive documentaries and production methods that facilitate other people in the role of producer. This sets up opportunities to collaborate on the production of a documentary and the authentic representation of a subject to an audience.

The experience of engaging in practice-based research, in combination with being introduced to the practices of interaction design, has opened up my exploration of the nexus between the media and design fields in both my teaching and documentary practice. Working across these fields has altered my creative practice in regards to designing and producing nonfiction content in a variety of contexts in the role of a documentary designer. My transformation into a documentary designer through this research has led to a new understanding of how skills and knowledge in this area can be utilised to create documentaries on a range of digital platforms.
Propositions for Practice

An objective of this study, through an engagement with the Internet as a digital platform, was to examine the implications for my own practice and the broader community of documentary practitioners working in this environment. In regards to the effect that the Internet has had on my practice, I conclude by focusing on the notion of an open structure (Plantinga 1997) in a multilinear nonnarrative form of online interactive documentary, and the concept of affordances (Norman 1998) in this context. I put forward several propositions for online interactive documentary practice.

The iterative critique of the types of multilinear nonnarrative produced in the sketches and prototypes illustrated a shift to what I call associative patterning. This is an important consideration with regards to the articulation of this form of documentary, as it requires practitioners to alter their understanding of what constitutes a nonnarrative in this environment. I propose that this process of associative patterning involves the formation of patterns that users can comprehend and follow. In a structure that is able to have no beginning, middle or end, there is a reliance on associative relations and a different type of sequencing. In this type of multilinear nonnarrative what precedes a shot sequentially cannot be used to provide context, and the work can vary each time it is viewed. A sequence in a multilinear structure is not fixed and continuous, it is protean and ‘polysequential’ (Douglas 1999). Therefore, the challenge for documentary designers is learning how to work with multiple relations between shots that can be independent of each other and assembled into varying
combinations. This practice opens up possibilities for new types of nonnarrative to be created.

I propose that one approach towards defining a multilinear nonnarrative on the Internet is to move beyond narrative and nonnarrative as an outcome for the audience. In this investigation I was introduced to working in a multilinear structure that intensified the issue of a nonnarrative becoming formless in what is referred to as a ‘pure open structure’ (Plantinga 1997, p.135). As Ryan (2002) notes, in many examples of hypertext it is difficult to steer the user through a multitude of pathways for long periods, due to a work eventually becoming random. Exploring new forms of documentary that do not rely on the linear hegemony of a start and end point has the potential to refer to other structures, for example taxonomic schemas, rather than narratives and nonnarratives that have historically been created in linear documentary. I would suggest that a part of shifting to a structure like a taxonomic schema is driven by the remix affordances of computers and the network, and the fluid, changing potential of online interactive documentary as a work.

Through these remix affordances a documentary becomes a type of ‘machine’ or instrument for forming relations between shots, which shifts the approach that both the producer and audience take towards creating coherent patterns in a work. The piano player chooses to play notes together, and countless combinations of notes can be created. However, the arrangement of the notes as keys on the keyboard is constrained within a defined structure from the lowest to highest note. Working with the VD System as a type of musical instrument, in the Bogota Prototype shots can be selected and curated into different combinations and the system of relations is a taxonomic schema. The taxonomic schema
establishes which shots will be grouped with others, in a similar way to how low or high notes as keys are grouped together on the piano keyboard. However, in contrast to a piano player following a fixed musical composition as a linear progression of predetermined notes, the user engaging with the Bogota Prototype curates their own idiosyncratic combination of shots by exploring the relations created by the producer in the taxonomic schema. Therefore, the user takes on the ‘lean forward’ role of a piano player rather than that of a ‘lean back’ listener. The user, like a player of a musical instrument, as a performer, has the option to select and combine shots into a work, and the documentary becomes a type of musical instrument, a machine that is operated by the user, as the audience.

Seeing a documentary as a type of machine that allows the user to assemble the work requires a mode of thinking different to looking at a documentary as a narrative or nonnarrative. I propose that an online interactive documentary functions like a type of puzzle (Ryan 2002) that the user can assemble. Therefore, the challenge like in the design of a puzzle, is for the documentary designer to indicate to the user which shots should be combined with others to form coherent patterns. The user can decide which parts of the puzzle to assemble in the order they choose, and how much they will complete at any one time. Therefore, what is needed is a vision of the whole in combination with being able to create independent parts and multiple relations between those parts. The parts as individual pieces of the puzzle and groups of pieces that fit together into sections have to be designed and connected together in a way that helps the user both construct the work and remain interested in creating a larger picture. This approach towards defining relations between shots in the documentaries made in this study translates into the creation of
self-sufficient granules in regards to the notion of granularity, and forming relationships between those shots using the process of indexing. The taxonomic schema that is created is the structure that binds all the granules together.

Another consequence for practice, in regards to designing systems that facilitate the user’s construction of the web of relations created by the producer, is the development of a different perspective on how the affordances of a medium are to be utilised. In the past, when I made a documentary for television, I did not have to consider it as a type of machine that was going to be used by a ‘lean forward’ audience. In television documentary production my main concern was to produce quality content for a ‘lean back’ audience. However, the idea of achieving practical, functional design that makes a device or digital artefact easy to use (Norman 1998) means I have learnt in this inquiry to examine the affordances of a medium from different viewpoints. For example, through this investigation I have developed a different understanding of the affordances of video, despite many years of working with this format in the production of television documentaries. This transformation in understanding occurred due to examining video from the perspective of using it to make content in a different system to television, along with comprehending how an audience, as users, could interact with it. In addition to these two factors, I had to consider how the affordances of the digital platform affected how I used video to make a documentary, which involved examining the effect that the Internet had on video. I propose that the production of a multilinear nonnarrative form of online interactive documentary requires an understanding of the affordances of video, in relation to the articulation of content, the interaction of the user, and the digital platform that is used for publication.
In regards to the concept of affordances in design practice, a conceptual model (Norman 1989) that indicates to the audience how to interact with an online interactive documentary becomes a major consideration. The user looking at the interface can piece together, in a reasonably self-explanatory way, how to interact with it. Therefore, the challenge in this investigation was in designing interfaces that make the affordances of video, computers and the network perceivable to the user and integrates them into a usable design. During this research I iteratively worked towards interface designs that integrated the affordances of granularity, remix, indexing and spatial montage into a usable interface.

Finally, in reference to the concept of creating a web of relations in nonfiction works, there is the ongoing challenge of the availability of tools that enable multiple relations to be formed between shots in a multilinear nonnarrative form of documentary. I have come to realise at the end of this study that there are limited options in regards to the tools that allow me to work with the affordances of granularity, remix, indexing and spatial montage that have been identified through this research. This reflects a shift from a focus on making content to a parallel engagement with designing tools. The documentary maker as a documentary designer has to design tools that meet their requirements through a process of sketching and prototyping before the content can be produced. Otherwise, documentary practitioners are left with having to work within the constraints of the tools that are available and will have limited control over what is created. I propose that the future development of a multilinear nonnarrative form of documentary will only occur if documentary designers develop tools that utilise the affordances of video, computers and the network, and consequently support the formation of a web of relations between shots.
Postscript
Technological Change

This investigation was conducted between 2006 and 2014. The practice inquiry component of the research was completed in 2009 and theorising the artefacts then took place. Over the duration of the practice inquiry significant technological developments occurred around online video, as demonstrated in the timeline in Figure 51.

Figure 51: Screenshot, Technology timeline, PhD presentation slide (Seth Keen 2014)

When I started this research I did not anticipate that online video would take off in the way it did. For example, the popularity of YouTube grew and brought with it exponential growth in online
Very quickly within the early stages of my research online video became a core aspect of web content production and distribution.

Similarly, there was rapid technological development of blogging software like WordPress. Prior to 2006, when YouTube became a centralised video sharing platform, getting independent video content on a blog involved writing complex video embed codes. Embedding video into a blog then progressed to a several step process using a plugins created by developers in the video blogging community. Today it is a simple one-click process built into the WordPress dashboard.

Videoblogging, in parallel with YouTube, grew rapidly. Videoblogging went from a practice supported by a community of videobloggers to a mode of practice that is now unnoticed, due to its ubiquity.

In the first sketches I produced I was eager to record video on small portable devices. I was limited to using a compact digital camera that recorded Standard Definition (SD) video. In 2006, uploading video recorded on a digital camera to the web was a protracted process. In June 2007, iPhones entered the market and with other smart phones these fully networked devices, over time, changed the way video was recorded and uploaded. Today with mobile applications like Vine (2012) it is a simple record and instant upload process.

These technological developments in video and online media collectively pushed my practice to becoming responsive to the changes that occurred. They motivated a new way of thinking about both the production and portrayal of topics in a documentary.
The effects of these technological developments are demonstrated in the progression of the practice inquiry (Figure 52). In the first netvideo phase of the practice inquiry I worked with available interactive video tools and applications. In the second nonvideo phase, with video easier to embed online and into a blog, I moved to customising blogging software in collaboration with interaction designers. Developments in the blogging software used enabled the production of a number of prototypes to be made in real world contexts in the newvideo phase.

![Figure 52: Screenshot, Artefact timeline, PhD presentation slide (Seth Keen 2014)](image-url)
Documentary Designer Manifesto

I have put forward the notion of a ‘documentary designer’ in this exegesis from the position of a practitioner. This perspective comes from someone who has designed a tool and an approach towards using that tool, and tested those processes in a partnership with industry. I have produced artefacts that put forward propositions about the concept of documentary design, and what it means to be a documentary designer.

My research provides material for interactive documentary theorists to analyse, but more importantly it matters to practitioners, because in this study I begin to articulate the changes and the differences that are occurring for people making interactive documentary. The design-led approach used in my research opens up possibilities to rethink documentary practice and documentary design as a new mode of practice that future practitioners will be required to understand.

To understand the changed role of the ‘documentary designer’ it is useful to clarify the role of a ‘documentary maker’. At the commencement of this study I was a documentary maker who worked in the film and television industry, and focused on using an established pre-production, production and post-production model to produce a documentary. I concentrated solely on producing content for a ‘lean back’ audience, within specific delivery criteria, to platforms that were relatively stable and fixed, as illustrated in Figure 53. In contrast, the documentary designer as demonstrated in my research, works with design problems on a platform that is unstable and continually evolving.
Figure 53: Screenshot, *Documentary maker word cloud*, PhD presentation slide (Seth Keen 2014)

Figure 54: Screenshot, *Documentary designer word cloud*, PhD presentation slide (Seth Keen 2014)
I begin to define the role of a documentary designer and the practices they enact, through the categories of ‘interactive media’, ‘affordances’, ‘web of relations’ and ‘design methodologies’ (Figure 54). These four categories are significant to documentary designers, and are discussed in more detail in separate sections, along with the notion of ‘dexterity’ as an overarching quality of this type of practice.

**Interactive Media**

Interactive media in the context of documentary is about the audience as users being able to tangibly make something happen to an interactive documentary (Gaudenzi 2013). In relation to working with interactive media the documentary designer understands the following:

1. The documentary designer designs and produces interactive media across a range of digital platforms.
2. They develop skills and knowledge that can be applied to a variety of contexts.
3. They design tools and make content for ‘lean forward’ users.
4. They give up authorial control and work as a co-creator.
5. They have strategies in place to work with the ephemeral state of what is designed and produced.
6. They understand that tools are not permanent and fixed, they are a means to an end that constantly change and are quickly superseded.
7. They accept that technologies and ways of doing things may not be available, they will have to be created, and developing what is required involves being open to working with software, hardware and practices from other fields.

8. The documentary designer has some knowledge of code to work with interaction designers and programmers.

**Affordances**

In regards to working with affordances the documentary designer has the following traits:

1. The documentary designer has a comprehension of the affordances of the format/s they are working with in relation to the articulation of content, the interaction of the user, and the digital platform that is used for publication.

2. They have the ability to determine which affordances matter and how they will be made available to the user in the interface.

3. The documentary designer, as part of understanding affordances, is aware of the constraints of the mediums being used, and how those constraints influence design and production decisions.

4. They have a comprehension of ‘granularity’ as an affordance in relation to fragments of content being independent, and offering meaning in a self-sufficient way. They are conscious of how the degree of granularity affects the complexity of the system of relations that is created.

5. They are aware that computational attributes of a computer can be used to facilitate the creation of a ‘generative’ work. It
is no longer static and fixed, as a ‘remix’ process allows the user to create varying combinations from the content.

6. They are able to capitalise on the storage capacities of computers and use ‘indexing’ to form multiple relations between shots.

7. The documentary designer knows that spatiality is as important as temporality, and that ‘spatial montage’ as an affordance provides opportunities to collage shots together in relation to space and time.

**Web of Relations**

In connection with defining a web of relations between shots the documentary designer understands the following aspects of a multilinear nonnarrative:

1. The documentary designer can work with a structure that may have no beginning, middle or end.

2. In a work with no set duration they learn how to include (rather than exclude) material on a topic.

3. They design a work that may not be viewed in its entirety and have multiple viewings.

4. They are able to refer to other structures, for example taxonomic schemas (Murray 2012), rather than narrative and nonnarrative that have historically been created in linear documentary.

5. The documentary designer is able to articulate ‘associative’ (Douglas 1999) patterns for the viewer to comprehend and follow.
Design Methodologies

In the practices of documentary design, the acts of design are integrated into the processes of documentary production. Design methodologies are used to negotiate the intersection between documentary practice and new media technologies. Designers are problem-based practitioners, they integrate hands on skills with conceptual ideas, they think through a making process, they use a problem as a starting point to work from, and create solutions. In this way design puts forward ideas as propositions to generate feedback. Design is a collaborative process that relies on varying perspectives from others.

Design, like in the examples of sketching and prototyping provided in my research, involves the process of making something to find things out and determine solutions. As demonstrated in the iterative process of design and production used in my inquiry, reflection and critical thinking is required to use what is made to inform the next making processes. I utilised design methodologies because it provided an agile way to engage with problems, and to determine what strategies and practices were required to work on a digital platform undergoing rapid transformations. In reference to utilising design methodologies a documentary designer has the following understandings:

1. The documentary designer works iteratively as a ‘reflective practitioner’ (Schön 1983), and is able to reflect on what is made and use those artefacts to inform what is made next.

2. They iteratively design tools and develop production frameworks that work with that tool.

3. Instead of trying to impose their ideas on how things should function they are open to what something may have to
offer. For example in this research with blogging software, wondering how could it be used to create an online interactive documentary?

4. They understand that research is embedded into their practice, because they will often be exploring new ground.

5. They are able to document processes and use that documentation in an iterative way to guide new explorations.

6. They understand how to use sketches to explore possibilities, to probe and question options, to determine how something might be achieved, to make connections and define nuances for further refined development (Buxton 2007).

7. The documentary designer uses prototypes, in real world environments, to determine whether something works and how it can be improved (Dunbar 2009).

8. They have the ability to play and experiment.

9. They are open to making mistakes and failing.

**Dexterity**

An integral ability overarching all these qualities of a documentary designer is dexterity, the ability to adjust to change in a responsive and fluid way. The model I can impart to others is one that is flexible and reactive, but also informed and critical. Rather than responding to fads it is about embracing new technologies and ways of doing things to conduct documentary practice in a critical way. My practice, even though it has changed, still engages with fundamental aspects of documentary practice. I have been able to undertake this research because of the existing tacit knowledge that I had in place. It is a very
different mode of practice to what I did previously, but it is grounded in my understanding of documentary making that was developed through working in television, and the experience I put in place creating narratives and nonnarratives for audiences in a linear structure.

However, the documentary maker in most cases still experiences a demarcated and straightforward practice, both in regards to a defined role and how documentaries are conveyed to an audience. The documentary designer in comparison has to take a more open and responsive approach towards how they define themself as a practitioner and communicate a topic. Due to the blurring of lines between non-professional and professional media practice on the Internet, along with ongoing rapid technological changes, it is important to manifest a more dexterous approach towards documentary practice compared to what was conducted previously. Future practice will require this dexterity.

New Skill Sets

If I had not undertaken this research, I may have moved towards some of the directions followed in this PhD investigation, however I think these would have been reactionary, as when I worked in the film and television industry. Instead, this research has provided the opportunity to create tools, and a framework of production that could lead how video is used online to communicate topics. My investigation begins to define how documentary practice could become more adaptable to work with the fast paced changes occurring in media and how practitioners can develop new skills sets that can be utilised in a variation of
contexts. I propose that there is the potential for documentary designers to work in a range of different contexts that require a nonfiction approach towards communicating narratives and nonnarratives, along with working with how information is archived and made accessible to audiences across multiple platforms.
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