

# NEW MEDIA / NEW PROBLEMS / NEW METHODS – A CASE STUDY OF INTERACTIVE VIDEO PRODUCTION IN INDUSTRY

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## ABSTRACT:

This paper explores the distinct creative processes necessitated by the convergence between traditional audiovisual media and interactive multimedia applications, in particular interactive video (i-video), through a case study of the multidisciplinary interactive marketing project Lynx Blow (2007), created by the London digital marketing agency Dare. Dare sought to develop a new method of creative project workflow to co-ordinate and align the contrasting practices across a wide range of disciplines using a real, highly cross-disciplinary commercial project as the focus of our analysis.

Our research identifies the disciplinary tensions in the area of interactive video on the web and points to commercial and broader strategic guidelines that are both intimately interconnected and highly relevant to a broader context of

contemporary development in design education and professional design for the digital arena.

## KEYWORDS

### **Interactive Video, Design Process, Industrial Practice**

## I. INTRODUCTION

This paper is a case study of how a leading member of the multimedia industry is changing working practices to meet the practical implications of the convergence of digital media in an interactive mode of operation. Interactive Video (i-video) is not a new idea: the first experiments in this area date back to at least 1978 with the Aspen Movie Map project at MIT, which used laser disks as the storage medium, allowing viewers to navigate around an environment through linked individual clips (Ze-Nain and Drew: 7). Conceptually the same principle is evident in commercial contexts today through DVD production.

The exploration of non-linear video narrative has continued with numerous projects; outside the more industry-oriented scope of this paper, a good contemporary survey of artistic activity in this area can be found in Reiser and Zapp's *New Screen Media: Cinema/Art/Narrative*.

Many people have experienced basic multimedia interactivity through the DVD format, but the numerous technical and conceptual limitations of this format have already been surpassed by technologies that offer the potential - and subsequently the commercial reality - of seamless interactive video. Such technologies rely on a computer as a media player and tend to use the World Wide Web. Thus, digital technologies enable a new mode of engagement with audiovisual media: interactive video offers a non-linear and individual experience to each user, in contrast to the predominantly linear and collective experience of watching traditional video or film.

Early examples of interactive video, such as the Aspen Movie Map, treated the individual video elements and the navigational programming that controlled them as isolated from each other; they were developed separately. Now a more holistic, integrated approach is required, necessitating a new way of working with a range of specialists, a change in the process of creation, and ultimately a different way of thinking about the media as a whole.

In *The Language of New Media*, Lev Manovich argues that new media is, in essence, founded on database retrieval and display (this could be a formal database but the analogy is also relevant for other applications, especially with the near-ubiquitous use of object-orientated programming). Database is presented as an 'enemy' of narrative (Manovich: 225) due to the possibility of random interconnectedness of the database. Manovich coins the term 'hypertext' to describe new, interactive narratives that combine random accessibility and narrative structure. He also writes

about CD-ROM technology as developing a new cinematic language based around the loop and pause to convey hypertexts because contemporary film techniques were subject to technical limitations. These limitations included the obvious disjuncture between the constituting elements of cinematic narrative and the inevitability of the users' awareness of the constructed nature of film as a medium.

This paper analyses the production of *Lynx Blow*, a piece of interactive video marketing produced by the London digital marketing agency Dare. This project has been selected because it incorporates very high production values in a large multidisciplinary team working together to make a piece of interactive video with a unique (certainly in a commercial context) navigation. To manipulate the video, users turn their headphone speakers into basic microphones, which act as input tools for moving the contents of the interactive video. In this case, the database controlling the video is invisible to the user: the visual media and the underlying control mechanism are sufficiently compacted so that they can be perceived as one by the user. This smoothness requires a very close integration of the interdisciplinary teams that make up multimedia productions and it was this necessity for intimate integration - conceptually and practically - that precipitated the changes documented in the case study below.

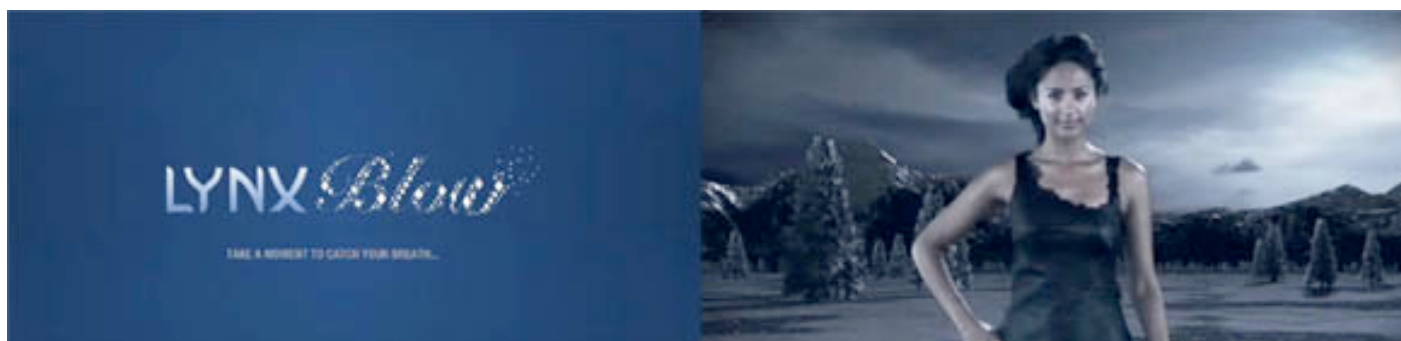


Fig. 1 *Lynx Blow*, title page and screen shot

## 2. BACKGROUND

This collaborative project between Dare and Brunel University and latterly Lancaster University has grown out of a 5-year relationship that includes joint technical projects, equipment sharing, the placement of student interns from the undergraduate degree in Multimedia Technology and Design and subsequent employment of graduates. This is not a formal relationship but the links that have built up over this time have allowed academic access that would not normally be granted, strengthening the potential for meaningful outcomes of the project.

## 3. METHODOLOGY

In this pilot study, we conducted a form of action research. David McNulty, one of the co-authors of this paper, is both a postgraduate researcher and an employee at Dare. In the course of his work on the *Lynx Blow* project, he

took on the role of the active critical participant in an iterative action/reflect/plan/action cycle. These reflections and recordings from within the creative process were supported by a number of interviews and discussions facilitated by researchers who were separate from the production process.

## 4. PROCESS

The worlds of film, television and more recently, video production, have many tried and tested methods to meet project demands. This language of cinematic production and subsequent development of the “cinematic brain” (Neidich, 2003: 79) in an industrial context has developed a vocabulary to effectively describe the techniques and technologies involved in production as the moving image industry developed from the first films of the Lumiere brothers to the most recent Hollywood blockbusters. Many of the terms which are now commonplace within this industry were initially created to describe new inventions which aid the filmmaking process and thus can amount to an industry-specific and (to the outsider) somewhat impenetrable vernacular. The same can be said for the comparatively young industry of interactive Video production; in the case of Dare this is one which grows from a hybrid of advertising, multimedia and computing. Working with the recently-developed notions of "Video Loops", "Linking Clips", and "Loading Time" within the context of a web-deployed artifact, we can quickly come up against this same problem of industry professionals communicating amongst themselves in somewhat exclusionary codes.

From the start of the project, it was clear that to realise the Lynx Blow brief, there would be a lot of new ground that would have to be covered from both the perspective of the project members based at Dare and the perspectives of the external production team, the post-production team and the interactive design team responsible for stitching together the post-produced clips into an interactive patchwork. It is this volume of new ground covered by all parties involved in the project which underpins the notion outlined in this paper of i-video becoming a discipline in its own right.

## 5. BLOW CASE STUDY

The majority of projects undertaken at Dare are interactive, Flash-based websites. These usually require a process focused around a conceptual response to a design brief, most usually with a Brand proposition or central copy line around which ideas focus. Once the concept of an internet site, microsite or set of internet advertising has been approved by the client, work begins on production. Dare normally produces all of its work in-house, with a large team of graphic layout designers, Flash designers and Actionscript programmers. The Lynx Blow project was thus a step away from the normal process of managing all production needs in-house.

## 5.1 “FROZEN GIRL” AND THE EVOLUTION OF THE BLOW BRIEF

The Axe/Lynx deodorant brand is part of the Unilever Corporation. The advertising strategy for Axe/Lynx is based around the concept of the ‘Lynx/Axe Effect’: a suggestion that the deodorant makes its wearer virtually irresistible to women. Accordingly, the brand’s advertising and promotional strategies have tended to target 14-35 year-old men with a mixture of humour and mild titillation.

Part of the relationship between Dare and its client Unilever involves the expansion (through viral means) of a database of registered users, and the entertainment of these users through a series of mostly online and text (SMS)-based events, mini sites and messages. The account manager responsible for the Unilever account at Dare suggested giving the Axe (Lynx) brand a Christmas present in winter 2004. Inspired by the success of the earlier Axe Feather mini site (<http://www.axefeather.com/>), the creative department at Dare decided to explore the possibilities of a more interactive video experience, which quickly developed into a project called Lynx Frozen Girl. In this concept the user was presented with a block of ice and by rubbing it with a mouse pointer that had first been warmed in an onscreen fire, the ice would melt and a woman would be revealed. The mode of interaction is clearly in debt to the tickling action in Axe Feather.



Fig. 2 Axe Feather and an early version of Frozen

After a considerable amount in the studio experimenting with model movement and ice simulation and close to

launch, the decision was taken by Dare not to release it, due to an ultimate lack of consistency or interactive potential in the proposed project. In the initial version of the project, the interface and the mechanism for interaction were developed separately, with a definite emphasis on designing a 'realistic' look for the ice. At a relatively late stage in the development of the project, the creative team came to the conclusion that their working set of priorities had been inappropriate to the project: it was the interaction with the model, rather than her surroundings, that made for a compelling piece of multimedia:

"We tried to create a digital ice block, but it wasn't about that - you get so carried away by trying to make things look real and faking it.... It's about the script, it's about the ideas and not how cool the ice block looks."

(Flo Heiss, Creative Director)

Here, Heiss underlines the fact that the medium of i-video prioritises the instant responses of the interactive experience over photorealism. This experience shows that refining the script and planning the user experience should be paramount, with the technicalities of producing realistic effects or systemic designs coming second.

## 5.2 CREATING "LYNX BLOW"

The creative process now began anew, with the Dare team re-evaluating not only the concept of the project, but the working methods employed in its creation. Having already redrafted the initial response to the Lynx Brief "Frozen Girl" into an early version of "Lynx Blow", Flo Heiss's primary concern was now the creative idea behind the project. It was this focus on concept which led to the redrafting of the project and its conceptual emphasis. Here exists one of the fundamental tensions involved in dealing with such i-video projects: reconciling the creative idea with both the possibilities and the inherent restrictions of the available technology.

There was also a more multidisciplinary and larger group involved in its development, including the outsourcing of post-production to a specialist postproduction company, and the involvement of a Directing team: Daniel Duncan and Jonathan Pearson. In searching for a post house, Dare specifically wanted to work with a small company, requiring the accommodating nature which comes hand in hand with a small company ethos. The need for this same positive attitude towards a new medium accounted for Dare's selection of Duncan and Pearson, who both expressed interest in learning the processes required for directing video for an interactive, as opposed to a linear, presentation. This need for Dare to establish a common ground with its partners on the project was spurred on by the failure of the first iteration of the project. This determination to make the project succeed pushed Dare into taking steps beyond the normal project development process:

"We took the production seriously and I think its one of the first times that its been done like that, we had directors

and proper post production, we put money behind it everything was done properly and not on a shoe string budget... it was a lot more complicated.” (Flo Heiss, Creative Director)

This led to active, sometimes highly energised, debates about the project and to a rich and dynamic interplay between concepts and technical restrictions / possibilities. The first iteration of the project had placed too much emphasis on the mechanics of unfreezing the “frozen girl”, giving little thought as to how to reward the user for pursuing the experience. This was readdressed for the range of ideas proposed for the Lynx Blow iteration of the project. The emphasis would most definitely be on the actions of the model as opposed to the unfreezing effect. This would require a more refined performance, led by professional talent direction, to inject the familiar elements of a visual cinematic language into the feel of the video. The task of the directors, Duncan and Pearson, was to handle the video shoot, direct the model and bring their creative treatment to the table. This treatment interpreted the creative idea visually with a mood board showing different lighting looks, and a selection of costume sketches, materials and designs.

The job of the interactive director for Lynx Blow (a new job description, developed within Dare especially for the Lynx Blow project) was to stand between the roles of art director, post production, direction and interactive production; and act as a driving force to direct these respective roles into working together effectively. This role was designed as a way to balance the creative tensions existing between art direction and direction; along with the technological tensions which arose between the interactive production and flash development of the project and the post-production process.

### 5.3 THE PRODUCTION PROCESS

The video production process was split into the three traditional phases of Pre-production, Production (over a two-day shoot) and Post-production. The shoot captured the model against a Greenscreen background, for compositing at the postproduction phase with all 35 shots requiring green screen removal and cleanup. For traditional film or programming content, the presentation of post-produced shots for a confirm to a final, linear edit would indicate the final phase of a project’s production cycle. For an i-video project, however, this required an extra, interactive Production (i-Production) phase at the end to stitch the post-produced video clips together into an interactive, user-responsive artefact.

The pre-production phase involved a range of camera and visual effects tests. At the same time as these visual effects experiments were being undertaken in postproduction, a rough proof of concept model was produced by Dare in Adobe Flash. This interaction experiment illustrated the audio control of on-screen elements with a circle which could be “blown” around the screen of a web browser using the Flash platform as a medium. At the same time, a

detailed interactive Video User Journey diagram was developed by the Interactive Director, David McNulty. This charted the flow of video clips into an information architecture style diagram, refined from an early thought process rough drafted by the Art Director (see fig. 3 below).

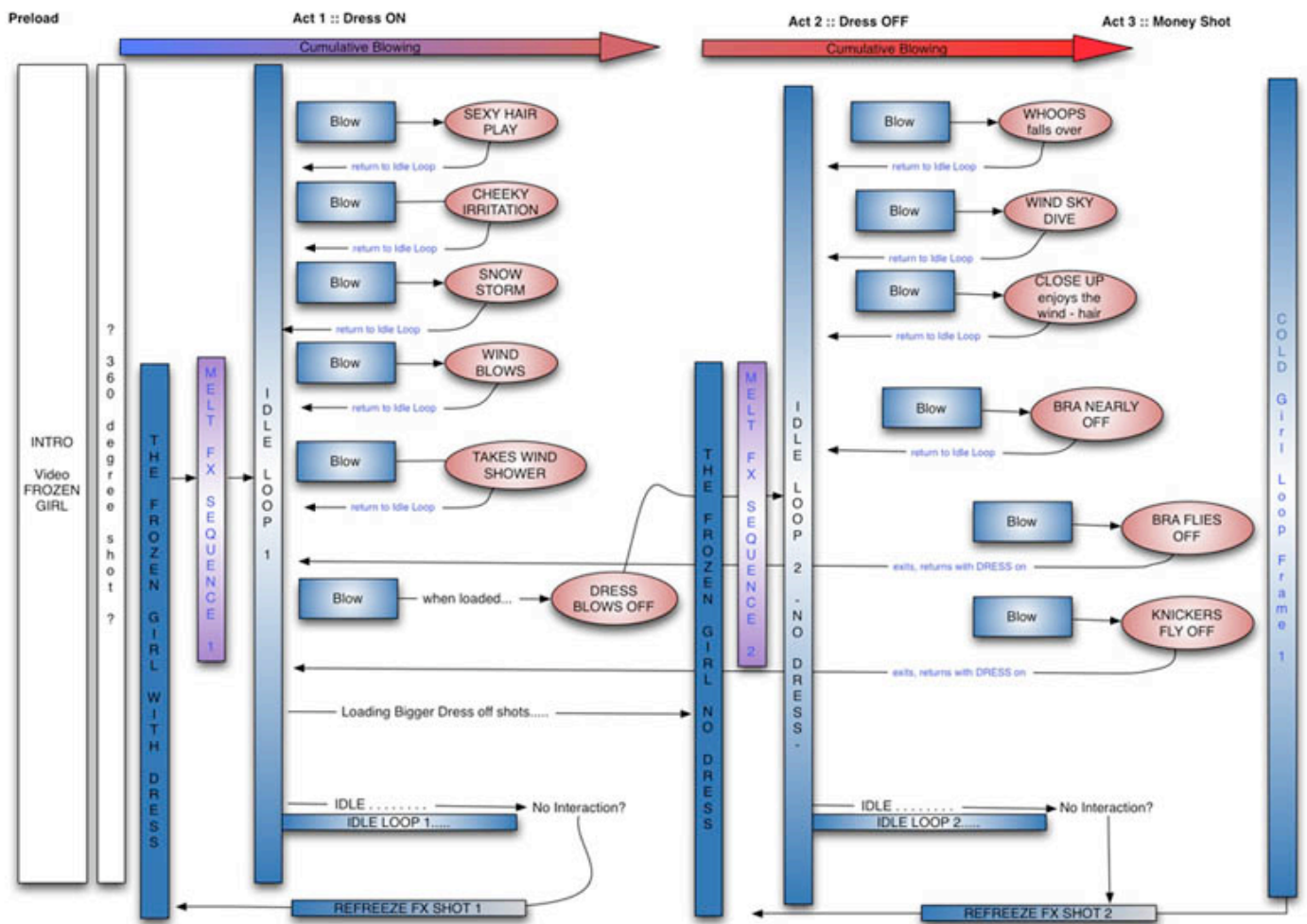


Fig. 3 Video User Journey (VUJ) diagram, developed to chart the different routes through the Lynx Blow story.

The Production phase of the Lynx Blow Video took place over a two-day shoot. Preproduction had underlined the importance of the model returning to the same position after each shot (see fig. 3). To ensure that this effect was captured on camera, an advanced video playback system was utilized onset, to grab the relevant frames of the model in her idle position and overlay them as a half mix over the current action as seen through the camera.

The photo in fig. 4 shows the outline of the model in her idle position drawn onto a production monitor with a felt tip pen. Despite the combination of methods used onset - planned and improvised - the production days revealed many problems which had not been thought through.





Fig. 4 Photo from onset during the Lynx Blow shoot showing evidence of felt tip pen outlining the idle loop position for the model.

"Behind the camera there was a lot of working things out onset, it was very taxing on the mind...What happens here? Because it is not linear..." (Alexis Haggar, Post Production Supervisor)

This conflicting mix of onset problem-solving approaches illustrates the differences in the understanding of the difficulties presented to a video shoot by the needs of an i-video project. The initial, and cinematically conventional, solution of video playback and overlay to ensure continuity between different shots proved insufficient for creating the illusion of fluidity throughout the piece, with each shot beginning and ending with the model in the same position.

"It would have been good to have her [the model] in a set position, and have a rig to hold her ... so she could always return to her set pose.... In an ultimate piece she would fade straight into the next clip so that you wouldn't even know as a user." (Alexis Haggar, Post Production Supervisor)

Another example which illustrates some of the technical tensions and frustrations encountered during the project

was one relating to the choice of camera lens for the shoot:

"There are some technical and pipeline issues which should have been addressed, and are now aware of .... from a technical point of view it was things which should have been simple like lens sizes ... if someone moves the lens it doesn't marry up to the shot before ... the discrepancies are so small but if you shift the lens by a degree it shifts the whole image massively." (Alexis Haggart, Post Production Supervisor)

This specific example of tensions existing between the visual effects supervisor and the director of photography illustrates the differences in understanding of i-video production problems. The Director of Photography chose to use a zoom lens for the project, as one shot in particular required a transition from a medium to a close-up shot of the model. This effect could also have been acquired without the use of a zoom lens as the camera was also mounted on a dolly and track. In a traditional shoot setting this would not have caused a problem for the post-production phase. For this project however, the imprecise nature of a manually-controlled lens zoom resulted in a mismatch of the shots captured before and after the zoom had taken place.

The post-production phase of the project lasted for approximately six weeks. A CGI specialist was employed to create the frozen wasteland as a background for the model. The footage was cut into 35 separate shot units, each containing a different reaction; with the start and end intended to seamlessly join into the idle looping shots. It was during the post-production phase that many of the problems, which went un-noticed on the shoot, became apparent. Differences in the model's hair, and idle position, which had not been spotted during the shoot, became problems in post-production when it came to stitching the shots together into a seamless network.

The production phase was started at the same time as the preproduction phase for Lynx Blow. Dare's experience with producing smaller i-video projects had shown that i-video projects required nearly four times as much development time as non-video based interactive Flash websites. This early Actionscript development took rough pre-visualisation clips into the system (See Previous Still #3) to test clip delivery and various audio responsive interaction models. This development was the longest process, lasting from pre-production through until the final project delivery. One of the major problems with the chosen method for interaction development was the difference in file size between the short pre-visualisation clips which were initially used to start crafting the system in Flash, and the size of the final post-produced clips. Even after extensive compression, the average length of shots was around 6 seconds as opposed to the predicted 4 seconds. On a clip-by-clip level this difference seems mundane. However, multiplied by the total number of clips in the artefact, the difference in file size is significantly larger. This had a knock-on effect of causing tensions with the intentions of the art direction team whose objective was to create a full-screen interactive video experience with comparatively short loading time for the end user.

## 6. ANALYSIS

An analysis of these and other issues, combined with a series of semi-structured interviews with members of the creative team, led us to conclude that there are some particular issues with working in interactive video that need to be addressed throughout the industry if this area is to continue to develop.

The most strategic issue is that there is an urgent need for the development of a new sort of professional to work in this area. These professionals do not belong to the graphic design, film or computer science disciplines but form their own identity taking aspects from all these and (perhaps in an argument for another paper) should include an element of systems thinking. The need for the adoption of an enlightened hybrid position is necessary for day-to-day project management and productivity in projects now as well as in the future personal development of interactive video specialists.

[talk here about the emergence of a new profession]

It's clear from the study at Dare and the interviews that form a part of this paper that for this sort of project there needs to be a considerable amount of energy put into pre-planning and pre-production. The continuity requirements of combining a multitude of video elements working in loops are very precise. Even with the success of the Blow project, continuity was not as good as it could have been and some of the methods of maintaining this were idiosyncratic rather than systematic (e.g., drawing on the monitor to achieve continuity between shots).

The final recommendation for the development of i-video projects is more practical and directly applicable across a range of interactive projects where the generation of the content is highly time consuming, exacting or even bespoke, rather than repurposing existing content. The communication of concepts was a key point of tension throughout the project. The various specialist perspectives all have their preferred form of description: from the 'scamps' of the graphic designer / art director, to the more detailed storyboards of the film maker to the process or flow diagram of the interactive specialist. On the conceptual level, a hybrid of these protocols is likely to be the most appropriate.

In practice, the level of convergence between distinct areas of expertise was certainly not optimal on the Blow project, with 15 people on a video shoot with roles ranging from costume to lighting to 3 directors without a clearly defined description of the process as whole or the particular requirements of each shot. Conventional storyboards were confusing in this instance because of the accuracy and consistency required and the highly modular nature of the footage. A series of animatics were produced in the process, which worked well but did not go far enough. The proposal here, championed by the post-production supervisor, is to produce a full simulation of the interactive video using low-resolution placeholder graphics before shooting.

This simulation approach has distinct advantages. It would be possible to show it to the crew of a shoot, many of

whom will never have undertaken an interactive project or might not even know what an interactive video is. It would also give the programmers an opportunity to build the software infrastructure at the beginning of the project, with placeholder graphics replaced by finished media as they are completed.

## 6.1 IMPACT

At Dare, the Blow project and the research project that was part of it have resulted in the development of a new formally-articulated production process for interactive products. This is a series of requirements and guidelines in place to make sure there is a greater degree of composure in the conception and development of projects. As such, all projects at Dare are affected by this research. The individual creative directors' adherence to this process is determined by the requirements of the specific project. There is still scope for open experimentation, as for example in the recent campaign for Vodafone that involved playing 'domino rally' with 100 000 £1 coins in a disused building for the weekend (<http://www.youtube.com/watch?v=Kt2Bb32zfXM>). However, this creative freedom is now channelled into a documented process beginning with pre-production, running through concurrent interactive development and production phases, through post-production to delivery. For interactive video concepts, the requirement of a Video User Journey diagram (see Fig. 4) is now mandatory. This technique of plotting video journeys onto a flow diagram showing inputs for user interaction has become a central communication tool in explaining to film crews, producers and directors working within the traditional film paradigm just how the finished artefact will eventually work.

## 7 CONCLUSION

There is clear evidence from our time with Dare that while interactive video has huge potential it is still very much in its infancy in terms of project development and application. New processes and skills need to be developed to handle this new media. In particular, this study demonstrates that, despite superficial similarities with traditional analogue moving image forms such as narrative film and video, i-video demands a quite different set of production processes, specific to it as a medium and a format. Most obviously, both the production process and the end product of interactive video are typically non-linear, unlike conventional moving image productions. The experience of creating Lynx Blow shows that, from the earliest stages of the creative process, interactive video utilises a range of technical multimedia applications which are not native to film/video production and which demand the development of a new workflow and a new vocabulary for communication among the practitioners.

In the 6 months since the completion of Blow the possibilities of i-video have been extended. One of the strongest examples of this is the 'Pilots Wanted' campaign for Saab by Lowe Brindfors (Brindfors 2007). In this multimedia

artefact, you can control the movements of a Saab car racing down a runway, and at the same time you can switch between 4 different views of the car undertaking these motions. At the end of this the site generates a film of your drive with additional elements to make the film more attractive. This piece is exceptional in its technical execution: the compositing is absolutely seamless, switching between views is instantaneous and even with an average web connection there are no long loading periods and once using the piece no waiting at all. The technology “disappears” and lets the concepts underpinning the piece come to the fore: fly the car and make a film of your driving that will entertain others.

While there are still high quality pieces of interactive video being produced it's clear that this new medium requires the evolution of a different process and individuals with a different set of skills and understandings. We argue for the need to bring together a deep understanding of the technical limitations and possibilities of this area coupled with a reinforced respect for the need for rigorous processes and planning without removing the unpredictability and directness of multimedia projects that have flourished in a more informal, guerrilla style of conception and production that places a premium on serendipity.

## 7.1 COMMUNICATION

More than almost any other medium, it can not be assumed that people working on the project will have a coherent common understanding of the interactive Video product being developed in general but particularly in specific terms. This will remain a serious issue until a group of practitioners from a board range of fields develop a common understanding and experience of interactive Video projects. In the case of Lynx Blow, valuable time was wasted on miscommunication between various crew members who were not at all clear about the aims, technical requirements and the extent of their specialist contribution to the overall project. This example demonstrates the need for a more extensive use of not just pre-visualisation but, where necessary, the interactive construction of a working prototype that simulates the desired effect.

## 7.2 NEXT STAGES

This pilot study grew out of an opportunistic set of circumstances with an innovative projects pitch, and a ‘native’ researcher in place. Just as i-video has to get serious about developing in the future, the next phase of this research is to develop a more rigorously designed, extensive research project to examine our initial ideas in more detail. This is likely to involve a form of protocol analysis but is not suited to lab based limited duration workshops that form some of the core research in this area. Similarly, the studies on group work tend to concentrate on a group working on a common problem at the same time and location. Our study will have to be distributed in terms of time and location

and duration and employ flexible and reflexive research methods.

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