Horses for Courses - writing for web3D

A paper for Incubation, the 2nd Annual Conference on Writing and the Internet

Introduction

It is possible to write for the net without getting bogged down in technology. I have been told this enough times so I believe it must be true. However, this talk is dedicated to those of you, who like me, have tripped over enough wires in your time and are hoping that there is an end in sight.

I have some good news and some bad. The bad news is that there is no end in sight to what we term innovation (although established writers may view this more as procrastination - "Just write will ya! Stop fiddling!"). The good news is that the fundamentals of the internet canvas are evolving quietly, and slowly, into a more unified concept which may in fact make writing for new media a whole lot easier.

I am not here to evangelise the use of any technology (far from it in fact). I am not going to say "Do what I do." Instead what I'm going to do is tell you how I see an online 3D metaphor evolving, to the benefit of all creative endeavours, including writing. For several years I have been working with real-time 3D graphics online and in a practical sense this is web3D film-making.

Those who were at a talk I gave earlier in the year, at trace's sister conference in Paris, may detect a subtle shift in emphasis today. I was inclined to re-title this talk "Web3D… don't touch it with a bargepole!" but I do remain optimistic.

What is web3d?

1. 3D used on the web
2. standards for lightweight, interactive 3D graphics
3. medium that blurs the line between film and game, passive and interactive experiences.

In 1994, with Tim Berners-Lee's hypertext thingy barely a year old, discussions began in earnest on how 3D might fit into the picture. *Virtual Reality Modelling Language* was conceived as a 3D language equivalent to HTML and was subsequently heralded by some press, along with imagery of *cyberspace* taken from the novels of William Gibson and Neil Stevenson. This was, in many people's eyes, the next big thing. The media failed to report that VRML was never designed to be much more than a simple interchange format and inevitably VRML content failed to live up to sci-fi comparisons, requiring significant more hardware. Many ventures to exploit online 3D rose up and quickly crumbled while out-of-sight, work on the technical specifications continued.

In 1999, the community responsible for VRML switched focus to the term *web3D.* This was to collectively describe VRML, X3D and all other standards relating to

lightweight, interactive, 3D graphics. This community, the Web3d Consortium, is a non-profit organisation promoting a range of standards covering (amongst other areas):

- The description of 3D objects and their behaviour
- The relationship between 3D and other multimedia
- Virtual environments
- Humanoid Animation

While the technical specifications themselves are dry and of little general interest, the vision they encapsulate is breathtaking. It is also one that has had considerable quiet influence over the years.

The need for open media standards is fairly undisputable. Over fifty different 3D web graphics formats have been released since 1994 yet none provide the basis of a standard platform. This babel-isation has frustrated many attempts to promote 3D content and diffused the creative efforts of early adopters. It continues today. Web3D has yet to achieve the level of acceptance, accessibility and stability that HTML had in 1994.

Progress is however being made, although out of the public eye. Earlier this year (2002), a significant milestone was reached when the Moving Picture Experts Group adopted the web3D framework into MPEG-4 – the standard covering all forms of web multimedia. Previous MPEG has defined MP3 and more recently, DVD (MPEG-2) formats.

Another significant area of progress is real-time graphics hardware. Complex calculations are required to transform 3D data into a 2D image composed of pixels. This process, *rendering*, is increasingly assisted by specialised dedicated hardware. Even so, it is a mammoth undertaking to generate high quality 3D images (let alone at 25 frames per second) in real-time. Real-time 3D has however been moving steadily into scope for many desktop computers being sold today. The goal posts for computer imaging have been moved back so many times now that it is hard to remember where they were only a decade ago. 3D graphics are truly a reflection of our times.

All in all, web3D is many things to many people; seeds of a big picture concept, a set of standards guiding the evolution of media, and some available proof-of-concept technology. Web3D is a new paradigm that impacts all Internet writing.

Where is web3D?

Where do you find web3D? We live in a largely rendered world where lightweight 3D is used in various guises. Digital erotica (the proving grounds of new media), online advertising, ‘pre-visualization’ for films, broadcast news graphics (from weather patterns to troop movements), games, medical imaging, industrial design, stock market data, to name a few.

The reality check

The irony is that many web3D applications are not on the public web, or even online. Furthermore while we are being fed an increasing diet of 3D animation in film and

television, it is still rare to find web3D entertainment titles (apart from games). Over the last few years many of the web3D pioneers producing original entertainment content have vanished, victims of their premature place in its history. The gap between proof-of-concept and financially viable industry has proven extremely hard to cross.

There is no way that visuals rendered in real-time on the desktop can compete with what Hollywood produces, especially when you consider that a single frame from a 3D animated feature film like *Shrek* can take several hours to render. The interactive dimension of web3D is both its strength and its hamstring in the public eye. There has never really been a market for interactive film so that has not worked as a selling point. People are largely content with a passive medium. Ever since VRML hit the headlines as "cyberspace", there has been a discontinuity between what we developers envisage web3D to be and what has been possible to deliver, at least to a mass audience.

What's more, the distinction between 3D content delivery and 3D aesthetic has been lost in spin. For most web content, essentially linear and certainly not requiring 3D-based interactivity, it has been more practical and certainly less painstaking to deliver objects as 2D - no matter how they were created. The days of evangelising web3D for its own sake have been and gone.

None of these observations should be taken as a discouragement to write for web3D. After all, the web is a framework defined in terms of its constraints as much as its strengths. Almost from the beginning there have been too many formats, operating systems, languages, and 'new solutions' (retro-fitted to old problems). Despite all this, a new medium has unfolded, at a rate inconceivable a decade ago. The difficulties in bringing an online 3D metaphor to life are merely teething problems that are being overcome.

Relevance to writers

The speed of Internet evolution is why web3D is relevant to all writers. As desktop 3D gets ready for prime time there is an opportunity to revisit the context of interactivity in our media and write in new ways of exploring it. Somewhat thankfully, exploration and exploitation of 3D space relies as much on communication as on rocket science. Everyone is qualified to comment. We live our lives in 3D.

My personal interest in web3D has long been as a tool for telling playful stories. I want stories that work on different levels for different people. I like the idea of interacting with films and I want to be a spectator in games. I want to write content that is not defined by genre but by how my audience is feeling. Actually all I want is to write something new.

Web3D has a part to play in breaking new ground because it implies dynamism and a new relationship to the audience. Visuals are constructed on-the-fly as in a 3D game but unlike in a game, there need not be constant participation. Regardless of much authorship is applied, working with web3D (for me at least) is all about appreciating what potential there is for trying to establish new relationships with people. The 3D metaphor is waiting there to assist when required.

Regardless of whether you take 3D or 2D as a starting point, it makes sense to think of one conceptual framework encompassing all media, traditional or new, passive or interactive. The combination of web3D and digital video is yet another sign of the often talk about, but as yet unrealised, convergence of media. Films and games are separate mediums because we continue to write them as such. The imagination to exploit the full network of possibilities will need to come from a generation of writers unfettered with legacy assumptions and blissfully unaware of just how difficult it has been to bridge these elements in the first place.

Writing for web3d

The first web3D cartoon I ever came across was *Cyberswine*, a CDROM adventure starring a robot pig. The story was nothing to write home about, and neither were the visuals, but in 1996 I was transfixed by it. This was a malleable cartoon. I could change the plot. I could move the camera. I could even change the language and see the characters speaking to a different language. I was hooked. I wanted to make films like this.

The idea of an interactive movie made perfect sense to me. I had previously dreamed of films I would have liked to have been a fly on the wall in. I didn't want to participate in the story as such, but only hang around. I didn't understand why no one was making this kind of content but not knowing anything about movie production, I assumed that it could be done. I had happily been absorbing the artifice of movie magic without any real sense of it being fake.

Soon afterwards I found myself writing a feature-length project for Brilliant Digital, the company that made *Cyberswine* and other CDROM based multi-path movies. My friends I done Computer Science with at university thought that I'd be writing some kind of algorithm for generated storylines. Instead I was getting a crash-course in conventional scriptwriting. The producers wanted interactive Hollywood and I tried to valiantly to give it to them. Somewhere in the midst of blurring the line between film and game, passive and interactive entertainment, I got a little blurry myself. My feature-length project remained on the shelf along with the dream.

Why film-making?

People often look a bit uncomfortable when I talk about film and web3D. One is a well understood venerable art form and the other a kind of clunky collection of immature technologies loudly claiming relevance from an essentially academic pedestal. Allow me to restate my position. There has never been an immediate threat to film from web3D content. My focus is rather based on a belief that web3D will transform high end production processes and eventually film's dominant position in our psyche. There is no need to aim low when dreaming of a medium that can encompass all others, even if this does not sit comfortably with the mindset of mainstream media moguls.

3D is usually discussed in terms of its convergence on digital video, not the other way round. 3D is the newcomer, video the known quantity. Technically however there is no reason why things couldn't go the other way. In one sense it is all down to

marketing. The computer game industry now generates more revenue than the film industry and Hollywood busily re-purposes titles (Resident Evil anyone?). Within the web3D paradigm, video can be typecast as either surface texture or the recorded perspective of the camera itself. Neither role is sufficient to describe the totality of the medium. Let's face it – interactive media is here to stay.

One might question whether the conventional sense of a film can ever be realised from lightweight, interactive 3D graphics. On face value, web3D offers an experience that is worlds apart from the big screen. And yet, behind the scenes, the technology that drives all media production is converging. The concept of universal media applies equally to all types of content, on or offline. A single web3D-based system could output traditional media channels as well as new ones. You need only write a reason to try and build one.

Now is the time for dreaming of new landscapes for story-telling. An obsession with digital photo-realism has driven innovation this far and looks set to continue. Thinking back to the 80s, it is astonishing to see just how far our expectations of digital image have moved. Web3D can barely handle short film and game requirements today but doubtless more long form content will come.

There are benefits to applying traditional media processes back to web3D. Film production consistently stretches the boundaries of what moving images can do. The audience is not obliged to care what was involved in getting there. Film does not require VR headsets to create an immersive experience. Writing for web3D has equally got to take the audience into account.

Web3D - media to die for

The main reason why film is such a useful model for web3D is that, like film, this is media to die for. Its development has been driven by an uneasy mix of obsession, ambition and far-sighted vision. Writing that takes into account the 3D metaphor makes increasing economic sense, preserving the effort required to repurpose material and populate new channels. This becomes more obvious the more tools are available. The advantages of writing for a medium, that once authored can be generated dynamically for different purposes, has not escaped notice.

This does not mean that all writers have to re-invent themselves as interactive designers but it seems unlikely that new language will be created without awareness of the terrain.

Web3D concepts like *universal medi*a, the storing and mirroring of key content in component form, are powerful to the writer today. Props, characters, and scene will exist online as self-contained inter-operable objects. How they actually do this will be largely up to you.

Web3d games

I am more comfortable talking about web3D in terms of film rather than games. This betrays my own personal taste more than anything. Traditionally, if not intentionally,

computer games have been developed with a focus on design over storytelling. Indeed, as console games (e.g. Metal Gear Solid) have begun exploring film conventions and aesthetics as never before, such titles have been criticised by some gamers for diluting game-play, the essential ingredient which delivered the audience in the first place.

In practical terms, computer games will have as much influence on web3D writing as film. Perhaps they will be even more influential in bridging two distinct types of audiences. Notably games are the highest profile web3D content around and what technically pushes the boundaries. That said, writing is all about the individual and my writing reflects someone who is both fascinated and frustrated by game design. I began playing games in the mid-80s, even trying my hand at writing a few on my father's Commodore 64. However, as I got older, I found myself less and less interested in following games through to their completion. As a result, when it came time to write *Horses for Courses* last year, I decided to keep game-play simple, more toy-like than anything, partly because there was no budget to stretch to it but also becaus I didn't want to alienate any one particular audience.

Ultimately the writer decides. I hope that by using film as a starting point for interactivity, rather than game metaphors, web3d content can encourage a broader audience to play. Game-play can an integral part of all interactive entertainment but not at the expense of accessibility.

Horses for Courses

The idea behind *Horses for Courses* was to see if a short film could also double as a toy over a 56K modem connection. This seemed perversely appropriate in 2001, to self-fund a project while much of the new media industry was hunkering down waiting for interesting work to materialise. It was also an excuse to try and answer my biggest creative questions namely:

1) Will people ever interact with something they perceive as a film?
2) Should you write for the web without taking technology into account?
3) Can a story be wider than long?
4) How does an audience play with a story?
5) Does web3D require a new way of writing?

By delivering my film in components over the web, I was counting on being able to study user traffic at a later date and dissect these questions at leisure.

Writing the script

When I finally got down to writing my web3D film, I had given up looking for a tried and tested approach to use. I discovered that there was none, certainly no conventions for writing an interactive screenplay. Web3D entertainment content did exist of course but most, if not all of this, was based on US sitcoms. I wanted *Horses for Courses* to look and sound European. I was more concerned with creating a mood than dialogue.

The writing itself was a hybrid of linear screenplay and a high level technical specification which listed all the game elements, interactive cues and a description of the non-linear narrative.

Web3D technical standards themselves I found to be too low-level to offer pragmatic value for film-making. I had to shelf the idea of using purely open source software, a decision I did not make lightly.

I chose to author the film in b3d - the proprietary web3D format and delivery system made by Brilliant Digital. Having written for them in the past I already had a sense of what was going to be achievable in terms of interactivity (choose-your-own-adventure style branches and not much more) but remained impressed by the fact that their software toolset seemed capable of scaling to support long form productions.

Most importantly, b3d worked off a similar metaphor to the web3D standard notion of universal media. Every aspect of the film was considered part of a library (e.g. characters, props, sets and scenes). Each of these elements could be independently controlled in its own right and updated throughout the entire production process. For example, during editing it was possible to tweak camera angles and lighting in a way that would not be possible with video. Most encouragingly, b3d had a caching system (not unlike the way an internet browser caches recently viewed pages) that would allow characters, sets, and other elements of the film to be re-used in future work, without the viewer ever having to download them again.

The production started with a traditional treatment, script and storyboards. After which, we used 3D Studio Max for 3D modelling and animation. Once we had built up a set of story components, I used b3d Studio to edit the film as web3D sequences and wire up interactive elements.

Story

The story developed from the idea of Pan, the Greek god of nature, clambering out of a forest painting into the modern world, specifically a dotcom office. He is none too pleased to discover a world of banner advertising and dodgy websites.

Interactivity

The standard form of interactivity was non-linear narrative in the form of additional storylines. These did not hold much interest for me. From my time spent around Brilliant Digital I knew that people just didn't interact with multi-path movies. For all the effort that had gone into interactive story-telling on CDROM, the audience was rarely compelled to click. It wasn't that people didn't appreciate the art of weaving different stories together but the linear story has to work first and foremost. For this project I wanted to steer clear of interactive narrative and test out other kinds of interactivity – language and toys. If things worked out, we could seed in new storylines later.

That said, I could not resist throwing in one extra scene. The so-called interactivity model was simple. If a user did something, anything at all, while watching the film then the final scene would show people having taken over Pan's forest. If not, the

ending left the office workers literally hanging in the void expectantly. It was not high art but it did serve a purpose. The DID_SOMETHING flag showed what percentage of the audience had bothered with interactivity at all.

The film was designed to run in English, French or Spanish. Each language was contained in a streaming soundtrack file that loaded on demand. Any spoken dialogue could be used to automatically create lip sync animation so that it appeared as if the 3D actor was speaking. This was a subtle but popular form of interactivity in the film.

The toy elements were less obvious. I wanted to embed a large amount of token interactivity for demo purposes without investing too much time or budget in any of them. This was, after all, meant to be an experimental film, and one that would gauge the viability of larger-scale productions. Using mouse hotspots and keyboard camera controls the film ended up containing several payoffs for the active user in the form of incidental behaviour (from Pan), extra sound, a crude game of tag with the forest fairies, and even a blatant e-commerce opportunity to buy a crappy t-shirt.

Horses for Courses was designed to satisfy the urge to mess about and explore the film as an artefact. This mode of game play, what I called *the fiddle factor,* was what I hoped would distinguish the film. I wanted to offer interactivity of a form that was deliberately not that immersive, more akin to browsing an over-designed web page, than true game-play.

Throughout the writing and development process, I fluctuated in how I thought of web3D.

1) **Forget about web3D.** If the linear script works I can adapt it for interactivity. In fact, if it is that good, it will probably end up online whether I like it or not.
2) **Think low-res.** Keep it short, sharp, treat this as a toy. Keep things easy for the seven-second attention span. Make it silly. Throw in irreverence. Lightweight and disposable.
3) **Think hi-res.** Write a preface to the singularity. Experiment in post-literature, print optional media. I am aware of accelerating social, scientific and economic change. I want my writing to be future-proof and backwards-compatible. I want a framework for writing that gives it legs.

In hindsight, it would have been better to have concentrated even more on 1) forgetting the medium, putting aside the eventual delivery difficulties until the script was completed. The irony of trying to be an auteur with new media is that sometimes, simply using the tools becomes a form of storytelling in itself, somewhat to the detriment of producing something that works for other people. In the case of this film, delivery turned out to be somewhat of a saga which is still unfolding.

The launch

The film was completed in June 2001 and released on thequality.com website, accompanied by three mail-outs in each of the film's languages. We also hosted an IRC chat, providing a talkback opportunity and technical support.

Results

On a total budget of just over £10,000, I was able to write, direct, produce and distribute an award-winning short film. Without any more substantial marketing than a couple of mail-outs and a box of postcards, Horses for Courses has so far (as of July 2002) been viewed by several thousand viewers and feedback has been received from around the globe. The first submitted feedback form came from Pakistan.

Judging from the web logs, the audience would have been an order of magnitude higher if not for two factors:

a) The b3d player did not install properly on many machines (hits to the website page were up to 1000 times the number of movie downloads in the initial months after release). Administrator rights were also required to install the player (preventing access from many company PCs)
b) There was no support for Apple Macintosh or Linux (used exclusively by a significant number of new media journalists and other creative media types)

The aspect of the production which pleased me the most was the atmosphere we create using only a dial-up modem as the base delivery mechanism. The total download, including the b3d projector, to watch the complete five minute film, was under 4Mb. Users who already had the b3d projector installed saw content playing after only 4K and were taken on an interactive tour of Pan's forest after 300K.

The film generated some interesting statistics particularly around the inclusion of French and Spanish soundtracks. As a form of interactivity this was by far and away the most utilised feature. Over 50% of users who accessed one of these languages seemed to be going back in and playing the other. Ironically the successful interactive capability of our film was also the most straightforward aspect to set up.

In the first three months over 10% of the audience also clicked on a banner ad embedded in both the plot and visuals. It even said "Click Me". While in this case, the payoff was nothing more than a cynical half-serious attempt to wrest money from the punters, it did indicate that at least some people were ready to participate. T-shirts are still available through the film in this way.

Weaknesses

The principal weakness of the script was that it was never properly edited down from twelve minutes to five minutes.

While making Horses for Courses, I learnt several things.

1) Online writing and architecture need to be considered in tandem
2) Support for multiple platforms is not a luxury
3) Interactive film-making means more variables to budget for.

The pace of the film left many viewers confused and unimpressed with the story. A little more time ensuring that the script was more fit for purpose, and budget, would have made it more accessible to more people.

The most fundamental mistake was made during beta testing and did not give adequate consideration to how our users were going to access the film. Focusing on making the content as bandwidth friendly as possible, we achieved great results. In testing however, our success in deploying the film was unrealistic.

Our test group, mainly industry professionals working in their spare time and mostly well educated with regards to multimedia, did not at all adequately represent the audience that the film was going out to. We released the film blissfully unaware that Administrator privileges were needed to install the projector and that the resulting error messages from the b3d installer were gibberish (i.e. error codes). By the time we identified the problem, it was too late. The logs suggested that thousands of people arrived at the Horses for Courses website and were unable to go any further.

The irony of this situation was that while we found it next to impossible to get the cartoon playing in front of interactive media commissioners (apart from shipping VHS cassettes to them), at home most people around the world could view the film without problem… if they had a PC.

We also underestimated the impact that the lack of Macintosh support would have. Several opportunities for press coverage were simply denied on the basis that "it looked crap" on the low bandwidth Real media version we provided as an alternative.

Opportunities

Web3D provided me with the real opportunity to dream up something new and deliver it within a few months. The opportunities for other writers to work with new media talent and surpass the achievements of this project are immense. Mainstream media companies are not interested in content that blurs the line between their traditional markets but web3D experimental productions can and should. It is only through more exploration of the internet canvas that writing will evolve.

Finally, by building our pipeline (production process) around key web3D standard metaphors like universal media, we keep alive the opportunity to quickly re-cast the film, or individual elements (like Pan) in different ways in different media. In particular, our tests at re-skinning the animation at broadcast quality proved to be more than feasible, up to the resolution of our original texture maps.

Threats

When using proprietary software, where you have no access to the source code, there is always some level of risk that things will go wrong. This project acted as a very useful and timely reminder of why film production usually works with tools developed in house and why any closed system can backfire. It should hopefully also adds weight to the argument that web3D innovation is dependent on an open streaming 3D delivery system rather than any de-facto (but still closed) standard technology.

It is debateable as to whether b3d will ever again be trusted for a professional web3D production. Despite considerable support given to us by Brilliant Digital in the early days of the project, the process of rolling out Horses for Courses could not have been more disastrous. With Brilliant Digital focused on the 3d banner ad market, our access to technical support dried up at exactly the wrong time. The extent to which the technology did not install correctly, or malfunctioned with graphics hardware, put considerably strain on our ability to market the film with conviction.

By having to rely on BDE to debug and prepare our installation components, we left ourselves open to considerable embarrassment when the process failed to work on a significant percentage of desktops. Worse was to come in April this year when the entire mechanism suddenly failed without warning.

Less than a year after the film's release, a storm of controversy had erupted over the use of b3d. Brilliant Digital responded by quickly releasing a 'secure' installer component that had not been checked against our existing content. I first learned of the situation when emails started arriving saying that Horses for Courses was broken. It was then that the Achilles heel of our production, relying on remote proprietary systems, turned into a showstopper.

Unbeknownst to us, several months previously, Brilliant Digital had struck a deal to bundle their web3D installation system as part of the Kazaa, a popular peer-to-peer software package, one of the successors to Napster. The deal enabled Kazaa to sell 3D banner ad space and in return Brilliant Digital extended the install base for b3d by hundreds of thousands of users.

The proverbial hit the fan when the following clause was uncovered deep within the Kazaa Terms and Conditions:

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You hereby grant BDE the right to access and use the unused computing
power and storage space on your computer/s and/or internet access or
bandwidth for the aggregation of content and use in distributed
computing. The user acknowledges and authorizes this use without the
right of compensation. Notwithstanding the above, in the event usage
of your computer is initiated by a party other than you, BDE will
grant you the ability to deny access.
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Quickly following that disclosure was the news that Brilliant Digital had set up a company to on-sell the distributed processing power of computers with b3d software installed.

We were out in the cold until such time that a self-contained installer could be fitted to the site. Even then, the download experience was crude in the extreme. No longer could 4K and then 200K initial components be streamed to the dial-up audience but instead, all users would now have to wait for the full duration of the download before seeing anything.

Without overhauling the production and recreating it the film remains accessible only through b3d technology. While I am confident that Brilliant Digital are going to be bound by their pledge to not misuse the computer resources of my film audience I

cannot really blame anyone for not wanting to go near this software. It has been a bittersweet conclusion to an exciting project. I do not expect to use b3d technology again.

Conclusion

In conclusion, the process of producing Horses for Courses was an insight for me into how next generation film content and interactive media can be rapidly realised, not because we necessarily want or need more 3D visuals, but because web3D is a step towards a consolidated framework that harnesses all the diverse strands of multimedia and internet storytelling into one coherent model. It makes sense as a production model. It makes sense as a delivery model.

3D content does not need to look 3D and this, more than any other reason, is why writing for web3D is compelling.

To-date, no one else to my knowledge has attempted to deliver the short film experience via web3d but no doubt there will soon be others. The difficulties encountered on this project are not irreconcilable barriers to developing content. Even while the majority of formats are incompatible and closed to scrutiny there is some incentive to explore the boundaries, in the confidence that what is learnt can be applied elsewhere. What the current market does hamper however is any incentive to develop long form web3D content with ambitious targets for interactivity and visuals.

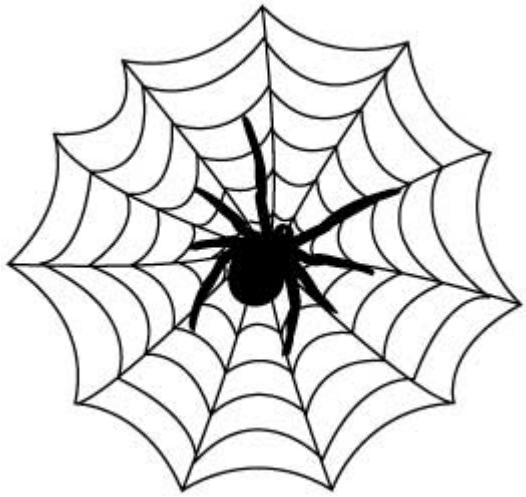
In attempting to corner market share at the expense of their early adopters, software vendors run a real risk of ruling themselves out of contention in the race to see a de-facto standard set for web3D content creation. All that remains is for an open source framework to materialise that can come to grips with the vision proposed through the standards bodies like web3D and MPEG.

For all my criticisms of the b3d technology used on the project, Brilliant Digital did get some things in their toolset. The ability to develop project assets under source control and the notion of an interactive film library are key aspects of a process that can only improve and open up with time.

As for the next project, I am still wading through the logs and feedback that Horses for Courses has generated – valuable insights into how the web3D audience reacted to a fractured little fairy tale. Once that is done, I intend to put the lessons learnt to good practice in other film with more emphasis on play time than before.

Until then I want to leave you with a little sound bite on media and how you can help sort it out. Consider this a request for comment. It’s going to be massive…

The Massive Manifesto



You want Universal Media? Fine, but recognise Massive implications. These are ecological, social, and economic implications. Massive change needs simple ideas.

Media is not yet, but must be, sustainable. Massively intrusive systems are coming. They will be powerful, not necessarily controllable. Accessible media will be our one and only lifeline.

Massive is the fundamental shift in the digital experience. We can shy away from channelling it, as has happened before, but Massive clamours to be heard.

Massive is something you take to heart and, if it does not work, discard it. Massive is a notion for clearing the blockage in western development. Massive is an open framework for media. The political dimension of openness is massive but rarely acknowledged. Massive provides this acknowledgement. It guides implementation. Massive is clean design and the widest possible delivery. Massive means scalable media. You can sell things through Massive but its essence must remain free.

Massive spans language, channel and format. It evolves to track whatever exists digitally. A Massive element must exist under source control. Massive archives content by time. Massive is accountable manipulation. Massive means cost-effective channels. Massive means backwards-compatibility to print. Massive means delivering essential media for free.

Massive is wider then long; plain text and richer channels. Massive does not regulate or moderate the world. It hums and runs beneath it. Massive is massively parallel interactions. Massive is for software as well as people. Massive is inter-operability on an incomprehensible scale.

Massive finds the black box design approach tainted. Closed software is closed to scrutiny and therefore suspect. Massive is open book and therefore trusted. Massive helps tackle whatever genies escape from the bottle. Massive is only a question of when. Massive is propagated by massively multi-lingual movies that use every trick in the book to communicate. This has been one of them.