

Cultural Value

Machinima: an investigation into the contribution of participatory user-generated machine-cinema to cultural values

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Executive Summary

Machinima is the making of original films using content derived from 3D video games and virtual environments. The first recognised machinima was created in 1996. Since then, it has achieved an impressive growth record albeit a medium in transition. It is embedded in social media networking platforms – during this project the former community website, Machinima.com (now Machinima™) recorded its 5 billionth hit – only the second website to do so in the history of the internet.

This report focuses on research findings from a primary investigation into the perspectives of the key stakeholders associated with the medium: machinima creators (machinimators), games developers and digital arts curators. The research has used a predominantly qualitative methodology, including netnography and interviews.

Netnographic findings highlight four main channels of distribution for machinima: games channels, social networks, virtual learning channels and walled channels, emphasising the role of community and commerce in its passive and active modes of production.

Perspectives from the stakeholder groups highlight cultural and economic values in relation to personal skills development, economic and social benefits and broader societal impacts for machinimators and the community of practice; direct and indirect impacts on games developers through extended market reach; and its contribution to cultural offers in developing access to digital arts and underpinning networked relationships between creative and cultural industries. Conclusions focus on:

- convergence with filmmaking and other creative media in the finished quality of the work, yet machinima remains unique in its mode of creativity;
- the need to recognise originality and authorship of machinima work;
- a legal framework that is out of touch with stakeholder needs in creating cultural and economic value;
- the nature of the virtual as contemporary 'experience environment'.

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Key words

Machinima, co-creation, new media, digital, art, film

Project website & Twitter handle

www.machinima.dmu.ac.uk

@machinimAHRC

Contents

Executive Summary	2
Researchers & Project Partners	3
Key Words	3
Project Website & Twitter Handle	3
Key Terms	6
1. Introduction	7-8
2. Project Aims & Objectives	9
3. Research Findings	10-66
3.1 Machinima	11-16
3.2 Machinimating	16-36
3.3 Computer Games Development	37-54
3.4 Digital Arts Curation	55-66
4. Conclusions	66-70

List of Tables

Table 1 Summary of Responses / Data Analysed by Research Method	11
Table 2 % Machinimator Survey Respondents' Age by Gender	16
Table 3 % Machinimator Survey Respondents' Preferred Machinimating Game by Gender	17
Table 4 Machinimator Survey Respondents' Creative Focus by Gender	17
Table 5 Machinimator Survey Respondents' Experience with Game by Gender	18
Table 6 Machinimator Survey Respondents' Skills Developed by Gender	22
Table 7 Machinimator Survey Respondents' Motivations for Machinimating by Gender	22
Table 8 Machinimator Survey Respondents' Future Aspirations for Machinima	23

Works by Gender

Table 9 Machinimator Survey Respondents' Best Distribution Mechanisms Used for Machinima by Gender	24
Table 10 Machinimator Survey Respondents' Best Distribution Mechanisms Used for Machinima by Gender	24
Table 11 Machinimator Survey Respondents' Audience for Machinima by Gender	25
Table 12 Machinimator Survey Respondents' Challenges Faced in Machinimating by Gender	26
Table 13 Machinimator Survey Respondents' Understanding of Games Developers / Publishers' Copyright for Machinima by Gender	28
Table 14 Machinimator Survey Respondents' Reflections on their Machinima by Gender	30
Table 15 Machinimator Survey Respondents' Exchange of Skills & Assets by Gender	31
Table 16 Machinimator Survey Respondents' Bought / Paid For Machinima Related Skills by Gender	31
Table 17 Machinimator Survey Respondents' Bought / Paid For Resources by Gender	32

List of Figures

Figure 1 Scope of Machinima Applications	13
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List of Appendices

Appendix 1 Research Methodology	71
Appendix 2 Research Artefacts	72
Appendix 3 Project Website snapshot	73

Bibliography and external links

74-78

Key Terms

demoscene	computer art movement that produces audio-visual demos that run in real-time with the aim of showing off programming, artistic, and musical skills. The form was used originally to demonstrate the capability of computer hardware, typically by computer gamers
EULA	end-user license agreement
gamification	the use of game mechanics such as leaderboards and rewards in non-game contexts (gamifying)
glitch	a mistake, error, bug or malfunction typically associated with computer games – the term is also used to describe a form of computer game art ('glitch art')
indie	shortened term for independent, typically used in referring to SME and micro games development organisations
let's play	a format of machinima that comprises recorded, unedited gameplay
machinima	pronounced 'muh-shin-eh-ma', the word is a concatenation of machine-animation-cinema and is used to describe original content produced using 3D video games as the source material
machinimating	making machinima
machinimator	machinima creator, artist or filmmaker
mod	modification
mooc	massive open online course
speed runs	unedited gameplay
TOS	terms of service
transliteracy	ability to understand and communicate across all communications platforms, including sign language, speaking, reading, writing, mass media, digital communication, social networking (Wikipedia)
UGC	user-generated content
UKie	UK Interactive Entertainment (www.UKie.info) – a trade association for video games publishers and developers

1. Introduction

Machinima is the making of original content using 3D computer games engines and gameplay recorded in real time. Machinima creators (machinimators) now draw on a multiplicity of computer video games but this type of co-created and participatory content was originally popularised by the growth in fantasy and simulated role-play environments such as World of Warcraft®, Halo®, Grand Theft Auto® and The Sims®. It originates from the demoscene, whereby computer 'geeks' seek to promote the technical capabilities of their computers through demonstrations of gameplay in online fora.

The first machinima film is widely recognized as being *Diary of a Camper*, recorded and produced in 1996 by a group of gamers calling themselves The Rangers. Since then, machinimators have created and distributed tens of thousands of fan vids, parodies, satires, reenactments and original content through online fora in an increasingly complex ecology of technologies and new media. Its influence has been widespread, impacting digital arts, film, new media platforms and even politics through the user-generated co-created and produced content, some of which has been used as pre-production visualisation for big budget films that have subsequently been realised in mainstream environments such as Hollywood (eg., *The Lord of the Rings* and *Resident Evil*).

Its growth in popularity has impacted games developers significantly because it challenges the ways in which they view their intellectual property and the role of their customers (games players) in the creation of commercial value, effectively testing the boundaries between authorship and ownership. In turn, this is resulting in shifts in thinking about the format and framing of end-user license agreements. Content has now spilled out from the internet into digital arts festivals and galleries (eg., Atopic, France; Animatu, Portugal; Bitfilm, Germany; Phoenix Square, Leicester UK): machinima is inherently a convergence of technology, digital social practice and culture. Importantly, some commentators have described it as '*the* visual cultural phenomenon of the 21st century' (Greenaway, 2010).

Machinima is also uniquely used to provide insight into social 'virtual' actions that take place within online 3D environments such as Second Life®, through recordings and productions. It is embedded within social media networks, which are central to digital access of this form of content and, in early 2013, Machinima.com, a prominent community forum, became one of few social networking platforms to list on the US stock market (Nasdaq). This compares the multitude of games developer community sites and gamer-owned and managed fora. The listing was based on an impressive record of growth – in 2011, Machinima.com reported more than 2.5 billion downloads of machinima films through its various online channels and more than 45 million unique monthly users of the platforms. More recently, as a main search facility for online digital creative content, the stability and growth of the community using Machinima.com is considered to be a health indicator of media platforms such as YouTube (much UGC posted to this site is machinima and computer gameplay, ie., 'let's play', recordings).

This project has focused on the character of cultural value through new media, digital access and co-production. It addresses the pertinent issues that have emerged in the context of the massive growth and uptake of machinima, building on previous research into digital creative practice of performance-based media reported in the literature. It has engaged key stakeholders from the breadth of creative and cultural industries, as well as the community of machinima practice, through the research design (see Appendix 1). The breadth of opinion included in this study is a key aspect of its contribution to understanding the impact of machinima, which has not previously been investigated. This research therefore provides an important 'state of the art' dataset and point of reference for future researchers, as well as insight into the immediate and future ways that machinima is impacting on the shifts in our cultural values, particularly towards a visual culture that cannot be addressed through evaluation of social media alone.

The project evaluated the co-participation and convergent practices of a range of creative and cultural industries stakeholders, including user-generators, formal and informal networks of professional and amateur, institutional, commercial and not-for-profit participants. Machinima is a phenomenon that encompasses all these stakeholders in a complex ecology of technologies. Indeed, its emergence and growth as an important digital culture is now influencing the development of new media platforms and technologies which, in turn, are impacting on cultural values. This project seeks to shed light on both the inherent complexities of the phenomenon, types of cultural values that have emerged and the ways in which it is changing views of cultural values and will contribute to a broader understanding of cultural values in digital creativity.

The PI has been a participant observer within the machinima community since 2006, having directed the first European machinima digital arts festival in 2007. The project has drawn on the resultant unique objective insight into the focal phenomenon, its growth and emergence as a digital arts genre and its impacts on creative and cultural sectors both globally and within the UK, including the ways in which new types of social media platform have evolved to support its dissemination. Building on the extensive networks established by the PI since 2006, the research is situated across multiple disciplines and a broad range of academic, creative and cultural interests.

2. Project Aims & Objectives

The aim of this project is to generate a comprehensive framework for understanding the ways in which machinima ('machine-animation-cinema'), a form of digital interactive user-generated content, adds cultural value to creative and cultural sectors. As a form of highly creative content blending of artistic and film-making skills with gameplay and computer technologies competences, it has attracted a wide range of participants from home-based enthusiasts, to amateur film-makers, to established digital artists in film, animation and arts sectors. Increasing activity within the community of machinima practitioners ('machinimators') has impacted on our understanding of the role of computer games beyond gaming, digital interactive performance and social participation genres, and influenced developments in creative and cultural industries and new media platforms. Despite its now massive following and popularity primarily among gamers, machinima remains a largely internet-based phenomenon which few outside the online communities and digital arts scenes have heard about albeit many will have first hand experience of it. Therefore, the specific objectives of this project have been to:

- Identify a taxonomy of the types of cultural value produced by the machinima community, including both on and offline contexts
- Evaluate the impacts of machinima and machinimating on the cultural sector, exploring the ways in which the creative and cultural industries sustain and destroy value generated by machinimators formally and informally
- Assess the ways in which the creative industries are adapting to meet the challenges of machinima user-generators, including their use of new types of creative skills resulting from its rapid evolution
- Explore the issues of ownership and authorship that arise from the making of machinima including the tensions and interrelationships between the creative and cultural industries arising from the creative practices of machinimators
- Assess the implications of the machinima phenomenon for other digital participatory creative cultural genres
- Provide an evidence base of artefacts and critical analysis of the machinima genre for a naive and unfamiliar audience

The research reported on has used a qualitative design to investigate and explore the pertinent issues arising from the emergence of this important cultural and creative phenomenon outlined in the research objectives above. Appendix 1 describes the research methodology in detail.

3. Findings

Findings are based primarily on qualitative research techniques, summarised in table 1, given the aim of the research was to generate rich insight into machinima's cultural values across a range of stakeholders.

Initially, a netnography of machinima and online community fora was conducted to generate insight into the breadth of applications of machinima. Subsequently, interviews, focus groups and an online survey were used as the primary data collection methods.

Interviews and focus groups conducted with machinimators sought to understand the breadth and depth of cultural values of machinima through creative practices, including personal skills developed; the ways in which they collaborate and develop community and the values generated from such communities of practice; the impacts they perceive on their audiences beyond the immediate communities of practice; and, the economic benefits they derive or contribute to through their practice. An online survey (administered through Survey Monkey©) was designed to sit alongside the interviews, with a view to reaching a broader spectrum of machinimators using different computer games platforms.

Interviews and focus groups with games developers / publishers sought to understand how the organisations (micro / small or 'indie' and larger) directly benefit through contributions to their profit motive; how machinima and machinimators influence development of their value chain from suppliers to end users (customers); how they relate to their market context and competitors; and, their awareness of broader societal impacts of machinima, especially when it is based on their products. EULAs and TOS were also included in the evaluations of games developers / publishers.

Interviews with digital arts festivals and galleries curators sought to understand how machinima adds value to their cultural offer, including its contribution to their profit motive; the ways in which it enhances audience engagement and development; how they support professional artist / machinimator development; and, how they relate to the broader creative industries sector.

Table 1 Summary of Responses / Data Analysed by Research Method

Technique	Number of Respondents	Analytical Approaches Applied
Netnography	235 films and links provided by 230 followers @machinimAHRC (Twitter)	Thematic and content analysis of films and machinima fora
Focus Groups (Second Life© and face-to-face)	3 focus groups of 20 machinimators 1 focus group of 2 games developers	Content analysis of interview transcriptions; machinima productions
Interviews (Skype©, face-to-face, email)	6 Machinimators 12 Games Developers 10 Digital Arts/Festival Curators	Content analysis of transcriptions
Online Survey	64 machinimators	Descriptive statistics

3.1 Machinima

Research identified categories of machinima according to methods of production and the creative processes used and through a range of distribution methods. Methods of production identified are:

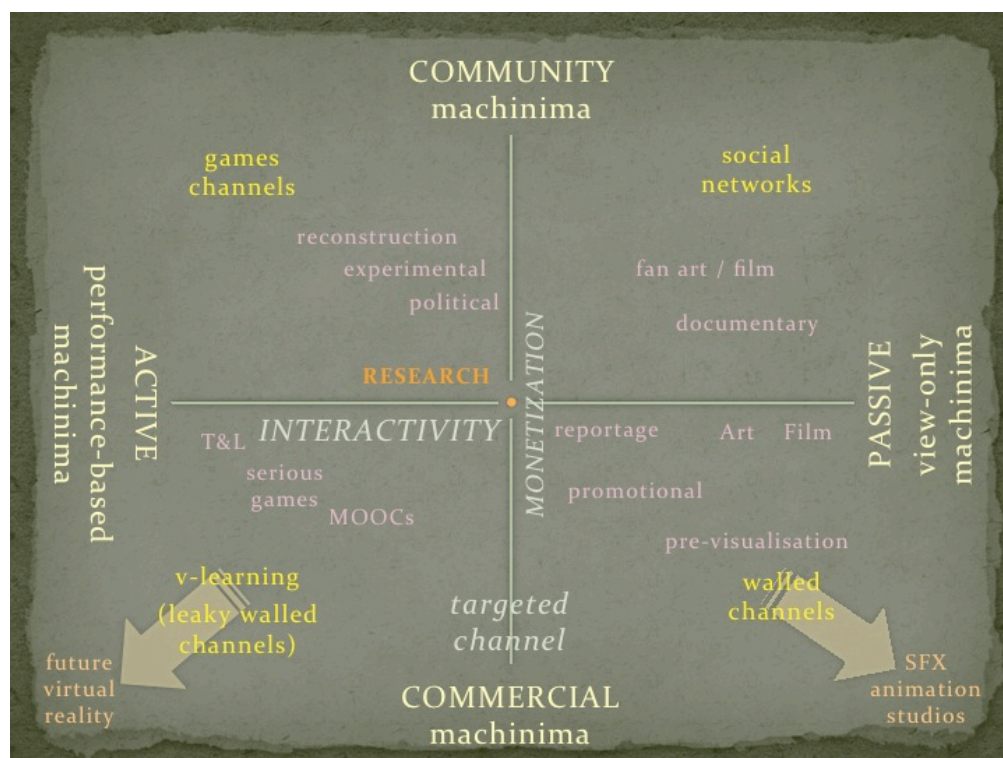
- *Perfect Capture* is the process by which user actions (input by game controller or other HUI) are recorded in real-time as code (e.g. DEM files in Quake) that can then re-loaded and re-played using the game itself. The relatively small size of such files made it possible for films to be distributed and shared using low-capacity media (such as floppy discs) or pre-broadband internet connections. Functionality such as this was built into the engines of many early 3D, 'first person POV shooter' games (e.g. Doom© and Quake©) to enable players to capture their performances within the game - to demonstrate prowess (e.g. Quake 'Speed Runs') or analyse their faults in order to improve, creating a historical document of a player's actions within the game world (e.g. NoSkill's memorial pages). Further potential for artistic and creative usage was soon realised with the addition of narrative text. Customisation (or hacking) of the game code itself allowed for further departures from the constraints of game play (e.g allowing alternative views, modified graphics or allowing the player to traverse the game in ways not originally permitted - see The Rangers' - Diary of A Camper). An identical game engine (e.g. a compatible computer, identical graphics hardware and same release of game) is required in order for 'perfect' reconstruction of the film. The 'Perfect Capture' method is recognised as the beginning of machinima (Lowood, 2011).
- *Screen Capture* is a filmmaking process whereby films are made as a result of capturing the game's video output. As computing power (especially graphics processors) increased, it became possible for the rendered frames of the game to be captured and subsequently stored in a standard file format, e.g. .avi or .mov. The

resulting movie files could then be played back independently of the game engine and / or edited using free or low-cost movie making software, giving the film maker the chance to incorporate more traditional production techniques. Titles such as Sims 2© and Quake 3© allow the user to capture movies with a single key command from within the game and without the need for third-party screen capture software. Although still confined by the constraints of the puppetry allowed within the game, the removal of such barriers to recording resulted in a rapid growth in not only the number of machinima films being made but also diversification of genres. As captured footage can be subsequently edited, the screen capture method provides a documentary (rather than historical document) of action taking place in virtual worlds.

- *Asset Compositing* as a mode of machinima production does not take place directly within the game itself, but instead makes use of assets (characters, scenery, locations and artefacts) extracted from the game either by direct modding of the code or more frequently, by using additional utilities (e.g. WOW Model Viewer©). This method enables the machinimator to style and animate characters individually, subsequently recording the rendered frames by using screen-capture software. More advanced video editing techniques (e.g. chroma-key and audio dubbing) are also used, allowing characters to act out scripted dialogue whilst placed upon backgrounds chosen either from the same game, a different game or another virtual world entirely. By freeing the character from the constraints of gameplay, the machinimator has much greater control over casting, narrative and camera positions and many other aspects, far more closely related to actual filmmaking than either the perfect or screen capture methods. The process is however more complex and requires the maker to acquire and learn additional software, whilst getting to grips with the fundamentals of filmmaking and new machinimators may therefore experience a far steeper learning curve. Tutorial movies do exist some of which are themselves examples of the asset compositing technique.
- '*Bespoke*' *machinimation* is a mode of production that takes the asset compositing methodology one step further and involves the use of software specifically designed for the creation of 3D animated movies within virtual worlds. Whilst not strictly game engines, programs such as Moviestorm©, iClone© and Moviesandbox© allow the machinimator to choose from a wide range of assets, including characters, scenery and locations. "These programs use the techniques and ethos of machinima, but avoid the complications associated with using game assets" (Fosk, 2011). Animation can be achieved by means of gaming interface (e.g. keyboard, joypad) and additional asset packs (new characters, weapons, etc) can also be downloaded. This form of machinima has opened up the possibility of reaching new audiences, breaking the traditional links with fandom and the 'in-jokes' associated with Perfect Capture. Machinima made in this way is more likely to be focused on the storytelling or filmmaking aspects and can therefore encompass a wider range of themes and appeal to a broader audience. This method of production is the only one which addresses the issue of rights as legitimate licenses are granted.

The scope of machinima has led to a very wide spectrum of usage, summarised in figure 1. In classifying machinima, which now encompasses such a diverse body of work that can be seen over many distribution networks well beyond YouTube, we have developed a matrix using the extent of interaction in the production process and the commercialization of the content arising from it.

Figure 1 Scope of Machinima Applications



The quadrants are:

- *Games Channels* are channels of distribution that include direct links from in-game menus, on-line gamer communities, fora and other sharing sites that are moderated in some way by the games developer (directly or indirectly). Machinimas distributed through these channels are dependent upon makers' abilities as performers / digital puppeteers. Perfect capture machinima (e.g. Quake DEM files) are the earliest and most clearly defined example - the demonstration of technique to fellow gamers, being their reason d'être. The intended reach of films distributed in this quadrant varies from a global audience (e.g. Xbox One / PS4 networks) to a more selective viewership, representing sub-groups of the gamer community (e.g. gamer clans or guilds). Works made within simulation games (e.g. Sims 2©, The Movies©, GTA 5©) or virtual worlds (e.g. Second Life©) are also performative, as demonstrated through the machinimator's skilled manipulation of characters, scenery and other objects.

The sandbox (or free-roam) nature of such games (in which game rules are fewer and more flexible) allows for greater experimentation, allowing the development

story lines and narratives unassociated with the core themes / objectives of the game. As familiarity with the game world is no longer a prerequisite, a much wider audience is potentially available and this is reflected in the channels of distribution, which extend beyond the communities of their 'parent' worlds, leading to forms of machinima that can be described as 'experimental' and 'political'.

- *Social Networks* describe the channels of distribution for a varied range of machinima products, intended for an equally diverse audience of non-game oriented viewers. Such channels are not moderated by the games developer but by the community of viewers whose 'moderation' is indirect through comments and sharing activities across the network of social media (including YouTube™, Vimeo™, Koinup™, etc). The range of subjects traversed by machinimators using these channels includes political and social commentary, comedy, satire, general arts, entertainment, music video and documentaries. Game-play / game culture does not provide the central theme for machinima found here although there are examples where iconic game-worlds have been used as production tools, and yet the final product has maintained its appeal to the non-gamer. This has been achieved through skilled development of the script and dialogue (e.g. World of Warcraft®). There are therefore no restrictions on the choice of production method. Examples can be found at Machinima Expo - "the world's only virtual machinima film festival".

Machinima distributed through these channels is intended to entertain, stimulate and provoke audiences but their direct involvement and / or interaction is not a requirement. To this end, material found here has more in common with gallery-based digital art, film and even TV - namely cinematic and video-based works, to be viewed passively. The primary outlets and hubs are currently the video sharing networks Youtube™ and Vimeo™, supported by various umbrella sites which form 'embedded' collections or galleries of works stored on their servers (e.g. Machinima.com, Twitch). In either case compressed, rendered frames are uploaded and can be and shared either privately or publicly by community members. It should be noted, however, that restrictions on upload may be imposed by the channel owner in order to comply with copyright / ownership / decency laws. As such, machinima works distributed via popular channels in this quadrant are subject to indiscriminate censorship (Cornblatt, 2011).

Recognized social networks such as Facebook™ and Twitter™ also contribute to these channels - with the ability to 'like', 'share' and 'retweet' posts providing opportunities to achieve further reach, their main use is to stimulate interest in and drive critical discussion with viewers. In rare cases, mainstream media will also drive viewers to such channels (e.g. Comedy Central's South Park episode 'Make Love Not Warcraft' and UK Channel 4's series 'SuperMes').

The extended possibilities of individual social media platforms to monetize viewing audiences (through overlaid advertising) may further support the development of commercial distribution networks for machinimators. These depend upon the extent of producers' personal social networks and their ability to market their products. Where most successful, viewers are encouraged to become subscribers to personal channels created as sub-sets of the social media platform albeit the machinimator

may generate little direct value beyond the miniscule revenue generated from overlaid advertising (based on numbers of viewers).

- *V-learning ('leaky-walled') channels* do not provide works intended for general or recreational viewing. Entry to these channels is granted by invitation, registration or, in the case of monetized models, through subscription. It also differs from Walled Channels as machinima is not considered to be confidential or restricted. The 'opt-in' framework is similar to those found amongst the Gaming Channels, although here the subject matter and themes are unrelated to game-play or gaming culture. Instead, it is suggested that all machinima distributed in this quadrant will in some way lend itself to the dissemination of new knowledge and ideas, either as part of a formal, directed learning programme (e.g. MOOC) or through scenarios based around interactive play or simulation (e.g. Serious Games). We therefore describe this quadrant as virtual-learning, or v-learning channels. We do not see this as the same e-learning, which is internet enabled, because it uses a game context to add depth and richness to the learning environment through enhanced and immersive performance-based experiences. Machinima here will not be completely hidden from general audiences and permission will be granted for selected works (or excerpts) to be viewed outside of the channels. This 'leaky walled' model enables examples and introductory material to be appear in domains where the potential audience (e.g. new v-learners) may reside.

Machinima distributed via these channels will encourage audience participation and interactivity, with viewers also becoming central to some performance. It necessitates that the audience learns the rules of participation sufficient to engage in the core activities of some scripted action. For example, a machinima broadcast of a lecture or seminar based in Second Life® will document not only the actions of the principal character (the 'teacher' or 'professor'), but also of those other audience members in attendance (the 'learner').

- *Walled channels* Machinima distributed in this quadrant is intended for viewing within private networks (e.g. investors, colleagues, co-developers). Works are not intended for general community viewing and may be prevented from entering the public domain for reasons of confidentiality, security, copyright, etc. Audiences are unlikely to be motivated by game-specific subjects or themes and therefore the machinimator's production environment can be chosen on the basis of suitability and / or personal preference. The use of bespoke packages (e.g. iClone®, Moviestorm®) or commercially available games engines (e.g. UE4®) is common for machinima distributed through walled channels.

Whereas the creation of machinima works will be equally dependent upon expertise and knowledge of chosen platform, the emphasis moves away from performance and towards more general cinematic and artistic production techniques (e.g. scripting, asset compositing, editing, voice-over, special effects). The use of 3D game-engines as pre-visualization (or pre-viz) tools during the pre-production stage of commercial film production (Nitsche, 2009) is a good example of machinima distributed via walled channels. Ultimately, machinima in this quadrant may become viewable for

more general audiences but it may also be subsumed within other genres of creativity (such as live action film) before it reaches a passive and paying viewer.

3.2 Machinimating

This research has so far identified the taxonomy of machinima and machinimators who differ in their creative endeavours: 'let's play' or 'speed runs' UGC, amateur and professional machinima producers. Findings reported on in this section highlight a further distinction between machinimators interviewed:

- machinimators whose machinima is derived from an interest in gameplay (referred to as *machinimators*);
- machinimators whose machinima is derived from a different artistic medium for their creative practice (referred to as *artists*);
- machinimators whose machinima is produced to support teaching and learning related activities (referred to as *educators*).

The online survey generated responses from both male and female, split 43:57%, with a bias towards an older age group, ie., 63% above 30 years (see table 2). This response pattern is interesting since many computer games generally appeal to predominantly young, male audiences. The broader appeal of platforms such as Second Life© and Sims© as machinima environments is highlighted, with 61% of respondents creating machinima using them and the remainder using bespoke machinimating tools (such as Moviestorm©), a range of first person shooter (male oriented) and fantasy roleplay environments (see table 3).

Table 2 % Machinimator Survey Respondents' Age by Gender

Age*	Male %	Female %	Total %
14-18 years	4.5	13.8	9.8
19-23 years	18.2	20.7	19.6
24-29 years	0	13.8	7.8
30-45 years	36.4	17.2	25.5
45+ years	40.9	34.5	37.3
	100	100	100

*within gender

Table 3 % Machinimator Survey Respondents' Preferred Machinimating Game by Gender

Machinimating Game*	Male %	Female %	Total %
Sims© / The Movies©	13.6	48.3	33.3
Second Life©	18.2	34.5	27.5
Moviestorm© / iClone© / Muvizu©	22.7	6.9	13.7
Portal© / Team Fortress© / Source© / Half Life©	18.2	0	7.8
GTA© / Garage	9.1	0	3.9
World of Warcraft©	4.5	3.4	3.9
Halo©	4.5	0	2.0
Others	9.1	6.9	7.8
	100	100	100

*within gender

Survey respondents' answers, similar to interview respondents, indicate their use of the platforms for machinima to achieve creative works beyond purely gameplay.

Interestingly, both male and female respondents report broadly similar focus in their creative endeavours across the range of questions asked, focussing on developing plots and characters for stories with some modification of game code to achieve this (see Table 4). These suggest higher order creative skills, underpinned by extent of experience respondents indicate they have with their games of choice (see Table 5).

Table 4 Machinimator Survey Respondents' Creative Focus by Gender

Creative Focus*	Male %	Female %
Develop plot beyond gameplay	90.9	92.6
New characters & stories	86.3	82.2
Modify game code to achieve creative focus	68.2	71.5
Storyline based directly on gameplay	31.8	33.3
Cut scenes	18.2	11.1

*within category responses

Interview research participants, irrespective of their machinimating background, described their machinima practice primarily in terms of articulating their artistic or stylistic interests, using machinima as a means of realising creative expression in ways they would not otherwise be able to do:

"I do it for a fairly specific artistic reason... it's the place where quite a few other people have created things and I have an artistic interest in found objects and collage... so I use it pretty specifically for that reason." (MA8, machinimator)

"My approach to creativity has always been to absorb the ideas that I see around me, and look for new ways to apply those ideas. This isn't the same as just copying other's creative concepts, it's about observing ideas, understanding what

it is about those ideas that makes them work, then trying to apply those ideas in new ways.” (MP16, machinimator)

“...being able to do things that are utterly unattainable in real-life, almost completely unattainable. xxx and I did a version of my father's performance art piece in which he gave instructions to blow up a Cadillac in real life... and all these different people have these different acts to do around the blowing up of this Cadillac, repeatedly. Now that obviously was never performed in real life...” (MA4, artist)

Table 5 Machinimator Survey Respondents' Experience with Game by Gender

Extent of Experience with Game Preferred for Machinimating*	Male %	Female %	Total %
5+ years	40.9	55.2	49.0
2-5 years	31.8	31.0	31.4
13-24 months	4.5	3.4	3.9
6-12 months	9.1	6.9	7.8
< 6 months	13.6	3.4	7.8
	100	100	100

*within gender

Machinima is however a relatively unknown medium beyond those who actually use it and contribute to machinima fora. Despite its origins within gamesplaying communities, even those gamers that set out to extend their interests in a game environment by creating new works such as fan vids with its assets (including 'It's play') highlight the almost accidental discovery of machinima:

“I was a big fan of the Unreal Tournament© and I felt that it should at least be possible to create cut scene animations using the built-in characters. It was while searching the web that I found that not only was it theoretically possible but that many, many people had already thought of this idea, and there was even a name established for the technique: machinima.” (MP16, machinimator)

Once discovered, the scope of creative potential for machinima was highlighted, often alongside an acknowledgment of restrictions associated with previously used creative platforms. As well as film and art, practices identified include performance, visualisation and storytelling, and education:

“I've submitted to many film and animation festivals, although these tend to be ones which specifically welcome machinima submissions... my films, as a supporting feature to the main film, have given me the opportunity to introduce and take questions, as well as to meet 'proper' film makers!” (MP16, machinimator)

“... part of the reason why I went to Second Life© [virtual environment] was because of the fact that our timeframes for making those crazy industrial videos was getting so short, I couldn't do it with 3D Studio Max© [animation software]

so I had to do it in real time, I had to be able to turn around a character animation in a day, where I couldn't do it in less than three using 3D Studio Max©." (MA3, artist)

"I teach medieval literature, film studies and creative writing and machinima is perfect for my creative passions that I can't enact in my professional works. So recitation, art and image, language, music but also teaching, especially early literary texts..." (MP3, artist)

"I like writing stories for children... we have all kinds of fantasy creatures, they are very easy to do in the sense that you believe in them straight away." (MP2, artist)

Artists clearly anticipate their creative endeavour to stand out from the medium used and therefore despite its existence for many years, with numerous examples freely and widely available online, it is used by artists somewhat reluctantly. This is the result both of the distinctive finished quality of machinima and technological barriers to its creative value in use:

"If I was starting today, I might not make the same choices. Digital video has improved beyond recognition, compositing and effects software has improved beyond recognition. If I was starting out today, I might not do live action because computer graphics are so much closer now. Having said that, machinima still offers.... I've been thinking very carefully about the choice of media in the last few months and my feelings are that machinima still offers enough advantages that it is still a very credible alternative and better in many ways." (MP9, machinimator)

"...there's limitations in machinima... the limitation for us was humanoid, or humans which aren't all that good in Second Life©... because of that reason I don't find them, let's say satisfactory, I don't find them satisfying, I don't find them pleasing to the eye and I don't find I'm 'sold' on the characters as humanoids." (MP2, artist)

"... we can all arrive and go in there and be and participate. But then at the same time we have issues with the technology itself. Somebody loses their signal, we crash a SIM, like what we are doing is too big – which is pretty typical of one of our performances. I remember very well xxx did a beautiful piece... and it was at a time when the entirety of Second Life© crashed and we were trying to film and do a live performance with a lot of people [but] the machinima from it is wonderful." (MA3, artist)

And gamers also acknowledge a learning curve for making machinima beyond gameplay, as these machinimators comment:

"...that's a whole huge range of field that has to do with performance art and documentation of that and then that becoming another artefact of the process of performance. So conceptually, that's another whole step in terms of making an entertainment film." (MP1, machinimator)

"There are just so many facets of production akin to any real-life film that must be mastered: sound, sound effects, visuals, visual effects, voice overs, of course all of the vast production assets and details that also go into something..." (MP5, machinimator)

Yet the medium itself is considered to extend creativity and this is seen as having potential to lead to the emergence of new artforms. These artists comment on the creative context for their work, the very fact that machinima is an 'unrecognised' form being important for creativity:

"I see that there is a very big positive of being locked out of the marketplace based on the history of former art and technology in that when you have a marketplace you are creating to fill that, and when you are locked out of the marketplace you can make anything you damn well please." (MA3, artist)

"If we go back to the history of Fluxists internationally and in New York, we had the great.. everybody... abstract expressionism was the rage in New York and the uptown galleries were full of these super, blue-chip artists who were making the top dollar. And they were completely uninterested uptown in anything that any of the new people were doing downtown. Like they couldn't do... they didn't want their abstract expressionism, they didn't want their ... anything they were doing they weren't interested in because they had their artists who were making big money and the scene was locked down. So those artists downtown got to do anything and everything at all and so we gave rise to all kinds of crazy things like Happenings, Intermedia, Fluxists and what we know now as Performance Art and all these other really wild, wonderful experimentations – they couldn't exist if they had had a marketplace." (MA4, artist)

Others comment on their work itself, identifying the novel aspects of the art form:

"I like the ideas that the audience in the cinema could actually interfere with what was happening on the silver screen and machinima gave me that possibility... I do live projects with interaction, with audience being able to interact to the screens which are screens in movie theatres. I've done screens in galleries. On live analogue television." (MP10, machinimator)

"[Its] a bit of a renegade and useful because when you do show it people kind of perk up... if you have a reputation then they wonder why you are showing it and if you don't have a reputation then they're confronted by something pretty new for them. And as I say that would be outside of people who are interested in tech and art. Obviously people who are interested in tech and art, have a very sophisticated understanding of it." (MA8, artist)

With barriers to creativity seen as being potentially low, however, machinima also generates its own kind of problems, especially in bringing quality work to the fore that may be used to support its emergence as a recognised artform:

"I've heard machinima described as the punk movement for filmmaking, because its about just picking up your guitar (computer) and getting on with it. Anyone can make machinima, which is also the problem – how many punk bands became

one hit wonders, and how many of those had a hit because they were part of the punk movement rather than any particular musical merit?" (MP16, machinimator)

"A lot of machinima on YouTube looks pretty ridiculous because the quality is poor and it makes no sense to an outsider. Creators of it don't see that, because it reminds them of their emotional rather than visual experience. This is the biggest problem in making machinima mainstream: more people not taking notice of the social life within the game but seeing it through the eyes of a cameraman will bring it to people's attention... The general public have got to look at a machinima animation and recognise what they see – they don't now." (MP3, artist)

Respondents therefore identify the need to be open-minded in developing the appropriate personal skills to create machinima, learning to develop a creative empathy with the medium and adjust their style accordingly:

"It just started off very practically [but] when I took snapshots or screen grabs... the avatar would slightly move or do something or somebody would drop something on my head. So I was just like 'oh, hang on', if I do machinima from the avatar's motions... so I have done a lot better after I realised that machinima would do that for me. There's all kinds of glitches, it's just continual from my experience and I actually really enjoy those and integrate those into the work. So for me the barriers are really rich kind of content." (MA8, artist)

as well as a certain patience in acquiring the requisite technical skills to ensure quality of work, some of which are specific to the medium:

"...because machinima is mostly an art form which uses a whole bunch of other art forms, tools and kind of scrunches them together and then hammers on the bits that don't fit, you tend to end up with production processes that are a bloody nightmare. That slows everything down." (MP9, machinimator)

"... its a dedication of something a little bit outside of your normal scope." (MP3, artist)

"I'm still struggling with a number of things, like you mentioned lip-sync. I have used different techniques so far but I'm not really happy with things yet." (MA2, artist)

"It was a very technical process, and the learning curve seemed overwhelming. The problem was that while Unreal© [game] was a great 3D engine with lovely visuals and character animations, it didn't have built-in features for film making (camera controls, having a character follow a predetermined sequence, etc)... there were camera mods available, but to use them involved typing numbers in to position them, rather than to visually set up a shot..." (MP16, machinimator)

Survey questions also asked respondents about the specific skills they have developed through their machinimating endeavours (table 6), as well as motivations and aspirations for their work (tables 7 and 8).

Table 6 Machinimator Survey Respondents' Skills Developed by Gender

Skills Developed*	Male %	Female %	Total %
Production	21.3	24.5	23.2
Editing	19.4	16.8	17.9
Filmmaking	17.6	14.8	16.0
Directing	14.8	15.5	15.2
Acting	10.2	6.5	8.0
Marketing	3.7	5.8	4.9
Gamesplay	2.8	5.8	4.6
Animation	4.6	3.2	3.8
Code writing	2.8	3.2	3.0
Writing	0.9	1.9	1.5
Other technical skills	0.9	1.3	1.1
Sound design	0.9	0.6	0.8
	100.0	100.0	100.0

* within gender

Table 7 Machinimator Survey Respondents' Motivations for Machinimating by Gender

Motivations*	Male %	Female %	Total %
To develop my production skills	100	100	100
Getting feedback from others	95.2	96.6	96.0
To grow my network of online followers	81.8	92.5	87.7
Because I am a fan of the game	75.0	96.2	87.0
To try and get paid for my work	63.6	64.3	64.0

*within category responses

Table 8 Machinimator Survey Respondents' Future Aspirations for Machinima Works by Gender

Future aspirations*	Male %	Female %	Total %
I want to use it as a portfolio for my creativity	31.8	44.8	39.2
I want to use it to develop my personal skills	31.8	13.8	21.6
I want to make it my career	9.1	13.8	11.8
I want to use it to give me extra income	9.1	3.4	5.9
I don't have any future aspirations for my machinima	9.1	3.4	5.9
Its purely for entertainment/hobby	4.5	6.9	5.9
Cause related	4.5	6.9	5.9
I want to use it to generate followers	0	6.9	3.9
	100	100	100

*within gender

With the emphasis on creative skills such as production and editing, it is perhaps not surprising that many desire feedback from audiences in order to improve these skills. Findings highlight that machinima is seen by respondents as an opportunity for showcasing their creativity. This is exemplified by one artist's comments:

"I get a little bit surprised when the mainstream art world, you know the museum and gallery crowd pick up [my] work but... on the other hand there's a part of me that shouldn't because it's very artist or art historically grounded and follows a tight line of the development of performance art since 2005." (MA3, artist)

and, as the table highlights, creativity may potentially link to a strategy for income generation using skills acquired through machinima activities, albeit all respondents recognised a need to further develop their skills.

Distribution of machinima necessitates a wide use of third party platforms such as streaming and sharing services and networks, and respondents indicated those platforms they found most useful for posting and amplifying their machinima (see Tables 9 and 10), summarised by one machinimator:

"you reach a larger audience in YouTube, although quite a lot of people have more conservative tastes. Vimeo tends to be viewed by an artistic community, a smaller community." (MP3, machinimator)

Table 9 Machinimator Survey Respondents' Best Distribution Mechanisms Used for Machinima by Gender

Best distribution mechanisms*	Male %	Female %	Total %
YouTube – own subscription channel	76.2	81.5	79.2
Vimeo	18.8	23.1	20.7
Another video streaming channel	0	22.2	13.3
YouTube – Machinima.com	25.0	0	12.5
Game's developer/publisher's community	20.0	0	10.0

*within gender

Table 10 Machinimator Survey Respondents' Best Distribution Mechanisms Used for Machinima by Gender

Use of social media*	Male %	Female %	Total %
For promotion	77.3	75.9	76.5
For providing feedback to audience comments	52.4	53.5	53.1
For generating advertising income	4.8	20.6	14.0

*within category responses

These findings indicate a keen awareness of the audiences for their work, with some recognition that more could be achieved. However, whilst ad revenue is a generally recognised model of monetising UGC, findings suggest that respondents do not primarily invest energy in increasing traffic to their work per se, rather audience development is more focussed on stimulating interest in their creativity for personal development goals, including seeking truth in expression of the artform. As one artist comments:

"I sometimes am a little afraid to put things on YouTube, for instance one of the films I will be showing at the Gower conference involves incest, between a brother and a sister. Its one of the tales, how can you avoid it? So... an American audience may be terribly shocked by that because I do have a wonderful shot of the brother approaching the sister in her bed and.. you can't leave that out when you are trying to be faithful to the original text and those kind of issues were talked about quite frankly in the Middle Ages. So, I put it on Vimeo." (MP3, artist)

Table 11 highlights that most respondents have a very clear understanding of who their audience is and how their work is appreciated.

Table 11 Machinimator Survey Respondents' Audience for Machinima by Gender

Audience*	Male %	Female %	Total %
I have a loyal fan base of followers that includes people I don't know personally	50.0	37.9	43.1
Links to my work are passed among my followers	22.7	41.4	33.3
My audience is mainly my personal friends who comment on my work	13.6	13.8	13.7
I don't know who my audience is	9.1	3.4	5.9
I don't communicate with my audience	4.5	3.4	3.9

*within category responses

For others, audience is about reaching out through the work:

"I made a film about some of the Australians who took part in WW2... that film was picked up by the sons of the pilots... through them contacting me, I could then pass on these people's contacts to the sons of other pilots who flew in these stories. So by using the games medium to tell these stories and people pick up on it, its attracting people who had nothing to do with gaming, nothing to do with machinima, but they found these stories on line through the machinima that I made." (MP8, machinimator)

Audience engagement and development is a particular focus of machinimators. One of the main challenges is in communicating the creative values to an unfamiliar audience especially if that audience is accessing the work in more mainstream (offline) environments:

"My target audience is anyone with an interest in visual art. Ideally, they won't be familiar with machinima because the novelty factor alone can generate interest." (MP16, machinimator)

"I like the idea that the audience in the cinema could actually interfere with what was happening on the silver screen... there were many people in the audience that had no clue what they were watching. Most of them actually thought they were watching pre-recorded animations, which wasn't the case. It was actually happening live, it was organised and produced in a live environment with live performances... the audience kind of also becomes part of the community, if only just for a few seconds or an hour or a few hours." (MP10, machinimator)

"[Its] a kind of immersive interactive audience thing, where we play with an audience in live-time and interact with them." (MA3, artist)

The term itself is noted to be challenging in developing audience's understanding of the artistic form at a conceptual level, albeit this is a universal challenge for all contemporary art movements. These comments reflect the challenges:

"I actually call them happenings now, rather than performances, because we tend to not focus on specific scripts although we do get together before and try and figure out if there is any way to control the artistic chaos." (MA8, artist)

"I see everybody here in this discussion as being participants in this grand experiment, that is the same ongoing experiment since people were taking charcoal and putting things on cave walls in the hopes of manifesting perhaps something from the next hunt. We don't know how that starts out... or beads to decorate a body, or body painting, or totems, fertility symbols and this urge in people kind to create and live creatively and express themselves creatively and impart information in these different creative ways is eternal and universal." (MA4, artist)

In addition to technical and artistic skills development, distribution is also identified by respondents as a particular challenge faced in machinima creative endeavours (see Table 12).

Table 12 Machinimator Survey Respondents' Challenges Faced in Machinimating by Gender

Challenges faced*	Male %	Female %	Total %
Finding / creating game content relevant to the story I want to tell	59.1	55.1	56.9
Acquiring new technical skills	63.6	44.8	52.9
Acquiring new artistic skills	59.1	31.0	43.2
Understanding the game's copyright restrictions	27.3	44.8	37.2
The terms of the end user license agreement for the game	18.2	48.2	35.3
Marketing skills	40.8	27.5	33.3
Building a social network of interested followers for the work	22.7	34.4	29.4
Understanding the rules of my social networks for machinima distribution	9.1	13.8	11.7

*within category responses

Tied to this, as identified in the above table, is the importance that machinimators put on their understanding of games developers' / publishers' distribution guidelines (the EULA and copyright restrictions). This aspect was further examined (see also Table 13) and whilst all survey respondents felt they had some understanding, relatively few felt they had a full understanding of copyright aspects in relation to their machinima work. In interviews with machinimators, TOS were identified as being very much at the forefront of their thinking about machinima and its usefulness as a creative medium for their work because of their desire to showcase and distribute their creativity:

"The new TOS in Second Life®, it could be a spoiler. Luckily all our work (and we recorded a lot) is from before the new TOS... There is no safe ground unless the

company explicitly says you can use this for anything you want... other big game companies like Blizzard, Microsoft, they've all changed their stance, they are pretty much saying you can't do anything commercial at all..." (MP8, machinimator)

"... if we want to sell the series then we can't because we don't own it completely, it's a co-ownership. Linden Labs owns part of it and we own half of it and of course both of us are free to do with it... I do think that Linden Lab, you know, they won't go and sell your work – well I wish they would, that'd be good!" (MP1, machinimator)

Moreover, an understanding of EULAs and TOS impacts directly on creative expression, with a consequence that interpreted restrictions result in machinimators moving their creative endeavours to games environments and even non-games environments that are more conducive to the kinds of work they want to explore. For some machinimators this is seen as a loss to their cultural endeavour:

"I think that the practice of working with game engine worlds and telling stories in those worlds and repurposing them is still enormously powerful but the way the law has shifted and the way everyone's attitudes have shifted its an unfortunate ghetto and a dead end for anyone that goes into it because you are also limited in terms of what you can do with those assets." (MP9, machinimator)

"We're losing the whole game culture, the origins where it all came from. Its driving people away, at least the professionals are being driven away." (MP8, machinimator)

Yet interpretations are perceived and there is much discussion within communities of practice as to how EULAs and TOS may be read. Ultimately, this leads machinimators to comment:

"I'd love to see it in court but we just don't have that money, we just said 'okay don't risk it', I'll go and film in iClone© or I'll go and film with Blender© or I'll go and film with something else..." (MP8, machinimator)

However, another machinimator takes a more proactive approach to becoming familiar with legal aspects, commenting:

"...the legal aspects have been a big concern... I've had less problems with it than other people, which is a combination of having a certain natural talent for law and being paranoid as hell about anything involving the phrase 'the following definition shall apply through the course of this contract'. [how have you dealt with that?] by a combination of actually reading the EULA, occasionally ignoring the EULA and then working on the premise that if its being featured on Boing Boing then no one wants the bad press from killing it. Occasionally phoning up the rather surprised games developer's legal department... that got us quite a long way in the early days. Just choosing games companies that I was reasonably sure weren't going to be complete dicks was a fairly significant approach and, in the case of [my film], choosing a game that actually had a machinima license." (MP9, machinimator)

Table 13 Machinimator Survey Respondents' Understanding of Games Developers / Publishers' Copyright for Machinima by Gender

Understanding of Copyright*	Male %	Female %	Total %
Limited understanding	22.7	17.2	19.6
Reasonable understanding	59.1	62.1	60.8
Full understanding	18.2	20.7	19.6
	100	100	100

*within gender

Machinimators highlighted how careful they were not to contravene their interpretations of EULAs, TOS and guidelines in any of the creative elements of their work, impacting not just on the use of the game but also the use of components that facilitate its development and distribution:

"I use a manuscript that I purchased at a medieval conference in Western Michigan university... I use my own artwork. I am very, very eager to step around any kind of copyright issues." (MP3 artist)

"I always contact the creator and ask for explicit permission (which has never been declined) and make sure they are credited within the movie. Many 3D modellers have been so pleased with the end result that they've offered their services to develop customised props in future films." (MP16, machinimator)

"I was working on a conceptual reimagining of A Clockwork Orange. It was a short piece comprising of a number of dark images, and I took a short-cut by simply using the original (iconic) soundtrack. It was taken down from YouTube in under 24 hours. I reached out to the owners of the property to ask if they would consider waiving a licence fee in order that I could use it in my not-for-profit film. They wouldn't. This forced me to go back and do the job properly... I went completely back to the drawing board and wrote a complete script, which I then shot in its entirety. The final piece was called Clockwork, and was my first award-winning film, as well as being my first non-comedy work." (MP16, machinimator)

In terms of distribution, machinimators highlighted some specific issues with their work as an internet consumed artistic form, intimating that although current content sharing platforms are useful, they have their limitations insofar as contemporary creative work is concerned:

"I use nudity in them and sexual issues: the tales reference them. They're Gower... what can I say? So, I am waiting eagerly to see how people will receive these, whether or not they will find nudity to be objectionable, but I've never been censored, I've never been flagged on YouTube. I feel that my films have been tasteful but suggestive." (MP3, artist)

"xxx did a project about two avatars in a cage in a park and that was broadcast in a museum in Amsterdam, real life... people were responding to that extremely I have to say. People were giving the avatars clothes and food and I even did that"

too, but I started filming it and... its on YouTube. People were warning me all the time that they will get that off and it will be censored, and people were very, very angry about it, about naked avatars. All through the years I've encountered that, I find that there's a big difference between America and the rest of the world..."
(MP1, machinimator)

Others comment on the explicitly restrictive practices of streaming and sharing services, intimating that machinimators may be open to damaging treatment in the distribution of their works:

"This particular company was issuing take-down notices and you had to contact them for it. You were getting threatened, we got many threatening messages... 'If you want to question this vote feel free, go ahead but if you are found to be in the wrong, you do that three times and your account gets taken down'. So while we were fairly confident that this company didn't have the rights... it wasn't worth the risk, so again we lost to the big corporates just taking all our videos down."
(MP8, machinimator)

"So there's this constant sense of... I wouldn't call it nervousness, but just awareness that I'm pretty dependent on a corporation or a company that I know nothing about and have no impact on." (MA8, artist)

And potentially more serious implications for the art form:

"There's nobody stopping Google pulling the plug and all the content will be gone. I think a lot of people do not realise the dangers of all this cultural heritage in the possession of just one corporation." (MP10, machinimator)

Yet machinimators feel their work has a resonance beyond the current generation of streaming technologies:

"It could be that in ten years that the platforms for making, or putting things up on the internet will be vastly different so we should start thinking about how we are going to think of restoring and archiving our materials." (MP3, artist)

"I really prefer to have all my own gear and have all my own equipment but I don't have enough money at the moment to have a static IP and my own webserver, so we're not quite there yet. I would definitely like to... working on the whole ephemerality issue." (MA4, artist)

In reflecting upon a piece of machinima they were most delighted with, survey respondents again highlighted their focus on creativity and skills development, with critical acclaim being important in gaining recognition for their work (Table 14).

Interview respondents comment:

"I'm really honoured to be in such an august community of people that are out there..." (MA4, artist)

"Having views and some recognition gives energy to go further." (MA10, machinimator)

"I never viewed myself as a creative until I started to get good feedback from people who viewed my works as works of art." (MP8, machinimator)

and others seek critique explicitly to inform creative development of their work:

"I do a lot is user group critiques and use my social network for focus groups although increasingly I am a fan of anonymous user testing as well... so I tend to badger my friends and colleagues on a fairly regular basis. Just this week I was working on a new horror series and so I chucked out on Facebook™ that I need some ideas for a face which is pretty horrific and immediately recognizable as human and could not easily be done using conventional makeup and I got something like 40 responses." (MP9, machinimator)

Such critical evaluation is also noted as being both formal and informal among interview respondents:

"There are a couple of 'invitation only' communities which I am part of. Its always a compliment to be asked to join these." (MP10, machinimator)

"It can get nasty because once you've put your work out there, you're usually proud, you've worked hard, you want to show the world." (MP1, machinimator)

Table 14 Machinimator Survey Respondents' Reflections on their Machinima by Gender

This is my best machinima because...*	Male %	Female %	Total %
it is my most creative work	95.2	100	97.9
its making taught me important new skills	80.9	88.5	85.1
through the work, I met new people with similar interests	55.0	65.4	60.9
the work has received critical acclaim by a person / body I respect (eg., film festival, art gallery)	61.9	56.0	58.7
it has been distributed the widest among my followers	64.0	33.3	46.1
it has gained me the most new followers	28.6	50.0	40.4
the work has made me money	19.1	12.0	15.2

*within category responses

What's interesting in these responses is the emphasis on community and collaboration, with respondents intimating the role of other machinimators in the development of their work. Again, this aspect is teased further in responses to questions about the ways in which machinimators collaborate through exchange of skills and assets (for skills and assets) and to generate income in Tables 15 and 16.

Table 15 Machinimator Survey Respondents' Exchange of Skills & Assets by Gender

Exchange of Skills & Assets*	Male %	Female %	Total %
Music (writing / playing / vocals / production)	28.6	42.3	36.2
Voice acting	33.3	31.0	32.0
Set design	14.3	27.6	22.0
Character acting / puppeteering	22.7	19.2	20.8
Script writing	14.3	14.3	14.3
Sound design	9.5	11.1	10.4

*within category responses

Table 16 Machinimator Survey Respondents' Bought / Paid For Machinima Related Skills by Gender

Bought / Paid for skills*	Male %	Female %	Total %
Sound design	90.5	88.9	89.6
Script writing	85.7	85.7	85.7
Character acting / puppeteering	77.3	80.8	79.2
Set design	85.7	72.4	78.0
Voice acting	66.7	69.0	68.0
Music (writing / playing / vocals / production)	71.4	57.7	63.8

*within category responses

The nature of collaboration and coalescence through a broader community of practice that transcends particular games environments, as well as national boundaries, is discussed by interview respondents. Such collaboration goes beyond critical evaluation and represents artistic and performative contribution to productions:

"There are tremendous assets which are available here and its finding people who can work, who can make, who can build, who can animate... what is beautiful about working in Second Life© is that often through not only the people here but through the vast and awesome machinima community, we are certainly able to find those people." (MP5, machinimator)

"For me, what pleases me most in machinima is sharing in real time with different artists creating in the world, fashion designers, visual artists, scripters, animators... this group of people from all around the world which in one way have a part in the creation of a machinima." (MP16, machinimator)

Working through network enabling technologies does present challenges which require considerable forethought to manage in order to maintain quality and stability within the community:

"I was putting forwards as a director / writer, putting forwards the idea of having a team very similar to the real-world. As time went by, we found out a couple of things. First of all, it's incredibly difficult to organise people that are volunteers within Second Life®: they have different schedules, different times because of the countries and the zones they live in." (MP2, artist)

"I've had to rely on voice actors who have recorded their audio and sent it back to me. This is usually a very unsatisfactory process because I'm not there to provide immediate feedback on their performance ('more emotion!'). However, even more challenging is that I'm not there to check the sound quality at the point of recording, and usually its full of hisses, popping, etc." (MP16, machinimator)

"We work very closely together and we play and work to our strengths and have developed an understanding and of course when you work with a group of people whom you respect, care for and even come to love – you want to communicate in the best ways possible." (MP5, machinimator)

Tables 15 and 16 above also suggest a wide range of personal skills that have commercial value and income generating possibilities for machinimators directly associated with the machinimating community. Table 17 also highlights the breadth of creative industries that benefit financially from activities through their provision of resources for machinimating.

Table 17 Machinimator Survey Respondents' Bought / Paid For Resources by Gender

Bought / Paid for resources*	Male %	Female %	Total %
Editing and production software	86.4	82.8	84.3
Hardware (computers, peripheral devices)	72.7	62.1	66.7
Games for assets	54.5	51.7	52.9
Tuition and workshops	27.3	17.2	21.6
Other (books, online materials, etc)	9.1	17.2	13.7
Nothing	0	6.9	3.9

*within category responses

What's interesting here is that machinima evidently directly benefits not just the games developers through sales of their products (which may be used as assets within machinima works) but also a plethora of hardware, software and educational / training providers, both on and offline. Interview respondents comment on their expenditure:

"You have got limits to how many avatars can go in one SIM, before it brings down the lag for filming, so you need space. If you buy a SIM, that's pretty damn expensive and we actually use a SIM and the monthly fee is quite high. We've spent thousands and thousands of pounds on sets, equipment, software, land, everything. It's a bit of an illusion being such low prices." (MP3, artist)

"I spend lots on different avatars for various roleplays and, you know, props – that is the most expensive thing." (MA2, artist)

"I paid amount to a programmer and she's been my programmer on almost all my installations or performances – and her rates are ridiculously low compared to real life." (MA8, artist)

and in return some reap financially derived rewards directly from their machinima:

"As a result of films that I've entered into competitions I've won quite a lot of hardware and software, which has reduced my expenditure considerably!" (MP16, machinimator)

When part of a professional portfolio of income generating activities, one respondent highlights the pleasure of using his creative talents:

"Imagine getting paid to do what you love doing. It doesn't become a job. That's the reason I am a professional, I do it full time. A combination of animation and video work. I call it animation because no one understands machinima, when I am trying to sell products." (MP8, machinimator)

However, most financial benefits are derived indirectly, with respondents highlighting the ways in which they generate income from their skills:

"Clients say 'I want animation for this...' and whether its some kind of cut scene or the work I do with xxx, a lot of work is for educational use. They say 'we want it for this' and we make it and give it to them and they keep it and use it wherever they want to use it." (MP8, machinimator)

"We were selling the editioned DVDs, that was happening for a while, that was getting us some money." (MA3, artist)

"The most important thing for me is to use the machinima within the job that I am doing. So when I teach German or anything or run teacher training courses... I produce machinima to use them for specific purposes there." (MA2, educator)

Frustrations were also noted on the lack of imagination apparent in models of income generation for or from machinima, particularly related to creative practice:

"I think they're rather banal models at the moment, like... ads on YouTube. This is one thing that I think is a real challenge because I think there's a real lack of imagination in regards to income generation because in many ways the old axiom of 'information wants to be free' has lead to the long tail." (MA3, artist)

"Anyone who can work a spreadsheet and do some basic addition can tell that YouTube is a terrible terrible route to monetising anything video based, particularly if you have a massive IP incumbent... So, unfortunately, game based machinima its not dead but its wicked limited." (MP9, machinimator)

"There's certainly a market for artists' videos and its a very prevalent form of art making but machinima still has that cartoon quality that certain people can get away with but generally, it's not like... there's a market for photography, there's a market for oil painting, there's just not a market for machinima within a fine art context." (MA8, artist)

However, opportunities exist using the skills machinimators have developed over many years as artists and filmmakers.

"My dream job would be to work in one of the big games companies, filming the 'cut scenes' for games on the Xbox™ and Playstation™." (MP8, machinimator)

"Machinima is to a large extent the future of film making or fusion techniques using a lot of machinima techniques. Motion capture is not getting worse any time soon, AI is getting steadily better, facial capture is getting steadily better and its, you know, virtually every Hollywood film is now made using a significant chunk of the machinima tool set." (MP9, machinimator)

Comments are also noted on its breadth of application not only within creative industries but also the public sector and general business as a mainstream communications tool:

"The uses are un-ending. In one case an image, either taken with a photograph, or painted or drawn, videoed, filmed or machinima, can be used for the spread of information, for advertising or teaching, or politics, or aesthetics, or ideas, or conceptual art. Its absolutely open-ended and every single use of it is valid." (MA4, artist)

including from specific types of machinima content that may be described as reusable objects:

"Procedural content generation is coming on leaps and bounds and the growth of the independent gaming scene means there are enormous libraries of 3D content being made available on a commercial basis because, unlike web series creators, machinima creators, independent game developers tend to want to get paid." (MP9, machinimator)

A further significant opportunity for machinima is seen in education, not just in gaming related studies, arts and film, but across a broad range of subject areas:

"I've been talking to quite a few arts and film schools and they have taken it on board and one of the greatest things I've found is that they are actually making animation of films that they are going to make in real life, because it makes a moving story board – and that's very, very exciting. So that brings it really into the art schools, into the universities and they can see that this is a good tool for showing exactly what they would like to do." (MP3, artist)

"We have a lot of teachers, international teachers from Poland, Czech Republic, UK, Germany and Turkey and they all try out machinima in the language classroom and all different kinds, lets say grammar or inter-cultural issues and things like that. This is a big community so to speak and machinima making... well, film-making for language classes has always been very important. But the point with machinima is that they are easy to produce and at low cost and our aim there is to have students make their own films and create their own films, which is easy to do in virtual worlds. (MA2, educator)

"The future of machinima for educators is that is everybody will probably make them as a way of learning or a way of expressing what they are learning – as an

assessment tool, to record what they are learning to progress over a couple of years.” (MA1, educator)

For contemporary artists using a range of new media, there is also scope for application to convey new experiences and integrating those with other formats of their work:

“Generally when we are doing performance that generates a machinima, we are already out in the world doing something, like some museum somewhere...” (MA3, artist)

“We’re making a childrens’ book that is using augmented reality – now if you want to make that in real life, you have to make an animation for it – its going to take you a lot of time and a lot of money to do proper animation. So machinima has got new grounds to go.” (MP1, machinimator)

“We had people come to see us performing it live there, screen on the wall live... in the audience for that were two or three of the original Fluxus artists who were collaborators and associates of my father’s from the sixties, when this piece was created. And they were there watching us in Second Life®, creating it live, screening it onto a wall – watching us work our computers in doing that, as well as all the people around the world who were also participating with us from Second Life®. At the same time, a machinima was made of the performance in Second Life® that we have then screened around the world as its own unique production – performance as well as documentation. It is its own entertainment piece or performative piece, because documentation of live performance art becomes performative.” (MA4, artist)

Thus, from some machinimators’ perspectives, the future of machinima reflects the dynamic nature of the medium’s values in use, recognised not as machinima per se but its values embedded within some creative practice:

“I only show in art galleries and the art community doesn’t... well, if I’m in the right gallery and talking to the right segment of that community, then there’s an understanding of what I’m doing or maybe even an appreciation of what I’m doing or maybe even an appreciation for the difficulty of it... the art world does not tend to value machinima – and that’s a gross generalisation... I’m not suggesting that certainly individual artists aren’t really interested and excited about the work.” (MA8 artist)

“We’re really passing it off as animation – that is where its all about for us.” (MP3, artist)

Whilst others intimate that it has unique creative values, albeit a little understood descriptive term:

“As long as there are 3D games and multiuser games, I feel that machinima will continue in some sort. I feel it must have a different name – machinima is too much for anybody to pronounce...” (MP3, educator)

Machinimator respondents in this research therefore relate to a wide range of cultural values including personal, artistic, community related and financial values. These are summarised as follows:

- appeals to male and female creatives in all age groups, including amateur and professional artists and filmmakers and is therefore an inclusive medium
- unique cultural form of creative content, built upon computer games but extending their value beyond play to creative, collaborative, performance and viewing practices
- transcends a range of arts practices, encompassing traditional and contemporary arts, particularly informing and enriching other new media arts practices
- develops the range of creative competencies in arts (eg., digital) and filmmaking, including editing, writing, production, cinematography, set, sound and character design, music, applications of new technologies such as augmented and virtual reality, and competencies related to modding, hacking and mashup
- develops the range of personal skills including communications, transliteracy, technologies, socialware (streaming and sharing), learning (reflection in and on actions), adaptability, structural interpretation (eg., legal and technical frameworks) and related moral principles, resilience, co-working and collaboration, negotiation and contract development, internationalisation, competition, problem solving, project management
- motivates and inspires creativity and collaboration with creative industries
- promotes understanding of corporate profit motive, intellectual property and brand
- builds community and shared values through practice, specialisms and interests that cross online communications platforms and offline work related structures
- provides content for traditional and non-traditional cultural institutions such as galleries and festivals, 'pop-up happenings', education, leading to opportunities for audience development and new kinds of audience experience
- reaches audiences beyond those targeted by games developers and publishers, festivals, museums and galleries, which may be self-sustaining in their consumption of machinima creative practices
- contributes directly to financial motives of a range of creative industries, including computer games, animation, production, cultural and educational institutions, as well as individual creatives working with specific practices such as acting, design, music, training and marketing.
- contributes to technology product development including hardware and software through testing and prototyping eg., development of large scale creative works, application of new technologies

3.3 Computer Games Development

In generating further insight into machinima, games developers as key stakeholders in the phenomenon were interviewed. The computer games sector has undergone significant development since machinima was first recognised in 1996. From its origins in Quake© and Doom©, there are now hundreds of games used to create machinima from Lego© and Minecraft© to Grand Theft Auto©, World of Warcraft© and Second Life© and a wide variety of computer, console and mobile devices with which to enjoy them. The UK market alone for computer games was reported to be worth appx £1.2B in 2013, and is estimated to rise to £2.2B by 2018 (UK Interactive Entertainment in Mintel, 2013), albeit these figures are predicated on strong console sales. Globally, the computer games sector grew 9% in 2013, worth a reported \$76B (rising to \$86B by 2016, bigfishgames.com) and advertising revenue within the games is forecast to reach \$7.2B by 2016 (venturebeat.com) – considered to be on a par with the TV and film industry. Within the UK, the average gamer is 35 years old, predominantly male and spends 3+ hours gaming per day, yet the fragmentation of development processes related to gaming, mobile and technology infrastructures, and accompanying business models, is changing the market structure making games ever more accessible. Trends are emerging in older consumers, women players, family and friend networks, mobile, social and casual gaming. Furthermore, in the UK, the sector directly employed 9,000 in 2012 and supported a further 17,000 jobs in film, TV, music fashion, art and design industries, contributing an estimated £947M to UK GDP (CBI/TIGA). Currently, UK Interactive Entertainment (UKIE) is promoting Government backed tax breaks for developers and creative technologies skills within education (coined STEAM – science, technology, engineering, art, maths) to underpin the next generation of developers for this important sector of the creative economy (see UKIE.org.uk). Thus, whilst the impacts and values of the sector as a whole may be clear, its derivative impacts on the arts and cultural sectors are less well understood. The focus of this section of the research was therefore to evaluate machinima's role and impacts on developments in the sector.

Themes explored through interviews with key informants within games developers were the impacts of machinima on organisations' profit motive; the development of its supply chain including market segments; the ways organisations think about their competitive environment; and, their awareness of the broader societal impacts of machinima, eg., when viral films and artefacts influence populations beyond gaming cultures. Games developers from UK and international indie and AAA organisations were interviewed, including one professional association representing a number of organisations within the UK games sector.

Machinima's contribution to the profitability and profit motive of games developers is identified by some through its direct impact on sales:

"I'm sure sales are driven by people specifically buying an engine/product for the purposes of creating machinima." (GD15, games developer)

"... we have used them [machinimas]. We showcase quite a range. There are several that have been so consistent over the long run xxx [machinimators] and

most recently that I can think of, right on our front [website] page, we feature the work of xxx [machinimator]...” (GD21, games developer)

It is, however, for many primarily seen to have indirect impact through design and development processes, and a circuitous route through audience reach activities by machinimators using game content. As these games developer highlight, it is also used to support customer engagement:

“I’m very comfortable with the fact that I’m not going to use it for direct monetary gain. Obviously I have to promote the service, so I want to be able to show your experience to the world to bring in more users to the service, but not to be sold or resold by myself.” (GD1, games developer)

“I began to make these little tips and tricks [machinima] videos, video tutorials, and see how it catches on with management at xxx [my company, games developer] and with the [customers]. Then we kept getting demand for more of these and that was a huge catalyst so I would say which topics do you want me to do next... I kept this dialogue, I couldn’t have done it alone, between us and the [customers], who requested more and more of these videos, tutorials over time. So I found it just a very non threatening and approachable form to educate our customers and take those requests and they felt invested in that...” (GD21, games developer)

“There’s no direct line between machinima and how income is generated. That said, machinima techniques are used in creating a number of game cinematics, which add to the overall value of the games sold... [and machinima] works produced with our games helps reach a wider audience than the initial marketing of the game – so there’s a value there... there’s always a chance that a machinima work will become popular and spike additional interest in our game.” (GD4, games developer)

and the latter goes on to reflect on the way in which consumer feedback is captured through their moderated communities:

“The way our studio shows the value and support of our customers is by listening to their feedback. By providing platforms for this, online fora, community events, etc., gives the players a chance to share their their thoughts and for us to speak with them directly about it. Unfortunately, there isn’t a separate platform for machinimators, but hopefully they are participating in the fora and events that we hold.” (GD4, games developer)

“We monitor industry-related review sites/communities and maintain accounts there so we don’t miss any feedback that might be constructive to our games.” (GD15, games developer)

Yet there is also recognition that once published, a game is no longer ‘owned’ by the developer but becomes co-created with its players or consumers:

“... the game isn’t the designer’s once it’s been done, it’s the players. And although the designer is responsible for sustaining and maintaining it over time

and taking it in a direction, they are doing so in the context of taking their audience with them.” (GD19, games developer)

The sector’s recognition of machinima and its significance and influence on the behaviour of developers and other industry stakeholders was identified. The general view from inside the industry is that machinima is part of the broader cultural sphere which surrounds computer games:

“I think things start to get interesting, when its not about telling a story in the game but it is about using the game to communicate, you know, walk-through and tutorials and Easter egg hunts and things like that. So games become a medium not just for play but also for sharing.” (GD19, games developer)

“Machinima is something that exists as part of the cultural sphere around games . It's more fan-driven and it is more around fan culture, so you can see machinima being creative.” (GD5, games development association)

“...machinima has its origins in speed-runs and pure game-play videos. There's a massive scene emerged on Twitch [internet streaming channel] of what they call the 'let's plays', which is just people who basically have effectively a YouTube or Twitch TV channel, where they just play the latest games and other people just watch them playing.” (GD9, games developer)

The movement has broad impact on consumption practices in general, as these games developer states:

“Minecraft© let’s play are awesome and have made a underground network that (most) adults don’t understand. My kids don’t come in and turn the TV on, they look at xxx [machinimator] videos. That cannot be underestimated as a massive cultural shift.” (GD17, games developer)

The significance and awareness of the Machinima.com brand (which has been rebranded simply to Machinima™) is also noted, with the assertion that the brand has eclipsed the original movement from which it was spawned:

“[Machinima™] is not a portal for makers anymore, its a portal for watchers, in summary. And actually in some ways that's a good thing because it becomes a place – if you have an interesting game-themed thing. I really enjoyed xxx [film], I thought it was brilliant, and I watched it through Machinima™.” (GD19, games developer)

“Machinima™ is now mainstream and once things become mainstream, like IGN [online media and game content promotion organisation] – its more of a trailer holding site than it is of being anything that's remotely ground-breaking.” (GD10, games developer)

Machinima™ was a community website set up in 2000 by one of the originators of the term (Hugh Hancock). Since its takeover in 2005, Machinima™ that has subsequently seen a series of capital investments making it the ‘go to’ channel for machinima, albeit now focused on ‘let’s play’ and fan vid content (its most recent round of investment was in March 2014, with \$18M led by Warner Bros). Currently, Machinima™ describes itself

as a media streaming and gaming multi-channel network and its YouTube channel is only the second to exceed 5B views (thevideolink.com, 2 July 2014). To the majority of those interviewed, Machinima™ is perceived as an online entertainment channel which hosts a variety of content, including live-action, reviews, film-trailers, comedy/parody, music video and others, which would appeal to its core demographic (primarily male, tech savvy, aged 18-35). The site's usefulness as an aggregator of content related to specific games is noted, albeit that related revenue is generated by the channel rather than the games developer:

"[Machinima™ is] basically just a news site and social network for geek culture. But that's interesting in its own right because that has grown out of the core... the core of their audience was machinima fans and they've basically just expanded and found that... machinima fans are also interested in video games and movies and comic books and so on. 'So we can just basically pull in all of these different threads and run news stories on them and people keep coming to the site and we get clicks'. At the end of the day, that website is a business so they're going to basically branch out into everything that is going to bring them clicks." (GD9, games developer)

In order to draw a distinction between the Machinima™ brand and the machinima movement, it was necessary to reiterate our broad definition of machinima as *'the practice or technique of producing animated films through the manipulation of video game graphics'*. This in itself points to a marked difference in understanding of machinima between the machinima arts and games development communities of practice. Currently, the practice of making videos using computer game assets is closer to the original of concept of 'replay', demonstrated via 'speed-runs' in early games such as Quake, Doom and Halo. Evidence of this can clearly be seen on millions of gamers' YouTube accounts and other channels such as Twitch TV (which includes live streaming channels), Let's Play and Everyplay. The followings such channels have is therefore a shop window for games developers, delivered through the endeavours of machinimators whom they perceive to act as marketers for their products:

"In a nutshell, this entire system revolves around marketing, and YouTube is a wonderful source of free marketing... We wouldn't be able to show our work off without machinima. Its a terrific way to show our game off and gain new support!... [YouTube] creates the sort of symbiotic relationship that benefits both the developer and the entertainer. Exposure guarantees money for both parties." (GD16, games developer)

"I can't see a case in which someone making a video wouldn't result in helping my game, even if it was a negative video, which would at least have some useful feedback." (GD20, games developer)

"If our products were used in fan-made films, I believe that could positively affect our organic reach in a way that we could only otherwise achieve by substantial market spends. Achieving this is no mean feat, of course." (GD15, games developer)

"[YouTube]... that's where the eyeballs are, that's where people want to see things and see related videos because you can create things like playlists and you can recommend other artists, other people to go see, and so its about broad intercomnnectivity and we've just seen other channels, that's where they are and gravitate to, and that's where they want to watch stuff. The lowest friction if you will." (GD21, games developer)

Albeit with some recognition that these channels perpetuate an outdated view of what machinima is now, hinting at the potential fragmentation of audiences:

"Twitch TV, by its very essence and core, [is] the element of what machinima was 10 years ago... What Machinima™ became was something that was much more acceptable, at the time that it was like properly formed and released and funded, etc...[now] its become a very important distribution platform but for the game end-user, its nowhere near as impactful as it used to be and one of the reasons why is because game developers have found their own routes to market now." (GD10, games developer)

and yet the role of such channels reaching the audience, in conjunction with the continuous development of technology infrastructures such as the internet and mobile, are not lost on the games developers:

"The proliferation of thick-bandwidth access has definitively helped machinima, in that video content can be shared so quickly and widely. To that, machinima would probably not have gained considerable ground (and really didn't) without a centralized service like YouTube in place. One only needs to look at Machinima.com before and after their YouTube channel launched to understand how key the site was in both delivering and sharing machinima content with others." (GD4, games developer)

"There's a lot of indies on Steam, there's a lot of indies on mobile too. Massive indie place, in fact there's a lot of transition from mobile to Steam because it's becoming harder and harder to be discovered. But it was only recently that indies have been really making money on Steam..." (GD19, games developer)

"[machinima] will never be without makers and it will never be without an audience, but it may evolve into being a product without impact. I think that's my fear... As soon as something becomes very mainstream, the marketplace becomes quite suffocated and it's impossible for these things to move off into different areas. I think that what the Twitch movement has done for machinima is, it's allowed machinima to exist, or it's allowed machinima to continue to exist, without the marketplace being totally saturated. The user uptake on Twitch is still low enough for Google to be interested in buying it but every single one of those Twitch users is someone who is either a person who enjoys machinima, an end-user or someone who makes machinima, a machinimator or a producer... but now the problem is that now Twitch will become mainstream and so now the end user will be looking for something else." (GD10, games developer)

Nonetheless, some note the behaviours of these channels as being potentially damaging:

"... auto-censorship is very troubling... its troubling when you see robots doing this sort of thing because it is an invalidating way of judging people at a level of technology where its not competent to make those decisions. We have a lot of people that want to celebrate or remix a piece of music that are understandably getting mad at major record labels for taking down their remix or mash-up without a dialogue. I think its very detrimental because it hurts that two-way street. That's something which we don't want to be a part of – we want to have a healthy dialogue with our [customers]..." (GD21, games developer)

Furthermore, there are significant new opportunities presented through the confluence of machinimating, audience engagement activities and games development, such as enhancing the product proposition:

"We've always been first and foremost about user created content... we've always looked to ways we can facilitate that with the tools and in some cases, actually, many cases give creators the ability to make their own tools..." (GD21, games developer)

"... there are elements within characters that I've picked up from watching machinima that I have then taken and put into one of my products where... a character has made a political statement about Obama Care, for instance. But he's done it in a very sort of sly way, like my character's tripped over something on the road and said 'Oh my god, how much is this going to cost me?'... it will be something that I have drawn out of watching a machinima, so I've taken satire and I have turned it into something that's a bit more tangible." (GD10, games developer)

What's interesting is that, as this games developer highlights, even when games developers do not specifically use machinima, they nonetheless realize its potential for reaching their target audience, despite relatively little emphasis on audience engagement beyond a core focus on design and development:

"... we do fill the game with little secrets and things that you have to invest quite a lot of time to unlock... [xxx machinimator] did a fantastic techno remix... its just a silly bit of nonsense but its great fun when you come across it. Once somebody found it then it was shared on YouTube and it went all over YouTube... [and goes on to comment about their modus operandi...] none of us talk to anybody outside of the studio, not officially anyway - obviously there's a bit of unofficial socialisation going on and stuff. But [we, xxx games developer] are very much just, the company exists to 'get heads down and make the game' and because we're constantly busy making the game, that's what we do. Our only outreach is through very traditional PR routes." (GD9, games developer)

An indirect promotional tactic was also identified through the incorporation of games into educational contexts, at least partly because a number of games developers and designers are keen to directly support upskilling and training for reasons of business continuity:

"... by making [game] that was so easily turned to many, many different purposes, none of which (I'm sure) were imagined by the creators originally,

there is now an entire culture and ecosystem for story-telling, let's play, machinima, education, self-promotion, even music videos, chat-shows, etc, all using the one game-world that was centred on creation and flexibility. This explosion in turn has led to education-specific versions of the product with different licensing and support, that is obviously yet another strong revenue source for xxx, a great swathe of worthy PR and the kind of product placement one can only dream of ('they use your game to teach stuff at school omg') doesn't get better than that. (GD15, games developer)

and in creating new community platforms:

"... our aim is that we're building up a community of developers and also we're building a community of players and we're creating a means for players and developers to talk to each other directly. So I think it's a very powerful piece where it's a two way street." (GD19, games developer)

Whilst recognising machinimators' technical skills and creativity as being valuable directly to games developers, for example:

"... these days games development companies are much more, or way hotter on recruiting directly from dudes who sit there all day and make machinima. The reason for that is you want somebody to work for you who is focussed and there's nothing more focussed than sitting there with your favourite game and turning it into a six minute short film or a three minute web episode... its the ones that are connected to the community that make the medicine sweeter in games development." (GD10, games developer)

"We have hired several machinimators as staff. For those I've worked with, their contributions were invaluable. Not only were they able to produce work fairly quickly due to their previous experience, but they were also able to produce segments entirely on their own, as most came from projects where they were the sole creator and had to learn numerous disciplines (level creation, animation, audio production, etc.) in order to complete their projects." (GD4, games developer)

There is some misunderstanding on the scale of the effort that goes in to many of the more professional productions such as those highlighted by respondents in the previous section of this report. For example, one games developer comments:

"The guys who put a lot of effort into making machinima obviously have a real interest in film but I think the difficulty with making a film is that it is very, very collaborative. Even if you basically operate the camera yourself and point the microphone and be basically a one-man crew, you still need another person for every character that you want in that story. So, you either need to have a whole bunch of friends who are willing to traipse around to a whole bunch of different locations with you and do that. And then you've got to find all those locations and you've got to find costumes and stuff... its a big effort so, I think the appeal of machinima is that you can tell a story, pretty much on your own at your computer." (GD9, games developer)

Moreover, the comments highlight the view that machinima reduces the game to a linear format, which potentially devalues the art of game development itself and becomes something of an 'apologist movement' to filmmaking:

"I found the niche of the things with a frame called machinima around them to be like... I think I got a bit tired of that, I got a bit bored of that quite quickly. Which isn't to say that machinima is boring because people are clearly, certainly not making boring things - but putting that frame around it felt... it felt too much like games trying to be films." (GD14, games developer)

"... we don't want to democratise film-making within games necessarily, we have our own genres to play with and I think that cartoon is an imperfect example of that. I suppose what I am trying to say is that by comparing us with films, we cheapen the value of the thing we have." (GD19, games developer)

It was suggested that machinima has been used as a way to garner wider acceptance of games as a bona-fide creative art form, with existing arts communities being more likely to understand and appreciate the more traditional format of film.

"In the earlier days, some people struggled with the suspension-of-disbelief aspect of telling stories using established game engines and assets, and I think the movement got a bad wrap as being somehow the re-use of 3D clip-art as it were. These days, the lines have blurred substantially and the abundance of available creative tools that can be used to make assets and material to throw into well-known, high-quality engines has become accepted – people can look past the fact that something was done using widely-available assets and see the value and creativity at work." (GD9, games developer)

"I think just like any art form there is a wide swathe of interpretation – I think, of course, with it being somewhat new there is always, this is something about the human experience: when you are not psychologically acclimated to something its treated as a novelty, it may be regarded as freakish or bizarre... over time of course that will subside, like any art form. I think though that the negatives are more indicative of what an individual artist or team of artists is expressing or doing with art, so not so much the platform itself." (GD21, games developer)

It was further suggested that films made from games content became an acceptable entertainment form for small screen-based viewing, influencing TV, broadcast and large screen media entertainment formats in the process:

"Red vs Blue© gave filmmakers of that demographic, and you know I'm talking from 2003 onwards, it gave them an opportunity to be a bit more dangerous and controversial about their filmmaking... because after all, the games guys were doing it, so why can't the TV dudes and cinema dudes do it as well." (GD10, games developer)

The importance and role of film and filmmaking within the game, incorporated as part of its design, is another of the roles that machinima is seen to fulfill for some games developers. For example, this games developer highlights that it is an important aspect of interaction with the brand:

"In fact Gabe Newell's Steam - Gabe Newell owns Valve, which owns Counter Strike© - he actually encourages [machinima] now, as he's got 'Gary's Mod' in Steam and if you've ever played Gary's Mod... Gary's Mod is basically a playhouse, its like a theatre, its for you to just play out your fantasy and film it. It actually gives you a screen capture option, so you can start writing stories from the get-go." (GD10, games developer)

whilst another comments that machinimators beyond the game are not a core target for their brand:

"I don't see much movement in terms of how machinima might affect our game's growth, currently. Machinima is still niche enough that any developments aimed toward machinima producers are at the 'blue-sky' stage at most... The only machinima that's been produced with our game is strictly within the context of our game and for its core audience." (GD4, games developer)

Copyright, however, was seen by some to be a concerning issue, primarily because of the potential reach that machinima has in its marketing role when content created portrays the brand in a misleading or degrading light:

"The problem occurs when people's brands are misrepresented. Companies who want to portray a wholesome image don't want their properties associated with activities they are not comfortable with – if someone features a kids' game and then swears all over the commentary, its difficult for the consumer to see that its not an officially endorsed product." (GD17, games developer)

"... somebody probably has done it [made an offensive machinima], but nobody would have cared. So in terms of legal and licence agreement issues, I think that there's probably some stuff in [our EULA] to try to protect us from anybody who wants to sue because little Johnny downloaded some content that wasn't suitable, that had been created by another user... Generally those are just accepted as 'that's what happens', when you put something out, the public react it. I don't think we would ever bother chasing anybody up like that unless they were deliberately masquerading something as 'official'. You know, as long as its clearly a fan-made thing then it would be fine." (GD9, games developer)

but as another goes on to state:

"... there's always the potential that an artist will create a controversial work that can be viewed negatively, and that can happen at any time." (GD4, games developer)

Often because the nature of machinima is seen to be subversive and machinimators apparently flagrantly disregard EULAs, TOS and guidelines:

"The machinima culture is a subversive culture. Its a culture of people who, like I was saying earlier about the dark arts, they want to have the freedom if they want to be subversive and controversial – and if they want to be, you know, more conformist, then there is an outlet for them to be able to do that. But machinima people generally, their culture tends not to be driven by rules... I think their awareness is firmly in their community. Even when xxx was making Battlefield

3© machinima, and his stuff is absolutely beautiful. But I think even then the guy didn't care. In fact what he did was, he used it as bait to get these companies to look at him. He actually was very blatant and overt, almost flagrant about what it was that he was doing." (GD10, games developer)

Despite this, the games developers go on to comment on the challenges faced should they wish to exert control or restrict machinimating:

"... often this footage is already in the public domain, if you are playing the game. You can't really... copyright is something that is being used by many people in the public domain all at the same time, it's impossible to do that..." (GD10, games developer)

"The fear with user generated content is usually, 'what if somebody makes something offensive using our engine or technology, and damages our brand or damages our reputation', or something like that. But I think that's an entirely imagined fear. I have never seen any brand in video games damaged by something that users did, because everybody understands that once it's out there, you can't help what the users do with it." (GD9, games developer)

In acknowledging the reality of IP claims over games assets and content as a significant challenge within contemporary culture, for some perceived infringement is seen as an inevitable consequence of an inappropriate legal framework:

"... but that sort of thing in the old days, movie studio may have come down on somebody trying to spread that around, like a tonne of bricks: that is perverting our copyrighted material. But nowadays everybody just understands that it's going to happen. You can't stop it, any more than you can stop people summarising a novel to their friend or spoiling the ending. So I think they're just... you still end up with EULAs but I think they are largely just for the legal departments, to make sure that everything's covered and that the companies basically are saying 'well yeah this game is out there...'" (GD9, games developer)

and an aspect of contemporary culture that should be embraced:

"... any fan activity that is based around your product or your IP is obviously hugely rewarding and appreciated... I guess that you can draw parallels between machinima and punk to a certain extent, in the sense that machinima is something that pretty much anybody can have a go and make something that is fun and irreverent, and by definition you are kind of perverting somebody else's content to create something fresh." (GD9, games developer)

or at least the problems faced by other contemporary cultural movements such as music and film should be avoided:

"Copyright is your right to exert an end user licence... you know, a lot of people realise that machinima or fan made videos in particular were because people loved those characters in the game and whatever it is you are making a film out of. So there's no point in punishing your fans. The games industry has always had a different track record when it comes to copyright infringement than the

music or film industry does because we have a better relationship with our fans.”
(GD5, games development association)

“... its like a parallel with the major record labels when they are acting ahead, jumping ahead of something they don’t understand. So I think that has long-term harmful effects on both sides... Its really bonkers when the law doesn’t keep pace with what people want to do...” (GD21, games developer)

“That’s interesting because that’s marketing, that’s not copyright infringement, that’s marketing. You’re not stopping people from buying the virtual goods in xxx by showing it off, you’re making it more likely, so it made it more interesting.”
(GD19, games developer)

One developer explains the scale of the challenge for their organisation, not so much in controlling IP but more in terms of expressing a legal framework that encompasses the needs of its many user groups:

“We’re trying to make it very clear that you should comfortable creating content [in our game] because we’re not going to steal it, we’re not going to hijack your content and take it behind your back. We want our users to be comfortable about that and given that it’s a legal contract, no matter how much work you put into it, you’re always going to have some percentage that doesn’t understand it, doesn’t agree with it, you’re never going to get to 100% with anything legal... in some ways we’re running a country and when was the last time you saw leaders of a country have 100% approval rating – it just doesn’t happen, it’s a tough situation. I think we can do better with making the language more clear so I don’t feel a strong need to change what our intent is, I feel very good about our intent, I think the language now actually expresses our intent, I think its just harder for some people to understand our intent through the language that’s written.” (GD1, games developer)

For others, despite not overtly supporting machinima, through making content available using gaming devices such as Xbox One™, then developers certainly implicitly support machinimaging practices:

“[interviewer: the Xbox One™, I turned it on and there was a big Machinima™ tile...] with that feature our games are quite amenable to it because once you’ve played through the game and unlocked everything, you’ve basically got in say [xxx game], you’ve got nearly 200 [xxx game] characters and all of the levels are available and the open world hub is available for you to just take... I suppose in that respect, even though we don’t support it intentionally, its getting easier and easier nowadays for people to capture fragments from games and put stuff together if they want to, even though we never designed it that way.” (GD9, games developer)

Furthermore, distribution channels supports ‘celebrities’ by facilitating machinimators to monetise their work. Whilst some, typically traditional AAA developers with large brands, expressed caution in the use of game assets for machinima, it was clear that many games developers are very aware of the more fluid nature of copyright,

acknowledging that machinima has become an important part of the marketing of any game. Therefore, its creators are supported, even to the extent that some games developers are happy for machinimators to monetise their personal distribution channels.

Games developers certainly also appreciate the creative efforts of their fans and gamers, highlighting its direct impact on their propositions:

"... if you did stats on machinima you'd probably not be that impressed on its impact, direct impact, because you'd look at it saying "yeah, okay but what does it mean to me?". But it actually means a huge amount, because the very potential, it has an effect on players. The people who do it have an even greater effect and the people who watch the people who do it, have the most important effect." (GD15, games developer)

A new co-creative environment for games development was described, particularly relating to the development of indie games where gamers are granted early access to titles in order to test, comment upon and suggest improvements. Machinima therefore becomes part of the development process. The creation of videos (such as play-throughs, tutorials, out-takes and other documentaries) are an integral part of the process and are equally valued by the developer and creator. For example, developers gain valuable data to help complete and improve their work:

"Its a relationship, its not a top-down thing, its a mutual, beneficial relationship. [Games developers] recognise that the fans and the communities are key, and games do not just get released any more and that's it. They get released and there's new content, there's new features, there's constant iterating..." (GD5, games development association)

and for others, the merely possibilities of machinima as an output from their game challenges them to think through the development processes with considerable care and attention to detail:

"... you have to think carefully about giving up some of your IP to the world at large and then living with the consequences... it needs to be designed into the game all through its development (not just bolted on in an attempt to 'become viral' at or near launch time). This is both restrictive in some ways and inspirational in others. We are building-in ways for our games to share and be shared, so that at launch they will be conceived of as a blend of what we intended them to be and what might be done with them. This is heavy stuff - and it's easy to shy-away from the risks and play it safe. I hope the decisions we make as we develop our games prove to be brave and embracing rather than more narrow and tended toward covering-ass, which is, frankly, the safe and easy option." (GD15, games developer)

Machinimators are perceived to find value in this process in a number of ways. Foremost, by being able to play the game early, effectively becoming 'power users' through beta testing. In turn, this gives them credibility and status within their community of interest which is seen to reinforce membership of a close community of

gamers with common interests and a shared set of goals, centred around the realisation of the game:

"... but its though the people who do machinima, super-fans – and the reason why in the community is because they will spend 18 hours a day filming Counter Strike©." (GD10, games developer)

and for some, this includes product testing at a level beyond a level that most customers will be able to:

"... we're looking at people with powerful computers that can set their graphics settings to ultra, and what they would like to see if it further pushes those sorts of elements, as well as people that have experiences elsewhere that might be useful to [our game] like modelers, conceptual modelers, people with gaming backgrounds that we're thinking, well obviously some comparisons are going to be drawn about how good [game] looks and we want to be able to talk to them and learn from those insights..." (GD21, games developer)

with the reward being formal recognition for participation in such R&D activities:

"... we are always gracious to call out and elevate those community members that are just outstanding – someone like xxx [machinimator], he's doing so much good, and we want to make sure that other people know that... we have officially sponsored xxx [machinimator] to continue to do his work, that is something that we officially endorse, because it is just so, the right word isn't universal because its more specific, its more practical than that, but its something where it has a broad appeal and just so illuminating... keep on growing man, this rocks, its awesome." (GD21, games developer)

The importance of online distribution channels is clear, not only for the sharing of films amongst communities of machinima practice, but also for supporting emerging business models within the games industry. Ad revenue models are now well established, albeit that games developers tend to see little direct benefit from this method of distribution. The main benefits are derived from promoting the game to the long tail of consumers, ie., those who may not be so accessible to the organisations through their normal channels to market, and in turn the machinima viewers become interested in the game thereby closing the loop. Such revenue models are well recognized by games developers and, because of their role in reaching consumers, they are now actively supported:

"Many YouTubers generate ad revenue from videos they make of my game and I explicitly permit this with a blanket permission from my website. Twitch streamers also generate revenue through donations and subscriptions." (GD20, games developer)

"... the publisher usually looks after all that marketing and promotional side - and the legal side as well. So if you don't have a publisher and you're trying to self publish, so your game is going up on one of the app stores or Steam, its a crowded market place. So, you see very often examples of games that are fantastic games, but it was when a key YouTuber who tends to talk about games or games are part of their show, latches on to it and features it and talks about it

– that's when suddenly there's a spike in downloads or numbers. So, [machinima is] a key marketing and discovery channel for developers and for publishers - and publishers are very, very savvy at knowing what distribution channels for marketing material – whether it be trailers or editorial or whatever – are the right ones for the right target audience. They won't all be the machinima channels, they'll just be personalities on channels, doing a review or playthrough, but absolutely, I think they support them, although I can't speak for all of them.”
(GD5, games development association)

and, in turn, this leads to recognition of the drivers for creativity, benefitting both the developer and the machinimator:

"Almost anybody can, now, create something of worth, and has a shot at getting recognition and success. Whether or not this leads to an income is a very different question, but it certainly does for some. At least in terms of expression, the landscape has changed enormously, and from a commercial perspective, new industries now exist in which those with the drive and talent can pay the bills as a result of their talent and creations. I can only see this as a wonderful thing and grumpily wish it had existed in the same sense when I was young and we only had coal-fired CPUs!" (GD15, games developer)

"It introduced DLC [downloadable content] for instance, we never really had DLC before machinima... So that's everything from asset packs to different armours, to different weapons – all of these things that machinimators probably thought up when they were drawing fancy cod-pieces on Master Chief© or whatever, like part way through their machinimation. But now that has sort of borne forth a bunch of downloadable content, that we never really thought about before. So the fact, for me, machinima... I would say that that was one of the birthplaces of transmedia as we know it today – and of course, its used everywhere now.”
(GD10, games developer)

Within this framework the role of the community as an 'experience environment' for sharing is emphasised:

"... if you haven't got a place... somewhere to crystallise the experience, you won't get the community growing from it – and I think this idea of being able to understand the nature of community is going to be incredibly important... we let the community determine that themselves... The point is, we're dealing with social media now and you can't follow the old rules... but the key thing is, audience counts. So knowing who's liked, who's followed, who's commented, can give you a sense of what the game is about, can also give you a sense of what that person is about..." (GD19, games developer)

whilst the role of self-moderation within the community is also described, where the community brings quality content to the fore of attention:

"Sharing platforms, particularly those such as YouTube, employ rating, prominence, subscription and so forth to allow the growth of an ecosystem that

regulates itself, helpfully solving the signal-to-noise ratio problems... to some degree." (GD15, games developer)

"... this is like any social media, it's about the community deciding what's good, not individuals who happen to be in power deciding what's good... there are these kind of attitudes that social influence should bring to the foreground, the values that are important around a topic." (GD19, games developer)

"If something is really great and you have, say, someone is really talented but introverted so they might not be getting the word out themselves, and if they have a friend or someone who spots this, I love those people who are connectors and vocal because they bring it to our attention. They tell their friends and, you know, the old concept of word of mouth, and its just online now... [reference to a machinima] the buzz just got around the community about it and that's how I found out about it." (GD21, games developer)

Indeed, as this games developer highlights, the inherent naivety and proliferation of works in the machinima community of practice is a particular challenge faced.

It also leads to design of new platforms that match games with players through machinima, which may support publisher distribution targets, but also builds community cohesion amongst games players who are now likely to cross different platforms in the process:

"... but our aim is that we're building up a community of developers and also we're building a community of players and we're creating a means for players and developers to talk to each other directly. So I think its a very powerful piece where its a two way street." (GD19, games developer)

Such approaches require new thinking in developing community. This games developer goes on to describe a process of gamifying community where creating leaderboards and in-game rewards promote sharing activities through machinima, with prizes given for most viewed content posted on social media:

"... you get a in-game currency for posting a video of your play, which is great, you get some free currency for doing this. But equally, you get some free currency for posting up to Facebook™. So that's all good. But then on top of that, they have a competition for the best video that week... [and] more interestingly, is they use some meta-data posting. So you can post meta-data into the video... [that enables tagging and sharing] so I can look at the high-score table of my friends and see where I am on that – and if they posted video for that run, I can go and watch it. So that's not a direct incentive in terms of 'here's some cash to do it'... although there is some in-game cash." (GD19, games developer)

That said, this developer also highlighted an emergent problem in the demand for machinima as popular culture, suggesting that there will come a time when it will need to be rated and classified according to its content. Such comments recognise the rapid

growth of streaming and sharing platforms that currently do not distinguish content appropriate for younger and mature audiences. Nonetheless, the developer highlights that to undertake such classification will be a challenge for them in dealing with audiences:

"... its a difficult one because we can see a point in time coming when we do want to permit more adult content but in a constrained area but at the moment, its still too early days.. I think we'd get into trouble, you know, not just trouble but it becomes complicated if we start mucking about with classification and censorship and all that kind of stuff." (GD19, games developer)

Ultimately, as one games developer acknowledges, machinima is likely to transcend the current platforms which enable content sharing, because it encompasses an experience that crosses multiple media experiences:

"... machinima will always find a way to be cinematic. I mean prior to it being a games or art related thing, machinima was something that was definitely film related, it had its origins in cinema. So cinema might be something it goes back to but the great thing is, compared to cinema, is that machinima goes back to cinema with more knowledge. People who work in machinima know more about storytelling, composition, technique - than any of these filmmakers... they are telling a transmedia story." (GD10, games developer)

and another goes on to identify the role of machinima as it has emerged with implications for the future in relation to digital natives and evolution of content consumption practices:

"... we're not digital natives and I think being a digital native in that period from 2003 up to date gives you the opportunity to cross-pollenate again and proliferate your narrative, across more than one media. Machinima allows you to be able to do that seamlessly." (GD19, games developer)

The future role of new technologies is an area that games developers are keen to keep an open mind about in relation to machinima:

"With something like these next level of technologies, we have to be aware that they will change things in ways we both expect and not expect. For example, with something like Oculus Rift™, a lot of people before using something like this, the obvious thing is to think of a first-person-shooter game, well that might not be ideal because they're still struggling with things like latency with dizziness so of course there is the exploratory angle of going to an 'ultranet' world, in parts of [our game], now where it becomes really interesting for something like machinima, is the history of film cinema, the editor/director they are making you see the things you want to see, they are cutting things collectively and taking these camera angles and you cannot change it..." (GD21, games developer)

The applications of machinima are also acknowledged as being far reaching, beyond the game and its focal development:

"I value education highly and I've spoken numerous times with various [game] communities related to education... The way you can get someone to understand the context or a situation or whether its a process or being able to do that through [our game] and a combination of machinima and interactive experiences, sure beats the hell out of reading a page of text to try and understand something. So the way you can combine that with storytelling so that its actually interesting and captivates the user and especially when you can interact with these use cases, the way people can absorb information, it can be so much better using tools like what [we] offer, so I follow it closely." (GD1, games developer)

"It goes from the sphere of entertainment to having far reaching effectiveness on how we treat each other as people. I refer again to xxx [machinimator] because he has used a number of topics, although they may have been told in other mediums before, like newspaper pieces, but I think in really showing what's special... there are things I can cite from history, if we look back at our newsreels and things which has covered a lot of stories and elsewhere, there have been others, its not just about machinima but [game] itself as a creative medium, machinima of course is a forum in which that takes place, and as humans we've always had storytelling cultures and I think machinima lowers the bar of accessibility if someone wants to tell a story that way, which is very empowering, whether its a story of someone who wants to send something to their grandparents or someone who is telling a story of an adversity they went through or serious themes like human trafficking, other sorts of rights..." (GD21, games developer)

with one games developer commenting on the significance of machinima as a tool for empowering people to be creative, tell their own personal stories and reach their own audiences:

"I see it as some sort of democratization of expression – only a few people used to have the technology, skills and distribution platforms to tell their stories, so a few people told the stories to many people and with machinima, and even just mobile phones and things like Twitter and... there are more people having a chance to be heard and having an opportunity to tell the stories. So its, that's incredible, being part of the wave of empowering individuals to tell stories and to find audiences who are interested in their stories... its a great thing and to be part of that is fascinating and makes what we do a lot of fun." (GD1, games developer)

In summary, games developers value machinima in both direct and indirect ways:

- direct sales for machinima creation
- indirect sales through machinima viewed as game promotion on a range of channels
- product design and development through feedback via communities of machinima practice, some through dedicated platforms owned and moderated by games developers
- audience reach, beyond that directly targeted through traditional marketing techniques through machinima posted on a range of social media platforms

- cultural evolution, with impacts on gaming cultures that influence the consumption and co-creative (prosumption) practices of consumers eg., for sharing content, fan cultures, storytelling, filmmaking and digital art
- down-stream supply chain development through the integration of a range of viewing, sharing and streaming channels to market, some effectively providing an aggregation service of game related content that may then be used to support direct and indirect sales related activities
- up-stream supply chain development through the individual creative and technical skills acquired by machinimators who may then be employed or otherwise incorporated into activities, eg., beta-testing

In turn, games developers give recognition to machinimators through:

- rewarding machinimators with assets, prizes and money through competitions and in-game activities
- direct employment for games design and development, community management and audience reach related activities
- incorporating creative tools into game design that support machinimating practices
- adopting user-created assets and including them within subsequent iterations of gameplay, or by providing downloadable content
- promoting and/or sponsoring machinimators as power users, exemplifying works and highlighting excellent practices with the game, in some cases supporting 'celebrity' making
- collaborating with machinimators to support product development through panels and beta-testing
- appreciating machinima as creative work implicitly through informed viewing and explicitly by not enforcing ToS to the letter (and in some cases adapting their guidelines to encompass and/or encourage machinimating)
- enabling machinimators to monetize their creativity through channels to market

Other impacts on the creative industries and other sectors include:

- sensitivity to channel development and monetization, with implications for a broad range of UGC users through eg., community management, marketing, networking and product development practices
- launch and promotion of new channels that support machinima practices
- education, providing new tools and means to visualise experience beyond traditional text-based systems
- visual digital art, empowering users to become creators, share stories and reach audiences
- upskilling the workforce through development of transliteracy ie., skills related to use of a range of traditional and new media
- food for thought on issues related to intellectual property within a contemporary online cultural environment, for example, in seeking ways to express ToS that meet the needs of a breadth of game user groups
- implications of censorship and possibilities for classifying new media content on emergent popular channels

3.4 Digital Arts Curation

Curation of machinima sits across a number of cultural experience environments. Traditionally, machinima has been viewed as an online short film medium which has been subsequently showcased in film format in festivals. Increasingly, however, the genre is shown at galleries and through digital arts exhibitions in a video arts format. This section of the report therefore encompasses views from key informants who are curators across this spectrum of activities including festival organisers, digital arts curators and gallery directors. As in the previous section, research sought to understand the breadth of cultural values associated with machinima in the range of experience environments in which it is now exhibited and consumed, both in the UK and internationally. Themes relate to the impact of the genre on the cultural environment itself, that is its [not-for-]profit motive; the ways in which it develops audiences; the role it has in developing artists' creative skills; and, broader impacts across creative and cultural industries through collaborations.

Interviews highlighted the drivers for showcasing machinima, in some cases demonstrating the specific interests of curators themselves and others reflecting the cultural evolution of the genre and its creative context:

"I felt it was a democratic way of making films and accessible way of making films when you don't have, remember it was 2004, way before YouTube and smartphones, so its important in the storyline that all of these didn't exist at that time... Its kind of a middle ground between video games, animation as a puppetry and movie making for the script writing, and editing, so I was interested in that no-man's land and plus the fact it was some kind of grass roots way of making movies." (CFG15, curator)

"What we were concerned with was taking people's own material and feeding it back to them in a different form and relating it to other peoples material. So the interest, driving force, not to do with a particular content but the fact that it came from the people who were looking at it – it gave them a new insight and excitement into their own work." (CFG13, curator)

There is also recognition of the role of machinima as a grass roots digital art form, and how it is situated in the bigger 'picture' of appropriation and popular culture. These curators comment:

"machinima is reusing assets from stuff other people have made, reprocessing stuff from other people's websites, recording their own movies using assets from games engines, in a sense that was probably a faddish culture. I think that Minecraft mainstreamed it... Most people's experience of all the things we talk about within the arts, cultural and theoretical worlds are lived largely through first person shooters and the rest of it. We need to be able to create bridges because I'm not really at all interested in talking to art audiences just for... it needs to be much broader than that." (CFG19, curator)

"we are very much interested in that idea of organic creative communities arrayed around a new practice... For me [machinima] was a practice and a

technique. What was most interesting to me was how people created tools that didn't exist for utilising, and misuse things that did exist, to create something of their own based on material from popular culture. At the same time, we are following the world of mash-ups, cut-up media and appropriation within the moving arts..." (CFG4, curator)

and go on to discuss its historical importance:

"where it sits in digital, there are new types of vernacular curatorial which don't need the profession of curating because these are largely self curated communities... in terms of social preferencing, selecting filters via algorithms, we've got a new world ahead of us and machinima fits into a pioneering form of that which is really interesting... Clearly in terms of mod culture or mash-up culture, all of these go back to the 1930s, as a form of constructivism, or the notion of montage through cinema, or glitch culture, none of this is new, but just in terms of the widespread nature of digital technologies and doing things within an online environment, and sharing online, makes that pervasive." (CFG19, curator)

"Machinima has a very important part in the history of moving image and continues to exist albeit more commercialised and popularised. There are millions and millions of people consuming machinima and there are hundreds of thousands of people creating them. Would the [original] machinimators consider that to be the same thing or a version of their principals... from a curatorial perspective, especially a museum devoted to popular culture, it might now actually be harder to find it and that's because there is so much of it out there and it now becomes more of a needle in a haystack situation..." (CFG4, curator)

This curator also highlights the particular challenges faced in selecting works from the vast amount of material that is now available, as a consequence of its massive growth in popularity.

For some curators an important driver has been a passion for the form and not a profit motive for their activities per se:

"Money certainly wasn't a motivating factor in setting up our festival/showcase. Rather, we started our festival with two goals based on what we saw were needs in the wider community: one, we wanted to provide an event that would bring the disparate animation communities together to meet and learn from each other; two, we wanted to find the best possible animation work we could find and present it to the community in order to inspire and educate them." (CFG1, curator)

"Any money generated from this event goes back into improving the event. We do not take a profit, and feel this would be counter to the nature of the event itself." (CFG5 curator)

"... my end game in life is honoring stories worth telling, I say ok how do you collectively, well this is a global community, communicate. I think machinima being introduced has gotten very strange reactions the very first time and then we brought xxx [machinima community manager] in, who works at xxx [network firm], development and production, to give his side of things, just creative in general, to say this is another tool for you." (CFG8, curator)

This also suggests the difficulties in contextualising machinima to an unfamiliar audience. The format is unique, embedded within gameplay and unless the audience is directly involved with the specific games used for its creation, then it can be very difficult to communicate its values, as this curator further explains:

"You get the purists who kind of poo-poo it – that's not film, not a worthy category, what is that... its kind of like Japanese Anime if you haven't seen it before you just kind of go 'what's that'?! That's why emphasis on story is so important. Refreshingly, I've had a lot of people that its really cool. Again if I'm not really eloquent on defining machinima, other than its created using a games engine, I go to its bare source because I'm not equipped to speak on it so I think if people understood what machinima was or how they could apply it, I think there would be a wider audience." (CFG8, curator)

Further, curators often describe their role as educating audiences about the scope of the work and context of digital art:

"I'm educating people, so that way [by showcasing work] people will be forced to learn about it." (CFG8, curator)

"Its [machinima] shown strategically to various audiences when introducing Second Life to new groups [of students] for the first time. 3 or 4 selected machinima are shown at various points of a 1 hour talk to show the breadth of possibilities within virtual worlds." (CFG22, curator)

"it has to do with the visual aesthetics and the graphics quality... if people are used to seeing it on their computers, you could purposely show it on the big screen as a way of encouraging people to think differently about what it is they are seeing, even if a lot of them are seeing it every day in a [small screen] context." (CFG4, curator)

"Now machinima, as before video games, could be seen as a medium that we could use in art installations, interactive installations and cinema. I tried some machinima workshops inside art schools, digital media schools, and what is interesting to me is to see how a musician, an architect, an engineer can deal with machinima and do something else. That's why for me it is important to curate machinima exhibitions." (CFG16, curator)

Nonetheless, there is a cost to be borne in showcasing the work and in some cases this is covered indirectly through related activities:

"We are constantly seeking ways in which we can improve the quality and scope of the event, and money is naturally an important part of this, so we sell tickets and merchandise helps fund our activities." (CFG5, curator)

"I was asked to make a conference about machinima, so maybe about 2 hours long I was paid to prepare and expose the story of machinima, legal aspects, etc. that was linked to some kind of course I had about machinima. When I curated machinimas for a festival we had some kind of forum to help the selection process, so either I was being paid to select machinima so the festival could have a good selection..." (CFG15, curator)

Such comments allude to the challenges faced in profiting directly and indirectly from showcasing derivative works, where IP is a recognised issue in remix, appropriation and machinima cultures. These curators describe the nature of the challenges faced:

"As the industry stands, I believe profiting from an event of this nature is a minefield, as copyright issues are present in all aspects of machinima. There are so many hands involved in the creation of a machinima video, from the game developers to the publishers, machinima writers, voice actors, modellers / animators / programmers etc. depending on how the video is produced. These copyright issues need to be addressed, explicitly approaching the idea of monetisation, before machinima producers can profit from their creation, let alone event organisers such as myself." (CFG5 curator)

"... the projections were entrance free. No one made any money, especially the players or organization and when I worked with festivals or larger organisations, they took care of this part by asking the French representative of the game producer if it was OK to show 3 or 4 machinimas made from the games they were distributing in France. Since the festivals were already sponsored by the distributors or publishers, we never encountered a problem, especially the festival about gaming... interaction with publishers and games developers was a formalization to project machinimas, then for the music industry I don't think we really got into [legals] because, as you know the music industry doesn't really like what is going on with MP3 exchanges and not paying for music... so we ask if it is possible to project a movie that does not use that segment of music... the festival states that it then has the rights to show the content. But we have to ask publishers..." (CFG15 curator)

"We can show anything – we are not for profit, we are educational and it falls very clearly under fair use and if someone chooses to ask us to stop showing something we'll say OK!... it would be silly for us to censor work." (CFG4, curator)

Curators talked about the ways in which they showcased the work, often reflecting the significant challenges in presenting the form in a different way to its usual home view, small-screen (computer) environment to a collectively consumed social and large-scale experience. This includes cinema and gallery environments:

"For the first festivals I was interested in the machinimas as a new way of telling stories or telling different stories... I was really looking at all the stories if they

were stories, how it was written, the voice acting, the camera work, editing, the work on the sound and music, so for me I would consider showing a machinima it was a movie if it had all the aspects of a movie, so I could watch it as I watch any kind of movie with real life actors or 2D drawings or whatever... I think actually YouTube is the natural environment for machinima, it is the first place to post your machinima... it is not fitted to be shown, projected, except maybe in your own house with a video projector, but the right place for the filmmaker to share that machinima, and for the people who like it to see it, is on the web.” (CFG15, curator)

“I hire a section of a cinema which allows us to showcase machinima in a format that it is rarely ever seen – on the big screen!... [but] machinima is currently a ‘bedroom art form’... When it comes to showcasing machinima on the big screen, you have to consider the fact that machinima is by nature intended for relatively small screens. This means that older / lower resolution content is often not an option, as quality issues become very apparent when it is blown up for the big screen.” (CFG5, curator)

Other challenges relate to the material and its substantive content or message, as a creative medium:

“There are quite a few challenges – one is the editorial control which in a sense you are completing giving over but certainly in a public context you cannot afford to give over because of the ethical and legal constraints on what can be shown and so there is this conflict between providing the opportunity for people to show their own content, whatever they want and constraining what they might provide.” (CFG13, curator)

whereas other challenges relate to the audiences access to the work and creative form being showcased, particularly so in the early days of showcasing machinima, say 2005-2010:

“For our particular community, we believe showcasing a season of one show, and a selection of shorter content at the beginning, middle, and end worked best, as they can easily drop in and out, but also have the opportunity to discover some new content...” (CFG5, curator)

“For the people who were already inside the gaming culture and maybe had already seen machinima online, it was some kind of enchanting experience. So they enjoyed the machinima and maybe more because it was on the big screen. But for the people who discovered machinima for the first time, I think they had a hard time to enter the movie, to connect with the movie because of the crude aspect of the picture. For a person when you go to see a movie and there is a strong aesthetic choice like when you translate a comic into a movie it should grab you and resonate with the story. In machinima it was really hard for the people because they had no clue about the world that was used to make the movie but for the gamers they already recognized the world of the game, eg., Halo®, Sims®, etc., but for people who weren’t playing those games they

couldn't understand why it looked like this. So, it acted as a filter. Sometimes when people weren't interested in artistic movies or experiences, they thought it wasn't really for them. So there was kind of a double barrier." (CFG15, curator)

"we've not gone back to machinima festivals... we'll still be part of that history - maybe once its in a museum maybe it is over! That of course is not true, but its kind of the idea that museums can legitimate something out of existence. We will by exhibiting it in some way we kind of kill it as a grass roots activity but we're not the Metropolitan Museum of Arts so we do our best to make sure that doesn't happen, that we are part of, contribute to the blossoming of the community rather than the cultural appropriation of the work." (CFG4, curator)

The latter comment also alludes to the subversive values associated with the work and the role of the cultural environment in promoting community rather than aesthetic.

Whilst curators discuss the selection of more popular works to enthuse a local audience, as the genre became more popular (a consequence of growth in streaming and viewing services), so the role of curator has changed to reflect the greater familiarity and increasing accessibility of the work:

"I selected some machinimas that were already popular in the US and English speaking world and proposed to subtitle the machinima in French... At the time, YouTube was starting to grow and we reshaped [our website and then] we stopped subtitling..." (CFG15, curator)

"... we have an in-built community of machinima fans. Seeing as we grew out of the xxx forums, we naturally have a love of machinima, and the gravity around this is allowing us to slowly build connections with other machinima communities, further expanding the scope of our event as a whole. Our event is annual, and as such we need ways to keep our event fresh in peoples' minds throughout the year. The regular release of content from a number of machinima producers allows us to do just that. Typically the showcase of material at our event isn't to show off new content, but a celebration of our mutual love of a particular producer, and seeing the fans in a room together reinforces the connection between community members." (CFG5, curator)

"We are interested in the commercial exploitation of machinima that has occurred because when Google buys Twitch TV for as many dollars as it has then there's a business there, but a lot of [machinima] has evolved into something a little bit different... I don't see it as an artistic medium or practice, in terms of what people are doing now [vis Twitch] although my kids do... its like a communal experience, as people are going along with someone who knows what they are doing, its like a tour guide of people taking you through different spaces and these people become celebrities." (CFG4, curator)

A popular theme is, however, the role of the curated experience in inspiring visitors, whether that be to become directly involved in creating machinima or developing their understanding of the creative and cultural context in which the work sits:

"We work hard to choose films and programming that we believe are inspiring and useful to our community... [there is an] audience of people who either know about machinima and are intrigued or who want to make animated movies but don't have 2 years to learn. Machinima allows you to be a filmmaker in a few weeks. Perhaps not a great filmmaker, but you can make a film that quickly." (CFG1, curator)

"we said to the artist that it may be too much because its playing in an open gallery, we didn't plan to put it in a special environment... so xxx, luxury products manufacturer, commissioned a piece without that scene and we elected to show it, with [artist's] consent, we showed that version." (CFG4, curator)

Although this is problematic when acknowledging that machinima is primarily an internet based genre, apparently dominated by streaming services:

"Since Machininima.com has become essentially the brand for ALL machinima, many filmmakers and potential machinima filmmakers are turning either to isolation within their community (Second Life© for example) or to other forms of animation that don't have the M.com black hole sucking at them. Since M.com serves primarily young men from 15-24, other genders and age groups often are alienated by the machinima produced by M.com and are turned off by the massive amount of hype and promotion in the online community." (CFG1, curator)

In order to overcome game-related legal issues such as those associated with commercial gain from copyright (encompassed by games' EULAs) or music aspects, curators have taken an active role in promoting good practice. The curators discuss a focus on those games that actively support machinimating, and also highlight a perception of increasing exploitation by games developers:

"Machinima is/was the sole focus of our festival until this year. We focused on the machinima communities that were clustered around games that supported machinima, virtual worlds that gave the machinima filmmaker tools to make films and the wider real-time/3D animation communities." (CFG1, curator)

"... when people ask me about the legal problems surrounding machinima its now that the game companies are using the creation of the community to make money instead of speaking about the problems of using the game assets to create a movie. I would rather say that my concern is that people who are making machinima should get IP for their works." (CFG16, curator)

Positioning the work culturally is clearly a particularly important aspect in providing a space for an audience to consume the work in the public realm. Whereas some curators do this as a consequence in recognition of the force of an emergent new creative theme, others position the work in a broader artistic context:

"since the MOMA took some games into its design collection, all the French cultural structures said we have to interest ourselves in games – we have to find a way to make games interesting and machinima is one of the ways because

machinima is also, for example, the workshops, it's a way to consider games as something else because you can make something different." (CFG16, curator)

"... it was interesting to see what people were making or took advantage of the mobile phone as a medium, and as a specific way to tell stories. So, I felt machinima was something like this so we could tell different stories using different pictures, it was something that I had in mind that motivated me, I was certain that it would become an acceptable technique like 2D or 3D animation or puppet, volume animation, or film, acceptable technique from the audience to see a movie we would not talk about machinima as a kind of film but we could talk machinima as a kind of technique." (CFG15, curator)

"... in engaging them in actually providing material by making them more engaged in the material. If you like the whole philosophy goes back to the 1960s art world of having the audience as an active participant in the creative process. That's what we tried to achieve." (CFG13, curator)

This comment also highlights the relationship between the machinimator and the curator, and emphasises the interaction between the audience and the work:

"... the relationship between the audience and the work is so much stronger because they've actually contributed to that work... people who had some reason to be interested, experts in art and interactive design..." (CFG13, curator)

Therefore, there is a natural audience for the work in those who are most closely linked to its origins ie., games players and machinimators, yet as highlighted in the previous sections, this is a rapidly growing and evolving market context now extending well beyond its young male niche, facilitated by new types of games, social-ware and streaming services.

A key role of curation for this medium is to providing audiences with an opportunity to engage in dialogue with them – this is central to the machinima movement online and evidently an aspect that curators seek to incorporate in the creation of their offline experiences too. The challenges have already been highlighted and these curators further expand on the difficulties in communicating with audiences, and the audience reactions to machinima:

"We didn't get back the strength of engagement that we were looking for but I think that's because we didn't go far enough, meaning fun because people liked it, and that was good, but whether people would become engaged in the way that people are wedded to Facebook is another matter. That's what we wanted to achieve... the technological advances now have reduced the effort and it has become more normal now." (CFG13, curator)

"... what I saw in public projection was that the audience was already interested in the game, they were mostly gamers, and the people who were told that we would project movies using games felt that it was about video games and therefore it was 'not for me'. Its kind of hard, and its still hard today for all the people who are trying to make movies who cannot reach the audience because there is a stamp of a video game on machinima." (CFG15, curator)

"... it has inspired and entertained many in the amateur and pro machinima industry. We've tried many times to interest the general animation community, but machinima has an 'amateur' cache that is hard to break." (CFG1, curator)

whilst experiences gained provide the basis for developing future plans for expanding audiences:

"This year, because of a declining amount of machinima submissions, we are opening up the festival to all forms of animation, although we are keeping the styles/techniques separate in our awards." (CFG1, curator)

"The feedback has been overwhelmingly positive, and this has encouraged me to do more... The xxx website has over 2 million members, and London is the 2nd most populous city for xxx fans. With this in mind, we are setting up a secondary London-based event in 2015, and using this as a way to springboard to a larger community. With let's plays, live streaming, and a new generation of capture devices and consoles, machinima will only continue to grow. Having the facilities to produce machinima built directly into the consoles will only serve to reach the mainstream gaming population, and increase the reach and understanding of machinima as a whole." (CFG5, curator)

In discussing the sustainability of audiences for machinima within a curated environment, curators also describe how the community of practitioners is perceived to have evolved from a focus on creativity to a focus on attention seeking for celebrity status:

"What happened in the last year is that some machinimakers really got an audience by making a lot of movies and a lot of good movies, really good, as a movie and as a machinima. They grew an audience then it was cool for the people who went to the festival to meet the machinimaker. It became, thinking particularly about xxx who made a lot of films in WOW©, he became some kind of a star. What was interesting is that these kind of machinimakers inspired people to get into machinima but they were less interested in the actual value of machinima they were making than the fact that they could gain attention from other people... What was strange is that if they didn't get attention from people they stopped making machinima and they moved to another kind of expression... maybe it's a larger question about how young people relate to their future today." (CFG15, curator)

Thus its reach and impact through curation also has impact on other creative sectors, such as other media formats and peripheral service providers. This has, for example, been recognised by games developers and machinima tool makers who take various roles in supporting curated activities, such involvement often being orchestrated by the curators to reflect their goals in showcasing works:

"We do solicit sponsorships and occasional programming from those sponsors. They are chosen by how much they contribute to our twin goals of inspiring and informing those who attend our festival. The quid pro quo is that we provide

advertising and list them as sponsors. These businesses are software companies primarily who have direct interest in the machinima community... Almost all of the industries value machinima highly as their software is directly connected to machinima and it's audience..." (CFG1, curator)

"The industries we were collaborating with were companies like xxx and imaging companies and so on, and the collaboration was very much at the senior level... there was sponsorship involved but the point of the collaborations was the discussions that we had about what to do and what directions and what would matter." (CFG13, curator)

Whereas other curators see their role as one of collaboration with external partners to legitimise sponsorship, for example, seeing the artist collective as best positioned to generate commercial backing. Such a view highlights the importance of the relationship between the cultural organisation and the artists:

"we helped enable xxx to be able to get the funds by working with them on promotional materials and lending our legitimacy... we provide a very important public service that helps [artists] because, what's the point of all this work being made if people don't see it. So for us there is an artist service angle to what we are doing but its through a mediator, an organisation that's focussed on the makers and artists..." (CFG4, curator)

Its impact can now also be seen in support for machinimators through a range of activities beyond merely showcasing work. For example, tutorials, workshops and director/producer led presentations; residencies for artist development and curatorial experience in digital arts; sale of works and related promotional activities:

"I was [subsequently] asked to make a conference about machinima, so maybe about 2 hours long I was paid to prepare and expose the story of machinima, legal aspects, etc. that was linked to some kind of course I had about machinima." (CFG15, curator)

"Although we don't emphasize the commercial aspect of machinima filmmaking, we often have programming that informs and encourages filmmakers to create media that can be sold. We tend to focus more on the craft and art of filmmaking, rather than the commerce side." (CFG1, curator)

"We are actively involved in cross-promoting creative individuals, and in doing so, facilitate the creation of collaborative projects. We offer whatever resources we have available to us, such as voice actors and puppeteers, however our focus is to provide the opportunity to showcase work to an audience. We provide the space, and it is very much up to the content creators to fill it." (CFG5, curator)

A particularly important consideration is also noted in curators understanding of the commercial realism of their creative and cultural industries context. There is clearly a need to ensure that artists' work becomes commercially viable, without which there is likely to be a detrimental impact on all stakeholders. Curators see their role primarily as

one of legitimising the work, and through this process supporting artists' careers by enabling them to develop their personal brands, providing a forum to gain recognition and a tangible outlet for their work:

"We're focussing on artist exhibition, there are other organisations that fund artist based work so we want to make their work better known to people through our forms of presentation and that certainly helps their careers... Sometimes we'll collect their work, put it into our collection obviously in collaboration with them... xxx [artist] was able to sell [his work] through a gallery for lots of money which is a great creative way for an artist making this sort of work to find a way to commodify their work and thereby make a living." (CFG4, curator)

"Indie games developers often make reference to the art world from the 19th century and its obvious that they don't know and are not interested in what media artists are doing right now – and artists don't know about games and don't know how to create games... I want to show the evolution of gamers because before you had game artists working on the idea of games but not really producing games and right now you have more and more artists who use machinima or games for only one or two works they do and then they use something else. So you now have more artists that use machinima as a medium, in between many others, but you can't speak about them as game artists anymore – its become more of a tool and its not the only way of expression." (CFG16, curator)

and with some evidence of their success in supporting its current status:

"I went to a presentation by xxx [co-founder of AAA game developer], who had never been to the museum but who used it as an example of where entertainment was going. He took a screen grab of our website, and talked about it in front of 1000 people – I was really pleased, that's us! So there you go, I sent an email to xxx [machinimator] saying zeitgeist hereby effected. To really effect culture is why we are in business so if he's been influenced by this sort of thing and is incorporating it into his presentations then that's a good sign, more so than any press or public conversation." (CF4, curator)

"... if you compare the ones who follow the channels on YouTube and the ones that are coming to our festivals, for example, there was a machinima festival in France, they had to stop because they couldn't find the audience. But for the xxx festival there is no problem, they come for the festival itself and they know they will have some machinima and so there is no problem to make them come. For the workshops, its also easy to get the audience because when you explain you can make movies with games they like it and come along." (CFG16, curator)

This curator also goes on to highlight the future goals for machinima exhibition and showcases:

"I think that not all the relevant industries know about machinima yet so we still have to push it. There will in future be bridges between worlds of theatre and

music, dance and architecture perhaps engineering, the more we will see how machinima can be used as a tool and not only as a narrative tool. I don't think machinima is only that. For sure there is a future." (CFG16, curator)

In summary, analysis of curators interviews highlights a range of values associated with increasing accessibility of cultural offers, expanding audiences, building the sustainability of cultural businesses and broadening their impacts on creative industries sectors:

- supports sustainability of cultural offer by adding to programmes which generate footfall into the organisation, resulting in direct income from ticket sales and indirect income, say through concessions and peripherally related content;
- provides a forum for critical debate about machinima creative work, particularly by contextualising it in a wider digital arts programme, including the legal and political considerations in machinimating;
- expands audience reach for the digital arts offer by recognising and promoting machinima as a popular cultural phenomenon and thereby develops the gallery and museum space as an accessible experience environment;
- educates audiences, especially those unfamiliar with emerging socio-technological cultural and creative practices;
- provides a focus for developing networks and building the relationship between creative and cultural industries.

4. Conclusions

This research has found cultural values that have benefits for machinimators (artists and creators of machinima), games developers and cultural industries. For machinimators, these constitute development of a broad array of personal skills related to contemporary digital arts practices, marketing and outreach, income generating and societal impacts. For games developers machinima contributes to their profit motive in direct and indirect ways, through sales and product development, audience development, supply chain enhancement (incorporation of machinima skills into business activities), and by raising an awareness of the broader implications of games cultures beyond the immediate reach of the game. For cultural industries, through showcases and exhibitions of machinima, curators have identified a wide range of interest in the work that highlights implications for curation of such types of digital art as well as the ways in which it has enhanced audience development and supported achievement of cultural strategy. The perspectives collectively highlight the cross-cultural and international potential of machinima and its ability to make celebrities out of games players and users, and build audiences for games brands. The discussion now focuses on the areas of specific findings that have important implications for future cultural developments. In summary, these are:

- machinima is an important genre of digital art that is converging with filmmaking and other creative media in the finished quality of the work, yet remains unique in its mode of creativity and has value as a performative medium;
- the originality and authorship of machinima work needs to be recognized and respected by games developers and streaming channel owners in particular;
- the legal framework for digital cultural practices such as machinima is out of touch with stakeholder needs, and does not fully recognize the roles of co-creation between actors (content creators, creative and cultural industries) in creating cultural and economic value;
- the nature of the virtual as contemporary 'experience environment', often evidenced through machinima works.

Findings highlight the evolution of machinima and its growing adoption for creative expression by games players and fans, amateur filmmakers and professional artists, and for hybrid professional practices including teaching and learning. At one end of the creative spectrum, there is increased use of the technique to support dissemination of gameplay and game related activities, which has now evolved into a significant online movement evidenced through the development and growth of networks such as MachinimaTM and Twitch, underpinned by platforms such as YouTube and Vimeo. This category of fanvid machinima makes up the vast majority of content online today. The quality of the work, however, is growing exponentially, aligned to the use of machinimating tools included within games, gaming devices and also production tools provided alongside games play. The consequence of this is a growth in high quality content receiving critical acclaim from within and outside communities of interest and practice, including creative and cultural industries.

One of the significant challenges faced by machinimators is in generating interest in their work, made difficult because of the sheer volume of fanvid machinima and current dominance by a small number of distribution channels that are, in turn, focused predominantly on gaming and gameplay. This trend is set to continue as 'professional gaming' (sometimes referred to as esports) continues to develop apace, again evidenced by recent channel takeovers (eg., Twitch by Amazon) and the further investments made by games developers in gameplay events emphasizing live viewing and replay machinimas. As such, machinima is a games culture embedded phenomenon. It is difficult, for example, for non-game players to understand fanvid (including replay) machinima unless they are themselves players of the specific games. Games developers clearly value this content primarily in its collective form through subscriber channels and segmented distribution networks – machinimas become a tangible and continually updated stream of recent gameplay that effectively acts as a promotional tool demonstrating brand presence, game playability and community engagement. The value of machinima for games developers and publishers is therefore significant in terms of cost-benefit for target market penetration and community development. For individual machinimators, the focus in creating fanvid machinima is primarily on building personal reputation and status.

In contrast, creative machinima, which is valued both for its game content and the artist's creativity in developing story, character, scene, etc., has capability to extend the reach of its core game environment to new audiences including non-game based. The findings suggest that artists see themselves as creative professionals with a unique skillset, made possible through the complexity of games culture as it increasingly embraces new technologies such as augmented and virtual reality. Creative machinimators are, for example, often thought leaders in their genre, testing boundaries in creativity by combining digitally enhanced (virtual) experiences with advanced filmmaking and animation techniques to showcase novel work that cannot be made in any other way at present. From an aesthetic and viewership perspective, such machinima appears to be converging with traditional animation yet creatively the skillset is more contemporary and diverse, and will continue to be so as machinimators often seek to remain at the forefront of developments in their chosen creative matrix.

What is contentious in these planes of creativity is the fuzzy ground of ownership of, and values placed upon, machinima works. Games developers articulate their terms of service precluding machinimators from generating commercial interest in their work. Yet in this research games developers interviewed acknowledge that IP cannot be claimed because their game content is freely available and actively supported through various channels of distribution including machinima. Further, many include in-game tools that enable and facilitate gameplay capture and replay – and even if they do not, if they are playable through devices such as XboxOne™ which incorporates record and upload functions to streaming services, then there is an implicit acceptance that replay machinima will be created and shared. It is not their intention to limit machinima that achieves direct and indirect financial returns for the firm, irrespective of how the machinimator benefits from their work. Indeed, this research suggests there is a 'hidden' business strategy in play, situated in the fuzziness between games developers' rhetoric and practice and cultural development of machinima: despite the very large number of machinimas, it remains a largely 'underground' movement – works are often produced against the rhetoric of terms of service that precludes such activity and gamers themselves often create machinima with a view to generating audiences. Machinima becomes attractive because it is perceived to be illicit (if not 'illegal') and therefore intriguing to participants yet by legitimizing machinima, games developers may unwittingly stifle their most important marketing activity ('The greatest pleasure in life is doing what people say you cannot do' Walter Bagehot). Thus, games developers implicitly promote machinima activities, do not clarify terms to match practice, or censor work, and indirectly support machinimators by negotiating access to audiences through key distribution channels and directly support machinimators through sponsorships and 'shout out' promotion of individuals. In some instances games developers may even claim and brand the original ideas of machinimators. This is an interesting opportunistic co-creative process that demonstrates a symbiotic and exploitative relationship between machinimator and games developer. It further leads to a new understanding of the role of machinima and community as a form of games development practice – this extends beyond the concept of 'power-users' commonly associated with product beta testing. It also highlights that the current legal framework is considerably out of touch with this form of contemporary digital arts practice, where sectoral growth, research and

development is culturally embedded in co-creation and participation of user communities.

The concept of community as 'experience environment' for creative works is also highlighted in this research. The growth of internet channels showcasing machinima illustrates the demand for the medium, yet the machinima phenomenon has 'grown out' of the internet and is now actively promoted in gallery and festival activities. This is not without challenges given that screen formats and audience expectations of participation are quite different. Nonetheless, community is central to machinima – it embodies the game, games culture, creative values and the ways in which these are exchanged among community members. Curators therefore act as the third leg in a relational triad with machinimators and games developers, effectively legitimizing machinima as a creative endeavor by recognizing and showcasing the work. In showcasing machinima in a range of modes, curators contextualize and situate it within the wider sphere of digital co-creative arts practice. Whilst it is difficult to determine whether they capitalize upon the expanding movement or popularize it through endorsement, this contextualization nonetheless increases accessibility of the work to broader audiences. Whilst games developers appear to be slow in recognizing the value of these channels, creative machinimators are evidently keen to associate themselves with galleries and festivals that afford them access to a growing yet critical audience albeit they are reliant on curatorial expertise in digital arts genres. It is evident that there is, however, little consensus on curatorial practice for this kind of work, particularly in its positioning and relationship to more established digital arts practices (such as those explored by the recent exhibition 'Digital Revolution', Barbican London, 3 July-14 Sept 2014). Interestingly, research findings indicate curation follows two distinct paths related to gaming cultures and aesthetic practice. Both of these are understood through an increasingly engaged audience familiar with games and games related art, now formed into a community of followers.

Furthermore, community is an ever-present environmental factor when experiencing machinima. Its participation is central to the virtuous cycle of creative and distribution processes adopted by machinimators, evidenced through feedback on social and streaming networks. The machinima community therefore exists on and offline simultaneously, crosses multiple platforms and is both virtual and tangible. Audience awareness of their role as community of interest and practice serves to reinforce creative values. Curators often explore the ways in which community is engaged with showcased and exhibited works, but increasingly they recognise that machinima is a self-curated medium and seek to explore how the role of audience may be extended or developed in the gallery and museum context.

In conclusion, machinima has emerged from games culture and has a unique aesthetic quality that is now converging with the wider sphere of digital arts practice. Research findings highlight cultural values for all stakeholders, including individual machinimators, games developers, curators and communities of interest. Research intimates wider implications of the machinima movement in terms of growth of channels such as Machinima™ and Twitch™ and the emergence of new segments of games players that

seek to monetize their activities through fanvid dissemination; a potential for new applications of machinima including teaching and learning, knowledge exchange, and 'documenting' virtual experiences in game contexts, as well as hybrid cultural experiences particularly focusing on performance.

Appendix 1: Research Methodology

Cultural value is an inherently qualitative proposition and the research design selected was deemed the most appropriate for gaining a rich insight into the focal phenomenon. Semi-structured interviews have been conducted with key informants within communities of practice (machinimators), creative (eg., games developers) and cultural (eg., digital arts galleries and festivals curators) industries. Interviews have been transcribed and analysed for key and emergent themes using content analytic techniques.

The methodology has also used virtual focus groups, conducted within the 3D virtual environment of Second Life© as a means to engage groups of active machinimators in an open discussion of their creative processes. The focus group interviews were conducted within machinimators who work with different game contexts in order to inform an understanding of the ways in which machinimators use the different creative environments. Each focus group was recorded and analysed using narrative and content analytical techniques. Selections of the focus group interviews were subsequently edited together to produce a digital machinima artefact of the events and research activities. The machinimas have been posted on a project website, with appropriate permissions from research participants.

In addition, data has been drawn from a wide range of online community fora, including traditional social media networks and specialised gaming and machinima community networks, including both open and closed networks. This data has been analysed using a 'netnographic' approach (internet based ethnography, see Kozinets, 2010).

Finally, cultural analysis of recent machinima films has been undertaken to inform evaluation of skillsets, participation, social and cultural exchanges, genres of content, media and channels used for dissemination of identified works.

Analyses of data together with cultural artefacts illustrating key findings will be published on a project website which has been developed to host critical analysis and commentary, including invited posts from key stakeholders (machinima community members, games developers, digital artists and film-makers).

Appendix 2: Research Artefacts

As part of this project, a series of 4 short machinimas have been produced which illustrate the machinima medium. The machinimas are excerpts from recorded focus group discussions, analysed as part of the research processes, which took place inside the virtual environment, Second Life®. These have been produced for the project by Turn Page Studios. Films are linked via the project website, see www.machinima.dmu.ac.uk

1. Machinima & Me



2. Future of Machinima



3. Barriers to Machinima



4. Machinima Community Creators



Appendix 3: Project Website Snapshot

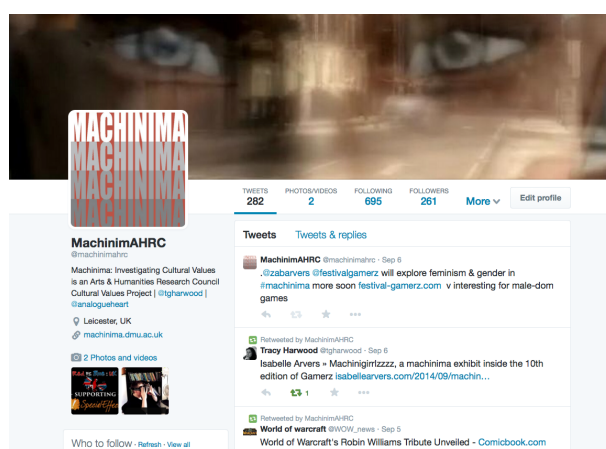
This project has been published through a dedicated project website, see www.machinima.dmu.ac.uk, supplemented with a Twitter account, @machinimAHRC

The snapshot of the website was taken as at 8 September 2014. During the life of the project, the Twitter account followed 695, acquired 261 followers and tweeted 282 times.

www.machinima.dmu.ac.uk



@machinimAHRC



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The Cultural Value Project seeks to make a major contribution to how we think about the value of arts and culture to individuals and to society. The project will establish a framework that will advance the way in which we talk about the value of cultural engagement and the methods by which we evaluate it. The framework will, on the one hand, be an examination of the cultural experience itself, its impact on individuals and its benefit to society; and on the other, articulate a set of evaluative approaches and methodologies appropriate to the different ways in which cultural value is manifested. This means that qualitative methodologies and case studies will sit alongside qualitative approaches.