

**The  
Spatiality  
of  
Community  
in the  
Digital Age**

**2014**

**A Furry Case Study**



**Keele  
University**

GEG-30006:  
Geography  
Double Dissertation

Student ID:  
11005305/01

Submission Date:  
21/03/2014

Word Count:  
10,910



# The Spatiality of Community in the Digital Age

---

## *A Furry Case Study*

**GEG-30006: Geography Double Dissertation**

**Student ID: 11005305/01**

**Submission Date: 21/03/2014**

**Word Count: 10,910**



**Figure 1: Furries at Anthrocon 2013 (McFarlin, 2013)**

## Abstract

This project investigates the spatiality of digital community through the use of a case study on the Furry Fandom. Given the lack of geographic literature on digital spatiality it relies on work from other disciplines, supported by geographic theories of relationally constructed social space. The Furry Fandom is a predominantly digital community that has strong ties in physical space in the form of its convention culture, resulting in a more focused relationship between physical and digital space. The research was conducted using a survey and individual interviews with members of the community who were accessed through the community's digital spaces, since this gave access to the largest possible sample population. The technologies which enable the existence of digital space have enabled the Furies to exist since they provide a level of distance which allows individual's constructed fursonas to come to the fore, interact and form community space. A combination of relational space theory and the spatial triad is used to illustrate the formation of the social space of the Furry community both within the physical and digital. The study's overarching conclusion is that community social space has become much more imagined and abstract.

## Acknowledgments

An enormous thank you to all those who took part in this research, for all the time and effort spent as well as the willingness to share their own experiences with me. Special thanks must go to Courtney "Nuka" Plante and the IARP research team who gratuitously let me utilise their past research data. To Laurence "GreenReaper" Parry for promoting this project on the Flayrah news site, which resulted in an additional number of Furrries taking the survey and making themselves available for interviews. I must particularly thank Dr Sarah Clemerson who read through my dissertation, from a fresh perspective, and without whose insight the quality of the semantic structure would have been much lower. My unending thanks must go to Aanna Barard, who has been working with me on this project since before its conception, helping with grammar, structure and acting as devil's advocate to really make me think. Penultimately, a particular thank you must go to my supervisor Dr Deirdre McKay, who has put up with my disjointed and non-linear writing style throughout this project, always offering encouraging advice. Last but not least, I should like to thank the residents of 9 Poolfield Avenue for being 'supportive' and also for their seemingly unending supplies of cakes.

## Table of Contents

Abstract.....	4	Appendix 1: Glossary .....	49
Acknowledgments.....	5	Anthrocon .....	49
Table of Contents.....	6	Con Badge .....	49
List of Figures .....	7	Convention (Con) .....	49
List of Tables .....	7	Flayrah.....	49
Introduction .....	8	Furaffinity (FA) .....	49
Literature Review.....	10	Furmeet.....	50
Digital Geography .....	10	Furry Fandom.....	50
Furry Identity &		Furry (Fur), Furrries (Furs) .....	50
Animal-Human Relationships.....	10	Fursona .....	50
Digital World: Territory,		Fursuit, Fursuiter, Fursuiting.....	50
Community & Identity.....	13	Appendix 2: Methodology Details .....	51
Space & Place.....	15	Establishing the Topic, Aim & Objectives.....	51
Social Capital & Consumption Online .....	16	Case Study Justification.....	52
Cross-Boundary Integration .....	17	Appendix 3: Survey Construction.....	53
Literature Review Summary.....	18	Appendix 4: Survey Analysis Justification ....	54
Project Methodology Summary .....	19	Pearson's Chi-Square Test.....	54
Primary Collection.....	20	Simple Correspondence Analysis .....	54
Survey.....	20	Mann-Whitney Test .....	54
Interviews.....	21	Concept Space Similarity Test.....	55
Secondary Collection .....	23	Appendix 5: Mark Three Survey Coding .....	55
Ethnography of Furry Digital Media.....	23	Appendix 6: Survey Results.....	56
International Anthropomorphic		Mann-Whitney Test .....	59
Research Project (IARP) .....	24	Concept Space Similarity Test.....	60
Case Study of the Furry Fandom.....	25	Appendix 7: Initial Interview Questions.....	65
Furrries in Digital Space.....	25	General Profile .....	65
Separating the Fursona .....	26	Appendix 8: Sample of Interview Coding.....	66
Technological Distancing .....	28	Appendix 9: ES's list of	
Furrries in Physical Space .....	29	Organisation Methods .....	69
The Fursuit .....	29		
Organisation through Social Networks	29		
The Significance of the Convention .....	31		
Global Furrries.....	33		
Results & Case Study Summary .....	34		
Discussion .....	35		
Relational Space.....	35		
Code/Space .....	37		
Topology of Online Space .....	39		
Interface Space .....	39		
Social Space.....	40		
Metaphorical Space .....	40		
Example of Application .....	41		
Conclusion.....	43		
References .....	45		

## List of Figures

Figure 1: Furrries at Anthrocon 2013 (McFarlin, 2013).....	3
Figure 2: What is a Furry by Phillip M. Jackson (WikiFur, 2014) .....	8
Figure 3: A Furry at Anthrocon showing fursona con badge's (Acrufox, 2012).....	8
Figure 4: IARP Logo (IARP, 2013). .....	24
Figure 5: The Furry behind the screen (IARP, 2013).....	25
Figure 6: An illustration of Furry identity perception (IARP, 2013).....	26
Figure 7: A Furry in a fursuit at Anthrocon (McFarlin, 2012).....	29
Figure 8: Advertisement for a San Francisco Nightclub (Frolic via PH, 2014). .....	30
Figure 9: Anthrocon Attendance over the years (WikiFur, 2014).....	32
Figure 10: Highlighting the spatial distribution of Furrries on a world map where individuals have marked their locations (FurryMap.net, 2014).....	33
Figure 11: Dealers stalls at Anthrocon (McFarlin, 2013).....	36
Figure 12: Furry convention space interacting with the city space (furryfandom.info, 2014). .....	36
Figure 13: FurAffinity's website homepage (WikiFur, 2014). .....	41
Figure 14: Simple correspondence analysis of the use of online community sites. ....	56
Figure 15: Simple correspondence analysis of social activities.....	57
Figure 16: Example concept space hulls.....	61
Figure 17: Example concept space similarity plot.....	61
Figure 18: All respondents' concept space hulls.....	62
Figure 19: All respondent's concept space similarity plot.....	62
Figure 20: USA respondents' concept space hulls.....	63
Figure 21: USA respondent's concept space similarity plot.....	63
Figure 22: Non-USA respondents' concept space hulls. ....	64
Figure 23: Non-USA respondent's concept space similarity plot.....	64

## List of Tables

Table 1: Aim and Objectives .....	19
Table 2: Survey statistics.....	20
Table 3: Assumptions, Accuracy & Risk for Survey Data.....	21
Table 4: Interviewee information .....	22
Table 5: Assumptions, Accuracy & Risk for Interview Data .....	22
Table 6: Ethnographic Sources .....	23
Table 7: Assumptions, Accuracy & Risk for Ethnographic Data .....	24
Table 8: Assumptions, Accuracy & Risk for IARP Data .....	24
Table 9: Do you consider yourself a Furry? .	56
Table 10: Please rank what you use the online communities for, 1 (most) to 4 (least).....	56
Table 11: How often do you organise meetings with people in real life via such sites? .....	57
Table 12: For each social activity please select which medium you predominantly use? .....	57
Table 13: Descriptive Statistics: .....	58

## Introduction

This research examines the interaction between digital and physical space, as used by the Furry community, also known as the Furry Fandom. To function optimally this community is reliant on its presence primarily in digital space and secondarily in physical space. Gerbasi et al defines Furrries and the Furry Fandom as:

*A Furry is a person who identifies with the Furry Fandom culture. Furry Fandom is the collective name given to individuals who have a distinct interest in anthropomorphic animals such as cartoon characters. (Gerbasi et al, 2008, pg 198)*



**Figure 2: What is a Furry by Phillip M. Jackson (WikiFur, 2014)**

The Furry community's social exchange between the digital and physical worlds makes them an ideal group to study when attempting to understand the spatiality of community in the digital age. Digitally Furrries exchange social capital, on sites such as FurAffinity, in the form of artworks, literature, and general social communication. Furrries also have a strong offline presence. This consists of global-scale, central community conventions containing scheduled event, attended by large numbers of Furrries such as Anthrocon, and informal local scale furmeets, which are more focused on meeting people.



**Figure 3: A Furry at Anthrocon showing fursona con badge's (Acrufox, 2012).**



A digital setting was chosen since, given the online presence of Furies this was the most accessible and easiest format for the community.. A case study approach was used, formed from a survey of over 100 community members, interviews with 16 Furies, and ethnographic study of the community drawing from public sites such as YouTube and community sites such as WikiFur, a community run encyclopaedia, and Flayrah, a community news site.

Researching into an online community is problematic because of ethical issues, such as individuals and the community not being aware of my research presence, and because some of the participants in the community may be underage. These issues were mitigated against through only posting content pertaining to research, and always including relevant documentation in posts, which included a research 'primer' which clearly stated that only over 18's were eligible to participate. However due to the anonymity offered by online interaction, it would be wrong to assume that no under 18's took part, this action along with explicitly asking the ages of interviewees reduced as far as possible the chances of this occurring. The Furry Fandom has been historically a highly stigmatised community and consequently limited research, concerning identity, has been carried out. Similarly the digital world is an emerging field of study for many branches of academia. Geography initially was quick to integrate ideas from early studies of how digital technologies were affecting peoples' relationship to space in the 1980's, however little research has been carried out since. The recent explosion of social networking has dramatically increased the number of communities with a digital presence. As a result, it is imperative this is revisited from a geographical standpoint, to examine how the transfer from physical to digital community affects our relationship to space.

This project is an attempt to understand the wider impacts of the expansion in the use of digital social platforms when integrating digital and physical social interaction through the construction of spaces both by individuals and by communities. This is done by detailing the Furies convention culture and their performance of individual identity using a case study approach, which exposes the power the community has to construct spaces.

This project will be concentrating specifically upon space at a community level, using Massey's (2005) relational space theory, which describes the manufacturing of spaces through social interaction occurring simultaneously; Kitchen & Dodge's (2011) code/space, offers a solution to this problem of synchronicity by abstracting the social actors from the processes of creating space through direct social engagement with one another; further complimented by Gotved's (2002) individual scale topology of digital space, which describes a trilogy of space constructed by each individual and which mediates each action .

A glossary of Furry community terminology can be found in Appendix 1: Glossary.

## Literature Review

### Digital Geography

Digital geographies are a relatively lightly covered sub-discipline within geography. Beyond the famous work done in the early 1980's and 1990's on globalisation through the internet and the coining of such phrases as 'global village' (McLuhan, 1962) and 'time-space compression' (Harvey, 1989), little work has been done on how the ever increasing global network of computers is creating new geographies (Graham, 1998). A recent call for papers by Gieseck and Bergmann (2013) for the Association of American Geographers entitled Geographies of Digitalia, highlights the lack of geographies involvement in work on digital mediums since the early days, whereas in other humanities subjects, work has been continuously produced relating to this area. This call is similar in nature to Allen's (1999) discourse on the neglect of the socially re/productive aspects of space by modernist social science.

### Furry Identity & Animal-Human Relationships

A Furry's identity or fursona is the strong identification with one or more species of animal. Common examples are Dragons, wolves and foxes, though hybridisations of multiple species together to form unique fursonas are also very common. Not all members of the Furry Fandom have a fursona. The fandom comes together, on mass, in two different places cyberspace and at conventions.

The Furry Fandom has its roots back in the late 1970's with the sci-fi conventions. The community wiki, WikiFur, has many articles relating to the history of the Fandom, sufficed to say that the community evolved initially through Furry parties and later conventions. The creation of the internet also plays a key role in this community's development.

*"Furry fans found their Mecca, with personal web sites, art and writing archives and forums providing a way for Furry fans to communicate and share their interests internationally." (WikiFur, 2014)*

Furries in literature are really only looked at to analyse and understand their identity. Work on the fandom has been built up from work on human relationships with animals initially through ideas of anthropomorphism and more recently through the idea of zoomorphism. The literature on this has only really begun to expand since 2007 and has stayed centred on the theme of identity. More recently however literature has begun to emerge that is slanted towards the stigmatisation of the Furry communities and subcultures (Mock et al, 2013). This is simply an extension from looking at Furry identity specifically.

The only paper on Furies published in a geography journal is Nast (2006) "Loving....Whatever: Alienation, Neoliberalism and Pet-Love in the Twenty-First Century" which looks into how human-animal (specifically pet) relations and how they have changed and evolved over the last twenty years. The relevance to this project is comments made on commodification of animals and how that is linked to the fantasies of adults. Nast's final comment on the Furry Fandom is that it acts to turn "all animals into pets" (including mythological and hybrid fantasy animals by implication) whilst through the Fandom "humans can [also] *become* pets, this transmutation apparently being needed in order to facilitate human contact, sociality, and love". The Furry community is based on this common affection of animals and thus of each other. Nast provides a brief but quite detailed account of the history of the Furry Fandom detailing its beginnings in the early 1990's and one community member's opinion to the source of much of the negative imagery surrounding Furies.

*"PeterCat argues popular culture has sexified Furry Fandom because sex makes money, Furies becoming just one more thing to be commodified. According to him, dressing up as an animal (as Furies are hyped up as doing) is not all that common and is not considered glamorous even within the community." (Nast, 2006, pg 317)*

This image of fursuiting being an activity which the community doesn't find glamorous has now changed somewhat since Nast's 2006 paper. With the explosion of social media and digital content platforms such as YouTube some fursuiting Furies have gained a certain degree of attention and fame from their activities. Examples include:

- Participation in events at conventions e.g. the Last-Fur-One dance crew
- Fursuiting/Fursonas e.g. the 2,002 fursonas listed on WikiFur (2014)
- YouTube personality's e.g. Duke the dancing dog, difFURently both YouTube channels
- Dealers e.g. SkyproFursuits.com and a related fursona's Telephone and AlbinoTopaz
- Community involvement e.g. Uncle Kage - Chairman of Anthrocon
- Scientific e.g. Nuka co-founder of the Anthropomorphic Research Project

Gerbas et al (2008) in her paper “Furries from A to Z (Anthropomorphism to Zoomorphism)” was the first to provide an insight into Furry social identity, and provide scientific background and analysis in a previously understudied community. The final aim of the research was to provide a foundation from which other studies could expand in the future. Gerbas et al’s paper attracted some criticisms concerning the proposal of a Species Identity Disorder, which Gerbas et al stated was only hypothesised from drawing upon prior research over Gender Identity Disorder. Probyn-Rapsey’s (2011) primary criticism was that the disorder suggested was based on “unexamined assumptions about what constitutes ‘human’ identity”. This was rebutted by Gerbas et al in the same issue of *Society and Animals* (v19, pg 302), who made the point that the original paper wasn’t so much suggesting a new disorder but should really be represented by its final aim, to provide some form of scientific basis from which future work on the Furry community could be carried out. Along with this rebuttal Gerbas et al (2011) makes reference to the way that Furries are often misrepresented within the media and how her “rigorous social scientific methodologies” was designed to provide data and analysis on the previously understudied community without falling back on “media portrayals [that are] resoundingly unfavourable toward Furries and empirically unfounded”.

However, this very ‘image’ is what precedes the fandom and has the effect of biasing research towards identity when looking at this community. Identity has been the key theme in essays and dissertations written on Furries and published online for example Douglas (2012), Jeansonne (2012), Mediyaz (2011), and Altman (2010). Who’ve all focus on the identity issues surrounding the fandom from the stand points of Psychology, Sociology, English and Arts. Indeed essential to the Furries is the distancing from the mainstream and the construction of an ‘edgy persona’, thereby by threatening “the conceptual categories that structure the psyche” (Carlson, 2011, pg 207) and encouraging the fixation on the identity aspects of Furries.

Furthermore, Carlson's (2011) "Furry Cartography: Performing Species" an essay in the Theatre Journal which looks into animal-human relationships, links body modification and the performance of alternate animal identities within contemporary culture. Carlson concludes that whilst the Furies remain a separate community due to the animal performances that they generate, the underlying truth is that the Furry Fandom exists within the same normative social structure as everyone. Moreover, Carlson succinctly explains this as, "one must be an individual, but one actualizes that individuality through the purchase of [commodities]" (Carlson, 2011, pg 207). This is exemplified by the Fandom's desire for fursuits and other commodities to enable the performance of fursonas in the physical world. The degree of individuality required is provided by dealers producing one-off, hand-made goods, which enable the buying into the 'dream' or 'community' of fursuiting whilst maintaining individuality, and a physical presence for the fursona within the community. This is applicable for most people who live within a capitalist system where "capitalism [is] schizophrenia" (Carlson, 2011, pg 207) whereby there is "a conflict between, on the one hand, the rising demands for subjective singularities, or autonomy and, on the other hand, the conservative re-territorialization of desires for the purpose of commercial profit." (Braidotti, 2006 in Carlson, 2011, pg 207).

### **Digital World: Territory, Community & Identity**

There are many different definitions of community to be found in the literature. The rural community phenomenon in opposition to industrial capitalism of Tonnies (2001), first published in 1887 as *Gemeinschaft und Gesellschaft* is one example. Another is Joseph's (2002) view on community as a method for the circulation of production and consumption of capital. In this instance community is understood using a combination of both extremes. A generalist definition of community taken from the Dictionary of Human Geography is this:

*"A group of people who share common culture, values and/or interests, based on social identity and/or territory, and who have some means of recognizing, and (inter)acting upon, these commonalities."* (Gregory et al, 2009, pg 103)

This definition of community doesn't take into account the scale aspects of a community and how they interact with others at that same level (Anderson, 1983). Joseph's (2002) work suggested that the community is more related to production and consumption, than a set of shared social identities. Community is both built on the foundation of identity and intricately integrated with the workings of consumerism.

Individuality, having a sense of identity and self, interacts with group or community identity in many ways. So complex in fact is this relationship that many academics believe that people's identities become depersonalised and merge into the group identity, rendering them almost indistinguishable from one another especially within digital communities (Wenger et al, 2002; Hogg and Terry, 2000; Tajfel, 1970). It was historically suggested that "that electronic communication doesn't require emotional investment and usually does not lead to close friendships" (Clifford, 1995 in Tanasyuk, 2008) however more recent empirical evidence suggests an alternate view that people do establish long-lasting relationships online (e.g. McKenna et al., 2002; Miller and Slater, 2000). This is illustrated clearly by Rheingold (2000) in his book *The Virtual Community: Homesteading on the Electronic Frontier*, when he describes a community that is as real as any physical community and contends, people relate to each other online much the same as they do in physical communities.

It is well established that people's senses of identity changes (e.g. Baumann, 2000; 2005; Jenkins, 2004; Giddens, 1991 all in Papacharissi, 2011). Within a digital community the shifting of individual identities has been suggested to also result in a shifting of the community identity (Tanasyuk, 2008). Within social relations trust is a key part of the formation of a relationship "in [digital] environments trust can mostly be accumulated by representing own and shared collective identities. Additionally, this helps community members to feel that they know the people they are communicating with" (Tanasyuk, 2008, pg 29). Trust in this way is formed through the actions of people whilst they are communicating digitally as a member of that community and many authors believe that the 'shape' of the site/environment in which the interactions occur influences what actions are taken by individuals (Taylor, 2003 in Tanasyuk, 2008; Wenger, 1998; Woolgar, 1991).

Participation in digital community is described by Tranvik (2000) as being less restrictive and thus encouraging greater involvement and interaction from its members, who could be complete strangers in everyday life. Andrew et al (2001) agrees with this sentiment however, Tanasyuk (2008, pg 30) comments on community members that "while open to communication with nearly anyone, [they] still need a large number of potential 'friends' [...] as the more individualized people are, the more difficult it is to achieve identification".

A digital identity is often set out in a profile on a website and through implicit communications held with people; the storage of such communications can be exploited to form a digital reputation or image which is a key aspect of social identity (Kurmar et al 2004). Within a digital community social identity can be described as "you are what your community is and vice versa" (Tanasyuk, 2008, pg 30).

## Space & Place

Communities exist within different spaces and do 'stuff' at different places. Space and place are two very integrated and well conceptualised theories within geography. Although the majority of the work has been done looking at space and place as something purely of the physical world. Historically spaces were understood to be strongly linked with fixed spatial "locations of events, places, people and phenomena" (Gregory et al, 2009, pg 707), although the exact nature of space has always been contested. However it is argued that there has been a 'spatial turn' in geography since the dawn of high-speed communication technologies and as a result space has come to be a much more complex and contested subject. Taken together the contemporary theories of space can be understood to contain the following shared features, the integration, co-production, unruliness and the porousness of space-time (Gregory et al, 2009, pg 709).

Massey's book *For Space* (2005) describes her take on this dynamic space and the places it contains. For Massey, space can be seen not as a spatially referenced thing but as something formed from the paths travelled, communications had, and the networks which people form about themselves. Places cannot be solely spatially referenced, due to the flexibility of the networks which form them. Therefore, place must be spacio-temporally referenced in order to account for that flexibility. So a direct result of this shift away from space and place as fixed is that the assumptions made about community and collective identity has to be removed, which means the purity of space cannot be guaranteed. Consequently a negotiation for the 'use' of any part of the network, which makes up space, has to occur (Massey, 2013; Massey, 2005, Pg 130-142).

Building from Massey's work, Kitchen & Dodge (2011) propose a concept of code/space which is determined by the level of computer-mediation occurring within a relationally formed space. They put forward this idea through a series of papers in geographic journals and eventually in their 2011 book. In their thinking the power in code/space lies partly in the code which manages the interactions, but also with the people who modify the code to meet their needs. They suggest that through a process of transduction, space is brought into existence perpetually with the aim of solving relational problems, enabling their code dependent spaces to be produced.

Such high level approaches to the creation of space can be used in combination with the idea of a trilogy of space, which is often used to describe the lower level interactions occurring within spaces. Lefebvre's trilogy of space is drawn upon by Soja in his 1996 book *Thirdspace*. Working from the premise that "spatial constructions matter for the sense of community" (Gotved, 2002, pg 405) Gotved builds from Lefebvre's trilogy suggesting a topology for online spatiality, an Interface, Social and Metaphorical space, in which interactions and the formation of space/place with digital communities can be described.

It is commonly accepted that having a sense of place means to hold feelings for one particular geographical location. The literature on the home is an example of how this has been used in geography. Those feelings lead to the formation of a relationship between the self, and that place (Gregory et al, 2009, pg 676). Having a sense of place can also be taken, using Cresswell's (1996) understanding, to mean that there lurks at its foundation a "physical exclusion of those who are deemed to be out of place" (Gregory et al, 2009, pg 676). Senses of place can also exist in the digital with people forming relationships to digital places in the form of websites.

The majority of the geographic discourse on space has occurred in reference to the physical environment and the placement of the body and identity within such a physical anchored reference frame. Space and place in the context of this study can be defined best using Massey's (2005) interrelationally produced space since.

### **Social Capital & Consumption Online**

Social capital is a theoretical framework which started life in the late 1980's (Papacharissi, 2011). The broad framework of the theory is that social capital refers to the benefits which can be gained from relationships had with other people (Putnam, 2000). Measurements of social capital include Social norms, trust, reciprocity, flow of information and solidarity (Papacharissi, 2011). More recently there has been a differentiation of physical and digital social capital (Williams, 2006; Resnick, 2001; Wellman & Gulia, 1999) based on the way that digital communities enable access to a much wider range of possible social relations.

The connections which form as part of a community social network can be of differing strengths of the relational ties, defined by Granovetter (1973) as a combination of the amount of: time, emotional intensity, intimacy, and reciprocity involved. Putnam (2000) argues that there are two types of social capital which can be produced within this social network structure. Where the ties are weak social capital forms as bridging connections, where ties are strong, then bonding social capital is produced. Bridging social capital enables information transfer between wider ranges of people. Whereas bonding social capital provides emotional or financial structural support for example from close friends or family. Williams (2006) notes that the internet because of its low cost of entry and anonymity, is well placed for the formation of weak ties and bridging social capital more so than physical interactions. However the profiles and pre-existing relationships present in digital social networks can buck this trend and encourage both types of capital production (Ellison et al, 2007).



When considering, in more detail the nature of the relationships formed within a digital context, communities are provided with new methods of interaction, both with existing members, and when forming new social connections. However it needs to be examined to what extent this supports commitment to community, individual bonds, or both. Communication methods are available as both synchronous and asynchronous, enabling a greater variety of, and improvements in, information flow rates. There have been ethnographic and empirical studies which show online communication to have been a positive development (e.g. Best & Krueger, 2006; Hampton & Wellman, 2006; Wellman & Gulia, 1999; Baym, 1997; Rheingold, 1993 all in Papacharissi, 2011). Alternatively longitudinal studies and follow-ups have found those with already strong social networks benefited, whereas those with weaker ties were isolated further (Kraut et al, 2002; Nie, 2001; Kraut et al, 1998 all in Papacharissi, 2011). Wellman et al (2001 in Papacharissi, 2011) notes that digital mediation of peoples social interactions may lead to a reduced commitment to that community. Therefore, the myriad of different ways the digital is used in social interactions cannot be covered with a broad brush definition, of the digital's impact on social capital and interactions. In fact it has to be recognised the digital often acts as a supplementary communication medium within communities (Quan et al, 2004; Hampton & Wellman, 2002; Wellman et al, 2001; Uslaner, 2000 all in Papacharissi, 2011).

### **Cross-Boundary Integration**

Several studies have looked at why digital community members meet each other physically and the consequences of this. Valentine & Skelton (2008) have done a case study looking at the deaf community online and offline noting that the complex set of relationships are emerging between some offline communities and the internet, and noting that little attention paid to the new spatialities that are emerging as a result of community-based ICT practices.

In community formation much revolves around anonymity and beginning relationships, and how having a sense of community inexorably leads to a want to be involved in that community physically (e.g. Sessions, 2010; Carter, 2005; Parks & Floyd, 1996). Churchill et al (2004) presents a study into how best to engage a community both physically and digitally. Their study found that there are four basic elements which are crucial for extending social interaction between sites: common ground, awareness, interaction enablers and mechanisms, and place-making. The study inverted the traditional way of representing reality in the digital. The empirical evidence showed that having places of content sharing and discussion meant the locations gained cultural and social meaning. McCully et al (2011)'s study into a similar area found that common ground between users' needs to have been found and a sense of trust formed before successful interaction can occur physically. A second observation was that interactions enhanced the bonds within the community but motivation for participation is a key factor in how and when users interact.

## Literature Review Summary

- The field of digital geography has only recently stuttered back into life, leading to a lack of supporting work, on the relationships people have with digital representations of space.
- The Furry community partly due to its position as an othered community and resulting weariness of negative publicity is poorly represented within academic literature.
- When Furrries have been looked at by academics it has been done from the perspective of identity. The theses and dissertations that have picked up on the community have been written by students who are, or are close to, community members.
- Much of the peer reviewed work on digital community has been done in the field of Sociology with little 'regard' for the spatiality of the community, only the digital social interactions.

## Project Methodology Summary

**Table 1: Aim and Objectives**

Aim	To investigate the integration of the Furry community's spaces/places across the digital/physical boundary.
	To understand how the community utilises spaces/places across the digital/physical boundary.
Objectives	To understand how the community utilises spaces/places across the digital/physical boundary.
	To identify differences in how the two worlds are used by the community.
	To understand whether the community's spatial distribution effects digital/physical integration.
	To assess the community's current level of digital/physical integration.

This project started with a realisation that digital communities, specifically the Furry Fandom was actually an acceptable topic for geographic research. The lack of geographic literature on the topic of digital communities and their interactions initially struck me as intriguing, so in order to examine the physical and digital interaction of the Furry community it was necessary to broaden my search. Therefore, I decided to consider how identity itself is a precursor to community and social interaction. This would involve drawing upon the study of identity and social currency within anthropology, consumer culture and psychological analysis of the self. A combination of these would contribute, along with existing geographic theories of space, to the understanding of interactions across the physical and digital world boundary.

A digital setting was chosen for engagement with the community since this is where the majority of social exchange occurs (IARP, 2013). A case study approach is used, formed from a survey of over 100 community members and interviews with 16 Furrries. An ethnographic study of the community informed using public sites such as YouTube, community sites such as WikiFur, a community run encyclopaedia, and Flayrah, a community new site. The holistic approach offered by a case study allows multiple methods and sources to be used to inform the research. The small and focused nature of a case study allowed for the use of data capture methods best suited to the digital environment whilst enabling the detailed observation of intricate social interactions across the digital/physical boundary. Operating entirely online provides a greater sample size it but prevents data from being gathered for the physical only part of the fandom; however, this is only a mild impact since the investigation is into the communities cross boundary interactions. For topic and approach justification, see Appendix 2: Methodology Details.

## Primary Collection

### Survey

The surveys were created on the SurveyMonkey platform, using the free version of the service. This limited the extent of the survey to only 10 questions and 100 responses. These limitations were considered acceptable when a review of the survey platform, as recommended by Wright (2006), was carried out. Not many responses were expected, as Anthrocon's chairman "warned [...] he did not actually expect anyone [...] to complete a survey because of the history of media portrayals" (Gerbasi et al., 2008, pg 200). The survey's true purpose was to gather interview participants with a secondary goal of providing information on community concept spaces.

**Table 2: Survey statistics**

Survey	Number of responses
Mark one	19
Mark two	15
Mark three	100 (105 recorded by SurveyMonkey but free accessed is only for the first 100)
Total analysed responses	115
<i>(Mark two and three combined)</i>	

To accompany the survey a 'primer' was created to inform the participants about the intention of the research and ensure they had a full understanding of their rights. To guarantee access to the information sheet and consent forms these were hosted on the Keele student Google account cloud drive. A number of different versions were created and Table 2 shows the response number for each one. The assumption of a low response rate for the survey was found to be incorrect and the 100 respondent limit was reached quickly. It is credible to believe that more people could have been reached had publicity not been withdrawn at 100 respondents; therefore a sensible expansion of the survey would include the use of a survey platform with greater capacity. Survey data was mostly categorical in nature and lent itself well to being analysed using the methods including Pearson's chi-square test, simple correspondence analysis, the Mann-Whitney test, and concept space similarity test. Detailed justification of each of these methods is found in Appendix 4: Survey Analysis Justification.

**Table 3: Assumptions, Accuracy & Risk for Survey Data**

Assumption	Accuracy & Risk
<p>There is no published evidence that Furrries are a distinct sub-group of the general population when it comes to their use of digital platforms and so this study lacks a base line for data comparison. It is also of note that the scope of this study doesn't allow for the testing of this assumption.</p>	<p>The removal of the responses where the calculation of friend's offline produced a negative number was done due to this data being considered untrustworthy.</p> <p>In many cases comments were added to the survey stating that the number of friends online was an estimate.</p>
<p>There were a limited in number non-Furrries included in the results, due to them still being a part of the community, examples include sellers of fursuits and art.</p>	<p>Individual definitions of 'close friend' results in an inconsistency for this measure.</p>

### Interviews

The interviews were carried out with respondents to the mark three survey, who filled in contact details and then replied to a follow up email, and also with people who got in contact as a result of the mark two survey or posted comment on the Forum threads where the survey was being advertised. All of the people who indicated they would participate in an interview had it conducted using email as this was the preferred method of the majority of participants. Although, at request two of the interviews were carried out using Skype instant messaging however, this turned out to be a hassle when organising across time zones. The interviews were semi-structured, a basic set of questions were employed to open up conversation and progress to the interviewees social relationships with the Furry Fandom and their use of its community spaces, see Appendix 7: Initial Interview Questions.

The use of email and instant messaging meant that interviews could be longer and greater in number than a conventional face-to-face approach would allow. This ensured a representative sample of the fandom and a greater breadth of experience including: online only Furrries, new and mature members, community organisers, and convention goers. These transcripts were coded into digital, physical and crossover social interaction categories for analysis following Flowerdew & Martin's (2005) methodology. Quotes from these interviews are referenced in the text using the pseudonyms found in Table 4, respecting individuals choices not all information is present.

**Table 4: Interviewee information**

Interviewee Code	Biographical Info
ES	N/A
NK	Male, 18, College Student, Netherlands Resident.
OF	N/A
PH	White Male, 31, Doctor of Medicine, USA Resident.
SC	N/A
SS	White, 20, College Graduate, Australian Resident.
TD	Male, 21-25.

**Table 5: Assumptions, Accuracy & Risk for Interview Data**

Assumption	Accuracy & Risk
Respondents are assumed to be representative of the fandom at large, since the ages given are within the average age band as found by IARP (2013).	It is possible the more extrovert and active members of the fandom replied which could have skewed the interviews in favour of social integration.
Truthful responses from interviewees are expected however this cannot be confirmed.	It is possible that interviewees have played up the extent to which they interact online in responses to the interview questions.  As the interviews were carried out online there was no chance to gauge the emotional reactions to the questions however the use of emoticons allowed for the gauging of a certain degree of emotional response.

## Secondary Collection

### Ethnography of Furry Digital Media

An ethnographic approach was taken to the gathering of information on how Furies utilise physical spaces, using publically accessible digital sources, i.e. where no login is required. The source of the majority of this contextual material was gathered from posts to the video sharing site YouTube, where Furies have posted videos documenting conventions, first wears of fursuits, and other activities.

Such digital ethnography represented an ethical approach for gathering additional information which is without bias based on involvement with research. Such a bias is probable in any dataset linked with research, since the Furry identity has been subject to a considerable amount of negative publicity over the years. The Furry Fandom is often misrepresented in popular culture and the media sensualising the fandom means that Furies are apprehensive of external people who start asking questions. This culminates in Furies feeling that in order not to be confronted the outward display of their Furry credentials should be minimal. Although this could have become an internalised stereotype as SS commented "I haven't seen any cases of hate towards the fandom in an offline environment". Importantly however, this doesn't stop Furies from engaging socially with the community when in physical space. Ethnographic sources are shown in Table 6.

**Table 6: Ethnographic Sources**

Examples of Materials Used	Additional Details
A student's documentary titled "Being Furry In A Non-Furry World" (JMacksvideos, 2012).	Explaining what being a Furry is about, and why public perceptions have been skewed by the media.
A three part student documentary titled "Furies - An Inside Look" (Pehrson, 2011).	Gives an inside perspective on the Furry Fandom. Filmed at Midwest Furfest 2010, a major Furry convention.
Anthrocon opening and closing ceremonies from a number of years (e.g. Anthrocon, 2012).	The world's biggest Furry convention.
Fursuiter's 'out and about' videos (e.g. Lion, 2011).	Where Furies put on Fursuits and go into public spaces performing their fursona.
News reports from conventions (e.g. FiskerDoodle, 2012).	Authorised media portrayals of Furry conventions.
The community news site, Flayrah, was also explored, along with the community encyclopaedia, Wikifur.	Well respected, community run, information websites.

**Table 7: Assumptions, Accuracy & Risk for Ethnographic Data**

Assumption	Accuracy & Risk
Ethnographic material was produced, for the most part, by community member's 'off their own back' and from their perspective, so it will lack any bias that could have resulted if it had been produced directly for this research.	Manipulation of the community's 'image' by Furrries is possible on publically accessible sites, although this is unlikely given the degree to which the sites used are consumed by the community itself, unless that image has become an internalised one.

**International Anthropomorphic Research Project (IARP)**



**Figure 4: IARP Logo (IARP, 2013).**

IARP is a multidisciplinary team studying the Furry Fandom from 2011 to the present. Their surveys have asked a number of psychological, anthropological and sociological questions, along with questions posed by Furrries. These surveys have been taken on an international scale as well as at a number of conventions in North America. Their goal is to examine Furry culture to better understand the Furry community. The team publishes some of its data online and in response to an email

request presentation recently used to illustrate their work was made available, Courtney 'Nuka' Plante, University of Waterloo (IARP, 2013). This was complimented with YouTube videos of IARP talks being given during Furry conventions by members of the team (Plante & Fennec, 2012). This data was used to provide summary context for this project, enabling comparison against rigours scientific work with a much larger sample size.

**Table 8: Assumptions, Accuracy & Risk for IARP Data**

Assumption	Accuracy & Risk
It is assumed that IARP's data collected has been subject to academic rigor and is presented impartially.	IARP's data is known to be slanted towards North America where data presented is only sourced from surveys conducted at conventions.



## Case Study of the Furry Fandom

### Furries in Digital Space

The Furry community is predominantly a digital community. NK says "I can assure you that about 80% of all furs reside only online". However, counter to the general public's use of digital spaces, Furries utilise digital spaces for the majority of their socialising. This sentiment is echoed by OF when saying that "I feel like Furry social life has become exclusive to the internet and cons". Whilst the general public would use social networks to enhance the social ties they already hold, the Furries, due to their low spatial density have tended to seek stronger social bonds. PH states succinctly that "[t]he Internet is what ties the community together." Furries form relationships through the use of digital spaces which they have created.



**Figure 5: The Furry behind the screen (IARP, 2013).**

The predominance of the digital in Furries social interactions has been due to this lack of physical access to one another, but also has grown from the 'types' of people who form a part of this community. There is a revealing quote describing the Furry community "[I]t's artsy, it's silly and it's technology all combined together, that's like a perfect [...] analogy of the Furry Fandom." (FreezeFrameFox, 2013), which is supported by demographics' data gathered by IARP studies:

*Annual income (USD\$31,907); some post-secondary education; work in hard science, computers/IT, graphic arts. (IARP, 2013)*

The professions held by Furry community members explain how the social relations within the group have created and evolved to use digital spaces for social interactions, since they have the expertise and resources with which to do so. As a result any other 'young fur' going online now could stumble upon a gateway to the Furry social community which would otherwise not have been available. This typifies the way in which new members join this community, not through the offline actions of current members, but by stumbling upon artwork posted online and tracking it back to the source.

## Separating the Fursona

The fundamental part of the Furry culture is the creation of fursonas. This is a separate identity constructed by member of the Furry Fandom to enable the interaction with the community. The fursona is a unique part of the Furry community and part of the reason for the adoption of the digital community platform to such a high degree. PH summarises this by saying:

*"People can create an alter ego for themselves. Many furs use that alter ego to interact with others via the Internet. For some it maybe a representation of their idealized self that gives them the confidence to interact with others where they may be too self-conscious to do so using their own identities. For others they may create an identity completely different from themselves as a form entertainment or escapism." PH*

Maintaining the separation of the Furry persona and the human one is fundamental for members of the Furry community. There is a wide range of degrees to which this is applied but at the most fundamental level this still occurs.



**Figure 6: An illustration of Furry identity perception (IARP, 2013).**

Ensuring the separation of the human identity from the wholly imagined identity of the fursona enables the imagined self to exist. It is this imagined self which is connecting with the Furry community. The separation of the fursona from the human identity enables the freedom that is core to the Furry Fandom. Most Furries associate a sense of fun with the fandom and that can be considered the core feature of the Furry identity. The separation of the Furry from the human identity ensures that the freedom experienced is genuine. To facilitate this freedom the Furries use two different methods. The first, and most notable, is the creation of the Fursuits. Whilst this is the most obvious to those outside of the community it is often the least understood. The Fursuits are

used by Furries to create a distance between their Furry identity and their human one. The second method of separation occurs through the use of the computer mediated community. The gateway spaces offered, in the form of an account, ensure that a fursona can be in place at all times. This illustrates the distance between the 'real' identity of the person and the fursona that they are performing to interact with the community (Carlson, 2011).

That isn't to say that what has been described as the imagined identity created by the Furries is any less real of an identity than their human ones, as this isn't the case at all. Within the Furry Fandom there is the entire range of personal relationships with Furry identities. From people who are just there for the artwork and stories to those who truly believe that they have been born into the wrong 'skin'. The use of the terms imagined vs. real is done to highlight the way in which the Furry community itself encourages a distance between the fursona and other identity's held by a person.

The maintenance of this separation of identity is one of the core actions that a Furry takes part in during their contact with the community. Reinforcing the fursona through social interactions had with a multitude of other Furries ensures that its presence in space remains separate. The creation of a fursona is never something which a Furry takes lightly a lot of thought and time goes into its construction. Fursona's are also never static, they evolve through constant negotiation with the community and other identities held by the individual. It is often the case that a fursona takes on personality traits and aspects which may be underlying or absent from other identities.

Furries often comment that their fursona's feel more like their 'true selves' than the human identity which they hold. Much of this is as a result of the way in which the community operates predominantly digitally for its social interactions. It is a feature of such computer-mediated systems that the inhibitions that occur in face-to-face interactions between people are lessened by the distance in communications. Computer-mediated communication is lacking in the same number of social cues as face to face offers, however alternatives in the form of emoticons and voice/video communication can make up for this. Though in the Furry community textual communication is most prevalent and this is the form of communication where the effects of the Online Disinhibition Effect can be felt most clearly (Suler, 2004).

There have been numerous references to this type of occurrence in the interviews held with Furries in TD experience "People are definitely more reserved in person than they are online because they don't have the computer as a filter to be reprimanded for their actions" and the clearest example being this comment made by DG:

*"I feel like Furries have a tendency to be really open online. They share a lot about themselves on the internet with people. They're most likely never going to meet in person. I will admit to giving my phone number out to people that I probably shouldn't have in the fandom, and I know I'm not the only one." DG*

Through this combination of effects the blending of the Furies perception of the digital and physical has blurred becoming almost indistinguishable from one another. Technology has been the enabling factor in the double identity distancing which Furies embrace, separating the human identity from the fursona, whilst connecting them with other Furies around the world. Counter intuitively that distance enables the community to be more social, and exchange social capital with one-another more cleanly than less technologically integrated communities (Vichot, 2009), which can be inferred when NK says "I prefer online because it's easier for me due to my shy and non-outgoing IRL [in real life] nature".

### **Technological Distancing**

The distancing offered by technology provides the Furry community with a means through which to control their interactions, with space, to a much greater degree, than is possible without that computer-mediation. Online systems, through employment of logins and profile pages, empower the Furies with a great deal of control over what aspects of themselves they portray into digital space, since the fursona is an imagined identity which Furies seek to perform through interactions with social space. Having greater control over how their fursona is presented provides Furies a continued sense of ownership of their identity, even though it is largely created with the community using computer-mediation. There already numerous tools used by the community to engage with their fursona SS said that:

*"For example on Weasyl, there is a feature that lets you make a page about your fursona. I find this particularly handy when asking for commissions from artists. There's also other programs and websites that help you make your fursona come to life. At the end of the day though it's all up to the individual to decide how they want to use their fursona, which is why there's a vast array of tools and websites all over the internet to portray and express them." SS*

The sense of personal ownership of an imagined identity formed utilising the computer-mediated nature of digital space enables Furies to forge a greater connection to that identity than would be possible without such mechanisms, this protects the fursona from being influenced directly by external parties (i.e. social norms and convention).

## Furries in Physical Space

Having exposed the importance of the computer-mediation in the formation of Furry identities in space it is essential to note the role played by physical spaces in the creation of fursonas.

*"The really interesting thing is... That before [the fursona] was exclusively an online activity. However... The internet is now bringing this into the real world." PH*

### The Fursuit



**Figure 7: A Furry in a fursuit at Anthrocon (McFarlin, 2012).**

Many Furries aspire to own a fursuit. The fursuit can be seen as a physical embodiment of the fursona and thus the Furries identity within the community. Fursuits are a sizable investment for a Furry to make, hence why large numbers opt for partial suits. Fursuits are a labour of love and a huge amount of both economic and social capital is expended during their creation. To say that a fursuit is often the pride and joy to a Furry could be considered an understatement. The number of videos on YouTube for example, showing suit unboxing and first wears, is testament to how important these suits are to a community whose largest contingent of social interactions occurs through digital space.

Bringing a fursuit into the physical world is the act of bringing an imagined and intangible identity into

tangibility. The result of this is to enable the distance which is fundamental to the Fandom, and to bring it into the social setting of physical space. At this point it must be stressed however that Furry physical social interaction is not predicated on the obtaining of a fursuit. There are other methods through which the Furry identity is brought into the physical, such as artwork and fiction commissioned by Furries which bring imagined identities to life.

### Organisation through Social Networks

Furmeets and other social activity, that take place in physical space, are organised through digital mediums. The recent advent of Twitter has greatly improved the ease to which Furries can communicate and organise things off the cuff. This results in actions taken in physical spaces being determined through the interactions which occur in the communities digital spaces. Highlighting the degree to which the Furries integrate their use of the two types of space.



Figure 8: Advertisement for a San Francisco Nightclub (Frolic via PH, 2014).

"Around San Francisco there are over 1000 Furrries in a very small area. There's an email list that is used to coordinate social activities between everyone. However Meetup.com has really changed it. This group of 1000 Furrries has a spot on Meetup.com. Usually every single day there's two or three social activities. You can look at the calendar see all the events posted and sign up for them. When you sign up everyone else can see who's going and who's not going. It's like being invited to a party and knowing the guest list. When you see who's on the RSVP list, just like on Facebook, you see pictures and descriptions of their fursonas and any other information they choose to list. So even if you don't know anyone you can still get to know everyone before you go which makes things much less awkward." PH

"[A] lot of my Furry life socializing is now on mainstream sites. Sites such as YouTube, Google+, Skype, and twitter. Many Furrries that I know have migrated to these sites because of their wide availability in different countries... Because they are very mobile-phone friendly through apps and browser access." SC

ES produced a long list of methods used by Furrries he knows across the globe, to organise meets in physical space. The majority of the methods are digital in nature which shows that this is not just a phenomena restricted to the Furrries of the USA. See Appendix 9: ES's list of Organisation Methods.

The increase in integration is not restricted to Furrries. The advent of social networking platforms means the general public's use of space now integrates the digital and physical elements to a much higher degree than before; this is show by the shear amount of growth and hype around the industry since its conception. The formation of digital social networking platforms has also coincided with the 'internet generation' who have grown up socialising online ES suggests that the growth in the Furry Fandom over recent years has been due to:

*"A constant influx of teens. The web has provided increased exposure to niche topics such as Furry, which would be much more difficult to come into contact with through purely offline interactions. Hence online communities have been instrumental in providing exposure and growing the fandom. This is despite the fact that the fandom nucleated around offline interactions with fans of Steve Gallachi's Albedo meeting at a comic convention." ES*

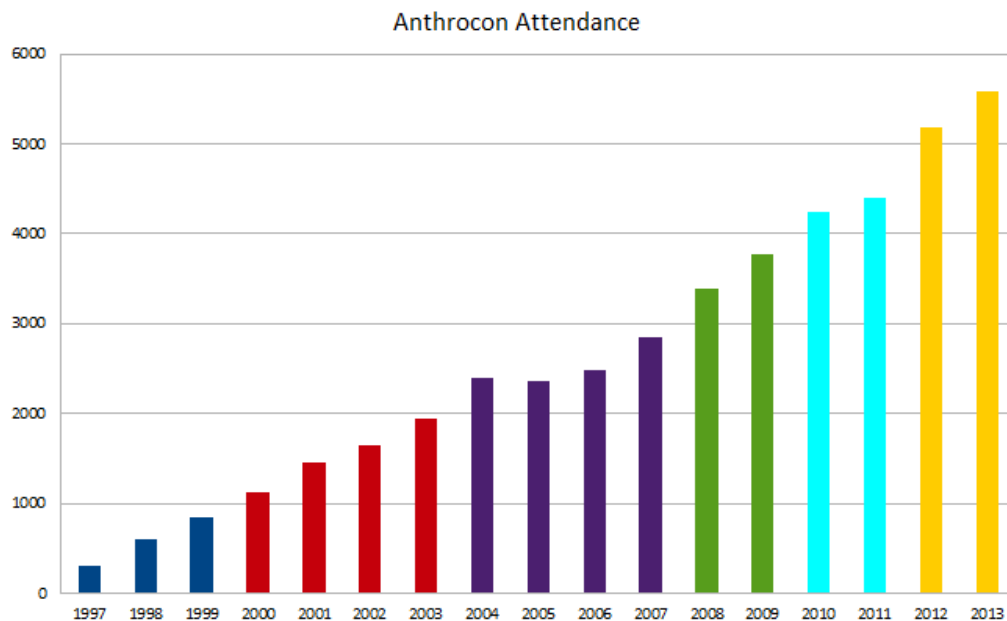
ES is making reference here to a Furry community news article about the origins of the fandom titled "Retrospective: An Illustrated Chronology of Furry Fandom, 1966–1996" (GreenReaper, 2014).

### **The Significance of the Convention**

Taking social interaction in physical space to the next level is the Furry convention. These gatherings of Furrries can range from tens to well into thousands, see Figure 9. The convention culture unique feature of the fandom and to Furrries the conventions are sacrosanct. Going to a Furry convention is something that many Furrries aspire to do, and indicates a deeper initiation into the community. Simply put, many Furrries see convention going as something which should be done. A close religious metaphor could be that Furrries make a pilgrimage, in the broadest sense of the term, to Furry conventions. As such Furry conventions makeup regular dates in any Fur's calendar, for some the conventions is seen more like an everyday social gathering given the number they attend in a year. Consequently, a substantial amount of the community's culture and social capital is wrapped up within the conventions.

*"I do 6-8 conventions a year, flying 30,000 miles / 50,000km a year to Furry conventions."*

SC



**Figure 9: Anthrocon Attendance over the years (WikiFur, 2014).**

*"[O]nline growth begets offline growth. However, there is reinforcement the other way as well. You can meet and befriend Furrries at an offline event, and continue the friendship offline afterwards. This has been especially helpful in the Swedish fandom, where some people who previously detested each other online turned out to get along very well in real life. As for entire communities forming due to offline meets, I'm less sure if that is common, but the Furry Fandom itself may count as one example." ES*

Conventions also play a key role in the coherency of the community, given the spatial distribution of Furrries across the globe, see Figure 10, having large centralised and well organised gatherings helps to ensure a connection to the community as a whole (Churchill et al, 2004; Papadakis, 2003). Whilst the digital space the community inhabits transcends this distance to a certain degree it often doesn't remove the sense of isolation that some Furry's feel when their nearest community member is hundreds of miles away. Gatherings at conventions which are relatively few throughout the year and give Furrries a 'spatial target' which they can use to arrange meetings in advance, preparing for it over the course of a year or more. Once access to a convention is achieved engaging with Furrries en mass in a physical social context can occur.

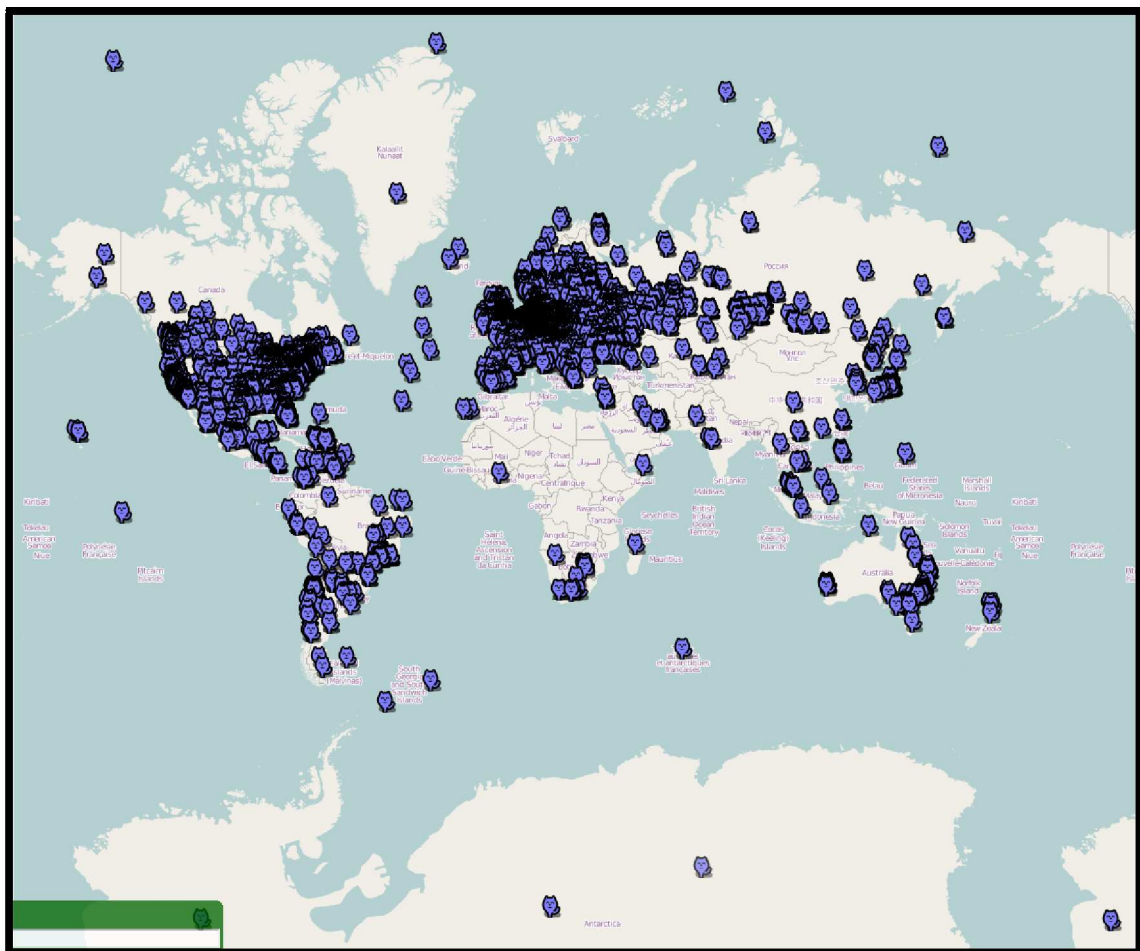
*"Here is an example. At Midwest Furfest, folks now know I have a suite, and will host events. People are organizing what to bring, when to best do these events, what to wear, and guests, entirely on social media. Further, photographers I know have set up photo events (like group pics for all sabertooths), as well as suit builders set up group meets for fursuits they have designed and built. All of this is happening every hour now that Midwest Furfest is 10 days away" SC.*



## Global Furrries

The spatial distribution of Furrries in this project has been concentrated in the USA and Europe with a limited presence in other areas. However from maps of larger sample sizes, noting Figure 10, there is a much more even distribution of Furrries across the world, the developed north having the greatest density. Though this could be as easily down to, internet penetration variations across the world, as it could to the actual distribution of the Furry community, though the two appear to be intimately linked. The key thing to note is that as ES says:

*"Online to offline integration is inherently hard when you are spread out. People certainly appreciate offline interaction. (why would we otherwise travel to other countries and continents for conventions) But we cannot change the fact that we are spread out." ES*



**Figure 10: Highlighting the spatial distribution of Furrries on a world map where individuals have marked their locations (FurryMap.net, 2014).**

## Results & Case Study Summary

The survey results provide a contextual backdrop, from an individual perspective, to the case study, which has been built up from the interviews and ethnography to focus on the community perspective. The key themes which the survey data presents are the level to which the community exists in digital space. The results of the concept space similarity analysis run on the survey data shows that the digital and physical lives of the Furies are very closely linked. The scale used by this measure is such that the values can range from zero, completely the same, to a theoretically infinite value which represents infinitely different concepts for the individuals surveyed. For detailed presentation of Results see Appendix 6: Survey Results.

The case study can be summarised as the following:

- The fandom exists predominantly in digital space, with the continuous formation of community space occurring through digital mediums such as chat rooms. Whilst their interactions in physical space are concentrated in convention spaces and limited 'real' social interactions.
- The Furry community is very active socially and their culture is identity based. So it is necessary for, the continuation of and inclusion in, the Furry community, to develop persona/identity and for social actors to perform. This enables social capital exchange, such as visiting a convention or communicating online, and the construction of community relational ties.
- The technological mediums utilised by Furies remove, to some degree, traditional social inhibitions. This creates a distance which allows the individual's fursonas to come to the fore. As a result the internet is the primary platform used by Furies for social performance with at conventions and furmeets coming in second and third, this is observed both in the survey data and IARP's (2013) results.
- Digital communication technologies have enabled the community to form, and are a crucial element of its social interactions, so integration with the digital has helped to develop strong community cohesion.
- The community has blended social interactions across the physical/digital boundary, and this is especially obvious in the run up to, and during Furry conventions. The community has achieved this to such a degree that community social cohesion is now co-dependent on technology.

## Discussion

Of the theories put forward to explain the formation of space within a social context there are three different ontology's which can be applied to this case study. Massey puts forward her relational space, Kitchen & Dodge suggest code/space, and Gotved offers a new interpretation of Lefebvre's trilogy of space in the form of a typology of online spatial dimensions. Each of these theories provides different insights into space in and around the physical/digital boundary.

### Relational Space

Massey saw space as a decentred, relational, process-based concept. That links space and social relations through a self-forming relationship; so space is formed by the resulting interactions from the coming together of people's narratives. Consequently space is a formation with its own distinct trajectory and interactions with other parties alters the formation of the space resulting in its reconfiguration. Massey uses the phrase "The event of Place"(Massey, 2005, pg 138), saying that "we are always on the move and there is no stable point" when explaining that the places and spaces actors inhabit are always under construction in the now. She describes relational space as acting much like a pincushion, with pins, actor's trajectories, being added and removed constantly altering the state of the cushion, or space. So space is never 'finished' it's the result of a continuous process and is set in the context of the other surrounding social interactions which simultaneously exist alongside each other (Massey, 2013).

This constant reformation of space results in space existing only in the present moment. Massey talks about how places are formed from the "simultaneity of stories-so-far" (Massey, 2005, pg 9) and that interactions shape the creation of future spaces. Meaning there is no history of space except in the 'memories' held within the narratives of the social actors who's interactions have created them. Without the synchronicity of social interaction, it can be argued that social space isn't formed because there is no exchange occurring between actors which would enable their stories-so-far to influence the creation of space. So in asynchronous social exchanges, space isn't truly formed as there is a lack of true simultaneity of process.



Figure 11: Dealers stalls at Anthrocon (McFarlin, 2013).

Massey's relational space interprets the social interaction between Furrries in a physical or synchronous setting very clearly and concisely. Take for example the Furry convention. There are spaces in existence before any Furry is present, constructed by the normal interaction of the social actors within that area of space-time. These include conventions centre space, and public spaces such as the street, and local business space. These are constantly being formed through interaction both internal and external to these spaces. When a Furry convention occurs the incoming trajectory of the Furrries in attendance interact to form a multitude of different internal convention spaces and interactions with external social actors producing an overall conventions space by altering the 'status quo'.



Figure 12: Furry convention space interacting with the city space (furryfandom.info, 2014).

In a digital setting relational social space would only be produced where interactions are had in real-time, such as in an instant messaging chat room, or a video call. Such social interactions are held synchronously, producing space through the same simultaneity of process as occurs with traditional physical spaces. Once the time between initiating an interaction and the other actor producing a response becomes non-real-time the process-based approach to the creation of space breaks down, as there is a cause but without an effect. This means no space is created, as an interaction hasn't occurred. However, it can be argued that the act of sending a message and knowing that it will be replied to later on could create a space of sending and a space of receipt, but this is not a pure interpretation of the formation of relational space, which requires simultaneity of process around which space is formed.

## Code/Space

Code/Space and coded space as described by Kitchen & Dodge (2011) relies heavily on Massey's relational space but adds support for software mediation of interactions, which work to solve relational problems for actors. Like Massey's original theory of space, their space formation ontology is that space is constantly brought into being through a process of interaction to provide an incomplete solution to a relational problem, their addition to this is the inclusion of software within that process. For code/space, software mediates the process and therein "code is essential to the form, function and meaning of space" (Kitchen & Dodge, 2011, pg 71). The mediation by software of this process means that the code acts as a catalyst for the transductions of space occurring during the interactions. Code/Space exists in the moment when interactions between actors are such that code is mediating the temporary solution to the relational problem and as a result beckoning into being a space, code/space.

A key failure of Massey's relational space when applied to digital communities is that it requires simultaneity of process. This *requirement* isn't removed by Kitchen & Dodge in their expansion of the theory to include code mediated spaces, but the synchronicity issues are effectively removed, since through their ontology, space is transduced into existence when code is utilised to solve a relational problem. In this way the sending and receiving of asynchronous social interactions can form space since it is the interaction of the actor and the code which transduces space into existence not the direct social interaction of the two actors.

Applying this ontology of space to the Furry community is simple. The community sites run by the fandom are the code which mediates the social interactions of the Furrries. Code/Space's are formed by each social actor on each side of the code when it solves the problem of distance between the community members. This process of producing a partial solution to the problem of distance transduces a space into existence, ensuring the simultaneity of process which Massey requires for the formation of a space.

Code/Space also applies in what could be traditionally considered the physical space of the convention. As mentioned in the case study the Furry convention has a digital cloud which exists alongside it. Interactions between convention goers and this digital cloud form code/spaces at each of their locations. Such interactions could consist of Tweets being posted giving the location within the convention of an actor and that being used by another to locate them again addressing the problem of distance but also the problem of crowds within a convention setting.

*"[A]fter to Con starts. I use real-time social services... Such as twitter, skype, Google hangouts, private IM networking apps, Facebook, FetLife... To announce rooms, locations, and schedule events." SS*

The Furry community relies on the mediation of code for the majority of its social interaction. They evolved alongside and as a result of the internet, resolving the problem of communication across distances. So as a result without the formation of the code/spaces the Furry community would not exist in the globally interconnected social way it currently does, since it would no longer have access to a solution to the problem of distance. Therefore, social interactions between actors would be limited to those without the problem of distance, and as already stated in many cases Furrries only connect to the community digitally because of the problem of distance. Therefore, the inevitable conclusion of the removal of code mediation would be that the Furry Fandom would cease to exist. The removal of the physical aspect of the Furry Fandom however, would have less of a devastating impact on the community because it is not where the majority of the social capital exchange occurs.

## Topology of Online Space

Code/Space is a good explanation of how a space is formed but fails to provide the answers to why it is important and what are its implications to the actors involved. Gotved's (2002) topology of online space, it can be postulated, goes some way to providing answers to those kinds of questions, when placed into the overall context of Massey's (2005) relational space as interpreted through Kitchen & Dodge's (2011) code/space. It does this by offering a way to simultaneously interpret each of its three spatial dimensions that Gotved suggests are present in every digital community, in different distributions, during an actor's interaction with code/space.

The typology offered up by Gotved as explaining the workings of online spatiality has its heritage in the theories of physical space from the 1980's and 90's, the most obvious of which is Lefebvre's spatial triad (Lefebvre,1991). Gotved's topology consists of three dimensions of space which closely parallel that of Lefebvre's and those of *Thirdspace* as detailed by Soja (1996).

### Interface Space

The first of these spaces is the interface space. This space consists of the 'physical products' of social interaction, by this Gotved means the textual and visual results of social interaction as displayable through a screen, for example either computer or mobile device. This space also includes other aspects relating to the interaction, such as the URL of a website, which can give indications of space-time location for that particular community site within the internet. Interface space is the visibility of communication, interaction and is the enabler of navigation, interaction, and interpretation for the community.

Interface space gives a digital community a level of visibility, which since it exists due to the mediation of code it wouldn't otherwise have. The interface space, being computer-mediated, clearly acts as code/space to provide the access for the actor to utilise the underlying code to solve their relational problem. Without the interface space providing the visibility to the actor, access to and use of code to solve the relational problems would become an act of "hard to grasp association" (Gotved, 2002, pg 410). Interface space provides for code/space's enabling of interactions in both temporal contexts, synchronous and asynchronous, by acting as a "shared-spot" defined by the URL. It is this shared aspect to the interface space which makes it a key element to a digital community, enabling the actors to experience a shared sense of that community's existence, enabling their social connection to it by experiencing its borders.

## Social Space

The social space is "the totality of the interaction, interpretations, expectations and demarcations" for that actor within the community (Gotved, 2002, pg 410). It exists simultaneously with the other spaces suggested by this typology acting to provide the emotional context in which to place the social interactions. The social space provides digital interaction with an interpreted level of quality which is comparable to that of a physical interaction. This is achieved through the subconscious interpretation of the visual results of the interaction as viewed through interface space. This space is where detail is added to a purely textual communication, in a physical context this would be done with the aid of physical cues from other actors however in digital communication this is achieved using emoticons and the interpretation of the narrative history of interaction with the actor.

It is within this social space that the social capital exchange takes place, and the social ties are formed. It is the "togetherness and the possibility of social value" (Gotved, 2002, pg 411) which act through social space to ensure the connection of an actor to a community socially. Within social space the shared spot and borders present by the interface space gain their social meaning through providing a means by which the social functions of community can be exercised. For example the establishment of social boundaries, power structures and the internal demarcation of social community all occur in the social space layer of this typology.

## Metaphorical Space

The metaphorical space spans the other two typologies and is formed of all the imagined geographies perceived within the code ether that exists beyond the interface space. Each space within the community is embedded within this imagined community geography. In this way the metaphorical space acts to integrate the physical and digital realities in which the community exists, by combining them into a imagined geography, where words, visuals, emotions and memories come together to form the spatial context and referencing within which community spaces can be produced and accessed.

Metaphorical space provides actors with "the feeling of three dimensions behind the screen, providing the possibility of moving through a space far more extensive than the world itself" (Gotved, 2002, pg 411-412). Metaphorical space is the imagination of the space beyond the interface space; it also establishes and maintains the borders of the community. This is achieved in combination with the interface space through the use of a login and profile for the community sites. Both of these can be perceived through metaphorical space as a gateway from one reality to another, whilst ensuring the community's border integrity is maintained, also providing the rituals of community citizenship for prospective community members (Christian & Levinson, 2003).



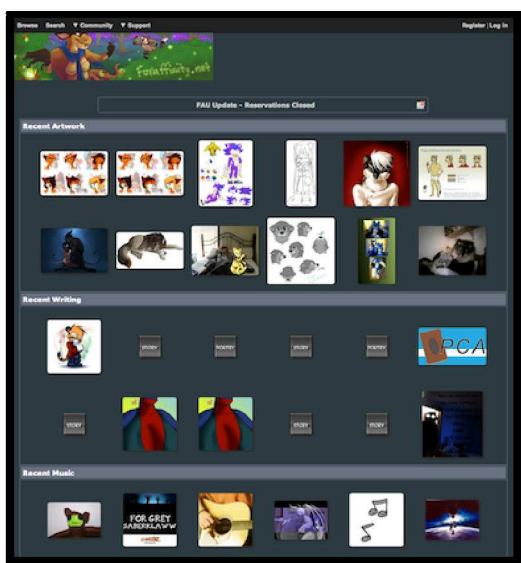
Overall the metaphorical space provided actors with the integration support required for a community to exist across the realities of the physical and digital worlds, by ensuring a consistent context into which an actor can place themselves through the process of social interaction mediated by code "supporting a sense of being in a special place" with certain spatial qualities (Gotved, 2002, pg 412). Metaphorical space is where the community space becomes, based on actors own narratives with the community.

### Example of Application

For the Furry community this typology of online spatiality is illustrated through their use of community websites, specifically the login element and fursona profile pages. The interface spaces for the Furry community highlight the way in which the community has a very strong connection to creativity. FurAffinity for example has on its home page large amounts of visually impressive artwork and provides access to literacy and forum textual material. It is in this way the Furry community identity is expressed to you, the visual impact is such that immediately aware of the community who's interface space you're accessing.

The social setting of Furry space online can be seen through the use of language and how that differentiates between community members and 'others' not of the fandom. This type of language provides the emotional context in which to situate social interaction.

Metaphorical space for the Furies is represented through again the maintenance of borders using logins and the ritual of fursona re/creation on each site. People are multi-dimensional spatial creatures and "Space matters [to us] even when it fails to materialise"(Gotved, 2002, pg 412). The Furies are overtly this, the advanced wave, their culture having evolved alongside the internet medium and given their inherent creativity this has resulted in a distinct visual identity.



As this typology is based on having an interface with code, and in the physical setting of a Furry convention, it only requires the formation of code/space. By either using a mobile device, which is internet enabled, allowing for access to the conventions digital cloud, or the convention online booking system which allows the organisers to manage the huge number of interactions required enabling the incoming trajectories of numerous Furies to the convention.

Figure 13: FurAffinity's website homepage (WikiFur, 2014).

At a convention the **interface space** is what can be seen, the fursuiter's, hugging people, talking with people, engaging in forums and discussions, making a commission with a dealer, the banners, the flags, the convention schedule, and the where, since a convention is occurring in physical space you have a space-time reference for it. The **social space** comes in the form of the atmosphere formed by the totality of the interaction and the social capital gained through that interaction. The interpretation of which, using the knowledge a community member would enable subtle social cues to be understood and acted upon by Furrries present. The best example of this is the physical gestures used to request and accept a hug with a fursuiter, the fundamental attachment of emotions to the inanimate fursuits, and the emotional connections which form between Furry performed fursona's. The **metaphorical space** is clearest when looking at the lobby of a convention where convention space, meets public space, and the gateway of the Furry community is enforced through the use of convention id's which are only available to community members. Thus this enables the convention to become a place within the imagined geographies of the Furry community. It is this composite place making which epitomises the Furry community's ability to integrate the physical and digital space, since what is present at a convention is not only the physical interaction of the Furrries but the supporting digital interactions which are the mainstay of the community.

## Conclusion

It is evident throughout history that new technologies have been exploited for social ends; for instance the horse and cart, the stage coach, steam trains, the telegraph system, the telephone and the radio. Technology has always largely been driven by the social. The internet one of the latest tools people use to combat the problem of geographic distance and to enable identity separation, gaining access to diverse opportunities for creating social connection. The exploitation of these technologies is likely to continue, the practical result being that over time communities become more integrated with communication technology and thus digital space.

The spatial distribution of the members of the Furry Fandom is closely linked with the spread of the internet. Early on the UseNet forums and chat rooms provided a solution to problems of distance in relation to social interaction. Having technical expertise enabled Furrries to be early adopters and evolved alongside the technologies of global communication.

*"Furrries have a proud history of being at the forefront of human interaction. Furrries will surely follow the evolution of society wherever that takes with regards to offline and online life; this is good enough for me." ES*

Furthermore, since the advent of digital social networking platforms such as Facebook, over the last ten years, the general public has exploited the social pathways which technology made more easily available. Moreover, the social media phenomenon is proof of the unending appeal of social interaction, with its ability to extend that social context into different social networking platforms. Whilst this appears to have the effect of reducing the barriers to the flow of social capital, in the form of communication, through digital mediums of code/space, via the topography of digital spatiality, can it be considered as true spatial integration, in line with Massey's description of social spaces being formed constant through community social interaction processes.

The Furry community have already been heralding the social networking phenomenon for the last 50 years, adapting their culture and community to better integrate themselves with physical and digital space. Indeed it has been argued that communications technology is core to the Furry community with its multi-sensory, visual, social and spatial elements; that being a Furry is at its most fundamental about personal identity, at the root of which is the advent of a way to communicate globally. Furthermore these communication technologies have enhanced distancing through which the performance of Furry identity is established. This essential feature of the Furry community is a distinctive yet not unique as is illustrated by Valentine & Skelton (2008) *Changing spaces: the role of the internet in shaping Deaf geographies*.

An unfortunate side effect of this is that without the digital space the Furry community would not exist in the same manner, since it would no longer be a global conglomeration of Furry performances. However it has been acknowledged that there are other non-digital means of communication, over global distances, which can also solve the spatial distance problem such as radio and post, but perhaps not as effectively. In the second instance therefore this could limit Furies to local links over short communication distances, rendering the majority isolated and invisible to one another, hidden within the cloud of 'popular culture'. However, the removal of the physical element to the Furry community would damage the community though not to a degree from which it wouldn't recover. Consequently the digital mediums have been integral to, and provided Furies, with the means to enact their need to perform, and consolidated their individual identities into a community identity and therefore enabled the creation of an imagined topographical community space.

Using this case study it can be argued that technology isn't changing us; neither society's perception of space nor its methodologies for social interaction. Technology has simply advanced to a point at which the exploitation of global interconnectivity is changing the spaces we connect through. Those connections no longer have to be physical; a digital one enabled by code/space and the topology of digital spatiality works just as well. Community social space, as a result of this technology and the enhanced integration of the different realities of space, has become much more imagined and abstract.

## References

- Acrufox., 2012. *A Furry at Anthrocon*. Flickr. Available from: <http://www.flickr.com/photos/acrufox/8443620084/in/pool-339756@N24/>.
- ALLEN, R.L., 1999. The Socio-Spatial Making and Marking of 'Us': Toward a Critical Postmodern Spatial Theory of Difference and Community. *Social Identities*, vol. 5, no. 3, pp. 249.
- ALTMAN, E.S., 2010. *Posthuman/ous: Identity, Imagination, and the Internet*. Appalachian State University.
- ANDERSON, B., 1983. *Imagined Communities: Reflections on the Origin and Spread of Nationalism*. 7th revised and extended edition ed.
- ANDREWS, D., J. PREECE and M. TUROFF. A Conceptual Framework for Demographic Groups Resistant to Online Community Interaction *Proceedings of the 34th Hawaii International Conference on System Sciences*, 2001.
- Anthrocon., 2012. *Anthrocon 2012 - Closing Ceremonies*. YouTube. Available from: <http://www.youtube.com/watch?v=QmWpCBdcmp4>.
- ARROWS, F., 2008. *The Authentic Dissertation: Alternative ways of knowing, research, and representation*. 1st ed. London: Routledge.
- BASSEY, M., 1981. Pedagogic Research: On the Relative Merits of Search for Generalisation and Study of Single Events. *Oxford Review of Education*, vol. 7, no. 1, pp. 73.
- BASSEY, M., 2000. Fuzzy Generalisations and Best Estimates of Trustworthiness: a step towards transforming research knowledge about learning into effective teaching practice *TLRP Annual Conference*.
- BELL, J., 2010. *Doing your research project*. 5th ed. Doing your research project: McGrawHill.
- BENDIXEN, M., 2003. A Practical Guide to the Use of Correspondence Analysis in Marketing Research. *Marketing Bulletin*, vol. 14, no. Technical Note 2.
- CAMILLI, G. and HOPKINS, K.D., 1979. Testing for association in 2 \* 2 contingency tables with very small sample sizes. *Psychological Bulletin*, vol. 86, pp. 1011.
- CAMILLI, G. and HOPKINS, K.D., 1978. Applicability of chi-square to 2 \* 2 contingency tables with small expected frequencies. *Psychological Bulletin*, vol. 85, pp. 163.
- CARLSON, M., 2011. Furry Cartography: Performing Species. *Theatre Journal*, vol. 63, pp. 191.
- CARTER, D., 2005. Living in virtual communities: An ethnography of human relationships in cyberspace. *Information, Communication & Society*, vol. 8, no. 2, pp. 148.
- CHRISTIAN, Karen and LEVINSON, David., 2003. *Encyclopedia of Community: From Village to Virtual World*. USA: Sage.
- CHURCHILL, E., GIRGENSOHN, A., NELSON, L. and LEE, A., 2004. Blending Digital and Physical Spaces for Ubiquitous Community Participation. *Communications of the ACM*, vol. 47, no. 2, pp. 39.
- CRESSWELL, T., 1996. *In Place/Out of Place: Geography, Ideology and Transgression*. University of Minnesota Press.
- DENSCOMBE, M., 2010. *The Good Research Guide*. Open University Press.
- DOUGLAS, S.M., 2012. *Anomie Theory and the Furry Fandom*. University of Toronto Mississauga.
- ELLISON, N.B., STEINFELD, C. and LAMPE, C., 2007. The Benefits of Facebook "Friends": Social Capital and College Students' Use of Online Social Network Sites. *Journal of Computer-Mediated Communication*, vol. 12, no. 4, pp. 1143.
- FEINBERG, S.E., 1980. *The analysis of cross-classified categorical data*. Cambridge: MIT.
- FiskerDoodle., 2012. *VancouFur 2012 CTV News*. YouTube. Available from: <http://www.youtube.com/watch?v=CmMxvZH-SiA>.

- FLOWERDEW, R. and MARTIN, D., 2005. *Methods in Human Geography: A guide for students doing a research project*. 2nd ed. Pearson.
- FreezeFrameFox., 2013. *Fizz Otter Sets up a laser Projector*. YouTube. Available from: <http://www.youtube.com/watch?v=Wu6ghWrV3H8>.
- Frolic., 2014. *Frolic Advet [img]*. Available from: <http://frolicparty.com/>.
- FurryFandom.info., 2014. *Furry Fandom Info-Center*. Available from: <http://www.furryfandom.info/>.
- FurryMap.net., 2014. *Furrymap.net is the new map and registration service for furies from all over the world*. Available from: <https://furrymap.net/de/>.
- GERBASI, K.C., PAOLONE, N., HIGNER, J., SCALETTA, L.L., BERNSTEIN, P.L., CONWAY, S. and PRIVITERA, A., 2008. Furies from A to Z (Anthropomorphism to Zoomorphism). *Society and Animals*, vol. 16, pp. 197.
- GERBASI, K.C., SCALETTA, L.L., PLANTE, C.N. and BERNSTEIN, P.L., 2011. Why so FURious? Rebuttal of Dr. Fiona Probyn-Rapsey's Response to Gerbasi et al.'s "Furies from A to Z (Anthropomorphism to Zoomorphism)". *Society & Animals*, vol. 19, pp. 302.
- GIESEKING, J.J. and BERGMANN, L., 2013. *Association of American Geographers (AAG) CFP :: Digital Geographies, Geographies of Digitalia*. Association of American Geographers. 10/6/2013, Available from: <https://www.hastac.org/opportunities/association-american-geographers-aag-cfp-digital-geographies-geographies-digitalia>.
- GRAHAM, S., 1998. The end of geography or the explosion of place? Conceptualizing space, place and information technology. *Progress in Human Geography*, vol. 22, no. 2, pp. 165.
- GRANOVETTER, M., 1973. The strength of weak ties. *American Journal of Sociology*, vol. 78, pp. 1360.
- GreenReaper (Laurence Parry)., 2014. *Flayrah: Furry food for thought*. Available from: <http://www.flayrah.com/>.
- GREGORY, D., JOHNSTON, R., PRATT, G., WATTS, M.J. and WHATMORE, S., 2009. *The Dictionary of Human Geography*. 5th ed. Wiley-Blackwell.
- GOTVED, S., 2002. Spatial Dimensions in Online Communities. *Space and Culture*, vol. 5, no. 4, pp. 405.
- HARVEY, D., 1989. *The Condition of Postmodernity: An Enquiry Into the Origins of Cultural Change*. Wiley.
- HITCHCOCK, D.B., 2009. Yates and Contingency Tables: 75 Years Later. *Electronic Journal for History of Probability and Statistics*, vol. 5, no. 2.
- HOGG, M.A. and TERRY, D.J., 2000. Social Identity and Self-Categorization Processes in Organizational Contexts. *Academy of Management Review*, vol. 25, no. 121.
- IARP., 2013. *Everything You've EVER Wanted to Know About Furies (But were too afraid to ask)*. Available from: <https://sites.google.com/site/anthropomorphresearch/>.
- JEANSONNE, S.A., 2012. *Breaking Down Stereotypes: A Look at the Performance of Self-Identity Within the Furry Community*. Texas State University-San Marcos.
- JOSEPH, M., 2002. *Against the Romance of Community*. University of Minnesota Press.
- JMacksvideos., 2012. *Being Furry In A Non-Furry World*. YouTube. Available from: <http://www.youtube.com/watch?v=GbcnHx-BM2M&list=WLEBC7260FCC3DA2F5>.
- KITCHEN, R. and DODGE, M., 2011. *Code/Space: Software and Everyday Life*. USA: MIT.
- KUMAR, R., NOVAK, J., RAGHAVAN, P. and TOMKINS, A., 2004. Structure and Evolution of Blogspace. *Communications of the ACM*, vol. 47, no. 12, pp. 35.
- LARNTZ, K., 1978. Small sample comparisons of exact levels for chi-square goodness of fit statistics. *Journal of the American Statistical Association*, vol. 73, pp. 253.
- LEFEBVRE, H., 1991. *The Production of Space*. Wiley-Blackwell.

- LIMB, M. and DWYER, C., 2001. *Qualitative Methodologies for Geographers*. London: Arnold.
- LION, K., 2011. *Furry limo ride & Fursuited at Frick Park, Pittsburgh - Anthrocon 2011*. YouTube. Available from: <http://www.youtube.com/watch?v=tijs-hDAzWw>.
- MASSEY, D., 2013. *Podcast: Doreen Massey on Space*. Sage. February 1, 2013, Available from: <http://www.socialsciencespace.com/2013/02/podcastdoreen-massey-on-space/>.
- MASSEY, D., 2005. *For Space*. London: Sage.
- MCCULLY, W., C. LAMPE, C. SARKAR, A. VELASQUEZ and A. SREEVINASAN. Online and Offline Interactions in Online Communities 7th International Symposium on Wikis and Open Collaboration. California, 2011.
- MCFARLIN, T.J., 2013. *Anthrocon Dealers Den*. Flickr. Available from: <http://www.flickr.com/photos/10247562@N06/9302837999/sizes//>.
- MCFARLIN, T.J., 2013. *Furries at Anthrocon 2013*. Flickr. Available from: <http://www.flickr.com/photos/10247562@N06/9302865761/sizes//>.
- MCFARLIN, T.J., 2012. *A Furry at Anthrocon 2012*. Flickr. Available from: <http://www.flickr.com/photos/10247562@N06/7412467768/in/pool-339756@N24/>.
- MCKENNA, K.Y.A., GREEN, A.S. and GLEASON, M.E.J., 2002. Relationship formation on the Internet: What's the big attraction?. *Journal of Social Issues*, vol. 58, pp. 9.
- MCLUHAN, M., 1962. *The Gutenberg Galaxy: The Making of Typographic Man*. Toronto: University of Toronto Press.
- MEDIYAZ, L., 2011. *What Can We Learn From Furries?* <http://lemurtango.wordpress.com/category/dissertation/>.
- MILLER, D. and SLATTER, D., 2000. *The Internet. An Ethno-graphic Approach*. Oxford: Berg.
- MOCK, S.E., PLANTE, C.N., REYSEN, S. and GERBASI, K.C., 2013. Deeper leisure involvement as a coping resource in a stigmatized leisure context. *Leisure/loisir*, vol. 37, no. 2, pp. 111.
- NAST, H.J., 2006. Loving...Whatever: Alienation, Neoliberalism and Pet-Love in the Twenty-First Century. *ACME: An International E-Journal for Critical Geographies*, vol. 5, no. 2, pp. 300.
- PAPACHARISSI, Z., 2011. *A Networked Self: Identity, Community, and Culture on Social Network Sites*. London: Routledge.
- PAPADAKIS, M.C., 2003. *Computer-Mediated Communities: The Implications of Information, Communication, and Computational Technologies for Creating Community Online*. Arlington, VA: SRI International.
- PARKS, M.R. and FLOYD, K., 1996. Making friends in cyberspace. *Journal of Communication*, vol. 46, pp. 80.
- PARSONS, T. and KNIGHT, P.G., 2005. *How to do your dissertation in Geography and related disciplines*. 2nd ed. London: Routledge.
- PEHRSON, C., 2011. *Furries - An Inside Look (Pt. 1 of 3)*. YouTube. Available from: [http://www.youtube.com/watch?v=IdaOPW\\_kdXA&list=WLEBC7260FCC3DA2F5](http://www.youtube.com/watch?v=IdaOPW_kdXA&list=WLEBC7260FCC3DA2F5).
- PLANTE, C.N. and FENNEC, J., 2012. *The Social Psychology of The Furry Fandom*. Texas Furry Fiesta Convention: 25 February 2012, Available from: <http://www.youtube.com/watch?v=O6zYWmvHnZQ>.
- PROBYN-RAPSEY, F., 2011. Furries and the Limits of Species Identity Disorder: A Response to Gerbasi et al. *Society & Animals*, vol. 19, pp. 294.
- PUTNAM, R.D., 2000. *Bowling alone: The collapse and revival of American community*. New York: Simon and Schuster.
- RAUBAL, M. Formalizing Conceptual Spaces *Formal ontology in information systems, proceedings of the third international conference, 2004*.
- RESNICK, P., 2001. Beyond Bowling: together: Socio-technical capital. In: J. CARROLL ed., *HCI in the New Millennium* New York: Addison-Wesley, pp. 647.

- RHEINGOLD, H., 2000. Rethinking Virtual Communities. In: *The Virtual Community: Homesteading on the Electronic Frontier* 2nd ed. London: MIT Press, pp. 323.
- SCHWERING, A. and RAUBAL, M., 2005. Measuring Semantic Similarity between Geospatial Conceptual Regions. *GeoSpatial Semantics Lecture Notes in Computer Science*, vol. 3799, pp. 90.
- SESSIONS, L.F., 2010. How offline gatherings affect online communities: When virtual community members "meetup", vol. 13, no. 3, pp. 375.
- SOJA, E.W., 1996. *Thirdspace: journeys to Los Angeles and other real-and-imagined places*. Cambridge: Wiley-Blackwell.
- SULER, J., 2004. The Online Disinhibition Effect. *CyberPsychology & Behavior*, vol. 7, no. 3, pp. 321.
- TAJFEL, H., 1970. Experiments in Intergroup Discrimination. *Scientific American*, vol. 5, no. 223, pp. 79.
- TANASYUK, P., 2008. Identity in Virtual Communities of Practice. *Ischannel*, vol. 3, no. 1, pp. 28.
- THOMPSON, B., 1988. Misuse of chi-square contingency-table test statistics. *Educational and Psychological Research*, vol. 8, no. 1, pp. 39.
- TÖNNIES, F., 2001. *Tönnies: Community and Civil Society*. J. HARRIS ed., Cambridge: Cambridge University Press.
- TRANVIK, T. Surfing Together and the Rise of Social Capital? *Investigating Social Capital conference*. Solstrand, Norway, 2000.
- VALENTINE, G. and SKELTON, T., 2008. Changing spaces: the role of the internet in shaping Deaf geographies. *Social & Cultural Geography*, vol. 9, no. 5, pp. 469.
- VICHOT, R., 2009. "Doing it for the lulz?": *Online Communities of Practice and Offline Tactical Media*. Georgia Institute of Technology.
- WELLMAN, B. and GULIA, M., 1999. Net surfers don't ride alone: Virtual communities as communities. In: M. SMITH ed., *Communities and cyberspace* New York: Routledge, pp. 167.
- WENGER, E., 1998. *Communities of Practice: The Buzz and the Buzzword*. Cambridge: Cambridge University Press.
- WENGER, E., MCDERMOTT, R. and SNYDER, W.M., 2002. *Cultivating Communities of Practice*. Boston: Cultivating Communities of Practice.
- WikiFur., 2014. *WikiFur: By furrries, for furrries, about furrries; and WikiFur, the furry encyclopedia*. N/A, Available from: [http://en.wikifur.com/wiki/WikiFur\\_Furry\\_Central](http://en.wikifur.com/wiki/WikiFur_Furry_Central).
- WILLIAMS, D., 2006. On and off the 'net: Scales for social capital in an online era. *Journal of Computer Mediated Communication*, vol. 11, pp. 593.
- WOOLGAR, S., 1991. Configuring the User: The Case of Us- ability Trials. In: J. LAW ed., *Sociology of Monsters: Essays on Power, Technology, and Domination* London: Routledge.
- WRIGHT, K.B., 2006. Researching Internet-Based Populations: Advantages and Disadvantages of Online Survey Research, Online Questionnaire Authoring Software Packages, and Web Survey Services. *Journal of Computer-Mediated Communication*. [http://onlinelibrary.wiley.com/doi/10.1111/j.1083-6101.2005.tb00259.x/full?utm\\_source=twitterfeed&utm\\_medium=twitter](http://onlinelibrary.wiley.com/doi/10.1111/j.1083-6101.2005.tb00259.x/full?utm_source=twitterfeed&utm_medium=twitter) ed., vol. 10, no. 3, pp. 00.
- YATES, D., MOORE, M., D. and MCCABE, G., 1999. *The Practice of Statistics*. 1st ed. New York: W.H. Freeman.
- YATES, F., 1934. Contingency tables involving small numbers and the chi-square test. *Journal of the Royal Statistical Society*, vol. 1, pp. 217.



## Appendix 1: Glossary

### Anthrocon

The world's biggest Furry convention, held yearly in Pennsylvania, USA (WikiFur, 2014).

### Con Badge

Con badges are a method used by Furies to identify each other. They relate to a Furies fursona and thus are generally personalised. The name con badge comes from the fact that they are often created for and worn at conventions or furmeets. The two types of con badges are:

- The membership or official badge, which is issued by convention hosts
- The artist or fursona badges which are a specialised form of commission – This is what is most often meant when speaking about a con badge (WikiFur, 2014).

### Convention (Con)

This is a gathering of the Furry Fandom, including Furies, fursuiter, artists and often dealers/vendors, at a centralised location. Conventions are usually held in mid to large sized cities which are well connected to transport infrastructure such as international airports. The conventions often last for three or more days, usually over a weekend, or other holiday. Registration is required to gain access to a convention and this is typically around \$50. If transport, food and hotel costs are included then the cost a convention trip for a Furry can reach above \$400. Not all Furies attend conventions whilst others attend multiple each year (WikiFur, 2014).

### Flayrah

This is a community news website for the Furry Fandom which has been running since 2001. According to its website hundreds of Furies read Flayrah on a daily basis including key-decision makers within the fandom. Flayrah was chosen as chosen as *Best Anthropomorphic Magazine* by voters in the 2011 Ursa Major Awards (GreenReaper, 2014).

### Furaffinity (FA)

The Furry Fandom's most well known community website, largely focusing on the promotion of art, music and stories. FurAffinity's features include the ability to track new updates from particular artists, highlight favourites, and upload a wide variety of art (images, music and stories). The site attempts to promote community through its comments system and individual journals (WikiFur, 2014).

### **Furmeet**

A relatively small gathering of Furrries that may be sporadically scheduled or regular events. A furmeet can range in size, from a small group to dozens. A furmeet can include, food, games, movies (both Furry and non-Furry related), and drawing/artwork creation. Sometimes a furmeet can be as casual as simply getting together to socialise over a few drinks at a local bar or pub. Furmeets can be a fun way to meet other Furs and make new friends, get to know local Furs, and generally have fun. When a furmeet attracts more attendees, and starts to add features such as organized programming and the sale of goods, it begins to be considered a convention (WikiFur,2014).

### **Furry Fandom**

Refers to all the fans of the *Furry genre* of literature, art and entertainment. The Furry fandom also includes the community of artists, writers, role players and general fans of the Furry art forms who participate with the community digitally and at conventions (WikiFur,2014).

### **Furry (Fur), Furrries (Furs)**

It is hard to get a concrete description of a Furry however a good general description is a person with an interest in anthropomorphic animals, mythical or fictional creatures (WikiFur,2014).

### **Fursona**

Refers to a character/identity assumed by a person, and is normally associated with the Furry Fandom. The term is derived from Furry and Persona. A Fursona consist of a name, species and some form of visualisation of the characters features including colour, distinctive markings, body features and clothing either through literary description or artistic representation. It is typical for a Furry to commission multiple artworks, and literary pieces focusing on their fursona. Fursona's and the acuminated artwork form the basis from which fursuits are constructed (WikiFur,2014).

### **Fursuit, Fursuiter, Fursuiting**

Fursuits are costumes based on the fursona of a member of the Furry Fandom. They can range from just ears and tails through partial suits consisting of arms, legs, head and tail all the way through to battery powered full body consumes. The fursuit enables the adoption of a fursona for a Furry (WikiFur,2014).

The price of a fursuit can range from \$100 to well over \$1000 depending on the level of complexity and materials involved. Fursuit commissions are often taken by dealers at conventions or through websites, but parts of suits and accessories are frequently sold at Conventions and Furmeets. There is also a vibrant 'make your own' ethic within the fandom, with large numbers of tutorials and advice threads posted online (WikiFur,2014).

The act of wearing a fursuit is usually referred to as Fursuiting (WikiFur,2014).

## Appendix 2: Methodology Details

### Establishing the Topic, Aim & Objectives

Parsons and Knight (2005) strongly suggest that once a broad topic area has been decided on the next step is deciding on a “*problem* [to] tackle [that] will be a more specific, and smaller, issue within the topic” (Parsons and Knight, 2005, pg 28). To be achievable a projects goals need to be in proportion with the time available as Yin explains “The more a study contains specific propositions, the more it will stay within reasonable limits” (Yin, 1994 pg 137 in Bell, 2010, pg 8). Coming up with such a focused aim for this project was tricky for two reasons.

One, the Furry Fandom is huge, diverse and has already been investigated the perspective of identity by other disciplines. If the project was to look at this community it needed to be very clear on what angle it was to take. Geography is inherently spatial, so it made sense for this project to concentrate on that aspect of the community since spatial aspects of the Furry community’s relations had been neglected. Thus the choice was made the project should look at the integration of digital and physical worlds for the Furry community.

The second reason is, previously when researchers, for what would become the International Anthropomorphic Research Institute, had asked Anthrocon’s chairman Uncle Kage about conducting a survey at the convention he “warned that he did not actually expect anyone at the convention to complete a survey because of the history of media portrayals” (Gerbasi et al., 2008), this wariness from the community would likely impact on the amount of information the project would be able to access unless the Furies could have a sense of being ‘involved’ in the research. This was achieved by making it clear that the results of the project would be made available to the participants on completion.

Generation of the project objectives was done based on the project’s aim. Reflecting on what Gill Valentine says in Limb and Dwyer (2001) I conducted a short literature search into digital communities and their interactions. The resulting context meant that reasonable objectives could be formulated. This was an evolutionary process which ensured that the project was practical, narrowing the focus, whilst ensuring that the aim and objectives where achievable given the time and data collection constraints the project was facing (Flowerdew and Martin, 2005, pg 45).

After the finalising of the title, aim and objectives in the project’s progress report the background reading and literature review continued right the way through the project. In the literature review I have attempted to “provide the reader with a picture ... of the state of knowledge and of major questions in the subject” (Bell, 2010, p.104) which has been hampered by the lack of literature on the case study community and by the underdevelopment of digital geography field.

### Case Study Justification

A case study approach was the most appropriate research frame. Bell (2010) argues case studies being used to provide more specific detailed information about a subject area once key areas of interest have been identified. This project is influenced by Gerbasi et al's (2008) work with observations being made from a geographical perspective. Denscombe (2010) describes the strength of a case study as being of a holistic approach to research that allows multiple methods and sources to be used to inform the study. The small and focused nature of a case study allowed for the use of data capture methods best suited to the environment whilst enabling the detailed observation of intricate social interactions across the digital/physical boundary. According to Bell (2010) observation, ethnography and interviews are the most frequently used methods used in a case study environment however no methodology can be excluded so long as it falls appropriately into the systematic and objective collection of information on the desired topic.

Case studies are not without their drawbacks; Denscombe (2010) states a case study should have a well defined 'case', the boundaries set out by the research question ensuring the area is distinct. He suggests the researcher should ensure the study does not bleed into areas outside those boundaries risking losing focus. Generalisation of such a focused study is tricky at best and often inappropriate or impossible. In the past Bassey (1981) thought that the reliability of a case study is more important than its generalisability. However in a more recent paper he has recognised through the ideas of fuzzy logic that fuzzy generalisations can be made by social scientists so long as valid a best estimate of trustworthiness (BET) has been made. "Making such a BET takes the researcher beyond the empirical evidence arising in a research project and into the realm of professional tacit and explicit knowledge" (Bassey, 2000, pg 1) enabling a certain degree of generalisation from appropriately constructed case studies.

## Appendix 3: Survey Construction

The creation of the surveys was achieved through a number of stages:

- Mark One
  - Questions were generated, based on the objectives of the project.
  - Finally a question was included in this first draft to capture information of other possible sites which could be used to distribute the survey.
  - Distributed on the sites UKFur and FurAffinity, local and global community sites.
  - The resulting feedback enabled the creation of the mark two and three surveys.
- Mark Two
  - A complete rewrite of the questions from Mark 1 with changes introduced including removing the question asking about which sites were used
  - As a result it is impossible to combine the subsequent datasets with that of the mark one survey.
- Mark Three
  - Spelling changes and improvements to survey validation and grammar.
  - An active interview contact detail gathering question was included.
  - As a result the datasets of the final two versions can easily be combined.

Versions two and three of the survey were more widely distributed to sites that had been referenced in the mark one results, as well as other sites found independently. It was also suggested by the community to post the survey on a community news site, the resulting contact with the chief editor meant that a post was made to the widely respected community news site Flayrah and resulted in a jump in responses overnight. A pro-forma for publicity requests for the survey was created and revised once; both were sent out with very limited success, restricting the sample scope of the survey almost entirely to forum users.

## Appendix 4: Survey Analysis Justification

### Pearson's Chi-Square Test

Data collected was in the form of contingency tables therefore Pearson's Chi-Square Test was used, because it is a well respected method for analysing the relationships between categorical values.

The test requires that a number of features are present in the data set which it is being applied to:

- The data must be from a simple random sample,
- The sample size of the entire table must be suitably large,
- Each observation must be independent,
- The expected cell count must be adequate, "No more than 20% of the expected counts are less than 5 and all individual expected counts are 1 or greater" (Yates et al, 1999, pg 734).

The data collected by the survey met all but the final criteria. Because of how the survey was structured the occurrence of non-structural zero values was a regular occurrence and for the majority of the tables counts of under five accounted for 20% or greater of the tables cells.

Although failure to meet this assumption can be partially correct for using the Yates's correction for continuity (Yates, 1934). The accuracy of this correction is debatable; there are substantial numbers of papers indicating that the use of the Yates correction results in overly conservative results (Camilli & Hopkins, 1978, 1979; Feinberg, 1980; Larntz, 1978; Thompson, 1988). This dispute is considered minor by statisticians and responses to it have been mixed (Hitchcock, 2009, pg 17-19). As a result the chi-squared method wasn't applied to the survey data in favour of simple correspondence analysis.

### Simple Correspondence Analysis

Simple correspondence analysis explores the relationships between categorical data to expose its underlying structure. This method was chosen because it provides for relatively easy visual representation and interpretation (Bendixen, 2003). The representations produced from this method can either be symmetrical or asymmetrical the latter plot protects from misinterpretation. However there is a second solution which uses asymmetric plots but also utilises knowledge of the dataset to enhance the richness of meaning. The axes are interpreted in terms of either the rows or columns and those points plotted in the space of the labelled axes (Bendixen, 2003).

### Mann-Whitney Test

Another issue with the data was the lack of normality. Results of the summary analysis produced only one question with normal results. Attempts at normalising the results through standard methods proved ineffective and so non-paramedic tests were needed to analysis the data. The test chosen was the Mann-Whitney U, which tests two groups of data against a null hypothesis that they are not the same. Thus the test looks for difference, not a causal relationship within an ordinal data set.

### Concept Space Similarity Test

The survey data was also used to construct concept spaces for each individuals 'perception' of the physical and digital community. These two concept spaces can then be compared with one another to find the difference between them. The process for the production of concept spaces is set out by Raubal (2004), and the comparison methodology is detailed in Schwering & Raubal (2005). The data has been processed and the results are plotted in a 3D scatter diagram with the Hausdorff Distance (the semantic distance between the two spaces) highlighted and also surface has been interpolated for the spaces and plotted in 3D.

## Appendix 5: Mark Three Survey Coding

Q1 Do you consider yourself a Furry?

- Yes: 1
- No: 0

Q2 Please rank what you use the online communities for,

- 1 (most) to 4 (least). Most used 1 to least used 4
- N/A: 0

Q3 How often do you organise meetings with people in real life via such sites?

- Daily 4
- Weekly 3
- Monthly 2
- Yearly 1
- Never 0

Q4 : How many Furry friends do you have, in total?/5 : How many of your friendships with Furries have started online? /6 How many of your Furry friends crossover between online and offline?

- Count

Q7 For each social activity please select which medium you predominantly use?

- Always Digital: 1
- Mostly Digital: 2
- Frequently Digital: 3
- 50:50: 4
- Frequently Physical: 5
- Mostly Physical: 6
- Always Physical: 7

Q8 In an ONLINE setting please give estimates for each of the following

Q9 In an OFFLINE setting please give estimates for each of the following

- Count

Q10

- Geo-coded location as Lat:Lon

## Appendix 6: Survey Results

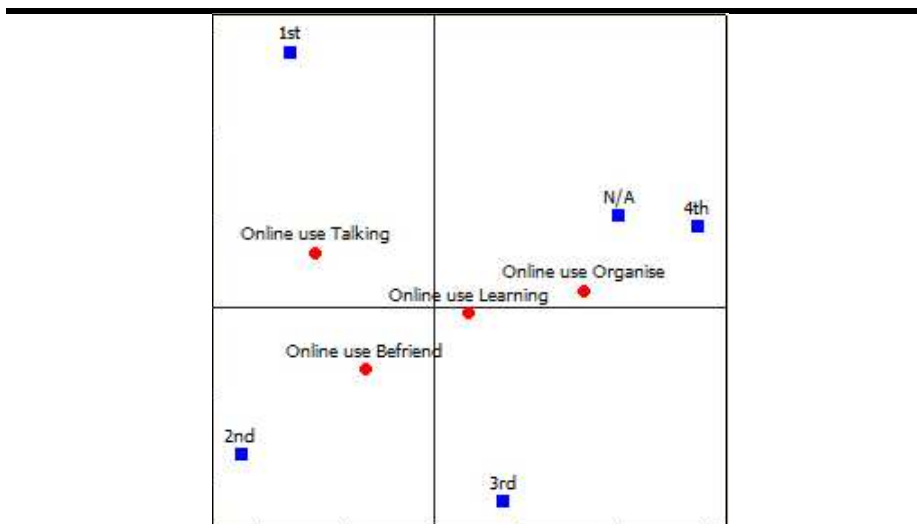
**Table 9: Do you consider yourself a Furry?**

	Original	After Reclass
Yes	90.43%	93.91%
No	5.22%	5.22%
Other	4.35%	

Reclassification of Table 9 is based upon the comments given with 'Other' answers, these were generally to do with the definition of a Furry.

**Table 10: Please rank what you use the online communities for, 1 (most) to 4 (least).**

Use	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	N/A
Learning about a topic.	22.61%	14.78%	33.91%	25.22%	3.48%
Talking with like-minded people.	47.83%	36.52%	9.57%	4.35%	1.74%
To organise real life meetings.	9.57%	3.48%	26.96%	53.04%	6.96%
To befriend others with similar tastes in common.	19.13%	43.48%	27.83%	7.83%	1.74%



**Figure 14: Simple correspondence analysis of the use of online community sites.**

Table 10 and Figure 14 show that Furies predominantly use online methods for social communication. This is visually represented by the correspondence analysis since the activities of befriending and talking are in the segments closer to the 1<sup>st</sup> and 2<sup>nd</sup> rank categories.



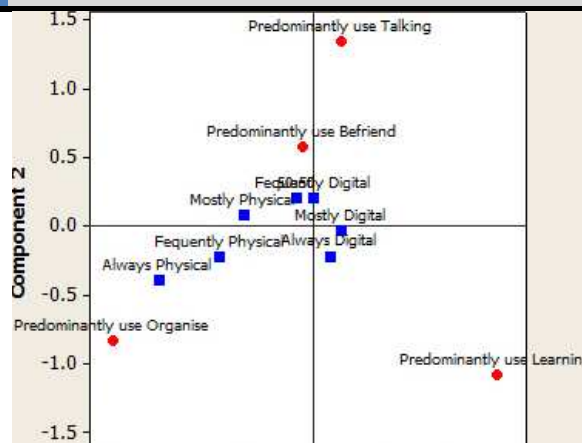
**Table 11: How often do you organise meetings with people in real life via such sites?**

Never	Yearly	Monthly	Weekly	Daily
46.09%	26.09%	20.00%	6.09%	1.74%

Table 11 shows that whilst a high proportion of respondents where ‘online only’ Furries the greater proportion of respondents where active offline. The yearly and monthly figures suggest that these respondents attend both local furmeets and larger conventions.

**Table 12: For each social activity please select which medium you predominantly use?**

Social Activity	Digital			50:50	Physical		
	Always	Mostly	Frequently		Frequently	Mostly	Always
Learning about a topic	27.83%	45.22%	13.04%	11.30%	1.74%	0.87%	0.00%
Talking with like-minded people	14.78%	33.91%	21.74%	22.61%	2.61%	3.48%	0.87%
To organise real life meetings	20.00%	25.22%	13.91%	18.26%	12.17%	6.96%	3.48%
To befriend others with similar tastes in common	16.52%	34.78%	16.52%	20.00%	6.09%	6.09%	0.00%



**Figure 15: Simple correspondence analysis of social activities.**

Table 12 and Figure 15 show that the majority of information exchange about the Furry Fandom occurs through digital mediums which tallies with survey comments about ‘young furs’ that join the fandom. The main social capital exchange methods, talking and befriending, both occur predominantly in the digital though both also occur in physical space to some degree. The linking of organisation of social meeting in physical space would appear to be an anomaly of the correspondence analysis when compared to Table 12’s figures for organising real-life meetings.

**Table 13: Descriptive Statistics:**

Variable	Mean	SE Mean	StDev	Variance	CoefVar	Minimum	Q1	Median	Q3	Maximum	Range	IQR	Mode	N for Mode
Total	33.8	10.1	105.9	11204.5	312.75	0.0	4.0	10.0	20.0	1000.0	1000.0	16.0	20	8
Started Online	27.80	9.66	101.27	10254.64	364.	0.00	2.00	6.50	19.00	1000.00	1000.00	17.00	0	16
Shared	9.66	2.20	23.05	531.18	238.50	0.00	0.75	2.00	8.50	150.00	150.00	7.75	0	27
Calc Friends Offline	6.05	1.68	17.57	308.80	290.67	0.00	0.00	1.00	5.00	150.00	150.00	5.00	0	43
Close Friends Online	6.082	0.886	9.289	86.278	152.73	0.000	1.00	3.00	6.250	72.000	72.000	5.250	0	20
Hr per month Online	79.4	12.9	135.3	18304.2	170.37	0.0	9.5	30.0	90.0	1000.0	1000.0	80.5	5 & 20 & 30	10
Groups Online	3.845	0.511	5.359	28.719	139.36	0.000	1.750	3.000	4.250	50.000	50.000	2.500	2	22
Close Friends Offline	3.045	0.437	4.586	21.035	150.60	0.000	0.000	1.000	4.000	30.000	30.000	4.000	1	29
Hr per month Offline	34.6	10.8	113.1	12788.6	327.01	0.0	0.0	5.0	20.0	750.0	750.0	20.0	0	31
Groups Offline	0.864	0.138	1.449	2.101	167.81	0.000	0.000	0.000	1.000	10.000	10.000	1.000	0	62
Calc Total Close Friend	9.13	1.16	12.13	147.23	132.94	0.00	2.75	5.00	11.25	72.00	72.00	8.50	0 & 3	12
Calc Total Hours Socialising	114.0	16.1	168.4	28365.4	147.75	1.0	20.0	48.0	126.0	1000.0	999.0	106.0	20 & 30	6
Calc Total Groups	4.709	0.556	5.828	33.970	123.77	0.000	2.000	3.000	6.000	50.000	50.000	4.000	3	18

## Mann-Whitney Test

### CI: $T \leq 10$ SO, $T > 10$ SO

Testing that if total number of friends (T) had is ten or less then the number of friendships started online (SO) will be lower than those with a total number of friends greater than 10.

	N	Median
<b>T ≤ 10 SO</b>	60	3.00
<b>T &gt; 10 SO</b>	55	20.00

Point estimate for ETA1-ETA2 is -16.00  
95.0 Percent CI for ETA1-ETA2 is (-20.00,-14.00)  
W = 2011.5  
Test of ETA1 = ETA2 vs ETA1 < ETA2 is significant at 0.0000  
The test is significant at 0.0000 (adjusted for ties)

### CI: $T \leq 10$ %SO, $T > 10$ %SO

Testing whether the proportion of friendships started online where the total number of friends (T) is 10 or less is lower than the proportion started online (%SO) where the total number of friends is greater than 10.

	N	Median
<b>T ≤ 10 %SO</b>	60	100.00
<b>T &gt; 10 %SO</b>	55	87.50

Point estimate for ETA1-ETA2 is 0.00  
95.0 Percent CI for ETA1-ETA2 is (-4.62,9.52)  
W = 3607.5  
Test of ETA1 = ETA2 vs ETA1 < ETA2

Cannot reject since W is > 3480.0

### CI: $CFO \leq 4$ hrOff, $CFO > 4$ hrOff

Testing if the hours spent socialising offline is greater for fewer or equal to 4 close friends online (CFO) than for a larger then 4.

	N	Median
<b>CFO ≤ 4 hrOff</b>	70	2.00
<b>CFO &gt; 4 hrOff</b>	40	13.50

Point estimate for ETA1-ETA2 is -7.00  
95.0 Percent CI for ETA1-ETA2 is (-10.00,-1.00)  
W = 3421.5  
Test of ETA1 = ETA2 vs ETA1 not = ETA2 is significant at 0.0040  
The test is significant at 0.0036 (adjusted for ties)

**CI: CFO<= 4 %hrOff, CFO>4 %hrOff**

Testing if the %hours spent socialising offline (%hrOff) is greater for fewer or equal to 4 close friends online (CFO) than for a larger then 4.

	<b>N</b>	<b>Median</b>
<b>CFO&lt;= 4 %hrOff</b>	70	9.09
<b>CFO&gt;4 %hrOff</b>	40	17.64

Point estimate for ETA1-ETA2 is -4.00  
95.0 Percent CI for ETA1-ETA2 is (-10.91,-0.00)  
W = 3645.0  
Test of ETA1 = ETA2 vs ETA1 > ETA2

Cannot reject since W is < 3885.0

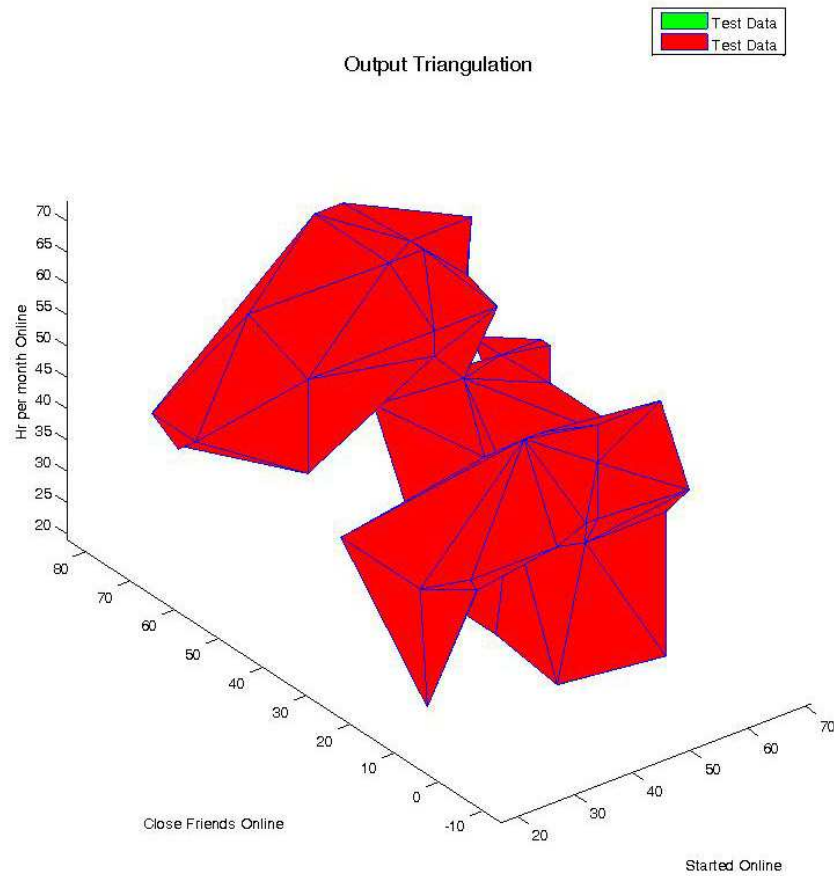
**Concept Space Similarity Test**

This test compares the concept spaces of survey respondents. The concept spaces of physical and digital space are both made up from the following dimensions:

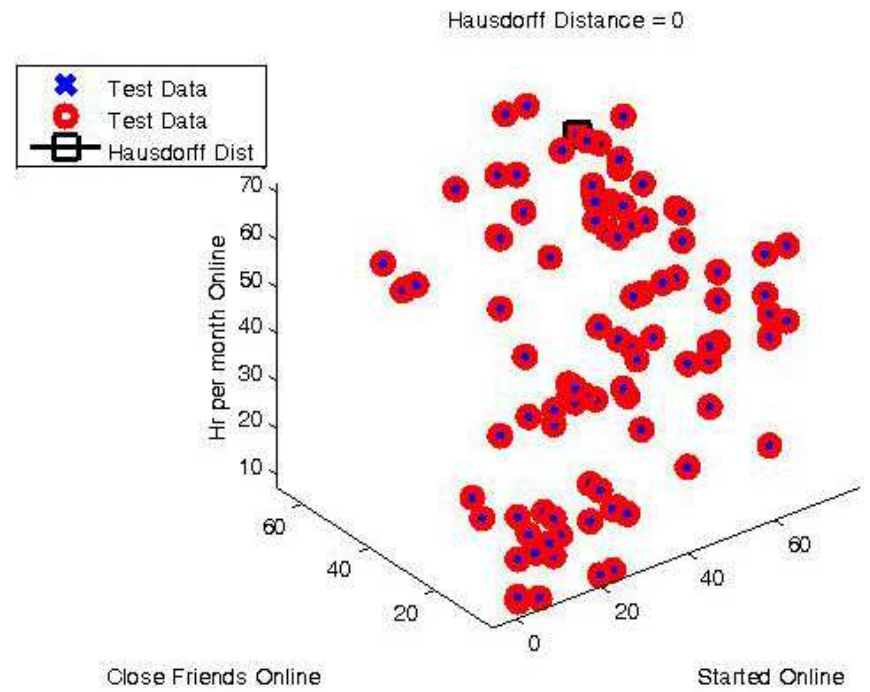
- Hours spent socialising per month in that space,
- Number of close Furry friends in that space,
- Number of friendships started in that space.

The following figures represent this data using sudo-3D plots. The Haudorff distance calculated for each dataset is the degree to which the concept spaces are similar. This value can range from zero, which means there are exactly the same, to a value of infinite difference. Figure 16 and Figure 17 are examples of identical concept spaces for comparison against.

*Exemplars Showing No Difference*

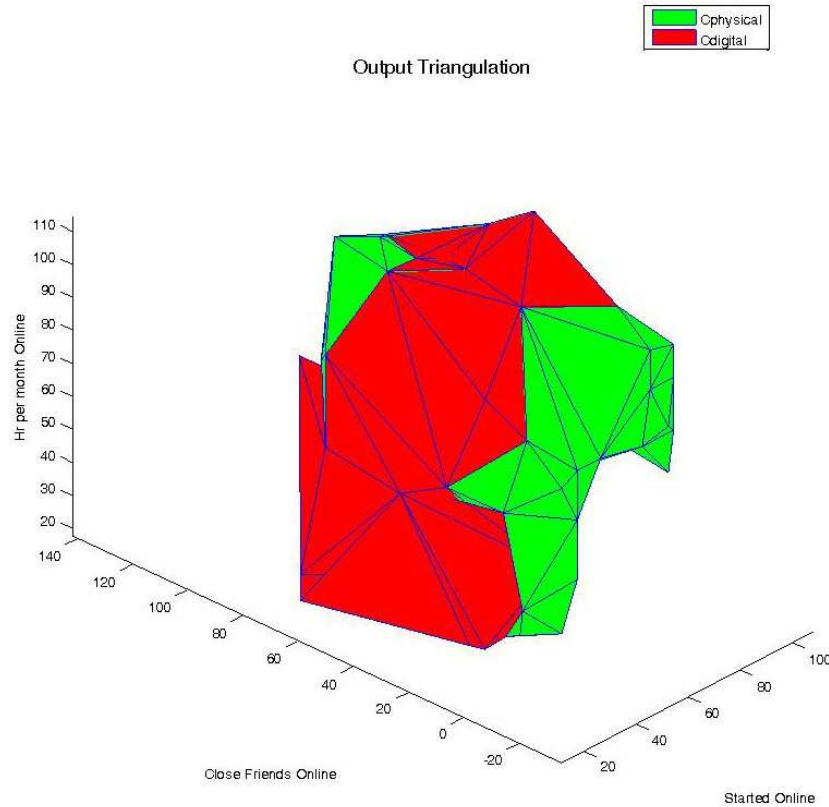


**Figure 16: Example concept space hulls.**

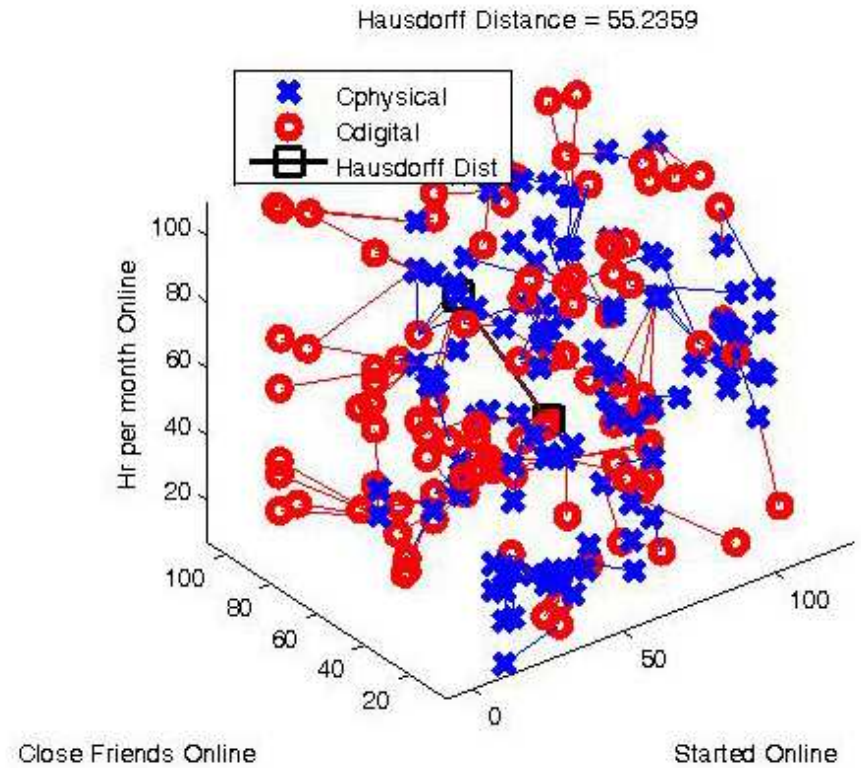


**Figure 17: Example concept space similarity plot.**

*All Respondents Included*



**Figure 18: All respondents' concept space hulls.**



**Figure 19: All respondent's concept space similarity plot.**

Figure 18 and Figure 19 show the level of similarity between the combined concept spaces of each individual respondent to the survey. The Hausdorff distance of 55.2359 is a relatively low value and can be considered to show that the Furry community has a high degree of integration between physical and digital space.

Only USA Responses

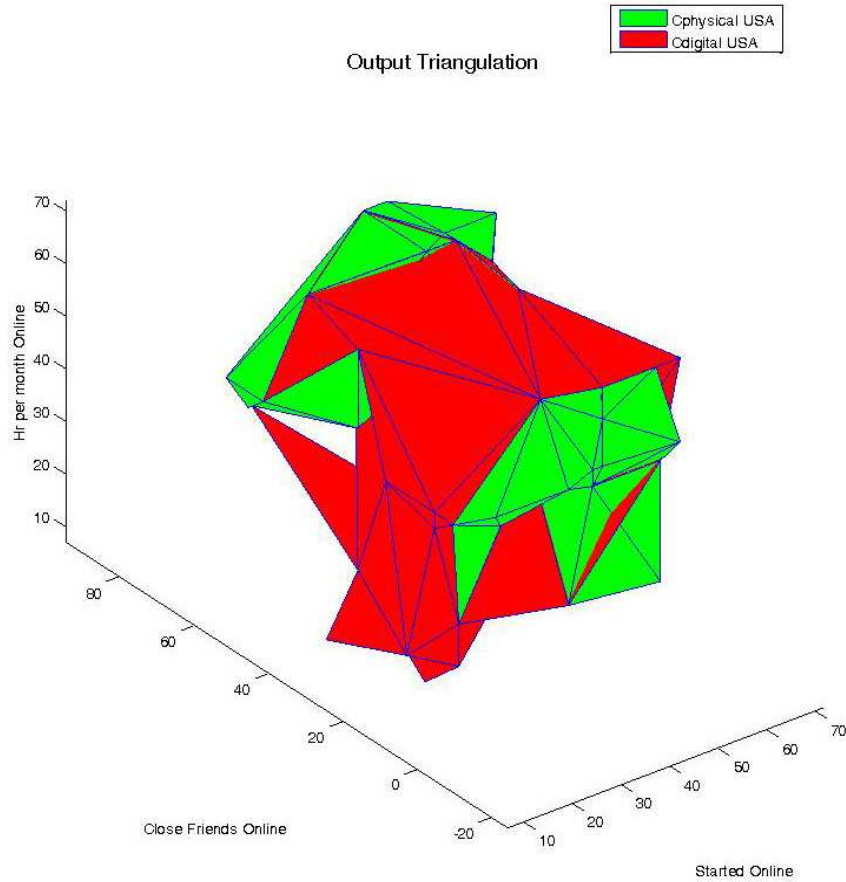


Figure 20: USA respondents' concept space hulls.

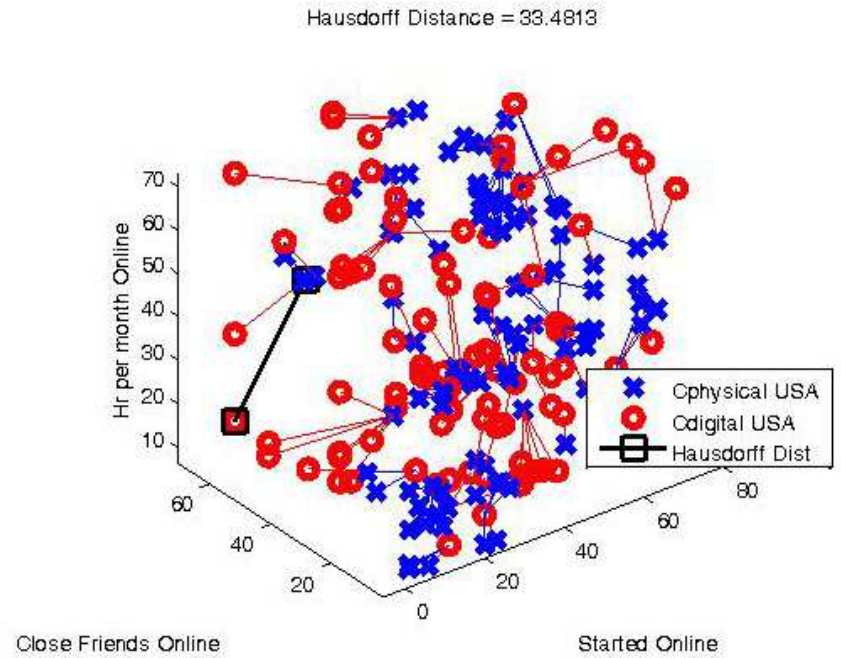


Figure 21: USA respondent's concept space similarity plot.

Figure 20 and Figure 21 suggest that USA based Furry community members are more integrated than the average Furry respondent.

Non-USA Responses

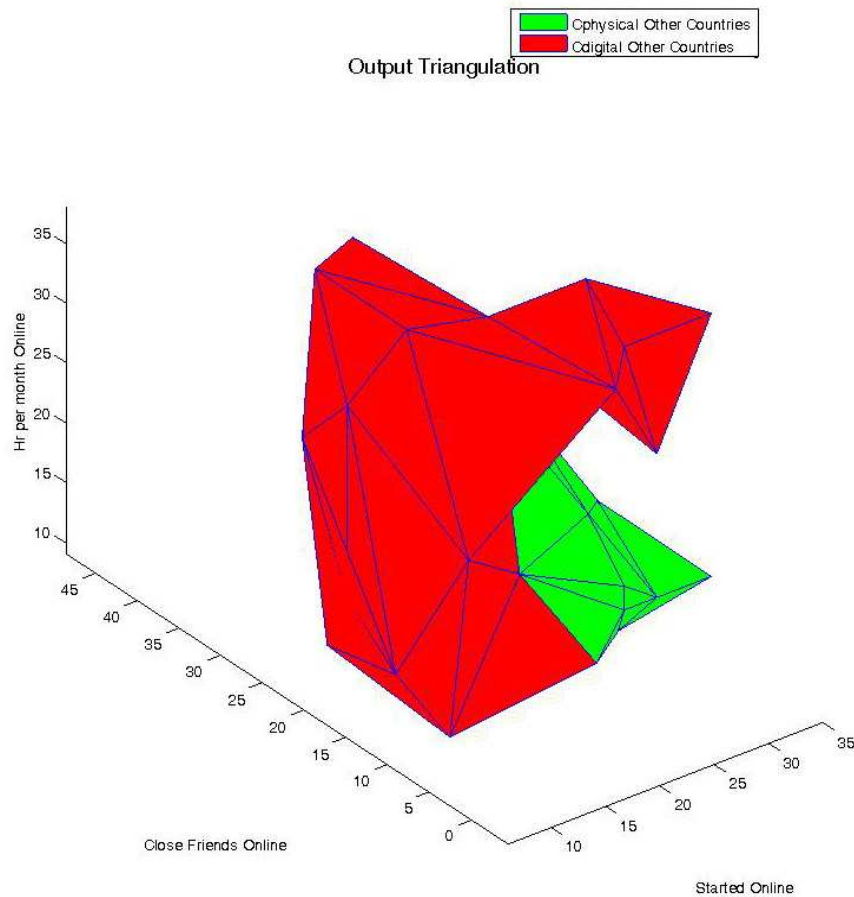


Figure 22: Non-USA respondents' concept space hulls.

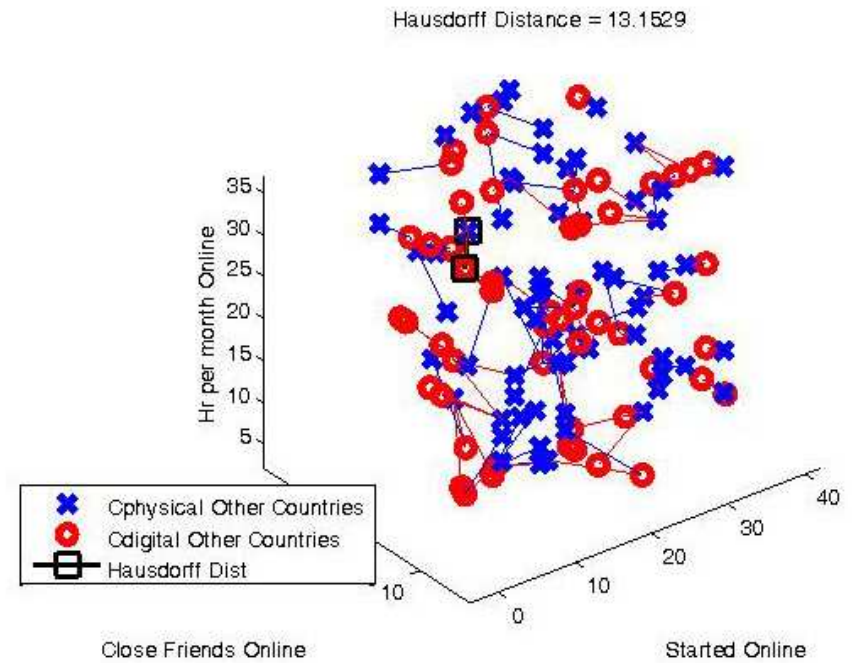


Figure 23: Non-USA respondent's concept space similarity plot.

Figure 22 and Figure 23 show that whilst USA based Furrries are more integrated than the average the non-USA Furrries are even more integrated.



## Appendix 7: Initial Interview Questions

Are you involved with any groups off-line? Who, what, why, how?

What sites are you on? Who, what, why, how?

Of the sites you use what format do you think works best? Eg Forum, blogs, reddit?

Do you think there's anything distinctive about the way Furrries use on-line space? Why?

Does the community differ online and offline? How, why, who?

What did you see online communities as when you first joined them? Fears, aspirations? Have they been fulfilled?

Comparing the Furry communities to others your part of, how do they compare? Why?

### Notes:

Delve into the pros and cons of online and offline interactions and friendships, for example.

Ask why people prefer online interaction over offline interaction, or vice versa.

Ask if people show different sides of themselves online vs. offline.

### General Profile

What is your gender?

What is your age? 18-20, 21-25, 26-30, 30-35, etc

What is the highest level of education you have completed?

Which country do you live in?

What is your ethnicity? For example White, African, Asian, Mixed, Other.

## Appendix 8: Sample of Interview Coding

Descriptive Code	Analytical Code
<p>NK: Home :) Im not an outgoing kid... quite the opposite actually... dont have many friends. And these community's just housed so many kind people willing to help you along :) ofcourse the sexual aspect was weird at first but you get used to it really fast since its "normal" there. There is no other place you could draw something like a dick and get appreciation for it... i guess thats why the world sees us as just a bunch of sexually frustrated animal rapists.</p> <p>NK: yes it does... but since its still a free website those "haters" join aswell and post really sick pictures.... wich nobody wants to see. Really... im not even going to describe them. They usually get deleted and ip banned within 5 minutes or so... but it still hurts :c</p> <p>NK: I prefer online because its easier for me due to my shy and non-outgoing irl nature</p> <p>OF: I feel like furry social life has become exclusive to the internet and cons</p> <p>SS: For example on Weasyl, there is a feature that lets you make a page about your fursona. I find this particularly handy when asking for commissions from artists. There's also other programs and websites that help you make your fursona come to life. At the end of the day though it's all up to the individual to decide how they want to use their fursona, which is why there's a vast array of tools and websites all over the internet to portray and express them.</p> <p>SS: I've seen cases online where a furry would have a non-fur ridicule them for being one, without any prior motive for outbursts. These are managed rather appropriately though.</p> <p>DG: I feel like furies have a tendency to be really open online. They share a lot about themselves on the internet with people they're most likely never going to meet in person</p>	Digital Use

Descriptive Code	Analytical Code
<p>NK: a walk through the center of a big city here... the other 2 i organised myself here at home, card nights with a game called Magic the Gathering. No suits involved there just fun playing board games together :)</p> <p>NK: Face to face is nothing more then an ordinary conversation. But online there is a lot of in character play or role play. Offline we are just friends :) Online we are furry's. Must sound rather weird ^^</p> <p>SS: I prefer offline interaction. Although talking to others online is convenient, meeting up with other furies offline is more fun and generally feels more natural to me.</p> <p>SS: Not really. In the state I live in, there's only 3 known fursuiters, so whenever a meet happens that involves someone going in fursuit, it ends up being a big deal that draws a great deal of attention in the local community. Going down a level, accesories like tails and ears are also rarely worn in public. There are a couple that wear collars. I'd assume the main reason for that would be because it doesn't draw nearly as much attention and would probably be more accepted by the public.</p> <p>SS: Not entirely. Some to tend to like keeping to themselves, but often when they're asked if they want to interact with other furies, they'll generally come along to a meet. Sometimes though, there's times when some furies don't get along too well with others, so they kind of branch off and have their own little social group of furies to meet up with on the side. I've heard about this happening in other, more larger meets in large cities around Australia.</p> <p>PH: I don't think that furry would've become a popular social phenomenon without the conventions.</p> <p>RC: Conventions are certainly important for cementing furry as a fixture of someone's life -- before I attended Anthrocon I didn't feel like I could actually identify with many of my fellow furs; afterwards I felt an innate kinship with the community (which of course can be broken in individual cases where people are not nice, but my optimistic view / goodwill has held for a long while).</p>	<p>Physical Use</p>

Descriptive Code	Analytical Code
<p>SS: Whenever a furmeet is organised, it's often done through Facebook. Most event/con organisers tend to ask people for suggestions and ways to help make them better. By doing that it makes them feel like they're contributing something to a group of people, which can encourage them to interact with other furies offline. This tends to be the reason why a lot of meets are successful. :P</p> <p>DG: I feel like the fandom is where people go for emotional support when they can't find any in their real lives. Having a place you can escape to where you can be whatever you want and whoever you want takes a lot of the pressure off</p> <p>PH: The really interesting thing is that before this was exclusively an online activity. However the internet is now bringing this into the real world.</p> <p>PH: You couldn't organize this stuff and get people to go without the online social system they have set up here. It has jumped far beyond art. It has become an underground subculture that has become big enough here that astonishingly BMW Mini put an advert for furies at one of the bus stops.</p> <p>PH: I think more people are seeking out the online community or stumbling over it as they discover it in pop culture or in their daily life. Then, based on what they have seen or experienced they wade in to the online community first.</p> <p>RC: I've found a group of people that I like in /r/furry of reddit, "faces" I recognize happily and others who I grimace when I see their name above a comment. So yes, I've grown fond of the people I found at /r/furry and think it has a nice atmosphere. My closest internet friend was met at /r/furry, and I've commissioned much art from them.</p> <p>RC: I would say that, in my personal experience, online friendship can augment IRL friendship in such a way that people who you know IRL but are not connected to online will naturally be closer to those who are connected online with them.</p>	<p>Crossover Use</p>

## Appendix 9: ES's list of Organisation Methods

Location	Organisation mediums
<b>Pacific Northwest:</b>	<ul style="list-style-type: none"> <li>• FurLife on meetup.com (Seattle, Washington State)</li> <li>• BC Furrries forum (British Columbia)</li> <li>• Word of mouth</li> <li>• VAF website (possibly with a mailing list; now likely defunct)</li> <li>• Vancouver Furry Artists forum (now defunct)</li> <li>• Live Journal community (now dead)</li> <li>• Likely others (e.g., Facebook)</li> </ul>
<b>Burning Man:</b>	<ul style="list-style-type: none"> <li>• Word of mouth</li> <li>• Big Furry camp at the festival with active mailing list (since 2010)</li> <li>• Other, non-Furry communication channels associated with Burning Man</li> <li>• LiveJournal community (now dead)</li> <li>• Likely others (e.g., Facebook)</li> </ul>
<b>Philadelphia:</b>	<ul style="list-style-type: none"> <li>• Facebook</li> <li>• PA Furry Forums</li> <li>• Word of mouth</li> <li>• Twitter</li> <li>• Furry communities in adjacent states</li> <li>• Recurrent meets that do not need advertising (other states)</li> <li>• Con circuit</li> </ul>

Location	Organisation mediums
Sweden:	<ul style="list-style-type: none"> <li>• Forums with special sections for IRL meets (one with a lot of bad attitude, and another, recently-started comfy hugbox type place)</li> <li>• Word of mouth/SMS</li> <li>• Journals on Fur Affinity</li> <li>• Facebook (one or two groups; lots of underage teens; don't have an account, so I don't really know)</li> <li>• Kink forums (Darkside, ABDL Scandinavia; don't have an account, as above)</li> <li>• Recurrent meets that do not need advertising (recently started)</li> <li>• Convention PR</li> <li>• Twitter</li> <li>• Old IRC channel</li> <li>• LiveJournal community (now dead)</li> </ul>
New Zealand:	<ul style="list-style-type: none"> <li>• IRC channel</li> <li>• Mailing list</li> <li>• Directories of locals (dedicated website, FA group)</li> <li>• Word of mouth</li> <li>• Local convention</li> <li>• Likely others (e.g., Facebook)</li> </ul>
SF Bay Area:	<ul style="list-style-type: none"> <li>• Incredibly active mailing list</li> <li>• Recurrent meets that do not need advertising (including a furry nightclub!)</li> <li>• Word of mouth</li> <li>• Con circuit</li> <li>• Likely others (e.g., Facebook)</li> </ul>
Local groups in the UK:	<ul style="list-style-type: none"> <li>• UK Furry forums (special meets sections for various regions)</li> <li>• Word of mouth</li> <li>• Some cons</li> <li>• Likely others (e.g., Facebook)</li> </ul>