ME, MYSELF, AND INTERFACE: THE ROLE OF AFFORDANCES IN DIGITAL VISUAL SELF-REPRESENTATIONAL PRACTICES

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A DISSERTATION SUBMITTED TO
THE FACULTY OF GRADUATE STUDIES
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

GRADUATE PROGRAMME IN COMMUNICATION & CULTURE
YORK UNIVERSITY
TORONTO, ONTARIO

APRIL 2015

ABSTRACT

A growing number of digital games and virtual worlds allow users to create a virtual self, commonly referred to as an 'avatar.' Essentially, the avatar is a digital entity which is controlled by the user to attain agency within the virtual world. Avatars are visually customized by users via interfaces, referred to within the body of this work as Character Creation Interfaces (CCIs).

CCIs are often framed as tools that are utilized by players to create a desired avatar. In other words, the popular approach is one that is anthropocentric in nature and neglects to take into account the ways in which interface affordances - the action possibilities afforded by an artifact - potentially constrain our interactions with them. In my dissertation, I argue that CCIs co-construct avatars *with* players. I mobilize Actor-Network Theory in order to re-position these interfaces as actors, rather than benign tools in digital-visual self-representational practices.

In order to investigate the interface-as-actor I present an analytical framework: the Avatar Affordances Framework, and apply this framework to 20 CCIs in order to systematically study their affordances. In the second phase of this investigation, I present data on two user studies: the first, a within-subjects study investigating self-representational practices in the Massively-Multiplayer-Onlne-Game (MMOG) *Rift* (n = 39), the other, a between-subjects study of self-representational practices on the Nintendo WiiU console's *MiiCreator* (n = 24). Results of these two studies are presented alongside analytical data derived from both interfaces via the Avatar Affordances Framework in

order to illustrate how interface affordances are negotiated by players. A final study, an autoethnographic chapter, situates myself within the dissertation as both a researcher and user of the technology, addressing how my own experiences with these games, and my own self-representational practices, have come to shape this research.

Data from the aforementioned studies was then utilized in order to generate a list of best practices for game developers. To date, such documentation is absent from game design literature. It is my hope that the practices outlined herein help developers make design choices that invite opportunities for identity play without simultaneously creating socially exclusive spaces.

ACKNOWLEDGEMENTS

There are many people I would like to thank for their support and encouragement, without which this dissertation would not have been possible. Firstly, to the scholarships which funded my PhD studies: the Social Sciences and Humanities Council of Canada (SSHRC) and the Elia family through the Elia Scholars Program, both of which allowed me to focus on my studies and made it possible to present this work at multiple conferences. Additional funding from York University, the University of Toronto, and SRI International made this research possible.

To my colleagues at Brock University in the Centre for Digital Humanities – thank you so very much for fostering my growth from undergraduate student, to graduate student, to lecturer, to doctor. I would especially like to thank Dr. Barry Joe for his guidance on pedagogy, research, and learning how to be a junior scholar. Your mentorship throughout the years has been most invaluable. Thank you from the bottom of my heart. I would also like to thank my new colleagues at the Institute for Communication, Culture, Information, and Technology at the University of Toronto Mississauga. Thank you for inviting me to join the ICCIT family, for your friendship, and for believing in me!

To my defense committee, Dr. Anne MacLennan, Professor Michael Longford, and Dr. Sean Gouglas, thank you for your preparations leading up to the defense and for your extremely thoughtful questions and discussions. Your feedback and insights were

extremely valuable and I feel very fortunate to have had the chance to engage with you all!

To the members of my supervisory committee, Dr. Steven Bailey, Dr. Kevin Kee, and Dr. Jennifer Jenson, thank you so much for all of your guidance, from the conceptual phase to the completed draft. Thank you Dr. Bailey for all of your help, both in your previous role as programme director, and for serving on my supervisory committee. Thank you for allowing me to construct a minor in HCI to pursue this research and for all of our conversations leading up to the big day. Thank you Dr. Kee for everything you have done for me, from our first meetings during my undergraduate studies to your mentorship as director of the CDH, to serving on my PhD supervisory committee. Your guidance on all matters has been extremely invaluable and I cannot thank you enough for your support! To my supervisor, Dr. Jennifer Jenson, I cannot thank you enough for everything you have done for me. You have been an amazing supervisor, mentor, and friend from the very start. I appreciate all of the advice, last minute Skype calls, encouragement, and for making sure I made it to defense on time. I couldn't have done this without you!

Lastly, I would like to thank my family and friends for their support, guidance, patience, and love during this endeavour. To my two children, Bronwynne and my yet unborn son, thank you for somehow understanding what needed to be done, and for teaching me more about myself than I ever thought possible. To quote Mr. Incredible from *The Incredibles*, "you are my greatest adventure!" To my husband, Dr. Robert

Teather, you are my best friend and I could not have done this without you. Thank you for showing me the way, for bringing me to CHI back in 2007, for over a decade of companionship, and for believing in me and our family. We are an amazing team and no matter what this crazy life has in store for us, I know we will be more than capable because we have each other.

Thank you to everyone for your support and contribution to this dissertation.

DISSEMINATION OF THIS DISSERTATION

The following chapters of this dissertation have been previously published as peer-reviewed papers:

Chapter 4:

McArthur, V. and Jenson, J., Plans and co-situated factions: An evaluation of avatar affordances in Rift's character creation interface, *Journal of Gaming and Virtual Worlds*, *7*, 2015.

Chapter 7:

McArthur, V. and Jenson, J., E is for everyone? Best practices for the socially inclusive design of avatar creation interfaces, in *IE2014 - Interactive Entertainment*. Newcastle, Australia: ACM, 2014, 1 - 8.

Additionally, the following extended abstracts and presentations are based on this work:

McArthur, V., Me, Myself, and I(nterface): The Avatar Affordances Framework, in *Canadian Game Studies Association*, 2013.

McArthur, V., Can you see Mii? A microethnographic study of camera-based Mii creation on the Wii U, in *Canadian Game Studies Association*, 2014.

McArthur, V., The Affordances of Gender in the Character Creation Interfaces of Digital Games, in *CONSOLE-ING PASSIONS, International Conference on Television, Video, Audio, New Media and Feminism*, 2014.

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Chapter 1
Introduction

A growing number of digital games and virtual worlds allow users to create a virtual self, commonly referred to as an 'avatar.' The word avatar is borrowed from the Hindi language, referring to the physical manifestation of a god or deity (Hugh Partrige, 2005; Matchett, 2001). The term is most often associated with the Hindu deity Vishnu, who was known to have taken on numerous forms. In digital games and virtual worlds, an avatar is the virtual-physical manifestation of the user within the game world. Essentially, the avatar is a digital body which is controlled by the user to attain agency within the virtual world. For many, the avatar is more than a visual representation of self; it is a vessel through which one projects oneself and develops an online identity. Therefore, the creation and customization of an avatar is considered a very meaningful process (Bessière, Seay, & Kiesler, 2007).

Avatar customization options are typically presented to users via graphical user interfaces, referred to within this work as Character Creation Interfaces or CCIs. The quantity and quality of customization options varies greatly from game to game, as does the presentation of these options. The topic of avatar customization has been widely studied, but work in this area is largely anthropocentric, offering critique on avatar customization in the context of user choices without taking interface affordances into account (e.g., see Ducheneaut, Wen, Yee, & Wadley, 2009; Kafai, Fields, & Cook, 2010a, 2010b; Carman Neustaedter & Fedorovskaya, 2008; N. Yee, Ducheneaut, Yao, &

Nelson, 2011). CCIs are often framed as tools that are utilized by players to create a desired avatar. In other words, the popular approach is one that is anthropocentric in nature and neglects to take into account the ways in which interface affordances - the action possibilities afforded by an artifact - potentially constrain our interactions with them. Avatar customization is not only mediated by these interfaces, but also constrained by them. Therefore, self-representation via avatar customization may be limited by the interface affordances, or "action possibilities" of a given interface. Often, these affordances constrain self-representation in such a way that it is impossible for users to create representative avatars. This phenomenon, identified as social exclusion (Pace, Houssian, & McArthur, 2009), describes the processes by which minorities or communities of people are systematically marginalized (Silver, 19944; J. Yee, 2005; Young, 2000). My research examines the tension between interface affordances and self-representational practices in digital games.

In many cases, these interfaces are capable of producing millions of permutations: combinations of feature choices resulting in a customized, unique avatar body. Customizing one's avatar is one (early) component of creating an identity in online environments. The pragmatics of avatar customization induces a meaningful relationship between user and avatar from the start.

Research on identity formation in online environments draws from earlier work on identity in Multi-User Dungeons (MUDs), multi-player virtual worlds that are traditionally text-based. In these spaces, virtual "bodies" were crafted entirely in text, and

in a very literal sense, identities were "authored" by the users. Research on MUDs highlighted identity performance and identity play in online settings, including the trying out of multiple- and other-selves, those environments afforded (e.g. Berman & Bruckman, 2001; Bruckman, 1992). Users had complete control over nearly all aspects of their virtual selves, including their gender. Players could choose to be gendered, gender-neutral, and/or gender-plural (Bruckman, 1996; Reid, 1996).

With the shift from textual environments to graphical 2D and 3D games, virtual identities were no longer authored by players but produced by game designers. Every piece of these worlds is manufactured for consumption. Textual bodies have been replaced by graphical ones, each with a finite number of customization options that are mediated by a user interface. Today, players are generally able to customize these 'bodies', but are limited with regard to what features they customize and the degree to which these features can be manipulated. For example, players of *World of Warcraft* are able to modify the hair colour or skin colour of their avatar by selecting one of many prefabricated options, but are not able to create their own colours or to modify the existing options.

Studies of virtual games and virtual environments by Neustaedter and Fedorovskaya (2008), Ducheneaut et al. (2009), and Kafai et al. (2010b) focus on the kinds of "bodies" and identities users craft in 3D games and social virtual worlds, such as *Second Life* or *Whyville*. In each of these three papers, the authors focus on the choices users make in customizing their avatars and how identity fidelity (how "accurately" they

represent themselves via avatar appearance) contributes to an understanding of the pragmatics of self-representation online. In these papers, and others like them, avatar creation interfaces are presented as benign tools that help users create an online identity. These papers are often methodologically centred on users and rely on self-reporting methods from surveys.

Those studies which do involve interface analysis rely on ad-hoc or discursive methods, which are effective at providing meaningful data about one specific game, but fail to provide meaningful data that can be compared between different games (Consalvo, 2003a, 2003b; Higgin, 2009; Kafai, et al., 2010a; Pace, et al., 2009). One popular method involves counting the number of customization options available to players in order to illustrate the disparity in representational possibilities between different avatars within the same game (Consalvo, 2003b; Pace, 2008). For example, Consalvo counted the number of "head" options available in *The Sims* and was able to quantifiably demonstrate the number of choices available by ethnicity, as there were considerably more options available for light skinned *Sims* than there were for dark skinned *Sims* (Consalvo, 2003b). Others have provided detailed discursive accounts of the quality and quantity of customization options present in character creation interfaces, but these works fall short at providing a systematic method by which to account for the action possibilities or affordances of a diverse set of character creation interfaces (Higgin, 2009; Kafai, et al., 2010a). Additionally, the absence of any empirical user data makes it difficult to

speculate how these affordances are negotiated by players (Consalvo, 2003b; Higgin, 2009).

My work contributes to the burgeoning area of research on avatar customization through a mixed-methods or multi-methodological exploration of the effects of interface affordances on self-representational practices. In the following sections, I situate the research within the field of human-computer interaction (HCI), present a detailed explanation of character creation interfaces, outline my research questions and, present an overview of this dissertation.

1.1 Human-Computer Interfaces/Interaction

While this work was explored within a communications and cultural studies context, the work is also influenced by the field of human-computer interaction (HCI). It is a multidisciplinary field which is largely concerned with the study and design of interfaces, and more importantly, studying the interactions that occur between humans and computers. HCI represents the intersection of a number of fields, most notably computer science and behavioural science.

While the term HCI is commonly used to describe this interdisciplinary field, it has also been referred to as computer-human interaction, or CHI. So which is it? Are humans interacting with the computers, or are computers interacting with humans? In the introductory chapter to his text on Human-Computer Interaction, MacKenzie describes a shift in computing, occurring gradually from the 1940s to the 1980s, with the notable emergence of personal computing (MacKenzie, 2013). Prior to the 1970s, computers

were largely used by computer engineers and scientists. Interaction design was not necessary as a research paradigm, since those using the computers were likely the same people who would have written the user manuals. Thus, the field of HCI is said to have emerged to better understand how interface design could be studied to accommodate a more diverse user population (Shneiderman, 1999).

The most notable conference in the field of HCI is the Association for Computing Machinery's Conference on Human Factors in Computing Systems (CHI). The first CHI conference was held in Gaithersburg, Maryland, US in 1982. The annual CHI conference is an international event that attracts a number of researchers and practitioners from academia and industry alike, and boasts a competitive acceptance rate for full papers. Despite the fact that the field is more commonly referred to as HCI (Human-Computer Interaction), the ACM's conference has continued to use the abbreviation CHI (Computer-Human Interaction), to represent its annual conference. It would seem then, that perhaps in the field's early beginnings, researchers considered computers to be interacting with humans, but would later reposition these two actors such that humans interact with computers.

This etymological shift is significant in the context of this dissertation, since I am proposing that the study of avatars has suffered, either from an anthropocentric approach, or from the study of interfaces in the absence of interaction. To elaborate, related work on avatar customization has focused too long on humans as intentional beings who interact with computers, but neglects to take into account the bi-directional nature of that

interaction. Here, I have adopted a mixed-methods approach in an attempt to make visible the network of actors, both humans and non-humans, that contribute to self-representation in games. More importantly, I hope to do so in such a way that none of the actors under study become privileged over the others.

Approaching this dissertation as an HCI researcher allows me to situate my work within a growing field of interface studies, which has come to include comptuer games as a site for study. It is also the field from which I have borrowed the term *affordances* - the term from which my original interest in this topic originated, and one that provides me with the theoretical foundation upon which this dissertation is built. According to the work of Donald Norman, a prominent figure within the field of HCI, affordances are the designed properties of an object that allow for specific interaction opportunities (Norman, 1988). It is a relationship between organism and object - one which affords a given set of action possibilities. The study of affordances also involves perception - the ability to perceive affordances in order to act upon them (Norman, 1999).

The term is explored throughout the body of this dissertation, however, my interest in affordances is perhaps best expressed by Lev Mannovich (2002), who writes, "[g]iven that computer media is simply a set of characters and numbers stored in a computer, there are numerous ways in which it could be presented to a user. Yet, as it always happens with cultural languages, only a few of these possibilities actually appear viable in a given historical moment" (Mannovich, 2002, p. 81). If HCI is the study of interface design, it must also include the study of the agency designers have in creating

interfaces that will subsequently mediate user experience. In the context of avatar customization, self-representational practices are mediated by character creation interfaces. They are the result of a negotiation between the user and the designer.

1.2 Character Creation Interfaces

Games that allow for the customization of an avatar typically present feature options via character creation interfaces. These interfaces are commonly found in Massively-Multiplayer Online Games (MMOGs), social virtual worlds, and other games that offer avatar customization. The quantity and quality of customization options available, as well as the ways in which they are presented to users, varies greatly from game to game. Common feature options may include, but are not limited to: biological sex, hair style, hair colour, skin colour, accessories (tattoos, hats, clothing, and so on), height, weight, or build. These options may be selected or modified via a variety of interface widgets, for example: buttons, sliders, lists, and colour wheels or palettes.

The Character Creation Interface shown in Figure 1, from *Star Wars: The Old Republic*, illustrates the use of slider widgets that allow users to customize various attributes of their avatar, such as body type, head, scars, and skin colour. While many of the customization options available to users in this game are available in other games, they are not standard in all games, nor is the use of sliders a standard way to manipulate these attributes.

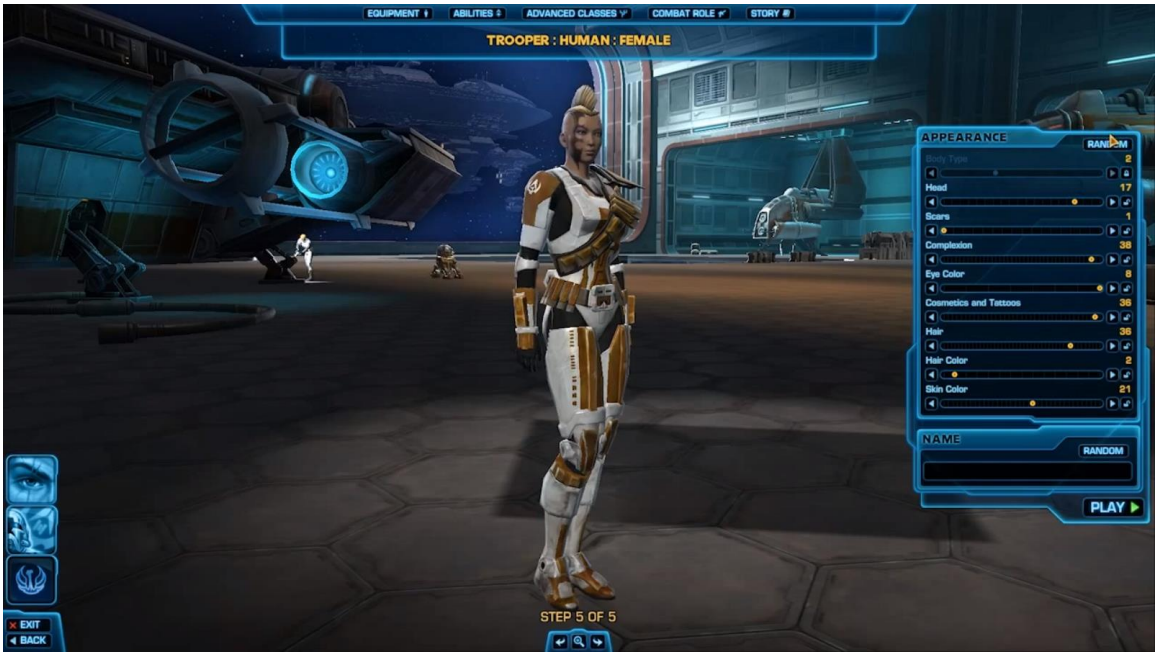


Figure 1. Character Creation Interface for *Star Wars: The Old Republic*

A common theme of work examining character creation in games highlights the ways in which character creation interfaces, through affordances, represent socially exclusive values. Essentially, through the kinds of choices, or lack thereof, available to choose and/or customize avatars, ethnic minorities are often marginalized, making it impossible to create representative avatars. For example, research by Consalvo (2003a, 2003b), Higgin (2009), Kafai et al. (2010a, 2010b), Leonard (2006), and Pace (2008) examine the ways in which ethnicity is problematically represented in a number of games, when it is even represented at all.

One theme I have chosen to explore in this dissertation is the heteronormative, and often sexist representations of gender in character creation interfaces. The original motivation for this stemmed from the problematic representation of female bodies in

character creation interfaces and quickly evolved to include a broader analysis of the ways in which gender is encoded and remediated by these interfaces. Females are under-represented in computer and video games. When they do appear as prominent or playable characters, the roles they are given are often highly problematic (Jenson & de Castell, 2010). Female characters are generally hypersexualized and scantily clad (Downs & Smith, 2005), with very few exceptions. This holds true even in most MMOGs where players are freely able to choose to play as a female character, but are often stuck with hyper-feminine bodies (Rubenstein, 2007; Sundén, 2009) and sexualized armour (MacCallum-Stewart & Parsler, 2008).

1.3 Motivation and Research Questions

My primary motivation for pursuing this research stems from my own experiences with gaming culture. Having played a number of games which offer avatar customization as a feature of gameplay, I experienced firsthand many of the issues which have already been outlined in this introductory chapter. Specifically, I have often taken issue with the ways in which character creation interfaces not only limited me in terms of the range of choices they presented, but did not provide the means by which players could move away from the stereotypical, hypersexualized female avatar.

I was fortunate, at the beginning of my PhD studies, to be invited by my supervisor to assist with data collection and analysis on the Virtual Environments Real User Study (VERUS) project. The impetus of the VERUS project was to conduct a large scale, lab-based study designed to address many of the methodological limitations

outlined above. The VERUS study is still, to date, the largest lab-based study of virtual world users with over 1200 participants worldwide. Laboratory experiments were conducted across the United Kingdom, North America, and Asia with additional fieldwork conducted in Mexico, Europe, and the Middle East. Data was collected on gamers' real- and virtual world characteristics and across multiple virtual worlds including *World of Warcraft*, *EVE Online*, and *Rift*.

The VERUS project was informed by a mixed-methods approach and was theoretically framed by Actor-Network Theory (Callon, 1997; Latour, 1992, 2005; Law, 2004). As such, I had the opportunity to witness the benefits of a mixed-methods approach to the study of self-representation in games. Such an approach not only strengthens the claims made by researchers, but also highlights the ways in which previous methods too easily produce highly reductive, positivist discourses surrounding player activities in-game. A great number of publications came from, and continue to be written on, the work done on the VERUS project highlighting the strengths of mixed-methods approaches (Bergstrom et al., forthcoming; de Castell, Jenson, Taylor, & Thumlert, 2014; McArthur & Jenson, 2015), introduce a novel supplementary data collection tool called a travelogue (McArthur, Peyton, Jenson, Taylor, & de Castell, 2012; N. Taylor, McArthur, & Jenson, 2012), and demonstrate the validity of lab-based inquiries in MMOG research (de Castell, Taylor, Jenson, & Weiler, 2012; Jenson, Bergstrom, & de Castell, 2013; Taylor, de Castell, Jenson, & Humphrey, 2011).

As a result of my experiences working on VERUS, I was motivated to adopt a mixed-methods approach, using Actor-Network Theory (ANT) as a theoretical framework, in order to conduct a holistic study of interface affordances and self-representational practices. ANT is properly introduced and discussed in Chapter 2 of this dissertation. However, I will briefly state here that ANT was developed by Bruno Latour (1987, 1992, 2005), Michel Callon (1997), and John Law (2004), and it is an approach to social theory which acknowledges that both humans and non-humans (both referred to as *actors*) form a network. ANT scholars posit that in order to study a social phenomenon, one must study both the human and non-human actors which contribute to it. The social phenomenon I have chosen to study is avatar customization in gaming environments.

I approach the study of this phenomenon via three distinct approaches, each intended to highlight the agency of the networked actors that contribute to the self-representational practices of gamers. First, through the development and use of a new analytical framework, the Avatar Affordances Framework, designed to systematically explore the presentation of customization options available across multiple games. Secondly, I present two user studies in which I observe 63 participants creating avatars in two different gaming environments. Lastly, I present an autoethnographic study in which I attempt to recreate a single avatar across multiple gaming interfaces in order to further illustrate the different affordances of these interfaces and to highlight their agency in my own self-representational practices. Throughout this dissertation, I argue that character creation interfaces co-create player avatars - that self representational practices are not

only indicative of human desires, but also computational mediation. Therefore, my approach not only builds upon existing theories and methods used in the study of self-representation in games, but it also challenges the anthropocentric approach that is all too common in this area of research.

1.4 Dissertation Overview

This dissertation is a study of the role of affordances in digital, visual self-representational practices. I begin chapter 2 with an overview of related work examining identity practices dating back to the earlier work on textual online spaces and Multi-User Dungeons (MUDs). I then review related work on self-representation in Massively-Multiplayer Online Games (MMOGs) as it relates to popular methodologies and theories on self-representation. Next, I provide an overview of existing analytical methods for studying character creation interfaces, focusing exclusively on those which study the visual aspects of customization (e.g., avatar bodies, skin colour, hair style and colour, etc.). I conclude Chapter 2 by discussing the areas of research that have theoretically informed this dissertation, namely, Actor-Network Theory, affordances, and feminist and gender theory.

In Chapter 3 I present the Avatar Affordances Framework - a novel framework which I have created in order to systematically study the affordances of character creation interfaces, and to address analytical limitations presented by the existing methods discussed in Chapter 2. In this chapter I also provide a technological classification of widgets, the individual interface components that allow users to modify the appearance of

their avatar (collectively, these widgets comprise the avatar creation interface). I then discuss the Function-Behaviour-Structure framework, an existing framework in HCI which not only informed the formation of my own framework, but its original components are also included within my framework. This chapter also includes analytical data, collected with the Avatar Affordances Framework, from twenty different games. Detailed analysis for six of these games is presented using the framework, and an additional 14 games are included to illustrate how the framework can be used to generate analysis between larger, more diverse sample sizes.

In Chapter 4, I present the first user study, a microethnographic study of 39 participants creating avatars in the MMOG *Rift*. This is a within-subjects study where participants were groups of 2 to 4 co-situated participants were invited to create an avatar and to play for approximately 30 to 45 minutes using this avatar. In this dissertation, I use the term co-situated to refer to participants who physically occupy the same real-world space during the experiment. In the case of the *Rift* study, these co-situated participants generally knew each other, and completed the study simultaneously. Prior to creating their avatars, participants were given an 88 question survey designed to collect demographic data as well as data on their own gaming experiences and self-representational practices. This survey data is compared to the avatar creation data that was obtained during the study in order to investigate any discrepancies between self-reporting and practice.

In Chapter 5, I present a between-subjects study investigating self-representational practices of camera-based avatar customization. For this study, I chose the Nintendo Wii U, a relatively new console (at the time of this dissertation), released in North America on November 30th, 2012. The Wii U is Nintendo's third console to include *Mii* software - a console-based, rather than game-specific, character creation interface. The Wii U includes a new game controller, the GamePad, which allows users to interact with the system via touch screen, and includes a camera that can be used to generate a *Mii* (avatar) from a picture of the player. In the study presented in this chapter, I invited 24 participants to create avatars on this console, 12 of whom were asked to use the camera on the GamePad to create their avatar, and the other 12 were asked to create an avatar without the camera, using an interface-only method of avatar customization. The differences between these two groups, as well as the differences between these two user studies - the *Rift* study and the Wii U study - are discussed.

In Chapter 6, I present an autoethnographic study in which I attempt to create the same avatar across eight different game spaces, all of which are analyzed in previous chapters using the Avatar Affordances Framework. A reflective chapter like this is intended primarily to address a fundamental concern of ANT researchers: that they are also actors in the network, observing social phenomena and generating theories to describe them. Thus, as an ANT researcher, this chapter not only provides a methodological space in which I may acknowledge my own agency within the network of study, but also provides me with a space in which I can disclose my own prior

experiences with the games I have chosen to study, as well as my own observations which may not be appropriate for inclusion in previous chapters. I conclude this chapter by presenting four themes which I believe to be relevant to the study of self-representational practices, but are often not acknowledged in related work.

In Chapter 7, I present a list of best practices for the design of character creation interfaces. These practices are derived from the analyses presented in all of the previous chapters and are intended to address many of the limitations, intentional or not, that are often imposed on player avatars. This chapter also includes an overview of related work in accessibility and game design, including a focus on novel players and diverse player groups. Following this, I present an overview of research involving alternative design methodologies, namely participatory design and critical design, both of which are intended to address issues of social inclusion in game design. I then look to popular texts on game design, which are currently in use within post-secondary gaming programs, in order to determine what, if any, guidelines are present addressing issues of social inclusion and avatar design. I then present my list of best practices, referring frequently to the analyses presented in previous chapters.

These separate, but interrelated explorations of interfaces, players, and design collectively address methodological concerns outlined in the related work section, and illustrate the agency interfaces have in self-representational practices. It is my hope that I have not only succeeded in making interfaces more visible as actors in the process of avatar customization, but that the best practices presented herein may also inform more

socially inclusive design in future. Although the actors I have chosen to study, namely the players, the researcher, and the interface, do not represent the entire network of actors involved in the social phenomena of self-representation in games, I have chosen to study this particular grouping as I am most interested in highlighting the agency that interfaces have in shaping player practices. It should be noted that I have not methodologically severed the ties between these nodes and the rest of the network. Rather, I have mobilized Actor-Network Theory to make them visible, and have adopted a mixed-methods approach in order to study their interactions.

Chapter 2
Related Work + Theoretical Framing

Massively Multiplayer Online Games (MMOGs) are often characterized as variants of text-driven multi-user Domains or MUDs. As previously stated, these early virtual communities were entirely text-driven virtual worlds. In these spaces, users not only utilized text to chat with one another, but they also used text to describe the chat room, the actions taken within this space, and even their virtual bodies. These virtual bodies were just as much a part of their online personae as the text they "spoke" to one another. In this way, the text-based virtual community was co-constructed by its members. Members were in agreement with and contributed to the details of their virtual world. These early virtual worlds provided users with a vehicle through which they could explore how they represent themselves and experiment with identity (Albright, 2007; Bartle, 2003; Dibbell, 2001; Sundén, 2001; Turkle, 1997).

In their textual form, these objects were subject to few limitations; the level of detail to which users could describe characters, rooms, and items was bound only by the limits of their writing capabilities and imagination. Members of these virtual communities could be or do anything (Dibbell, 2001; Turkle, 1997). The shift from early textual representations to graphical representation provided users with new tools for interaction and identity. The same rooms, objects, and characters that were once textual in MUDs were now represented in graphical form. The addition of 3D graphics in virtual worlds allowed users to view their own virtual bodies or avatars. The appearance of

users' avatars can be manipulated with avatar creation interfaces. However, unlike the text-based avatars of earlier MUDs, users of graphical MMOGs are often limited with regard to how they represent themselves by the avatar creation interface. The quality, quantity, and range of customization options available to users is often pre-determined by game designers. Game designers have complete control over the aesthetic of every aspect of their games, including the player's own avatar.

2.1.1 Identity, other selves, and multiple selves

While the work presented here is focused largely on the pragmatics of avatar customization practices, as well as interface affordances, it is nevertheless important to include an overview of the literature pertaining to identity since avatars are rarely, if ever, considered separately from some of identity theory. Early work examining identity in online environments such as MUDs and other text-based virtual communities revealed that the affordances of these environments facilitated a multitude of identity expressions, including other selves and multiple self-representations or multiple selves (Bartle, 2003; Bruckman, 1992, 1996; Dibbell, 2001; Turkle, 1997) and as a means to escape the widely-enforced gender dichotomy of "real life" (Sundén, 2003).

This fragmentation of self may seem anomalous - a consequence of having one's interactions mediated by a computer, but Turkle suggests that we are already accustomed to managing multiple selves in our daily lives and that this sense of multiplicity easily extends into virtual worlds (Turkle, 1997). Social contexts elicit performative shifts wherein we choose which aspects of ourselves to present to others, and which cues to

suppress in order to maintain the appropriate or desired impression (Goffman, 1959). Goffman stresses the importance of both verbal and nonverbal cues in our ability to generate impressions of ourselves in social situations (Goffman, 1959). Goffman's presentation of self features heavily in some writings on online identity - especially those that are focused on performance and the maintenance of multiple selves (Bullingham & Vasconcelos, 2013; Kafai, et al., 2010b; Martey & Consalvo, 2011). In his work, Goffman evokes a dramaturgical analysis; the study of social situations as a theatre performance. Goffman frames social performances as having actors wearing costumes. These performances are observed by an audience, and often times, we rely on other actors to maintain our performances for us. For example, if we perform an act that is considered "out of character", other actors may choose to ignore the act so as to help us save face and preserve the identity performance. The space where we can truly be ourselves is compared to the backstage area of a theatre - a space that is not visible from the audience and where actors in a play are commonly able to drop out of character in between scenes.

For example, Albright (2007) mobilizes Goffman's *'expression given'* and *'expression given off'* (Goffman, 1959) in order to explore how one man, Colonel Saleh, was able to maintain romantic relationships with over 50 women on an online dating site. Specifically, Albright proposes that it is the nature of information communication technologies--their affordances--that allowed Colonel Saleh, who was married in real life, to support multiple, simultaneous intimate relationships. In face-to-face communication, Goffman proposes that cues fall broadly into two categories:

'expression given' and *'expression given off'*. *Expressions given* are understood to be verbal where *expressions given off* include the gamut of non-verbal cues, many of which we have less control over, such as body language or facial movements that are given off during communication and interaction. Since we anticipate that people may be dishonest in how they present themselves, we rely on *'expressions given off'* as a sort of litmus test, used by others in order to assess the authenticity of the speaker's mood or motives. Albright cites the works of others that state the obvious: information communication technologies (ICTs) allow us to carefully craft and control the digitized equivalents of our *'expressions given off.'* In many cases, online interactions occur almost entirely in the absence of these *'expressions given off'*, and many of our *'expressions given'* are reduced to textual interactions.

The effects of ICTs on Goffman's work are illustrated in Walther's "*hyperpersonal interactions*" (Walther, 1996). Taking the affordances of computer-mediated communication into account, Walther proposes the following framework for understanding how users both mediate and mobilize these affordances in evaluating and managing online personae:

> 1.) optimization of self-representation (due to latency)
> 2.) receiver forms impressions by "inflating" tiny pieces of information
> 3.) user can thereby re-allocate cognitive resources used for non-verbal language to #1 (textual optimization)

Essentially, the latency in computer-mediated-communication (whether generated by hardware/software, or artificially via users evoking *away from keyboard* or 'AFK'

moments), not only allows users to carefully manage both their *'expressions given'* and *'expressions given off'*, it also allows them to re-allocate cognitive resources to *'expressions given'* that would have otherwise been used to manage *'expressions given off'*. Depending on the medium of communication, the latter may take on many different forms (photo sharing, scripting an avatar's body language such that it aligns with the *expressions given*, etc.). If the user on the other end is emotionally invested in the success of the performance, they subconsciously support it by enhancing the tiny fragments of identity data they receive and using these pieces to construct a complete impression of the user. Walther proposes that computer-mediated interaction may be more intimate and positive than face-to-face interaction. ICTs support identity play through the anonymity of the Internet, as well as the interplay between "actors" in the presentation of self as described in the work of Goffman.

While the prevalence of multiple and false identities, the degree to which adopted personalities can differ from our own may vary. Some people enter virtual communities for the explicit purpose of role playing or being someone else, while others may choose to create an accurate virtual representation of themselves (Turkle, 1997). The anonymity that is unique to online social interaction presents the user with the ability to create a mask through which (s)he may express an alternate, or perhaps even an ideal self – either physically or socially. In describing the mechanics of identity in MUDs, Turkle offers the following insight:

> "MUDs imply difference, multiplicity, heterogeneity, and fragmentation. Such an experience of identity contradicts the Latin root of the word, idem,

> meaning 'the same.' But this contradiction increasingly defines the conditions of our lives beyond the virtual world. MUDs thus become objects-to-think-with for thinking about postmodern selves. Indeed, the unfolding of all MUD action takes place in a resolutely postmodern context. There are parallel narratives in the different rooms of a MUD. The cultures of Tolkien, Gibson, and Madonna coexist and interact. Since MUDs are authored by their players, thousands of people in all, often hundreds at a time, are all logged on from different places; the solitary author is displaced and distributed. Traditional ideas about identity have been tied to a notion of authenticity that such virtual experiences actively subvert. When each player can create many characters in many games, the self is not only decentred but multiplied without limit." (Turkle, 1996)

Stone (1996) takes Turkle's multiple selves one step further and describes how powerful these other selves can be. Her famous story of the "cross-dressing psychiatrist" features Stanford Lewin, a male psychiatrist who decided to masquerade online as female neuropsychologist 'Julie'. In order to confine Julie's social life to the computer, Stanford decided that she would be disabled, disfigured, and unable to speak - conveniently making her unavailable to attend any offline meetings. As Julie began to help people and make friends, Stanford became more invested in her persona and wanted Julie to have a better life. Suddenly, the once-suicidal Julie was getting married to an impossibly supportive police officer, presenting at conferences, vacationing with her new husband, and considering becoming a college professor. Her online friends began to notice that they were the only people who Julie seemed to want to avoid seeing in person.

Many disabled users were suspicious of Julie, but mostly of her description of her perfect husband rather than the details of her physical impairment. Eventually, Stanford "came out" to a few of Julie's closest friends, but found he was not able to maintain Julie's friendships or make friends as easily as he had been able to as Julie. He "simply

didn't have the personality to make friends easily on-line" (Stone, 1996, p. 77). If Stanford *was* Julie, why did he have such a hard time making friends online? While others have argued that multiple-selves all tie back to a "root persona" or "sovereign subject" (Wajcman, 2004), Stone argues that Julie's online identity was complex, real, and distinct from Stanford's. As Plant notes, by the time other users were becoming suspicious of Lewin, he was "in the process of becoming Julie" (Wajcman, 2004, p. 68). However, Wajcman (2004) challenges the ideal of separate body and mind online. She suggests that, while computer-mediated communication does remove bodily cues, it does not create new identities. "Just because all you see is words, it does not mean that becoming a different person requires only different words, or that this is a simple matter" (Wajcman, 2004, p. 69). Essentially, she suggests that you can try to choose different words, but the ones at your disposal are based on socialization. Women (especially disabled women) became suspicious of Julie the more they interacted with her. "Bodies play an important part in what it means to be human and gendered" (Wajcman, 2004, p. 70).

In 2001, Berman and Bruckman (2001) sought to study the nature of identity cues in a multi-user text-based space online. The experimental environment was named "the Turing Game", inspired by the Turing test - a test used to evaluate the ability of an artificial intelligence to respond to text-based input such that its responses are indistinguishable from those of an actual human (Turing, 1950). In *the Turing Game*, a panel of users are said to belong to a group (e.g.: female). One or more panel members

actually belong to that group and the rest are impostors. Audience members observe responses to questions and use those responses to gauge the authenticity of panellist identities. Panellist identities are revealed at the end of the game. The authors argued that, in the Turing Game, there was no opportunity for what Goffman (1959) calls 'stage setting' and Stone (1986) calls 'appearance management'.

The works of Turkle, Goffman, and Bruckman are common entry points into identity work in games and MMOGs. This foundational work helps us to understand how ICTs are able to afford identity play and experimentation online. However, these works are discussed in the context of textual online environments whose affordances were quite different from MMOGs and social virtual worlds.

2.1.2 Self-Representation in MMOGs

The character creation interfaces for virtual worlds vary greatly, but generally involve presenting the user with a number of limited options that result in a set number of possible permutations. Some character creation interfaces provide users with the ability to make adjustments to many of these features with widgets in the form of sliders and colour wheels (Pace, et al., 2009). Some avatar creation interfaces limit users to a small, finite number of options. Thus, avatars are generally customized via the selection of specific attributes (skin colour, hair colour, etc.) to form a desired permutation that “stands-in” for the user in virtual space. The degree of complexity offered via character creation interfaces has commonly been referred to in terms of fidelity, where a "high fidelity" character creation interface is one that is complex and a "low fidelity" interface

would be one that is simplistic in either the quantity and/or the quality of options provided (Ducheneaut, et al., 2009).

What's interesting about the recent ubiquity of the terms "high fidelity" and "low fidelity" in avatar creation interfaces is that they imply "the quality of being faithful" when the term really only applies to the degree to which the interface *affords* identity fidelity. Whether or not users *can* accurately represent themselves in an MMOG is an important question. I would argue, however, that it is important not to conflate the complexity of an interface with the practice of identity fidelity. To ontologically link user practice (identity fidelity) with design (interface complexity) in this way disrupts the potential for an affordance-based discourse, while simultaneously assuming that a complex interface only yields one type of user practice. Users who encounter complex interfaces may design complex avatars that look nothing like their real-life bodies. Therefore, I would argue that identity fidelity is a term that should be used with caution.

Three recent studies looked to avatar customization trends in popular virtual worlds and MMOGs in order to identify motivational factors that impact the choices users make (Ducheneaut, et al., 2009; Kafai, et al., 2010b; Carman Neustaedter & Fedorovskaya, 2008). Ducheneaut et al. (2009) conducted a study on avatar appearance in three popular virtual worlds: *World of Warcraft*, *Maple Story*, and *Second Life*. Using survey data and screenshots of player avatars from 180 participants, they identified three trends evident in player-avatar customization practices: idealized self, standing out, and following a trend (Ducheneaut et al., 2009). Users who were motivated to create an

idealized self may choose to create an avatar that bears some resemblance to their real-life appearance, but with idealized or desired features (e.g., taller, thinner, more hair, etc.). The second factor - standing out - applied to users whose choice in avatar reflects a desire to have an unconventional look within the game world. The authors categorized customization choices under this category via statements such as, "(1) I make avatars that stand out as much as possible, (2) I often create avatars that have an unconventional look and (3) I make avatars that are as different from me as possible" (Ducheneaut et al., 2009, p. 1152) The third motivational factor - following a trend - describes avatars that have been modified to resemble a celebrity or reflect a popular trend in either the real world or the virtual world.

I am most interested in Ducheneaut et al.'s use of the term "high fidelity" to describe a highly comprehensive or complex avatar creation interface, such as the one found in *Second Life* (2009). The authors define the term stating, "a relatively high fidelity avatar creation system like the one in [*Second Life*] can motivate users to reproduce more of themselves" (Ducheneaut, et al., 2009, p. 1155). Here, high fidelity is meant to describe an avatar customization interface so complex that it is capable of producing representative avatars. While the complexity of the interface in *Second Life* arguably makes it inaccessible to novices in a meaningful way (McArthur, Teather, & Stuerzlinger, 2010), the fact that it *is* complex does not necessarily mean that it will be used to create a "high quality" reproduction of the user, nor does its complexity inherently motivate users to create a duplicate virtual body. I would strongly argue that

we must be careful not to problematically link "complexity" with "fidelity" when describing these interfaces in terms of self-representational practices.

In a similar study, Neustaedter and Fedorovskaya (2008) identified four motivational factors contributing to avatar customization trends in *Second Life*: realistics, ideals, fantasies, and roleplayers. These factors were conceptualized after a four month "cultural immersion" and a series of open-ended interviews with 23 participants in *Second Life*. According to the authors, the first factor - realistics - describes users who consider their virtual world life to be an extension of their real world life and therefore choose to create an avatar that most closely resembles themselves. The second trend - ideals - is more in line with the idealized self described by Ducheneaut et al. (2009), wherein users construct an avatar that is similar to their offline self, but with desired modification or enhancement to specific features. Avatars created under the "fantasies" trend are avatars created with escapist motivations; for these users, the virtual world is a space in which one gets to live as someone else. Lastly, "roleplayers" are described as being users who, like fantasies, enter the virtual world to experience life as someone else, but differ from this category in that they do not maintain identity continuity over time. The authors note that avatar appearance editors may or may not meet users' needs depending on which of the four aforementioned factors represent their virtual lives.

A particularly interesting component of Neustaedter and Fedorovskaya's (2008) paper is the discussion surrounding the social stigma of default avatars in *Second Life*. Upon joining Second Life, new users are prompted to choose an avatar from one of

several default configurations before entering the virtual world. These default avatars are provided by the developers of Second Life. Once in world, many users learn to customize the appearance of their avatar through use of the appearance editor, as well as potentially buying, acquiring, or making new clothes, hair, animations, for their avatar to wear or use. Once members of the community become familiar with the malleability of Second

Life avatars, they are easily able to identify default avatars. The authors note that so-called veteran users identify users with default avatars as being "newbies." The effect of

this social stigma is twofold: veterans view newbies as lacking in ability and assume that

any social interaction with a default avatar will be related to technical issues surrounding

the virtual environment. The second effect is that newbies feel the need to modify the

appearance of their avatar as quickly as possible so that their avatar signifies "belonging"

to the community.

In a similar study, Kafai et al. (2010b) studied avatar customization trends in the online virtual world *Whyville*. *Whyville* is a rich site for study as it is a virtual world populated by tweens; a group rarely, if ever, represented in online identity work. Self-representation in *Whyville* presents a unique opportunity for doing identity research for

two reasons: firstly, *Whyville* avatars utilize player-generated content in their customization, similar to avatars in *Second Life*. Secondly, tweens are *already* trying on new identities in real life as they "transition from childhood into adolescence" (Kafai et al., 2010b, p. 25) The significance is the space between the transient nature of their offline identities, and their expressions of self via their online identities. Where self-representational practices are often discussed as a 1:1 ratio, where one user is compared to one avatar at a time, Kafai et al. acknowledge that the user, in this case the tween, is at a significantly formative stage in their (offline) identity development. The transient nature of the participants' identities is acknowledged because of the demographic they represent, but users outside this demographic may also find their offline identities in-flux, if only situationally. This is highlighted by the works of Goffman (1959), but absent in many studies examining self-representation in virtual worlds and games (Ducheneaut, Wen, Yee, & Wadley, 2009; Carman Neustaedter & Fedorovskaya, 2008; Yee, Ducheneaut, Yao, & Nelson, 2011).

Through a series of surveys and interviews (n = 44), the authors surveyed users of *Whyville* in order to better understand the self-representational practices of this particular demographic. As with *Second Life*, Kafai et al. (2010b) found that newbie avatars (referred to in *Whyville* as "tators") stand out due to their obvious lack of customization. This finding is similar to the social stigma attached to the use of a default avatar as reported by Neustaedter and Fedorovskaya (2008, 2009). In both virtual worlds, being recognized as a newbie carries a certain social stigma with expert users.

Kafai et al. (2010b) also note that the phrasing of some of their survey questions led to some interesting insights into how participants interpreted identity fidelity in terms of general vs. specific questions. For example, when asked whether their avatar was like them or not, almost all participants answered "no". However, follow-up questions revealed that the initial question might have been phrased in such a way that it made assumptions about participants' own understanding of self-representation. For example, when asked if her avatar was like her or not, one participant said "no". When asked how they were different, Kelly elaborated by saying, "I don't have a bear head" (Kafai et al., 2010b, p. 33). The authors note that the structure of their interview questions revealed "...a mix of broader self-representation, aesthetic production, and functionality as motives for creating particular avatars" (Kafai, et al., 2010b, p. 33). This point is a significant one, as it illustrates the dangers of relying entirely on data derived from self-reporting. In this case, ambiguity in the line of questioning had an impact on the authenticity of participant narratives.

Similar to the studies presented by Ducheneaut et al. (2009) and Neustaedter and Fedorovskaya (2008, 2009), participants in the *Whyville* study (Kafai et al., 2010b) identified four motivational factors that contributed to how they chose to customize their avatar: "the pure aesthetics of a look, to embody some aspect of their 'real' selves, to align oneself with or against a popular trend, and for a functional reason like disguise" (Kafai et al., 2010b, pp. 33 - 34). Here, the authors also note the tension in creating an avatar for oneself versus the act of customizing an avatar for others' aesthetic pleasure.

Within each group of motivational factors there seems to be one group of participants who choose to embody some aspect of their real selves - even if it is an idealized self. There are others who choose to play with aesthetics, and there are those participants who customize an avatar with the express purpose of being someone else. Only a few of these trends can be said to exemplify identity fidelity or any sort of visual link to the "sovereign subject." In the case of fantasies, role players, disguises, and aesthetics, there is some aspect to the representation that involves identity play or another self. Returning to the work of Ducheneaut et al. (2009), interface complexity can facilitate identity fidelity via motivation: a "high fidelity" avatar creation system *can* motivate users to reproduce their offline bodies online. However, sophistication is not directly linked to identity fidelity: users can strive for identity fidelity even in the least complex systems. The distinction in sophistication does need to be made, but the choice in wording is problematic.

The aforementioned papers have more in common than their findings: methodologically speaking, all three sets of motivational factors were ascertained via online ethnographic methods (online interviews, surveys, "cultural immersion" via online ethnography, etc.). The findings reported in each of these papers are valuable, but are too conveniently reductionist - neatly placing users into one of three or four categories in order to understand how they came to create their virtual bodies. Additionally, the authors heavily relied on self-reporting and the study of "finished" avatars. The study of these avatars and their players can tell us a great deal about the virtual worlds in which

they play, but they paint a very limited picture. How did the design of the game's character creation interface influence the design of their first avatar? How did they come to make their subsequent avatars? What impact does social play have on the look of their avatar?

In order to begin to address the first of these questions, I argue that we must understand how character creation interfaces, as well as their influence on self-representational practices, have been studied.

I, Avatar

Prior to discussing the mechanics of avatar customization, it is important to more closely examine the complex relationship between the avatar and its user. The visual appearance or the persona of the avatar may bear striking resemblance to that of the creator, or the avatar may be a means for the creator to experiment with aspects of her/his identity within an online social context.

Since it is not uncommon to present different versions of ourselves in real life, this behaviour easily extends into virtual environments. As stated by Rehak, avatars are "ambassadors of agency"; they are vessels for action, but do not directly represent the personality of the individual at the helm (Rehak, 2003). Thus, the behaviour of the avatar may not be typical of the mannerisms of the pilot behind the screen.

James Paul Gee takes the complex relationship between player and avatar further by breaking it down into three identities: virtual, real and projective. The virtual identity belongs to the avatar; it represents the personality of the character being played. The real

identity is that of the person piloting the avatar. The projective identity is the interface between the two and the "feedback loop" through which values are projected upon the virtual identity by the real identity. Essentially, projective identity is the space in which the player evaluates and re-evaluates the morality that guides the actions of her/his avatar (Gee, 2003).

Nick Yee and Jeremy Bailenson (N. Yee & Bailenson, 2007) proposed the theory of the "Proteus Effect" to characterize some of the ways in which avatar modification affects how the avatar interacts with others in virtual environments. The effect is named after the Greek God Proteus, who could change his shape at will. Yee presented the results of four studies designed to determine how avatar attributes such as attractiveness and height made users act more confidently in virtual environments (Yee, 2007). For example, one of the studies presented in his dissertation concludes that participants with taller avatars negotiated more aggressively with others in the virtual environment than participants with shorter avatars. Interestingly, Yee found that these behaviours can also persist outside of the virtual environment, showing that the transformation is not limited to how users behave in the virtual environment. His findings are important as they illustrate not only how much effect we have on our avatars, but also how much effect our avatars have on us.

Representation in a Perfectly Hegemonic World

Almost all MMOGs limit players to two sexes, yet text-based environments allowed users to move beyond this heteronormative binary (Sundén, 2003). Present-day MMOGs

tend to lock users into the male/female binary, leaving little room for "high-fidelity" in the GLBTQ population. Sundén acknowledges how the design of avatars, both in how they are "constructed" and how they are programmed to perform in-game, puts many users in tension with the heteronormative design of their second selves: "The design of avatars – how they look, move, feel, fight, jump, speak, laugh, flirt, dance etc. – speaks volumes about social and cultural perceptions of sexed bodies. But equally important are the ways in which players are collectively imagining who 'the player' is, and how such fantasies are connected (or disconnected) with the politics of the interface" (Sundén, 2009, p. 3).

The research of Kafai et al. (2010a) and Consalvo (2003a) highlights issues of ethnic representation in MMOGs. For example, in studying the tween virtual world *Whyville*, Kafai et al. (2010a) note the general lack of non-white faces available to players. Consalvo's work on the character creation interface in *The Sims* reveals that the interface defaulted to a light-skinned, middle-aged male every time, despite the fact that it is possible to create Sims that are not white and/or are not male (Consalvo, 2003a). Consalvo argues that, "[b]ecause the game encourages exploration and experimentation with Sim characters, it is likely that most players will quickly move past this first option with little thought, yet the default image of the hegemonic white male showing up first does reinforce the traditional notion of white men being the 'norm' in American society, from which all others then deviate" (Consalvo, 2003a, p. 185). It is programmatically possible to set-up the interface so that it begins with some randomly-generated avatar, the

fact that the designers chose - consciously or not - to have it always default to a white male does indeed reproduce hegemonic white masculinity as the cultural norm.

This critique is often confronted with the logic that MMOGs are largely based on fantasy or fictional worlds and are thereby granted some kind of artistic license that is not subject to accountability. Higgin (2009) critiques this stance, stating, "[t]he tendency then is to accept as harmless any creations within a fantasy world because of its extradimensional construction. Such an assumption is dangerous given that fantasy worlds are populated by re-imagined signs with real and significant meanings outside of the fantasy. Thus, a fantasy world's products cannot be solely regarded within the internal logic of that world because the various meanings of its parts still have an originary meaning that cannot be discarded without losing the decipherability of that product" (Higgin, 2009). Arguably, to dismiss any critique pertaining to representation because the game is "virtual" or "fantasy" is a stance that is not only problematic, but also problematizes any claims pertaining to the experience or importance users place upon their avatars. Authors like Gee (2003) describe the relationship between user and avatar as being one of personal investment.

Salen & Zimmerman (2004) use the term "cultural rhetoric" to describe games as ideological systems based on offline ideologies. Bogost (2010) goes one step further than Salen and Zimmerman in suggesting that video games are capable of a new kind of rhetorical expression, one he refers to as "procedural rhetoric." For Bogost, procedural rhetoric is an argument expressed through computer code, where a game's rules and

mechanics convey an argument about the state of things - an argument that must be *read* by actually playing the game. The ability to read a procedural argument requires a specialized literacy, one Bogost refers to as procedural literacy. He states: "...videogame players develop procedural literacy through interacting with the abstract models of specific real or imagined processes presented in the games they play. Videogames teach biased perspectives about how things work. And the way they teach such perspectives is through procedural rhetorics, which players 'read' though direct engagement and criticism" (Bogost, 2010, p. 260). Thus, it is clear that ideologies can be encoded, by programming or by design, and that such ideologies have not gone unnoticed.

In the context of game character design, these ideologies are often seen as heteronormative and Caucasian, based on the ways in which player characters and non-player characters are represented in games (Consalvo, 2003a; Higgin, 2009; Leonard, 2006; Pace, et al., 2009). While the idealized player base may not take issue with the representation of minorities in games, many other player communities, in particular the GLBTQ community, have adopted what Sundén refers to as transgressive play, which she describes as "play against the ‘ideal’ or ‘implied’ player of the game, of playing the game and bending the rules in ways not anticipated by design...as innovation and, possibly, subversion, of finding, exploring and exploiting loopholes in the game fabric" (Sundén, 2009, p. 2)

2.2 Analytical Methods for Studying Character Creation Interfaces

A relatively under-studied aspect of online identity are character creation interfaces. Critical analysis of these interfaces is largely discursive, providing narrative accounts of limitations on self-representation that are strongly grounded in relevant theories, but fall short at producing productive discourses that contextualize these results in a meaningful way. A small number of studies have provided data in terms of interface analysis, where analytical methods have largely involved the counting of available customization options in order to produce quantitative data (Consalvo, 2003b; Pace 2008).

To reiterate from Chapter 1, Pace (2008) utilized this counting method across all customization options in *World of Warcraft* to determine the total number of permutations available to players by race and sex. The total number of permutations is derived by counting all choices available for all customization options and multiplying them together to determine how many quantifiably unique avatar combinations exist. This method was extended to four other high-fantasy themed games in 2009, revealing the differences between avatars and presenting valuable discourse describing how socially exclusive values (marginalization of minorities by making it impossible to create representative avatars) were coded within the games (Pace, et al., 2009). The authors noted that only those interfaces which had interface widgets, such as lists and buttons, that could be easily counted were included. Other widgets such as colour palates, and continuous sliders present customization options in ways that are not accessible to counting methods. Sample widgets that are not easily counted are shown in Figure 2.

Figure 2. Sample Interface Widgets that cannot be easily counted. Pictured here are a triangular slider (*Rift*), various colour boxes (*Lord of the Rings Online)*, and a two sets of discreet slider widgets (*Guild Wars 2* and *Demon's Souls*).

While the counting method has generated productive critiques surrounding the limitations found in specific character creation interfaces, the method is limited in producing meaningful data between games. While one game may present users with more unique avatar permutations than another, data derived from the counting method does not speak to the quality of customization choices available, nor to their range. In other words, games which offer "more" choices than others do not necessarily offer better ones. Also, it is equally important to study not only what choices are presented, but how they are presented.

A recent study presented by Dietrich in 2013 systematically examined the range, or lack thereof, of ethnic representation in both online and offline RPGs (Dietrich, 2013). Using Von Luschan's chromatic scale (shown in Figure 3), Dietrich studied 65 character creation interfaces in order to explore each game's affordance for racial expression. In Dietrich's study, Von Luschan's chromatic scale is distributed as follows, with tones 1 - 5 belonging to Category I, and tones 29 - 36 belonging to Category VI. In Dietrich's

findings, 40% of games in the study had no option to change skin colour (the fixed colour was always a Caucasian skin tone) and the ability to create a Category IV, V, or VI skin tone was reported as 24.6%, 27.7%, and 7.7% respectively.

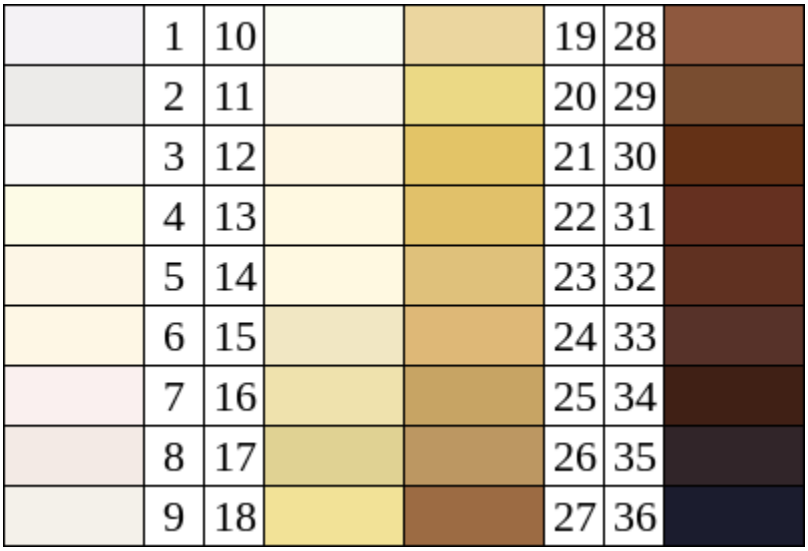


Figure 3. Von Luschan's chromatic scale.

The study of game interfaces is important since these interfaces remediate culture and communicate ideologies to players. Here, I am not just concerned with usability as in traditional HCI research, but also understanding the ways in which game interfaces remediate culture and communicate ideologies to players. Consalvo and Dutton explain: "[e]xamining the interface (and going beyond elegance of design or ease of use) lets researchers determine how free players are to experiment with options within a game. Alternately, it can help us see what information is privileged...and what information is absent or difficult to find" (Consalvo & Dutton, 2006). Concerning avatar customization, critical interface study should include analysis of what choices are present, what choices

are absent, what the default configurations are, and how users are invited to play with these configurations. In terms of the latter, I look to the widgets (interaction elements within the graphical-user interface) individually.

Nakamura (2002) describes the ways in which interface widgets constrain a user's ability to express their identity online. She referred to this phenomenon as "menu-driven identities"; the ways in which design "...reveals assumptions about a user's race and ethnicity" (Nakamura, 2002, p. 101). For example, as a Japanese-American, Nakamura found it difficult to use web portals to create an accurate online identity for herself. Many of the web portals she used included an option for indicating her ethnic identity, but the widget she was presented with would only allow her to choose Japanese or American, not both. The type of widget chosen by the designer, and the limitations it imposed on her online identity, presents a hegemonic view of identity and limits the user in their ability to craft an online identity. The system simply did not afford a mixed ethnic identity. As Nakamura suggests, "[c]yberspace's interfaces are perfectly hegemonic, in the sense that they are enforced and informed by dominant ideologies, however unconscious, as well as, to a much lesser extent, infrastructure and design limitations" (Nakamura, 2002, p. 135).

Notably missing from any of the related work is the analysis of any interfaces containing widgets which are not easily counted, such as those pictured in Figure 2. For example, games that use colour wheels and triangle sliders in their character creation interfaces allow for fine-grained modifications that are not as easily counted but are equally important to researchers and game designers. One notable exception by Isaksson

(2012) presents an overview of the Character Creation Interfaces of 4 different games: *World of Warcraft*, *Star Trek Online*, *City of Heroes*, and, *Dungeons and Dragons Online*. The widgets used in each game are so completely different that an analysis of the quantity or quality of choices available using previous methods would fail to offer any meaningful discussion of the differences in each system. Instead, Isaksson focuses only on the features that are customizable in each game. A sample of this analysis can be seen in Figure 4. Sample analysis by Isaksson (2012).

Choices	WoW	STO	CoH	DDO
General				
Realm	X		X	X
Faction	X			
Race	X	X		X
Class	X		X	X
Path		X	X	X
Play style			X	X
Gender	X	X	X	X
Background		X	X	

Figure 4. Sample analysis by Isaksson (2012).

The value of this analysis lies in its simplicity, and thus its adaptability. Each time a new game is added to the analysis, a new category can be added to account for any novel customization options it offers. This analysis, while highly simplistic, also makes visible the options that are not present in other games. The flexibility of this system to adapt to other games and interfaces is appealing, but the data it produces is not quite nuanced enough for my purposes. I not only want a way to compare the Character Creation Interfaces of different games, but also a way to show how the interface widgets for each of these customization options "shape" or constrain the choices users make.

Despite its limitations, the counting method is still valuable as it provides quantitative data about the differences between the different playable characters within the same game, and also draws our attention to unusually high or low quantities of customization options for a given trait. However, the counting method fails games scholars in two ways: firstly, it is only capable of providing meaningful data within a single game. To say that one game offers 8 skin tones and another offers 200 does not make for a meaningful comparison, since it does not describe the nature of those choices or how they are presented to users. Secondly, the counting method does not work for all interface widgets, meaning that many games can, and have (e.g., see Pace et al., 2009) are excluded from analysis. With these limitations in mind, it is important to note that I am not only interested in what customization options are available to users, but also how those options are presented to them and how the mechanics of customization shape the appearance of their avatars. Here, a more detailed method of analysis, one that is robust enough to analyze any widget and produce meaningful data between games is needed.

2.3 Theoretical Framing

2.3.1 Actor-Network Theory

This dissertation is both methodologically and analytically framed by Actor-Network Theory (ANT). Along with Michel Callon (1997) and John Law (2004), Bruno Latour is one of the primary developers of actor–network theory (1987, 1992, 2005), a controversial approach to research in the social sciences which not only includes non-

humans in the study of social phenomena, but considers the ways in which both humans and non-humans form a network of material-semiotic relations.

In his study of social phenomena, Latour is concerned primarily with our interest as researchers in 'the social', especially as the word itself has been problematized within the social sciences. The issue, he argues, is that the word 'social' began to "mean a type of material, as if the adjective was roughly comparable to other terms like 'wooden', 'steely', 'biological', 'economical', 'mental, 'organizational', or 'linguistic'" (Latour, 2005, p. 1). He goes on to suggest that "[a]t that point, the meaning of the word breaks down since it now designates two entirely different things: first, a movement during a process of assembling; and second, a specific type of ingredient that is supposed to differ from other materials" (Latour, 2005, p. 1). Thus, he argues, that to only study that which has come to represent 'the social' actually excludes other relevant actors necessary in truly understanding social processes.

Looking to ANT, Latour aims to redefine sociology "not as the 'science of the social', but as the tracing of associations... a type of connection between things that are not themselves social" (Latour, 2005, p. 5). The emphasis here is not only on the "tracing of associations" within the network of social phenomena, but also in being able to identify all of the actors who contribute to the same social phenomena, whether human or non-human. Through studying this networked association of actors, Latour argues that social scientists can truly study the social.

The actors identified in social phenomena have traditionally been human participants, perhaps due to the fact that our agency is a fundamental property of our humanness. This focus on athropocentric discourse holds true not only within the field of sociology, but also within the fields of game studies and HCI. ANT differs from traditional approaches in that it involves the controversial attribution of agency to non-humans. Latour argues that the exclusion of non-humans in the past was "not only due to the definition of the social used by sociologists, but also to the very definition of actors and agencies most often chosen" (Latour, 2005, p. 71). He goes on to suggest:

> "If action is limited a priori to what 'intentional', 'meaningful' humans do, it is hard to see how a hammer, a basket, a door closer, a cat, a rug, a mug, an list, or a tag could act. They might exist in the domain of 'material' 'causal' relations, but not in the 'reflexive' 'symbolic' domain of social relations. By contrast, if we stick to our decision to start from the controversies about actors and agencies, then *any thing* that does modify a state of affairs by making a difference is an actor--or, if it has no figuration yet, an actant. Thus, the questions to ask about any agent are simply the following: Does it make a difference in the course of some other agent's action or not? Is there some trial that allows someone to detect this difference?" (Latour, 2005, p. 71)

Much of the aforementioned related work on avatar customization is anthropocentric (Ducheneaut, et al., 2009; Kafai, et al., 2010b; Carman Neustaedter & Fedorovskaya, 2008). The relationship between human and the customized avatar is unproblematically presented as an account of intentional user behaviours, positioning player avatars as objects whose customization is informed by one of three or four motivational archetypes--typically in relation to the desire for, or distancing from,

identity fidelity. Any effect the interface may have on the resultant avatar is framed in terms of interface complexity (Ducheneaut, et al., 2009) or lack thereof (Kafai, et al., 2010a). Character creation interfaces, like hammers and cats, can and do have an observable effect on the choices a user makes to create his or her avatar. The effect is not a unidirectional one in which a user arrives at an interface with fixed plans for how their avatar will look. Avatars are the result of an interplay--a series of actions and interactions between users and interfaces. These interactions are influenced by a variety of factors, including affordances, constraints, assumptions, designs, and experiences.

The role that the computer and its constituents plays in these interactions is an important part of understanding the resultant social phenomena that emerge from their use. I have chosen to mobilize ANT as a means to reposition computer interfaces as actors who contribute to the creation of an avatar in games and social virtual worlds. ANT is offered as a theoretical framing--a means to access actors that have been previously underprivileged and subsequently undertheorized in the related work. ANT also informs the methodology of the two user studies presented in this dissertation. These methodologies are outlined in more detail in Chapters 4 and 5 but should be discussed briefly here in terms of ANT.

Methodologically, how does one do ANT research? Latour proposes that "...ANT is simply an attempt to allow the members of contemporary society to have as much leeway in defining themselves as that offered by ethnographers" (Latour, 2005, p. 41). ANT is successful when it can theorize about an observable social phenomena through a

tracing of its associations (through the actor-network)--navigating complexity, rather than a providing an over-simplified, positivist account that is presented as being "true" or "false" of the social phenomena under study. I would argue that any tools that allow for the collection of data that might assist the researcher in making these material-semiotic relationships accessible should be utilized.

The studies presented in Chapters 4 and 5 are microethnographic lab-based studies in which participants are invited to create player avatars. The studies involve the use of video recordings, screen capture, interviews, and surveys. One might argue that a lab-based study is inherently incapable of producing authentic ANT discourses since it removes the actors from the more authentic network and places them in an artificially constructed one. Such an argument is really one of internal versus external (or ecological) validity. Arguably, there is always a trade-off when one chooses an internally valid design over an externally valid one. The problem is largely one of positivism: internally valid studies tend to produce truths about controlled phenomena and externally valid studies produce discourses that are more generalizable. However, ANT has absolutely nothing to do with producing truths, no matter how generalizable, and is instead a labour of allowing actors to "deploy the full range of controversies in which they are immersed" (Latour, 2005, p. 23). It is the job of the ANT researcher not to emerge from the network with a more authentic positivist account than that of another sociology, but to "trace connections *between* the controversies themselves rather than try to decide how to settle any given controversy" (Latour, 2005, p. 23). Controversies may refer to the

controversies that arise when predetermined networks are imposed upon groups of actors, or they may also refer to the controversies that arise between related work and the resultant actor-networks uncovered by the ANT researcher.

It may seem even more controversial to take up ANT as a theoretical framing and methodological informant and then subsequently propose an analytical framework for the study of character creation interfaces, as I have done in Chapter 3, but at some point, all research, even that which is informed by ANT must find its way out of the mess with some story to tell or contribution to make. As Latour notes, "[t]he search for order, rigor, and pattern is by no means abandoned. It is simply relocated one step further into abstraction" (Latour, 2005, p. 23). If all research, even ANT research, still results in the production, or acknowledgement, of patterns, how does ANT not participate in the same ontological politics of positivism that Latour and others so passionately distance it from? The problem with the motivational factors outlined in the related work (Ducheneaut, et al., 2009; Kafai, et al., 2010b; Carman Neustaedter & Fedorovskaya, 2008) is not that they are meaningless or unproductive, the problem arises when they are accepted as complete descriptions of social phenomena and then mobilized by others *as-is*.

In order to carefully navigate the space between ontological politics and the need to produce *some* discursive account of the phenomena under study, Latour proposes that an ANT scholar should endeavour to choose labels or names for the phenomena they describe that are as "meaningless" as possible so as to not speak for the actors. Terms that are too specific or carry too much ontological baggage may ascribe limited meanings to

the explanations offered. As Latour suggests, "ANT prefers to use what could be called an *infra-language*, which remains strictly meaningless except for allowing displacement from one frame of reference to the next" (Latour, 2005, p. 30). With this in mind, the framework described in the following chapter was designed to be as flexible as possible while still offering a high degree of analytical rigour. It was designed to produce meaningful comparisons and coding between different games while still being capable of accounting for novel interface widgets in future games. The codes that appear within categories of the framework are also open to additions, subtractions, and reworkings. The framework was designed to be as flexible as possible while attempting to provide other researchers interested in character creation interfaces with a framework to help illustrate some of the properties associated with the widgets under study.

In any ANT study, the researcher is one actor in the network; one who proposes the theories, names the other actors, and traces the network, making its nodes visible - or invisible. John Law describes this process as ontological politics. As Law suggests, "[i]n an ontological politics we might hope, instead, to make some realities realer, others less so" (Law, 2004, p. 67). Even though unintentional, the researcher shapes the network, chooses which nodes to elevate to the status of 'actor' and which actors are worth studying. In Chapter 6 I set forth to address ontological politics via an autoethnographic study.

2.3.2 Affordances

The reworked relationship of actors and agency as offered by ANT is an important one, as I am also interested in the study of interface affordances. The term affordance originated with the work of Gibson (1977, 1979) and was later adopted by the HCI community through the work of Donald Norman (1988). Within the HCI community, interpretations of the concept of affordances have become increasingly diverse since Gibson's work (Kaptelinin & Nardi, 2012). Despite nuanced conceptual shifts, the term has generally held to refer to *action possibilities* afforded by the environment. ANT challenges the way we consider character creation interfaces. Through their affordances, I argue that they too are actors; actors that *co-construct* an online identity with the user.

Much of the literature on avatar customization not only privileges human actors over non-human actors, but also privileges user choice (via the process of avatar customization) over interface affordances. Player avatars are discussed in terms of identity fidelity or the kinds of avatars users like to create, as though they arrive at character creation interfaces already knowing what kind of avatar they will end up making. Suchman (2006) examines the tension between interaction and intention, challenging "traditional assumptions regarding purposeful action and shared understanding" (Suchman, 2006, p. 69). Using the term "situated action", Suchman proposes that the actions we take when interacting with interfaces depends on "material and social circumstances" (Suchman, 2006, p. 70). In the context of avatar creation, even if users do arrive at these interfaces with customization strategies in mind, the avatar they

create is a result of situational circumstances that contributed to the creative process, including co-situated players and interface affordances.

Affordances are one facet of situated actions. The affordances of avatar creation interfaces challenge the assumption of plans with regard to avatar customization. This is not to say that users indiscriminately customize their avatars. Commonalities in player avatars across games have been noted, a phenomenon referred to by Celia Pearce as a "trans-ludic identity" - however, even Pearce notes that interface affordances regulate the expression of these identities (Pearce & Artemesia, 2009a).

Anthropologist James Wertsch (1998), reconceptualises mediation (the tension between human actors and, in this case, computer interfaces) in terms of how systems may limit, rather than facilitate, action. In particular, Wertsch draws attention to the ways in which computer interfaces shape interactions and potentially limit the ways in which we represent ourselves. He explains:

> "Most discussions of mediation view it in terms of how it empowers or enables action... However, a narrow focus on the kinds of empowerment provided by cultural tools gives us only a partial picture and one that is benign in an important sense. It does so because it overlooks a counter-vailing, though equally inherent, characteristic of mediational means--namely, that they constrain or limit the forms of action we undertake" (Wertsch, 1998, pp. 38 - 39).

To date, research on user-created avatars tend to frame the interface in, as Wertsch suggests, a benign and incomplete way. Interfaces are discussed in terms of quality and quantity of choices available to players, but are ultimately framed as tools that facilitate the customization of a digital avatar. So while it is tempting to understand

avatar creation interfaces in terms of how they enable users to create and customize their own avatars, it is important not to overlook the ways in which these same interfaces also limit representation.

Mobilizing ANT has already been adopted by a few in game studies (e.g., see Giddings, 2009; Giddings & Kennedy, 2008; Taylor, et al., 2012). By leveling all actors, human and non-human, to the same status, an ANT approach allows us to view the network of actors and trace their associations more readily than an approach that ascribes hierarchies to its objects of study. As Latour suggests, by "render[ing] the social world as flat as possible" (Latour, 2005, p. 16), it becomes possible to view all nodes in the network of a given social phenomena - even those nodes which have previously been overlooked or rendered invisible through research.

Returning briefly to Norman's (1999) perceived affordances, in order for a character creation interface to fulfil a the desired representational composition, the interface must not only allow for the desired avatar to be built, but users must also perceive that this is possible. Kannengiesser and Gero (2012) describe three different kinds of affordances relating to perception: reactive, hidden, and reflexive. It is the first of these kinds that I am most interested in. Kannengiesser and Gero explain, "[a] reactive affordance is an action possibility that is selected from among a set of action possibilities. The process of selection is independent of changes in the user's current goals and expected classes of concepts. Variations over time are often the result of the user acquiring new knowledge from previous interactions" (Kannengiesser & Gero, 2012, p.

54). Thus, in my study of affordances, I am not only interested in the range and presentation of customization options available, but also how users interact with and negotiate these affordances. As an ANT scholar, I am not interested in the human *or* the non-human, I am interested in the human *and* the non-human.

2.3.3 Feminist and Gender Theory

Massively Multiplayer Online Games (MMOGs) and Virtual Worlds (VWs) are said to be the modern graphical variants on text-driven Multi-User Dungeons (MUDs). To repeat, early work on self-representation in MUDs reveals that there were multiple genders available to players; players could choose to be gendered, gender-neutral, or gender-plural (Bruckman, 1996; Reid, 1996). In modern character creation interfaces, players are often limited to the gender binary of male/female, conflating biological sex with gender via interface text. The distinction between sex and gender is made in feminist theory (Butler, 1990), but gender is still used as a formal variant for sex even in academic papers today (Haig, 2004). This language is relevant in the context of avatar customization, where several CCIs use the term gender when they really offer a binary choice between male and female (McArthur, 2014).

Many of the aspects of identity construction and self-representation are now shared between user and character creation interface. These interfaces are designed to offer specific customization options to users in very specific ways. Where text allows for an array of gender identities, modern character creation interfaces are designed with pre-packaged options for sexed bodies (Sundén, 2009). Mobilizing the work of Butler (1990),

I argue that interfaces that only allow for the production of heteronormative bodies act as "regulatory regimes", forcing users to create an online identity within a rigid binary system. This isn't to say that players do not find creative ways to play with gender in spite of these limitations (Sundén, 2009), however, I argue that there is no technological reason for these constraints, rather, they are the product of regulatory regimes.

Take, for instance, the male and female bodies of two races in *World of Warcraft* from the alpha testing phase and the final public release shown in Figure 5 (Rubenstein, 2007). In the alpha version, the degree of sexual dimorphism, the phenotypic or observable difference between the two sexes is minimal. Sexual dimorphism occurs in a number of animal species in nature. Common types of dimorphism are observable differences in size, colour, or ornamentation. In the publically released version of the game, racial ornamentation, such as Tauren horns or Troll tusks are significantly smaller, almost nonexistent, on the female avatars. More importantly, while the male bodies may be large and muscular, they are more bestial than their female counterparts. The shape and proportions of the female bodies are representative of Western ideals of feminine beauty (Pace, 2008). This change was in response to player feedback during Alpha testing, in which players complained about the ugly appearance of the female avatars (Rubenstein, 2007).

Figure 5. Tauren and Troll races (male and female) in WoW. Alpha testing versions shown on the left and current versions shown on the right (Rubenstein, 2007).

The heteronormative and stereotypical gendering of avatar bodies (breasts on females, muscles on males) is not limited to their visual design. Sundén addresses this issue of gender more specifically in avatar design. She writes, "[t]he design of avatars –

how they look, move, feel, fight, jump, speak, laugh, flirt, dance etc. – speaks volumes about social and cultural perceptions of sexed bodies" (Sundén, 2009, p. 3). This position not only highlights visual aspects of avatar design, but also the performative aspects of gender that are evident in other scripted aspects of outward identity performance (Sundén, 2009). Scripts in this sense not only refer to the scripted vocalized gendered performances enacted by voice actors, but also the computer scripts governing the avatar's body language. For the most part, males and females in *World of Warcraft* are scripted to perform all aspects of gender in a heteronormative (often to extremes) manner. Two exceptions, the blood elf male and the orc female, perform male femininity and female masculinity respectively, albeit in a tongue-in-cheek manner (Sundén, 2009).

The problematic representation of gender in computer and video games has been linked to the fact that the demographic makeup of the game industry itself is primarily male, heterosexual, and largely Caucasian. In 2005, the International Game Developers Association published a report on the demographic makeup of the games industry (IGDA, 2005). Results of the survey revealed that 88.5% of participants in the survey were male, 83.3% of participants were Caucasian, and 92% of participants identified as heterosexual (IGDA, 2005). The demographic makeup of the game industry has been highlighted in the literature as a primary force reinforcing the industry's "technological, commercial, and cultural investments in a particular definition of games and play, creating a cyclical system of supply and demand in which alternate products of play are marginalized and devalued" (Fron, Fullerton, Ford Mori, & Pearce, 2007, p. 1).

The makeup of the game industry does contribute to the mobility of male-centred, heteronormative production, but normative notions of gender are also deeply engrained within society as well. The aforementioned changes to the female Trolls and Tauren occurred in response to player reactions during Alpha testing. This inverted effect speaks volumes of the cultural significance of normative bodies, and illustrates how we have been easily distracted by the allure of the demographic/hegemony position. Character creation interfaces give players access to customization functions, but these functions are grounded in computer code, which are, in turn, grounded in heteronormativity. This hetornormativity is present in multiple societal and sociotechnical systems. Thus, we argue that the majority of character creation interfaces typically reify what Butler refers to as a "universal rationality" (Butler, 1990, p. 9), presenting players with a range of choices that exist within a range of options that is deemed acceptable both by the majority of developers and the majority of players. These options are often conflated with gender via interface labels, but generally boil down to a binary choice between male or female (Shaw, 2015).

This binary is explored in the work of Sadie Plant, who writes, "the zeros and ones of machine code seem to offer themselves as perfect symbols of the orders of Western reality, the ancient and logical codes" (Plant, 1997, p. 34). Plant suggests that the relationship between males and females is reflected in the relationship between ones and zeros, where females are commonly absent in male-dominated society. We often see this relationship reflected in character creation interfaces as well, where many games that

allow for players to create male or female avatars are presented with a male avatar as the default (Consalvo, 2003a). This positions women as the other, the zero in relation to the one. Arguably, it is easy for players to choose to play as a female player, but the player must actively choose to play as female, or not as the male; the predestined norm. I explore this relationship as well in my analysis in the following chapter.

Chapter 3 The Avatar Affordances Framework

The primary motivation of this research is to explore the affordances of avatar creation interfaces. While these systems have previously been studied in terms of content (e.g., ethnic diversity or lack thereof) or complexity (e.g., high/low fidelity), few have systematically studied these interfaces in terms of affordances. Starting with an existing framework in HCI, the *Function-Behaviour-Structure* framework (Gero, 1990), I propose an analytical framework to address some of the aforementioned limitations present in the research methods of the scholars whose work I explored in chapter 2.

In order to ensure that terminology is consistent with the HCI and gaming literature, I have also presented descriptions of the different classifications of interface widgets encountered during this research. This list is by no means exhaustive, but draws heavily from the literature in order to align with the technological documentation and specifications set out in that discipline. These terms are not only used in isolating individual widgets for coding with the framework, but also for addressing design practices for game developers.

In this chapter, I present detailed analyses of six different game interfaces illustrating how the Avatar Affordances Framework can be used to analyze the ways in which self-representation is mediated by character creation interfaces. Following this, I apply the framework to 14 additional games in order to investigate more broadly how gender and ethnicity are presented to players across multiple genres.

3.1 Classification of Widgets

Prior to discussing the framework, it is important to provide a classification of widgets that have appeared in various character creation interfaces. These widgets are also found in the interfaces that are analyzed in this dissertation. Where possible, terminology has first been culled from the HCI and games literature.

Buttons are graphical elements that allow users to trigger an event or make a selection, either by "pressing" them with the mouse cursor or other input method (Olsen, 1998). Buttons are one of the most common graphical elements encountered in character creation interfaces. A number of button styles have emerged. In order to distinguish between these different button styles, the following descriptors have been selected for use within the Avatar Affordances Framework: preview, portrait, glyph, swatch, and avatar. *Preview* buttons provide a detailed preview of the effect the button will have on the current avatar configuration. For example, an interface that uses preview buttons for hairstyles will show what the user's current avatar will look like if they choose the hairstyle associated with that button. This preview is integrated into the button widget itself. *Portrait* buttons are stylized portraits that are representative of a choice within the interface, but do not resemble the player's avatar - before or after the selection. Portrait buttons are often used to make a more general selection early on, such as the choice of avatar race or sex, but do not resemble the avatar that will be generated by the interface following its selection. Portrait buttons may also be presented as more artistic than the avatars that are generated by the interface. *Glyph* buttons are similar in function to

preview buttons, but present the customization option as a flat, simplistic representation, similar to that of a computer icon. *Swatch* buttons are buttons that represent a single colour selection among a limited number of colours. Lastly, I have chosen to use the descriptor *avatar* to describe a button that is effectively a fully rendered avatar. Like portraits, these buttons are generally stand-ins for much broader selections that are made early on, like choosing the race and sex of your avatar.

Sliders are horizontal or vertical element which allows the user to select a value within a given range by moving an indicator between the two ends of the widget (Olsen, 1998). There are two kinds of sliders that are commonly used in interfaces: discrete and continuous sliders. *Discrete* sliders allow the user to select one of a pre-specified number of values within this range. *Continuous* sliders do not constrain the user's selection within the range and allow for a greater amount of control over customization. Thus, while the number of possible values presented by a discrete slider can often be counted, the number of possible values presented by a continuous slider cannot. The kind of slider can often be visually ascertained by examining the slider for a series of equidistant ticks or marks between the maximum and minimum values. However, some continuous sliders have similar markings but still function as continuous sliders.

Triangular sliders are a relatively new alternative to the standard slider widget. Triangular sliders allow users to modify a given attribute within three maximum parameters. Similar to traditional sliders, users interact with triangular sliders by positioning an indicator anywhere within the range of possible values. A triangular slider

allows users to find a balance between three interrelated extremes, providing a greater deal of flexibility in customization than traditional sliders. However, as with traditional sliders, users are unable to make selections outside of the predetermined range. Triangular sliders can also be presented as discrete or continuous, where discrete triangular sliders usually present numerical values for the three variables based on the placement of the indicator.

A **colour wheel**, **colour palette**, or **colour picker** is a single widget used to select the colour of a given attribute. These differ from swatch-style buttons in that the buttons are grouped widgets where each button represents a single colour choice, where a colour wheel or colour palette is a single widget that presents a range of choices to the user. Depending on the complexity of this widget, it can present users with thousands or millions of possible colour options.

Lists are textual descriptions of the choices presented to users for a given feature. Descriptors associated with the choices presented in a list may be nominal, descriptive, or ordinal, where nominal items are named after a specific character, person, or group associated with that choice, descriptive items are given a name that characterizes the choice in a way that is meaningful to the player, and ordinal items are given a name that is more generic and has been assigned a number or other value to differentiate it from other choices.

A small number of modern games allow players to manipulate their avatar's features at the level of the avatar's body or mesh. These tools are referred to as **mesh**

editors, which allow players to manipulate the shape of their avatar's body via a grabbing metaphor. Typical interaction involves placing the mouse cursor on part of the avatar's body and then clicking and dragging the mouse to manipulate the size and shape of a the selected feature (Kim & Park, 2014). Designers may choose to communicate which part or parts of the body will be manipulated by highlighting the selected sections.

Some character creation interfaces use **tooltips**, either in lieu of an identifier, or in addition to an identifier so as to provide additional information to the user. This information may consist of further instructions on the function or behaviour of the widget, or detailed information about the selected choice (e.g., the name of the selected colour). Tooltips appear when the cursor is left to hover over a specified object without selecting it. During this time, the tooltip appears, usually as a small hovering box near the associated widget. Tooltips are an important object of study since they may help users in understanding the affordances of various elements within the character creation interface.

3.2 The Function-Behaviour-Structure Framework

John Gero's research group has published a number of papers on their *Function-Behaviour-Structure* framework - a design ontology aimed at providing a foundational framework for analyzing the design process as well as designed objects (e.g see, Gero, 1990, 2002; Gero & Kannengiesser, 2004; Kannengiesser & Gero, 2012; Rosenman & Gero, 1998)). While the components of the framework have been refined and modified over more than two decades of publication, the FBS framework provides a starting point for systematically analyzing a variety of character creation interfaces. The existing

dimensions of this framework: *function, behaviour,* and *structure,* are outlined in the following section and are presented in the context of avatar creation interfaces.

3.3 The Avatar Affordances Framework

Using the Function-Behaviour-Structure (FBS) framework as a starting point, I am able to isolate each widget present in an avatar creation interface and code it for its interactive properties. Coding them allows me to then draw comparisons between the function, behaviour, and structure of widgets in different games that serve the same purpose. Within the context of avatar customization, I have defined the components of the framework as follows, noting how they appear within my framework:

- Function – the purpose(s) for the interface widget (e.g., modify height, select hairstyle, etc.)
- Behaviour – attributes derivable from the widget (e.g., adjusts value incrementally, choose 1 of *n* options, etc.)
- Structure – the type of interface widget (e.g., slider, button.etc.). Additional specifications pertaining to the widget are appended with a colon (e.g., slider: discrete). Lastly, when the number of choices is derivable from the widget, this number is indicated in round brackets immediately following the structure's name.

Using such a framework allows us to code character creation interfaces in a way that is not only meaningful in terms of affordances, but also allows us to make comparisons between games. However, widgets possess other properties that are of interest to games scholars that are not currently available via this framework. For example, how is the function of a widget disclosed to a player? Is there a default value for each of the customization options? Which interface options are privileged over others? Using FBS as a foundation for my framework, new components can be added as

necessary to accommodate new and emerging research questions. In order to address those questions that are interesting to me, I have added three components to Gero's framework: *Identifier*, *Hierarchy*, and *Default:*

- Identifier – is the interface widget labeled in any way? If so, what text and/or icons are used to convey its purpose? (e.g., text: select a gender)
- Hierarchy - a numerical value that indicates how many levels deep a particular widget is in relation to the customization section of the character creation interface (e.g., the number "2" indicates that the widget is part of a sub-section, the number "0" indicates that it exists outside the customization section)
- Default - indicates whether the widget consistently defaults to a particular selection (e.g., sex = male)

Widget identifiers are used to communicate the widget's purpose to the user. Experienced gamers may be familiar with the affordances of many of the widgets found in character creation interfaces. However, novice gamers are not equipped with the same knowledge and may rely more heavily on widget identifiers to discern a widget's purpose. Additionally, with new advancements in game interfaces, even experienced gamers may benefit from identifiers in order to generate their avatars. The presence or absence of a label, as well as the words or images used to convey a widget's function is of interest to me, since language is rarely, if ever, insignificant or without political weight.

Hierarchies in interfaces are also significant, since the presentation of customization options may be problematic. For example, some options may be hidden or buried where others are prominent (Consalvo & Dutton, 2006). It is not a question as to whether or not artifacts have political properties; researchers need only to study them to uncover which political relationships or ideologies with which they seem to be best

aligned (Winner, 1986). I have chosen to use numeric values to indicate where customization options are accessed in relation to the main character creation interface (the shell menu in which digital-visual avatar customization is presented). Interfaces that contain all of these options within the same hierarchical level would be noted with a value of 1 (in relation to the parent or "main" screen of the character creation interface). Customization options that are accessed within sub-sections of this parent section are indicated with a numeric value of 2, indicating a child relationship to the parent or "main" screen. Lastly, any choices that are made about avatar customization before entering the main screen are indicated with a 0. The following image illustrates how this coding would be done for the *Mii Creator* on the Nintendo *Wii U* console, which is discussed in greater detail in Chapter 5.

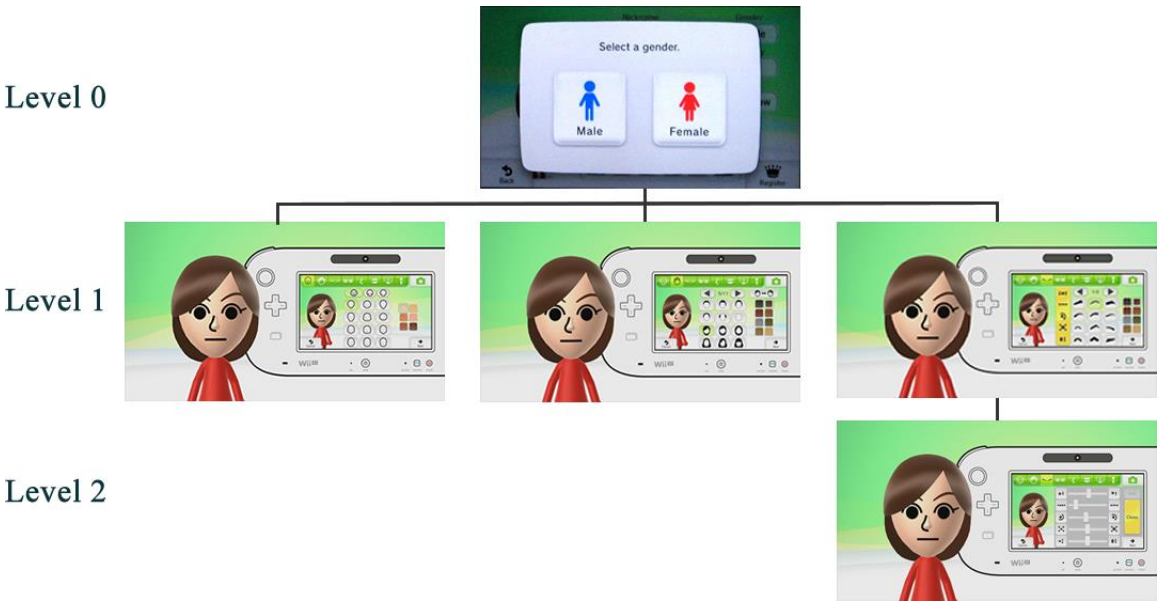


Figure 6. Coding hierarchy in the *Mii Creator* interface.

Coding widgets for their default values allows me to systematically note these default values, as Consalvo did with the default whiteness of Sims (Consalvo, 2003a). While users are usually able to move away from these defaults via customization, the defaults reveal assumptions about players that, even if not intentional, are significant and should not go unstudied. Default values for gender and ethnicity are coded using consistent descriptors (e.g., sex = Male, ethnicity = Caucasian). For sliders that populate default values, I have chosen to use the terms *min*, *max,* and *med* to indicate the indicator's default position within the given range. However, more complex variables, such as hairstyle or hair colour are highly subjective and could cause issues in consistent coding between games. The problem arises when one is forced to decide whether to use the keywords provided by the game; the *Saints Row* franchise uses descriptive names for all avatar hairstyles. Upon close examination of a number of game interfaces which do just that, it became apparent that one game's "short" hairstyle for a female avatar was not the same as another game's similarly named style. Additionally, what constitutes a short or medium-length style is highly subjective and varies from person to person.

One runs into a similar problem when attempting to code colours, for example, for avatar hair. Many games provide players with hair colours that are naturally occurring in real life, but the code behind these colours, as well as the slight differences in how they are rendered on different displays, makes it difficult to pin down which "brown" across numerous games is "light brown" - and for games where the designers chose to provide their own descriptive colour names, should these be assimilated into coding or not? In

these cases and many others, a "yes" or "no" has been used in the coding to indicate whether or not there is a default value for the customization option under study. This helps to eliminate issues of cross-compatibility of the codes, as well as a great deal of subjectivity on the part of the coder.

3.4 Games Used in the Detailed Analysis

Six games were selected for detailed analysis in this chapter. These games were chosen because of their differences both in terms of the design of their character creation interface as well as the different genres and play styles they represent. The breakdown of genre, platform, number of players, and release date can be seen in Table 1. *World of Warcraft* was chosen because of its popularity among game scholars. It is my hope that by including it here, scholars who are familiar with the game will be better able to interpret the data presented below. The other games were selected in an attempt to represent the variety of avatar-based games that are currently available on the market. Some games were selected because they have particularly advanced character creation systems, such as that found in *EVE Online. EVE Online* allows players to manipulate the shape of their avatar's body at the level of the character mesh - an interaction style that should test the extensibility of the framework. Both *Skyrim* and *Saints Row IV* were selected because they each have relatively comprehensive avatar creation systems, and have both been enthusiastically received by the gaming community.

RuneScape is the longest running free MMO, making it readily accessible to gamers who may not have access to a computer to install an MMO, or funds to pay for

monthly fees. Since *RuneScape* runs in the computer's Internet browser, scholars reading this dissertation who wish to interact with the game's character creation interface can readily do so without having to purchase or install a game client. Lastly, *Jam City Rollergirls* was selected both because it is a relatively simple interface to study, and is far more obscure compared to the other titles included in this chapter, making it an interesting site of study. Games accessibility researcher Dimitris Grammenos notes that popular game interfaces are often the result of design practices that were borrowed from existing games. As such, I am interested in studying the affordances of games of varying levels of popularity in order to ensure that the sample is as diverse as possible. Where games are available on multiple platforms, for this analysis the PC version of the game was analyzed.

The Avatar Affordances Framework is designed to be applied to any and all widgets within a game's character creation interface. Within the body of this chapter I have chosen to analyze the customization options available for four significant aspects of avatar customization: gender, ethnicity, hair, and body. Video games seem to have done a fine job representing - albeit highly idealized - heterosexual white men. The representation of ethnic minorities in games has been an ongoing issue in the games industry. In many cases, these groups are either problematically represented, under-represented, or not represented at all (Higgin, 2009; Kafai, et al., 2010a; Lee & Park, 2011). The related issue of gender and gendered bodies in games is equally significant, as women face similar issues in how they are represented in games. Equally important in the

study of gender and representation is the ways in which female bodies are often limited to hypersexualized proportions (Behm-Morawitz & Mastro, 2009; Burgess, Stermer, & Burgess, 2007; Consalvo, 2003b; Downs & Smith, 2005; Sundén, 2009). Lastly, hair has been identified as a trait that is particularly important to players as it is viewed as a "high impact" feature capable of making a statement in terms of self-representation in games (Ducheneaut, et al., 2009).

It should be noted that, in the table below "online mutiplayer" is not synonymous with "massively-multiplayer", where the former refers to a playing arena or single instance of the game world for a single game or round, where the latter refers to persistent game worlds, hosted on servers, for a much larger scale of multiplayer play.

Table 1. List of games used for detailed analysis in this chapter.

Game	**Genre**	**Platform**	**# of Players**	**Release Date**
World of Warcraft	Fantasy MMOG	PC/Mac	Massively-Multiplayer	2004 (most recent expansion in 2012)
EVE Online	Space simulation MMOG	PC/Mac	Massively-Multiplayer	2003
Saints Row IV	Action-adventure, urban crime	Playstation 3, Xbox 360, PC	Single player, multiplayer	2013
Jam City Rollergirls	Sports, roller derby	Wii Ware	Single player, multiplayer	2011
The Elder Scrolls V: Skyrim	Action role-playing	Playstation 3, Xbox 360, PC	Single player	2011
RuneScape 3	Fantasy MMOG	Java/HTML 5	Massively-Multiplayer	2013

3.4.1 World of Warcraft

Blizzard Entertainment's *World of Warcraft (WoW)* is currently the most popular game of the MMOG genre, with nearly 8 million active players (Van Geel, 2014). Because of its overwhelming popularity, *WoW* has been the focus of a growing body of academic work (Bardzell, Bardzell, & Nardi, 2011; Bessière, et al., 2007; Golub, 2007; Langer, 2008; Victoria McArthur, et al., 2012; Nardi, 2010; Nardi & Harris, 2006). Researchers have used *WoW* to explore a variety of topics including design choices (V. McArthur, et al., 2010; Pace, 2008); social play (Chen, 2009; Nardi & Harris, 2006); expertise (McArthur, et al., 2012); and issues of race and gender (Rubenstein, 2007; Sundén, 2009).

World of Warcraft is the fourth game in the Warcraft franchise. The game takes place in the fictional world of Azeroth. Players of WoW choose to play as one of two warring factions: the *Alliance* or the *Horde*. There are currently 13 playable races in *WoW*. Six of these races are exclusively available to *Alliance* players with 6 of the remaining races belonging to the *Horde*. The games' fourth expansion, *Mists of Pandaria,* was released in 2012 and introduced the 13th playable race, the *pandaren* - a species of anthropomorphic panda. The *pandaren* are unique among playable races in that they can belong to either the *Alliance* or the *Horde*.

Figure 7. Gameplay in *World of Warcraft.*

World of Warcraft was selected for analysis largely because of its pervasiveness in the literature. It is my hope that this makes the avatar affordances data easier to situate within the growing body of games studies research and makes the data for any less familiar games easier to assimilate.

Character Creation Interface

As the avatar creation system loads in *World of Warcraft*, it generates a randomly configured avatar across all character dimensions. The first choice in creating a new character is a simultaneous decision of both race and faction. Once a player makes this selection, he or she can then navigate through the available avatar appearance options using the list on the upper left corner of the screen. The selection of any one feature from

this list results in the population of all available options in the panel on the right hand side of the screen. These options are shown as preview style buttons in which the player can see what each available choice would look like on the current avatar configuration. Players can use arrows located at the top and bottom of this panel to navigate through multiple options. These preview style buttons are used for all customization options found in the left-hand menu, with the exception of the "Gender" buttons at the top of the menu.

Figure 8. Character creation interface in *World of Warcraft*. Shown here is a randomized human female avatar.

In the table below, I present the Avatar Affordances data for a human female avatar in *World of Warcraft.*

Table 2. Avatar Affordances data for a human female avatar in *World of Warcraft.*

	Identifier	**Function**	**Behaviour**	**Structure**	**Hierarchy**	**Default**
Gender	Gender	Select sex	Choose 1 of 2 options	Button(2)	1	None
Ethnicity	Skin color	Select skin colour	Choose 1 of 10 options	Button: preview(10)	1	None
Body	N/A	N/A	N/A	N/A	N/A	N/A
Hair	Hair style	Select hair style	Choose 1 of 19 options	Button: preview(19)	1	None
	Hair color	Select hair colour	Choose 1 of 10 options	Button: preview(10)	1	None

World of Warcraft generates a randomized avatar each time the character creation interface is loaded. The character creation interface is relatively simple, favouring preview buttons over swatches or lists. The interface also provides text to label all of the available options. Note that players cannot modify the shape of their avatar's body. Male and female avatar bodies are pre-designed and remain fixed.

3.4.2 EVE Online

EVE Online is a Massively-Multiplayer space simulation developed by CCP Games and released in May 2003. Players pilot customized star ships through thousands of galaxies and can participate in a number of in-game professions and activities including mining, piracy, trading, exploration, and combat. The game takes place more than 21,000 years in the future. Population growth on Earth has forced mankind to look

beyond Earth for resources and colonize the rest of the Milky Way galaxy. Despite this expansion, fighting over resources continues. The discovery of a natural wormhole leading to an unexplored galaxy named "New Eden" offers new territory for colonization. Unfortunately, the wormhole collapses, cutting off the colonies of New Eden from the rest of humanity. The game's five factions represent the five major societies that rose to prominence from those initial colonists in New Eden. These factions are the *Amarr Empire*, the *Caldari State*, the *Gallente Federation*, the *Minmatar Republic* and the *Jove Directorate*. Since the initial release of *EVE Online*, CCP has added twenty expansions to the game, free of charge to players.

Figure 9. Fighting enemies and destroying NPC pirates in EVE Online.

Despite its age, *EVE Online* is still relatively understudied compared to other MMOGs (Bergstrom, Carter, Woodford, & Paul, 2013). The persistent world is player-driven and has a steep learning curve, making it difficult for novice players to participate (Paul, 2011). It has been argued that this barrier is further maintained by a plethora of player-created "newbie guides" that are intentionally obtuse in an effort to further maintain the game's homogeneous player base (Bergstrom, 2013).

Character Creation Interface

Avatar customization was not included in the original release of the game, but was added later on. Initially, players could choose a pre-drawn portrait to represent themselves in-game. The release of the *Incursion* patch in 2011 introduced a highly comprehensive 3D character creation interface. This interface is shown in the figure below.

Figure 10. Character creation interface in EVE Online.

In addition to providing players with standard customization options via common widgets such as sliders, the *EVE Online* character creation interface allows players to modify the appearance of their avatar by accessing the character's polygon mesh - the wire frame that comprises the avatar body's shape. Doing so commands a great deal of computational power from the player's computer, but also allows players to have more control over their avatar's morphology. Where *World of Warcraft* provides its players with one body shape per sex/race combination, avatar bodies in *EVE Online* are far more malleable.

Figure 11. Editing the player avatar's body mesh via the mesh editor.

The above screenshot illustrates this functionality. Placing the mouse cursor over different sections of the avatar's body reveals the different sections of the body that can be manipulated. Here, the abdominal wall is selected for manipulation. By clicking and dragging the mouse, the player can modify the size and prominence of these features. It is for this reason *EVE Online* was included in this analysis. Giving players access to the mesh means moving beyond sliders and buttons to utilize more complex interaction tools. Analysis of *EVE Online*'s character creation interface with the Avatar Affordances Framework should test the robustness of the framework. The table below contains the Avatar Affordances data for the Caldari female.

Table 3. Avatar Affordances data for a Caldari female avatar in *EVE Online.*

	Identifier	**Function**	**Behaviour**	**Structure**	**Hierarchy**	**Default**
Gender	♂ and ♀	Select sex	Choose 1 of 2 options	Button: avatar(2)	0	None
	♂ and ♀	Select sex	Choose 1 of 2 options	Button	1	Player selected
Ethnicity	Complexion	Select skin colour	Choose 1 of 12 options	Colour wheel(12)	1	Yes
Body	Muscularity	Adjust avatar build	Adjusts value incrementally	Slider: continuous	1	Min
	Weight	Adjust avatar height	Adjusts value incrementally	Slider: continuous	1	Med
	None	Adjust calves	Manipulate avatar mesh	Mesh editor	1	Med
	None	Adjust thighs	Manipulate avatar mesh	Mesh editor	1	Med
	None	Adjust hips and glutes	Manipulate avatar mesh	Mesh editor	1	Med

	None	Adjust abdomen	Manipulate avatar mesh	Mesh editor	1	Med
	None	Adjust arms and shoulders	Manipulate avatar mesh	Mesh editor	1	Med
	None	Adjust breasts	Manipulate avatar mesh	Mesh editor	1	Med
Hair	Hair	Select hairstyle	Choose 1 of 23 options	Button: preview(23)	1	Yes
	Root color	Select hair colour	Choose 1 of 22 options	Button: swatch(22)	1	Yes
	Hair color	Select hair colour	Choose 1 of 28 options	Button: swatch(28)	1	Yes

The mesh editor is a relatively novel interaction technique for avatar creation seen in very few games - *Spore* is one other notable example, originally released in 2008. The inclusion of a mesh editor does not inherently make an avatar creation system any more complex than one that uses sliders or buttons - it is the degree of freedom - the uppermost and lowermost predesigned constraints - that the widget allows players to work within. In *EVE Online,* for example, it is possible to isolate the avatar's proportions and reshape it as desired - to a degree. It is possible to make the breasts smaller or larger than they appear by default, to manipulate the degree to which they are affected by gravity. However, the avatar's breasts can never be made to disappear - this is a constraint that has been built in to the avatar creation system - a limitation of the mesh editor's affordances. There is also no identifier for this tool - its existence is very subtly indicated when the user places the cursor over any part of the body that is open to manipulation. Thus, it is possible that some players - especially novice players - may not be aware of this affordance.

3.4.3 Saints Row IV

Saints Row IV is an open-world, urban crime game, developed by Volition for PS3, XBox 360, and PC. *Saints Row IV* is the fourth installment in the *Saints Row* franchise. The player character leads a gang known as the Third Street Saints. In previous titles much of the plot revolved around rivalries between the Third Street Saints and other gangs. In *Saints Row IV* the player character has now become president of the United States. The series has much in common with the popular *Grand Thieft Auto* (GTA) franchise in terms of gameplay, but notably distinguished itself by opting for a more satirical and outrageous feel than the GTA games. *Saints Row IV* takes place five years following the events of *Saints Row the Third.* In the first three games, the plot centred around the inter-gang rivalries in the fictional Steelport. In *Saints Row IV,* much of the conflict revolves around the Saints fighting off an alien invasion of Earth.

Character Creation Interface

The avatar creation interface in *Saints Row IV* is highly comprehensive. The player can play as a male or female avatar, and adjust various aspects of their avatar's appearance and personality, including the avatar's build, body language, and voice. Prior to entering the character creation interface, players must select a preset - a pre-configured avatar. These are presented to players using portrait-style buttons that are stylized to look like magazine covers.

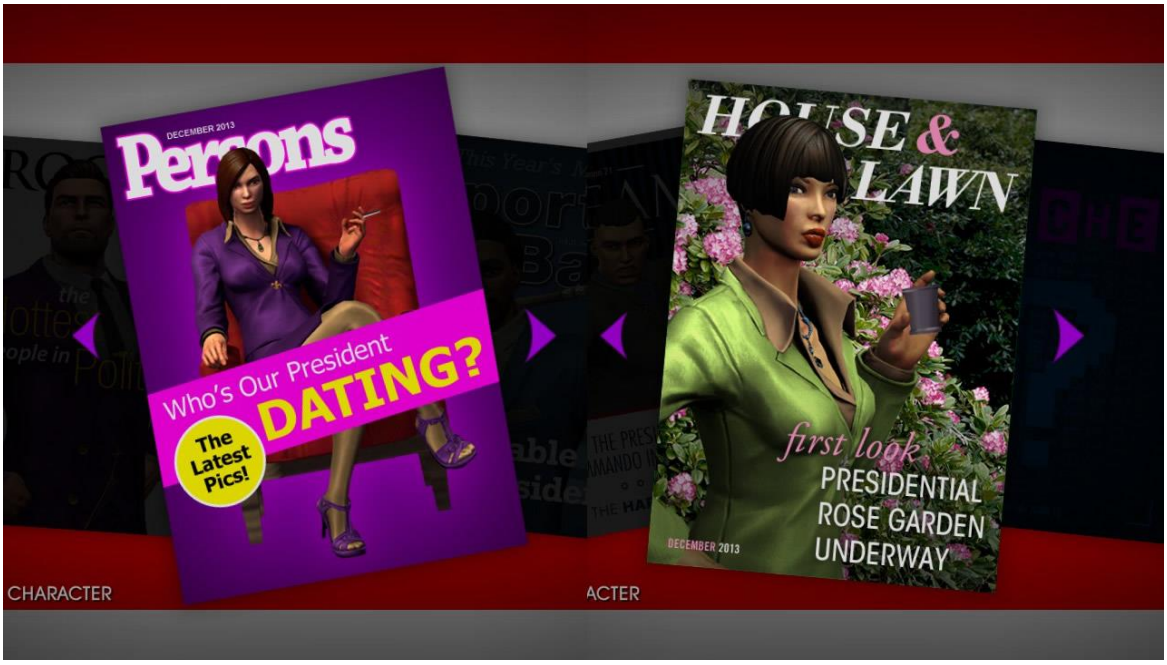


Figure 12. Selecting an avatar preset in *Saints Row IV*.

There are nine covers in total, with the first, and only visible cover, being that of the Caucasian male preset - the configuration of the player avatar that is heavily featured in all of the game's promotional material. Two of these magazine covers - the second and eighth - are shown in the Figure 12. Both sexes are equally represented on these covers, and while they do portray a diverse array of presidents representing Caucasian, African American, and Hispanic people, Asians are notably missing from all of these magazine covers. The ninth magazine cover allows players to load a character that has been downloaded from the *Saints Row* community site.

Figure 13. Character creation interface in *Saints Row IV*. Pictured here is the triangular slider used to calculate avatar build.

The game makes use of a variety of interface widget styles. The screenshot shown in Figure 13 illustrates the use of a triangular slider to manipulate the interrelated properties of the player avatar's physique. Players can use the circular indicator to create an avatar that expresses these three qualities to varying degrees. Placing the indicator directly in the middle (the default configuration) sets the three values to 0%. Placing the indicator in any of the three corners results in the maximization of only one of these qualities, setting the value to 100% for that property.

Figure 14. The sex appeal slider in *Saints Row IV*.

Players of *Saints Row IV* can adjust the degree to which their player avatar's secondary sex characteristics are displayed using the Sex Appeal slider shown in Figure 14. The default value for this slider is 50 for both male and female avatars. On male avatars, it changes the size of the male's penis and on female avatars it modifies breast size. Interestingly, a Sex Appeal value of 0 on a male avatar renders his bulge flat where on a female avatar, a similar value does not completely flatten the avatar's chest. Also worth noting is the fact that in *Saints Row 2*, this slider was given a more neutral name: "Body Shape", and actually allowed players to cross dress, giving male or female avatars the secondary sex characteristics commonly associated with the opposite sex.

Figure 15. List of eye customization options in the *Saints Row IV* character creation interface.

Figure 15 shows the list of eye customization options available to players. These features can be adjusted between a minimum and maximum value using discrete sliders. All features begin with a default value of 50. Similarly detailed options exist for the avatar's other facial features, making the character creation interface highly comprehensive. What makes the character creation interfaces of the *Saints Row* franchise so notable is their increasing level of extreme customization options. Players have the option to select non-typical hair colours and skin colours as seen in Figure 16.

Figure 16. Atypical skin colour options available in *Saints Row IV*.

Avatar Affordances data for the female avatar in *Saints Row IV* are shown in the following table. Note the game's use of a variety of widgets, including lists, buttons, and sliders. Many of the customization options relating to the avatar's appearance have a default configuration that is based on the magazine cover - the preset - chosen by the player prior to entering the interface. Since these default values vary from preset to preset, they are coded using the "player selected" code, meaning that there is a default, but in this case, it is based on a previous selection made by the player.

Table 4. Avatar Affordances Data for a human female avatar in *Saints Row IV*.

	Identifier	**Function**	**Behaviour**	**Structure**	**Hierarchy**	**Default**
Gender and Ethnicity	Customize Character	Select sex and skin colour	Choose 1 of 9 options	Button: portrait(9)	0	Yes

Gender	Sex	Select sex	Choose 1 of 2 options	List	3	Player selected
Ethnicity	Race	Select ethnicity	Choose 1 of 4 options	List	3	Player selected
	Skin	Select skin colour	Choose 1 of 55 options	Button: swatch(55)	3	Player selected
Body	Build	Adjust avatar build	Adjust value incrementally	Triangular slider	3	Player selected
	Sex Appeal	Adjust secondary sex characteristics	Choose 1 of 101 values	Slider: discrete(101)		50
Hair	Head	Select hairstyle	Choose 1 of 104 options	List	3	Yes
	Primary Color	Select hair colour	Choose 1 of 35 options	Button: swatch(35)	3	Yes

For example, choosing the second magazine portrait, which is the Caucasian female president, sets the *Build* widget to a maximum value for skinniness. However, choosing the first magazine portrait - the Caucasian male preset - and then switching the avatar to a Caucasian female within the character creation interface results in the body build values defaulting to 0,0,0, evenly distributing the build among the three variables. So, while there are default values for the *Build* widget, these vary from preset to preset and are based on the player's choice of magazine cover.

3.4.4 Jam City Rollergirls

Jam City Rollergirls is a roller derby game available for download on *Wii Ware*, a service that allows players to directly download games and applications specifically developed for the Nintendo *Wii* console. *Jam City Rollergirls* is the first flat track roller derby video game and was developed by independent game developer *Frozen Codebase.*

The playable characters in the game are customizable via the game's character creation interface and are based on existing Women's Flat Track Derby Association (WFTDA) teams and skaters.

The game supports single and two-player modes. The game loosely follows official WFTDA rules, but takes full advantage of the virtuality of the medium, presenting players with complex, playful levels. The resultant game is much like playing roller derby in the *Mario Kart* universe, with *dash panels* in the track (skating over one gives the player a temporary speed boost - see blue panel on the track in the following figure) and power-ups.

Figure 17. Gameplay in *Jam City Rollergirls* on the Nintendo Wii U console.

Skaters in *Jam City Rollergirls* are said to be modeled after real skaters, with game designers incorporating the individual style of each of these players in the design of its avatars (Consalvo, 2013). The game pays homage to the aesthetics of individualism present in roller derby; players often wear a uniform shirt, but are otherwise free to embellish this uniform with their own accessories (tights, fishnets, tutus, etc.). These embellishments are commonly referred to as "boutfits" - a portmanteau of "bout" and "outfit" (Paul & Blank, 2014). Self-expression in roller derby extends to player names as well - derby girls typically skate under a nickname or pseudonym. An international list of chosen names is maintained and new skaters are required to choose a unique name that is not already in use by another skater (Fagundes, 2011). Real skaters, including their skater names and "boutfits", have been designed into the game and are available to players in *Jam City Rollergirls.* Players can opt to play as a real life skater, or create their own using the game's character creation interface.

Character Creation Interface

The character creation interface in *Jam City Rollergirls* utilizes the locker room metaphor. Players can create a custom skater in the locker room by mixing and matching boutfit components and creating a custom name for their skater. Customization options are presented to players in list format. Options belonging to real skaters are named after that skater. For example, a player wanting to wear Texas skater *Beyonslay's* arm warmers can select this garment by name in the list of "arm" options.

The following table contains the Avatar Affordances data for a skater on the Texecutioners team. While the number and quality of the customization options vary slightly between the five teams, the data shown below is representative of the design of the character creation interface and the game's avatars.

Table 5. Avatar Affordances data for an avatar in *Jam City Rollergirls.*

	Identifier	**Function**	**Behaviour**	**Structure**	**Hierarchy**	**Default**
Gender	N/A	N/A	N/A	N/A	N/A	Female
Ethnicity	Body	Select skin colour	Choose 1 of 5 options	List(5)	1	Caucasian
	Arms	Select skin colour	Choose 1 of 6 options	List(6)	1	Caucasian
	Legs	Select skin colour	Choose 1 of 7 options	List(7)	1	Caucasian
Body	Physique		Choose 1 of 1	List(1)	1	Yes
Hair	Hair Style	Select hair style	Choose 1 of 2 options	List(2)	1	Yes
	Hair Color	Select hair colour	Choose 1 of 4 options	List(4)	1	Yes

Figure 18. Select a physique in Jam City Rollergirls. Choose 1 of 1 body types.

Unlike the other games included in this chapter, players of *Jam City Rollergirls* can only play as a female avatar. This is most likely due to the fact that roller derby is largely a women's sport, although a small number of men's leagues do exist. While the avatar does consistently default to a Caucasian skater, players do have the option to create Asian and African American skaters as well. The interface is entirely list-based. Players navigate through available functions (features) via two horizontal arrows indicating forward and backward navigation within the groups of customization options. All available selections within each group are then presented as a list, with some options named after existing skaters, and other generic options listed with generic names (see

Figure 19). *JamCity Rollergirls*, interestingly, presents players with the option to choose the physique of their skater, but the list widget that is presented only contains one item: Body 1 (see Figure 18). With this gesture, the developers may have unintentionally made a significant statement about the state of female bodies in digital games: even where there *is* choice, the choices are often limited.

Figure 19. Players of Jam City Rollergirls choose components of their ethnicity as though they are selecting pieces of an outfit.

Jam City Rollergirls does present players with the option to modify their avatar's ethnicity, but the way it does so is highly problematic. The *Body* option in the game allows players to change their skin colour, but only on their avatar's head. Players who

wish to have the rest of their avatar's body match their new skin colour must go through and select matching options for their arms and legs: customization options that simultaneously change the skin colour and gear on these body parts respectively. This is not commonly seen in CCIs - usually when a player modifies his or her avatar's skin colour, this change happens uniformly across the avatar's body. The mediation of ethnicity in *Jam City Rollergirls'* CCI is highly problematic. However, I would hypothesize that this is the result of poor design, rather than an intentional framing of ethnicity on the part of the developer.

3.4.5 The Elder Scrolls V: Skyrim

The Elder Scrolls V:Skyrim is the fifth installment in the *Elder Scrolls* series. It was developed by Bathesda Game Studios and released in November, 2011 for PC, Playstation 3, and Xbox 360. Skyrim is an action role-playing game that takes place 200 years following the *Elder Scrolls IV*, although it is not a direct sequel of this game. The game takes place in the fictional province of Skyrim, and follows the player character's efforts to defeat an evil dragon named Alduin. Gameplay involves common RPG elements such as quest completion and skill improvement. Players can manipulate the game's camera view to play in either the first-person or third-person gameplay modes.

Figure 20. Gameplay in *Skyrim*.

Skyrim received acclaim from reviewers for numerous aspects of its design, including the accessibility of its user interface, removal of the class system (allowing for more exploratory play-styles), as well as the art style of the game world. *Skyrim* has also been the subject of a number of games studies papers, discussing the game in terms of the agency afforded by its open game world (Willems, 2013), collective storytelling within its fan base (Puente, 2013), and use of the *Creator Kit* - a level editing tool - in history education (Fassbender, 2012). *Skyrim* was included for analysis in this chapter due to its popularity.

Character Creation Interface

The character creation interface is shown in Figure 21. Customizable features are listed in the navigation bar across the top of the screen. Options relating to the active feature (the one appearing between the left and right arrows) are shown in a vertical panel next to the player avatar. The avatar shown in the following figure represents the default configuration for avatars in *Skyrim* - a light skinned male Nord.

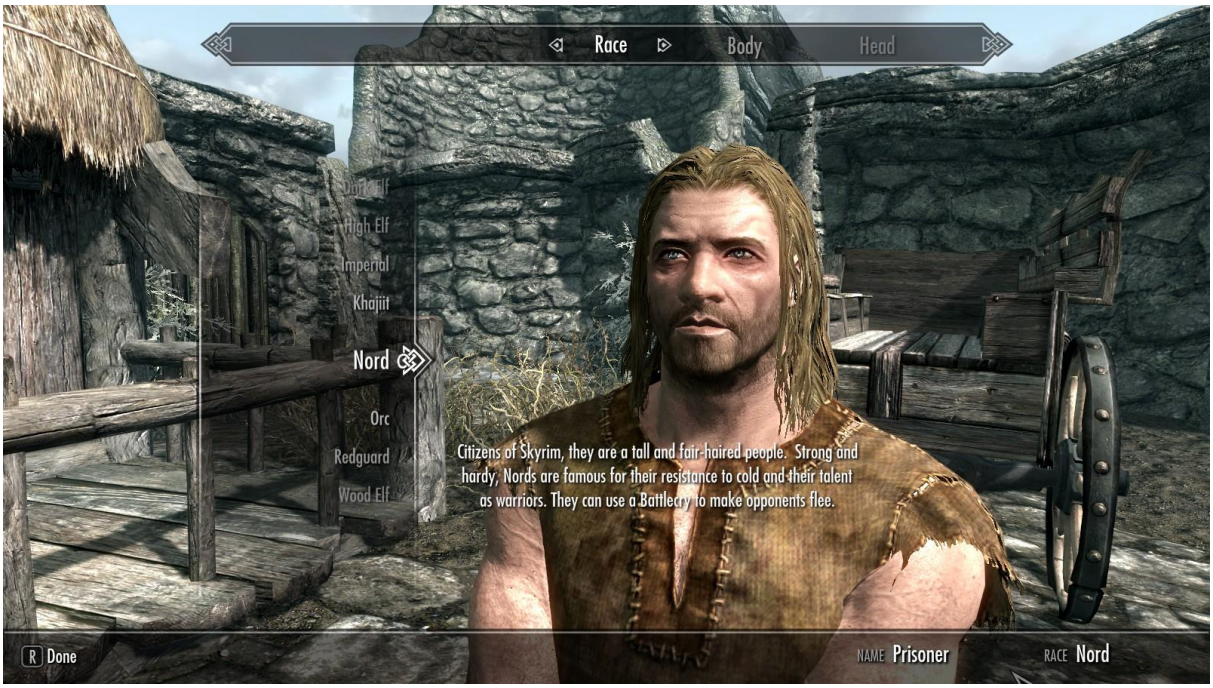


Figure 21. Default avatar configuration in *Skyrim*.

There are ten playable races in *Skyrim*, each with their own race-specific skills and bonuses. There are four human races, three elvish races, an orc race, and two anthropomorphic bestial races. The data in the following table represents the Avatar Affordances data for a female Nord in *Skyrim*. This selection was made via two deciding

factors: firstly, I opted to show data for a human race over an animal or fantasy race in order to make the data selection shown here more comparable between games. Secondly, I selected the Nord race specifically as it was consistently presented as the default race.

Table 6. Avatar Affordances data for a female Nord avatar in *Skyrim*.

	Identifier	**Function**	**Behaviour**	**Structure**	**Hierarchy**	**Default**
Gender	Sex	Select sex	Choose 1 of 2 options	Slider: discrete(2)	1	Male
Ethnicity	Skin tone	Select skin tone	Choose 1 of 10 options	Slider: discrete(10)	1	Caucasian
Body	Weight	Adjust avatar build	Choose 1 of 11 options	Slider: discrete(11)	1	Median value
Hair	Hair	Select hair style	Choose 1 of 26 options	Slider: discrete(26)	1	Median value
	Hair color	Select hair colour	Choose 1 of 15 options	Slider: discrete(15)	1	Blonde

Customization options are all mediated via slider widgets in this interface. While the interface defaults to a male avatar, players can manipulate the slider associated with sex in order to move away from this default. What is interesting is that, while sex is a binary choice in the game, this choice is mediated by a widget that is commonly used for adjusting a value within a given range, rather than for selecting one of two discrete choices. The slider associated with avatar weight (the only significant bodily change available to players) defaults to the median value for female avatars, but defaults to the maximum value for male avatars. The identifier for the widget is "weight", however, the

widget largely adjusts the appearance of the avatar's muscle mass and does not have any effect on other attributes that have an impact on a person's weight.

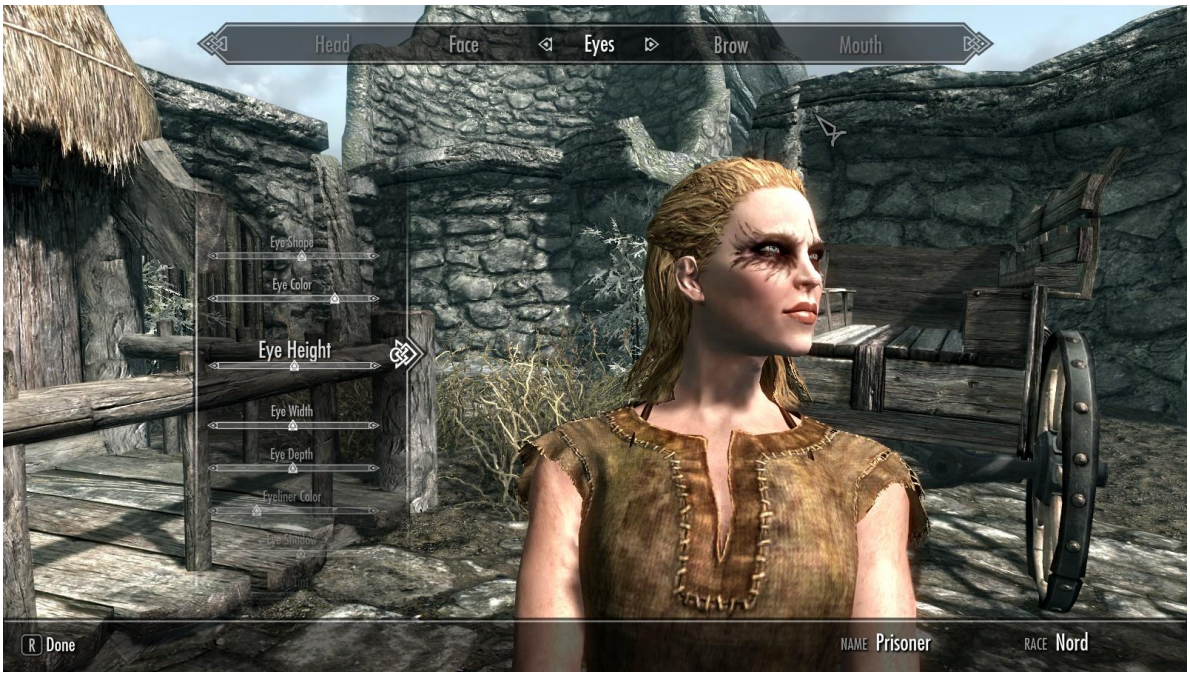


Figure 22. Modifying the player avatar's eyes (female Nord) in *Skyrim*.

The remaining customization options within *Skyrim* are quite extensive. Figure 22 illustrates a fraction of the numerous customization options available for adjusting the appearance of the avatar's eyes. While it is possible to create a darker skinned Nord, a quick inspection of the other playable races reveals that the four playable humanoid races represent different ethnic groupings. The darkest skin tone available to Nords is comparably similar to the lightest skin shade available to the Redguard race.

Figure 23. A dark-skinned Nord and a light-skinned Redguard in *Skyrim.*

3.4.6 RuneScape 3

RuneScape 3 is a free to play, fantasy MMOG developed by Jagex Games Studio. The first public version of *RuneScape* was released in 2001. *RuneScape 3* was released in July 2013. *RuneScape 3* is a client-side game and is supported by HTML 5. The game takes place in fictional world of Gielinor. Players can complete quests, engage in PVP combat, level their skills, and participate in mini-games.

Figure 24. Gameplay in RuneScape 3.

RuneScape was selected because it is one of the longest running free MMOGs. Because *RuneScape* is free to play and runs in the browser, it is highly accessible, opening it up to play by younger players and players of a lower socio-economic status on public or shared computers (Osborne, 2007).

Character Creation Interface

The character creation interface in *RuneScape* is primarily tab-based. At loading, a random avatar is generated. The quality of avatar customization in *RuneScape* is unsurprisingly rudimentary; players can modify the sex, skin colour, hair (style and colour) of their avatar, in addition to modifying their avatar's clothing or armour. The

interface makes use of various button styles: avatar sex is selected by clicking on one of two avatar buttons (shown in Figure 25). Any colour customization options, such as skin colour or hair colour, are presented within groups of swatch-style buttons.

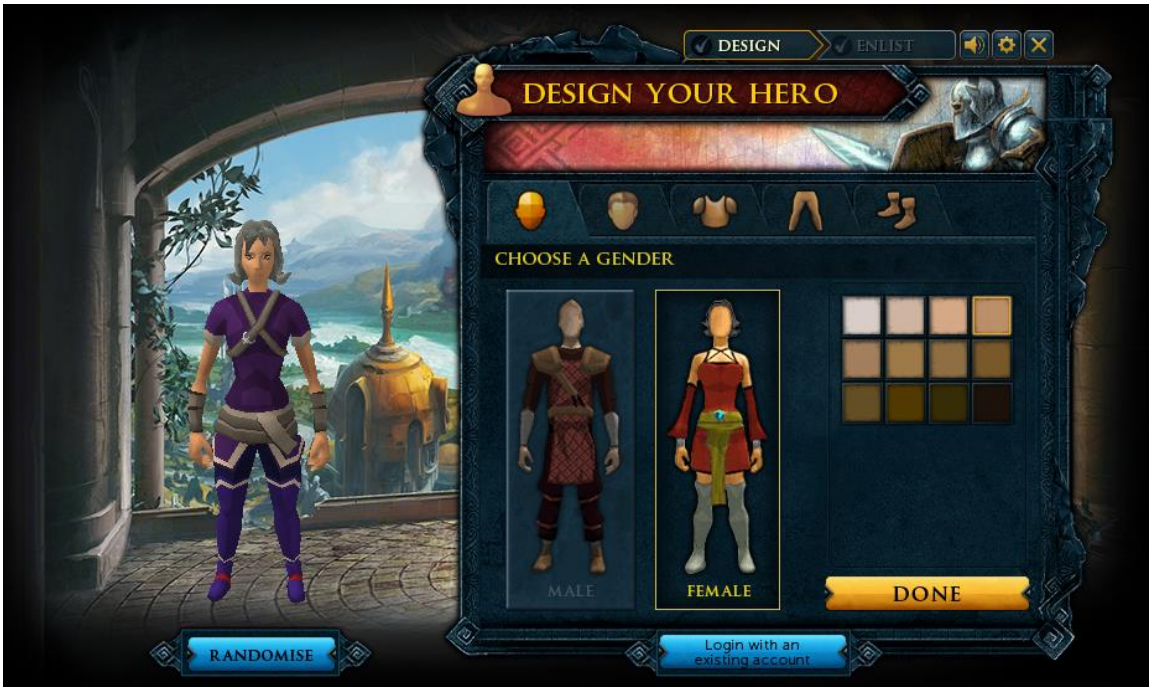


Figure 25. "Choose a gender" in RuneScape 3.

Options that are more visually complex, such as hairstyle, are presented as a glyph-style button: a graphically simplified representation of the available option. The interface also makes use of tooltips, offering additional information if the user places her cursor over a customization option. For example, placing the cursor over a hair colour activates a tooltiop with the textual name of that colour (e.g. "Mahogany brown"). Players can rotate the avatar at any time during customization by clicking on the avatar

and dragging their mouse to the left or right. The hair options in the character creation interface are shown in Figure 26.

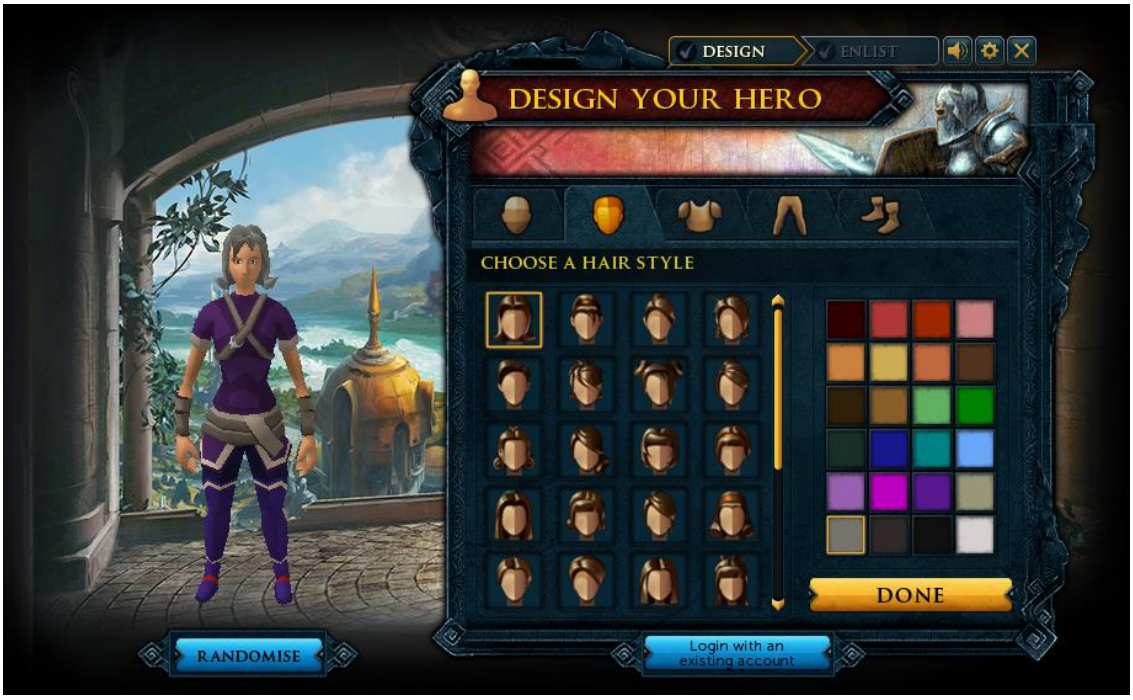


Figure 26. Selecting a hairstyle in RuneScape 3.

The following table contains the Avatar Affordances data for a human avatar in *Runescape 3.*

Table 7. Avatar Affordances data for a female avatar in *Runescape 3.*

	Identifier	**Function**	**Behaviour**	**Structure**	**Hierarchy**	**Default**
Gender	Choose a gender	Select sex	Choose 1 of 2 options	Button: avatar(2)	1	None
Ethnicity	Tooltip["Choose a skin colour"]	Select skin colour	Choose 1 of 12 options	Button: swatch(12)	1	None
Body	N/A					None

Hair	Choose a hair style	Select hair style	Choose 1 of 34 options	Button: glyph(34)	1	None
	Tooltip[colour name]	Select hair colour	Choose 1 of 24 options	Button: swatch(24)	1	None

In this game, players do not have the option to modify their avatar's body. Where the affordances data for the other five games represented a small sample of customization options available to players, the data in the above table represents all of the customization options available for avatar bodies in *RuneScape 3*. Beyond the avatar's sex, skin colour, hair style, and hair colour, players can also modify their avatar's armour style and colour within the character creation interface. These choices are aesthetic and do not represent tactical or strategic choices. As with the widgets presented in this table, the clothing options are all randomized upon load as well.

3.5 Avatar Affordances Data for Gender and Ethnicity

In this section I present the Avatar Affordances data for gender and ethnicity in 20 different game interfaces, including the 6 games that were coded in this chapter in greater detail, and two other games that are discussed in subsequent chapters: *Rift* and the *Mii Creator*. All but one of the games included in this analysis present players with the option of playing as a male or female avatar. In some cases, the character creation interface contains additional widgets that allow players to modify how their bodies are gendered, such as being able to modify their secondary sex characteristics. In these cases, any

additional widgets that allow players to modify aspects of their avatar's body pertaining to the avatar's sex are included in this analysis.

Table 8. Avatar Affordances data for gender.

Game	Avatar	Identifier	Function	Behaviour	Structure	Hierarchy	Default
Dark Souls	Female	Sex	Select sex	Choose 1 of 2 options	List(2)	1	Male
		Hormones	Adjust gender	Adjusts value incrementally	Slider: continuous	1	Yes
Demon's Souls	Female	Gender	Select sex	Choose 1 of 2 options	List(2)	1	Male
		Gender	Adjust gender	Adjusts value incrementally	Slider: continuous	1	Yes
Destiny	Human female	Race/gender	Select race and sex	Choose 1 of 6	Button(6)	1	None
Dragon Age Origins	Human female	Gender	Select Sex	Choose 1 of 2 options	Button: Preview(2)	1	Male
EA Sports Active	Female	Gender	Select sex	Choose 1 of 2 options	List(2)	0	Player selected
EVE Online	Caldari female	♂ and ♀	Select sex	Choose 1 of 2 options	Button: avatar(2)	0	None
		♂ and ♀	Select sex	Choose 1 of 2 options	Button(2)	1	Player selected
Guild Wars 2	Human female	Select gender	Select sex	Choose 1 of 2 options	Button: avatar(2)	0	Male
Guitar Hero 5	Female	Select a gender	Select sex	Choose 1 of 2 options	List(2)	1	None
Jam City Rollergirls	Female	N/A	N/A	N/A	N/A	N/A	Female
Maple Story	Explorer female	Character gender	Select sex	Choose 1 of 2 options	Button: avatar(2)	1	None
Mass Effect 3	Female	New game	Select sex	Choose 1 of 3 options	List(3)	0	Player selected
Mii Creator	Female	Select a gender	Select sex	Choose 1 of 2 options	Button(2)	0	Player selected
Playstation Home	Female	[tooltip]	Select sex and skin colour	Choose 1 of 18 options	Button: preview(18)	0	Female
		Gender	Select sex	Choose 1 of 2 options	Button(2)	1	Player selected
Rift	Mathosian female	Choose your race...	Select race and sex	Choose 1 of 6 options	Button: portrait(6)	0	None

RuneScape 3	Female	Choose a gender	Select sex	Choose 1 of 2 options	Button: avatar(2)	1	None
Saints Row 2	Female	Sex	Select sex	Choose 1 of 2 options	List(2)	1	Male
		Body Shape	Adjust gender	Adjusts value incrementally	Slider: discrete(101)	1	25
Saints Row IV	Female	Customize Character	Select sex and skin colour	Choose 1 of 9 options	Button: portrait(9)	0	Yes
		Sex	Select sex	Choose 1 of 2 options	List	2	Player selected
SIMS 3	Female	Gender	Select sex	Choose 1 of 2 options	Button(2)	1	None
Skyrim	Nord female	Sex	Select sex	Choose 1 of 2 options	Slider: discrete(2)	1	Male
World of Warcraft	Human female	Gender	Select sex	Choose 1 of 2 options	Button(2)	1	None

Interface widgets associated with ethnicity were also coded using the framework. Where possible, the default ethnicity was identified in the coding (e.g., Caucasian) in order to draw out a more meaningful analysis beyond whether or not each game does default to one ethnicity over another. In nearly all cases, a human female (or closest equivalent) was created using each interface. Some of the games included in this analysis contain playable races that are based on humans, or humanoid, but are not officially classified within the game as human, such as the Caldari in *EVE Online* or the Mathosians in *Rift.* However, these races are close enough to human for the purposes of comparable analysis.

Table 9. Avatar Affordances data for ethnicity.

Game	Avatar	Identifier	Function	Behaviour	Structure	Hierarchy	Default
Dark Souls	Female	Skin color	Select skin colour	Adjusts value incrementally	Slider: continuous	1	Caucasian
		Pigment		Adjusts value incrementally	Slider: continuous	1	Caucasian

Demon's Souls	Female	Skin color	Select skin colour	Adjusts value incrementally	Slider: continuous	1	Caucasian
		Pigment		Adjusts value incrementally	Slider: continuous	1	Caucasian
Destiny	Human female	Skin color	Select skin colour	Choose 1 of 9 options	Button: swatch(9)	1	None
Dragon Age Origins	Human female	Skin Complexion	Select Skin Complexion	Choose 1 of 6 options	Slider: discrete(6)	1	Caucasian
		Skin Tone	Select Skin Tone	Choose 1 of 7 options	Slider: discrete(7)	1	Caucasian
EA Sports Active	Female	Skin color	Select skin colour	Choose 1 of 6 options	Button: swatch(6)	1	Caucasian
EVE Online	Caldari female	Complexion	Select skin colour	Choose 1 of 12 options	Colour wheel(12)	1	Yes
Guild Wars 2	Human female	Skin color	Select skin colour	Choose 1 of 24 options	Button: swatch(24)	1	Yes
Guitar Hero 5	Female	Change color	Select skin colour	Choose 1 of 65 options	Colour wheel(65)	2	None
Jam City Rollergirls	Female	Body	Select skin colour	Choose 1 of 5 options	List(5)	1	Caucasian
		Arms	Select skin colour	Choose 1 of 6 options	List(6)	1	Caucasian
		Legs	Select skin colour	Choose 1 of 7 options	List(7)	1	Caucasian
Maple Story	Explorer female	Skin color	Select skin colour	Choose 1 of 4 options	List(4)	1	None
Mass Effect 3	Female	Skin tone	Select skin colour	Adjusts value incrementally	Slider: continuous	1	Yes
Mii Creator	Female	None	Select skin colour	Choose 1 of 6 options	Button: swatch(6)	1	Caucasian
Playstation Home	Female	[tooltip]	Select sex and skin colour	Choose 1 of 18 options	Button: preview(18)	0	Caucasian
		Color	Select skin colour	Choose 1 of 12 options	Button: swatch(12)	1	Player selected
Rift	Mathosian female	Skin color	Select skin colour	Choose precise value	Colour picker(90)	1	None
RuneScape 3	Female	Tooltip["Choose a skin colour"]	Select skin colour	Choose 1 of 12 options	Button: swatch(12)	1	None
Saints Row 2	Female	Skin	Select skin colour	Choose 1 of 18 options	Button: swatch(18)	1	African American
		Race	Select ethnicity	Choose 1 of 4 options	List	2	African American
Saints Row IV	Female	Customize Character	Select sex and skin colour	Choose 1 of 9 options	Button: portrait(9)	0	Yes
		Race	Select ethnicity	Choose 1 of 4 options	List	2	Yes
		Skin	Select skin colour	Choose 1 of 55	Button: swatch(55)	2	Yes

				options			
SIMS 3	Female	[tooltip: skin color]	Select skin colour	Adjust value incrementally	Slider: continuous	1	None
		[tooltip: skin tone]	Select skin colour	Choose 1 of 13options	Button: swatch(13)	1	Yes
Skyrim	Nord female	Skin tone	Select skin tone	Choose 1 of 10 options	Slider: discrete(10)	1	Caucasian
World of Warcraft	Human female	Skin color	Select skin colour	Choose 1 of 10 options	Button: preview(10)	1	None

3.5.1 Results and Discussion

The Avatar Affordances Framework allows for the collection of countable data, such as that presented by discrete sliders or colour pickers as shown in the tables above. This allows researchers to compare the number of choices present within a given customization option. For example, referring to the data in Table 9, one can easily compare the number of skin colours each game provides to players creating an avatar. For example, players of *Maple Story* can choose one of four skin colours, while players of *Rift* can choose one of 90. However, a higher number of customization options does not necessarily indicative of a socially inclusive interface. What is more meaningful is the study of how these choices are presented to players, and how they are mediated by the character creation interface.

Which games make use of identifiers to communicate a widget's purpose to players? The most frequently occurring word in the identifier column in Table 8 is gender, with a frequency percentage of 60% across the twenty games. Sex is the next most frequently occurring term, but only does so at a frequency percentage of 16%. Looking to the remaining data for these widgets reveals a commonality - in all cases the

player is being presented with a binary choice between male and female, regardless of the widget's label.

A handful of outliers appear within the gender data that will be addressed here. While the terms sex and gender are the most frequently occurring identifiers in the table, games like *Destiny* and *Rift* present the choice of race and sex as a combined one, where players can choose one of *n* choices, where *n* is greater than two but represents the choice of 1 of 2 for avatar sex.

In some cases, the choice of avatar sex was presented to players prior to entering the character creation interface, such as the magazine presets in *Saints Row IV*. This occurs in eight of the interfaces included in this analysis. What is most interesting about this is not the hierarchy necessarily, but whether or not a default selection is presented to players at this point in the customization process. For example, the *Mii Creator* presents players with the identifier "select a gender" and two buttons, one for a male avatar and one for a female avatar. Neither button is pre-selected for the user, the user must make a choice prior to proceeding. In other games, like *Guild Wars 2*, which uses avatar style buttons to represent the choice of avatar sex within the player-selected race, the male avatar is always pre-selected for the player (see Figure 27). Players who wish to create a male avatar simply have to click "next" to proceed to the character creation interface. Players wishing to choose a female avatar must actively make this choice before proceeding. The presentation of avatar race and sex is very similar in *EVE Online*, where pairs of avatar bodies are used to represent the choice of race and sex for players.

However, unlike in *Guild Wars 2*, the pre-selected avatar in *EVE Online* is randomly selected each time the player chooses to create a character.

Figure 27. Default selection for a human avatar in *Guild Wars 2*.

Some of the games included in this analysis had additional widgets that could be used to modify the avatar's secondary sex characteristics. These games include *Dark Souls, Demon's Souls*, *Saints Row 2*, and *Saints Row 4.* The second widget associated with sex in *Saints Row 2* is the "Body Shape" slider, shown in Figure 28. This slider allows players to incrementally adjust the degree to which secondary sex characteristics are presented. The values output from this slider range from -50 to 50, with positive values resulting in more obvious male traits (such as broad shoulders, a broad jaw line, etc.) and negative values resulting in more obvious female traits (such as a narrow waist, a narrow jaw line, hips, and breasts). Negative values on this scale are always associated

with female traits, regardless of the avatar's sex. Figure 28 illustrates how these changes manifest, creating a male avatar and capturing images of the avatar with the following Body Shape values: 50, 0, and -50.

The decision on the developer's part to distribute the numbers in this way is significant. Players building female characters still interact with the same distribution, with negative values on the Body Shape scale adjusting female secondary sex characteristics. What the interface is really mediating is the manipulation of secondary sex characteristics for both males and females, with a neutral position in the middle, that is available to both male and female avatars. There is no mechanical reason for the developers to use numeric values to represent the degree of maleness or femaleness of an avatar's body, yet the developers not only chose to quantify this aspect of self-representation, but also to distribute the numbers such that feminine traits are always represented by negative numbers. Looking to the work of Sadie Plant (1997), this reifies the relationship between men and women, but through a large array of numbers, with all positive values being masculine and all negative values being feminine. In the case of *Saints Row 2*, women do not get to be zeros anymore; that number is reserved for neutral bodies.

The "Body Shape" widget from *Saints Row 2* was replaced with the "Sex Appeal" slider in *Saints Row IV,* which retained the numeric scale but eliminated the ability to cross dress avatars. Once an avatar's sex is selected, the slider associated with gender

works only to modify the size of the avatar's bulge or breasts. It does not adjust any other secondary sex characteristics or dimorphic morphology.

Figure 28. Using the "Body Shape" slider on a male avatar in *Saints Row 2*. From top to bottom the values 50, 0, and -50 are applied to the avatar.

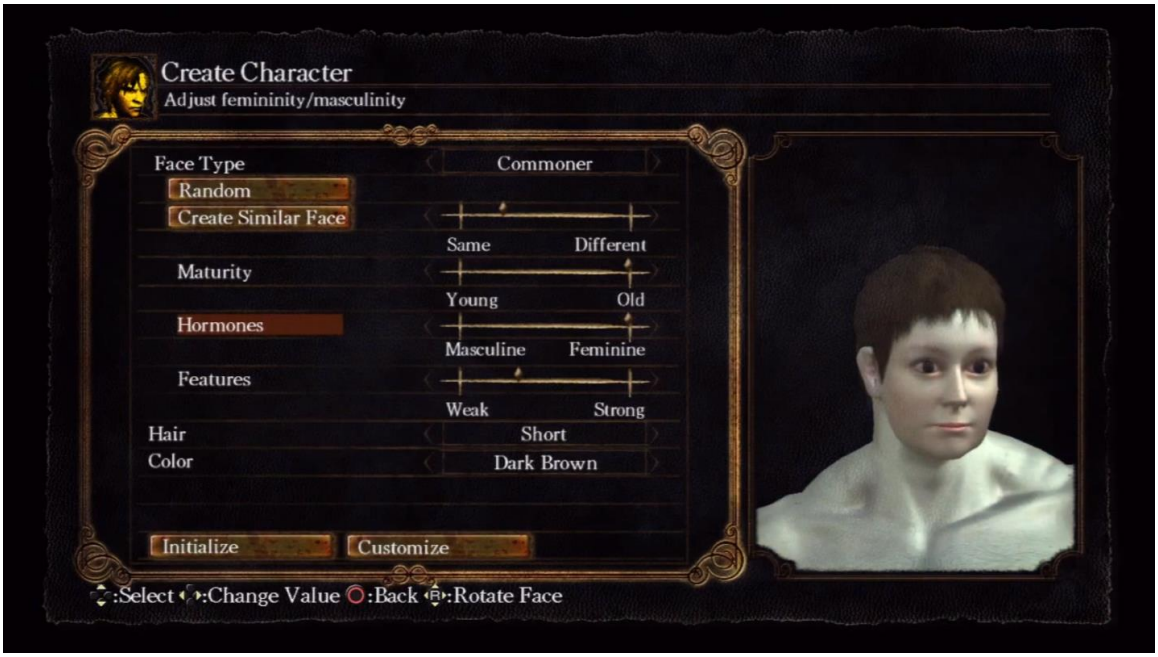


Figure 29. The character creation interface for *Dark Souls*.

Dark Souls and *Demon's Souls* are both developed by the same Japanese video game company - From Software - and also share similar character creation interfaces. Both games are designed with gender sliders that modify various aspects of the avatar's facial features. Figure 29 illustrates the use of this slider on a male avatar, where the indicator has been placed at the maximum position for "Feminine", resulting in softer facial features, including a less-defined jaw line and high cheek bones. While *Demon's Souls* uses the identifier "gender" for this widget, *Dark Souls* problematically labels the widget "hormones", which in this context is extremely problematic.

Of the games included in this analysis, five present the player with a male avatar by default and two present the player with a female avatar by default. The remaining games either require the user to make this selection prior to entering the character creation interface, or generate this choice at random for the user. Of the two that default to a female avatar, one is *Jam City Rollergirls*, which is a game featuring a female-only sport and thus has no option to play as a male avatar. Among these same games, 12 default to a light-skinned avatar, 8 of which are definitely Caucasian. Among these games, *Saints Row IV* presents players with magazine covers representing avatar presets. The first of nine choices is of a Caucasian male avatar - the same avatar who is heavily featured in the game's promotional materials. Players can navigate away from this default, but he is always presented first and his cover always obscures the covers that depict women and people of colour. Similarly, players of *Mass Effect 3* are able to play as male or female Sheppard, each of which has a default configuration that appears in promotional material for the game. However, it is the default male Sheppard who is most prominent in this material, and while he may or may not be Caucasian, he, like his female counterpart, are fair skinned.

Unfortunately, the only game within this set that presents a default avatar of African American ethnicity is *Saints Row 2,* which represents the narrative of the Third Street Saints back when the franchise was still very much a *Grand Thieft Auto* clone. Default configurations may unintentionally make statements about the ideal player or the ideal protagonist within the context of the game (Consalvo, 2003a). *Saints Row 2* defaults

to an African American male in an urban crime simulation. Conversely, *Saints Row IV*, a game which situates the player as the president of the United States attempts to centralize on a Caucasian male protagonist. In the case of *Saints Row 2*, a designed system that defaults to a dark skinned male in the context of an urban crime simulation perpetuates negative racial stereotypes (Leonard, 2006).

This is not to say that game developers are, by nature, prejudiced toward people of colour. Video games are not created in a vacuum; they are cultural artefacts. Video game worlds are created in consonance or dissonance with our own world, but are always positioned in relation to it. A longstanding, problematic culture of negative racial stereotyping - particularly in relation to perceptions of criminal tendencies - exists in our culture (Walker, Spohn, & DeLone, 2011). This is illustrated by the overrepresentation of African Americans and Latinos in televised reports of criminal activity (Dixon & Linz, 2006), fallacious perceptions of crime rate in Black neighbourhoods (Quillian & Pager, 2001), and the link between racial profiling and harsh criminal justice policies directed towards persons of colour (Welch, Payne, Chiricos, & Gertz, 2011). Thus, I would posture that problematic defaults, such as the aforementioned association of race with criminal behaviour, was not designed to engage with social commentary on racial profiling, rather, it was likely an unintentional symptom of a much more powerful cultural force, one which still shapes media perceptions (Dixon & Linz, 2006) and law enforcement practices (Walker, et al., 2011).

This is not the first analysis to discuss the ways in which games and other media continually perpetuate negative racial stereotypes surrounding people of colour and urban crime. However, what is interesting here is the relationship between the protagonist's success and his default ethnicity in the *Saints Row* franchise. Leonard notes how common these negative racial stereotypes are in games, extending this discussion to the problematic representations of Arabs and Asians in war games (Leonard, 2006). Games enable this audience to become "the other" while "simultaneously affirming White privilege through virtual play" (Leonard, 2006, p. 86).

The choice for avatar sex is presented to players prior to entering the character creation interface in nearly half of the games in this analysis. However, Identifiers used for these widgets vary slightly, but common identifiers include "skin color", "skin tone", "pigment", "complexion", and "race." Default values aside, the most troubling example of ethnicity in the games selected for this analysis is *Jam City Rollergirls*, which allows players to modify their avatar's skin colour, but forces them to do so by making them actively seek out a matching face, arms, and legs during the customization process. Unfortunately, what this does is treat ethnicity as an "outfit" - where players who wish to move away from the default Caucasian skater must actively match all of the components of their ethnic costume.

The problematic mediation of gender and ethnicity via character creation interfaces act as "regulatory regimes" (Butler, 1990), uncritically participating in the cycle of socially exclusive values. The Avatar Affordances Framework allowed me to

isolate the different properties of each widget to compare different widgets/games to discuss how gender and ethnicity are presented to players. It is clear from the related work that these issues have not gone unnoticed (Consalvo, 2003b; Higgin, 2009; Kafai, et al., 2010a; Leonard, 2006; Pace, 2008; Pace, et al., 2009). The next logical step in this research was to speak more generally across multiple games, and to demonstrate the differences between interfaces as *designed* artifacts. This is the work I have undertaken here.

The Avatar Affordances Framework was designed to address analytical limitations present in related work. In my preliminary analysis of other game interfaces we have found that the framework has proven useful in generating data that allows for meaningful analysis between different games with extremely different interface configurations. The Avatar Affordances Framework allows us to systematically compare character creation interfaces between different games. The framework also identifies properties of affordances that mediate and constrain self-representation. The framework identifies designs present in interfaces that reveal assumptions about ideal players.

In Chapters 4 and 5, I mobilize the framework in greater detail for the MMOG *Rift* and the console-based *Mii Creator* interface respectively. In those chapters, I illustrate how the framework can be used not only to generate analytical data about designed interfaces, but also how such data may be used in concert with participant data in order to understand the complex nature of affordances.

Chapter 4 Rift Study

In the previous chapter, I presented the Avatar Affordances Framework and demonstrated how the framework can be used to systematically isolate and analyze widgets within character creation interfaces in order to study how they mediate avatar customization. Such data can help researchers understand how affordances may, or may not, be leveraged by players in constructing an avatar. More importantly, the data generated by the codes can be used to compare the character creation interfaces of different games, regardless of how comprehensive their interfaces are, or how novel their widgets may be.

In this chapter, I present a more detailed analysis of the character creation interface of the MMOG *Rift* using the Avatar Affordances Framework. The character creation interface in *Rift* utilizes interface metaphors that are prevalent in most modern character creation interfaces and presents users with a finite number of customization options for creating their avatar. The interface also makes use of a triangular slider for customizing the avatar's face, a relatively novel type of widget. Continuous triangular sliders, like the one in *Rift*, do not lend themselves to the counting method, thus making this interface an ideal candidate for analysis via the framework.

The study of affordances does not end with a detailed analysis of the configuration and presentation of these options. The study of video games involves a number of other actors, including gaming controllers and human players. These, in combination with other actor-networks all work together to configure out game play experiences. As games scholar Seth Giddings notes, "[w]e should resist conceiving of the

videogame as a discrete and ‘whole’ object," because games are an interactive medium; one which is not only played, but whose constituent parts "...are all constantly configuring the player’s experience and responding to the player’s responses" (Giddings, 2009, p. 5). Games and players form actor-networks when they come together, but they in turn are also connected to other actor-networks. Thus, I also present data on a microethnographic study (Streeck & Mehus, 2005) of players creating avatars in *Rift.* Avatars created in this study were subsequently used by the participants who created them in a 45 minute gameplay session in which co-situated participants partook in a brief, authentic MMOG experience. This data is presented in concert with the affordances data derived from the game via the framework, in order to understand how the interface's affordances are negotiated by players.

Rift was chosen as it was a brand new MMOG at the time of the study, and it provided a unique opportunity to capture interactions with an interface that was new to all of the participants. That meant that participants weren't reproducing an avatar they had already created with this interface, allowing me to observe them as they navigated it for the first time. This is an especially salient point, as I previously critiqued methods that studied established avatars belonging to intermediate or expert players. The appearance of those avatars speak volumes about the self-representational practices of players who are familiar with the affordances and aesthetics of the object of study. But what about their *first* experiences creating an avatar for a particular game? The approach outlined in

this chapter contributes to a relatively under-theorized aspect of identity in games: how interfaces co-construct players' online identities.

4.1 Rift

Rift is an MMOG developed by Trion Worlds (2011). The game takes place in the fictional world of *Telara* and involves two warring factions: the *guardians* and the *defiant.* Similar to other high fantasy MMOGs like *World of Warcraft,* the game's races are divided between the two factions, with high elves, *Mathosians,* and dwarves belonging to the *guardians*, and the *Eth*, *Bahmi*, and *Kelari* (dark elves) aligned with the *defiant.* The game is named after the Rifts within the game world - areas of elemental instability that unleash creatures from the elemental planes upon the world of *Telara*. Players of both factions must defeat these creatures and close the Rifts.

Figure 30. Gameplay in *Rift.*

In *Rift*, players are one of the Ascended, resurrected warriors with access to special powers. One such power, Soul Attunement, allows player characters to absorb or commune with other warrior souls, allowing players to completely customize their play style. *Guardians* are devout followers of the religion of the Vigil - a group of five gods who created the world of Telara. Ascended *guardians* are resurrected by the Vigil in order to defend Telara against the rifts. *Defiants* do not follow the religion of the Vigil and instead resurrect their ascended through technology. Regardless of the player's choice of faction or "calling", they can use the Soul Attunement system to experiment with typical, atypical, and multiple skill trees for their chosen calling. *Rift* was released in

March 2011. On November 13, 2012, Trion Worlds released the game's first expansion entitled *Storm Legion.* The work presented in this chapter predates the release of the expansion pack.

Rift and its expansion pack have not been heavily featured in the academic literature. *Rift* is frequently named in a number of scholarly publications studying MMOGs, but usually only as a passing reference (Dionisio, Burns III, & Gilbert, 2013; Tomai, Salazar, & Salinas, 2012). Others, such as Smith (Smith, 2010), have noted that *Rift*'s Soul Attunement feature is a particularly memorable one among experienced MMOG players. Although Smith was actually conducting interviews on four other games (*WoW, EverQuest 2, Perfect World International,* and *Freerealms*), participants in her study referenced *Rift* multiple times as a game that possessed an "ideal class system".

Papers which do include *Rift* as a subject of study have used the game as a means to study accessibility in game design (Porter & Kientz, 2013), the relationship between player preferences and real world identity (Bergstrom, Jenson, & de Castell, 2012), and the relationship between play style, demographics, and motivation (Fuster, Carbonell, Chamarro, & Oberst, 2013). Porter and Kientz evaluated *Rift* and nine other mainstream games for how they adhered to accessibility guidelines (Porter & Kientz, 2013). The authors found that *Rift* did meet some guidelines, but failed to accommodate input control alternatives (the ability to choose alternate input controls for users with motor function issues), difficulty controls, speed control, or a list of features.

Bergstrom et al. examined participants' sex and class choice in Rift and WoW ($n = 82$) to determine whether or not a user's real world characteristics could be ascertained from this data (Bergstrom, et al., 2012). The authors found that only a small number of participants sex-swapped, and that this practice was more common among female novices and male experts. The authors also studied these choices within the dynamics of co-situated play, challenging popular notions in gaming literature which overstate the importance of "group utility" (DiGiuseppe & Nardi, 2007) when selecting play style within a group (Bergstrom, et al., 2012).

Lastly, Fuster et al. conducted a survey of MMOG players in order to understand the relationship between play style and motivation (Fuster, et al., 2013). Their primary motivation was to understand this relationship and its link to negative psychological effect. The authors collected data on Spanish speaking players using an online questionnaire ($n = 430$). This data was analyzed in relation to four primary motivational factors: socialization, exploration, achievement, and dissociation. The authors found that the demographic among respondents was far from the stereotypical adolescent male. The average age of participants was 26.58 years with 95% of respondents being male and 5% being female. While this number is uncharacteristically unbalanced compared to a multitude of existing studies on MMOG demographics, which are notably more diverse in North American samples (Griffiths, Davies, & Chappell, 2003; Yee, 2006), the authors hypothesize that this difference may be due to the fact that MMOGs came to be popular much later in Spain and Latin America. *Rift* was identified among participants as a

favourite game (16.7%). Participants who indicated that they were *Rift* players were typically older than *World of Warcraft* players, and had been playing MMOs longer than players of *Aion, EVE Online, Lord of the Rings Online* and *World of Warcraft.*

4.1.1 Character Creation Interface

Prior to customizing the appearance of their avatar, players of *Rift* must first choose which faction they wish to play for (*Guardian* or *Defiant*). Each faction offers one of three playable races, all of which are variants of Tolkein-esque fantasy races (e.g., humans, elves, dwarves, etc.). Racial choices are represented by a pair of portrait style buttons - one male and one female. Clicking on one of these portraits takes the player to the next two choices which are class (e.g. Rogue, Cleric, Warrior, Mage) and finally their "purpose" which further customizes the skills of their avatar. The final screen is the character creation interface, shown in Figure 31. This screen represents the interface's hierarchy at level 1.

Figure 31. Character Creation Interface in *Rift.*

At this point, players are presented with the above options for modifying the appearance of their avatar. The interface primarily makes use of sliders and colour boxes to mediate the range of customization options permitted. A triangular slider, shown in Figure 32 is used to adjust the shape of the avatar's face. The three icons located at each tip in the triangle represent general face shapes: square, triangular, and round. Users may position the indicator anywhere between these three characteristics to arrive at a desired appearance. Widgets like the triangular slider are becoming prevalent in the character creation interfaces of MMOGs (see Chapter 3 for more detail). These widgets present customization options in a way that erodes counting as a means of gathering information

about the widget. This is one limitation that the Avatar Affordances Framework addresses.

Figure 32. Triangular slider used to adjust the shape of the avatar's face in *Rift*.

I will now mobilize the Avatar Affordances Framework to analyze the character creation interface in *Rift*. Beginning with the Mathosian female, I present a similar analysis to that presented in chapter 3, coding widgets associated with gender, ethnicity, body, and hair.

Table 10. Avatar Affordances data for the Mathosian female in *Rift*.

	Identifier	**Function**	**Behaviour**	**Structure**	**Hierarchy**	**Default**
Gender	Choose your race...	Select race and sex	Choose 1 of 6 options	Button: portrait(6)	0	None
Ethnicity	Skin color	Select skin	Choose precise value	Colour picker(90)	1	None

		colour				
Body	Height	Adjust avatar height	Adjust value incrementally	Slider: continuous	1	None
Hair	Base color	Select hair colour	Choose precise value	Colour picker(90)	1	None
	Highlight color	Select hair highlight colour	Choose precise value	Colour picker(90)	1	None
	Hair	Select hair style	Choose 1 of 12 options	Slider: discrete(12)	1	None

Note that none of the widgets in the interface have default values; each time the character creation interface loads, a random permutation is generated. The choice of faction launches players to the avatar customization phase, but the race, sex, and appearance of the avatar is generated randomly. Once the race and sex of the avatar has been selected, players are presented with customization options that are relatively standardized for all avatar types in the game with a few exceptions. *Rift* offers customization options for the avatar's eyes (including scale, rotation, and eyebrow style), nose (size and tilt), and mouth (size). Additional options include hair (base colour, highlight colour, and hair style), as well as body (skin colour and height). The aesthetic of *Rift* employs markings or tattoos, that appear on or around the avatar's head. Tattoo styles vary between the races and can be selected and modified using two widgets: a colour picker to select the colour and a discrete slider to choose the style of marking, including no marking at all.

There are some race- and sex-specific customization options in the interface. These populate when the appropriate avatar is selected. The only race-specific feature that is open to customization are the ears of the two elven races: the high elves (guardian) and kelari (defiant). For these two races, the appearance of the avatar's ears can be adjusted using two continuous sliders for the size and camber, identified within the interface as "horizontal" and "vertical" respectively. Two sex-specific features are present in the interface: facial hair for male avatars and makeup for female avatars. It is important to note here that neither of the male elven races have facial hair and thus the widgets associated with this sex-specific trait do not populate for this choice in the interface. The avatar affordances data for these sex-specific features are shown in the following table.

Table 11. Avatar Affordances Data for sex-specific customization options in *Rift.*

Avatar	Identifier	Function	Behaviour	Structure	Hierarchy	Default
Mathosian male	Facial hair	Select facial hair style	Choose 1 of 10 options	Slider: discrete(10)	1	None
Mathosian female	Makeup color	Select makeup colour	Choose precise value	Colour picker(90)	1	None
	Makeup	Select makeup style	Choose 1 of 13 options	Slider: discrete(13)	1	None

As with other widgets in the character creation interface, none of the sex-specific features default to a single value - these features are randomized at the time that the avatar loads (as indicated by the values in the Default conlumn). The style for both sex-

specific options are mediated via discrete sliders, with additional colour options available to further customize the female avatar's makeup. The colour of the male avatar's facial hair is obtained from selections made for the base and highlight hair colours for the hair on the avatar's head.

The segregation of sex-specific traits such as facial hair for men, and gendered traits, such as makeup for women, is a designed limitation of the interface that is imposed on players and limits self-representation. These choices are arbitrary and link to ideology, where the character creation interface forces users into rigid ideals of Westernized and gendered aesthetics. A similar phenomenon was noted by Pace et al. across multiple MMOs, where many games offer a greater quantity of customization options for female avatars, but these options were often gendered options relating to the avatar's appearance, such as hairstyles, makeup, and jewelry (Pace, et al., 2009). It is worth noting that more progressive games, such as the sequels in the *Saints Row* franchise discussed in Chapter 3, as well as more simplified interfaces like the *Mii Creator* discussed in Chapter 5, do not artificially segregate gendered customization options by avatar sex. Player avatars in *Saints Row IV*, for example, can have facial hair, masculine clothing, and even a male voice.

4.2 Methodology

Since I am interested in the ways in which interface affordances shape and potentially constrain self-representation, this involves the study of a relatively succinct moment of play: the time a user spends with the avatar creation interface. A highly detailed study of

such a relatively brief event can be effectively captured using micro-ethnography. Micro-ethnography, originating with the work of Smith and Geoffrey in 1968, was proposed as a means to deploy ethnographic methods to study the "complexities of an urban classroom" (Smith & Geoffrey, 1968, p. 3). In this case, "micro" referred to the size of the cultural phenomena they examined, rather than the methods themselves. Contemporary micro-ethnography refers to recording of short events, utilizing interactionist modes of analysis (Streeck & Mehus, 2005). Capturing the event on video allows researchers to focus on specific micro-events that reveal the "foundations of social organization, culture and interaction at the micro level of the moment-by-moment development of human activities" (Streeck & Mehus, 2005, p. 381).

Micro-ethnography is well-suited to an ANT approach as it not only reveals the relationship and organization of these, micro-level events that contribute to social phenomena, but it can also reveal the ways in which other actors shape what is being observed. The approach has been adapted to game studies by game scholars Giddings and Kennedy (2008), who have used this method to study the various part(icipant)s that are in-play during gameplay (Giddings, 2009). It is generally difficult to study the event of gameplay, since players are often too engrossed in their games to provide researchers with the quantity and quality of desired data. Experienced players are often seemingly inert while immersed in gameplay, and may not be able to reflect on their experiences while playing. Giddings and Kennedy (2008) propose that adopting a microethnographic approach is a methodologically preferable way to study gameplay, as it allows

researchers to study the intimate relationship between players and games during gameplay. Capturing these relatively brief (micro) events on camera allows researchers to return to specific moments in gameplay, and to review these moments through multiple lenses in order to trace the associations between players and games. Giddings and Kennedy outline their method as follows:

1.) Both the screen (television or computer monitor) as well as the players themselves are captured on video. These recordings are then synchronized so that they can be viewed simultaneously.
2.) Player speech and key game events are then transcribed.
3.) Short sections are then selected for in-depth analysis.

Giddings and Kennedy (2008) conducted a microethnographic study of their own cooperative gameplay in *Lego Star Wars*. The authors recorded approximately one hour of gameplay using the method outlined above and reviewed their gameplay data studying transcriptions (player utterances), facial expressions, and the associated in-game events. The authors argue that such a method grants researchers access to the more nuanced events that occur during gameplay - events that are often overshadowed by other experiences that are often privileged or overshadowed in the literature. Microethnography addresses the binarism of game studies, which contribute to the reductionist accounts of gameplay that are all too common in the literature (Behrenshausen, 2013). This binarism is one that tends to focus on games as texts, or to take an "audience studies" approach at studying players as they play. A microethnographic approach allows researchers to shift

their focus from merely studying in-game learning and achievements to studying the moments *when* learning happens, when we *gain* agency as players, and when we *lose* agency. Such a methodological approach also allows researchers to focus on how gaming technologies operate to organize interactions with players and other actors, human and non-human, who are *in-play*. As Giddings suggests, "video game players are acted upon as much as they act" (Giddings, 2007, p. 46). This harkens back to my initial commentary surrounding the repositioning of humans and computers in the field of HCI - a repositioning that acknowledges the agency of humans, but must also take into account that interaction is a bi-directional phenomenon. As Giddings is suggesting, player actions cannot be solely understood as the result of agency - that agency is afforded and shaped by the game as a non-human actor.

Popular methods of studying MMOG players involve "at distance" methods, such as using automated scripts to collect server data (Ducheneaut, Yee, Nickell, & Moore, 2006; C. Lewis & Wardrip-Fruin, 2010; Yee, et al., 2011). Despite concerns over the external or ecological validity of lab-based MMOG studies, this method has proven invaluable in giving researchers access to complex data of varied play-styles and the diverse ways in which player expertise manifests (Jenson, et al., 2013). For example, Jenson et al. (2013) note that many players in their lab-based study exhibited high degrees of in-game competency, but who would have likely been excluded from studies on expert players due to the fact that they did not meet the standard criteria for expertise. The authors express that the value of a lab-based study of MMO players cannot be

understated, as it provides a means of capturing data that could not be captured at a distance. Interestingly, observational data was not subject to the Hawthorne effect, wherein a participant's behaviour is altered due to the fact that they are knowingly being observed (Landsberger, 1958). In the context of this study, we were concerned that players might not take care in creating their avatars, since they were being observed in a lab and would be remunerated for their participation, regardless. However, players actually took time in customizing avatars, making strategic decisions during gameplay, and showing general interest in progressing in the game during the time allotted for the experiment (Jenson, et al., 2013).

I am interested in the time users spend customizing their avatars via character creation interfaces and making visible the factors that contribute to their self-representational practices. For example, what is the impact of co-located play on avatar customization? MMOGs are marketed as collaborative spaces, meaning that they are rarely played alone. While it has been argued that these games are really more like massively single-player games with brief moments of obligatory collaboration when necessary (Ducheneaut, et al., 2009), a large body of work highlights the ways in which MMOGs still provide social spaces for friends (both online and offline) (Nardi & Harris, 2006), romantic partners (Bergstrom, 2009), and family (Nardi, 2010). In many cases, as in *World of Warcraft* and *Rift*, players are forced to choose a faction or clan; a choice which organizes players into opposing teams, which facilitates player-versus-player combat. Arguably, MMOG players who wish to play together must choose to play for the

same faction or team. In many cases, this choice reduces the number of customization options available to player avatars, since these games often segregate their playable races by faction. The effects of co-situated play on avatar customization are addressed in the design of the experiment and are discussed in the results section of this chapter.

4.3 Microethnography of Rift

4.3.1 Participants

39 participants, 27 male and 12 female, volunteered for this phase of the study. The age range was 19 to 36 (*mean* 24.1, *SD* 4.45). Participants were recruited on campus, online via player forums and social media sites (i.e. Reddit.com, Facebook), and from the Greater Toronto Area. Since the study involved co-located play, candidates were asked to bring one or two other friends or peers with them to simultaneously participate in the study. Both novices and experienced players were invited to participate in order to understand what, if any, differences might be observed that could be attributed to player expertise.

4.3.2 Apparatus

Both the web-based surveys and game play tasks were run on Macintosh desktop computers. A Windows emulator (*Parallels*) was used to run *Rift* while simultaneously running *Screenflow* video capture application to capture real-time video of participant game-play. Built in cameras on the Macintosh monitors were used to capture participant

videos during the study. We then exported both videos into Adobe Premiere to synchronize them for analysis.

Figure 33. A participant creating an avatar in *Rift.*

Apparatus during pilot studies involved PC computers (since *Rift* is a PC game) but researchers found video capture with this set-up to be problematic. Despite the added need of *Parallels* to run the game, the end result was a higher-quality video capture with more consistent output.

4.3.3 Procedure

Participants were invited to play 30 - 45 minutes of *Rift* using either their own account, or an account provided by the research team. After conducting a brief intake interview and filling out an 88-question survey concerning general questions about their own gaming experiences, participants were then invited to play *Rift* with the other participants present. Participants' activities in *Rift* were recorded using screen capture software and audio-visual cameras to record their co-situated, embodied play.

Whenever possible, a 1:1 ratio of research assistant to participant was maintained for all user studies. Research assistants were paired up with one participant and conducted the intake interview, administered the survey, set-up the game and explained the task, and took detailed field notes during game play. At the conclusion of the session, participants were then reimbursed for their time.

4.4 Results

Screen captures and participant videos were synchronized and watched. The avatar creation portion of each video was timed in seconds, beginning with the selection of a faction (guardian or defiant) and ending when participants finished customizing their avatar. Player speech and key events for this section of the videos was transcribed. Key events of interest include which interface widgets were used, how thoroughly they were explored, and how many times they were used per session. Sessions were also coded with an identifier linking co-situated participants for the purpose of analysis.

4.4.1 Survey Results

The 88 question survey administered to participants was specifically designed to collect data for use in the VERUS project. Principal investigators on the VERUS project first defined the purposes of the survey, consulted widely with subject matter experts, held focus groups, and then developed the survey questions based on the goals of the study. The survey was then piloted, reviewed and changed based on responses and interviews

with respondents. The version of the survey administered to participants in this study represents the final and validated version of the VERUS survey.

Questions in the survey were designed to collect highly detailed demographic data as well as participants' own practices and experiences in computer games and virtual worlds. Participants in the study reported an average of 9.5 hours spent playing games per week (*SD* = 5.4). Number of hours by sex are reported as 10.3 for males (*SD* = 5.7), and 7.7 hours for females (*SD* = 4.3).

When asked if they participate in virtual worlds, 46% of participants indicated that they do, 44% indicated that they do not, and 10% chose not to answer the question. Participants were invited to list the games they were playing most frequently at the time of participating in the study. Responses to this question varied greatly with participants naming a variety of popular games such as *League of Legends*, *Defense of the Ancients*, *World of Warcraft, The Sims,* and *Minecraft.* Some participants chose to name genres in addition to the titles provided, such as tower defense games, or fighting games, and some participants more generally indicated an interest in casual mobile games simply by stating that they play "iPhone games."

Participants were also asked how many avatars they currently have in the virtual world in which they participate the most. Those who indicated that they did have one or more avatars reported having anywhere from one to eight active avatars (*mean* = 2.1, *SD* = 1.6), with nine participants indicating that they had no active avatars and ten participants choosing not to answer the question.

Participants were then asked if they make their avatars look like them (yes = 38%, no = 62%). Responses to these questions varied, with 48% of males indicating that they do make their avatars look like them and 52% indicating that they do not. In contrast to the male participants, 17% of female respondents indicated that they do make their avatars look like them and 83% indicated that they do not. Additional questions investigating the visual sameness of participants and their avatars were also administered. These questions and their responses are shown in Figure 34.

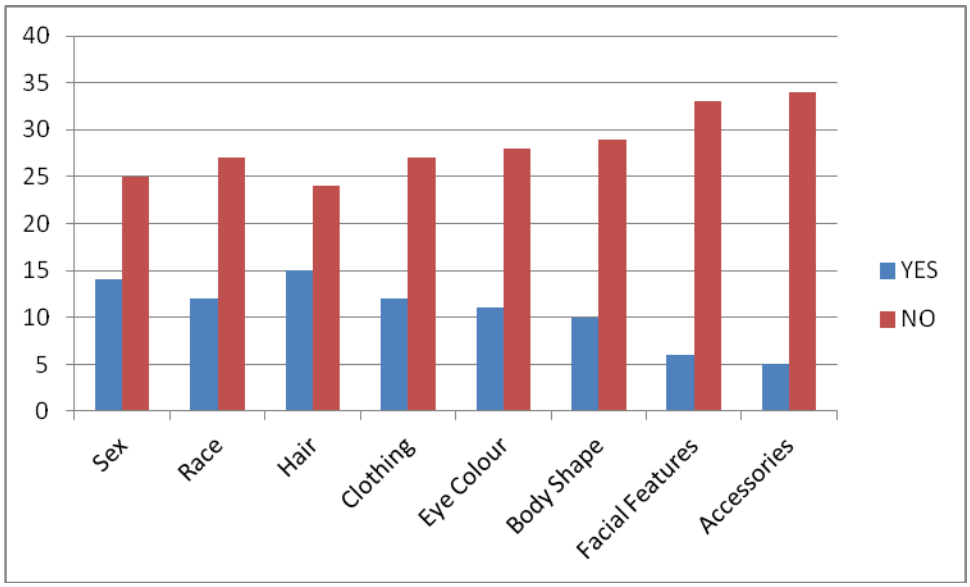


Figure 34. Breakdown of participant responses to avatar customization questions investigating the degree to which participants duplicate each of the above features when creating an avatar.

The survey concluded with an optional, open-ended question: "*Is there anything that you would like to add or comment on (i.e. the relationship between your real world personality and your virtual world avatar(s)?)*" Only a handful of participants chose to answer this question. While some participants used this space to reflect specifically on

the affordances of games on abilities (e.g., games that allow them to have magic powers, or do take actions without consequences), others chose to reflect more generally on their avatar as an expression of self:

"my virtual world avatar is what i wish i were in real life."

"When I make a character I want to see myself in that game."

"I tend to play better versions of myself."

For players who wish to see themselves in their avatars *visually*, or who feel as though an ideal avatar is one that looks like them, but with desired differences, the affordances of character creation interfaces may potentially constrain or limit users in how they represent themselves in-game. If I were to rely on survey data alone, I could draw a number of conclusions about how participants prefer to make avatars that look like them, or generate three or four *types* of users based on an analysis of the trends shown in the figure above, but this would only paint a partial picture of what it means to create an avatar in *Rift*, a picture that does not take into account the ways in which character creation interfaces shape these practices.

4.4.2 Avatar Customization

Time spent on avatar customization in *Rift* ranged from 63 seconds to 618 seconds in duration (*mean* 244.7, *SD* 153.0). Males, on average, spent less time customizing their avatars (*mean* 214.4, *SD* = 147.7) than females (*mean* 312.8, *SD* 148.1). The average time spent on the avatar customization task by participant is shown in Figure 35.

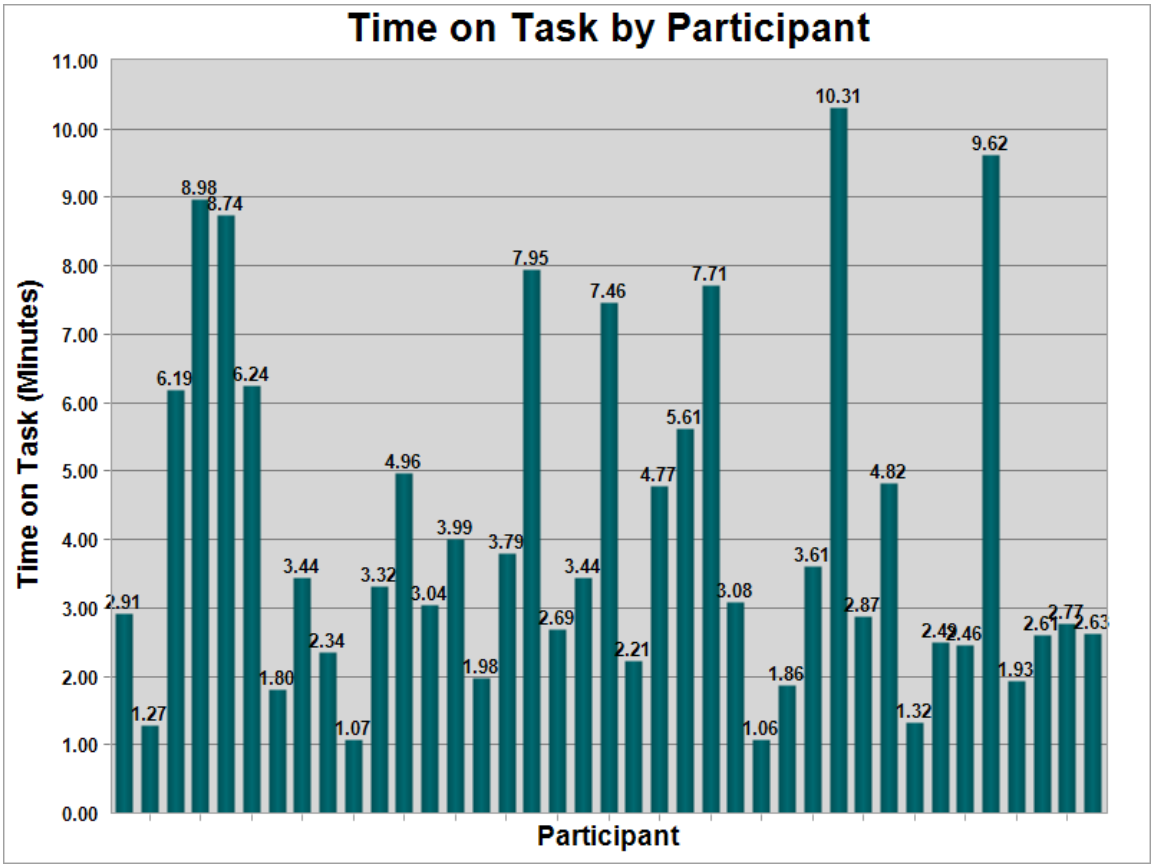


Figure 35. Time on avatar customization task by participant.

4.5 Discussion

4.5.1 Plans and Co-Situated F(actions)

The faction system in *Rift* is similar to the faction system present in other MMOGs, such as *World of Warcraft*, whereby players must choose a faction during character creation, and that choice not only determines which playable races may be chosen, but also determines which side a player will fight for, and against. Players of the same faction may start the game in the same area, and can play cooperatively from the beginning,

provided they are on the same server. However, players of opposing factions start in different areas and typically only encounter each other in higher level, contested regions. Players also cannot group (play cooperatively) with players on the opposing faction.

Since inexperienced players may not be familiar with the effect of faction choice on cooperative gameplay, research assistants were careful to explain this mechanic to participants. In my preliminary observations of the video data, I noticed some participants verbally coordinating faction choices so that they could play together.

[Faction choice loads on P1's screen]

Researcher1: *"So I don't know how familiar you are with the game, but you get to choose if you wanna be a good guy or a bad guy."*

P1: *"Oh, OK."*

Researcher1: *[Looks to P2's screen] "Are you a guardian?"*

Researcher2: *"This looks like...defiants."*

Researcher1: *"Okay, so if you want to play with him, you can...or if you want to kick his ass you could be a guardian"*

[P1 chooses guardian]

A session identifier was used to group co-situated participants. These session identifiers were then used in order to determine if there was an effect of faction choice for co-situated participants. In total, 88% of participants chose to play as the same faction as other co-situated participants. I then explored faction choice by player gender and expertise. Understanding that player expertise is a complex variable expressed via many

different characteristics such as time investment, skill, ludic knowledge, and narrative knowledge (Taylor, et al., 2011).Returning to the survey data, I divided participants first by self-reported time spent playing games per week, next by the number of active avatars they currently have, and lastly by the number of MMOGs they have played. Using the Chi-square statistical test, I determined that there was no significant effect of faction choice by gender ($F_{1,1}$ = 0.0606, ns) or expertise ($F_{1,1}$ = 0.0379, ns).

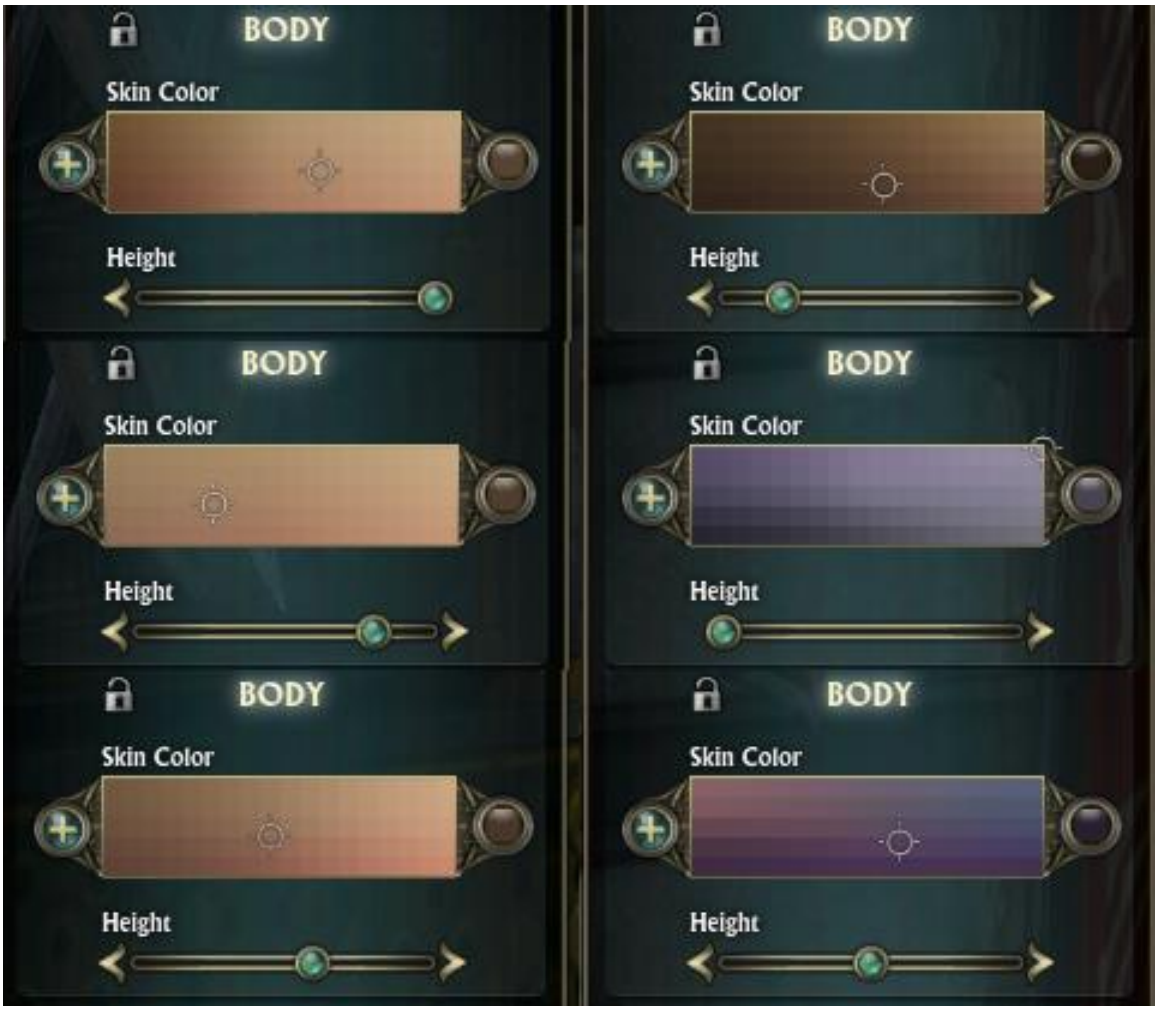


Figure 36. Skin colour palettes for the *guardian* races (left) and *defiant* races (right).

Even though co-situated faction choice was not statistically significant, the fact that 88% of co-situated participants did choose the same faction is highly relevant in the discourse surrounding the pragmatics of avatar construction and the choices users make. Customization options differ between races, and as such, options available to each faction are not identical. For instance, skin colour options available to defiant avatars are notably much darker than those available to guardians (see Figure 36). Thus, lighter-skinned players will find it easier to create a representative guardian avatar and darker-skinned players will find it easier to create a representative defiant avatar.

Figure 37. Players in *Rift* can use in-game currency to access additional customization options, but these cannot be accessed in the character creation interface.

It should be noted that it is possible to purchase additional colour palettes by visiting a barber shop in the appropriate faction's major city: Sanctum for the *guardians*

and Meridian for the *defiants* (see Figure 37). However, players do not typically encounter these cities until level 10 or later, and new players creating an avatar for the first time will not be able to access these additional customization options. These features are also quite costly, which may present access issues for novice players. Thus, for those users who wish to play together, especially novice players, the co-situated action of choosing a faction has an impact on the fidelity of their avatars.

4.5.2 Performing Avatar Customization

In reviewing the participant video data, I was able to observe the highly performative nature of co-situated play, and this phenomenon extends, in some cases, to avatar customization as well. I observed players negotiating interface affordances through performances of gaming expertise (or lack thereof), and playful commentary on emergent customization strategies. These strategies shifted throughout the customization process and were negotiated and renegotiated not only in terms of interface affordances, but also in terms of co-situated social performances. The co-situated nature of the study made these transactions visible.

4.5.3 Affordances vs. Self-Reporting

Related work conducted by Ducheneaut et al. 2009) identified hair style and colour as important features when customizing an avatar in VWs and MMOGs. Prior to playing *Rift* in our lab, participants in our study filled out an extensive survey which included questions investigating which aspects of their "meat selves" (e.g. hair, eye

colour, sex, race, etc.) they tend to reproduce when customizing an avatar. 38% of respondents in our survey identified hair as such a trait. I returned to the video data for these 15 participants and noted that only three actually looked at all available hairstyle options for the race/sex combination they chose. Of these three, only one participant actually selected a hairstyle that was even remotely similar to his hairstyle in real life.

In one such session, one player attempted to customize his avatar to match his real world appearance. As a naturally red-haired individual, the participant struggled to locate a similar hair colour in the interface. After several attempts playing with light and dark tones, he adjusted his strategy with a new goal in mind, trading his desired ginger hair for green hair - a colour not afforded by all CCIs, but one that is afforded in the one in *Rift.*

> ***P1:*** *"they never have any actual ginger colour for hair and they never know how to make it.. sucks. It's like...red? What if I highlight it? Nope. That looks brown, like copper. I swear gingers are misrepresented in every medium."*
>
> *[P1 tries a few more hair colours - some time passes]*
>
> ***P1:*** *"OK, well since they don't have accurate ginger I'm going to go green. I'll go with green 'cause that's the hair I'd have if I wasn't ginger. [he tried green and a few other colours] Never mind I'll have to find the closest to ginger that I possibly can."*

The widgets associated with hairstyle in Rift are shown in Figure 38. Here, a discreet slider is used to represent a small number of distinct hairstyles. The only way for users to see all possibilities before deciding upon a hairstyle is to move the indicator

through all possible points on the scale, previewing each option on their avatar. If users do not actively "try on" all available hair styles, they would have no way of knowing what all of the available options are.

Figure 38. Hair options in *Rift*: two sets of colour boxes for hair colour and one discreet slider for hair style.

It is not uncommon for sliders to be used in this manner, but it is also not the only way to mediate hair customization. Figure 39 illustrates some of the different ways hair options are presented to players in four MMOGs studied in this dissertation: *Rift, Guild Wars 2, RuneScape 3,* and *World of Warcraft*. While the slider widget in *Rift* forces players to actively preview all available hairstyles in order to preview them, other games, such as those depicted in Figure 39, present available hairstyle options in different ways. *Guild Wars 2* and *World of Warcraft* utilize the preview-style buttons discussed in Chapter 3, allowing players to not only view all available hairstyles, but also see how they would appear if selected for their current avatar. *RuneScape 3* utilizes the glyph-

style button, which provides players with a simple representation of each available hairstyle. From a usability standpoint, providing users with a greater deal of information regarding a particular selection, as seen with the glyph- and preview-style buttons, has been shown to enable users to make more meaningful selections within a given interface (Shneiderman, 1997). However, moving beyond usability, these differences challenge prominent assumptions which theorize self-representational practices in terms of plans and idealized selves.

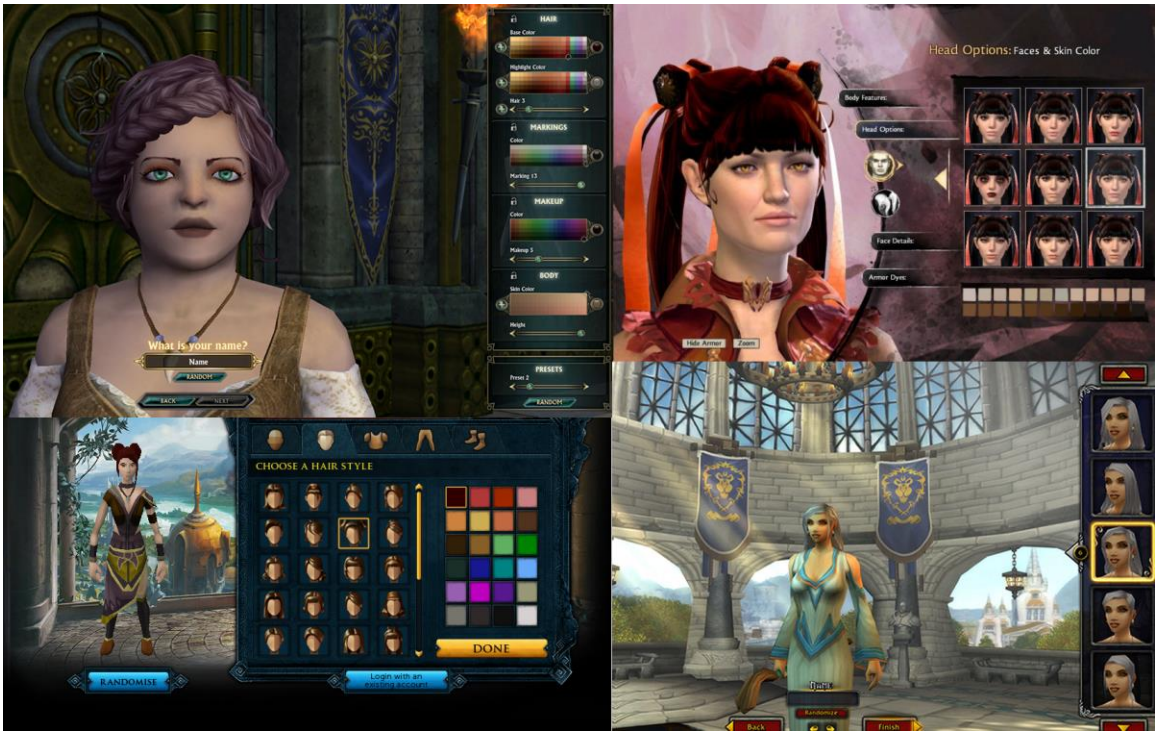


Figure 39. Hair options in the Character Creation Interfaces of *Rift, Guild Wars 2, RuneScape 3*, and *World of Warcraft.*

Returning to the tension between plans and situated actions, Suchman states that, "every course of action depends in essential ways on its material and social

circumstances" (Suchman, 2006, p. 70). Although 15 participants reported that hair is a feature they enjoy reproducing on their virtual selves, such a desire may be constrained by the appearance of a new and interesting style that they find appealing and want to try out on their current avatar. Alternatively, the discrepancy between self-reporting and observation could simply be the effect of a lab-based study involving participant observation. A third possibility, however, is that affordances shape our plans in unexpected and subtle ways. If hairstyles had been presented differently via the interface, the results of this experiment could have been entirely different.

These findings highlight the ways in which self-reporting problematizes the discourse surrounding the pragmatics of self-representational practices. With only a dozen distinct hairstyles available per race/sex combination in *Rift*, it would be difficult for all 15 of these participants to reproduce their real-world hairstyle in our lab. If hairstyle truly is an important feature, and these participants did report that they like to reproduce this aspect of themselves online, why then did they not take the time to preview all available options?

The above example highlights the need to take interface affordances into account when discussing avatar customization practices. The differences between participants' self-reported preferences and the observed interaction (or lack thereof) with the hairstyle widget would not be established if hairstyles were presented differently. The Avatar Affordances Framework allows researchers to systematically code widgets so that we can

generate productive discourses about affordances both in relation to other forms of data such as survey data and participant observation.

Figure 40. Race/sex selection in *Rift.*

The framework can also be used to identify other intersections between the different data sets that may be of interest. For example, the screen where participants choose the race and sex of their avatar is shown in Figure 40. Notation for this grouped widget using the Avatar Affordances Framework appears as follows:

[*Identifier*: "Choose your race…"] [*Function*: Select race and sex] [*Behaviour*: Choose 1 of 6 options] [*Structure*: Button: portrait (6)] [*Hierarchy*: 0] [*Default*: None]

In *Rift*, there is no default configuration for avatars – each time a faction is chosen, a random avatar is presented. Even the race and sex of the default avatar is

randomized. It is not uncommon in game interfaces for race, sex, or ethnic "options" to default to a predetermined permutation, making assumptions about the ideal or "default" player (Consalvo, 2003a; Sundén, 2009). In the survey data, 36% of participants indicate that sex is a feature they ideally duplicate when creating an avatar. The fact that *Rift* does not default to a male avatar is significant as it not only invites users to play with this aspect of their identity but it also avoids the common situation in which a female player must actively *un-choose* male if she wishes to play as a female avatar.

4.6 Conclusions

The research presented in this chapter is just a small user study focusing on a relatively succinct moment in MMOG play in a single MMOG. As such, it is important to acknowledge that this study and our results are not representative of the self-representational practices of all *Rift* players. Players come to MMOGs with varying levels of experience and character creation interfaces are not designed in a vacuum. The choices users make are indicative of the tension between plans and affordances, strategies and situated actions. *Rift* borrows much from *World of Warcraft*, which of course borrows design elements from *Everquest.* Therefore, I believe that our results are somewhat transferrable to those games from which *Rift* borrows, as well as future games whose interfaces will be inspired by *WoW* and others.

The work presented here is not intended to undo the work of others who have theorized player avatar customization, but to illustrate the kinds of nuanced data that can be obtained through intimate lab-based observation of self-representation in real time.

Much of the related work reports findings that are derived from self-reporting or studying complete avatars in an attempt to understand user customization strategies. These approaches reduce these practices into oversimplified types, leaving little room for understanding the complex network of actors and actants contributing to the process of avatar customization. Additionally, studying existing avatars tells us little of the process by which that avatar came to be. The tension between plans and situated actions is sidestepped in favour of plans - where avatars are simply the product of pre-existing customization strategies.

Since these games are cooperative, or "massively multiplayer" by design, co-situated play also has an impact on all strategies of play, including avatar customization. In the case of *Rift* and many other games like it, the act of choosing a faction limits the customization options available to players. For many, faction choice is one that is made in collaboration with other players. An ANT lens brings these other actors into focus and allows us to include these playful interactions in my analysis.

Chapter 5 Self-representational Practices of Camera-Based Avatar Customization on the *WiiU*

The research presented in this chapter examines the tension between interface affordances and self-representational practices as mediated by the *Mii Creator* on the Nintendo *Wii U* console. A *Mii* is a digital avatar used in Nintendo's *Wii*, *Wii U*, and *3DS* gaming consoles. *Miis* made their first appearance with the launch of the *Wii* in 2006. While not officially confirmed by Nintendo, the term *Mii* is thought to be a portmanteau of the words "Wii" and "me" - which could prime some users to feel as though *Mii* avatars are intended to serve as realistic or idealized versions of themselves. This relationship is further intensified with the release of later versions of the *Mii* character creation interfaces, on the *Wii U* and *3DS* consoles, which invite users to access the system's built in camera to generate their *Mii* from a photograph.

The *Mii Channel* is the application used to create *Miis* on the *Wii* console. It is capable of storing 100 *Miis*, where the game's controllers, called *Wiimotes*, are capable of storing up to 10 *Miis*. Having the ability to store *Miis* locally on a controller allows players to bring their *Miis* with them to a friend's house and play with their own avatar on another *Wii* console. It has been suggested that this functionality may make the *Mii* an ideal avatar for educational purposes, since students could bring their own Miis from home and share them across multiple consoles for educational use (Morgan, Butler, & Power, 2007).

With the release of the *Wii U*, Nintendo launched *Miiverse*, an online social networking application that allows players to share comments, drawings, and screenshots of their own gameplay. *Miiverse* has also been in integrated into a number of *Wii U* games, such as *New Super Mario Bros. U*, released in 2012. Using the *Miiverse*, players can reflect on their own gameplay using many of the modalities noted above, all of which can be linked to a specific ludic moment. For example, a player who dies repeatedly while fighting a specific boss may be invited to comment on their failure. Other players who die at the same point in-game may also see posts created by others in response to the same failure.

As avatars, *Miis* make particularly intriguing subjects of study, since they are actually created on the console and subsequently used in several games as player avatars. Presently, these avatars feature in over 100 game titles on the *Wii* and 10 games on the *Wii U*. In most cases, *Miis* are used as the player-character avatar in the game, in other instances, they may appear as background characters or be utilized for the game's built-in social features. For example, in *Wii Sports*, players not only use their own *Mii* as their avatar in the game, but many of the in-game audience members and bystanders are other *Miis* from the player's own console. For example, I may use my *Mii* to play the bowling game in *Wii Sports*, while a handful of the other *Miis* stored on my console (representing my partner, my father, and others who have created an avatar on my system) are featured as bystanders, watching me play and reacting to my avatar's performance.

In more recent games, such as *New Super Mario Bros U*, Nintendo introduced an interesting social feature to gameplay, introducing "ghost *Miis*" - semi-transparent *Miis* belonging to other players on the Nintendo network. These "ghost *Miis*" are not cooperative players, rather, they are sophisticated re-enactments of existing play data. The addition of "ghost *Miis*" may not only increase the sociability of these games, but may also allow players to make adjustments to their own play styles based on the observable strategies adopted by others.

Even though customization of the *Mii's* appearance occurs within the character creation interface, there are only two options for the avatar's body: a pair of continuous sliders which adjust the avatar's height and weight. The number of options available for the avatar's body are extremely disproportionate compared to the number of options available for the avatar's head, but this is likely due to the fact that *Mii* bodies change quite drastically from game to game. In the figure below, I show the same *Mii*, named Miila in the *Mii Creator*, two different levels of *Nintendoland* (*Legend of Zelda: Battle Quest*, and *Metroid Blast*), and the *New Super Mario Bros U*. Note the differences in her body across the different games. While her hair and facial features are identical across these ludic spaces, her body is changed drastically to match the aesthetics and physical requirements of each game world she joins.

In some exergames, like *Wii Fit*, the *Mii's* weight is modified when the user steps onto the *Wii Balance Board*, a game controller that the user stands on to calculate their weight and track their balance during gameplay. Games like *Wii Fit* use body mass index

(BMI) to determine what the body shape or weight of a player's *Mii* should be within the *Wii Fit* game. Unfortunately, BMI is not a very accurate way to diagnose obesity, as it does not take into account the variability in distribution of lean mass and adipose tissue of individuals into account (Romero-Corral, et al., 2008), meaning that many users who are indeed fit, may be forced to play *Wii Fit* with an overweight avatar due to the fact that lean muscle mass weighs more than fat (Öhman, Almqvist, Meckbach, & Quennerstedt, 2014).

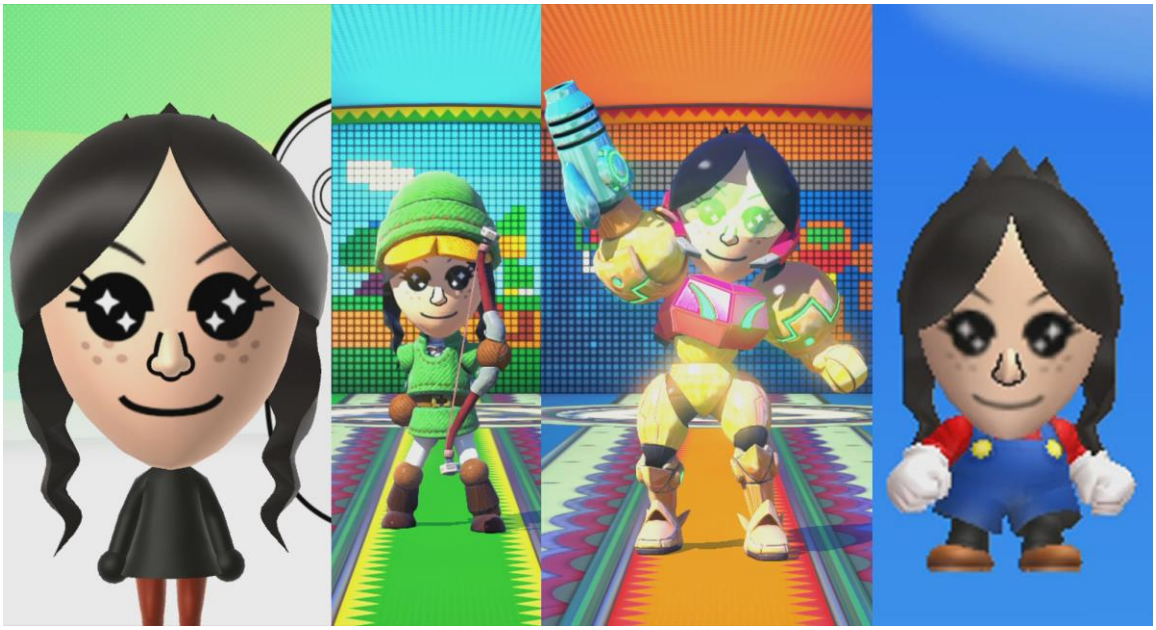


Figure 41. In this figure "Miila" is shown in the Mii Creator, two levels of *Nintendoland*, and *New Super Mario Bros U.*

Miila's appearance in multiple titles is reflective of the trans-ludic nature of *Miis*. The concept of the trans-ludic identity appears in the works of Celia Pearce, who writes of the Uru diaspora following the abrupt closure of the MMOG *Uru: Ages Beyond Myst*

(Pearce & Artemesia, 2008). Players of the game migrated to other virtual worlds, such as *Second Life* and *There.com*, continuing their online lives as Uru in other virtual spaces and creating what Pearce refers to as "collective fictive identities." In order to study the diaspora of the Uru people, Pearce created the avatar Artemesia, a trans-ludic avatar who maintained a static identity and visual appearance across the multiple virtual worlds in which she lived (Pearce & Artemesia, 2008). Pearce notes the challenge in maintaining a trans-ludic identity across multiple games is in negotiating with each system's affordances for self-representation, which are mediated by each character creation interface (Pearce & Artemesia, 2009a). In contrast to Pearce's avatar Artemesia, *Miis* only need be created once on the console, after which point they may be played with, shared online, and transported between gaming systems. As noted above, *Miila's* body changes from game to game (and in some games, she may have no body at all!), but her face and hair remain constant. The trans-ludic identity may link back to Stone's framing of the relationship between the body and personae - the "sovereign subject" - the core identity which shapes any and all variants of ourselves, even those we present to others online (Stone, 1996, p. 73).

5.1 Miisearch

Miis have been widely studied by games scholars and researchers in related fields, such as education (Morgan, et al., 2007; Öhman, et al., 2014) and psychology (Dolgov, Graves, Nearents, Schwark, & Volkman, 2014; Jin, 2009, 2010; Principe & Langlois, 2013). Since the culture of Miis encourages the creation of self-representative avatars

(Principe & Langlois, 2013), researchers have been particularly interested in the effects of self-priming on avatar self-connection (Jin, 2009, 2010). For example, Jin presents a between-subjects study in which participants created either a realistic *Mii* or an idealized *Mii,* studying the effects of self-priming on avatar self-connection (Jin, 2009). Jin noted that participants who created an ideal-self avatar felt stronger connection to their *Mii* and their *Mii's* in-game achievements. In a subsequent study, Jin studied the effects of realistic and idealized self on users' perceived interactivity and immersion in *Wii Fit*, a game which uses *Miis* as player avatars (Jin, 2010). Jin conducted a 2×2 factorial design experiment and noted a greater perceived interactivity among participants who were able to play with an idealized self avatar (Jin, 2009).

The tension between idealized and realistic avatars is indirectly explored by Öhman et al., who further discuss the use of BMI to asses player bodily health in *Wii Fit*, particularly in an educational context (Öhman, et al., 2014). The growing popularity of exergames in both the public and research spheres has mobilized a number of game-based exercise interventions on an international scale (Rosenberg, et al., 2010; Song, Peng, & Lee, 2011; Staiano & Calvert, 2011; Uzor & Baillie, 2014). Ohman et al. note that the subject of study, the exergame *Wii Fit Plus*, is designed with a BMI of 22 as an ideal body. During player weigh-in, *Miis* jump up and down with anticipation of their BMI. If the player scores an ideal BMI or lower, the avatar reacts in a positive manner. If the player scores a BMI above the idealized 22, the *Mii* appears to be sad or embarrassed. In this way, the authors suggest that the game uses shame as a major strategy, despite the

fact that BMI is known to be a problematic way to determine whether or not an individual is at a healthy weight (Öhman, et al., 2014).

The highly simplified, caricature-like nature of *Miis* has also been the subject of study in a number of papers, including work by Bryant and Akerman (2009) and Higgin (forthcoming). Bryant and Akerman describe how the simplistic nature of *Miis* makes them an ideal avatar for representing the concrete self among younger children, where "concrete" is used to describe the simplistic ways in which this age group (6 - 9) defines or understands themselves (Bryant & Akerman, 2009). Bryant discusses self-representation in terms of children's drawings, in which a young boy might identify a drawing or avatar as being "like him" simply due to the fact that the character is the same sex and has the same hair colour.

By contrast, Higgin (forthcoming) mobilizes the use of caricature as representation through the reduction and overstatement of visual features, focusing on how caricature was often used in racial differentiation through representational means, such as blackface (Higgin, forthcoming). By definition, caricature is the simultaneous simplification and exaggeration of features in order to produce a recognizable representation. Where Bryant and Akerman (2009) suggest that simplified self-representation may facilitate identification with the avatar, Higgin (forthcoming) cautions that the mechanisms of caricature may result in problematic, reductionist, and potentially racist portrayal:

> "Nintendo's Mii system relies heavily on cartoonish facial features in order to facilitate perception. The complexities of a face must be

> reduced to a few key qualities that can be elaborated and used as a symbolic summary of a face. The range of variation that every face contains is smoothed out and rendered down into that which can be distinguished and stereotyped. The large nose or bushy brow that is, in the everyday, just one minor component of a presentation of self, becomes the key piece that defines the whole within a system of caricature. The bushy brow, even in its avatarial disproportion, is the person and, in turn, reflects back on the person. The caricature repopulates the face." (Higgin, forthcoming)

Since *Miis* are a simplified representation of the self, users who wish to create a representative *Mii* must reduce their physical appearance to a few features and then decide which of those features to exaggerate. While the system provides a high quantity of hair styles, the hair styles present in the first release of the *Mii Creator* were largely influenced by Japanese hairstyles, forcing some players to select a best match or no match at all (Shen, 2007). Additionally, the interface only presents users with eight possible hair colours. Many users have expressed frustration over the lack of hair colours afforded by the interface, particularly gingers (Hulme, 2009) and those who are interested in giving their *Mii* an alternative hair colour ("Why can't you make a Mii with any colour hair?!," 2011), such as pink, purple, or blue. This echoes the frustration expressed by the male red-haired participant in the *Rift* study (Chapter 4) whose customization strategy was significantly modified as a result of hair colour limitations present in the CCI. With these limitations in mind, players may be forced to further exaggerate those features present in the interface which *do* match their physical appearance. These features may be representative of those which were prominently adopted in racially stereotyped

caricatures. Therefore, as Higgin (forthcoming) suggests, *Miis* themselves are not a racist system of representation, but they are inadvertently influenced by racist visual culture.

Principe and Langlois (2013) studied the effects of attractiveness as a social cue using designed avatars of varying attractiveness. As noted in the researchers' own literature review, attractiveness is used as a social cue in assessing the sociability, honesty, intelligence of others. The authors conducted two experiments in which participants were asked to rank the attractiveness of static images of humans and *Miis* using a 7 point Likert scale. Results of the study revealed that facial attractiveness ratings of humans could be used to strongly predict the attractiveness ratings of the pre-designed *Mii* faces, and that participants preferred attractive avatars as social partners. The results of this research are interesting both in terms of how we understand the attractiveness of a caricature-like avatar, as well the relationship between these findings and those reported by Jin (2009, 2010).

Dolgov et al. (2014) studied the effects of cooperative gaming and avatar customization on subsequent spontaneous helping behaviour. Two studies were conducted in which participants were invited to play *Wii* games with a confederate or actor posing as co-situated participants. Participants were invited to play with the confederate, either cooperatively or competitively, using either a generic or customized avatar. During the study, the confederate accidentally spilled a cup of pens and the researchers noted which participants helped the confederate pick up the pens, and how many pens they helped to pick up. The authors found that cooperative gameplay was a

predictor of subsequent spontaneous helping behaviour, and more interestingly, cooperative players who were allowed to play with a customized avatar picked up significantly more pens than those who were not.

The visual relationship between players and their avatars on Nintendo's consoles is not only inferred by their very name: *Mii*; it is further reified by the mechanism of camera-based (the ability to have a representative avatar algorithmically customized from a photograph) *Mii* creation on the 3DS and Wii U gaming systems. In this sense, users are primed to create either a realistic or idealized version of themselves - to situate themselves within the Nintendo gaming culture and to see themselves in their avatar's achievements. If there is indeed a measurable relationship between self-priming and avatar self-connection, this effect is directly related to interface affordances. The range of available customization options, as well as how they are mediated, will have an impact on a user's ability to create a representative avatar, which could have a negative effect on avatar self-connection and player experience.

In the following sections, I present an analysis on the most recent version of the *Mii Creator* on the Nintendo Wii U gaming console. I then present a between-subjects microethnographic study investigating participant strategies in customizing a *Mii,* either via the standard interface, or using the camera to generate a *Mii* from a photograph.

5.2 The *Mii Creator* Interface

The *Mii Creator* on the Nintendo *Wii U* console was chosen because it presents users with the option to generate their avatar using the *WiiU Game Pad* - a new style of

controller which, in addition to offering tablet-like interaction along with traditional input methods and a touch screen, also has a camera which can be used to create a customized avatar. I propose that this option frames *Miis* as duplicate stand-ins for users; virtual bodies that are not only intended to grant agency, but also to serve as a visual representation of the user. While it is entirely possible for users to generate a non-representative *Mii*, both the prominence of the camera option, as well as its incorporation, challenge many of the prominent theories on avatars and identity. The *WiiU* version of Nintendo's *Mii Creator* is shown in Figure 42.

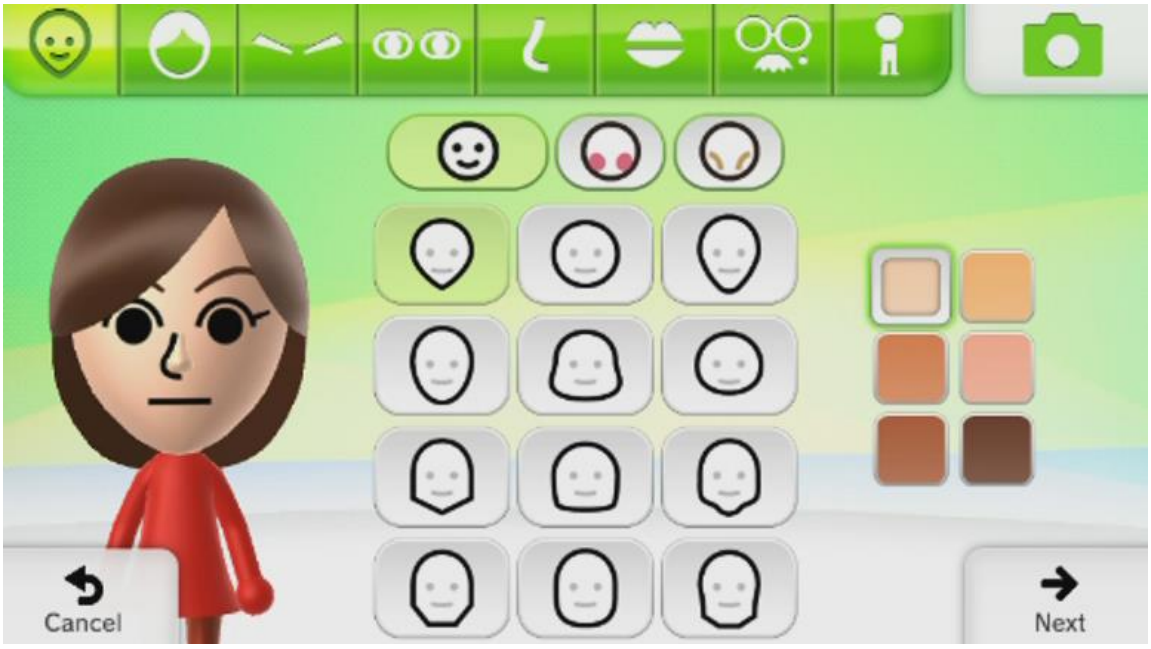


Figure 42. The *Mii Creator* Interface as shown on the *WiiU* console. Here, the default female *Mii* is shown.

Players are asked to "select a gender" prior to accessing the customization section of the interface. Male *Miis* wear shirts and female *Miis* wear dresses. Interestingly, this

choice has no effect on subsequent customization options. All hairstyles, accessories, and facial hair are available to both male and female *Miis*.

Navigation for the system is primarily tab-based; the main categories presented across the top give access to customization options associated with those features. The main categories are: face, hair, eyebrows, eyes, nose, mouth, miscellaneous (glasses, facial hair, etc.), and body.

Most of the customization options are represented by buttons. Options such as face shape, hair style, mouth, etc. are all represented by a graphical button displaying a glyph representing each available style. Where colour customization is possible (e.g., skin colour, hair colour, etc.) one solid colour button is shown for each possible selection. Where more than 12 possible options exist, these options are grouped into "pages" that can be accessed via two buttons (see figures below).

Figure 43. Some of the different hairstyle options available to *Miis.*

At any time during the customization process, *Miis* can be rotated by placing your finger on the touch screen directly above the *Mii* and dragging to the right or left. This allows users to view the *Mii* at multiple angles. Figure 43 and Figure 44 illustrate the selected hairstyle from both the front and side views. While the glyph does provide information about each available style, previewing options on the *Mii* from multiple angles provides users with a better idea as to how the style will look on their *Mii*.

Figure 44. Hairstyle options are represented by buttons with simplistic representations or "glyphs" of each hairstyle. Here, a *Mii* has been rotated, revealing what the back of the hairstyle shown in the above figure looks like from the side.

Other customization options are represented by sliders. For example, *Mii* height and body shape are represented by sliders that allow users to adjust this attribute by setting an indicator to the desired value. While the height and weight of a *Mii's* body can be manipulated, this modification isn't permanent since Mii bodies are different in each game they are featured in. For example, in *Wii Fit*, *Mii* weight is set by the game after weighing the user on the *Wii Balance Board and* determining their body mass index or BMI.

Sliders are also used in a number of sub-menus available in the interface. For example, in addition to selecting an eyebrow style (Figure 45), users can also open a sub-

menu where they can access a variety of size, position, and rotational options for this feature (Figure 46). These additional customization options are available for other features as well, including the eyes, nose, and mouth.

Figure 45. Eyebrow options in the *Mii Creator* interface.

Whereas the sliders used for height and weight are continuous, those used for sub-menu size, position, and rotation options are discreet, meaning that it only allows a specified number of values within a given range. These values are represented by light grey ticks along the widget, meaning that it is possible to derive the exact number of customization options available for these features and to determine how many unique permutations are available, as per the method presented by Pace et al. (2009).

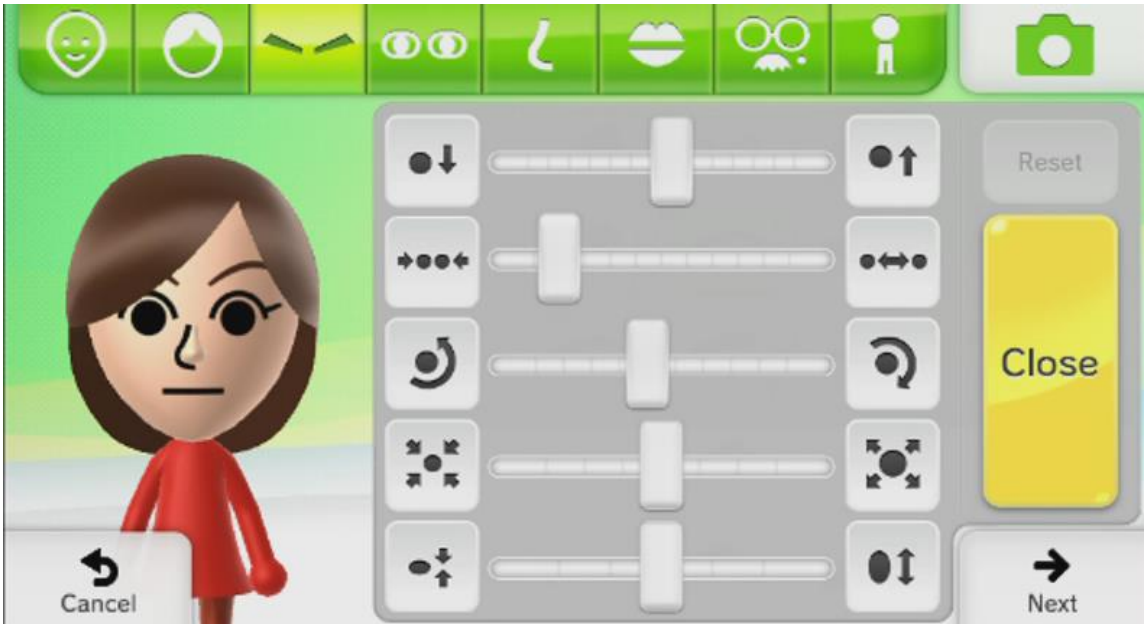


Figure 46. Size, position, and rotational options for eyebrows in the *Mii Creator* interface.

In the "miscellaneous" category, users can choose to adorn their *Mii* with glasses, facial hair, or a beauty mark. Counting all of the styles available for these miscellaneous features alone results in 164,738 quantifiably distinct *Miis*. Taking all possible size, rotation, and position values into account results in 9, 601, 858, 205, 960 quantifiably unique *Miis*. Multiplying these values by all of the other options (and subsequent size, rotation, and position options available) breaks the calculator. In terms of "high-fidelity", these numbers are deceptively high when one considers that there are only 8 possible hair colours for *Miis*. I argue that, while permutations are meaningful *within* games, they are not very meaningful *between* games.

Table 12. Avatar Affordances data for a female *Mii.*

	Identifier	**Function**	**Behaviour**	**Structure**	**Hierarchy**	**Default**
Gender	Select a gender	Select sex	Choose 1 of 2 options	Button(2)	0	None
Ethnicity	*None*	Select skin colour	Choose 1 of 6 options	Button: swatch(6)	1	Light
Body	Weight	Adjust weight	Adjusts value incrementally	Slider	1	Middle value
	Height	Adjust height	Adjusts value incrementally	Slider	1	Middle value
Hair	*None*	Select hair style	Choose 1 of 132 options	Button: glyph(132)	1	First value
	None	Select hair colour	Choose 1 of 8 options	Button: swatch(8)	1	First value
	None	Flip hair style	Toggle between 2 options	Button :icon(1)	1	Yes

In the above table, I present the Avatar Affordances data for avatar sex, ethnicity, hair, and body as presented in the Mii Creator interface of the Nintendo Wii U console. In this format, each customization option, along with all associated widgets, are broken down into meaningful properties, which can be readily compared to other interfaces using this framework. The framework isolates and makes visible the designed properties of these interface components which are most telling about any ideologies, intentional or not, that are present. For instance, all customization options in this interface do have a default value, except for sex (labeled as "gender" in the interface), which is selected by the player before any access to the character creation interface is permitted. Interestingly, this choice does not affect the availability of any subsequent customization options. For

example, all of the 132 hairstyles are available to both male and female *Miis*, including those which appear to be stereotypically viewed as being "feminine" or "masculine", or *belonging* to either a male or female sexed body. The selection of sex is clearly a fundamental option which must be selected before a new *Mii* can be brought into existence by the console, even though the sex of the avatar can be changed at any time during customization, and even more importantly, despite the fact that this choice has no effect on subsequent refashioning.

As shown in both the screenshots and the data in Table 12, the interface for the *Mii Creator* relies heavily on buttons to convey the purpose of most of its widgets. Only a few of the customization options are accompanied by a label: the widgets for "gender", height, and weight. All customization options in the interface, except for "gender", have a default value. The options for height and weight start users off with median values, while every other customization option is set by default to the first option within the group. These firsts include a light skin tone, brown hair, and the first "gender appropriate" option from within the group of 132 hairstyles. Although the same selection of hairstyles are available to all *Miis*, they are arranged in such a way that the first half of hairstyles in the group are the "masculine" styles and the second half of hairstyles in the group are the "feminine" styles. So, in both cases, even though a player creating a female *Mii* can easily move away from this "gender appropriate" default, the user must actively seek out a new permutation.

5.3 Camera-based *Mii* Creation

The *WiiU Game Pad* also comes with a front-facing camera which can be used in video chat, or to create a *Mii* from a picture (see Figure 47). Prior to taking a photo of the user, the interface prompts them to select their sex, skin tone (colour), eye colour, hair colour, and hairstyle. The user then takes a photo of themselves with the *Game Pad* and the *Mii Creator* selects the remaining customization options based on the user's photograph. After a dramatic reveal, users are provided with eight potential permutations from which to choose (see Figure 48). Following the selection of one of these "best matches", users can then utilize the standard *Mii Creator* interface to change or modify any aspect of their *Mii,* including all options selected prior to taking their photo.

5.4 Method and Methodology

In order to investigate the camera/console as an actor, I designed a between-subjects study wherein participants (n = 24) are invited to create a *Mii*. The study was designed in order to investigate the pragmatics of self-representation in the *Mii Creator*. In this study, one group (n = 12) creates a *Mii* using the standard interface, and the other (n = 12) creates a *Mii* using the built-in camera on the *WiiU Game Pad.* A between-subjects design was adopted so that the role of the *Game Pad* as an additional actor could be understood.

5.4.1 Method

This study uses the same microethnographic method outlined in Chapter 4. At the start of the study all participants were also asked to complete a 21 question survey. This survey was designed to obtain demographic data, as well as data on participants' gaming experiences, and experiences with avatar creation interfaces. Questions used in this survey were derived from the questions used in the VERUS survey, but with fewer questions pertaining to participant demographics. Sample questions from this survey are as follows:

> *Do you or have you ever played games where you customize an avatar?*
>
> *Have you ever created a Mii?*
>
> *Have you used a camera on another system to create an avatar before?*
>
> *In what ways do you make your avatar look like you? Check all that apply. [Sex, Race, Hair Style, Hair Colour, Clothing Choices, Eye Colour, Height, Body Shape, Other]*

Results of this survey were then compared with observational data obtained from the micro-ethnographic data. In particular, I am interested in how participants' own prior experiences creating avatars informed their interactions with, and customization strategies in, the *Mii Creator*.

5.4.2 Participants

24 participants, 10 male and 14 female, volunteered for the study. The age range was 19 to 40 years (*mean* = 26.1, *SD* = 6.03). Participants were recruited via convenience and snowball sampling methods. Within each of the study groups, half of the participants

completed the study alone, while the other half completed the study while in the presence of at least 1 other co-situated participant who was recruited by the participant to take part in the study. In these cases, co-situated participants were not directly involved in the avatar customization process, but because these co-situated participants were known to the participant (usually a friend or romantic partner). Care was taken to ensure that co-situated participants did not directly interfere with data collection. Additionally, I also ensured that the instances of co-situated and isolated participants was balanced between both groups.

5.4.3 Apparatus

The experiment was run on an *Alienware* M14X laptop running the *Windows 7 Home Premium* 64 bit operating system. The Nintendo WiiU console was connected to the laptop via the AVerMedia C875 Live Gamer Portable (LGP) HD Game Capture Video Device. *XSplit Gamecaster* software was used to simultaneously record input from the WiiU and video from the laptop's built-in webcam. The console output was displayed on the laptop's 14 inch screen and the webcam was directed towards the participant. Participants used the *WiiU Game Pad* (shown in Figure 47) to interact with the console.

Figure 47. The *WiiU Game Pad* using the camera to capture a photo of the user. Image courtesy of nintendo.com.

It should be noted that during the creation of a *Mii* using the standard "from scratch" method, the *Mii Creator* interface is shown both on the *Game Pad* and on the main display. However, during camera mode, the interface is shown on the *Game Pad* only. Thus, in order to capture interface data of the customization process after a participant's photo was taken in the camera group, I had to save the *Mii* and then re-open it for editing in the *Mii Creator*. The only impact this had on customization is that I had to (briefly) interrupt participants to save and re-open their *Mii* for editing.

5.4.4 Procedure

Following the completion of the survey, participants were seated on a couch in a quiet setting directly in front of the laptop. Participants were handed the *WiiU Game Pad* and were asked to make a *Mii* using the built-in camera. Participants were not given specific

instructions as to how to use the interface, but were invited to ask questions at any time during the study if they weren't sure how to use the *Mii Creator* or the *Game Pad.*

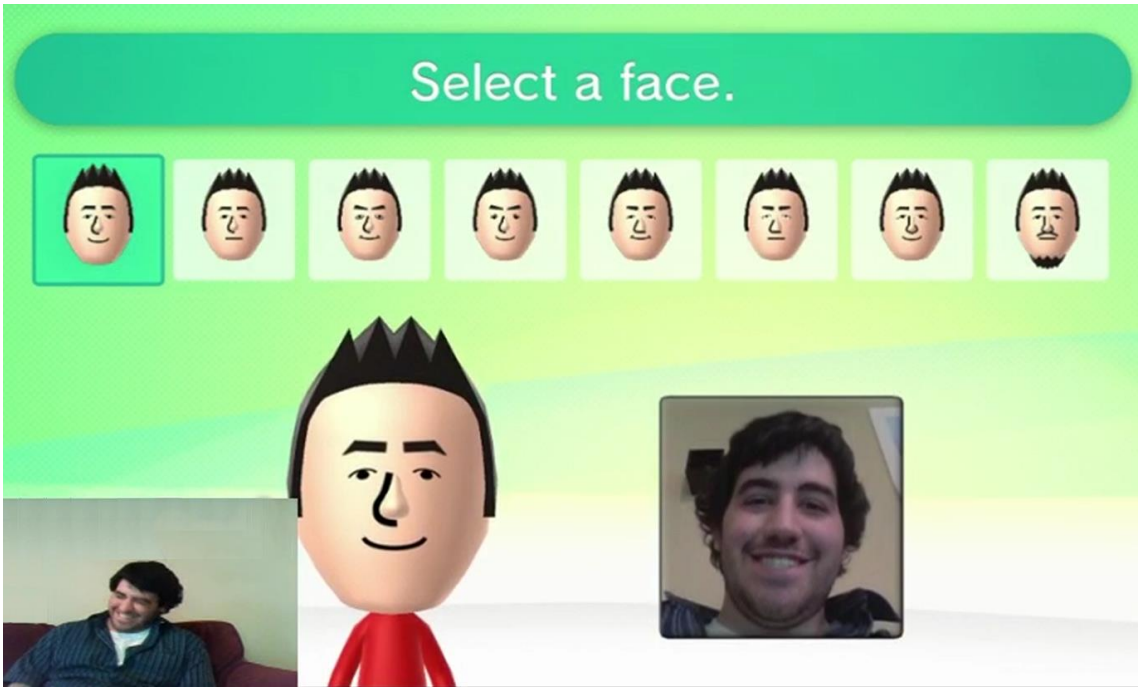


Figure 48. Participant's reaction upon seeing his *Mii*.

Once participants in the camera group had chosen one of the eight potential permutations (as shown in Figure 48), they were interrupted briefly by the researcher as the *Mii* was saved and re-opened in the *Mii Creator*. They were then invited to continue editing their *Mii* until they were satisfied with its appearance.

5.5 Results

5.5.1 Survey

Of the 24 participants, all but two reported playing video games. The averaged amount of time reported (in hours) per week playing games on various platforms was as follows: 5.6 hours per week playing PC games (SD = 8.7), 4.4 hours per week playing console games (SD = 7.5), and 3 hours per week playing games on mobile devices (SD = 4.5). When asked specifically what games they currently play the most, answers were highly varied and included all kinds of games from League of Legends, to Candy Crush Saga.

All but three participants reported having played games where they were expected to customize an avatar. All but five participants reported having experience creating a *Mii*, some having created multiple *Miis* and played multiple games using them. Four participants reported having used the camera on the *Game Pad* to create a *Mii*.

The final questions in the survey pertained to self-representational practices. 21 participants reported that they tend to make avatars that look like themselves. When asked specifically which features they tend to duplicate on their virtual selves, responses varied greatly. The results of this question can be seen in Figure 49.

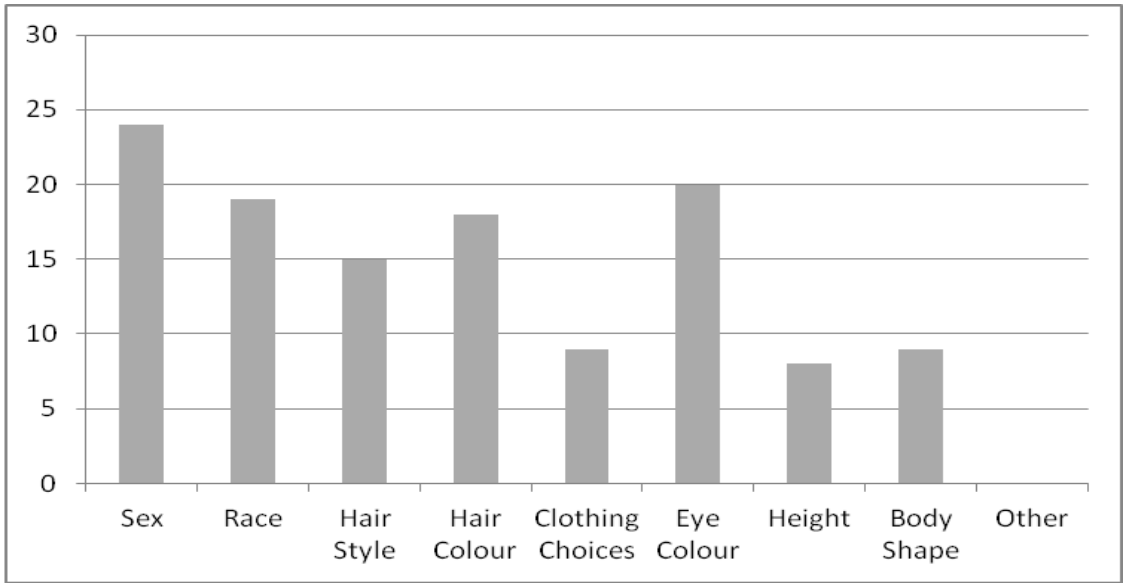


Figure 49. Number of participants who report duplicating aspects of their real self when creating an avatar.

While all 24 participants report duplicating their sex when creating an avatar, reporting on other attributes varies among this group of participants. I intentionally provided them with the survey in advance of having them create a *Mii*. I did so in order to investigate the differences that could potentially arise between self-reporting on self-representation vs. practice. Where there was no variance in reporting on avatar sex, 79% of participants (n = 19) report on consistently duplicating their race when creating an avatar. This result may indicate that some participants actively create characters of a different ethnicity in-game, or it could be an issue of interpretation, where race is understood by some as a means of classifying groups *within* the human race, where other games offer a multitude of playable races, among which may include humans and a selection of fantasy races (e.g., elves, dwarves, aliens, androids, etc.). In future work, it

would be interesting to isolate these meanings in the context of self-representational practices.

Ducheneaut et al. (2009) noted that hair was considered to be a "high impact" feature in avatar customization, since hair is not only the most noticable avatar feature in most games, but it is also the one that is most easily selected as a recognizable trait for those wishing to create a representative avatar. In my study, 63% of participants (n = 15) reported actively duplicating this feature on their avatars; a sub-group among the 18 participants who indicated that hair colour was also a trait they like to duplicate.

While not always present in all interfaces, customization options for height, body shape, and clothing did not rank highly among features that participants seek to duplicate on their virtual selves. It could be that these are some of the things that are most difficult to change in real life, making them desirable outlets for change on a virtual self. Granted, clothing is quite easy to change, but some clothing options in real life are only available to people with expendable income, and a person's level of comfort with their body image or social standing may also make them feel that some clothing choices, no matter how desired, are not appropriate for their meat selves. Lastly, since the aesthetics of game worlds often present opportunities for outlandish or fantastical attire, it is not surprising that participants would not necessarily seek to duplicate their real world clothing in the virtual one.

5.5.2 Mii Creator Task Results

The *Mii* creation task was timed in seconds. Overall, task completion time ranged from 122 seconds to 678 seconds (*mean* = 313.4, *SD* = 172.1) . For the camera group, referred to as *Group A* throughout the remainder of this section, task completion time ranged from 122 to 356 seconds (*mean* = 223.1, *SD* = 80.6), and for the "interface only" group, referred to as *Group B* throughout the remainder of this section task completion time ranged from 159 to 678 seconds (*mean* = 448.8, *SD* = 187.9). The difference in completion times between both groups is likely due to the differences in the procedures. Participants in *Group A* did not begin with a default *Mii* and therefore did not have to spend as much time accessing the interface to customize their *Mii* as the participants in *Group B* did.

Average task completion time for male participants was 245.4 seconds (*SD* = 86.2) and average task completion time for female participants was 358.7 seconds (*SD* = 202.1). An unpaired t-test was conducted to compare the means of both groups to determine whether or not the difference is statistically significant, which it was not (p = 0.1424, t = 1.5384).

Next, I reviewed each video in order to identify how participants leveraged the affordances of the system when customizing their avatars. These interactions were compared with the survey data. Nearly all of the participants created a same-sex avatar. Only one participant, from *Group B*, opted to create an avatar of the opposite sex. 15 participants reported that hair style is a feature they duplicate when creating an avatar.

However, three of these participants did not utilize the navigation buttons to access other hairstyles (see Figure 43), meaning that their selection was from one of the 12 hairstyles presented by default. While the hairstyle they selected may have been the best match of the 12 options present, it was likely not the best match of all options available to all *Miis.*

Height and weight are adjustable in the *Mii Creator* via two sliders. These sliders, by default, are set to the median value. Across both study groups, nine participants indicated that body shape was a feature they duplicated when creating an avatar and eight of these participants also indicated the same for height. Yet, of these participants, only four actually adjusted the sliders for these two features.

Last, as with the *Rift* study, I observed co-situated participants in both groups interacting with their peers during the study. Specifically, these participants were more likely to have a more emotive response during the "big reveal" in the camera study, and in both groups, participants who were in the presence of their peers would initiate dialogue with their peers regarding their self-representational strategies. These participants were more prone to thinking aloud during the avatar customization portion of the study, and to discussing their appearance (their own and their avatar's) while accessing the *Mii Creator* interface.

5.6 Discussion and Conclusions

The results of this study are interesting, but most of them are likely not surprising. Players spend more time accessing the interface during customization when not using the camera because the work of customization has not been done for them by the software's

algorithms. Task completion times were different, but not statistically significant, between the sexes, which could be indicative of the size of the sample studied. Since my goal was not to generate positivist discourse about *types* of players, these results are really only included because they may be of interest to others who are conducting similar studies. The results do become quite interesting when compared with the results of the *Rift* study, in particular, the differences noted between the survey data and observational data are most interesting, and make a clear case for a mixed-methods approach to the study of self-representation in games.

As with the Rift study, when data from the survey and the study are compared, I noted a few discrepancies between self-reported data and what was observed in practice. Such discrepancies may have been the result of perceived affordances (e.g. not knowing that there were more than 12 available hairstyle options). On the other hand, these discrepancies may actually reflect tensions between methodological approaches.

Returning to the related work covered in Chapter 2, a number of papers reporting on self-representational practices relied heavily on self-reporting methods (Ducheneaut, et al., 2009; Kafai, et al., 2010b; Neustaedter & Fedorovskaya, 2008). In these papers, participants provided researchers with screen shots of completed avatars, and were then asked to reflect on their relationship to that avatar in terms of its appearance. In my own study, I compared both survey data and participant observation and discovered that there were subtle differences between how users reported on their self-representational

practices, and how those practices unfold. I look to Suchman's work on plans and situated actions (Suchman, 2006) as one possible explanation.

Suchman explores the tension between plans and situated actions, stating that, "every course of action depends in essential ways on its material and social circumstances" (Suchman, 2006, p. 70). Although 15 participants reported that hairstyle is a feature they enjoy reproducing on their virtual selves, such a desire may be trumped by the appearance of a new and interesting option that they find appealing and want to try out on their current avatar. Alternatively, the discrepancy between self-reporting and observation could simply be the effect of a lab-based study involving participant observation. A third possibility, however, is that affordances shape our plans in unexpected and subtle ways.

The fact that there were fewer cases of sex swapping in the *Mii* study than there were in the *Rift* study may suggest that gaming context has an effect on self-representational practices. Whether or not players were knowingly aligning their self-representational strategies with the gaming context is not clear. However, even with relatively small sample sizes, it is clear that, unlike *Rift*, the *Mii Creator* invites users to participate in the generation of a visibly more authentic avatar than fantasy themed games. This may be a manifestation of the etymological power of the *Mii*, or the presence of a camera designed to capture one's likeness for the purpose of algorithmically generating a stand-in avatar.

The research presented here in this chapter comprises a relatively small user study focusing on a succinct moment in play in a single character creation interface. While this study and my results are not representative of the practices of all gamers, I was able to show that even in a lab-based study where the players were constructing a 'throw away' character, most spent quite a bit of time customizing their avatar. Players come with varying levels of experience, including expertise with character creation interfaces that are first and foremost designed to encourage or discourage 'choice'. The choices users make are indicative of the tension between plans and affordances, strategies and situated actions.

Chapter 6 Affordances and the Trans-ludic Identities

Mobilizing Actor-Network Theory as a theoretical lens allows us as researchers to isolate the actors (human *and* non-human) who play a role in identity construction and performance in MMOGs and games. The most significant contribution yielded by such a theoretical shift is that the non-human actors who shape our in-game experiences, in particular our self-representational practices, are not only made visible, but are understood as having effect on these practices. As Latour suggests, by "render[ing] the social world as flat as possible" (2005, p. 16), we are able to view all nodes in the network of a given social phenomena - even those nodes which have previously been overlooked or rendered invisible by the research. Much of the aforementioned literature has privileged certain actors over others, especially human actors and their agency within the network. Character creation interfaces have all but been ignored as actors, even though they contribute a great deal to self-representation in terms of mediation and affordances.

The somewhat controversial attribution of agency to non-humans in ANT grants agency to the interface as an actor, rather than simply acknowledging it as a tool which the user engages with when making choices about avatar customization. An authentic ANT approach also makes the researcher and his or her own self-representational practices more visible in the literature. The researcher's own biases, assumptions, training, and experiences shape the truths that otherwise appear to be "revealed" in doing research.

The researcher is the human actor who proposes the theories, names the actors, and traces the network, making its nodes visible - or *in*visible. John Law describes this process as *ontological politics*. As Law suggests, "[i]n an ontological politics we might hope, instead, to make some realities realer, others less so" (2004, p. 67). Even though unintentional, the researcher shapes the network, chooses which nodes to elevate to the status of 'actor' and which actors are worth studying.

This is not only evident in terms of my own research, the work I have presented here in this dissertation, but also in the very fact that I chose to study interfaces in this way. My desire to develop a quasi-quantitative framework for the systematic study of character creation interfaces is informed by my own biases, insights, and experiences. In this chapter, I hope to make myself more visible in my research and to be forthcoming about my position in the network. As I will explain in this chapter, my interest in developing a framework like the Avatar Affordances Framework comes not only from my own interest in self-representation and interface design, but also my own experiences creating avatars in countless games, including those which appear in this dissertation. As such, I present an auto-microethnographic study in which I create a trans-ludic avatar using the following eight games or character creation interfaces: *World of Warcraft*, *EVE Online*, *Saints Row IV, Jam City Rollergirls, Skyrim, RuneScape 3, Rift,* and the *Mii Creator*. Detailed discussion of these games, as well as analysis of their interfaces using the Avatar Affordances Framework, appears in Chapters 3, 4, and 5 respectively.

6.1 The Trans-ludic Identity

Trans-ludic identities are examined very briefly in Chapter 5 in discussing the trans-ludic nature of *Miis,* Nintendo's console-based avatars. As discussed in the aforementioned chapter, players can create an avatar using the *Mii Creator* and subsequently play as that avatar in over 100 games on the *Wii* and nearly a dozen games on the *Wii U.* The term originated with the work of Celia Pearce who proposes it as a way to conceptualize purposeful identity continuity by a single user across multiple game spaces (2008, 2009a). For Pearce, the trans-ludic identity became evident in her ethnographic study of the Uru diaspora. Following the abrupt closure of the MMOG *Uru: Ages Beyond Myst,* players of the game migrated to other game spaces and re-created their Uru avatars and other aspects of the game world in an attempt to maintain their ludic space. Pearce notes that the disparity in affordances between the different gaming spaces had a direct impact on the degree to which players can express trans-ludic identities (Pearce & Artemesia, 2009a). While Pearce is the first to theorize about the trans-ludic identity, identity continuity in virtual worlds has been studied by others in terms of naming practices (Lawson & Murray, 2014), behavioural practices (Neustaedter & Fedorovskaya, 2009), and avatar customization across multiple games (Taylor, et al., 2012).

I return here to Suchman's (2006) plans and situated actions. I argue that the desire to create a trans-ludic identity is, in essence, a plan. Starting with the first instance of the avatar which later becomes the seed for the trans-ludic avatars to which it is linked,

all subsequent avatars are derived from this prototype. However, as Pearce notes, it is often not possible to create the same avatar across multiple game spaces since interface affordances and aesthetics vary from game to game (Pearce & Artemesia, 2009a). If the desire to create a trans-ludic avatar is a plan, then I would propose, as Pearce has suggested, that affordances and aesthetics shape situated actions. Pearce describes the creative challenge of creating her trans-ludic avatar, Artemesia (shown in Figure 50), and how she negotiated these challenges:

> "In each case, the general appearance includes variants of red/titian/copper hair, a fair complexion, and one of a number of hairdos that attempted to approximate either past or current hairstyles I've had in real life. As each virtual world has different set of affordances for avatar creation... recreating the same characters across game worlds turns out to be a creative challenge. How can you capture the essence of a character when faced with a fundamentally different mechanism for self-portraiture?" (Pearce & Artemesia, 2009a, pp. 197 - 198)

Figure 50. The various incarnations of Artemesia, shown with Celia Pearce (far right). Image retrieved from Pearce's official website cpandfriends.com.

While the term "trans-ludic" is not widely present in the literature which theorizes self-representational practices, I would propose that the interest in, and prevalence of, "realistic" and "idealized" avatars in the literature is indicative of an awareness of trans-

ludic identities, even if they have more in common with their creator than each other (Ducheneaut, et al., 2009; Jin, 2009, 2010; Kafai, et al., 2010b; Neustaedter & Fedorovskaya, 2008). If one were to shift one's focus from the user (anthropocentric) to the avatars themselves, their trans-ludic qualities are made visible. This is not to say that human actors are insignificant, but that their significance has a tendency to render other nodes in the network invisible, which can produce limited theories on self-representation in games and virtual worlds. In other words, the focus on anthropocentricism has obscured our understanding of self-representational practices.

If plans are not fixed, why do I care about affordances and trans-ludic avatars? The different affordances of each game never prevented Pearce from creating multiple iterations of Artemesia. Problematic limitations in terms of race and gender aside, if affordances can be negotiated by players, what is their significance? Firstly, I would argue that while the aesthetics vary drastically from game to game, many of the limitations that are present could easily be expanded without disrupting the visual culture of any game. Games like *Saints Row IV* offer an array of hair and skin colours, including a number of unusual and exceptional options. This range of options suits the visual culture of the *Saints Row* series. Social inclusion does not require that all games allow players to create an avatar with pink hair and green skin, but increasing the range of options to all of those which are present in the real world, in the context of human avatars, is the first step towards social inclusion.

Secondly, the widgets that are present in character creation interfaces need to be studied, not only in terms of their interactive properties, but also in terms of how they mediate user experience and how they are representative of ideology. The affordances of each widget, represented by the six dimensions of the Avatar Affordances Framework, reveal assumptions about the ideal player and the ideal avatar configuration. Interfaces which consistently default to a specific permutation or bury additional customization options deep within the interface, by their very design, position the user's plans as either legitimate or illegitimate in relation to the visual culture of the game.

I hope that the exercise included in this chapter further illustrates how the affordances of character creation interfaces are negotiated in terms of plans and situated actions. By creating multiple instances of the same avatar, in effect, having a "plan" for my avatar's appearance, the affordances of each interface should be made visible. Analysis derived from these observations, in concert with those discussed in the previous chapters, should further aid this cause.

6.2 Method

The method I will use in this chapter is a combination of autoethnography (Ellingson & Ellis, 2008; Ellis, 2004; Maréchal, 2010; Reed-Danahay, 1997; Spry, 2001) and microethnography (Giddings, 2009; Giddings & Kennedy, 2008; Streeck & Mehus, 2005), which I will refer to here as an auto-microethnography.

6.2.1 Methodology

Autoethnography is a qualitative research method - a form of self-reflection in which the researcher's own personal experiences are documented and reflected upon in order to connect the researcher's own thoughts and ideas to the wider cultural understandings of a given phenomenon. Ellis (2004) defines it as “research, writing, story, and method that connect the autobiographical and personal to the cultural, social, and political” (p. xix). Therefore, unlike other research methods, autoethnography offers a chance for researcher's to embrace their subjective experiences, rather than attempting to limit subjectivity in the interest of objectivity. Autoethnographic approaches have been adopted in game studies and are particularly prevalent in qualitative studies of MMOGs, wherein the researcher joins a guild and reports on their own play experiences within her network of peers and friends (Chen, 2009; Nardi, 2010; Pearce & Artemesia, 2009b; Taylor, 2006).

While the highly subjective nature of autoethnographies makes it difficult to extrapolate from these studies to larger populations of MMOG players (Taylor, et al., 2012), when used in concert with other methods, autoethography not only presents the researcher with an opportunity to methodologically disclose their own subjectivity, but also to present additional data that may provide an outsider with a more intimate account of the subject of study. Boellstorff et al. describe autoethnography (as conducted in the virtual world) as a method that may potentially "yield new insights and discoveries", but caution that autoethnography has also been used to mask a lack of method or

experimental design (Boellstorff, Nardi, Pearce, & Taylor, 2012, p. 44). Thus, in conducting an autoethnography, the researcher must take great care in being consciously disciplined in their approach.

As with the studies presented in Chapters 4 and 5, I am interested in conducting a detailed study of a succinct moment of play: my own interactions with each character creation interface. I have decidedly combined an autoethnographic approach with the microethnographic method described in the aforementioned chapters. It is worth noting that the Giddings and Kennedy study outlined in previous chapters, the study of *Lego Star Wars*, was essentially an auto-microethnography of the two authors as they learned to play the game and video recorded their play (Giddings & Kennedy, 2008). The researchers" own animated commentary highlighted the complexity of the tiny processes that occurred and allowed them to "gain some purchase on the intangibilities of gameplay" (Giddings & Kennedy, 2008, p. 3).

In order to provide an authentic, reflective account of my own experiences creating avatars, I have decided to adopt the think aloud protocol (Lewis, 1982). The think aloud protocol is an explicit method of user experience research in which participants perform a verbal, real-time self-report on their experiences while using a particular interactive artefact or, in this case, video game. The think aloud method differs from the talk aloud method, such that the latter insists that they describe their actions without reflecting on them. The think aloud method is often valued for its subjectivity, while the talk aloud method is valued for its objectivity (Ericsson & Simon, 1993).

Each avatar creation session is timed in seconds. In order to ensure a thorough and comparable analysis, in my experimental protocol I have opted to preview all available customization options for those features which I wish to change. For example, if I am changing the avatar's hair style, I will preview all available hairstyle options before making my final selection. In the analysis section which follows, I have also provided reflections on my own prior experiences with each of the games. This, I hope, will further allow me to disclose my own biases which have shaped the research contained within this dissertation.

Returning briefly to autoethnography in the context of this chapter, Boellstorff et al. also suggest that autoethnography not be used to describe a method in which the researcher makes "brief forays into a virtual world" as I have proposed to do here (Boellstorff, et al., 2012, p. 44). This is, in part, to ensure that the ethnographer's data and resultant analysis is as ecologically valid as possible. It should be noted that I have a great deal of experience playing the games studied in this chapter and, as such, do not come to conduct this study as a novice player or outsider. That being said, I think it is also important to note that I do not intend to draw conclusions about other players or their in-game practices as a result of conducting this study. Rather, I have chosen to include this chapter as a means of disclosing my own subjectivity and in order to present a more nuanced, narrativist critique of the interfaces under study.

6.2.2 Apparatus

The experiment was run on an *Alienware* M14X laptop running the *Windows 7 Home Premium* 64 bit operating system. All PC games were played on this laptop, and the two console-based interfaces (*Jam City Rollergirls*, *Mii Creator*) were played on the *WiiU*. In all cases, the AVerMedia C875 Live Gamer Portable (LGP) HD Game Capture Video Device was used to screen capture the games. *XSplit Gamecaster* software was used to simultaneously record input from the games and video from the laptop's built-in webcam. All games, including the console output, was displayed on the laptop's 14 inch screen and the webcam was directed towards the participant. For the *Mii Creator* interface, I used the *WiiU Game Pad* to interact with the console.

6.3 My Trans-ludic Selves

Prior to the start of the exercise, recalling my own gaming experiences, there are a few fundamental similarities between all of the avatars I have created to date. Firstly, I nearly always play as a female avatar. I think this is largely due to the fact that, for years, I played games with a male protagonist and, thus, take advantage of playing as a female protagonist whenever possible. Secondly, I tend to choose longer hairstyles for my avatars, even when I have had short hair in real life. Although I naturally have red hair, I have also experimented quite a bit, in real life, with alternative hair colours, including pinks, purples, greens, blues, platinum, black, and red. Whenever a character creation interface presents these non-traditional hair colour options, I tend to gravitate towards them. When these options have been limited to one playable race or faction, this has

sometimes influenced my choice of race or faction. As a female avatar, when I do have any control over the physique of the avatar, I tend to play skinnier, athletic avatars with a more modest breast size. Reflecting upon my own self-representational practices, it is clear that I desire a degree of fidelity when customizing my avatars.

Having provided this information, I will now go through the process of creating trans-ludic avatars in the eight games outlined above. I have chosen to create avatars whose appearance most closely reflects my current appearance, which is shown, alongside the resultant avatars, in Figure 51.

Figure 51. My trans-ludic selves (clockwise from upper left: *Jam City Rollergirls, RuneScape 3, World of Warcraft, EVE Online*, photo of me taken in 2014, *Mii, Saints Row 4, Skyrim*, and *Rift*)

6.3.1 World of Warcraft

I first began playing *World of Warcraft* in 2007 with my partner. We had both purchased the game with the intention of playing together. As fate would have it, I installed the

game first and was the first to create a character. After spending a fair amount of time previewing all of the game's playable races, I decided to play as an undead female warrior. Although it was nearly eight years ago, this decision is still fresh in my mind and I can recall that I made this choice for two reasons: I was a fan of zombie culture, and the undead avatars could have alternative hair colours, like those I was experimenting with quite regularly at the time. While this was my first foray into the *Warcraft* franchise, this was not the case for my partner, who had played through all three of the real-time-strategy games that came before *WoW*. When my partner joined me in Azeroth the next day, he created an undead warlock and we made it all the way to Outland (an area of the game designed for level 60 characters) with that pair before creating the avatars that would become our mains - the primary character that would receive the most play time and investment.

In later discussions, he would reveal to me that he would have preferred to have played for the Alliance, not the Horde, based on his experiences playing the other *Warcraft* games. Although I was quite attached to my main avatar, I realized that, had we created avatars at the same time, I could have just as easily ended up creating an avatar from the opposite faction, most likely a human warrior. While this may not be a universal experience, I was amazed at how the desire to play together had such an impact on avatar customization. Faction, for co-situated players, must be negotiated at the onset of character creation. In many games, like *WoW* and *Rift*, this choice has a direct impact on avatar customization. We stopped playing sometime in 2011, and ended up with two

mains at level 80 each, two undead avatars for the Horde and two worgens - a werewolf-like race, on the side of the Alliance.

The interface has changed a great deal over the years - the use of previews makes it much easier to select options for the player avatar. Players can select one of a dozen or so options for their hair style, hair colour, skin colour, face, and one additional race- or sex-specific feature. In keeping with the data collected in Chapter 3, I have opted to create a female human warrior. The first option is skin colour, so I select the lightest option that is available. Face is the second option in the list, and I scroll through the preview buttons attempting to pick a face that looks like mine. Although I find the differences between the complete faces to be discernible, I cannot tell which collection of features most closely resembles mine. I pause and consider that, perhaps, if I change the hair style and hair colour to match my own, one of the faces shown in the preview buttons might come to look like me. As Ducheneaut et al. note, hair is a "high impact" feature (Ducheneaut, et al., 2009), suggesting that my reddish fringe may be my most distinguishing feature. I have no difficulty finding a close match for both of these options, selecting a long-ish hairstyle with bangs and a colour that is distinctively ginger.

Figure 52. Tvashtri, level 1 human warrior.

As I scroll through the face options for my warrior and try them each on, the differences between most of the choices are still intangible - I can't really tell which preconfigured combination of facial features move closer or further from my real life appearance. This may be because the features are not isolated, or perhaps because the rendering is less detailed than some of the other interfaces. I eventually settle on one, and hope that the hair style and colour, along with the pale skin colour, are close enough to my own appearance in real life. I have no control over her body. Her wide hips and large breasts are so far from my own physique. I feel as though I am completely relying on this avatar's hair in rendering the entire avatar as a visually representative self.

6.3.2 Mii Creator

I first encountered the *Mii Creator* when Nintendo's *Wii* console was released in November of 2006. One of the console's launch titles, *Wii Sports*, was included with our preorder as a pack-in game - a form of product bundling in which a launch title is included with the new console. *Wii Sports* is a sports simulation game, designed to demonstrate the motion-sensor capabilities of the system's novel game control input device, the *Wiimote*. Rather than relying on arbitrary button combinations on a standard game controller, the *Wiimote* allowed players to interact more intuitively with the game, swinging the *Wiimote* to hit a tennis ball for example. The game was also one of the first to use *Miis* as player avatars.

Thinking back to my first experience creating a *Mii*, I recall being disappointed by the lack of hair colour options for Miis. In particular, I was not only frustrated by the complete absence of any unnatural hair colours (my hair was pink and black at the time), but was also dissatisfied by the singular reddish option meant to represent ginger hair. I recall being at a loss - was I to choose red, which was my natural colour even though you couldn't see it? Or was I to choose black, to represent the sections of my hair which were dyed black? It was clear to me at the time that the *Mii*, with all of its customization options, was meant to be lossy - to compress the user's visual data into an inexact approximation - a caricature.

While the interface has evolved somewhat over time, many of its designed features have remained the same. Stereotypically gendered options exist within the

interface for things like hair and accessories, but are not limited by the avatar's sex. Additionally, the interface has always defaulted to a Caucasian male *Mii.* As a gamer I am accustomed to this default. This default has saturated so much of gaming culture, such that I no longer find it surprising when I encounter it. My familiarity with interface affordances allows me to quickly move away from this default, however, I cannot overlook its ideological significance.

I begin the exercise by using the built-in camera to create a *Mii.* I preview all of the options for hairstyle, searching for the selection that most closely matches my hairstyle in real life. I end up choosing a long-ish hairstyle, pulled back into a ponytail, with a fringe, and choose the only option that matches my hair colour. My familiarity with this interface, as well as my own experiences studying camera-based avatar customization informs how I position the camera. Hoping for a more flattering avatar, I hold the camera such that it must be tilted downwards to capture my face. Despite this strategy, the resultant permutations are neither flattering, nor are they familiar. I laugh uncomfortably as these permutations are revealed to me. On second thought, each one seems to be true to caricature, exaggerating features in uncomplimentary fashion. Like my participants before me, I am eager to utilize the interface to modify the appearance of my *Mii.* I make a selection among these permutations that feels simultaneously strategic and arbitrary. I am ever-aware of the *Mii's* aesthetic tension between caricature-style and the desire to have a "cute" avatar.

Figure 53. The new Mii.

I navigate through the interface quickly, moving away from the selections that were made for my avatar's eyes, mouth, and face shape. In all cases, these automated selections feel foreign - a gross misinterpretation of my own features in real life. When I examine them again, following the exercise, I find that, on their own, a singular exaggerated feature is not visually offensive, but the computational process seems to have interpreted my features in such a way that I am no longer recognizable. I contemplate whether or not the issue is my own - if these permutations *are* recognizable as me, by others who know me, but they are not idealized representations and are thus rejected by the subject as misrepresentations. As with the human warrior I created in *WoW,* my *Mii's* hairstyle appears to make the most significant contribution to my avatar's distinctive look. At the conclusion of the exercise, I am satisfied with the new *Mii.*

6.3.3 Saints Row IV

I first encountered the *Saints Row* franchise in 2012 at the recommendation of a student in one of my undergraduate courses on game design. He knew I was studying avatar creation interfaces and brought the *Saints Row 2* interface to my attention. Character customization has been a feature of the franchise since the release of the very first game. As the series progressed and began to distinguish itself as more than a clone of *Grand Theft Auto,* the complexity of the character creation interface, as well as its affordances in terms of outlandish permutations, increased significantly. I began initially studying the character creation interface by analyzing player videos posted to player videos posted to *YouTube*, and would later play through portions of the franchise in order to familiarize myself with its gameplay style and aesthetic.

Even though it takes a while to reach the character creation interface, I enjoy playing through the initial campaign. It's a great tutorial level and provides players with a taste of the over-the-top feel of the game (something a newcomer would appreciate). This tutorial mission, named "Zero Saints Thirty", has the player character and a handful of non-player characters track down *Saints Row 3* antagonist Cyrus Temple to an undisclosed location. After infiltrating Cyrus's hideout, and taking out a few terrorist henchmen along the way, the player must move quickly to stop Cyrus from destroying Washington with a nuclear missile. The player character stops Cyrus, but not before he is able to initiate the launch of the nuclear weapon. In what is described by fellow NPCs as a selfless and heroic act, the player character disables the nuclear weapon in mid-air

while Aerosmith's *I don't want to miss a thing* plays in the background. Upon successfully disabling the nuclear missile, the player character is shown in a cut-scene to leap from the airborne missile as it explodes, giving a "thumbs up" to the camera just before crashing through the roof of the White House and landing in the seat at the President's desk. The concluding scenes from this sequence are shown in Figure 54.

Figure 54. Screenshots from the introductory mission "Zero Saints Thirty" from *Saints Row 4.* This mission must be completed prior to entering the character creation interface.

Since the player character has not been customized yet, he or she is rendered in full armour. Despite this, the avatar clearly as a male physique, although it is a slender, muscular build. In addition to this, the player character's two-way radio is malfunctioning, allowing the level to play out prior to having the player choose their avatar's voice. There are seven different voice actors for the protagonist in *Saints Row IV*, four male and three female. As with many of the game's other customization options, these options are not sex-segregated, meaning a player could create a female avatar and

then select one of the male voice actors as her avatar's voice. Throughout this mission, the player character is only referred to in NPC dialogue as "the boss", a gender neutral term. The franchise's tongue-in-cheek flavour is made apparent during this introductory mission, especially towards the end. For newcomers, it sets the tone for the game and might encourage equally playful expression through player avatar customization.

During the experiment in chapter 3, I played through this introductory section a number of times so as to collect data on the interface's affordances. My second time through, I selected a different magazine cover, the second cover depicting the Caucasian female president. This had an impact on the preconfigured avatar that loaded - she started out with different default values than the first female avatar I had created, whose customization began with the selection of the Caucasian male magazine cover. Pleased with this preconfiguration as a starting point, I proceeded to customize her and then play through the first campaign following avatar customization. It was only then that I realized that the magazine covers not only served to populate the interface with a specific default avatar, but it also served as the selection of clothing. The first female I had created, using the Caucasian male magazine cover, was wearing a tailored pin striped purple pantsuit. This new president was wearing a purple skirt and fitted matching dress jacket with nylons and high-heels. Realizing this, I deleted this character and started the process over again, beginning with the Caucasian male magazine cover. Duplicating the remainder of the customization process was simple, since the interface uses very specific values for customization options (names for colours and styles, numeric values representing ranged

choices, etc.). At the conclusion of the exercise, I stop to admire this new protagonist. Her clothing choices suit me better.

Figure 55. My well-dressed protagonist in *Saints Row IV*.

Of all of the avatars I have created, this incarnation of the protagonist looks the most like me. I left most of her features in the default "50" position, but modified a few of them slightly to better match my own nose, chin, eyes, and bust. I modified her physique so that she was as close to my own physique as possible. The triangle slider is a novel approach to avatar physique modification, but it distributes the values for muscle and body fat uniformly upon the avatar's body. Only the avatar's breasts or penis are modified independently of this widget. While it is possible for players to move away from idyllic avatar bodies via the triangular slider, they do not have the ability to isolate sections of the avatar's body to distribute these values differently. At the conclusion of

the exercise, when I finally accept this avatar as my own and watch her in her first visible cut scene, strolling through the Whitehouse, I actually see myself, and it is almost uncanny.

6.3.4 Skyrim

Skyrim is the first game I have ever played in the *Elder Scrolls* series. Like *Saints Row IV*, it begins with a somewhat playable cut scene in which the player is able to experience the aesthetics of the game prior to customizing their avatar. The entire introductory sequence is seen through a first-person perspective. The player character has been captured by the Empire for being a border hopper and is being taken, by horse-drawn wagon, to be executed. During this sequence, the player character learns of the current political climate from other NPCs on the wagon, and is able to move the mouse to look around and take in the breathtaking scenery of the game world. Just as the wagon arrives at the small town, a few of the NPCs, fellow prisioners, are called from the wagon by name from a roster. When it comes time for the player to be called, the avatar customization interface is then brought up.

Figure 56. Screenshot from the opening sequence in *Skyrim*.

The character creation interface in *Skyrim* defaults to a ligh-skinned male Nord, one of the game's playable races. There are a few different playable human races, as well as some fantasy-inspired and anthropomorphic species. I decide to stick with the Nord, but change my avatar's sex to female. The interface affords a great deal of control with regard to the style, width, height, and positioning of most facial features. Many of the structural components of the face, such as the chin, nose, or brow, can be shaped independently via a series of sliders. I begin by selecting the palest skin colour for my Nord, and then move on to select the hair style and hair colour for my avatar before fine tuning the avatar's facial features.

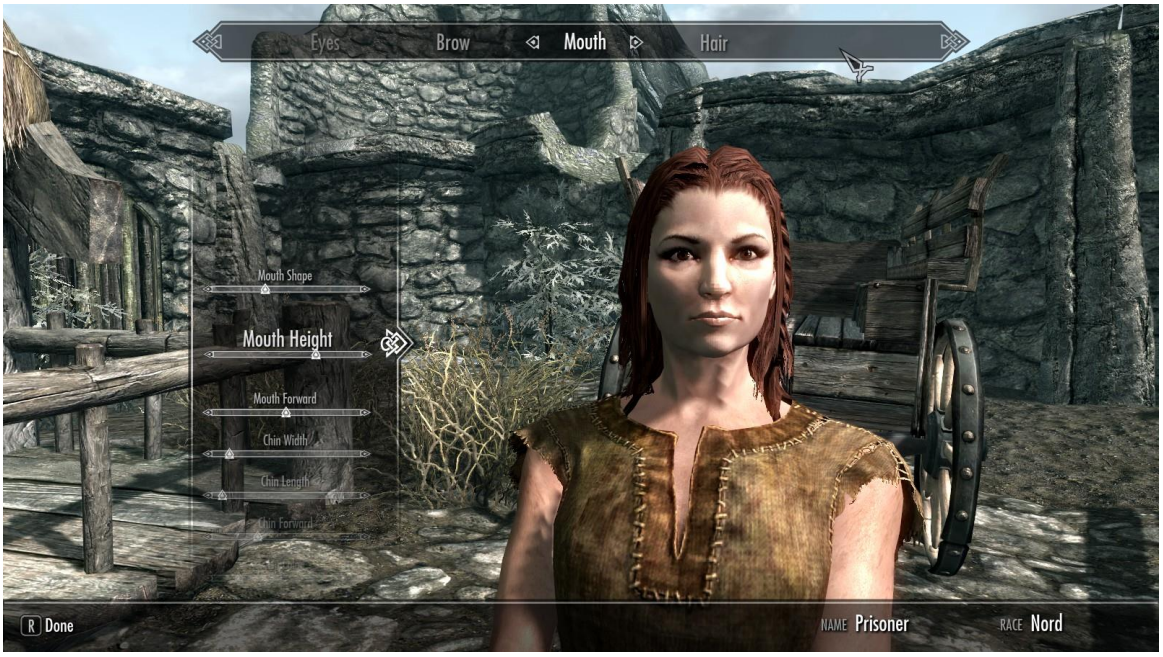


Figure 57. Creating my avatar in *Skyrim*.

Despite the affordances of the avatar creation interface, the pre-designed range of these affordances are set by the game's aesthetic. The avatars are designed to look rugged and battle-worn - to visually align with the game. This first becomes apparent in attempting to select my avatar's hairstyle - there are several options befitting of a Nordic warrior woman, but no long-ish hairstyles with bangs. I find many of the hairstyles appealing - the dreadlocks, for example, which I chose for my first Nord years ago, represent a spontaneous choice, granted by the game's aesthetics while not necessarily aligning with trends I have noted in other avatars I have created in other games.

I try to pick a set of eyes that are fairly open, but most of the Nord female eyes appear squinty - the eyes of warriors, not of an academic gamer. I narrow my selection down to the best choice, but these are not my eyes. I spend a fair amount of time with

each of the avatar's facial features independently, utilizing all of the interface's affordances until I feel as though each feature is closest in appearance to each of my own features.

When I examine the sum of these parts, I feel let down. Despite the degree to which I was able to shape each of these features, they do not come together to recreate me. At this point, I start focusing on the facial features I am most critical of, thinking that adjusting these options will make her look more like me. I play around with the positioning of the chin and jawline in an attempt to recreate the effects of my overbite and small chin. I think I have chosen the right nose (from both side profile and front view) but it is a little wider than mine is at the bridge. The interface presents additional customization options that allow the player to add scars and war paint to their avatar's face, but I do not spend much time previewing these options since they do not align well with my plans. In the end, my avatar does not look like me at all. I wonder how much my distinctive hairstyle would remedy the problem. The features seem to work against each other, rather than combining to represent my face.

6.3.5 EVE Online

I first encountered *EVE Online* in 2011 as a research assistant on VERUS. Some of the data obtained from participants of the VERUS study were of their play in *EVE Online*. As such, I obtained a copy of the game and began familiarizing myself with it so that I could assist with data analysis for this game. I have since spent some time playing *EVE* and have become extremely familiar with its avatar creation interface.

I begin by selecting a female Gallente avatar. Prior to selecting the avatar's hairstyle and colour, and sidestepping the interface widgets entirely, I begin customizing my avatar by accessing the avatar's mesh with my mouse cursor. I start by sculpting her nose, viewing each customization from the front, and then rotating the avatar so that I can see the effects of the modification on her profile. I go back and forth between sculpting and rotating for quite some time, making adjustments to each feature independently, attempting to recreate my own features. Unlike my experience in *Skyrim*, I do not feel as though the range of customization is bound by a particularly limiting aesthetic. Or, perhaps, the aesthetic that I *am* bound by is more compatible with my own plans.

Figure 58. Creating my avatar in *EVE Online*.

The aesthetics of the game are alluring - the character creation interface is beautiful. The first avatar I recall making in *EVE Online* had pale blue hair. As I try on

different hair styles and colours I opt for a ponytail and fringe with a bright ginger colour. Now that she has hair I am beginning to feel as though this avatar looks somewhat like me. The aesthetics of the game world, present in the range of customization options, beckon me to select a distinct hair style with an alternative hair colour, but I am committed to my plans, and for the sake of the exercise, I stick with my own hair style and colour.

While playing with the mesh feature I notice that, while there are still minimum and maximum values imposed on the wire frame, I am happy to see that the avatar's proportions are malleable, and independent of one another, unlike *Saints Row IV*. Having given birth to a daughter, in creating a realistic avatar, I place the cursor over the avatar's abdomen and test the range of flatness to protrusion. As a mother, I feel compelled to move away from the flatness, but not too far - I would rather this avatar be slightly more idealized than realistic.

I complete the avatar creation process by selecting my avatar's attire from a relatively uniform selection of clothing options. At the conclusion of the process I examine the avatar as a single object, rather than a grouping of components, and evaluate her in the context of my own real life appearance. In the end, I feel as though I have managed to choose features that cumulatively represent my overall facial appearance. Even though *EVE Online* is not primarily an avatar-based game, I enjoy seeing myself as the pilot of my spaceship.

6.3.6 RuneScape3

I first began playing *RuneScape* casually in 2008. I was teaching a Cyberspace camp course for the YMCA to children aged six to twelve on game modding. One of my students, an eight year old boy, enjoyed using his free time in the class playing *RuneScape* on the school computers. The boy was extremely proud of his high level character, and liked to talk about his experiences playing the game. He did not have access to a computer at home, so he would often play the game at school or at a friend's house. The fact that the game was free and could run in any Web browser facilitated this access. This experience would serve as my introduction to the game.

RuneScape is a low resolution game, meaning the graphics are very low quality. This is likely due to the fact that the game does not require the user to download a client - a piece of software that allows players to access a service, like a game, on a server. The fact that *RuneScape's* avatars are low resolution makes it an interesting example compared to games like *EVE Online, Skyrim,* and *Saints Row IV,* which all have very complex character creation interfaces and render high resolution avatars. Including *RuneScape* in my trans-ludic exercise allows me to consider how well my plans translate when applied to a lower-resolution avatar. The resultant avatar, and the game's character creation interface, are shown in Figure 59.

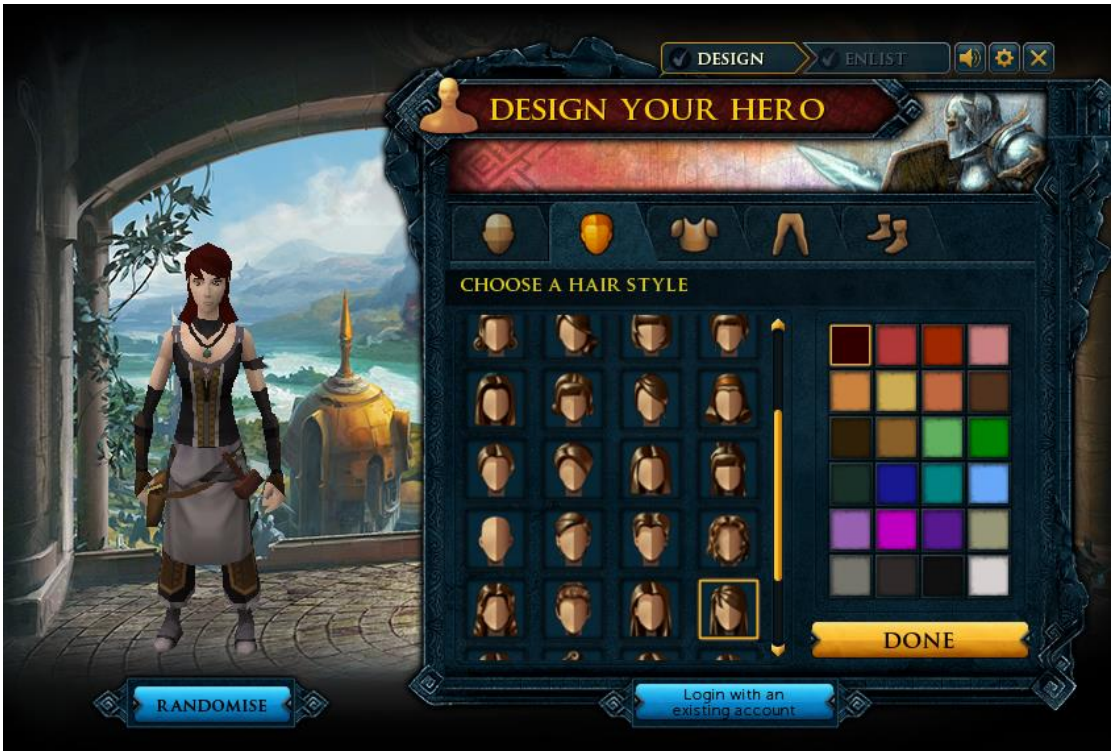


Figure 59. Creating my avatar in *RuneScape 3*.

At the start of the exercise, the interface loads a female, tan skinned avatar with light brown hair. There are no defaults in this interface; every possible customization option is set to a random value each time the character creation interface loads. The physicality of the avatar is not modifiable. Her body and facial features cannot be changed in any way.

Compared to the other games it is a very simplistic avatar creation system. I preview all available hairstyle options on my avatar and opt for the best fit, shown in Figure 59. My main character has a purple hair colour called "chaotic indigo", but I select a dark reddish hair colour for this avatar called "blood red." I cycle through the other

shades of red before making my final selection, but find that the other shades of red render as salmon or orange on my avatar.

Although the avatars in this game are pixelated, the clothing and hairstyle options are visibly distinct. The interface only presents a handful of customization options, but each of these options includes a multitude of distinct selections. Players can choose the style of their avatar's armour, and can also choose the colour of these pieces as well. I wonder if this is to allow players to generate a more unique look for an otherwise low resolution avatar?

The interface presents few customization options, more than half of which are devoted to the avatar's clothing. This is the most computationally sensible way to provide avatars with a distinctive look, since any difference in facial features or avatar height would be indistinguishable at low resolution rendering. In the end, I do not feel as though this avatar looks like me. She is my lower-resolution self, but she does not appear to be a lossy version of me - she is female and has reddish hair, but she relies too heavily on her armour to visually distinguish herself from others in the game world.

6.3.7 Rift

I first encountered *Rift* in 2011 during my participation in the VERUS research project as a research assistant. I familiarized myself with the game prior to running user studies on *Rift* so that I would be able to troubleshoot any issues with the game during sessions and to be able to have the knowledge necessary to analyze gameplay video data. Presently, I have a level 15 Mathosian warrior, whom I have leveled through solo play.

At the start of this exercise, I select the Guardian faction, a selection that is comparable selection to the Alliance in *World of Warcraft*. The interface always generates a random avatar upon loading. This time, the interface generates a male high elf with a tan complexion. I select a female Mathosian and proceed to the customization section of the character creation interface.

I proceed to access each interface widget from top to bottom, left to right, beginning with triangular face slider. I find I have adopted a procedural approach to avatar customization, as with previous games, acknowledging that feature is isolated by interface widgets, and thus, is isolated for customization. Each feature is scrutinized individually - I manipulate each widget and attempt to align this Mathosian with my plans, my trans-ludic self.

Figure 60. Creating my avatar in *Rift.*

I have reached the end of the first column of customization widgets along the left side of the screen and pause to scrutinize my avatar's appearance. I am not quite convinced that this procedural approach has been successful in making my Mathosian look like me. I decided to proceed to the top of the second column to determine the degree to which hairstyle is affecting my perception. There is no hairstyle like mine, so I opt for a long hairstyle where the hair is parted and swept across one side of her face. I use the two widgets for hair colour to generate a shade which is distinctly red and then evaluate her overall likeness again before proceeding with the rest of the customization process. I am again left to wonder how much this "high impact" feature really does contribute to my appearance in real life.

The next pair of widgets in the right column allow me to select the style and colour of my avatar's markings - tattoos which appear on her face and neck. These tattoos are an aesthetic option, available to player characters on either faction, but do not appear on any NPCs in the game. It is possible that these markings are therefore meant to serve as "signs of the ascended" - further distinguishing player avatars from the game world's battle-capable NPCs as resurrected Telarian warriors. In order to better align my avatar with my trans-ludic plans, I opt not to give her any markings and move on to the options for makeup and body.

As with my other trans-ludic selves, I opt for the lightest skin tone available to my avatar. The only option for body is height - I choose the median value, but am disappointed that I have no ability to change her proportions in any way. Having accessed

all of the customization widgets at least once, I pause to evaluate her appearance once more, only to discover that, while satisfactory, this particular Mathosian does not yet look like me. I spend some more time adjusting the sliders contained within the left column in an attempt to select other features which may more closely resemble mine, but quickly come to realize that the ones I had originally selected *were* the best fit. In contrast to my experiences with *Skyrim,* in the context of this exercise, I do not feel as though this is a limitation that has arisen out of aesthetics, rather, I feel as though it is simply a circumstance of the range of available options. With only a dozen or so available hairstyles, many players attempting to achieve a specific look may find themselves making concessions.

6.3.8 Jam City Rollergirls

I first downloaded *Jam City Rollergirls* in the summer of 2012. I had been interested in roller derby for some time, and had even purchased my own set of derby gear with the intention of learning to play the sport. As luck would have it, the timing of the league intake sessions, or "fresh meat" sessions to adopt the derby vernacular, never lined up well with my pregnancies. Thus, my only experience to date participating in the sport of roller derby has been mediated by this game.

Despite the "trans-ludic" nature of the study, I feel compelled by the spirit of roller derby to create an "alter ego" for my avatar. While I do not act on this desire, I feel as though it is worth noting, since doing so would illustrate the effect that different gaming contexts have on our plans. Unlike *World of Warcraft* or *Rift,* all of the characters

in *Jam City* are human. The choice of faction or race is replaced by the choice of team. The teams included in this game are all based on existing teams that are recognized by the *Women's Flat Track Derby Association,* a non-profit organization that supports and governs the sport.

Figure 61. Creating my derby girl in *Jam City Rollergirls.*

Returning to the interface, I notice that customization choices are limited and vary between teams. For example, one team may have more styles of skates or hair than another. While the rendered avatars are of a higher graphical quality than those rendered in *RuneScape3,* there are far fewer choices for the avatar's hairstyle in *Jam City.* I have opted to create a skater for the Texecutioners, the real life all-star team representing the top skaters within the Texas Rollergirls league. There are only two choices for hairstyle

and only four choices for hair colour. I choose the longer of the two hairstyles and the only colour that I feel has any reddish pigment to it. I cannot tell if either of these styles has a fringe, since my skater is always wearing her helmet, even in the locker room. I also do not seem to have much control over the avatar's makeup. Although my own makeup preferences in real life are minimal, the Rollerderby aesthetic entices me to play with more dramatic makeup - yet I do not have that option in the interface. I am also very disappointed in the lack of diversity in the avatar bodies. There is one body type, and she is skinny and athletic. By Western standards of beauty, her body is ideal.

Figure 62. While it is not possible to adjust the body shape of player avatars in *Jam City Rollergirls*, NPC bodies are more diverse.

Interestingly, during gameplay, I will note here that the bodies of the NPC rollergirls are more diverse (see Figure 62). Returning to an observation I made in

Chapter 3, there is a widget provided for "Physique", which populates a list of only 1 option: Body 1. The inclusion of this widget suggests that the developers may have intended at one point to include a number of body types for each skater, but did not make them available in the interface. The presence of more diverse bodies in the form of NPC skaters indicates that models were created, however, for some reason these meshes were not made available to player avatars.

I pause to review my completed character and find that she does not bear any resemblance to me in real life, or to my other trans-ludic avatars. As with *RuneScape3,* most of the customization options available in the interface pertain to the player avatar's attire, rather than her physical features. I hypothesized that, in the case of *RuneScape3,* this could have been an attempt on the developer's part to make the otherwise low resolution avatars more visually distinguishable via their clothing. In the case of *Jam City Rollergirls,* I would postulate that the focus on attire over the avatar's physical features is representative of the ways in which derby girls distinguish themselves on the track - via their gear and their boutfits.

6.4 Themes

This exercise not only provided me, an ANT researcher, with the opportunity to present my own biases and experiences in a methodologically grounded way, but can also be synthesized to reveal a number of themes which not only had an impact on my own self-representational practices, but were also evident in my observations during the two user

studies outlined in Chapters 4 and 5. In total, I have produced four themes from this data. These themes are: *the self, affordances*, *aesthetics*, and *co-situated play*.

The first theme, *the self,* may seem contrived in the context of my relatively controlled experiment. After all, I set out to create avatars that looked like me across multiple games, so my plans were derived from the self, and situated actions were always in tension with myself. I intentionally used my own physical body as the template and then reflected on the success or failure of my ability to create a representative avatar, rather than a satisfactory one. However, I would argue that player avatars are always built in relation to the self. In the literature, avatars are nearly always discussed in relation to the meat self, not only in the context of in-game actions, but also in terms of their appearance. The use of the term "high fidelity" by Ducheneaut et al. (2009) implies a link between interface complexity and the self in a seemingly benign way, but ultimately strengthens the bond between the avatar and the self through digital visual self-representation. The term *Mii,* used to name Nintendo's avatars, reifies this relationship within gaming culture. Therefore, I would suggest that *the self*, even when negated, has an impact on plans and situated actions.

The second theme, *affordances*, is the impetus for this dissertation. It was the term that brought me to study interfaces as a games scholar, and motivated me to develop a framework that might be used to isolate the properties of interface widgets in order to be able to systematically study their affordances in the context of avatar customization. The range of customization options, as well as their perceived *availability* to the player

(perceived affordances) have an impact on self-representation. In the context of plans and situated actions, affordances, or lack thereof, determine whether or not we can act on our plans when creating an avatar. When our plans cannot be fulfilled, when they are not afforded by the interface, we must seek out alternative options that are agreeable in order to create our avatars.

The theme of *affordances* is connected to the third theme: *aesthetics*, since the range of customization options are often confined to those which are predetermined to "belong" to a predesigned game world. The range of options may be further limited by playable races or factions. For example, three of the games in this exercise had complex character creation interfaces: *EVE Online*, *Saints Row IV*, and *Skyrim*. However, despite the complexity of the facial customization options in *Skyrim*, it was very difficult for me to move beyond the hardened features of the Nord aesthetic in order to create a representative avatar.

Additionally, although *Miis* are intended to serve as representative avatars, only natural hair colours are available to players, despite the fact that players may, in real life, possess an unnatural hair colour. Aesthetics are another kind of affordance. They are ideological boundaries, imposed upon players by developers in order to ensure that everything in the game world aligns with the designer's vision. *Aesthetics* are not always limiting - *Saints Row IV* is an example of an identity sandbox - a playful space that allows for a great deal of flexibility in terms of self-representation. However, it is far

more common for aesthetics to limit affordances, which can be, in some cases, highly problematic and exclusionary.

Finaly, the fourth theme is *co-situated play*. This theme is discussed in Chapters 4 and 5 in the context of the collaborative nature of play, which can have an impact on self-representational practices. In Chapter 4, participants who wanted to play *Rift* together had to coordinate their faction choice, which in turn, reduced the range of options available to their avatar. A similar phenomenon was also illustrated in discussing my own experiences playing *World of Warcraft* with my partner. In multiplayer spaces where there is faction-based segregation amongst the game's playable races, how does this segregation affect self-representation when we have chosen to play *with* someone else? These choices, in many cases, result in a reduced capability to represent oneself - authentically or otherwise - a situated action that directly impacts our plans. The desire to play with one's peers, or to play for a particular faction, limits self-representation.

In Chapter 5, co-situated participants were likely to consult their peers when making choices for their *Mii*, even though these peers were not directly involved in the experiment. Perhaps, in this sense, our avatars are not only for our own gaze, but are also constructed for peer approval as well. Returning briefly to the literature discussed in Chapter 2, Ducheneaut et al. note that avatar customization can be influenced by a player's desire to follow a visible aesthetic trend within a given virtual environment (Ducheneaut, et al., 2009). This phenomenon was also reflected in the work of Kafai et al., who in their study of the tween virtual world *Whyville*, noted that participants

reported customizing their avatar in order to conform to popular aesthetics (Kafai, et al., 2010b). Without further study, it I cannot form a strong hypothesis to explain participants' motivation in soliciting peer commentary. However, it is clear from these results, as well as those which are present in the literature, that co-situated players, and collaborative play, have an effect on self-representational practices.

6.5 Discussion and Conclusions

In this chapter, I presented an automicroethnographical study in which I created avatars in eight different games. Specifically, I intentionally attempted to create the same avatar across each game in order to explore the self-representational affordances of each game's interface. As a template, I opted to create avatars that resemble my appearance in real life.

I chose to create what Pearce refers to as *trans-ludic* avatars (2008), avatars that are customized by the user such that the same avatar appears to cross ludic boundaries, allowing the user to attempt to play as the same virtual identity in a multitude of gaming spaces. As Pearce (2009a) notes, the ability to create a trans-ludic avatar is a negotiation between user and interface affordances. As such, these avatars are often approximate simulacra - the result of a likeness which has been made to fit within a multitude of virtual aesthetics. This is illustrated in my own trans-ludic avatars, who are all made from me, but are not identical. Their differences are the result of differing affordances and game world aesthetics. The differences between each interface are systematically shown

through the Avatar Affordances data contained within the body of this dissertation, and are narrativised and illustrated by this automicroethnographic exercise.

I opted to include an automicorethnographical approach, using Pearce's trans-ludic identity as a procedural framework, not only as a means to illustrate the effects of affordances on analogous avatars created across multiple games, but also as a way to insert myself, including my own assumptions, biases, and experiences, into this research. As in all research that is theoretically framed via Actor-Network Theory, the researcher is a node in the network whose influence on the resultant theories must be disclosed and made visible. This chapter also served as a means to situate my own personal experiences and observations into this dissertation in a way that allows it to co-exist with related data.

Chapter 7 Best Practices for the Design of Character Creation Interfaces

Avatar customization is a feature common to many games, yet, as demonstrated in the Chapter 3, a number of character creation interfaces are highly problematic in how they mediate and constrain self-representation. The Avatar Affordances data presented in the aforementioned chapter disassembles the designed and interactive properties widgets in a systematic manner, allowing us to generate data that can be compared between games and draw meaningful conclusions about the affordances of these interfaces. Additionally, the framework addresses limitations in previous work that otherwise excluded entire games that used novel or complex widgets. Returning to the data in Chapter 3, as well as the insights from Chapters 4 - 6, I am proposing a list of best practices for the design of avatar creation interfaces in games. It is my hope that the adoption of these practices can help both current and future game developers create games that invite opportunities for identity play without simultaneously creating socially exclusive spaces.

A popular position in the literature on the representation of gender and ethnicity in game design looks to game design and production itself as a hegemonic practice, enforced almost entirely by a largely male-dominated game industry (Fron, et al., 2007). Research in this area has looked to a number of contributing factors, more broadly focusing on the problematic representation of women and ethnic minorities in computer and video games and the demographics of the industry itself. In 2005, the International Game Developers Association published a report on the demographic makeup of the

games industry (IGDA, 2005). Not surprisingly, results of the survey revealed that 88.5% of participants in the survey were male, 83.3% of participants were Caucasian, and 92% of participants identified as heterosexual (IGDA, 2005). The demographic makeup of the game industry has been highlighted in the literature as a primary force reinforcing the industry's "technological, commercial, and cultural investments in a particular definition of games and play, creating a cyclical system of supply and demand in which alternate products of play are marginalized and devalued" (Fron, et al., 2007, p. 1). Moving beyond the demographics of the industry, in this chapter I will be looking to spaces in which alternative methodologies and inclusive design practices have been researched and documented. I will examine the contents of some of the more popular game design textbooks currently in use in post-secondary game design courses and programs in order to identify what, if any, design guidelines are discussed in terms of avatar design. Drawing from my own analysis presented in aforementioned chapters, I present a list of best practices intended to inform more socially inclusive design practices in the context of avatar creation interfaces.

I have chosen to frame these as "best practices", a term commonly understood as representing a standard of practice which are best suited to a desired outcome. The term has been commonly accepted as a feature of accredited management standards as outlined in ISO 9000 (Bamford & Deibler, 2003) and ISO 14001 (Clements, 1996). Bretschneider et al. outline a methodology for best practice research, stressing the importance of analayzing example cases from a variety of contexts and requiring a comparative process

between multiple methodologies (Bretschneider, Marc-Aurele, & Wu, 2005). Others have raised concern over the totalitarian nature of the term "best" in describing such practices (Bardach, 2011) and have suggested that "contextual practice" is a more appropriate term (Ambler, 2011). I would argue that designing with social inclusion in mind should always be a priority, and a list of practices such as those included here can help game developers develop an awareness of these issues, that can then be mapped to the context of their own games.

7.1 E is for Everyone

Despite the pervasive and ubiquitous stature of video games, the medium continues to be plagued by issues of accessibility (Porter, 2014). Accessibility - the degree to which a device, service, or environment can be accessed by all - continues to be identified as an issue of great significance within the design community (e.g., see Gerling, Kalyn, & Mandryk, 2013; Grammenos, 2008; Porter, 2014; Porter & Kientz, 2013). Existing guidelines cover a variety of issues, including but not limited to: addressing input control devices (Said & Kane, 2013), allowing for wheelchair-based input in motion-based games (Gerling, et al., 2013), and designing games for the visually-impaired (Miller, Parecki, & Douglas, 2007; Milne, Bennet, & Ladner, 2013; Yuan & Folmer, 2008). As Porter and Kientz note, the research on accessible game design does has not had a significant enough effect on industry practice to date (Porter & Kientz, 2013).

In response to the discernible lack of accessibility guidelines, Grammenos presented a universally *inaccessible* game called "Game over!" (Grammenos, 2008). Rather than present developers with a sizeable document on accessible game design, *Game over!* is an interactive amelioration pattern - a combination of an anti-pattern (a counter example) and constructive advice on how the counter example can be remedied. The game deals with accessibility concerns related both to people with physical, sensory, or mental disabilities, but also refers to gamers who may not be able to fully experience a game due to situational factors and experience. For example, someone playing a game in a public space may be forced to play the game without audio, so if the gameplay depends on audio cues without providing additional feedback, the game becomes situationally inaccessible. Similarly, games which are not designed with novice players in mind may unintentionally exclude these players (Grammenos, 2008).

While the best practices described within this dissertation do not pertain to accessibility, Grammenos' decision to include gaming expertise within the list of accessibility considerations is highly relevant to the work presented herein. Essentially, if the affordances of an interface cannot be perceived without experiential knowledge, then they may potentially limit player choice. While the term affordances has come to take on a number of meanings within the HCI community, Norman (1999) suggests that perception plays an important role in affordances. *Perceived affordances* embody the likeliness that a user will interact with an object in a way that aligns with its purpose. This is one reason why the language of "fidelity" is so dangerous in describing avatar

creation interfaces and self-representational practices: expertise and perceived affordances are *never* accounted for in these analyses. With this in mind, I propose that a set of best practices for the design of character creation interfaces is necessary, not only in terms of range of choice, but also in presentation of choices as they are impacted both by player desire (self-representation), and player experience (perceived affordances).

7.2 Opportunities for Intervention

The research presented in this dissertation is largely focused around the analysis of made or existing interfaces, and the ways in which players interact with them. In contrast to this approach, a reasonable question might be, "what, if any, interventions have been proposed with regard to design?" In this section, I have identified two areas of research which have attempted to address social inclusion in game design. The first, "participatory design", also known as cooperative design, is a design methodology in which stakeholders are actively involved in the design process. The second, more general area, identifies research which seeks to inform design practice with inclusive or universal design as a primary focus. These two areas, and a sample of representative work, are discussed below.

7.2.1 Participatory Design

Participatory design is an approach to software design that emerged as a counter-movement to the traditional, top-down design paradigm. Suchman et al. argue that "participatory forms of design emphasize the value of crossing professional boundaries

and reworking relations of technology production" (Suchman, Trigg, & Blomberg, 2002). Participatory design encompasses a variety of methodologies designed to engage stakeholders in the design process of software and other systems (Muller & Kuhn, 1993). Its practices are motivated by the desire to create a product that is both contextually suitable and usable (Blomberg, Suchman, & Trigg, 1996). Participatory design methodologies allow designers to bypass the interference of a digitally-mediated exploratory project by employing low-fidelity, analog prototyping techniques so as to include stakeholders in the design process (Blomberg, et al., 1996). Such techniques include, but are not limited to the use of paper, cue cards, and clay (Sanders, Brandt, & Binder, 2010), interviews, focus groups, and ethnography (e.g. see Nardi, 1997; Suchman, et al., 2002), scenario building, and role playing (e.g. see Svanaes & Seland, 2004; Simsarian, 2003). A combination of the aforementioned methods are generally employed in order to ensure that a.) designers are truly familiar with the stakeholders' needs, b.) that stakeholders are actively included in the design process, and c.) that stakeholders' needs have been met in the design and deployment of the finished product.

A participatory design approach not only modifies the position users take in relation to software design and development, it may also allow for interventions where the traditional software development model would otherwise not have. Within the field of game studies, a number of groups are said to be marginalized or alienated by the industry, including women and girls (Heeter, Egidio, Mishra, Winn, & Winn, 2009), ethnic minorities (Kafai, et al., 2010a), and persons whose socioeconomic status limits their

access to digital games (Lochrie, Coulton, & Wilson, 2011). These groups are often cast as 'other' in relation to gamer culture. The term 'social exclusion' is used in this context to describe games where design choices limit self-representation (in terms of gender and/or ethnicity), present problematic representation (racist/sexist), or whose design and or distribution limits access by players of a lower socio-economic status.

Unfortunately, there are only a few examples of PD-based game design projects which have sought to address issues of social inclusion in game design. Three notable examples include work by Heeter et al. (2009), Lochrie et al. (2011), and Bailey and Moar (2001). The first of these examples, while not explicitly promoted as being a PD project, utilizes PD methods in order to directly engage stakeholders, groups of young girls, in a low-fidelity cooperative design project (Heeter, et al., 2009).

Heeter et al. report on a 3 year, mixed-methods, between subjects study designed to investigate whether or not girls would prefer games designed by girls. The first phase of the study engaged groups of gender-segregated boys and girls (n = 42) in a game design project. In the second phase, participants (n = 521) a were then shown the resultant designs and asked to rank the designs based on gender-appropriateness and how fun they would be to play. The authors went to great lengths in their investigation of gendered preferences in game design in an attempt to avoid potential confounds in their study. They segregated the teams (having the girls teams in at different times than the boys teams), they ensured production of the game promos was carried out by mixed-gender teams, and they surveyed the games for gender-appropriateness using an entirely

different group of participants. Unfortunately, many of the conclusions they reached with regard to gendered preferences were in line with much of that literature on gendered game play which reinforces the narrative of a gender binary. Those findings which *were* surprising are primarily linked to the enforced theme of the project (NASA theme resulted in games that contradicted "gendered" preferences for fantasy vs. reality).

The results of this project reveal those political aspects of game design that a PD approach were not able to overcome. Firstly, even the most cooperative participatory design projects eventually result in a power shift from participants to developers - once prototyping moves from analogue to digital, the developers take over the build. Secondly, many of the girls' game designs confirmed rather than challenged the normative discourses of gender preference. Other longitudinal studies on girls and game play reveal that these gendered preferences are actually gendered performances that reflect previous access (e.g., see Carr, 2005; Thornham, 2008; Jenson & de Castell, 2011). Until girls are given the opportunity to become *actual* users of games, their position as stakeholders in a PD project will continue to be problematized, and produce problematic results.

A second project by Lochrie et al. (2011) reports on a PD game design project designed to engage young people whose socio-economic status has excluded them from digital technologies. The study began with the project's artist spending months at a local community centre interacting with the participants in order to build a relationship with them and to gain their trust. Participants in the study were invited to design a location-based game (LBG) about their community. The goal of the project was to engage both

boys and girls in the design of the game. The authors report originally engaging six females and four males at the community centre, but found it difficult to engage the girls in the project. They attributed the girls' lack of interest in the project to the differences in the ways the boys and girls engaged with/were interested in technology. The girls used the computers at the community centre to access social networking sites, whereas the boys expressed interest in playing console games. Unfortunately, the boys alone went on to form the design group in the project.

The authors report that the study was successful in engaging participants whose access to technology was otherwise limited by their socio-economic status. They report that it was apparent that, "the users that took part in the PD process showed a great sense of ownership to the game and willingness to interact and engage with members from different communities" (Lochrie, et al., 2011, p. 12). Unfortunately, since the girls were excluded entirely from the study, it did not bridge the digital divide as intended, since gender is also a factor which exacerbates the digital divide (van Zoonen, 2001). While this is mostly a weakness in their experiment, rather than PD itself, it does highlight the importance of finding ways to engage all stakeholders, even those who are not as easily engaged.

The third project, and perhaps most relevant to this dissertation, is one carried out by Bailey and Moar (2001), involving a study of primary school students and their use of a virtual world called "Active Worlds." In this study, the authors noted that the children were enthusiastic about their use of the virtual world, but found its avatar choices to be

limiting. As such, the authors invited the students to make paper puppets of their ideal avatars which were later scanned and converted into 3D avatars by members of the research team. They found that the students wanted to be able to represent themselves, and so used photos of their own faces on an otherwise cartoonish paper body. Paper prototyping was later used by the authors in order to help the children design their virtual world without having to learn any 3D modeling.

Returning briefly to the content of Chapter 2, studies by Neustaedter and Fedorovskaya (2008), Ducheneaut et al. (2009), and Kafai et al. (2010b) reported that user preferences in self-representational practices varied greatly, where some users desired accurate self-representation and others did not. Comparatively, the fact that all students chose to represent themselves accurately in Bailey and Moar's (2001) paper, at least facially, is contradictory to the findings presented in papers by Neustaedter and Fedorovskaya (2008), Ducheneaut et al. (2009), and Kafai et al., (2010b) which suggest that accurate self-representation is not always desired by all users of the same virtual environment. As such, there may have been some social factors that resulted in all of the students in Bailey and Moar's study creating avatars that appear to have all followed the same conceptual factor. The students may have been influenced by the designs of their peers, or they may have been influenced by the researchers themselves. Cassell and Jenkins describe a phenomenon in which participants feel compelled to produce what we, the researchers, want them to produce (Cassell & Jenkins, 1998). The phenomenon described by Cassell and Jenkins applies specifically to interview responses by female

gamers, but highlights the power position researchers occupy in relation to their participants. These results highlight the potential for PD projects to provide contextual designs that are not truly representative of all members of the targeted user group.

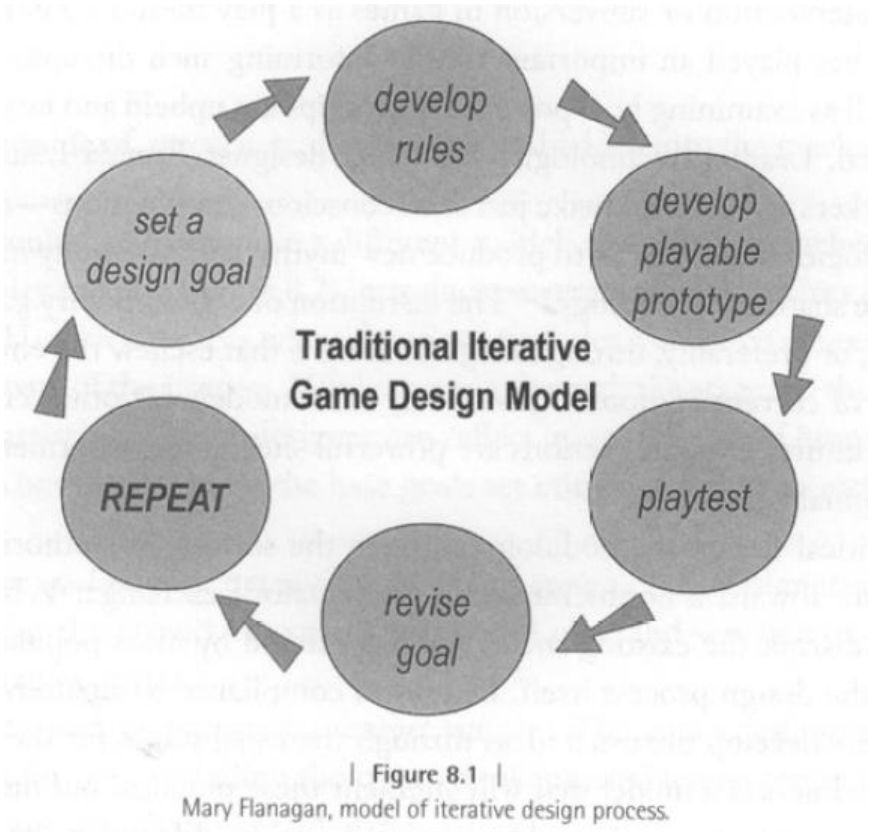
As a practice, PD may provide opportunities for researchers interested in addressing avatar design as a productive means of working with a diverse user base in order to generate interfaces that are more socially inclusive. However, as shown in the discussion above, caution must be taken by researchers in order to ensure that all stakeholders are equally engaged in the project, and that socio-cultural influences are both accounted for in the research design and addressed in disseminating research findings. The possibility for future work in this area is addressed in the concluding chapter of this dissertation.

7.2.2 Social Inclusion and Critical Play

Where Participatory Design engages stakeholders in the design process, others have proposed modifications to existing design practices that make space for critical design and social inclusion. In much of this literature, the focus on social inclusion is broad, encompassing users from diverse ethnicities, socioeconomic statuses, and ability (Bleumers, et al., 2013; Schuller, Paletta, & Sabouret, 2013; Stewart, et al., 2013). Bleumers et al. classify this work as PESI work (Personal Empowerment and Social Inclusion), wherein games are viewed as spaces in which marginalized users could potentially become empowered users, and where design practices with PESI in mind may allow developers to mobilize games as a means of levelling-up this user group Bleumers,

et al., 2013). Schuller et al. (2013) focus on how the design of intelligent algorithms could be utilized as a means to adapt games, in real-time, to a player's behaviour, motivation, and interest. Intelligent Digital Games for Empowerment and Inclusion (IDGEI), as proposed by Schuller et al., could be used to prepare a diverse audience for social situations. Examples given by the authors are diverse and include children with Autism Spectrum Condition, young people preparing for a first job interview, or migrants familiarizing themselves with their new place of residence (Schuller, et al., 2013).

More generally, in terms of the design process, games scholar Mary Flanagan (2009) proposes modifications to the existing iterative design process and re-frames it in a way that systematically provides designers with opportunities to include social inclusion as a design goal. Where the traditional model (shown in Figure 63) focuses on the design, prototyping, usability testing, and subsequent re-design of a digital game, Flanagan's model includes an evaluative aspect that encourages critical game design. For example, in her model, one begins with the design of a prototype created with specific critical goals in mind. The artefact is then prototyped and evaluated not only for usability but also the artefact's ability to address its critical agenda.

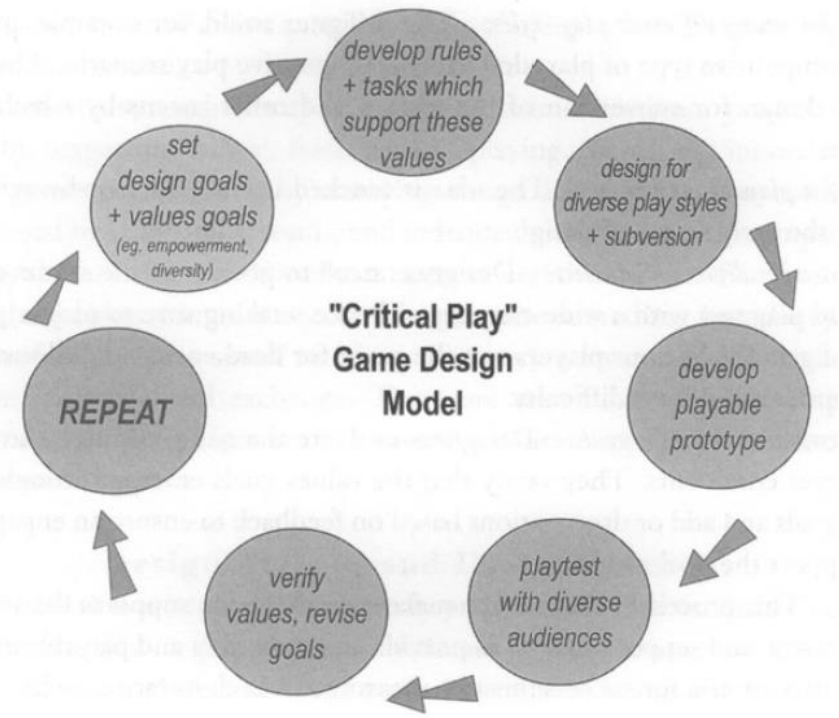


| Figure 8.1 |
Mary Flanagan, model of iterative design process.

Figure 63. Mary Flanagan, model of iterative design process (Flanagan, 2009, p. 255).

The critical play model, as proposed by Flanagan, identifies opportunities at each stage in the design process for alternative design goals to be integrated into practice. This model, shown in Figure 64, augments the design process in a way that addresses intervention, disruption, and social issues. Specifically, the model identifies opportunities for social inclusion, alternative design methods, as well as subversive and emergent gameplay (two phenomena that are often rejected as "bugs" or erroneous use via the traditional model). The critical play model is a beautiful example of how easily the

current iterative design model can be modified to allow for socially inclusive game design.



| Figure 8.2 |
Mary Flanagan, model of critical play method.

Figure 64. Mary Flanagan, model of critical play method (Flanagan, 2009, p. 257).

While the model does not specifically address social inclusion, it does make space for the kind of awareness that is needed for socially inclusive avatar design. Specifically, the model calls for playtesting with diverse audiences as well as setting and evaluating value-based design goals. If the design goals are to create a socially inclusive space, and if a *truly* diverse audience is included in the iterative cycle, Flanagan's model may serve as the framework that makes space for change. However, using the aforementioned

participatory design research as a cautionary tale, I feel as though there is still much work to be done in giving a voice to each and every member of that diverse audience, and in training designers to be better allies who are able to receive and incorporate that advice into their designs.

While there is no shortage of research in the games community offering critique on socially exclusive avatar designs (e.g., see Higgin, 2009; Kafai, et al., 2010a; Pace, et al., 2009), very little is offered within either the games or HCI communities with regard to best practices. Socially inclusive design, outside of the realms of both games and avatars, is a field largely concerned with the differences in perceptual thinking and physical capabilities of diverse users, looking more generally at existing design practices for interactive electronic systems, including computers, digital television, and smartphones (Biswas & Langdon, 2011; Pradipta Biswas, Robinson, & Langdon, 2012; Langdon, Persad, & Clarkson, 2010). One notable example, by Ormerod and Newton (2005) proposees an nD model of design principles, where universal design, another term for inclusive design, is the focus. The first set of guidelines in their model, UD1, outlines the properties of equitable use, which state that "the design [should be] useful and marketable to people with diverse abilities" (Ormerod & Newton, 2005, p. 105). The first guideline within the UD1 subset deals broadly with avatar design, suggesting that equitable design must "avoid segregating or stigmatizing any users' and this could be detected through the use of avatars, digital human models (DHM) or intelligent agents

that replicate a diverse range of impairments, including multiple impairments" (Ormerod & Newton, 2005, p. 107).

Since avatar design is not the focus of their model, Ormerod and Newton do not provide any specific guidelines for designing avatar affordances that specifically support UD1. This is the contribution that I hope to make with the best practices outlined in this chapter. However, before presenting these guidelines, there are a few more areas in the literature which must be investigated in order to understand all of the forces that drive game design.

7.3 Game Design Texts

If many of these issues are common in game design, how are they presented in game design texts? A growing number of post-secondary institutions offer game design programs, providing opportunities for future game designers to obtain specialized training in their industry of choice. Having established relationships with a number of institutions offering courses or programs on game design, I contacted a number of instructors and surveyed several course outlines in order to identify the texts that are commonly used as instructional materials. Here I briefly review the content of the six most popular game design books currently in use in these programs. These texts are Adams' Fundamentals of Game Design (2013), Crawford's On Game Design (2003), Fullerton's Game Design Workshop (2008), Rogers' Level Up! (2014), Salen and Zimmerman's Rules of Play (2004), and Schell's Art of Game Design (2008).

Table 13. Summary of contents of six game design textbooks.

	Interface Design	Character Design	Character Customization	Character Creation Interface
Adams	X	X	X	
Crawford	X	X		
Fullerton	X	X		
Rogers	X	X	X	
Salen & Zimmerman	X	X		
Schell	X	X	X	

All six of the texts discuss interface design (HUDs, etc.). Salen and Zimmerman (2004) discuss the significance of avatar control (i.e. the significance of being Lara Croft) as well as car customization in racing games (largely strategic), but not avatar customization in terms of self-representation or visual avatar customization. Fullerton (2008) invites the reader to consider the dramatic implications of player-designed characters, but does not provide guidelines for character creation interfaces.

Adams (2013) differentiates between player-avatar customization (defined as clothing, weapons, armour, skills, etc.) and player-avatar construction (customizing avatar appearance via the character creation interface). These terms are defined and discussed briefly, but little technical guidance is provided with regard to design practices. Adams also invites the reader to consider whether or not avatar sex should have an impact on game-play, where player-avatar construction is used (for example, suggesting that men are stronger and thus a male avatar might be created to be stronger than a player-chosen female avatar).

Schell (2008) discusses the avatar in detail, including the significance of the player/avatar relationship. This text also briefly mentions the significance of self-expression via avatar customization, but does not provide any technical guidance with regard to design practices of character creation interfaces.

Rogers (2014) discusses player-character customization in great detail, drawing from an array of commercial games as examples. Possible customization options are also discussed. However, guidelines for the design of a character creation interface is not discussed in this text.

These texts, and others like them, are likely used in conjunction with other supplementary materials, some of which may address the design of character creation interfaces. However, if these texts are not supplemented in this way, where do future game developers learn to design character creation interfaces? Furthermore, does the discussion of socially inclusive game design, specifically focusing on avatars, factor in?

Grammenos (2008) notes that developer practices may be informed through exposure to existing artifacts, whereby engaging with memorable designs - ones that are designed well - inform future design practices. If this is the case, many of the trends and issues noted in previous chapters with Avatar Affordances data, will likely continue to appear in future game designs. It is for this reason especially, that I am motivated to generate a preliminary set of best practices.

7.4 Best Practices for Socially Inclusive Game Design

Drawing both from the related work, as well as the analysis presented in the previous chapters, I now present a set of guidelines to help game designers work towards socially inclusive avatar creation interfaces.

1.) Be mindful in choosing labels for interface items in character creation interfaces. The words "sex" and "gender" are not interchangeable. The term sex always refers to a binary choice, whereas the term gender, in many circles, does not. Within the sample of 20 games analyzed in Chapter 3, the terms sex and gender were the two most frequent identifiers for widgets used to select avatar sex. However, in nearly all cases, the associated widgets were really targeting avatar sex, not avatar gender. In all cases the player was being presented with a binary choice between male and female, regardless of the widget's label. A socially inclusive game should use the identifier of sex for a widget that controls the (binary) biological sex of an avatar's body.

2.) Where possible, games should allow for as much bodily customization as possible. Choices for height and weight are good, but also allow players to modify the proportions of their avatar's body. For example, in *Jam City Rollergirls*, there is only one option for physique, despite the fact that a greater deal of diversity is visible within the league of roller derby in real life (and in women in general). Additionally, in order to accommodate diversity in avatar physique, developers should consider isolating several components of physique to allow for a greater degree of customization. Locking physique into one or two variables (e.g., height and weight) results in avatar bodies that are

otherwise uniformly proportioned. While *EVE Online* may be an extreme example, one which requires a great deal of computational power, the fact that players can independently adjust the size of their female avatar's bust, hips, and waist is refreshing. Games that allow for greater diversity in avatar body types are considered to be more socially inclusive by design.

3.) Consider having your avatar creation interface generate a random avatar each time it loads. Defaults are highly problematic in that they may communicate ideologies about the idealized player, or associate the themes of the game with the default avatar. Opting to generate randomized avatars allows designers to avoid associating one group of people with the narrative of the game. In the case of positive game narratives, this may seem harmless. However, those who are not part of the "default" are automatically distanced from the game's positive themes. The most telling example of the opposite - a default avatar reifying negative racial stereotypes - is seen in the example of the default dark-skinned avatar in the urban crime themed game *Saints Row 2*. Developers should endeavour to avoid such correlations. In general, aim to always have randomized configurations of avatars on loading of the CCI.

4.) Where and when alternative bodies are allowed, research needs to be done to ensure non-problematic design choices are made. The practice of researching non-problematic design choices is the recommendation for socially inclusive design. In the case of *Saints Row 2*, the Body Type slider would be less problematic in the absence of any quantitative representation. The relationship between female secondary sex

characteristics and negative values is highly problematic. Such research can be supplemented through workshops put on by non-profit organizations whose purpose is to encourage social inclusion in any and all social settings. Where local organizations cannot be found, researchers specializing in social inclusion could be brought on site to assist with this particular best practice.

5.) Consider making all customization options available to all avatars. In the Mii Creator, the binary choice of "gender" does not preclude the choice of facial hair for female *Miis* or feminine haircuts for male *Miis*. In *Saints Row IV*, the choice of avatar sex is similarly unrestrictive and also allows the user to select any of the game's seven voice actors as the voice for their avatar. For example, it is possible for a female avatar to be voiced by one of the male voice actors. Technically speaking, there is no reason for customization options to be segregated. Doing so effectively locks players into a procedural gender policing, which only serves to limit players in expressing themselves through their avatars.

6.) Diversity in skin colours is a must for any game using human (or human-like) characters. Whether or not a game's aesthetic allows for diversity that goes beyond the range of natural human pigments is not an issue - a socially inclusive interface should be able to provide the means by which players can create a representative avatar. Whether or not they choose to is a choice that should be left up to players. The choice for skin colour should be a separate choice (apart from any clothing or other customization options) and should uniformly modify the skin colour of the avatar.

7.5 Conclusions

In 1999, Ben Shneiderman, prominent researcher in the field of HCI, challenged members of the community to consider how their work can better serve human needs. His suggested domains included ways to provide accessible education, improve communication, and promote world peace. Shneiderman posed 10 challenges for designers, intended to guide practice towards his desired reshaping. For designers, he proposed, "usability testing, user interface management software, guidelines documents, and participatory design revolving typical users" (Shneiderman, 1999, p. 7). Unfortunately, the "typical users" in his call for participatory design may unintentionally reinforce the same political and hegemonic practices he is attempting to critique. This mistake is highlighted by the troubling outcomes, reported as "success", by Lochrie et al. (2011) when they failed to engage females as stakeholders in their PD game design project.

Design interventions must allow for differences within the user population to emerge. This lesson is not a new one to Participatory Design, but needs to be stated in the context of game-based research. When it comes to gamer culture, participants may feel compelled to offer gendered performances in situations where they feel as though it is socially appropriate to do so. For example, ethnographic studies involving gaming technologies and women have shown that even skilled girl gamers may perform less skillfully when playing with, or in the presence, of males (Thornham, 2008). Similarly, other socio-cultural variables must be accounted for both in research design and

reporting. For example, the results of Bailey and Moar's project were clearly compromised by the social effects of the classroom, where peer pressure and a desire to "fit in" resulted in homogeneous avatars (Bailey & Moar, 2001). Researchers must carefully negotiate these relationships when reporting on observations in studies involving gaming and marginalized groups. Experimental design should take these relationships into account in order to allow for authentic differences within the user population to emerge.

Researchers must also ensure that stakeholders have the opportunity to actually become stakeholders before engaging with any group in a design project. This point is particularly important when considering the position marginalized groups hold in relation to information and communication technologies, including gaming culture. Researchers who wish to engage girls or other groups in game-based studies need to take the time to level up their participants before any true results can be seen. Failure to do so results in poor research; falsely attributing observed difference to gender when we are really observing differences attributed to a lack of gaming experience. Failure to provide these participants with gaming context and experience tells us very little about how they play and what kinds of games they enjoy.

It is important to find ways to engage representative members of the target community, not just those who are eager to participate. When engaging participants who have little to no experience with gaming technologies, it may be difficult to elicit the same level of participation from marginalized groups as it is to engage those who are

familiar with gaming technologies. When this occurs, it is important to seek alternative approaches so that all stakeholders feel as though they are able to contribute to the project and that their contributions are considered meaningful.

Many of the problems highlighted in the aforementioned game design projects, are addressed later in Shneiderman's paper (1999) when he suggests the following four questions as a useful guide: "Have I considered individual differences among users in the design of my system? Have I considered the social context of users? Have I arranged for adequate participation of users in the design process? Have I considered how my design empowers users?" (Shneiderman, 1999, p. 8). These questions were posed more than a decade ago, yet these same concerns did not inform the designs of the game experiments outlined in this chapter. In order for intervention list methods to be able to be harnessed as a tool for intervention with groups who are marginalized and excluded from gaming technologies, these questions must inform our experimental design.

Work on identity and self-representational practices in MMOGs has largely been limited by a focus on players, downplaying or ignoring completely the fact that interfaces not only present us with limited choices, but the ways in which they are presented contribute significantly to the pragmatics of avatar customization. These interfaces, have, to date, been studied quite thoroughly by a number of games scholars and HCI researchers, but many of the methods mobilized in those works fall short at providing data that can be compared between games. The Avatar Affordances Framework addresses

these limitations, allowing us to code these interfaces in a structured and comparable way.

The games chosen for analysis in this dissertation might appear, at first sight, to have been conveniently chosen as they represent some of the more "obvious" errors one might make in designing a character creation interface. Sadly, while I wish this were the case it simply isn't so. There are countless examples of socially exclusive character creation interfaces in games - those presented in these chapters just happen to represent the kinds of issues I have seen over and over in my own analysis. I do not believe that these issues are intentional. Rather, these issues may be reoccurring simply because game interface design is largely a cyclic process by which successful games inform the design of future competitors, some of which may have (unintentional) issues like those identified in this dissertation. I hope that the practices outlined here help developers make design choices that invite opportunities for identity play without simultaneously creating socially exclusive spaces. The guidelines presented in this chapter are continuously evolving, and will continue to evolve as more games are added to the Avatar Affordances analysis in future work.

Chapter 8 Conclusion

Throughout this dissertation, I have argued that avatar creation interfaces, via affordances, co-create player avatars. Using Actor-Network Theory as a theoretical framework, I employed a mixed-methods approach to the study of a small cluster of actors in order to make visible the agency of these interfaces, as well as the interplay between players and interfaces when creating avatars. All too often, self-representational practices are studied via anthropocentric approaches, whereby researchers choose to focus on users as the sole creators of avatars. The purpose of this dissertation is not to discredit or dismantle the theories that have been derived from anthropocentric foci; rather, it is to demonstrate how a widening of one's analytical lens can reveal a more complex narrative - one in which intentioned humans are not working alone, but in concert with other, non-human, actors.

As I have outlined through literature review, this anthropocentric approach is not the only means to studying avatar customization. Others have chosen to focus on the interfaces themselves, applying analytical methods to these interfaces in order to demonstrate disparity in the range of choices available, often in the context of ideology or social exclusion. Resultant discourses have illustrated the power game designers have in communicating ideologies to players, about humanness itself, via the design process. For example, Higgin writes, "[b]y making available a set of options with which the human form can extend, each videogame presents the user with a perspective on what it means to be apprehended visually as human. And given the limitations of these systems, both

technically and narratively, they are severely deterministic" (Higgin, forthcoming, p. 14). This sentiment, particularly in the context of gender and ethnicity, is not new. Game designers have the power to determine the range to which we can be represented within their game worlds. In all of the analysis presented within the body of this dissertation, I have attempted to refrain from ascribing any direct blame on developers in the hopes that these limitations are the result of an oversight or lack of best practices. However, despite this, developers still must be held accountable for their design choices. The creative decisions they make, as illustrated, are nevertheless problematic and need to be carefully considered in the future. This is, of course, where I hope the best practices I have outlined in Chapter 7 may gain traction within the professional community and hopefully inform more socially inclusive practices.

Returning to the theoretical framing of this dissertation, an ANT approach to the study of interface affordances and self-representational practices not only necessitated a shift *from* the anthropocentric subject - this shift, in which non-human interfaces were granted the status of 'actor' required a methodological shift as well. Many of the studied outlined in the related work section of this dissertation involved the use of survey and interview data as a means of studying self-representational practices. In order to survey the interfaces themselves, I needed to find a way to encourage them to speak. Since existing analytical methods for studying interfaces were either discursive in nature, or were unable to produce meaningful data between different games, I needed to create my own analytical framework. The Avatar Affordances Framework was developed, and was

shown to not only address these aforementioned limitations, but was successfully mobilized to produce data on the affordances of these interfaces.

The participant studies presented in this dissertation utilized a mixed-methods approach, relying not only on self-reported data on gaming experiences and self-representational practices, but also a microethnographic study in which these practices were then observed in real-time. The results of these studies, presented in Chapters 4 and 5 on *Rift* and the *Mii Creator* respectively, revealed the ways in which self-reported data, while extremely valuable, does not always align with that which can be observed in practice. For example, many participants in both studies expressed that they commonly duplicate specific features of their real world appearance when creating an avatar, yet did not attempt to duplicate these features on the avatars they created in the studies. While some participants in the *Mii Creator* study did have experience creating a *Mii* prior to participating in the study, *Rift* was a newly released game, meaning that the observational data presented in Chapter 4 represents all participants' first interactions with that character creation interface. The dissonance between self-reporting and practice does not necessarily dismantle all theories on self-representation derived solely from these methods, but it does make a strong case for the use of mixed-methods in studies on self-representational practices.

The work presented in Chapters 4 and 5 also makes visible the ways in which different gaming contexts may have an impact on self-representational practices. As discussed, *Rift* is a fantasy-themed MMOG, where the *Mii Creator* is an interface that

allows users to create representative human avatars that serve as stand-ins in several Nintendo console games and, more broadly, within the *Miiverse* social platform. While the two studies involved different participant groups, the higher degree of identity fidelity reported in the *Mii Creator* study is very telling. Based on these results, I would argue that it is important that theories on self-representational practices not only account for interface affordances, but how the context of the gaming environment impacts results.

Lastly, in Actor-Network Theory it is important for the researcher to be made visible, as the researcher's own biases and experiences have profound effects on the research and resultant theories. It is for this reason that I opted to include an autoethnographic study - a study in which I attempted to create the same avatar across multiple gaming spaces. In this chapter, I not only made myself visible within the network of study, through the disclosure of my own prior experiences with the games I have chosen to study, but also through a careful narrativization of how the affordances of these interfaces affect my own practices as a researcher and gamer. Automicroethnography may not be the appropriate methodology by which all ANT researchers make themselves visible within the network, but it is crucial that the researcher is made visible in some way.

The interplay between methodology and theory, as presented herein, contributes to methodological and analytical work on self-representational practices, not only by challenging existing theories, but also through the development of a new analytical framework, the Avatar Affordances Framework. In the remaining sections of this chapter,

I outline the limitations of the work presented here, identify several opportunities for future work, provide a brief note aligning this work with very recent events, and conclude with some final thoughts.

8.1 Limitations

In this section, I address the analytical and methodological choices I have made, and attempt to identify subsequent limitations and their impact on the results presented throughout this dissertation. Namely, I address the analytical limitations of the Avatar Affordances Framework in its current state, as well as the issue of external or ecological validity in a lab-based study of self-representational practices.

While the Avatar Affordances Framework has been shown to address a number of analytical limitations, namely the ability to not only produce meaningful data between games, but to also accommodate novel interface widgets, it is not without its own limitations. For example, presently, while the framework can produce data on the quantity and presentation of customization options, it cannot provide data on the range of some options, such as skin colour. As such, although I can show that one interface has, for example, six choices for skin colour and another has nine, this data does not speak to the range of ethnicities represented by these values. It is possible that the game with nine colour choices is only presenting users with nine very similar Caucaisian tones, while the game with only six colour choices may be more diverse in range. In order to produce more meaningful data between games, this limitation needs to be addressed via further development of the framework.

Additionally, the hierarchy of certain interface options is becoming increasingly difficult to pin down, partly due to the increasing complexity of character creation interfaces. Some new interfaces impose navigation schemes that are not easily broken down into hierarchical components, or that could be subjectively assigned different values by different readers. Therefore, it is possible that the hierarchy component of the interface may be subjective. The effect of this subjectivity should be studied in future work in order to identify whether or not it is indeed a limitation of the framework, and if so, its significance on resultant analysis needs to be investigated. I argue that, at this stage that the framework is quite robust insomuch as it addresses many of the limitations identified in the related work, however, the analysis presented herein is still my own. I explore ways in which to investigate this limitation further in the related work section.

The results of the user studies included in this dissertation makes a strong case for a mixed-methods approach to the study of self-representational practices. In particular, I have made a case for the importance of collecting both self-reported data as well as observational data of participant practices. The observational data presented herein is lab-based data of both individual and co-situated participants. While lab-based studies on such practices can potentially suffer in terms of external or ecological validity, I would argue that the resultant analysis is both meaningful and relevant in how it positions participant practices in the context of existing theories.

Additionally, my own choice to create a representative avatar in the autoethnographic study (Chapter 6) is a limitation of the research. This choice was made

largely to ensure methodological consistency between games. It is arguably, more convenient to work from an existing blueprint - oneself - than to generate an entirely new one. This choice was also informed by my reflections on my own self-representational practices, since this was clearly the method by which I customized many of my own avatars in the past. However, it cannot be left unstated that the results of that particular study would be different had another blueprint been chosen.

The purpose of ANT research is not to produce positivist accounts of observable phenomena. I have not sought to describe the practices of a particular demographic or to conveniently theorize about players as belonging to types, whose practices can be predicted through an intensive modeling of their observed behaviours. Rather, I have sought to highlight the agency of interfaces as co-constructors of avatars in gaming spaces, and as a result of my mixed-methodological approach, have also made visible the ways in which some of these methods, when used alone, may result in different discourses. Still, it would be interesting to extend this work into longitudinal studies, possibly even into more ecological valid spaces. These possibilities, and more, are outlined in the following section.

8.2 Future Work

As with any dissertation, reflection on the studies contained within, as well as the feedback received at various conferences and from journal reviewers, helped to shape and inspire directions for the addition of further studies and future research. The challenge, of course, is to decide which additional studies to include in the dissertation, and which ones

to reserve for future work. The autoethnography was added at a later stage in writing, following feedback received on the two microethnographic studies as a methodological way for me to document my own reflections on, and interactions with, the interfaces I had been studying. These reflections, in addition to the data collected with the Avatar Affordances Framework and the two microethnographic studies, allowed me to develop a more comprehensive list of best practices, which were eventually presented at the Interactive Entertainment conference in Newcastle, Australia (McArthur & Jenson, 2014). In this section of my concluding chapter, I will outline a number of additional studies which I have envisioned, either for the purpose of addressing reviewer feedback on recent publications derived from this work, or in order to pose secondary questions surrounding my initial observations.

First, since one of the major contributions of this dissertation is the development of the Avatar Affordances Framework, I have an ongoing interest in testing its robustness. By robustness, I refer not only to its ability to address the limitations of previous methods in light of ongoing advancements in interface design, but also in terms of the reproducibility of the data it generates. To this end, I not only intend to extend my analysis to even more games, but I am also in the process of designing a user study in order to investigate the replicability of the framework. This would involve a between-subjects study in which participants are invited to code the same interfaces using the framework and the results of this coding would be compared. Ideally, but not necessarily, I would like to be able to recruit games researchers as participants for the study.

Participants would be divided into groups, where different groups would receive a different, prescribed degree of instruction on the use of the framework.

Second, I plan to conduct longitudinal studies involving small groups of co-situated participants in order to test whether or not, and how duration of the study might have an impact on self-representational practices observed in a lab-based setting. These participants will create *Miis* and then play multiple games together using them. These groups of co-situated participants may be further broken down, resulting in a between-subjects design, wherein the effect of group stability - where some groups remain stable and some groups are allowed to be more fluid in their participation - is studied. Such a study could yield data on the effects of long-term avatar use in relation to self-representational practices.

Thirdly, in order to investigate the effect of gaming context on self-representational practices, I plan to conduct within-subjects studies in which all participants create multiple avatars across a multitude of interfaces, including the *Mii Creator*, other camera-based interfaces, and interfaces for fantasy-themed games. The observed similarities and differences in self-representational strategies, based on gaming context, experience, etc., as well as co-situatedness will be further explored. These studies could reveal a greater degree of tension - or alignment - between participant plans and situated actions.

More broadly, one actor which is identified throughout this dissertation in relation to interface design but not fully investigated is the industry itself, and its design practices.

The industry is commonly referenced in related work on hegemonic design practices, but mostly in terms of its demographic makeup. In order to include the industry in the focus of future work, I propose to reach out to practitioners in the hope that they may make their own design practices, and any documentation they follow, more visible in the research on avatar creation interface design. This study may also include students in post secondary game design programs, focusing both on the representative and minority participants, in order to understand whether or not these design practices are effected more by demographic makeup or by industry trends. In addition to making these design practices more visible through interview or survey, the use of participatory design methods and focus groups may also yield interesting insights into industry practices. Furthermore, the results of these methods may help to further develop my own set of best practices.

The future work outlined here is intended to not only to further investigate the reported results of this dissertation, but also to extend the focus of this study to other nodes in the network. They should also serve to provide an opportunity to further present individualized self-representational practices to the research community, rather than attempting to group participant strategies into one of a small handful of "types", thereby further countering the reductionist theories on self-representation.

8.3 The hashtag which shall not be named

In the summer of 2014, indie game developer Zoe Quinn became the subject of a horrendous hate campaign, which would later evolve into a campaign against women in

the industry, academy, and journalism. This campaign bears a twitter hashtag, which shall not be named in this dissertation simply because I do not wish for my thesis to be searchable via its inclusion. This campaign would later be rebranded as a fight against ethics in gaming journalism, which is, of course, a red herring intended to reframe attacks against so-called "Social Justice Warriors" as the necessary retaliation against social criticism of games as a medium. Popular social critics of gaming, such as feminist media critic Anita Sarkeesian, and even popular women in gaming culture, such as Felicia Day, became the subjects of very personal rape and death threats, and even had their personally identifiable information published by hackers - a process called doxxing - in order to facilitate these hate campaigns.

Academic research offering critique on games and gamer culture has also made targets of a number of games scholars, all of whom are female, as well as a number of academic associations, including DiGRA, the Digital Games Research Association. All of the aforementioned target groups, none of whom have anything to do with gaming journalism, have been caught up in a culture war, framed by misogyny and antifeminist ideals, in order to maintain the ideology of the gamer identity. This gamer identity, which perpetuates the view of gaming culture as a largely heteronormative, male-dominated space, would support the continued prevalence of male-dominated, exclusionary content in games. In contrast with this dated identity, the current demographic is much more diverse and should have space for all kinds of games, made to cater to a wider audience.

The presence of such a movement, and its passionate and personalized attacks against so-called Social Justice Warriors not only indicates a clear need for more work on social inclusion in game design, but also for opportunities for industry and minority gamers to participate in an open dialogue which can bridge the divide generated by this hateful movement and find productive ways to make gaming better for everyone. It is my hope that this dissertation, as well as the proposed future work herein, will contribute to this process.

8.4 Conclusions

Video games have a great deal of potential as imagined virtual playgrounds in which we may try on new identities and have agency in fantastic new worlds. Some games provide users with the ability to create their own avatar - an opportunity for players to try on new identities, or to visually place themselves at the centre of a digital interactive adventure. The issue of social exclusion arises when players who want to recreate themselves via their avatars are limited by interface affordances. When this happens, games go from being places where we can be who we want to be, to becoming places where we can only be who we are allowed to be.

The study of affordances is important, as it not only makes visible the ways in which these interfaces may be socially exclusive, but also provides an opportunity to systematically study industry practice and to propose guidelines to help developers design character creation interfaces with social inclusion in mind. It is my hope that this dissertation, as well as the proposed future work, are able to assist in this matter. I believe

that the analytical and methodological discoveries reported herein make strong contributions to the theoretical work on self-representational practices, both within the game studies and HCI communities.

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