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I can so I will, now we must: a creative response to selfie culture

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I can so I will, now we must:
A creative response to Selfie Culture

by

Eric Andren

A thesis submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

MASTER OF FINE ARTS

Major: Graphic Design

Program of Study Committee:
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Iowa State University
Ames, Iowa
2016

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Social Media and Online Social Networks have become increasingly integrated into our every day lives. Digital technologies have progressed from an extension of body to an extension of self. With this integration may come unintended consequences that we are often unaware of. Who would have thought that posting an update on Facebook or browsing your Instagram feed might have an effect on your well-being?

The digital world—traditionally—is not a tangible one, but it is most definitely connected to the life experience of those who are part of it. This connection gives it influence, the ability to inform our development as individuals and as a collective. “I can so I will, now we must: A creative response to Selfie Culture” takes a deeper look at this phenomenon. Within this creative response, proof of a new visual language emerges. The users of Instagram are engaged in a universal self-defining system based on posting selfies in repeated categories.

Explore the responses in this paper, which seek for ways to find new perspective and heightened awareness of our online activities. The final response is a reflection of knowledge gained from all prior responses. It is a physical interactive cube—controller—used in combination with a visual interface that incorporates aspects of haptic, kinesthetic, visual, and auditory sensory perception as an alternative way to view and interact with selfies. Knowledge is power. If you were more aware of how your interactions online can influence you, your well-being, and your sense of self, would you still interact with Online Social Networks in the same way?
CHAPTER 1: INTRODUCTION

1.1. Rapid Change

The times are fast—rapidly changing. We create and deploy, create and deploy, create and deploy, always moving forward with ever-growing speed and efficiency. Often, we continue down our forward path with determination, giving not even as much as a glance in the opposite direction.

With every technological revolution comes consequence, consequence that may be hard to discern. Informed by this consequence will be debate, debate leading to conclusion, conclusion leading to agreement and disagreement, all while the evolution of who we are, what we are, who we think we are, and who we think we would like to be will continue on. Forever, in the background, the formation of society as a whole and as individuals will be molded by our interactions. Interactions we can observe as a set of decisions, all influencing the next decisions.

As the information age marches forward we have taken the role as leaders of an epoch, making a testament to the complex abilities of the technologies we have created. Digital technology is no longer looked at as just a physical extension of body. No, it has reached a level of refinement and integration where we see it as extension of self, a continuation of who and what we believe we are.

When it comes to human-to-human communication, Online Social Networks have continued to dominate, disseminating a range of media at almost instantaneous speeds. The development of online public profiles provides a way for us to portray our selfness to an online community, a selfness in which we have unlimited freedom to curate. The power possessed by the ability to curate who we are through our own eyes poses many problematic
questions related to psychological health and well-being. Through these creative works, I will explore our ongoing relationship to social media and how we present ourselves to the world.

1.2. The Chant

“I can so I will, now we must.”

Above is the chant heard echoing through the depths of our zeitgeist, projecting from an ever-growing base of technological users. Social media—Online Social Networks—has been integrated into our palette of “the everyday” seen as tools that allow us to explore, in greater depth, ourselves as a unit and as individuals. Ultimately, providing us with ways to alter our perception of self and how we present that self to others.

The collective is collectively becoming a distorted reflection of self, and it is all ironically fostered by the technologies we create, integrate, and now belong to.

“I can so I will, now we must” a creative response to selfie culture; a reflection of our technological creations and how they have seduced our sense of self.

I can so I will

A statement of one’s inability to control urges while suggesting technology’s success in seducing our will. Focused on the self-accenting our self-oriented–selfish–nature.

Now we must

A statement on the psychological tipping point of addiction. The phrase has evolved from “I” to “we” suggesting the effects are now grand in scale and fast spreading—like a virus—on the collective. The phrase has evolved from “will” to “must” suggesting earlier there was a choice, establishing there is less chance of return all the while seeming harmless to engaged parties.
**The new “me”**

A statement on how we define and perceive ourselves. Absorbed in our online selves and often overlooking its connection to our physical essence you can define your new “me” through online interactions—*user profiles*—and how you choose to marry your online and physical selves—realities.

**1.3. The Echo**

“You've got to think about big things while you're doing small things, so that all the small things go in the right direction.” (Toffler 1991)

It is necessary, as thriving beings, to set aside time for reflection and observation. Observation allows us to gain a better understanding of what’s going on. Though it is argued Moore’s Law may be coming to an end (Cumming et al. 2014) we have lived decades in a world where digital technologies have been, and continue, to increase at an exponential rate. In terms of technology, now, more than ever, the world we live in is rapidly changing. With these changes come effects—*consequences*. Effects, on a large scale, that can be hard—or deceiving—to see. Effects that are physical, psychological, and sociological. Effects that determine how we interact and how we will continue on into the abyss of our time. However far these effects may be from our current perception—*need for reflection*—does not make them any less important to our future.

**1.4. The Glass Is Just Too Big**

For years I’ve orchestrated an internal battle in an attempt to reconcile whether technology is right or wrong, good or evil, just or unjust, only to conclude the best
understanding is not found through a simple question of differences. In fact, I was looking at it all wrong.

The moral compass of technology is not driven by technology itself, and discussing whether it should be in existence or not lacks the ability to remove what technology currently is to humanity or where it has brought us. No, the truth of it all is that—technology simply is.

The moment I grasped this notion I felt free. Free to move forward and evaluate the status quo of the real question, ourselves. How are we making use of the technologies we create? Have we rendered them right or wrong, good or evil, just or unjust? Most importantly, are we aware of our active role in this dance? The dance we believe we lead but are regretfully wrong in that conclusion.

Further, do we understand how our development of technology—to aid our lives— influences the set of decisions we are able to make? Behold, an infinite loop of feedback between our creations, and ourselves. Each of us pushing back on the other, gently making ourselves known to our counterpart. Through these interactions we each create a defined space in which the other may function, influencing our decisions and impacting the future.

The technology we make is defined by our ability to perceive, by our life experience. That technology then dictates how we perceive ultimately adjusting our life experience. 

The dance continues...
1.5. Guiding Questions

The nature of this creative response left it difficult to define a series of specific tasks or quantifiable outcome. With this in mind, a set of guiding questions were created to help focus the process and generate momentum.

**Guiding question one**

*In what ways are people engaging with Online Social Networks to develop a deeper sense of self?*

**Guiding question two**

*Do alternative methods of viewing media posted to Online Social networks offer a different perspective of their message?*

**Guiding question three**

*Do alternative methods of interacting with media posted to Online Social networks offer a different perspective of their message?*
2.1. Our Modern Digital Ballet

“Youth instinctively understands the present environment— the electric drama. It lives mythically and in depth. This is the reason for the great alienation between generations. Wars, revolutions, civil uprisings are interfaces within the new environments created by electric informational media.” (McLuhan 1967)

Diving down the rabbit hole of digital communication research left me initially frustrated and disturbed. People are seemingly unaware and complacent when it comes to the effects our new technological environment is forcing on us. Many surveys show an overwhelmingly positive outlook towards Online Social Networking despite conversations about the Internet and how this new means of communication may be producing a “nation of strangers” (Turkle 1995) or reducing human-to-human commitment and enjoyment (Stoll 1995).

“I had to walk to school, in the snow, barefoot, uphill both ways.”

Each generation of mankind seems to think they had it harder than the next and often you can hear someone commenting on how much more “connected” we are today. It’s fairly easy and obvious to see that statement is true, at least on a variety of levels. However, it can be hard to see the effects this new age of connectivity really has on our lives physically, psychologically, and sociologically. The “connectedness” may actually disconnect us from ways of the past in order to keep moving on its preferred technological trajectory (Perez 2002).
2.2. The Age Old Tale

“A world constructed from the familiar is the world in which there's nothing to learn.” (Pariser 2011)

Let’s take a look at an age-old tale. The tale of man makes monster—technology—and monster makes man. A question should be posed of whether or not this monster is good or bad and the answer is really a matter of perspective—or possibly just in how you ask the question. It’s no longer a question of good or bad, right or wrong. No, the means have been created and we must survey the results.

We possess the ability to use technology in any way we please. Technology is a tool and the way it is used gives it meaning, morality, or purpose. The reality of the situation is that technology just is.

Man makes technology, technology has limitation, technological limitation defines possibility of usage and influences how we interact with it, interaction defines life experience, and life experience leads to more developed technology.

It’s not a question of if or will we create new technologies, it’s a question of how or what will we do with them?

2.3. Bad Technology

Everything is changing—you, your family, your neighborhood, your education, your job, your government, your relation to “the others.” (McLuhan 1967)

Since technology itself is not inherently bad, and it’s not inherently good—it just simply is—the way we decide to interact with technology, the way we integrate it into our daily lives, now becomes what determines where it lies in the spectrum of human growth.
We are what determine how useful a technology is in advancing our efforts. Whether that advancement is in a positive or negative direction.

Over the years, the trajectory of technology and the trajectory of human development has mingled and pushed back on one another. We are caught in an infinite feedback loop of creation, which spawns usage, which fosters understanding, and in turn fuels the next iteration of creation. In other words, the technologies we create and live with affect the outcome of who we are and who we will be. This can be seen on many scales.

Understanding—or even just being aware—that the technologies we create impact our life experience is crucial in reconciling bad with good. If we are aware of the ramifications a technology has on our interactions with each other, the way it changes how we function as a whole, we can then observe and adjust.

2.4. Extension of Body

“The wheel is an extension of the foot. The book is an extension of the eye. Clothing is an extension of the skin. Electric circuitry, is an extension of the central nervous system.” (McLuhan 1967)

The digital revolution brought an era where technology was seen as a physical extension of body. An external source allowing us to learn, play, develop, and communicate in ways, speeds, and media unprecedented. Information could now be disseminated on grand scales with “electric” speed. However, it was viewed as a separate—yet integral—part of society. Perhaps due to its large, somewhat importable design—clunky. Or perhaps due to its inferior processing speeds where you could almost feel the response time. It was easy to make a distinction between human and technology. This no longer the case.
Imagine a world where lifelike avatars can have the contents of a human brain uploaded to them (Segal 2013) or where the decision to make artificial intelligence look less lifelike just so we can discern the two (CNBC 2016) yet still within the “uncanny valley” (Reichardt 1978). That time is near and with it comes the next evolution of our technological extension. An era where technology has now become extension of self. A deeper, more intimate, less escapable relationship between the things we make and the “what” we are. Where technology bridges the gap into an integrated relationship with our psychology and how we define, and perceive, ourselves.

2.5. Extension of Self

McLuhan focused on electric technology and how it effects or reshapes our lives. I will focus on the contemporary adaptation of this idea, Online Social Networking and how it effects or reshares our lives.

This can be seen as an extension of self; the extension of our self, our thoughts, our image, into the world through means of social media. It seems the progression of our relationship with technology has turned from being physical extensions to a much more psychological–spiritual–extension.

2.6. You

“You” are the everybody. The online collective, with the ability to choose to use Online Social Networks—or not. But let’s not forget, you are also the physical you. The you of reality. A human being, with a body, mortality, and daily interactions with the world you live in.
2.7. You the Cyborg

The latest Science Fiction flick released on netflix about artificial intelligence, humanoid robots with emotions, laser gun initiated intergalactic wars; these are not the only truths when it comes to defining what it means to be a Cyborg. No, in fact, depending on how we frame the definition you—yes, you—are a Cyborg as well as every one of your peers. As coined by Manfred E. Clynes and Nathan S. Kline in 1960 a “Cyborg,” or “Cybernetic Organism,” was traditionally defined as an advanced human being suited to live in extraterrestrial environments. In this case they were specifically referencing the advancement in space exploration of their time. However, if we look at this in broader scope with the hopes of applying it to our age, Clynes and Kline were simply speaking of humans who have enhanced their functioning with aid of technology. Therefore, leaving the human dependant on the technology for survival due to its integration in societal and animalistic evolution.

We have now reached a point of disconnect. A blur of self, which has turned into a marriage between the physical and digital worlds. A self now informed by who we really are, who we think we are, who we think we would like to be, who we think we should be, and who with think society wants us to be. All of this is made possible by an inseparable dance with digital technologies. A self that is curated by our own desires and encouraged by the online world.

*Your post now has 22 likes.*
2.8. You the Self

It’s all about “me me me”. The relationship between human and technology is a seemingly selfish one. We create technologies to perform tasks; tasks in which we define and layout specific orders of operations—also defined by our wants and desires. This seems very similar to our relationship between perception of self and what we portray online. Now, if one of those technologies—heaven forbid—performs an “unexpected” or confusing function we are often upset, frustrated, even appalled by its defiance. How could you, a technology, do something so natural?

We have reached a point where we inform our essence—define our me—through our online interactions. We are beginning to perceive ourselves in a new light. A light defined by a simple equation.

\[ \text{Life Experience} + \text{Online Social Network Interactions} = \text{Self} \]

**Life Experience**

Life experience is what makes us human. It’s our ability to perceive and understand who we are and the world around us. All life experience is informed through time and the sum of the interactions we have had in the physical world up to this current point, right now.

**Online Social Network Interactions**

Online Social Network Interactions manifest in a series of manners. There are direct interactions between users such as direct messaging or posting a bit of media on another user's wall. There are less direct interactions like providing feedback through some sort of “liking” or rating of another user’s post, posting media indirectly to a public media feed, sharing or reposting another user’s post on your own feed, or simply browsing a public feed of public users you may have no relations with. There is also the ability to
curate—even manicure—your projected identity through a public profile consisting of meta
data such as a list of past jobs, where you live, personal interests like a favorite band or
most watched movie, or a featured image of anything you believe represents a desired
“you”.

Self

The awkward integration of our life experience and online social network interactions.
Awkward simply because we have yet to agree on written—even unwritten—rules that spell out
guidelines of appropriate ways to integrate our online relationships with our relationships
in the physical world. A lack of paint by numbers, or wise tales, that help us understand.
Where is the book of etiquette on integrating the physical and online self?

2.9. Those Who Control

“A squirrel dying in front of your house may be more relevant to your interests right now than
people dying in Africa. —Mark Zuckerberg, Facebook founder” (Pariser 2011)

There are people who control how we view and interact with the information
posted to Online Social Networks. Networks like Twitter, Instagram, and Facebook only
allow us to view the information in ways they have predefined. Namely, the way they have
designed their online or application presence to function. Why is this bad? I see two main
reasons:

Reason one

You are victim to the moral code and goals governed by those who create Online
Social Networks. This includes social experiments such as manipulating emotional data to
study psychological effects of users, whether it be positive or negative. For example, in
2014 Facebook manipulated 689,003 unknowing users by removing either all of the
positive or all of the negative posts from their news feed to see how it effected their mood (Hill 2014). And the kicker is, these networks don’t need external consent because that consent is packed deep into the user agreements we must accept in order to become part of their network.

**Reason two**

We are addicted to their creations by deep desires to be accepted or FOMO—fear of missing out. Nearly three quarters of young adults were found to have had feelings of FOMO in relation to online social media. Not only does this add motivation behind our behavior but can lead to decay in psychological health and wellbeing as it may undermine self-reflection, distract from important life experiences, and even lead to physical danger during activities like driving (Przybylski 2013). Online addiction has been a conversation for some time and it only adds to the ramifications of what it means to be controlled by these means.

2.10. Those Who Can Control

“Knowledge is power.” – Francis Bacon

If you knew what you were doing would you still do it? We have the power to control our decisions. A better informed you leads to better informed decisions. Better informed decisions—in theory—produce more favorable outcomes. Favorable in terms of reaching the goals you want. We will look at this all in perspective relative to personal wellbeing driving collective wellbeing.

Are you aware of what posting, liking, or browsing your online social networking feed does to who you are, how you perceive yourself, and how you perceive the world around you? There are many sub cognitive functions and processes, high level systems,
working to influence the way we form and believe who we are. If we knew a little more about how Online Social Networks reinforce these processes we could make better suited decisions when compiling the raw data for our own personal integration equation. A less awkward integration.

\[ \text{Life Experience + Online Social Network Interactions} = \text{Self} \]

2.11. The Selfie

A self-shot photo, usually taken with a mobile phone and posted online to social media sites. (Blumberg 2013)

The idea of a selfie is not new. Humans have been capturing their likeness for centuries. Self portraits have been captured in numerous forms of media from painting to photographic reproduction, however, advancement in technology now allows us to take self portraits—selfies—on an unprecedented rate and post them to a much larger audience—the entire internet user base—in the amount of time it may take you to ask your server what type of coffee they offer.

“After we go to the bathroom, can we go smoke a cigarette? I really need one. But first, let me take a selfie.” (Chainsmokers 2014)

The selfie trend is real and there are parallels between it, internet addiction, how we present ourselves online, and how we perceive who we are. Since the introduction of the iPhone 4 in 2010 the number of selfies posted online has exploded (Blumberg 2013). Paired with the ever growing ability to store enormous amounts of data in “the cloud” for little to no cost it’s so easy to post a selfie that we want to do it, we should do it, we must to do it.
With these abilities comes the debate of impermanence versus permanence and what that means to our lives. It’s so easy to post a selfie that their value has decreased and we contribute less weight to their importance. However, they do have an impact and they are there forever—internet purgatory. As soon as something is posted online it is instantly replicated, mirrored, and on servers around the world. It is nearly impossible to ever remove this information leaving it, somewhat, irreversible. We are left with an addictive, easy to accomplish, potentially irreversible form of self expression that is helping mold the future of society.

“Can you guys help me pick a filter? I don’t know if I should go with XX Pro or Valencia. I wanna look tan. What should my caption be? I want it to be clever. How about "Livin’ with my bitches, hash tag LIVE". I only got 10 likes in the last 5 minutes. Do you think I should take it down? Let me take another selfie.” (Chainsmokers 2014)

One can argue that selfies are a new way of bonding, a harmless source of self-expression, or even just another way to connect with friends, but it’s important to think about the negative possibilities found in selfie culture too. Selfies are debated to have psychological issues in relation to Internet addiction and psychological health and well-being, and are also seen to have a significant correlation to narcissism (Sorokowski). To continue the discussion we should ask the question of whether or not narcissism is good or bad. In our case the dangers in narcissism are found rooted in its connections to egotism, self-esteem, and aggression. All of which can feed the cycle of Internet addiction, fear of missing out, and continue to alter perception of who we are or who we think we want to be.
2.12. The Message In A Bottle

“Not all this new knowledge is factual or even explicit. Much knowledge, as the term is used here, is unspoken, consisting of assumptions piled atop assumptions, of fragmentary models, of unnoticed analogies, and it includes not simply logical and seemingly unemotional information data, but values, the products of passion and emotion, not to mention imagination and intuition.” (Toffler 1991)

"The medium is the message" is a phrase coined by McLuhan. This phrase claims the form of a medium embeds itself in the message. In other words the medium influences how the message is received.

Let’s take a look at this in relation to an antiquated form of communication, the message in a bottle. It’s easy to think the bottle is an empty container and has no meaning. I don’t believe that. The medium itself actually changes how we communicate. With the bottle comes the imagination of the bottle’s story. We know someone took the time to write a message simply to throw it into the ocean with hopes it would reach another party. The implications of this leave wonder in the why adding context when the message is received and read. The same message simply handed to another party would not be accepted and perceived in the same manner.

Let’s connect this idea directly to the selfie. Traditionally, a photograph was taken and could be passed around as a physical object. Today, they are placed online for all to see, basically untouched, in a non-physical digital state. What would happen if we took that bottle—online social networks hosting selfies—and shattered it looking for new ways to reconstruct it?
CHAPTER 3: PRECEDENTS

There are many works, whether they were driven through the desires of pop culture or the interest of intellectual efforts, that make use of the current status, breadth, and wild satisfaction of self generated images of one’s self seen in *selfie culture.*

This section features a chosen set of works that explore a range of data ideas. From numbers to emotions, focus on self to focus on others, music to visual interpretation; there has been a vast interest in how we are fascinated with ourselves and the ability to easily capture our likeness and post it online for all to see.

While many of these precedents provide a set of inspiration in terms of the context of selfie, there are also examples of functional and formal inspiration. As two of the guiding questions focused on alternative means of viewing and interacting with Online Social Networks, I was aware the creative responses would most likely take on the form of both digital and physical interactions requiring research and inspiration in both areas of materiality and function.

*The Chainsmokers: #Selfie*

*Selfiecity*

*Kim Kardashian: Selfish*

*Alpha Sphere*

*Type-Hover-Swipe*

*Network Effect*
3.1. The Chainsmokers: #Selfie

“#Selfie” is a socially oriented song focused on selfies created by musical group The Chainsmokers. Paired with a music video, the song is based on the conversation of two narcissistic girls at a nightclub heard discussing their night. Located in the bathroom the girls can help but take selfies in front of the mirror. The music video features selfies taken by popular celebrities such as Steve Aoki, Snoop Dogg, and David Hasselhoff, and also includes selfies submitted by fans.

The creation of the “#Selfie” song and video show the integration and acceptance of Selfie Culture. The addition of celebrity selfies only forwards the idea of acceptance and hints at the selfie being a desirable activity while the addition of fan submitted selfies provides a communal platform looking past the vanity or narcissistic tendencies that may be exhibited by those who post selfies.
3.2. Selfiecity

Selfiecity is a website dedicated to representing selfie data. The data is a collection of selfies posted from five cities around the world. Information about demographics, poses, expressions, and visualizations of the data are presented to reveal patterns found in the collection.

By representing data in a variety of easily digestible graphics we can start to organize what the selfie really means to different demographics. Who is posting, where, and when? What types of colors are often seen in different locations? What other corresponding tags (#) are often seen on these posts? Selfiecity shows that there really is something much more behind the visual appeal of an individual selfie.
3.3. Kim Kardashian: *Selfish*

“Selfish” is a book of selfies by pop culture icon Kim Kardashian. It illustrates her life with a collection, curated by Kim, of selfies she has posted online.

This is a testament to how integrated, acceptable, or even “normal” it has become to post a selfie and be proud of it. Similar to a book you may find sitting on your friend’s coffee table that exhibits famous historical paintings, you now may find Kim’s selfie collection right next to it. Its popularity in sales also shows the worth people have placed on selfie culture, and even hints at a vicarious nature of living through the selfies of others.
3.4. Alpha Sphere

The Alpha Sphere is an alternative form of musical controller. It is built for composition, production, performance, and learning. A series of pressure sensitive pads placed in a spherical form allows for an intuitive, unique, and interesting musical experience. Each pad can be programmed to trigger an array of different sounds, loops, or effects making it extremely versatile.

A captivating use of haptic sensors and light driven feedback makes this piece worthwhile. It’s form and functionality create an experience that demands attention. Many controllers, or interfaces, are prone to be attention deficit. They may even foster the split of our attention. Its spherical and tactile approaches create a welcoming engagement, offering excitement and encouraging focus.
3.5. Type-Hover-Swipe

Type-Hover-Swipe is a clever augmented keyboard. Making use of sensor technologies at can capture expressive motion gestures that can be used to control a device. Low-resolution infrared proximity sensors make the data capture simple. However, a large database of pre-mapped gestures allows for quick reverse lookup making its abilities quite robust.

Using intuitive gestural motion to control devices seems, to me, a very natural progression in the development of technology. Adapting our natural ability to move in to ways that can control a device integrates a much more inclusive approach to design. It is much easier to wave than it is to type 100 words per minute.
3.6. Network Effect

Network Effect is an interactive representation of data found across the Internet. Meant as a project to create a statement and pose question, this interactive landscape encapsulates you with media from all over the web offering questions of the nature of the media we post online, questions of the effects this media has on our behaviors online, and even questions of the way we see ourselves.

This chaotic, almost psychotic, representation of our data really brings things to life. Instead of forcing us to think, manifest, and adopt what we believe the Internet to be, Network Effect simply uses the data itself to create an interpretation. Robust, fast, random, and disturbing as it is the perspective provided shines light on the “information” we are so inclined to gather.
CHAPTER 4: DATA COLLECTION AND ANALYSIS

4.1. Gathering Data

Through previous experimentation with the Application Programming Interfaces of Facebook, Twitter, and Instagram I was able to become more familiar with their capabilities and limitations. Facebook is relatively locked down in terms of data access—especially publically accessible information—and filtering through their query results can be cumbersome, Twitter focuses on a range of media which is traditionally just text, and Instagram focuses on photographs—the medium of a selfie—and is one of the largest and most thriving social networks of this time. The figure below shows the history of monthly active Instagram users. It illustrates a steady and growing increase of users over the past 3 years. Based on this information—and already having part the script developed—I made the decision to move forward gathering posts with the hashtag of selfie (#selfie) from Instagram.

Figure 7. Graph showing Instagram user growth (Statista 2015)
In order to observe the users of Instagram in new ways, I needed to access the data in a much more malleable manner. There are limited means to browse and collect the posts of Instagram. However, it is possible, and it is public. To assist in gathering data I built a custom system including automated server scripts to gather and transfer data from Instagram to a personal database. Transferring this data to my own location allowed me to easily organize and explore what was happening.

All of the captured data was publically available through Instagram’s Application Programing Interface. Instagram’s publically accessible data access is limited. You are only permitted to access a certain amount of data per request over a given amount of time. Currently you are able to access 500 Instagrams an hour (Instagram 2016). Meaning, automated scripts were needed to be developed to make many requests to the
Instagram network over an extended period of time allowing me to piece together a robust functional database of selfies spanning a matter of weeks.

To accomplish automated data collection I made use of a variety of programming languages and terminal functionalities. Server cron jobs allowed me to automate the gathering of selfie data with PHP. This PHP script created a hierarchy of CSV documents. Within these CSV documents was the publically accessible Instagram data of Instagram posts with the hashtag of selfie (#selfie). Later, using a shell connection, I traversed through these CSV files and imported the captured data into a custom Django webapp. Django allowed me to create specific data models for data replication while also offering a powerful system of templating functionality and is paired with the data processing ability of the Python language.
Figure 10. Screenshot of Django data admin interface

Figure 11. Screenshot of data viewing interface
<table>
<thead>
<tr>
<th>Data Type Gathered</th>
<th>Quantity Gathered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unique Selfies</td>
<td>225,117</td>
</tr>
<tr>
<td>Unique Users</td>
<td>164,888</td>
</tr>
<tr>
<td>Unique Tags</td>
<td>289,079</td>
</tr>
<tr>
<td>Unique Locations</td>
<td>21,616</td>
</tr>
<tr>
<td>Unique Filters</td>
<td>44</td>
</tr>
</tbody>
</table>

Table 1. Numbers of data gathered

4.3. Findings

A desired sample size is 385 participants, this achieves a 90% confidence level with a standard deviation of +/- 5% the desired sample size is 385 participants (Smith 2013). I was able to collect a sample of 225,117 unique selfies, a significantly larger sample of data than the calculated sample necessary for the desired confidence. By taking inspiration from the Network Effect, similar to their data sampling I pulled the first viable 10,000 selfies gathered.

These findings are based on an observational study of Online Social Networking, what people are posting, and why they are posting it. This could be applied to any Online Social Network across the history of Online Social Networking. However, as discussed above, I decided to focus on Instagram and posts hashtagged with the term selfie (#selfie).

Unlike the words of Thomas Jefferson, all selfies are not created equal. Social media has become an outlet for relentless self-promotion. Whether this self-promotion be business or personally related, with it comes a battery of unrelated posts lacking any personal content other than the propaganda of commercial ideals.
The hashtag was created in 2007 to assist active Online Social Network users organize and browse through posted media (Doctor 2013). Now, it can be—and is—conveniently used to help organize and forward online promotional campaigns. Through the data collected in this study, I observed that the hashtag of selfie (#selfie) is victim to this organized promotion.

This study is focused on self-perception and not commercial propaganda or gain. For this reason I curated the set of selfies to fit within the focus of self-perception. To aid in curation I collected a blacklist of hashtags. This blacklist consists of tags often used to promote things like business advertisements, advertisements to sell followers, advertisements to sell likes, or advertisements to promote blogs—often on the topic of fashion or fitness. The most commonly exhibited hashtag culprits are as follows:

followme, like4like, instagood, follow, me, follow4follow, picoftheday, photooftheday, like4like, tagsforlikes, instalike, instadaily, f4f, l4l, like, bestoftheday, like
4.4. Selfie Categories

After curating and observing the set of selfies, connections became apparent. Sets of similar compositions, poses, and ideas were being communicated. These groupings—categories—in terms of types of photographs were repeatedly being captured and tagged as a selfie (#selfie). The users of Instagram—those who create posts with the hash tag selfie (#selfie)—have developed a visual language. A visual language, universally used, that aids in developing a deeper sense of self by engaging with Online Social Networks. These findings are directly related to research question one: “In what ways are people engaging with Online Social Networks to develop a deeper sense of self?”

By defining these categories—or perhaps rules—of selfie communication, a base of organization will be created. It will provide an organizational structure aiding in further exploration of this visual language. In this we may find a better understanding of Online Social Networks and their role in extension of self. Below are the categories I observed as online self-defining activity displayed through selfies.

The Activity Selfie
The Affection Selfie
The Association Selfie
The Body Selfie
The Emotion Selfie
The Face Selfie
The Fantasy Selfie
Mirror Selfie
The Group Selfie
The Object Selfie
The Activity Selfie

*The user portrays himself performing an activity.*

![Figure 12. A series of activity selfies gathered publically from Instagram](image)

For the “active” user this style of selfie wants people to know you are productive, that you are a doer of things. Maybe it’s a talent, or some sort of physically exerting activity, no matter what it is these selfies are posted in with the goal of leaving proof of activity, in real time, for the network to see. The activity selfie is the perfect stage to show off your stuff.
The Affection Selfie

_The user portrays himself showing affection to another person, object, or idea._

![Series of affection selfies](image)

Figure 13. A series of affection selfies gathered publically from Instagram

A must do for the hopeless romantic, users who are proud of their significant other will most definitely have one of these in their feed. The ability to show yourself connected with another displays a sense of passion, companionship, and a proud distinction of having someone else in your life. Not to mention your ability to show affection publicly.
The Association Selfie

The user portrays himself associated with another person, object, or idea by placing it in frame with him.

Figure 14. A series of association selfies gathered publically from Instagram

A deep connection of object, place, or ideals can be seen in the association selfie. By making sure something like an artifact, well known landscape, or meaningful phrase is in the frame with you, people can gain a deeper sense of what you are about. The association selfie is for those who think their worth is about more than just their physical being.
**The Body Selfie**

*The user portrays a part of their body absent of their face.*

![Figure 15. A series of body selfies gathered publically from Instagram](image)

Sometimes it’s about the whole package, or at least a majority of the package. Do you have a favorite body part? Are you proud of much more than just your smile? The body selfie is a perfect way to show off your summer body or build tension of the unknown leaving people wondering and wanting more.
The Emotion Selfie

The user portrays an emotion through means of facial expression, hand gesture, or body positioning.

Figure 16. A series of emotion selfies gathered publically from Instagram

Humans are capable of understanding a rainbow of emotion and expression. Some of us are more apt to wanting to share those than others. For the intimate and open user the emotion selfie is a great way to reach out and let people know your current status. Whether the bottom is rough and rocky or the sun is shining high you can let the network know your current needs through our universal understanding of emotion.
The Face Selfie

*The user portrays himself in a traditional-face on-self portrait taken by himself.*

![Figure 17. A series of face selfies gathered publically from Instagram](image)

This is the literal definition of selfie. The user, by capturing a portrait of just their face, lets people see who they are. Often paired with a smile or a model like facial pose the face selfie is the most self-driven selfie. Barren of anything but the model himself, its mission is most often just to let the world see them, motivated by self-love.
The Fantasy Selfie

The user portrays himself in a fantastical manner through means of photo manipulation, props, or composition.

Figure 18. A series of fantasy selfies gathered publically from Instagram

For the more imaginative or creative user, this category of selfie is seen posted by those wishing to live in a world other than their own. If you have a crush on a movie character or wish to live in an alien world, the fantasy selfie is a perfect way to set up the scene of your ideal world for the whole network to know. After all, reality is just relative.
The Mirror Selfie

*The user makes use of a mirror to capture the selfie. Often used to capture a larger portion of the body.*

![Figure 19. A series of mirror selfies gathered publically from Instagram](image)

Sometimes the face just isn’t enough. If you are proud of your whole body or the situation you are currently in, the mirror selfie is a great way to capture a larger perspective. While still making sure you—*all of you*—is in the frame, the user can create greater context for the viewers, or just make sure they see the entire outfit you picked for that night. A clever way to make use of past and present technologies to gain advantage.
The Group Selfie

*The user portrays himself with one or more other people.*

Standing on the shoulders of giants is the way humanity has advanced. The group selfie is a testament to our longing for community and the power displayed by sticking together. By pairing yourself with a friend, or group of friends, you can show that you are accepted and appreciated and that you appreciate and are willing to work with others. The “team player” of selfies.
The Object Selfie

*The user portrays an object, idea, person, or place absent of themselves.*

For those who can find beauty in what lies beyond themselves. The object selfie is a great way to display the things you love or put emphasis on something greater than who you are. We obsess over our possessions and marvel in the world around us. The object selfie shows just what it is that is dear to you, other than yourself.
5.1. Personal Challenge

I have long made it a personal challenge to find ways I can create functional, worthy, design solutions by means of processes or ideas I have yet to explore. I believe we should hold ourselves accountable to a standard that always fosters growth. The world around us is constantly in flux, as we should be. In order for you to gain a better understanding of my process, and methods of decision-making, I will now define what design is to me.

Defining design

Defining design is a lot like defining life. We are surrounded by objects and systems in which we have no choice but to interact with. These interactions provide the stimulus we use to form unique perceptions of reality. In turn creating what we call life experience. It is this gained life experience that fills us with inspiration.

We are all simply self-altered reflections of our life experience. The only knowledge I have is the knowledge I’ve gained. The only way I gain this knowledge is through life experience. Being aware of this gives me drive to always grow, adapt, and build upon the past.

What was should not, and what will may not.

Through question I find new ways. It’s not the problem at hand, it’s the opportunities outside that intrigue me. If someone says “Design me a website” I will start by questioning. “What is a website?” As time moves on and society changes so does our knowledge, and that in turn changes the definition of the world around us. If the world is constantly changing so should the way we approach and solve problems.
As a catalyst of change I tell myself “If you aren’t pissing anyone off, you aren’t doing it right.” As an advocate for growth I tell myself “If you don’t feel unsure, you aren’t growing”. Design is created and endured by all, but the process and inspiration lies within the individual. And ultimately, it is all just a reflection of life. So, defining design is a lot like defining life.

Design is an approach to solve a problem through a process within. The definition of design should change with world and we should find inspiration inside in the problems we face.

5.2. Works

Below is a collection of works performed during this creative response. Through experimentation, I gained a better understanding of technological limitations as well as obtaining observational perspective over the data I began to mold. All responses were informed by my three guiding questions:

Guiding question one

*In what ways are people engaging with Online Social Networks to develop a deeper sense of self?*

Guiding question two

*Do alternative methods of viewing media posted to Online Social networks offer a different perspective of their message?*

Guiding question three

*Do alternative methods of interacting with media posted to Online Social networks offer a different perspective of their message?*
Selfie Grid

An interface exploration exploring alternative and algorithmically generated grid structures to present selfie data.

Why is it, when viewing a feed of posts, they are often presented equal in terms of size, space, type treatment, or color? This exploration dealt with just that. By changing size and using a more complex grid structure a new hierarchy was able to unfold. Change in size and placement offer alternative perspective, selfies that may have otherwise been looked over gained dominance allowing the selfie story to change. The grid is generated algorithmically by using the meta-data of the selfie. For example, how many likes may control its size and data and time of when it was posted may control its location on the grid.
**Kinect gestural interfacing**

A gestural interfacing exploration looking at how humans can interact with digital information through natural interactions using a Microsoft Kinect.

![Screenshot of user being tracked with Microsoft Kinect while interacting with a digital object](image)

Figure 23. Screenshot of user being tracked with Microsoft Kinect while interacting with a digital object

Tackling the wonders of real-time image and depth processing, this exploration looked at alternative gestural ways to interact with the digital world—including a human body and their movements. A psychological phenomenon occurred as the user claimed to feel the object as she used physical movements off screen to control the ball on screen offering a new perspective of this otherwise intangible object. This proves a promising way to allow interaction to inform our perspective of the media we interact with.
Selfie Quilt Generator

First database aggregation study using PHP and publically accessible Instagram data to gather and compile selfies into a programatically generated quilt.

![Figure 24. Screenshot of selfies captured by selfie quilt generator](image)

There are quite an array of colors, textures, and ideas you will view when browsing through selfies. Selfie Culture has become a collective attempt at digital quilt making. The communal aspect of quilt making speaks on our use of Online Social Networks to build sense of self. By capturing selfies I was able to programatically generate selfie quilts. These quilts were compiled by selfies, chosen at random, and placed together on a quilt-like grid. The results were diverse, energetic, and colorful patterns.
Figure 25. A programmatically generated selfie quilt
Selfieverse

An interface experiment projecting selfies into 3 dimensional space for alternative means of exploration.

A photograph is two-dimensional. Must it always be presented that way? What if it was extruded onto some other form? By projecting selfies on three dimensional boxes and placing them throughout a three dimensional space, this exploration allows users to interact with selfies in a digital landscape closer to the way we interact with the physical world—unlike traditional two dimensional website feeds. The ability to “fly” through the selfies, gave different levels of hierarchy dependent on where you were during your path of travel. This form of interaction we the first time I started to notice trends in the data like nude selfies and mass use of advertisement.
Sounds of twitter

*The sonification of data found on Twitter as means of exploring alternative ways to “visualize” data.*

![Screenshot of Twitter during realtime sonification](image)

The information age is upon us. Thousands, upon millions of bytes of data are being stored in servers all over the world. What other ways can we view this data to help us gain a better understanding of what’s going on? By pulling popular tweets from Twitter's public API I used their included text to create scores, in real time, for creating synthesized sound. Sonifying data presents a different way to interpret and understand data—perception; through it patterns began to emerge. A system of different tones linking to characters and words created repetition and the ability to learn and understand through abstract, synthesized sounds.
**Lithography**

Experimentation with alternative means of polyester plates and the visual language of collages made by selfies made tangible.

![Figure 28. Photograph of initial print studies](image)

Selfies are traditionally viewed in their original, un-manipulated, intangible, digital form. A photograph, traditionally, is physical. We can take them, pass them around, bend them, rip them, and give them a physically impacted history. In order to bring selfies back out to the physical world I incorporated the traditional print process of lithography. Through this exploration I touched on aspects of collage, emphasizing detail, and haptic feedback to create a new perspective. These prints created a much more intimate, detail oriented view of selfies as opposed to a digital feed viewed on a device.
Hai

*An interactive exploration of human-to-computer awareness through typical human-to-human interactions.*

![Figure 29. Screenshot of HAI study after wave gesture has been recognized](image)

Our devices—*most often*—are programmed to be unaware of us, as humans, in terms of normal human-to-human interaction. They are not prompted to respond to us in more natural ways, though they have the ability to see and understand a gamut of our humankindness. Are we aware of these abilities? Does the inability for us to interact with our devices in more intimate ways leave us more or less in the dark about just how aware these objects actually are? If we become more aware of their awareness would it change the way we see our relationship with these devices?

In the program’s default state the screen displays the back of a human's head as if they are looking away. When someone approaches the computer, by using webcam
gesture recognition technology, if the active party waves a sequence will initiate. The image then, as if responding to the gesture and turning around, changes to a face looking directly at you. A computer-generated voice then speaks out loud a randomly chosen greeting. After a designated pause the program goes back to an initial state where you can only see the back of a figure’s head. From this point you may repeat waving and beckoning the program to greet you with different phrases.

**Glitch**

*A proposed web application offering alternative ways to view, filter, and understand what is happening with your Online Social Network accounts.*

![Glitch Interface](image)

**Figure 30.** Screenshot of Glitch interface showing alternative gridded layout and filtering ability

There are not many options—*variations*—in the ways we can view our Online Social Networks. These networks capture loads of data about our usage; yet, they don’t allow us
to better understand our habits and patterns of usage. People often complain and are
effected by how certain types of posts come up in their feed and they find it annoying,
things that are negative or maybe even an advertisement. An Online Social Network
functions much differently than a social network—something that has been around since humans
lived together. Why is this? Should this be the case? Glitch is focused strongly on achieving
alternative perspective through viewing and interacting with the media in Online Social
Networks.

Glitch explores ways to allow the user alternative modes of viewing their posts and
includes a variety of non-traditional Online Social Networking tools. It offers the ability to
view visual graphics of usage. When, where, and what are you posting? See patterns of
your posts in terms of when you are posting the most, or least, most positive, or most
negative. Remember that “friend” you never talk to but still shows up on your feed?
That’s not how things work in the physical world. Your social network, and how often you
interact with people, is dictated by your interactions. On Glitch, as you cease to interact
with individuals they will fade back in importance being set to an inactive friends list. Also,
to feel less controlled by notifications activate a proximity interaction sensor. If you are too
close to your friend communication will be turned off on Glitch allowing—or even forcing—
you to interact face to face.
5.4. Interactive Selfie Cube

My final creative response is a reflection of all the ideas and explorations discussed before in this paper. The purpose of this response was to create a new experience, an alternative way to view and interact with the selfies we are posting. Through this alternative mode of viewing and interacting, I hope to engage users in a way that leads them to a new perspective. A perspective offering heightened ability to understand, question, and reflect on the media that is being posted. A perspective that wasn’t apparent before. Ultimately, this response is to help develop a greater sense of awareness. Helping us become more aware that our online self is synonymous to our physical self—extension of self—and with that comes consequences. Consequences that may have dire effects on our psychological and physical well-being. Consequences that, by our choice, can be avoided by the way we interact online.
Guiding question two

Do alternative methods of viewing media posted to Online Social networks offer a different perspective of their message?

The Interactive Selfie Cube controls an interface. That interface is populated with the selfie data I collected and observed as was discussed earlier. By taking influence from previous creative responses, this interface offers an alternative method of viewing selfies. The ways they are presented is drastically different than a standard mode of viewing on social networks such as Instagram or Facebook allowing anyone who engages to be part of the experience and gain new perspective.

Guiding question three

Do alternative methods of interacting with media posted to Online Social networks offer a different perspective of their message?

The Interactive Selfie Cube offers a non-traditional multisensory approach at interfacing with digital media. The alternative mode of interaction is drastically different then the standard modes adopted by popular viewing devices such as a laptop or a mobile touch screen device. This allows anyone who engages with the cube to interact in novel ways and gain new perspective.

The Design

The Interactive Selfie Cube is designed to be a forcibly noticeable interactive experience, a multisensory invasion of what people are defining as self. By designing an interactive device that engages auditory, haptic, kinesthetic, and visual feedback we can create more memorable and understandable experiences (Shams, Ladan, and Seitz 2008).

I do not know how or what people will perceive through their interactions. Nor do I know what questions they will pose to themselves. There are, however, some questions I
aim to illicit within the experience while also making the engaged more aware of their interactions with devices and that devices are aware of them:

\textit{Should I continue to interact with this media? Am I comfortable with how I am viewing this media? Am I comfortable with how the media is portrayed? Do I portray myself that way? Do people perceive me the way I perceive this media?}

![First physical cube mockups that were created upon conception](image)

The controller is in the form of a cube. I chose this form for a few reasons. In an earlier response called Selfieverse I projected the form of a square, which is the traditional selfie format, into three dimensions, which creates a cube. The are many forms a controller could have, but I wanted one that was pure to geometry, simple to create, simple to understand, and easy to hold. Through studies of size I found the ridges of a
cube prove easy to grasp. Also, as a fairly intuitive object to hold, pickup, rotate in your grasp to observe, and set down, it seemed like a great fit for the project.

Figure 33. A series of size and material studies

The materials used needed to accomplish a few goals. I wanted the controller to represent the integration of technology and nature and be a statement of the human ability to create. Through this, I hope to provide an instant reminder to the engaged of the different worlds we live in, including the differences, and similarities, of technology and nature. The cube is made of raw industrial materials. Hanger tape for plumbing, nuts and bolts, and laser cut white acrylic. These raw industrial materials not only allow for cheap exploration during development but also provide much function to the form. Hardware can be structural, functional, and aesthetic and I used this to my advantage.
Acrylic came to be a necessity in terms of material. In order to make this cube come to life I wanted to incorporate lights from the inside. To accomplish this, I needed a material that would be strong, yet malleable, and allow diffused light through. While acrylic straight off the shelf did not provide the proper visual appeal, with studies, I found adding a slight frost with sandpaper created a great look a light diffusion.

During the material studies I also began formal studies to figure out a structurally stable joint in order to piece the cube together. I did not want to glue the plastic together because I wanted the design to be modular, adaptable, and easy to debug. With this, I found a simple puzzle style notch system helped keep the panels precisely in place without sliding and with the right pattern tension. It also, under tension, would force the material into a perfectly fitted cube.
Figure 35. Material treatment and form studies

Figure 36. Inner frame study
The electronics within the cube consist of a few major boards and chips. The main brain is an Arduino UNO. This controls the sensors, data transmission, and light patterns. An accelerometer captures the cube’s orientation on the x, y, and z access. These numbers are how all interactivity is interpreted in the cube and in the visualization. The numbers are transmitted, in real time, from the cube to another Arduino UNO. The receiver is then connected to a computer to share and control visualization.

In order to create a seamless illusion of integration between object and media I needed to incorporate integrated wireless electronics. Namely, these are sensors that can receive and transmit data from the cube to another computer. For this to work the cube needed its own power source.
Figure 38. Set of materials ordered before beginning development

Figure 39. First functioning solar arduino project
I took this opportunity to explore renewable energy. By means of lithium ion batteries and solar cells I was able to create a charging system that uses the sun's light. Future goals in my work incorporate creating self-sustainable electronics and this fit well within that research, as it is also important for us to think about sustainability in all design.

Attention to detail is key when creating function and beautiful solutions. Now I knew I needed a power source to be mounted inside the cube. Meaning, there would need to be something to charge this power source. It would be very inconvenient and messy to have to pull off a panel each time I needed to charge the unit, so I searched for a more integrated solution. I was able to make use of a microphone XLR plug. They consist of four wires, in this case I only needed two, and provide for a pleasing and finished look.
Figure 41. Detail of charging port

Figure 42. Detail of charging port with cable
Figure 43. Connecting and testing external power charging port

Figure 44. Finished cube connected and charging with solar panel
I set out for this to be a wireless project. The ability to be mobile—free of wires—with an object gives a completely different experience than one that is attached. It is much closer to the physical world to be able to walk around with something while it still gives feedback to a system. For this reason I needed to find the proper technology for wireless data transfer. After some research I found a cost effective set of RF transmitter and receiver pairs. I ordered five of them, which was a good thing. They were cheap the circuitry seemed to be flawed in some of them. After soldering on external antennas and using the cubes frame as a transmitter I was able to create a more than sufficient data transfer.

Figure 45. Wireless RF transmitters and receivers used in cube
I have found the incorporation of lights really brings things to life. With light, you can replicate so much of the human spectrum. Light can show mood, urgency, it can be warm, cold, it can be inviting, or it can startle. In order to make my Interactive Selfie Cube come alive lights would be a necessity. They would allow the ability to incorporate personality, feedback, and emotion. In order to do this I needed to figure out a functional, effective solution to applying lights inside of the cube.

Figure 46. LED lights connected and being tested with battery power and wireless data transfer

I found a great strip of super bright programmable RGB LEDs in a strip meaning, I program any of the lights, at any given time, whether to be on or off and what color I want it to be allowing me to add pulsing tweens, patterns, and a variety of color to the cube interactions. This is all great; accept a linear strip would not work well it terms of mounting them inside my cube.
Figure 47. Deconstruction of LED strip in order to solder custom string for cage

Figure 48. Detail of soldered connections for custom LED strand
Too create an otherwise seamless incorporation of the LEDs into the cube I made use of the ability to cut them apart and solder them together in any order and with any length I would need. This was great, however, I included 24 lights. Each light required 6 soldered connections tightly packed together. This called for a grand total of 144 tedious solders just to incorporate the lights.

After the brains and lights were installed it was time to start testing and adapting the gesture sensitive functionalities paired with light change. As I said there is an accelerometer that can gauge x, y, and z acceleration and also the ability to sense 6 orientations. Meaning, as you flip the cube from side to side it knows what side it has landed on.
Figure 50. Setting up LCD display for wireless data capture and debugging

Figure 51. Consolidating and cleaning up breadboard layout
After much testing of the data transfer through an RF wireless connection while running light functions I began to run into limitations of the Arduino processor and my power source. In order to capture real time acceleration data on the x, y, and z access I needed to be sending the output to the computer as much as possible. While doing this and running the light animation the Arduino would begin to be overloaded with processing and noticeable hesitation was seen. In order to adjust for this limitation I decided to only listen for orientation changes. Meaning, I could transmit much less frequently freeing up more processing power for the lights.

The other limitation I ran into was the amount of power the LEDs required and a non-consistent voltage pattern interference provided from the battery. If I ran all LEDs at full power the lights would not display their true color. For instance, bright white became very warm. To adjust for this I run all LEDs at most 50% of optimal brightness to save on
energy. This provided to be plenty bright enough in a dim lit room. The inconsistent voltage pattern interference caused a flickering of the lights. To adjust for this I decided to add a jitter of life to the lights. Each light was given a certain threshold of brightness. Every pass of the program the lights are assigned to increase or decrease their brightness by a randomly generated number within the threshold. This causes the illusion that every light is getting slightly larger or smaller as if the cube is jittering with life.

![Image](image.png)

**Figure 53. Adding foam to help deaden sound and soften touch**

After being able to play with the cube for a while during testing I needed to start refining the experience. The acrylic, at larger size, was a little more malleable and didn’t feel as soft and the cavity of the cube had a plastic sounding echo. I needed to deaden the echo and make the cube feel more solid. To accomplish this I added a foam buffer between the plates and the cage.
The final details were cleaning up the circuitry and figuring out a way to power the cube on and off. There are a wide variety of power switches. Toggle switches, switches with lights, button switches, large switches, small switches, but I needed my switch to make sense. While opening an apartment garage I saw a keyhole and remembered that there are key driven electric power switches. I instantly ran home, researched, and found a distributor that supplied them.

I enjoyed the idea of a key power switch because it touches on some of the questions I was attempting to illicit during this interaction. The social ideas behind keys are ideas of importance, or possibly hiding, storing, or keeping something safe. Should you interact with this cube? What will happen when you turn the key? Turning a key is also a much more interactive approach at a switch as well as it forces hand eye coordination and takes a little bit longer than just pushing a button.
Figure 55. Detail of power switch with keys inserted

Figure 56. Detail of power switch
The cube sits on a low base and this is intentional. I wanted to force the engaged to move, manipulate, and contort themselves through space before reaching the cube. This forces them to be engaged, make decisions, and be aware. A few concepts of how the base would be created were explored before landing on the final design.

A preferred idea spawned from a found, pre cut wood cookie—log. Personal beliefs that we should be resourceful often drive me to incorporate found objects into my designs. In this case as, it also provided the perfect, and substantial, connection to nature I was looking for. However, this piece weighed a significant amount and it was not feasible to transport. After a series of failed attempts at boring out the middle to relieve some of its weight, I moved on to the next idea.
Still wanting to integrate the idea of nature into the stand, I found inspiration in board formed concrete. It provides a great mix of industry and nature, rigid structure, and its visual and textural qualities blend well with the cubes skin of acrylic and hardware. Using some found palette wood, I pieced together a mold with the pieces possessing the
greatest texture. I made sure to collage these pieces together in a way providing visual interest and contrast.

Once the mold was complete I needed to make sure the concrete mixture would be strong and smooth. This would be necessary as I was planning to make a 16”x16”x2” slab. I chose the 16” dimensions because it is double the size of the cube. I chose 2” as I didn’t want the form to become too heavy and I hoped 2” would be strong enough. I had created 2” molds in the past.

Figure 59. Detail of board form wood mold for concrete stand creation attempt
Figure 60. Filtering out large sediment and rock from concrete mix to pour into mold

Figure 61. Board form wood mold for concrete stand creation attempt
After preparing and pouring the mold, the time came to wait. I vibrated bubbles out of the mixture and left the concrete to dry and cure. 16 hours later I took a look. The slab had a crack, in the middle, across its entire length. The mold did not work. A few assumptions were it had dried too fast or 2” was not thick enough to support itself. I have different ideas to help strengthen, and lighten, concrete molds in the future. But for now, due to time constraints, it was time to move on to the final fail-safe option.

Figure 62. Cured concrete upside down on board form wood mold after failed attempt

The final option was to simply integrate sensors on to a square piece of treated wood. I was able to acquire a nice sheet of plywood already cut to size. After some time finishing the wood by sanding and applying a very light stain to keep its natural look the base was completed and functional. I made sure to integrate hardware as functional pieces into the base as well to create visual connections between the base and the cubes
treatment. Large bolts provide both adjustable legs to stand the piece off of the grade and to support the proximity sensors. Special bolts were placed into the wood to provide a finished looking whole that the sensors cables could be dropped through.

Figure 63. Final wood base created as a stand for the Interactive Selfie Cube

The proximity sensors were added to make up for some of the processing limitations found in the cube. Since the cube interaction lacks the ability to send as many control variables as I had hoped, the proximity sensors would make up. While a user is interacting with the cube they are now encouraged to walk around the base. As they walk around and pass the proximity sensors this will provide a way for them to move through space in the interface. For example, depending upon how close you stand to one of the proximity sensors it will determine how fast you move left on screen.
A final addition to the interface was sonification. I wanted to create a multisensory experience, which included auditory feedback. By using influence from my previous response called Sounds of Twitter I was able to implement a system that creates sounds. The system uses the text data included with each selfie to synthesize sounds. The way this is accomplished is through converting characters to their ASCII values.

The first letter of each word creates a tone. This tone is carried out until the next word is reached. While this tone is being played each consecutive character also plays a tone. Each tone is played at a set beat. The use of sonification not only adds depth and mood but it is created by the data itself, therefore, creating and informing the experience by the experience itself.

The cube and interface consist of six modes during the interaction. There is an initial sleep mode. When the cube is first turned on or when no one has interacted with it for a while it will default to sleep mode, a less exploratory more serene state. The lights in the cube are pure white and lightly pulse as if it is breathing. The interface displays selfies very small in a large three-dimensional grid slowly floating around space as if you are in a galaxy of twinkling selfies.

The five other alternate modes are activated depending on what side the cube is oriented on consisting of flat, top, bottom, left, or right. Each mode has a specific color that the cube and the visuals animate to, in unison, each time the mode is changed. Each mode change has its own variation of how large the selfies are, how spaced out the selfies are, and how much effects on the generated sound is applied. Following this are a series of final photographs taken of the cube in its different stats as well as screen shots of the interface in its different states.
Figure 64. The interface in its sleep mode

Figure 65. The interface in an alternate mode 1
Figure 66. The interface in an alternate mode 2

Figure 67. The interface in an alternate mode 3
Figure 68. The interface in an alternate mode 4

Figure 69. The interface in an alternate mode 5
Figure 70. Final cube sitting on proximity sensing base

Figure 71. Detail of final cube sitting on proximity sensing base 1
Figure 72. Detail of final cube sitting on proximity sensing base 2

Figure 73. Detail of final cube sitting on proximity sensing base 3
Figure 74. Detail of final cube sitting on proximity sensing base 4

Figure 75. Detail of final cube sitting on proximity sensing base 5
Figure 76. Detail of final cube sitting on proximity sensing base 6

Figure 77. Detail of final cube sitting on proximity sensing base 7
Figure 78. Cube with lights in sleep mode

Figure 79. Cube with lights in mode 1
Figure 80. Cube with lights in mode 2

Figure 81. Cube with lights in mode 3
CHAPTER 6: CONCLUSION

6.1. Summary

Selfies are being posted at an unprecedented level, Online Social Networks are growing more popular every day, and technology continues to advance at an exponential rate. As these parameters continue to be true, the conversation of defining self will continue to evolve. As for now, there is a definite relationship between physical self and online self.

By performing a range of experimentation in interfacing and data collection, I was able to gain a deeper understanding of the limitations interfaces and data sources may exhibit. An interface can inhibit certain ways of viewing information. Through this, the perception of the information is altered and can misinform—or at least alter—our interpretation of that data. If this is true, then it must be true that the interpretation of our online self is open to being misinformed—or altered—as well.

The results of this creative response show that the online social network users of Instagram have developed a system under the hashtag of selfie (#selfie). A system that allows the user to expand, develop, and even create an online version of self. This online self, developed through the user's interactions, is seen as a reflection of their physical self, therefore blurring the lines of reality. Or at least changing the way we must look at reality. What we do in the physical world is not what we do online. It can’t be, it was done in the physical world and is seen, at best, merely as a representation of the event through an online post. These representations are designed and planned by the user. A biased view of who or what they believe they are, posted for what may be an eternity. An eternity of reinforcing views and in turn forwarding the definition of a self informed by technology.
Man makes technology, technology makes man, and the dance continues…

Guiding question one

In what ways are people engaging with Online Social Networks to develop a deeper sense of self?

It was found that, specific to Instagram, users who post selfies are engaging in a universal visual language. This visual language is a means of self-defining activity. In other words, they are adopting their Instagram profiles as an extension of self in a way that provides them the ability to present a variety of ideas, associations, emotions, and much more to their followers as an attempt at building self. Building the self they want to be, the self they think they want to be, the self they want people to see, and the self they think they want people to see.

Life Experience + Online Social Network Interactions = Self

With this visual language defined, I believe we can now take a deeper look into what the language means. Are there connections to the people who are posting these selfies and the types of selfies they decide to post? Can we predict behaviors? Can we predict dysfunctions? Does it make a statement to the direction society is currently moving?

Guiding question two

Do alternative methods of viewing media posted to Online Social networks offer a different perspective of their message?

The creative responses I exercised showed a variety of new methods we can use to view Online Social Networks. Within those different methods, it was only natural a new perspective could be gained. An observed change in perspective was the ability to pick up on otherwise unseen patterns. One specific pattern was the universal visual language of selfies stated before. However, I also became aware of other seemingly viral patterns such
as the nude selfie and the massive use of the hashtag selfie (#selfie) as a means of consumer advertisement.

**Guiding question three**

*Do alternative methods of interacting with media posted to Online Social networks offer a different perspective of their message?*

The act of multisensory interaction heightens our ability to understand, obtain, and retain knowledge. I cannot speak to what each individual’s specific shift in perspective will be due to interacting with an Online Social network in a different manner. However, I can say the shift will be there. Through my own personal interactions and those who I was able to observe during interaction with the cube I noticed an increase in attention to detail. There was a heightened ability to quickly notice specific attributes in each selfie. Attention to detail is a stepping-stone to fostering deeper thought and forwarding connection and understanding.

### 6.2. Future Opportunities

During the exploration I became aware of many other issues in the realm of physical and online self-integration and data storage. Below I have listed and expanded on the initial thoughts of some of the directions I find promising for future exploration.

**Traits and categorization**

The categorical findings of the selfie study pose an interesting question of their connectedness to personality traits or deeper psychological connections. Do the people posting certain selfies tend towards similar personality traits or psychological dispositions? If so, does this make them more or less vulnerable to negative outcomes of online social
networking like narcissism, misinformed representation of self, or other negative effects on psychological well-being?

**Integration etiquette**

Expanding on misinterpretation of self, there seems to be a disconnect of proper etiquette when integrating the physical and online self. How do you or don’t you acknowledge what you have done online with your relationships in the physical world? Is it ok to mention what you saw or posted on someone's feed? Should we be worried about specific types of posts? Do specific types of posts trend towards certain types of interactions? In the physical world we have old wives’ tales like “don’t swim for an hour after you eat” and the golden rule. What are the wise tales and golden rules for physical and online self-integration?

**Misinterpretation of online profile**

Do people misinterpret the way others perceive their online profiles? If so, how and what does that change when attempting to integrate physical and online self? Do people misinterpret the motivation or effects that making certain posts has on how they perceive and define themselves?

**Reverse data mapping**

Is it possible to create a map that charts where all data is mirrored? If so, what would the ramifications be in terms of our ability to control, manipulate, or change this data. How would being able to confidently track and remove data from the grid change the way the Internet is used or the way users are willing to interact with it?
REFERENCES


